



**Asia-Pacific
Economic Cooperation**



BANCOMEXT

Co-sponsoring



**Ministry of the Economy
Project Overseer**

The Electronic and Information Technology Industries Survey in APEC

**APEC Working Group on Trade Promotion
Project no. TP03/2006 T**

December 2006

The Mexican Bank for Foreign Trade believes that the information contained in this publication is correct as presented to it. The views expressed and conclusions reached are from the information and data collected and not necessary the consensus view of APEC member economies. The Mexican Bank for Foreign Trade give no warranty thereto and disclaims liability for claims against itself or its personnel which may arise from any person acting on the material within.

The Direction General for Multilateral and Regional Negotiations, Ministry of the Economy of Mexico was the Project Overseer of this Survey, APEC Project TP03/2006T.

© 2007 APEC Secretariat

Prepared by
The Mexican Bank for Foreign Trade, (Bancomext)
December 2006
Periférico Sur No. 4333, 14210, México, D.F.
Tel (52 55) 5449 9332 Fax (52 55) 5449 9086
Email: jrivash@bancomext.gob.mx
www.bancomext.com

For
APEC Secretariat, 35 Heng Mui Keng Terrace Singapore 119616
Tel: +65-6775 6012, Fax: +65-6775 6013
Email: info@apec.org Website: www.apec.org

APEC #207-TP-03.1

Introduction

The Electronic and Information Technology Industries Survey in APEC is a project proposed by Mexico. Its main purpose is to provide a specialized survey of key industries in order to assist entrepreneurs, particularly in the Small and Medium Enterprises, governments and trade promotion organizations, chambers and associations in having one publication with market information and contacts of possible business partners from all members of each economy.

This survey provides information to identify how the industries are participating overall in the economy by analyzing strengths and weaknesses, opportunity trends, supports and programs, and some of the companies and associations related to these industrial fields.

Methodology

The elaboration of the survey was appointed to the Mexican Bank for Foreign Trade (Bancomext) and received financial support by APEC funding. The profiles of the 21 APEC economies were done by 15 of Bancomext offices abroad, located within the APEC region. Its elaboration received also the support of other parties that contributed to provide information.

The method each economy follows to aggregate their data with regards to the electronic and information technology, as well as the statistics, was not updated or the information had limited accessed. The results mentioned in the executive summary reflects the observations found and therefore accurate comparison among all the economies is not possible.

As requested by some interviewed companies, in some cases, their name is not disclosed.

Member economies have been presented in alphabetical order. Also, the structure of each profile is shown on the following page.

Survey Structure

- I. Overview of the Industry.- Describing the contribution of the industry as a percentage of the GDP, its participation as employment generator, number of companies, if possible the participation of foreign and national companies, and the importance of export and import activities in the development of the industries.
- II. Recent Developments in the Exports and Imports.- In this section contains the exports and imports as well as the main items.
- III. Trade Negotiations Related to the Industries.- In this section provides the agreements negotiated or under negotiations, either bilateral or regional. It mentions those that are particular to the industries.
- IV. The Programs and Special Incentives to the industry.- The section provides information on some particular programs each economy has in place to support and develop the industries.
- V. The Private Sector in the Industries.- Provides a general description of some companies playing a significant role in these industries.
- VI. The Vision of the Private Sector.- This section consists of interviews with companies related to the industries.
- VII. Government and Private Organizations.- List of the institutions that assist and provides support in this field.

Individual Economy Profiles

• Australia	1
• Brunei Darussalam	19
• Canada	25
• Chile	52
• People's Republic of China	69
• Hong Kong, China	105
• Indonesia	126
• Japan	140
• Korea	171
• Malaysia	188
• Mexico	203
• New Zealand	225
• Papua New Guinea	239
• Peru	243
• Philippines	260
• The Russian Federation	276
• Singapore	293
• Chinese Taipei	312
• Thailand	332
• United States of America	346
• Viet Nam	373

The Electronic and Information Technology Industries Survey in APEC Executive Summary

In today's world, technology is continuously evolving, contributing to the development of societies and making everyday duties more convenient. Thus, the markets of each APEC economy are struggling to maintain their place amongst the global competition. Within the manufacturing sector of these economies, the industries that play a significant role are the electronic and information technology industries.

During the last 200 years the industries have endured many different phases in order to meet the changing conditions and requirements of the markets. In the 1850's, the electronic industry had barely emerged. Steam engines and trains were seen as necessities in the industrial sector. One hundred years later, however, the electronic industry began to surface. The electronic industry was not only essential for production, but it began providing people with more convenient ways to go about their lives.

Today, with the modernization of each economy, the technological boundaries have reduced. Satellite and digital broadcasting, the Internet and advanced telecommunication systems allows governments, companies and consumers to be interconnected enhancing both efficiency and productivity.

Appearing with this new era, are new necessities, forcing companies to respond quickly to evolving market demands with more innovative products and services. As a result, cost is becoming an increasingly important issue for the manufacturer and each region will need to provide their own characteristics and advantages for their strategies. On the other hand, the outsourcing competency model continues to increase its participation in the business models of the electronic and information technology industries.

As the companies need to reduce both their response times to the market and their inventory levels in order to be less vulnerable to price fluctuations, the purpose of outsourcing is moving away from being just to reduce costs. Thus, the original equipment manufacturers (OEMs), original design manufacturers (ODMs), electronic manufacturers services (EMSs), third-party logistics companies, and other providers are becoming more important strategic partners.

The global industries are being led by technological innovation and eager competition. However, the key areas that most private sectors are dealing with are the electronic and information technology industries. Both industries are extremely competitive and are heavily influenced by conditions and business models. Thousands of small and medium enterprises (SMEs) from APEC economies take part in these respective industries. In fact, they make up 98 percent of the total number of enterprises and provide 60 percent of private sector jobs within the APEC economies.

Although each of the 21 APEC economies is statistically different from one another, some trends still exist. The results of this survey show that the electronic and information industry participates between 1 percent up to 21.5 percent in the gross domestic product (GDP). This range highlights that some economies have developed significantly in this industrial activity which links to the development and size of their economy.

It was found that the large number of companies in the developed economies generates a similar number of jobs in comparison to the small number but often medium or big companies in developing economies. Australia, for example, has 24,000 companies with 236,000 employees, while Indonesia only has 364 companies with 200,000 employees.

In regard to foreign trade, the survey showed that in most cases, the higher the value in the GDP the higher the export value than the imports. This enables those economies to benefit from a surplus in their trade balance. Please see attachment: Annex I

The survey included a compilation of the number of free trade agreements (FTAs) and economic partnership or cooperation agreements (EPAs). In this respect, it was found that 24 agreements lie within this category while some economies are either currently negotiating or planning to undergo conversations. Some active economies in here are; Australia, Chile, Singapore and the United States. Moreover, most of the economies are participants of the Information Technology Agreement (ITA) within the World Trade Organization. Out of these 21 economies, 11 participate in the Association of South-East Asian Nation's free trade agreement (ASEAN-FTA). Please see attachment: Annex II

Each of the 21 APEC economies has their own programs and incentives to boost the growth of their industries. The aims of the incentives include promoting innovation, research and development (R&D), attracting foreign direct investments (FDIs), attracting foreign multinational corporations (MNCs) and improving the economy's standard of living. Common incentives among the economies are tax exemptions, income tax holidays, government-supported funds for R&D and technology development, and special economic zones. Please see attachment: Annex III

Many common topics are revealed in the answers provided by the companies interviewed. In response to question one, which examines how companies are facing the business challenges, many companies seem to focus on minimizing costs and innovating their products while maintaining a high quality of service.

Regarding question two, which focuses on whether there are plans to set up manufacturing operations overseas, the majority of companies either already have established factories in different economies around the world, or are planning to do so, since outsourcing provides many business opportunities.

Furthermore, in question three that determines the willingness of the company to establish a business with a SMEs, almost all companies agree that the increased participation by original design manufacturers (ODMs), original services manufacturers (OSMs) and original equipment manufacturers (OEMs) provide opportunities for small and medium enterprises (SMEs).

Moving onto question four, which relates the benefits of free trade agreements (FTAs), the companies mostly agree that FTAs are useful, although some mentioned that it may be negative, since it also proposes a threat.

For question five investigating the importance of the market and the incentives, companies are split in their beliefs that the market is more important than the provided incentives, and vice versa.

Finally, in question six, which asks for open views or suggestions regarding the future, each company answered differently. Apparent topics are the emergence of China and India as key markets, the need for continuous research and development (R&D) and innovation to keep up with the quickly changing customer demands and expectations, and the dominance of the electronic and information technology industries in the manufacturing sector. Please see attachment: Annex IV

**The Electronic and Information Technology Survey in APEC
Summary of some economic data and foreign trade**

Economy	%/ GDP	Companies	Employees	2005 Exports (US\$ billion)	Products	2005 Imports (US\$ billion)	Products
Australia	1	24,000	236,000	A\$4.3 billion	Computers and computer services	A\$1.8 billion	Computers, telecommunication equipment
Brunei Darussalam	NA	NA	NA	NA	NA	NA	NA
Canada	10.8	32,000	570,000	Cdn\$516.4 billion	Computers and electronic products	Cdn\$463.1 billion	Machinery, computers and components
Chile	1.4	1,871	60,000	16.8 million	Hardware and software	595.6 million	Hardware
The People's Republic of China	21.5	79,894	5,165,224	268.1	Computers, home entertainment and telecommunications equipment	220.5	Ics, computer components and telecommunication equipment
Hong Kong, China	NA	4,800	NA	172.3	Sound recording apparatus, telephone sets, computer parts and accessories.	152.3	ICs, computers and their components
Indonesia	NA	364	200,000	9.2	Computer equipment, sound/TV recorders, office equipment	NA	NA
Japan	4.5	702	292,633	124,160	Integrated circuits (IC), parts and accessories and video equipment	76,351	ICs, computers, parts and accessories
Korea	15	17,266	676,321	93.6	Semiconductor devices and display panels	49.7	Semiconductor devices, communication and information systems (computer items)
Malaysia	US\$38.7 billion	Over 900	360,048	48.2	Semiconductor devices	36.4	IC, parts and components and computer itmes
Mexico	3.4	1,000	300,000	46.90	Color TV sets, machines for data processing, consumer electronics	46.90	Components, communication equipment, machines for data processing
New Zealand	4.3	7,700	41,000	NZ\$1.25 billion	Broadcasting, telecommunications and computing hardware	NZ\$2.4 billion	Computing hardware & parts, telecommunication and broadcasting and TV
Papua New Guinea	NA	NA	NA	NA	NA	NA	NA
Peru	NA	NA	NA	3.64 million	Storage units and portable digital processing units	239.4 million	Equipment and spare parts, storage units, digital processing units, portable units and printer units
Philippines	NA	860	370,000	27.00 (US\$28.35 billion for 2005 target)	Semiconductors, computers, periphe-rals storage and telecommunications equipment	22.2	IC parts and components. Mostly assembly works.
The Russian Federation	0.12	257	170,000	1.2	Radar apparatus, insulated wires, panels & boards with switches.	NA	Automatic data processing machines, televisions, cameras
Singapore	8.4	209	92,446	113.7	Ics, parts and accs. computers, trans-mission apparatus, diodes and transistors	90.2	ICs, parts and accessories, computers and transmission apparatus.
Chinese Taipei	27.4	13,538	774,000	91	ICs, semiconductors, LCD panels	57.8	ICs, semiconductors, computers
Thailand	15.8	NA	310,000	21.2	Hard disk drives (HDDs), air conditioners computers, TV and Ics, parts and accessories	1,146,600 million baht	ICs, telecommunication equipment, computers, parts and accessories
United States	5.4	333,000	5,627,000	296.6	IC, computers, parts and accesories	429.8	IC, computers and components, TV receivers and telecommunication apparatus
Viet Nam	3.07	440	10,000	1.5	Transformers, computers, printers	1.7	NA

Notes:

% / GDP, contribution as percentage of the gross domestic product.

Export and import figures were compiled by different sources because each economy compiled the statistics under a different classification. The value represents the most traded items in the foreign trade.

Products only include the main items.

Mexico: companies include in-bond assembly plants.

Australia's foreign trade includes goods and services.

Information is not available for Brunei and Papua New Guinea due to the lack of industrial activity in electronics and information technology industry.

Canada and Chile+B15's ICT sector includes goods and services.

Japan: The number of companies and employees are for 2004

Malaysia's data is from 2003.

Chinese Taipei: The number of employees are those "paid employees" and includes computer system design, and data processing & information supply services.

Korea: the foreign trade figures are for 2004.

Indonesia: the export figures are for 2004.

Malaysia: Figures are for 2003.

New Zealand: Figures of foreign trade are for 2002.

The Philippines: Imports are for 2004 and are under revision.

The Russian Federation: Economic figures are for 2000. The foreign trade include only the main items.

Singapore: the percentage as of GDP is of 2004.

Thailand: Foreign trade figures are for 2004.

The United States: Foreign Trade includes only the items with more value participation in the industries.

Viet Nam: The number of companies and employees are of the software industry.

**The Electronic and Information Technology Industries Survey in APEC
Summary of Free Trade Agreements or Economic Cooperation and Trade Agreements**

Economy	Australia	Brunei Darussalam	Canada	Chile	The People's Republic of China	Hong Kong, China	Indonesia	Japan	Korea	Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	Philippines	The Russian Federation	Singapore	Chinese Taipei	Thailand	United States	Viet Nam	
Australia*																						
Brunei Darussalam																						
Canada																						
Chile																						
The People's Republic of China**									**	**												
Hong Kong, China																						
Indonesia																						
Japan									**													
Korea																						
Malaysia																						
Mexico																						
New Zealand*		***		***																		
Papua New Guinea																						
Peru																						
Philippines																						
The Russian Federation																						
Singapore		***		***																		
Chinese Taipei																						
Thailand																						
United States																						
Viet Nam																						

 Negotiated a Free Trade Agreement, Economic Cooperation or Partnership Agreements

 Government is either currently negotiating or planning to start talks.

 Participate in the Association of Southeast Asian Nations FTA (ASEAN-FTA). The United States signed a Trade and Investment Framework Agreement (TIFA)

Most of the economies are participants of the Information Technology Agreement ITA

* Both economies are involved in the ASEAN-FTA

** Includes ASEAN + 3

*** Not yet in force

This list includes only the general agreements. The particular agreements related to the industries are found in each profile.

The Electronic and Information Technology Industries Survey in APEC

Economy	Special incentives
Australia	Tax exemptions, to boost research and innovation, incubators, commercializing
Brunei Darussalam	Tax incentives, pioneer status, companies investing in new technology
Canada	Tax incentives to support Canadian innovation, financial assistance, government incentives, partnerships
Chile	Local tax revenue services, funds for scientific/technological development
The People's Republic of China	Five-year plans, industrial policies, R&D zones, production parks, export drawback policies, FDI incentives, etc.
Hong Kong, China	Programs and funds promoting innovation and development of technology, SME funding schemes, etc.
Indonesia	Import duties, tax facilities, export manufacturing, bonded zones
Japan	Programs to attract FDIs, support centers, tax reductions, lifting of bans, government funding, etc.
Korea	IT839 strategy to increase GDP per capita, offers resources for industries in the R&D stage
Malaysia	Pioneer status, investment tax allowance, reinvestment allowance, tariff-related incentives, etc.
Mexico	Tax exemptions, to boost research and innovation, incubators, commercializing
New Zealand	Exemption of capital gains tax, employee payroll tax, social security tax, funds promoting research and development.
Papua New Guinea	Tax exemptions, export incentives
Peru	Peru PC - to improve efficiency and productivity of existing sectors
Philippines	Income tax holidays, tax/duty exemption, wharfage dues/export tax exemption, tax credits, non-fiscal incentives, etc.
The Russian Federation	Federal funds for innovation and the development of technology, state programs for the development of IT parks, tax incentives
Singapore	Approved foreign loan incentive, investment allowance, research/development incentive schemes, pioneer incentive
Chinese Taipei	Industrial parks, incentives for emerging industries, science based industries, promote international distribution, R&D and merging of companies, etc.
Thailand	Tax incentives, human resource and R&D funds, etc.
United States	Tax incentives, funds and programs to promote R&D and technological innovation
Viet Nam	Income tax incentives, industrial zones, profit remittance tax incentives, capitalized assets, land, etc.

Annex IV

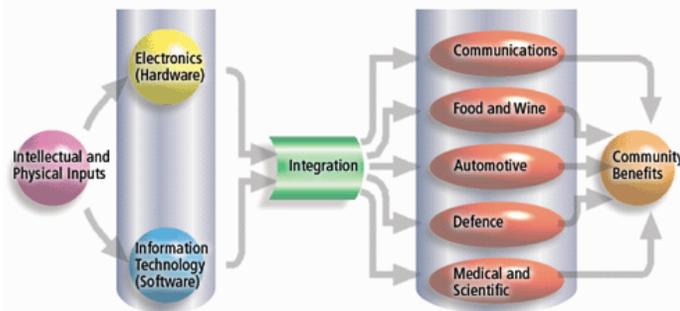
**The Electronic and Information Technology Industries Survey in APEC
Summary of the Vision of the Private Sector**

Economy	1: How are they facing the challenging business environment?	2: Have manufacturing platforms, source products and services	3: Increased participation by ODM, OSM and OEM - opportunity for SMEs?	4: Are FTAs useful?	5: Which is more important? Market or incentives?	6: Views/plans for the future?
Australia	Flexibility, adopting new technology, customer surveys, R&D investments.	We source services and also manufacture	Yes for distribution. Thus, we work close with them.	Yes, to participate in industry groups	If market conditions are compatible in several sites, then local incentives may assist in a decision	Globalization, national security and climate change, innovation, R&D motivates the growth of the industries. Specialize in ICT
Brunei Darussalam	Not available	Not available	Not available	Not available	Not available	Not available
Canada	High margins of sale, expansion	We already outsource to third parties, factories around the world	Yes, we work with them.	Yes, most business in the US.	We look at many factors.	Energy will become scarce, need to manage energy. Thus, these industries will be extremely important.
Chile	Employment incentives, continuous learning, professional customer service, flexibility, partnerships	Positive experience with outsourcing, provides many opportunities	Yes	Yes, expands international business and makes work easier.	Incentives influence decisions indirectly, market still a huge factor	Developing countries will be the key to success, services will dominate over goods, technology will quickly advance.
The People's Republic of China	Flexibility in products/services, R&D, technological development, quality of service	Yes.	Not available	Yes, great way to increase competition in international markets	Yes, definitely a factor, but the risks must also be considered.	China will develop significantly over the next few years, companies will have to change to meet the evolving expectations/ demand of consumers.
Hong Kong, China	R&D	Yes	Not available	Yes, there will be some advantages.		China will be a key player in the coming years.
Indonesia	New investments are needed to broaden the market	Yes, it is necessary to capture new markets.	Yes	Yes, but good product and service must exist	Both are important, but incentives help	Important to keep an eye on technology
Japan	Restructure operations. Small scale manufacturing, high performance and high value added	Yes with good quality and excellent services	Consider important alliances to attend mkt. SME can be our partner. Need high technology and performance	Yes, but also to succeed need high tech. Production capability & performance and support	Market is an important factor, both market and incentive programs are useful	Concentrate resources on the overseas business and create bases in the markets.
Korea	Working on different marketing strategies to meet customers' changing demands.	Already have plants throughout the world. Need to keep production cost at a minimum	Yes, it provides companies with benefits and the opportunity to adapt according to the changing environment.	FTAs are both a threat and an opportunity.	Must consider the entire picture, not only incentives.	The electronics market will expand, developing countries will become more significant in the market, technology will develop very quickly.
Malaysia	Adjusting systems and negotiating alliances, creating new products.	Buying spare parts to save time and manpower.	Yes, helps to create new things without added costs.	Yes, allows to penetrate new markets.	No plans to invest outside of Asia.	Changes are quick, need to be ready to adjust accordingly.
Mexico	Not available	Not available	Not available	Not available	Not available	Not available
New Zealand	Additional training, flexibility, varied work, expansion, increase range of products	No.	Difficult for SMEs to be competitive	Yes, provides opportunity for business.	Look if it is beneficial to us.	Stronger demand for IT.
Papua New Guinea	Not available	Not available	Not available	Not available	Not available	Not available
Peru	Improve personnel attitude and commitment, aligning IT area	Centralize customer operations in one economy		Yes, services can be offered in different economies.		Huge opportunity for developing economies to be involved in the ICT market.
Philippines	Innovation and minimizing costs	No	Yes	Yes	Incentives are more useful	Key locations will be China and India. Thus, service and quality are extremely important.
Russia	Foreign partnerships, high level of quality,	Mostly use distributors, rather than direct sales	Yes, more variety and more opportunity.	FTAs will bring down barriers and create opportunities.		Widening of the industry, and more production.
Singapore	Innovate, minimize costs,	Yes, it will provide more profit.	Yes, more variety and more opportunity.	FTAs will bring down barriers and create opportunities.	Yes.	Technology will remove many barriers, old jobs will disappear fast. Must be innovative and creative to catch up with market.
Chinese Taipei	Keep costs at a low level. Logistics are important	Yes, must set-up factories in other countries and quality and cost must be attractive in order to source from local suppliers.	Yes, in some cases suppliers can provide other services too.	Yes.	Yes, incentives might influence decisions more than the market.	These industries will continue to grow bringing new, promising markets. Must continue to invest in R&D. H11
Thailand	To maintain or reduce costs	Yes, but also import	Yes, but quality is needed	Yes in general	Subcontractor goes to where the customer is	The industry will continue growing. Need to keep quality
United States	Specialization, improve quality of existing services		Yes.	Yes, very useful.	Yes, very important factor in decisions. Incentives give some economies an edge over others. Target market is always the main focus, however.	The changing technology is influencing the entire business environment. Mexico will be an important market in the near future.
Viet Nam	Improve services, maintain high quality, customer relationship is key	Cooperate with them.	Yes.	Maybe.	Market is more important	Many opportunities with a growing market.

The Electronic and Information Technology Industries Survey in APEC Australia

I. Overview of the Industry

Australia accounts for around 0.3 percent of the worldwide electronics production, with somewhat higher shares in telecommunication and radio communication, and control and instrument production. These higher shares suggest local strengths in control and instrumentation equipment, and communications equipment. On the contrary, Australia's production of electronic components is lower than its overall average of other manufacture industries.



Electronics is an important technology that drives innovation, and is a vital part of many industries in Australia including automotive, agriculture, telecommunications, defense, aerospace, medical devices and mineral exploration. In 2003-04, the industry directly employed 31,000 people, and had a turnover of A\$8.1 billion (around one percent of Australia's gross

domestic product), and had an export value of A\$3.3 billion (more than two percent of Australia's total exports).

Despite this relatively higher labor content in production, the industry averages over A\$300,000 output per year per employee in 2004/05. Output per person has increased by about 10 percent per year in each of the past five years. Similar productivity gains are expected in the future. The 2009/10 forecast revenue of A\$8 billion with 15,000 employees equates to a contribution of over A\$500,000 per employee.

The electronics industry comprises of a few large companies and many smaller firms in each market segment. Foreign companies play a major role in the Australian industry and the import level is high. The industry is undergoing major changes with contract manufacturing becoming of increasing importance.

Over 2004-05, Australian information and communications technology (ICT) goods and services exports were valued at A\$4.3 billion, comprising of ICT goods exports valued at A\$2.2 billion and ICT services valued at A\$2.1 billion. In 2004-05, 55 percent of ICT exported goods were Australian-produced goods and 45 percent were re-exports. In recent years some ICT exports have experienced a significant growth. For example, exports of computer and information services have risen by an average of 8.3 percent per annum to over A\$1 billion between 1999-00 and 2004-05.

Total ICT imports were valued at nearly A\$18 billion in 2004-05, comprising of ICT goods imports valued at A\$15.6 billion and ICT services valued at A\$2.4 billion. Australian Bureau of Statistics (ABS) data for 2004-05 indicates that Australia had an ICT trade deficit of A\$13.6 billion.

The Information and Communication Technology Industry

According to the ABS survey of the ICT industry, about 24,000 ICT firms in Australia generated incomes of A\$79.9 billion in 2002-03. The large majority of these companies were in the computer services sector (77 percent), with wholesale trade comprising the second largest share of ICT specialist firms (8 percent).

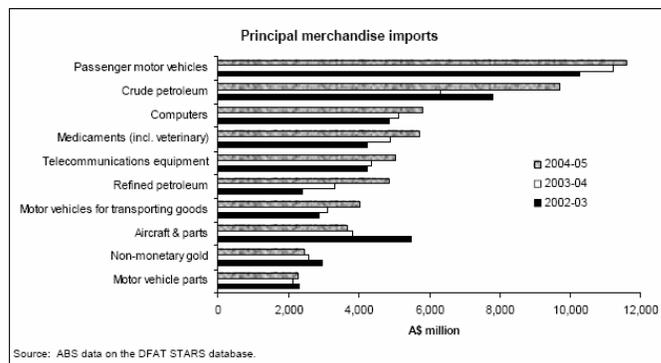
Total revenue from the Australian production of ICT goods and services by ICT specialist firms in 2002-03 was A\$49.1 billion. Changes to the basis of sampling ICT firms in the most recent ABS survey (2002-03) means that the value of production cannot be compared with previous years.

According to the ABS, there were almost 236,000 people employed in the ICT private sector as of 30 June 2004. ICT specialist firms in the computer services industry subsection had the highest proportion of employees (45 percent or 107,094 persons), while the manufacturing grouping had the lowest (5 percent or 10,838 persons). ICT specialist businesses employed almost 108,000 specialist ICT employees.

II. Recent Developments in the Exports and Imports

New Zealand, the major destination for Australia's ICT goods exports, made up 32 percent (A\$648 million) of the Australian ICT goods export market in 2004-05 (compared with 27 percent in 2002-03). The United States, the second largest market, accounted for 12 percent (A\$262 million) of Australia's ICT goods exports in 2004-05. Other major destinations for Australia's ICT goods exports included Singapore (A\$125 million); Hong Kong, China (A\$85 million); the United Kingdom (A\$80 million); Germany (A\$79 million) and India (A\$67 million).

In 2004-05 the main sources of ICT goods imports into Australia were China (A\$4.2 billion); Malaysia (A\$1.7 billion); Korea (A\$1.25 billion); Singapore (A\$1.1 billion); Chinese Taipei (A\$1 billion); Japan (A\$1 billion); Thailand (A\$361 million); Hong Kong, China (A\$321 million); Germany (A\$308 million) and the United Kingdom (A\$258 million). The biggest shifts in recent years have been a strong increase of ICT goods imports from China and a corresponding decline in imports from The United States.



Imports of computers rose 13 percent to A\$5.8 billion in 2004-05 and accounted for 4 percent of total imports. Since 1999-00, imports have increased an average of 2 percent per annum. Principal sources of imports of computers in 2004-05 included: China (A\$2.1 billion), Malaysia (A\$915 million), the United States (A\$629 million), Chinese Taipei (A\$448 million) and Singapore (A\$405 million).

It is important to mention that 2004-05 computer imports from China increased 51 percent along with Malaysia, which increased by 13 percent. Imports from Singapore fell 20 percent, while imports from Chinese Taipei fell 5 percent.

Likewise, imports of telecommunications equipment (TE) grew 15 percent to A\$5.0 billion and made up 3 percent of the total imports. During the periods of 1999-00 and 2004-05, average import growth per year fell 4 percent. Major sources of TE imports in 2004-05 included China (A\$1.0 billion), Korea (A\$831 million), the United States (A\$708 million), Singapore (A\$274 million) and Malaysia (A\$256 million)

TE imports from China rose 39 percent in 2004-05, Singapore grew 178 percent and Malaysia increased by over 35 percent.

III. Trade Negotiations Related to the Industries

Australia believes Free Trade Agreements (FTAs) should:

- Deliver substantial commercial and economic benefits for both economies by preventing others from gaining a competitive edge in their current and/or future export markets
- Deliver comprehensive and substantial improvements for their trade in goods and services, and for investments with the partner economy or economies
- Be notified to World Trade Organization (WTO) members and thus, examined for consistency against WTO regulations
- Support Australia's broader strategic interests with the partner economy or economies

This economy has signed FTAs with the US, Thailand and Singapore. Regarding New Zealand, they signed a Closer Economic Trade Relations Agreement. As part of their commitment to pursue every opportunity to increase trade and investment for their economy, they are currently in the process of either negotiating or considering negotiating with Malaysia and China.

In addition, Australia is currently conducting, with Japan, a feasibility study on the advantages of a bilateral FTA. Australia is conducting an analysis of the economic and trade implications of an FTA with the Gulf Cooperation Council (GCC). The GCC includes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

Australia has also been a committed participant of the Information Technology Agreement (ITA) since December 1996. The participants of ITA represent an important share of the 97 percent of the world trade in information technology (IT) products. While ITA is solely a tariff-cutting mechanism, most of the IT products are rated zero. This applies to the 68 members & states or separate customs or separate custom territories that are in the process of acceding to the WTO. As of July 2006, the following APEC economies have accepted the criteria: Australia; Canada; China; Hong Kong, China; Indonesia; Japan; Korea; Malaysia; New Zealand; the Philippines; Singapore; Chinese Taipei; Thailand and the United States.

Together with New Zealand, Australia is also involved in FTA negotiations with the ten members of the Association of Southeast Asian Nations (ASEAN). This ASEAN FTA (AFTA) has been established as the "Roadmap for the Integration of the Electronics Sector". The terms of the agreement are as follows.

Objectives

The objectives of integrating the electronics sector are to:

- Develop, strengthen and enhance the competitiveness of the ASEAN electronics sector and promote ASEAN as an integrated platform to do business with regarding electronics;;
- Strengthen regional integration efforts through liberalization, facilitation and promotion measures to ensure full integration of the electronics sector by 2010.
- Promote private sector participation.

Measures

This roadmap includes specific measures that are of direct relevance to the electronics sector, as well as common measures that cut across all priority integration sectors. The integration approaches are premised on:

- Combining the economic strengths of ASEAN member countries for regional advantage;
- Facilitating and promoting intra-ASEAN investments;
- Improving the condition to attract and retain manufacturing and other economic activities within the region; and

- Promoting the outsourcing program within ASEAN.

Coverage

The scope of products include electronic data processing (EDP) equipment, electrical and electronic home appliances, medical and industrial equipment, telecommunication equipment, communications and radar equipment, automotive electronics, instrumentation and controls, and mechanical equipment.

More details can be found at www.aseansec.org/16656.htm

IV. The Programs and Special Incentives to the Industries

Australia has a well-developed ICT sector that has provided substantial investment returns for foreign investors. The key areas of strength and the considerable advantages of the ICT sector that have put Australia in front of the pack for developing emerging technologies.

As a result, this economy launched a special package named “Backing Australia Ability” to carry out through the six-year period of 2005-2011. This package has initiatives to generate ideas not only to apply them commercially, but also to develop and retain particular skills.

The most important programs are as follows:

Programs/Incentives	Description
R&D Tax Concession	The R&D Tax Concession, administered by Australian Industry & Trade (AusIndustry), allows companies to deduct up to 125 percent, and in certain circumstances up to 175 percent, of qualifying expenditure incurred on R&D activities. Certain ICT companies that are not yet making a profit have the option of taking the tax concession as a tax offset, which provides cash to fund their R&D activities.
Commercial Ready program	The Commercial Ready program, administered by AusIndustry, gives innovative Australian companies financial support to undertake R&D, proof-of-concept, technology diffusion and early-stage commercialization.
National ICT Australia (NICTA)	The ICT center of excellence, NICTA, is a major ICT research institution, with \$380 million funding until 2011. It seeks alliances with Australian companies, to assist with the development of new products. A structured program focusing on small and medium-sized enterprise (SMEs) is being introduced.
Cooperative Research Centers (CRC) Program	The CRC program provides funding to a number of CRCs to link researchers with industry in order to focus R&D efforts on commercialization and technology transfer.
Commercializing Emerging Technologies (COMET)	COMET provides ICT companies and other businesses with a tailored package of grant support, through private sector business advisers, to increase the commercialization of innovative products, processes and services.
Innovation Investment Fund (IIF)	The IIF provides venture capital to small, high-tech companies at the seed, start-up or early-expansion stages of their development. The program is delivered through nine private sector venture capital funds.
Facilitating access to capital for ICT SMEs	This facilitation works by creating tax incentives for venture capital limited partnerships (VCLPs) and pooled development funds (PDFs). VCLPs are the world’s best-practice vehicle for venture capital investors. They receive tax incentives for providing equity capital to growing Australian companies. Australian investors receive similar tax incentives through PDFs.

ICT Incubators Program (ICTIP)	ICTIP is funding eight business incubators across Australia with \$36 million until 2007–08. They provide seed capital, business advice and mentoring to ICT start-up firms with the aim of accelerating their growth.
Information Technology Online (ITOL)	ITOL funds collaborative industry-based projects with up to A\$200,000 for innovative e-business solutions.
Export Market Development Grants	These provide financial assistance that can help develop export markets.
New Exporter Development Program	Austrade and the TradeStart network provide a range of free services which can help non-exporting companies start their export push.

Source: Australian Department of Communications, Information Technology and Arts

R&D Tax Concession.- The R&D Tax Concession, administered by Australian Industry & Trade (AusIndustry), allows companies to deduct up to 125 percent, and in certain circumstances up to 175 percent, of qualifying expenditure incurred on R&D activities. Certain ICT companies that are not yet making a profit have the option of taking the tax concession as a tax offset, which provides cash to fund their R&D activities.

Commercial Ready Program.- The Commercial Ready program, administered by AusIndustry, gives innovative Australian companies financial support to undertake R&D, proof-of-concept, technology diffusion and early-stage commercialization.

National ICT Australia (NICTA).- The ICT center of excellence, NICTA, is a major ICT research institution, with \$380 million funding until 2011. It seeks alliances with Australian companies, to assist with the development of new products. A structured program focusing on small and medium-sized enterprise (SMEs) is being introduced.

Cooperative Research Centers (CRC) Program .- The CRC program provides funding to a number of CRCs to link researchers with industry in order to focus R&D efforts on commercialization and technology transfer.

Commercializing Emerging Technologies (COMET).- COMET provides ICT companies and other businesses with a tailored package of grant support, through private sector business advisers, to increase the commercialization of innovative products, processes and services.

Innovation Investment Fund (IIF).- The IIF provides venture capital to small, high-tech companies at the seed, start-up or early-expansion stages of their development. The program is delivered through nine private sector venture capital funds.

Facilitating access to capital for ICT SMEs.- This facilitation works by creating tax incentives for venture capital limited partnerships (VCLPs) and pooled development funds (PDFs). VCLPs are the world's best-practice vehicle for venture capital investors. They receive tax incentives for providing equity capital to growing Australian companies. Australian investors receive similar tax incentives through PDFs.

ICT Incubators Program (ICTIP).- ICTIP is funding eight business incubators across Australia with \$36 million until 2007–08. They provide seed capital, business advice and mentoring to ICT start-up firms with the aim of accelerating their growth.

Information Technology Online (ITOL).- ITOL funds collaborative industry-based projects with up to \$200 000 for innovative e-business solutions.

Export Market Development Grants .- These provide financial assistance that can help develop export markets.

V. The Private Sector in the Industries

The following are some of the companies involved in the electronic and information technology industries.

Company	Motorola Australia Pty Limited			Motorola is benefiting from Australia's unique intellectual property assets and stable business environment to grow an extensive IT export business, specializing in public safety and security software.
Chief Executive Officer	Edward J. Zander			
Address	Technology Park, 2 Second Avenue, MAWSON LAKES			
Tel Fax	(61-8) 81683500 (61-8) 81683501			
Website	www.motorola.com			
Products	Wide range of products and services – from consumer devices to solutions for businesses, governments, and service providers.			Annual Sales: US\$601 million
Company	NEC Australia			NEC is a leading supplier of IT&T solutions to carriers, government, businesses and consumers. It specializes in end-to-end network solutions for carriers, and mission critical and managed voice and data networks for businesses and the government. NEC also sells and services a wide range of data technology and home electronics products.
Chief Executive Officer	Adam King (State Manager)			
Address	649 Mulgrave, Australia	Springvale Victoria	Road 3170	
Tel	(61-3) 9262 1111			
Website	www.nec.com.au			
Products	Broadcasting, digital signage, home entertainment, household appliances, mobiles, networks, visual displays, etc.			Annual Sales: US\$100 million (2004)
Company	Tyco Electronics			Based on the interconnect technology leadership of AMP products, Tyco Electronics has added a full complement of leading component brands -- including Raychem, Elcon, P&B, M/A-COM, CII and many more - to offer customers an unparalleled portfolio of connectors, relays and circuit breakers, active and passive fiber optic components, wireless products, power components, resistors and inductors, motors and myriad others across 25 product segments.
Chief Executive Officer	Chris Bran (General Manager)			
Address	111 Kingsgrove, Australia	Vanessa Nueva Gales del Sur	Street 2208	
Tel Fax	(61-2) 9554 2600 (61-2) 9554 3859			
Website	www.tycoelectronics.com.au			
Products	Connectors and packaging, electromechanical components, fiber optics, filters, passive components, printed circuits board, etc			Annual Sales: Not Available
Company	Perini & Scott			It operates in the field of high-quality power electronics equipment and systems and is committed to being responsive with product development and modification as the needs of the client. Regulated DC power supplies for process control, telecommunications and navigational aids were the foundation products. Monitoring equipment for water purification has led to specialized products for OEMs in ore treatment and beneficiation.
Chief Executive Officer	R H (Bob) Masterman (Principal)			
Address	126A Waitara, Australia	Pacific Nueva Gales del Sur	Hwy 2077	
Tel Fax	(61-2) 9489 5901 (61-2) 9489 3497			
Website	www.periniscott.com			
Products	Connectors, industry machinery, electronic machines, application control, etc.			Annual Sales: Not Available
Company	Software Systems Technology			It takes pride in being one of Australia's largest

Chief Executive Officer	Stan Greene	employers and one that can make a difference to the community in which it operates. It is a telecommunication services are a natural ally of the environment because they can provide energy and resource efficient options to help people communicate - whether across town or across the globe - from telephone and Internet to audio, video and online conferencing.
Address	62 Radnor St Camberwell, Victoria 3124 Australia	
Tel Fax	(61-3) 9809 4250 (61-3) 9809 4253	
Website	www.softwaresystems.com.au	
Products	Internet, mobiles, wireless, satellites, global roaming, hardware, etc	Annual Sales: US\$420 million
Company	IBM	IBM Australia is a leading supplier of information technology, software and services in Australia. Their focus is on helping customers to adapt and prosper in the online world. Their extensive range of products and services help organizations take advantage of new opportunities presented by internet-based technologies, building on their existing technological investments.
Chief Executive Officer	S E Baird	
Address	26 Business Park Dve Notting Hill, Victoria 3168 Australia	
Tel/Fax	(61-3) 9538 8198	
Website	www.ecefast.com.au	
Products	Systems and servers, workstations, software, personal computing, semiconductors, etc.	Annual Sales: US\$488 million
Company	Siemens Australia	Siemens Australia provides a wide range of products and services in electronics, electrical engineering and ICTs, delivering solutions to information and communications, automation and control, power, transportation and medical markets, as well as components and financial services. They have around 2,900 employees In Australia and New Zealand.
Chief Executive Officer	Albert Goller	
Address	160 Herring Road Macquarie Park, North Ryde NSW 2113	
Tel Fax	(61-2) 9855 1200 (61-2) 9855 1255	
Website	www.siemens.com.au	
Products	Communications, automation and control, power transportation, medical solutions, lighting components, financial services, logistics and assembly systems	Annual Sales: US\$1.2 billion
Company	Extel Communications	For over a decade Extel Communications has been at the leading edge of the access network market. Extel Communications has consistently achieved dominant leadership positions with world-class design and development, manufacturing, reliability and customer support. Extel Communications offers a range of innovative access network solutions, encompassing Pair Gain Systems, ISDN extenders, and solutions for expanding DSL coverage. Today, Extel communications connects more than half a million subscribers in 16 countries.
Chief Executive Officer	Ian Shiers	
Address	Extel Communications Pty Ltd 399 Ferntree Gully Road Mount Waverley Victoria, 3149, Australia	
Tel Fax	(61-3) 8542 9200 (61-3) 8542 9299	
Website	www.extel.com.au	
Products	A cost effective range of products featuring inexpensive low-port count DSLAMs, including the world's first smallest, lightest, most rugged and most waterproof DSLAM. Plus, Multi Layer printed circuit board assembly using convection and vapor phase technologies; surface mount; assembly capability; in-circuit testing using "bed of nails" test sets, computer controlled functional testing. Also provides contract-manufacturing services to external customers.	Annual Sales: Not Available

Company	Robert Bosch (Australia) Pty. Ltd.	<p>Robert Bosch (Australia) Pty. Ltd. is a regional subsidiary of the global Bosch Group, one of the world's largest private industrial corporations, with 251,000 employees.</p> <p>Automotive Technology Automotive Technology represents the largest area of their business, supplying both to the local automotive industry as well as exporting their components around the world.</p> <p>Consumer Goods Bosch Australia's consumer goods business is comprised of Power Tools, Household Appliances, Gas Hot Water Systems and Security Systems.</p> <p>Automation Technology Bosch Rexroth is a multi-disciplined engineering company specializing in Drive and Control products and systems solutions.</p>
Chief Executive Officer	Franz Fehrenbach	
Address	1555 Centre Road Clayton, VIC 3168	
Tel Fax	(61-3) 9541 5555 (61-3) 9543 5485	
Website	www.bosch.com.au	
Products	In Australia their core business is the engineering and manufacturing of automotive products and industrial technology. As well as the trading of consumer products	Annual Sales: Not Available
Company	Norwood Abbey	<p>Established in 1998, Norwood Abbey Ltd (Norwood) is a medical technology company that develops and commercializes innovative projects and technologies to address significant unmet needs in the medical industry, such as medical laser technologies based on electromagnetic and mechanical energy. A major focus is drug delivery.</p>
Chief Executive Officer	Peter Hansen	
Address	63 Wells Road Chelsea Heights, Victoria, 3196, Australia	
Tel Fax	(61-3) 9782 7333 (61-3) 9782 7334	
Website	www.norwoodabbey.com.au	
Products	Drug Delivery and Immunology. In both business segments Norwood's strategy is to develop proprietary technologies protected by strong intellectual property, establish their clinical utility and then partner with pharmaceutical and medical companies to commercialize the clinical applications of the technology platforms.	Annual Sales: US\$436 million
Company	Varian Australia	<p>This company specializes in creating solutions that solve a wide range of challenges in life science and industry. In particular, they excel in creating high performance products, often combining diverse technologies and capabilities to create new ways to meet the evolving needs of customers.</p>
Chief Executive Officer	Garry W Rogerson	
Address	679 Springvale Road Mulgrave Victoria 3170	
Tel Fax	(61-3) 9889 2471 (61-3) 9566 1471	
Website	www.varianinc.com	
Products	<p>Varian provides leading edge tools and solutions for diverse, high growth applications in life science and industry.</p> <p>Scientific Instruments, consumable supplies, and solutions are key tools in bio-molecular and academic research, pharmaceutical R&D and manufacturing, and industrial R&D and quality control, and in developing everything from disease-resistant crops to cosmetics to testing drinking water and monitoring quality in the petrochemical industry.</p> <p>Vacuum Technologies Specialized in matching customer requirements and developing vacuum</p>	Annual Sales: US\$125 million

Company	<i>Ericsson Australia</i>	Ericsson is a world-leading provider of telecommunications equipment and related services to mobile and fixed network operators globally. Over 1,000 networks in 140 countries utilize their network equipment and 40 percent of all mobile calls are made through their systems. They are one of the few companies worldwide that can offer end-to-end solutions for all major mobile communication standards.
Chief Executive Officer	Carl-Henric Svanberg	
Address	Level 37, 360 Elizabeth Street Melbourne, Victoria 3000	
Tel Fax	(61-3) 9301 1000 (61-3) 9301 1388	
Website	www.ericsson.com/au/	
Products	Cables and interconnect, microwave networks, mobile core, mobile platforms, network management products, optical networks, power modules, radio access networks, security and safety, service layer – multimedia, TEMS products, wire lines.	Annual Sales: US\$600 million
Company	<i>BAE Systems Australia</i>	For more than 50 years BAE Systems Australia and its predecessor companies have been designing, integrating and maintaining military systems for Australian defence. Its 2,600 employees work with the Australian Defence Force and Industry to ensure the defence has the capabilities it needs. BAE Systems Australia is a company committed to being a leading through-life capability partner to the Australian Defence Force optimising Australia's defence across joint, maritime, land and air environments. It combines key skills in engineering and systems integration and is a leading provider of communications, electronic warfare systems, military air support, air defence, mission support systems and intelligence, surveillance and reconnaissance. It employs approximately 2,600 people and supports customers at more than 50 locations across the country.
Chief Executive Officer	Mike Turner	
Address	Taranaki Road, Edinburgh Parks Edinburgh, SA 5111	
Tel Fax	(61-8) 8480 8888 (61-8) 8480 8800	
Website	www.baesystems.com.au/site/page.cfm	
Products	BAE Systems is an international company engaged in the development, delivery and support of advanced defense and aerospace systems in the air, on land, at sea and in space.	Annual Sales: US\$640 million.
Company	<i>Thales Australia</i>	Thales Australia is a premier provider of systems, products and services in the defense, security and civil markets in Australia and throughout the world. They are part of a leading international electronics and systems group serving defense, aerospace and security markets in Australia. They have 3,500 personnel.
Chief Executive Officer	Norman Grey	
Address	Cowper Wharf Road, Woolloomooloo, New South Wales	
Tel Fax	(61-2) 9562 3333 (61-2) 9562 2387	
Website	www.adi-limited.com/default.asp	
Products	Systems, products and services in the defense, security and civil markets in Australia and throughout the world.	Annual Sales: US\$760 million
Company	<i>Mincom Limited</i>	Mincom is a leading global software solutions and services provider to asset-intensive industries. For more than 25 years, Mincom has been providing world-class enterprise resource planning and asset management software solutions to organizations that manage and operate complex capital infrastructure. It also
Chief Executive Officer	Rick Rogers	
Address	GPO Box 1397, Brisbane 4001, Australia	

Tel Fax	(61-2) 9025 1200 (61-2) 9025 1255	delivers total industry solution sets that address the unique business processes and needs of asset-intensive organizations in mining, utilities, transportation, defense and government. Their complementary cross-industry solutions and services support a broad range of industries and include B2B integration, electronic cataloging, and IT outsourcing.
Website	www.mincom.com/default.aspx	
Products	Mincom Axis provides integration from internal ERPs/Business Systems directly to trading partners, e-marketplaces, or other intermediaries.	Annual Sales: US\$144 million
Company	Honeywell Australia Pacific	
Chief Executive Officer	David M. Cote	Honeywell International is a \$26 billion diversified technology and manufacturing leader, serving customers worldwide with aerospace products and services; control technologies for buildings, homes and industry; automotive products; turbochargers; and specialty materials. Based in Morris Township, New Jersey, Honeywell's shares are traded on the New York, London, Chicago and Pacific Stock Exchanges. It is one of the 30 stocks that make up the Dow Jones Industrial Average and is also a component of the Standard & Poor's 500 Index.
Address	Level 3 2 Richardson Place North Ryde NSW 2113	
Tel Fax	(61-2) 9353 7307 (61-2) 9353 7112	
Website	www.honeywell.com.au	
Products	Aerospace: Aircraft engines and systems, avionics, automation and control solutions Specialty materials: Fluorocarbon, films, advanced fibers Transportation systems: Innovator of automotive turbochargers	

VI. Interview with the Private Sector

<i>The Electronic and Information Technology Industries Survey in APEC</i>
Company: Netbased Software
Name and title of the executive: Ben Duncan, Founder
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges? We deal with these challenges by remaining focused on software development. Flexibility is a key factor in developing and adopting new technologies. 96 percent of sales are made overseas.
2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers? Business partners in the United States supply hardware products that we use to write software.
3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs? We have considered a distributor model, which has not been progressed in practice.
4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans? We consider free trade agreements as neither an advantage, nor a disadvantage to our business plans.

<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important role in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>Incentives or other support measures do not affect the company's new investment decisions. We use local distributors when entering overseas markets.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>The domestic market is expected to increase due to technological and skill developments. Exports are also forecasted to grow. We believe that it is easier now to specialize in information and communication technologies.</p>
<p>Other comments: We have clients in South-East Asia but not in the Pacific region. Foreign investment and support is necessary in developing the technology infrastructure in the Pacific region.</p>
<p>Date: 20 October 2006</p>

<p><i>The Electronic and Information Technology Industries Survey in APEC</i></p>
<p>Company: Aconex</p>
<p>Name and title of the executive: Frank Carron, Marketing Manager</p>
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>A major challenge facing the industry is attracting experienced, technical specialists (programmers and quality assurance personnel) to Australia. These specialists are crucial to the industry's growth.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>The company's focus is software development not manufacturing activities.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>The company provides technology-based services (mainly software development) and is not involved in manufacturing operations.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Free trade agreements are useful if they help Australian companies establish a presence in regional markets by removing non-tariff barriers ("streamlining bureaucratic requirements").</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important role in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>Foreign incentives or support measures would not have a major influence on new investment decisions, as we do not engage in manufacturing operations.</p>

<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>The company's business development is affected by the availability and speed of broadband. Consequently, it tends to approach markets where broadband internet is fully developed.</p>
<p>Other comments: The company has a close working relationship with Austrade, particularly overseas, and acknowledges the support Austrade provides through its business facilitation services.</p>
<p>Date: 20 October 2006</p>

<p><i>The Electronic and Information Technology Industries Survey in APEC</i></p>
<p>Company: Lochard</p>
<p>Name and title of the executive: Mike Rikard-Bell, VP – Global Sales & Marketing</p>
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>The challenge is how to anticipate changes in a fast moving world. Our market is the global aviation industry.</p> <ul style="list-style-type: none"> - Macro – examples include bird flu, fuel prices, terrorist attacks (September 11), economic growth, geo political climates and climate changes. - Technical – continuous innovation is required to stay ahead <ul style="list-style-type: none"> – changes in the business model are a result of the internet - People – how to attract and retain the best people - Financial – currency exposures, country credit risk - How to succeed as a global company headquartered in Australia <p>The macro factors are difficult to predict, but a process of regular assessment of potential business impact associated with these factors helps in managing these risks.</p> <p>Most of these challenges also represent opportunities if you are ready for them.</p> <p>For example, globalization means greater competition and standardization. Lochard has made a significant investment over the last five years in changing its business model to deliver services across the internet from a single data center, resulting in increased revenues, more reliable service and lower costs. This was done consciously knowing that the industry would be depressed following September 11. We also made a strategic decision to invest counter cyclically knowing that the industry would rebound. This has recently happened and Lochard is now dominating the segment with its new technology and service model.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>Lochard is always looking at ways to produce its products and services in a simpler way and at a lower cost. If third party suppliers can deliver our components at a better price, we will consider using them. Since Lochard is a high IP based company operating in a niche market, the core IP is, and will continue to be, developed in-house in Melbourne. Lochard does, however, also work closely with other organizations to assist in the development and manufacturing of specific parts.</p>

<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>Yes. Lochard has successfully been doing that for its customers (mainly large airports around the world). Instead of providing equipment, training and maintenance support, Lochard now delivers business outcomes against agreed service level agreements using its intellectual property.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?.</p> <p>In our industry, as a niche supplier, we have never been hampered by a lack of these trade alliances. However, these agreements are useful to Lochard as they create general awareness and acceptance of Australian companies as potential suppliers.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?.</p> <p>Setting up a foreign entity in the developing economies is currently not under consideration. We believe that incentives can be useful but should not drive strategy.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>The pace of innovation continues to accelerate. There are now major global companies and brands that did not exist ten years ago, like Google, YouTube and eBay. This creates risks for all incumbent companies and unparalleled opportunities for those willing to invest and innovate.</p>
<p>Other comments:</p>
<p>Date: 23 October 2006</p>

<p><i>The Electronic and Information Technology Industries Survey in APEC</i></p>
<p>Company: Hewlett Packard</p>
<p>Name and title of the executive: Walter Reichert, Director – International Trade Division</p>
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>Major annual R&D investment for new products, active customer survey and feedback, active leadership in industry and group focus on government policy and regulations.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>We manufacture and source components in many worldwide locations.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>We work closely with SMEs regarding any opportunities.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>We actively participate in industry groups regarding FTA issues.</p>

<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>If market conditions are compatible in several sites, then local incentives may assist in a decision.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>The best is yet to come, with improved products and lower prices enabling everyone to participate in closing the digital divide.</p>
<p>Other comments:</p>
<p>Date: 10 October 2006</p>

<p><i>The Electronic and Information Technology Industries Survey in APEC</i></p>
<p>Company: The Distillery Pte. Ltd.</p>
<p>Name and title of the executive: Roger Martindale, General Manager – Marketing & Public Relations</p>
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <ul style="list-style-type: none"> ➤ Service – provide customers with the best products, services and support in the industry. ➤ Customer relationship – must be a partnership. We have to continually add value in every customer contact point we have. ➤ Quality — setting a new standard of excellence in both our product and the way we do business ➤ Innovation – remains our key competitive differentiation ➤ People – our staff are the innovative and intellectual capital that drives our business ➤ Reputation – we are only as good as our last reference site or person. We will act with integrity and professionalism in all our dealings. ➤ Teamwork – we will operate as a team for the benefit of our customers and our colleagues.
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>It is currently being consider by the Board of Directors, however, since much of our work involves the government's national security area, we must keep our research & development in house. In regard to non government development, offshore services are currently under consideration.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>Yes, we have already integrated such a model into our technologies.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Generally yes, but in areas of national security FTAs are often not useful. This may be overcome by forming partnership/alliance with foreign vendors.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is</p>

<p>this definitive in your case or market target influence mostly a new investment decisions?</p> <p>Both, incentives and support are areas of influence in seeking new investments from foreign investors but the market remains the primary influence. We are currently seeking overseas investment to primarily finance overseas development.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>The Electronic and ICT industries have experienced steady growth over the last few years, and the demand for products and solutions continues to surge in governments and industries. Globalization, national security and climate change will ensure that innovation and R&D will continue to grow in this industry. Skill shortage, however, will need to be addressed to ensure entrepreneurs and innovators have access to qualified staff.</p>
<p>Other comments:</p>
<p>Date: 10 October 2006</p>

VII Government and private organizations

Organization	Minister for Communications, Information Technology and the Arts			
Chairman / Secretary General	Senator Hon Helen Coonan		This department provides strategic advice and professional support to the Australian government on a wide range of significant and rapidly changing policy areas, such as information technology and communications. The department also administers legislation, regulations, grants, and incentives to industry and the wider community.	
Members	Not available			
Address	Parliament Suite Canberra AUSTRALIA	House MG70 ACT 2600		
Tel	(61-2) 6277	7480		
Fax	(61-2) 6273 4154			
Website	www.dcita.gov.au			
E mail	minister@dcita.gov.au			
Organization	Department of Communications, Information Technology and the Arts			
Chairman / Secretary General	Senator Hon Helen Coonan			The ICT incubators provide incubation services, such as seed capital, business advice, and assistance with raising follow-on capital, to start-up ICT companies with the intent of accelerating their growth. ICT incubators have provided assistance to a number of firms which have gone on to win major national and international contracts, industry awards and attract considerable co-investment.
Members	Not available			
Address	Parliament Suite Canberra AUSTRALIA	House MG70 ACT 2600		
Tel	(61-2) 6271	1719		
Fax	(61-2) 6271 1779			
Website	www.dcita.gov.au			
E mail	incubators@dcita.gov.au			
Organization	Australian Electrical and Electronic Manufacturers' Association (AEEMA)			
Chairman / Secretary General	Angus M. Robinson		AEEMA is the peak industry association representing local and international companies in the electrical, electronics and ICT industries. AEEMAs objective is to strengthen the	

Members	300	
Address	First Floor, 6 Lonsdale Street Braddon ACT 2612 Australia GPO Box 1966 Canberra ACT 2601 Australia	
Tel	(61-2) 6204 1300	
Fax	(61-2) 6247 9840	
Website	www.aeema.asn.au	
E mail	info@aeema.asn.au	
Organization	Electronics Industry Association (EIA)	
Chairman / Secretary General	Jason Kuchel	The Electronics Industry Association (EIA) is a membership-based organization established in Adelaide, South Australia to assist the further development of the Australian electronics industry and the 400+ individual businesses included in this vibrant industry.
Members	120	
Address	7 Glen Osmond Road Eastwood South Australia 5063	
Tel	(61-8) 8272 5222	
Fax	(61-8) 8272 5277	
Website	www.eiaa.asn.au	
Organization	Australian Information Industry Association (AIIA)	The electronics industry is led by AIIA, where its members generate combined annual revenue of more than \$40 billion, provide jobs to 100,000 Australians and export more than A\$2 billion in goods and services each year. AIIA not only sets the strategic direction of the ICT industry, but also influences public policy, engages industry stakeholders and provides member companies with business productivity tools, advisory services and market intelligence to accelerate their business growth.
Chairman / Secretary General	Peter Kazacos	
Members	Almost 500	
Address	10-12 Campion Street Deakin ACT 2600 Australia	
Tel	(61-2) 6281 9444	
Fax	(61-2) 6285 1408	
Website	www.aiia.com.au	
E mail	aiia@aiia.com.au	
Organization	Australian Trade Commission Austrade	Austrade dedicated Global ICT Team provides market intelligence, international partner identification services, an electronic newsletter (the IT Export Update) and export coaching to Australian ICT companies. The Austrade IT portal provides valued information to ICT exporters, including upcoming international ICT promotional events, export opportunities and guidance on doing business overseas.
Chief Executive Officer	Peter O'Byrne	
Members	Not available	
Address	Level 23 Aon Tower 201 Kent Street Sydney NSW 2000 (Head Office)	
Tel	(61-2) 6213 2878	
Website	www.austrade.gov.au	
E mail	info@austrade.gov.au	

Bibliography:

- “Capability Mapping Report Australian Electronic Industry”, Austrade, June 2006
- Austrade: www.austrade.gov.au
- Austrade Singapore: singapore@investaustralia.gov.au
- Australian Electrical and Electronic Manufacturers' Association (AEEMA): www.aeema.asn.au
- Electronics Industry Association (EIA): www.eai.asn.au
- Australian Government / Department of Foreign Affairs and Trade: www.dfat.gov.au/trade/negotiations/us.html

- *Australian Government Support for the ICT Sector*, Department of Communication, Information Technology and Arts, 2005: www.dcita.gov.au/communications_for_business/industry_development/australian_government_support_for_ict_sector
- Australian Government / Invest-Australia: www.investaustralia.gov.au
- Association of the Southeast Asian Nations: www.aseansec.org

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC Brunei Darussalam

I. Overview of the industry

Due to the oil sector's enormous economic role and the absence of registered investments in the electronic and IT sector, this survey has focused on Brunei Darussalam's local development, foreign trade and foreign investment policy.

Brunei's economy is heavily dependent upon its oil and gas revenue. The small scale manufacturers (mainly textiles and furniture) and primary production (including agriculture, forestry and fisheries) make up the rest of Brunei's economy.

Brunei imports nearly all of its major manufactured products and approximately 80 percent of its total food requirements. It has a low tariff regime and no capital gains or personal income tax. Private businesses are obliged to pay company tax, however, without a central bank, Brunei operates a currency board system with the Brunei Dollar (BND\$) constantly tied at parity with the Singapore Dollar (S\$).

The Brunei government is seeking to diversify the economy away from oil and gas as the primary source of revenue and economic activity by promoting private sector development in non-oil and gas industries. The Brunei Economic Development Board (BEDB) was formed in November 2001 to stimulate the growth, expansion and development of the economy by promoting Brunei as an investment destination. In January 2003, the BEDB launched its two pronged strategy which aimed to attract US\$4.5 billion in foreign direct investment and to create 7,700 new jobs by 2008.

While the Brunei government's current emphasis is to support and grow the private sector, it continues to implement a government spending package to stimulate the economy in the short term.

In Brunei Darussalam, the usage of Information Communication and Telecommunication (ICT) has expanded in the fields of administration, trade and business. The government's commitment to developing ICT is clearly evident in their allocation of over BND\$500 million to this sector in the 8th National Development Plan and their establishment of the Brunei National Information Technology Council (BIT Council).

On average, one in three households in non-rural areas and one in nine households in remote areas have some form of Internet access. These figures provide the base for ICT interconnectivity and coverage prior to the full implementation of the IT Plan. Brunei has the highest telecommunication penetration in the region, with a telephone household penetration of over 95 percent and a mobile phone penetration of 40 percent.

The BIT Council is of strategic importance to ICT, providing them with leadership and direction at the national level. One of the BIT council's ongoing projects is e-government whereby the government leads. For example, all the applications in the civil service are made by e-services. One of the applications is the introduction of a government website that aims to introduce, inform and receive feedback from the public, particularly on the increased activities or services provided by each and every government department.

II. Recent Developments in the Exports and Imports

The economy of Brunei is primarily based on oil exports. Crude oil, petroleum products, and natural gas constitute more than 99% of Brunei's export value. Most food products and other consumer goods come from Singapore, Japan and Malaysia. A government-owned cattle ranch in Australia supplies most of Brunei's beef.

While foreign investment is encouraged, the government is making efforts to increase local participation in the industry and trade. All companies must be either incorporated locally or registered as a branch of a foreign company. In addition, at least half of the directors of any company must be residents of Brunei. Public companies are required to have at least seven shareholders and private companies must have between two and 50 shareholders. There is no personal income tax or capital gains tax in Brunei.

Brunei's Global Merchandise Trade Relations (percent)

Brunei's principal export destination		Brunei's principal import sources	
Japan	38.1	Singapore	32.4
Korea	14.0	Malaysia	21.2
Australia	11.2	Japan	8.3
		Australia	2.0

Source: Economist Intelligence Unit

III. Trade Negotiations Related to the Industries

Through the Department of Economic Planning and Development (DEPD), the Brunei government is vigorously pursuing the implementation of the national IT Master Plan, which concentrates on the e-Government project. One of the department's IT objectives is the alignment of the IT plan with the e-ASEAN initiatives. The department is hoping to take advantage of the opportunities to provide electronic content and multimedia services into the Asia-Pacific, APEC and ASEAN.

Brunei is also one of four participants in the Brunei, Indonesia, Malaysia, Philippines - East ASEAN Growth Area (BIMP-EAGA). The objective of BIMP-EAGA is to secure enhanced growth and development in this sub-region of ASEAN.

Association of Southeast Asian Nations (ASEAN)

The Association of Southeast Asian Nations was established in Bangkok on 8 August 1967 by the five original Member economies, namely, Indonesia, Malaysia, the Philippines, Singapore and Thailand. Brunei Darussalam joined on 8 January 1984, Viet Nam on 28 July 1995, Lao PDR and Myanmar on 23 July 1997, and Cambodia on 30 April 1999.

The ASEAN region has a population of about 500 million, a total area of 4.5 million square kilometers, a combined gross domestic product of almost US\$700 billion, and a total trade of about US\$850 billion.

Objectives of ASEAN

The ASEAN Declaration states that the aims and purposes of the association are to: (1) accelerate economic growth, social progress and cultural development in the region and (2) promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries in the region and adherence to the principles of the United Nations Charter.

In addition, the ASEAN Vision 2020, adopted by the ASEAN Leaders on the 30th Anniversary of ASEAN, agreed on a shared vision of ASEAN as a concert of Southeast Asian nations, outward looking, living in peace, stability and prosperity, bonded together in partnership in dynamic development and in a community of caring societies.

In 2003, the ASEAN Leaders resolved that an ASEAN Community should be established comprising of three pillars, namely, the ASEAN Security Community, the ASEAN Economic Community and the ASEAN Socio-Cultural Community.

As far as the ASEAN Economic Community is concerned, it has the end-goal of economic integration measures as outlined in the ASEAN Vision 2020. Its goal is to create a stable, prosperous and highly competitive ASEAN economic region in which there is a free flow of goods, services, investment and a freer flow of capital, equitable economic development and reduced poverty and socio-economic disparities in year 2020.

The ASEAN Economic Community shall establish ASEAN as a single market and production base, turning the diversity that characterizes the region into opportunities for business complementation and making the ASEAN a more dynamic and stronger segment of the global supply chain. ASEANs strategy shall consist of the integration of ASEAN and enhancing ASEANs economic competitiveness.

In moving towards the ASEAN Economic Community, ASEAN has agreed on the following:

- Institute new mechanisms and measures to strengthen the implementation of its existing economic initiatives including the ASEAN Free Trade Area (AFTA), ASEAN Framework Agreement on Services (AFAS) and ASEAN Investment Area (AIA);
- Accelerate regional integration in the following priority sectors by 2010: air travel, agro-based products, automotives, e-commerce, electronics, fisheries, healthcare, rubber-based products, textiles and apparels, tourism, and wood-based products.
- Facilitate movement of business persons, skilled labor and talents; and
- Strengthen the institutional mechanisms of ASEAN, including the improvement of the existing ASEAN Dispute Settlement Mechanism to ensure expeditious and legally-binding resolution of any economic disputes.

Launched in 1992, the ASEAN Free Trade Area (AFTA) aims to promote the region's competitive advantage as a single production unit. The elimination of tariff and non-tariff barriers among Member Countries is expected to promote greater economic efficiency, productivity, and competitiveness.

As of 1 January 2005, tariffs on almost 99 percent of the products in the Inclusion List of the ASEAN-6 (Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore, and Thailand) have been reduced to no more than 5 percent. More than 60 percent of these products have zero tariffs. The average tariff for ASEAN-6 has been brought down from more than 12 percent when AFTA started to 2 percent today. For the newer Member economies, namely, Cambodia, Lao PDR, Myanmar, and Viet Nam (CLMV), tariffs on about 81 percent of their Inclusion List have been brought down to within the 0-5 percent ranges.

This AFTA agreement has been established as the "Roadmap for the Integration of the Electronic Sector". The terms of the agreement are as follows.

Objectives

The objectives of integrating the electronics sector are to:

- Develop, strengthen and enhance the competitiveness of the ASEAN electronics sector and promote ASEAN as an integrated platform to do business with regarding electronics;;
- Strengthen regional integration efforts through liberalization, facilitation and promotion measures to ensure full integration of the electronics sector by 2010.
- Promote private sector participation.

Measures

This roadmap includes specific measures that are of direct relevance to the electronics sector, as well as common measures that cut across all priority integration sectors. The integration approaches are premised on:

- Combining the economic strengths of ASEAN member countries for regional advantage;
- Facilitating and promoting intra-ASEAN investments;
- Improving the condition to attract and retain manufacturing and other economic activities within the region; and
- Promoting the outsourcing program within ASEAN.

Coverage

The scope of products include electronic data processing (EDP) equipment, electrical and electronic home appliances, medical and industrial equipment, telecommunication equipment, communications and radar equipment, automotive electronics, instrumentation and controls, and mechanical equipment.

More details can be found at www.aseansec.org/16656.htm

IV. Programs and Special Incentives to the Industries

Tax Incentives

Investment incentives provided by the government are also far ranging and comprehensive. Company taxation in Brunei Darussalam is one of the lowest in the region and to further enhance the investment climate, there are no taxes regarding export, sales, payroll, manufacturing or personal income tax. In fact, the economy has the least amount of taxes compared to any other economy in the region. In addition, ongoing tax incentives are provided to offer investors profitable opportunities that are difficult to find in the region. More attractive tax incentives are given to pioneer industries.

Pioneer Status

The government is offering pioneer status to companies that are involved in businesses of promoted industries. The pioneer status offers an exemption from the 30 percent corporate tax for a basic period of between two to five years, depending on the amount of fixed capital expenditure. There is also a possible extension of up to another three years.

A pioneer company is also exempted from customs duty on imported capital goods such as plant machinery and equipment installed in the pioneer factory. For the production of pioneer products, the company is exempted from taxes on imported raw materials that are not available in Brunei Darussalam.

Presently, 19 industries have been declared eligible for pioneer status. These industries include the aircraft catering service, cement finish mills, pharmaceuticals, textiles, furniture, glass, plastics and synthetic rubber. The government is also prepared to grant pioneer status to industries that are not in the list provided certain requirements are met.

Companies investing in New Technology

Any company in Brunei Darussalam eager to use or introduce new technology may apply, provided that:

- The technology, if introduced in Brunei, would promote or enhance Brunei's economic or technological development.
- No less than 30% of the paid-up capital is beneficially owned by citizens or persons to whom a resident permit has been granted under regulations made under the Immigration Act (Chapter 17) throughout the whole qualifying period of the technology company.

V. The Private Sector in the Industries

Due to the absence of companies established related to the electronic or IT industries in this economy; this survey does not include a list of companies.

VI. The Vision of the Private Sector

Due to the absence of companies established related to the electronic or IT industries in this economy; this survey does not include interviews.

VII. Government and Private Organizations

I. <u>Organization</u>	<i>National Chamber of Commerce & Industry of Brunei Darussalam (NCCIBD)</i>	The NCCIBD was established to represent the business community in various associations and regional groups. The Chamber is a combination of Malay and Chinese entrepreneurs merged to create one national body providing a multilateral working relationship for economic and social development.
President	Haji Razali bin Haji Johari	
Members	Not available	
Address	Unit 1, Block D, Beribi Industrial Complex I, Jalan Gadong BE11188, Negara Brunei Darussalam	
Tel	(673-2) 444 959	
Fax	(673-2) 447 397	
Website	www.bruneichamber.com	
E mail	abas@nccibd.com	
II. <u>Organization</u>	<i>Ministry of Industry & Primary Resources</i>	The Ministry of Industry and Primary Resources was formed in 1989 with the responsibility of promoting and facilitating industrial development in Brunei Darussalam.
Minister of Industry and Primary Resources	Yang Berhormat Pehin Orang Kaya Setia Pahlawan Dato Seri Setia DR. Awang Haji Ahmad Bin Haji Jumat	
Members	Not available	
Address	Bandar Seri Begawan 1220	
Tel	(673-2) 382 822	
Website	www.industry.gov.bn	
E mail	pelita@brunet.bn	
III. <u>Organization</u>	<i>Ministry of Communications</i>	To align itself to this assumed national vision, the Ministry of Communications has adopted a vision 'Service Hub 2024' which aims to create a growing and self-sustaining domestic transport and communication industry, and to assist Brunei Darussalam in becoming a competitive, efficient and significant regional service hub.
Minister of communications	Yang Berhormat Pehin Orang Kaya Seri Kerna Dato Seri Setia Awang Haji Abu Bakar Bin Haji Apong	
Members	Not available	
Address	Bandar Seri Begawan 1150	
Tel	(673-2) 383 838	
Website	www.mincom.gov.bn	
E mail	menteri@mincom.gov.bn	

IV. <u>Organization</u>	Authority for Info-communications Technology Industry (AiTi)	AiTi vision provides Brunei Darussalam with a dynamic, innovative and vibrant ICT industry that is anticipative to the needs of the nation and responsive to the challenges of the information era.
Chairman / Secretary General	Dato Paduka Hj Mohd Yusof bin Hj Mohd Hassan,	
Members	6	
Address	Block B14, Simpang 32-5 Kampung Anggerek Desa, Jalan Berakas BB3713 Negara Brunei Darussalam	
Tel	(673-2) 323 232	
Fax	(673-2) 382 447	
Website	www.aiti.gov.bn	
E mail	info@aiti.gov.bn	
V. <u>Organization</u>	Brunei Darussalam Computer Society	The goal of this society is to promote the growth and development of knowledge of information technology amongst the Brunei Darussalam people. Through the affirmative programs and proactive involvement in the national effort it seeks to create a new generation of corporate leaders, academics, students and others who will be IT knowledgeable and able to contribute to the national goal of making IT one of the major engines for economic growth.
Chairman / Secretary General	Hairati Dato Paduka Haji Muhammad	
Members	5	
Address	1st Floor, Unit 6, Bgn. Desa Delima, Spg. 44, Jln Muara, BSB, Brunei Darussalam BB 4513	
Tel	(673-2) 334 621	
Fax	(673-2) 334 997	
Website	www.pkbd.org.bn	
E mail	pkbd@brunet.bn bitex@brunet.bn	

Bibliography:

- Brunei Darussalam, The Economist Intelligence Unit, Country Report, 2006: www.eiu.com
- Brunei Darussalam, Australian Department of Foreign Trade, Country Information, 2006: www.dfat.gov.au/geo/png
- Authority for Info-communications Technology Industry: www.aiti.gov.bn
- Brunei Economic Development Board: www.bedb.com.bn
- Brunei Industrial Development Authority: www.bina.gov.bn
- Informe Económico y Comercial Brunei: Oficina Económica y Comercial de España, Noviembre, 2004.

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC Canada

I. Overview of the Industry

Canada is the world's second-largest economy, by total area, occupying most of North America. It extends from the Atlantic to the Pacific Ocean and northward into the Arctic Ocean. It shares land borders with the United States both to the south and to the northwest. It defines itself as a bilingual and multicultural nation. Its diversified economy relies heavily on an abundance of natural resources and on trade with many economies in the world. It is a geographically vast, ethnically diverse and technologically advanced economy with a high standard of life.

Canada is a significant player in the global information and communications technology (ICT) industry. Canada's 32,000 ICT companies are gathered in regional clusters that provide critical mass that takes advantage of educational and research infrastructure. Canadian researchers are connected to Canada's National Research and Innovation Network (CANet), the world's advanced research network. This allows for the exchange of ideas between domestic and international communities of interest, which facilitates innovation and new commercial opportunities. Again the international consultant KPMG has recognized Canada as the most cost-competitive nation in the G7 Group¹.

The ICT sector can be divided into service industries and manufacturing industries. This is shown in the following table.

Information and Communications Technologies Sector	
Manufacturing	Services
Consumer electronics	Cable television
Communications & telecommunications equipment	Telecommunications services
Electronic components	ICT wholesaling
Computer equipment	Software & computer services
Communications wires & cables	Office machinery rental & leasing
Instrumentation	

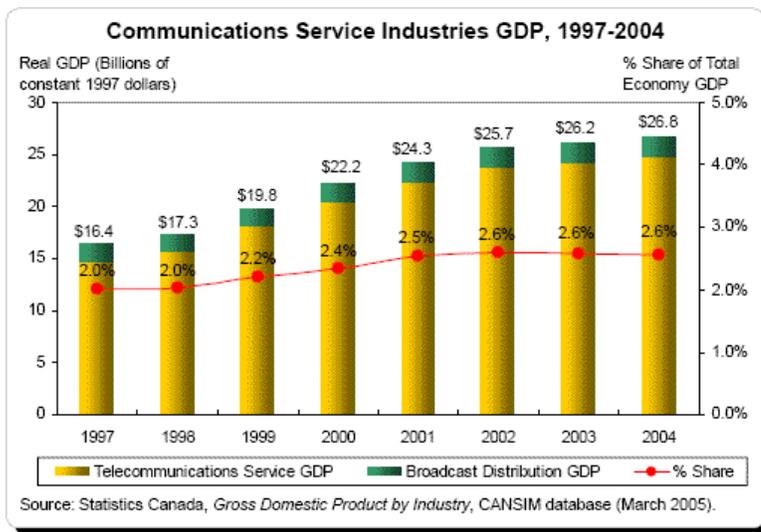
Gross Domestic Product

Since the first quarter of 1997, the ICT sector has grown by 96 percent, almost three times as much as the Canadian economy, which has only grown 37 percent. Since then, it has accounted for 10.8 percent of Canada's overall economic growth. The ICT sector contributed Cdn\$57.5 billion to Canada's gross domestic product (GDP) in 2004. Economic activity in the ICT sector picked up in 2004 as GDP grew by 3.3 percent compared to 1.5 percent in 2003.

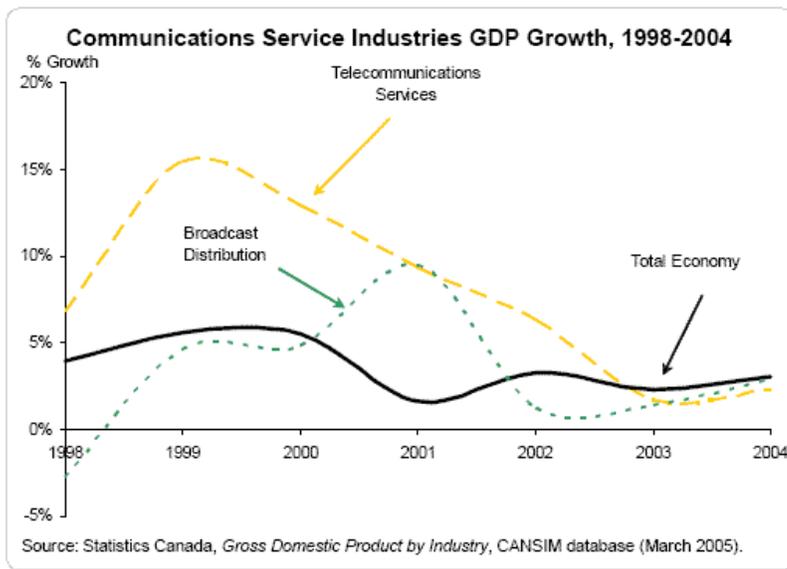
The communications service industries produced Cdn\$26.8 billion of value added in 2004, which represented a 2.4 percent increase from the previous year. Before 2001, the communications services' share had steadily increased, but since then it has remained stable at 2.6 percent of the total GDP. In 2004, telecommunications services produced Cdn\$24.8 billion of value added that reflected a 2.3 percent increase from the previous year, while broadcast distribution increased by 2.9 percent and generated Cdn\$2.0 billion of value added. Between 1997 and 2004, the compound annual growth rate (CAGR) for communications services was 7.3 percent per year,

¹ Integrated by the US, Canada, United Kingdom, Germany, France, Italy and Japan.

resulting in a total increase of Cdn\$10.4 billion, or 64 percent. This is shown in the following graph.



Between 1998 and 2002, GDP growth in telecommunications services has consistently outperformed that of the Canadian economy, while growth in broadcast distribution GDP stays fluctuated around the rate of the overall economy. In 2004, however, overall economic growth continued to exceed growth in both telecommunications services and broadcast distribution. The overall economy's GDP growth outperformed that of telecommunications services by 0.8 percent, despite an increase in the telecommunications services sector's GDP growth rate from 1.7 percent in 2003 to 2.3 percent. Similarly, broadcast distribution growth was 2.9 percent in 2004, just 0.2 percent points less than the overall economy. This is shown in the graph below.



Over this period, services industries have grown faster than manufacturing industries (6.0 percent per year versus 5.1 percent per year, respectively). While production of computer equipment and electronic components has been particularly strong, production software and computer services posted the largest gains in the industry.

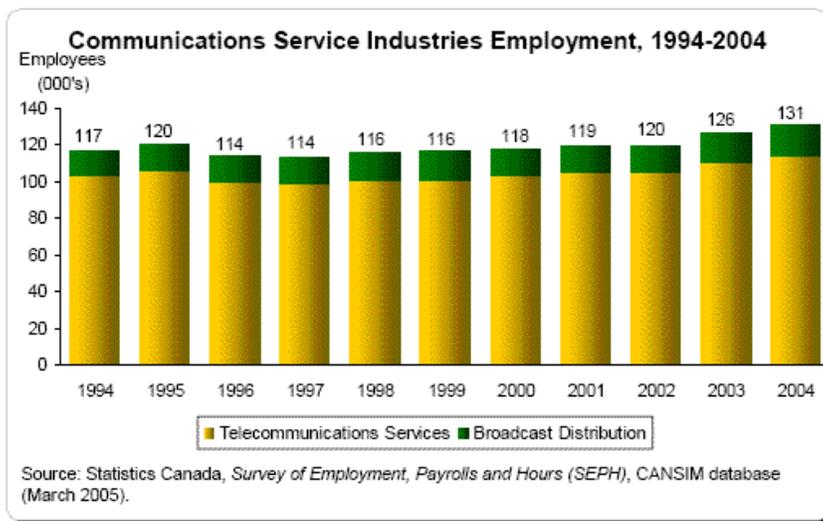
Revenues

ICT revenues were estimated at Cdn\$136 billion in 2004, a significant recovery of 4.4 percent from 2003. Revenues for the entire ICT sector have grown at a CAGR of 4.9 percent between 1997 and 2004.

Employment

Employment in the ICT area is estimated to amount to 570,000 persons, an increase of 29 percent from 1997. According to figures in 2004, a total of 3.6 percent of the entire Canadian workforce were employed by the ICT sector.

In 2004, the communications service industries employed 130,926 persons, in which the telecommunications service sector made up 87 percent and broadcast distribution made up the remaining 13 percent. This is shown below.



Most of these employment gains have occurred in software & computer services, where employment was two and half times higher in 1997 than in 1990.

R&D Investment

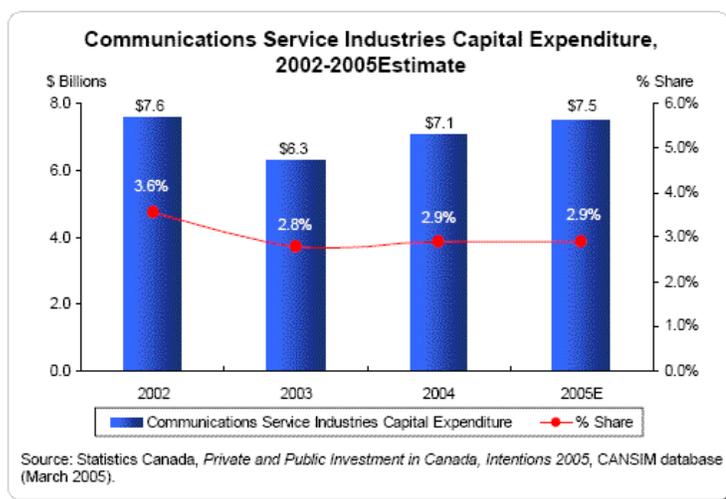
The ICT sector remains the largest private R&D contributor in Canada. Total R&D expenditures reached Cdn\$5.2 billion in 2005, representing 38 percent of this category's total expenditures.

Capital Investment

Capital expenditures from the ICT sector are expected to increase for a second consecutive year in 2005, reaching Cdn\$11.5 billion. This represents an increase of 4.9 percent from 2004, compared to a growth of 8.4 percent for all Canadian capital expenditures.

In 2004, capital expenditures for the communications service industries amounted to Cdn\$7.1 billion, an increase of 13 percent from the previous year. In addition, capital expenditures for the entire economy increased 8.5 percent. This combination increased the communications services' share of the economy's capital investment from 2.8 percent in 2003 to 2.9 percent in 2004. In

2005, communications service capital expenditures are expected to increase to Cdn\$7.5 billion, an increase of 5.4 percent from 2004. This is shown below.



Electrical & Electronics Sector

More than 1000 firms make up the Canadian electronics industry. They manufacture products such as advanced telephones, computer systems and related accessories, televisions and home entertainment equipment, communications satellites and other telecommunications systems, and electronic control and monitoring devices used in many industrial and scientific applications.

II. Recent Developments in the Exports and Imports

Canadian economic performance has been solid, with a real growth increase of 2.9 percent in 2005. This trend has been driven primarily by exports, but also by strong personal spending on goods and services, investment in residential and non-residential structures, and investment in machinery and equipment. In 2005, exports of goods and services represented 37.8 percent of Canada's GDP. Despite the appreciation in the Canadian dollar (7 percent) against the US dollar, exports of goods and services increased 5.2 percent to Cdn\$516.4 billion in 2005, surpassing the previous record set in 2000. Imports also rose, climbing 5.8 percent to Cdn\$463.1 billion. The annual surplus on goods remained more or less stable at Cdn\$66.7 billion, as both exports and imports rose by around Cdn\$24 billion.

This section reviews trends in the international trade associated with Canada's computer and electronic product manufacturing (NAICS² 334) sub-sector.

The following tables show the recent tendency and orientation of the industry.

Canadian Foreign Trade Balances Total Computer and Electronic Products (NAICS 334) (US\$ million)

	2003	2004	2005
Total Exports	12,540.58	14,909.86	17,499.79
Total Imports	27,640.72	32,563.98	35,689.43
Trade Balance	(15,100.14)	(17,654.12)	(18,189.64)

² North American Industry Classification System.

Canadian Imports
Computer and Electronic Products (NAICS 334)
(US\$ million)

	2003	2004	2005
United States	12,468.57	13,420.72	14,016.13
China	3,023.36	4,703.29	6,669.16
Mexico	2,029.07	2,851.81	3,110.73
Japan	1,828.07	2,161.16	2,323.64
Malaysia	1,260.75	1,557.89	1,659.69
Korea	1,165.75	1,265.39	1,234.78
Chinese Taipei	1,040.02	1,165.72	1,209.26
Re-Imports (Canada)	698.55	802.16	757.83
Germany	421.85	538.16	607.70
Singapore	547.79	550.31	599.76
Sub-total	24,483.78	29,016.60	32,188.67
Others	3,156.94	3,547.38	3,500.76
Total to all economies	27,640.72	32,563.98	35,689.43

Source: Statistics Canada

Canadian Imports
Computer and Electronic Products (NAICS 334)
Distribution by Province
(US\$ million)

	2003	2004	2005
Ontario	17,432.07	20,059.34	21,820.29
Quebec	3,105.58	4,179.39	4,896.64
British Columbia	2,062.59	2,551.74	3,060.04
Alberta	1,297.20	1,478.08	1,737.34
Manitoba	380.18	510.48	493.22
Saskatchewan	76.30	91.77	85.28
Nova Scotia	84.39	89.15	55.24
New Brunswick	37.64	42.78	29.00
Yukon Territory	2.90	6.47	5.61
Newfoundland and Labrador	2.75	4.07	5.11
Prince Edward Island	2.17	3.33	0.90
Northwest Territories	0.01	-	0.00
Nunavut	-	-	-
Sub-total	24,483.78	29,016.60	32,188.67
Others	3,156.94	3,547.38	3,500.76
Total to all economies	27,640.72	32,563.98	35,689.43

Source: Statistics Canada

Canadian Exports
Computer and Electronic Products (NAICS 334)
(US\$ million)

	2003	2004	2005
United States	9,077.16	10,438.40	11,948.83
China	550.09	807.25	885.15
Mexico	273.33	327.20	360.31
Japan	255.87	286.59	340.10
Malaysia	134.09	236.35	278.69
Korea	160.21	190.31	271.22
Chinese Taipei	204.07	217.21	262.49
Re-Imports (Canada)	184.61	191.00	247.17

Germany	121.74	155.59	211.39
Singapore	103.27	139.51	197.10
Sub-total	11,064.45	12,989.41	15,002.44
Others	1,476.14	1,920.45	2,497.35
Total to all economies	12,540.58	14,909.86	17,499.79

Source: Statistics Canada

**Canadian Exports
Computer and Electronic Products (NAICS 334)
Distribution by Province
(US\$ million)**

	2003	2004	2005
Ontario	6,312.88	7,479.50	9,076.32
Quebec	3,063.73	3,627.00	3,909.54
Alberta	931.04	959.32	1,024.03
British Columbia	566.14	690.91	781.04
Manitoba	77.56	92.74	81.81
Sub-total	10,951.35	12,849.47	14,872.74
Others	1,589.23	2,060.39	2,627.05
Total to all economies	12,540.58	14,909.86	17,499.79

Source: Statistics Canada

The following tables³ show Canada's trade balance on main electronic and computer related products using the Canadian harmonized system⁴.

**Canadian Trade Balance
(US\$ million)**

HS	Description	2003	2004	2005
84	Machinery	(18,779.87)	(19,864.39)	(23,478.83)
8471	Computers + Components	(4,988.78)	(5,616.72)	(6,524.68)
847130	Portable Digital Automatic machines	(988.07)	(1,273.55)	(1,547.28)
847160	Input or output units	(955.79)	(1,113.27)	(1,349.37)
847150	Digital processing units	(972.53)	(881.56)	(1,101.29)
847180	Other units of automatic data processing	(399.65)	(719.79)	(779.97)
847170	Storage units	(719.68)	(710.08)	(768.54)
847149	Other digital automatic data proc. mach.	(796.50)	(744.22)	(757.28)

Source: World Trade Atlas

**Canadian Trade Balance
HS 847130 - Portable Digital Automatic machines < 10kgs
(US\$ million)**

Economy	2003	2004	2005
-- The World --	(988.07)	(1,273.55)	(1,547.28)
China	(301.83)	(794.68)	(1,154.72)
Malaysia	(210.54)	(270.94)	(326.14)
United States	(5.49)	72.81	77.77
Japan	(49.65)	(48.83)	(47.92)
Chinese Taipei	(149.86)	(131.11)	(43.92)
Mexico	(85.53)	(25.00)	(28.37)

Source: World Trade Atlas

³ All the numbers in parentheses indicate deficit.

⁴ Information source: Statistics Canada and World Trade Atlas.

Canadian Trade Balance
HS 847160 - Input or output units
(US\$ million)

Economy	2003	2004	2005
-- The World --	(955.79)	(1,113.27)	(1,349.37)
China	(447.10)	(655.53)	(885.11)
Japan	(118.11)	(127.41)	(160.86)
Chinese Taipei	(50.69)	(56.52)	(77.21)
Mexico	(50.37)	(58.96)	(72.23)
United States	26.91	42.19	68.05

Source: World Trade Atlas

Canadian Trade Balance
HS 847150 - Digital processing units
(US\$ million)

Economy	2003	2004	2005
-- The World --	(972.53)	(881.56)	(1,101.29)
The United States	(600.20)	(445.92)	(567.06)
Mexico	(346.08)	(384.54)	(386.13)
China	(38.29)	(57.92)	(150.58)
Chinese Taipei	(17.36)	(10.55)	(9.71)
Japan	(5.30)	(13.14)	(8.51)

Source: World Trade Atlas

Chapter 85 includes the electrical machinery, equipment and parts; sounds recorders and reproducers; television image and sound recorders and reproducers; and other parts and accessories of such articles. The harmonized code description of some of the products that are included in this chapter is as follows.

Code Description

- 8517 Electrical apparatus for line telephony or line telegraphy
- 8525 Transmission apparatus for radio-telephony, radio-telegraphy, radio-broadcasting or television
- 8542 Electronic integrated circuits and micro assemblies
- 8504 Electrical transformers, static converters
- 8544 Insulated wire, cable and other insulated electric conductors
- 8529 Parts suitable for use solely or principally with apparatus of heading
- 8537 Boards, panels, consoles, desks, cabinets and other bases
- 8543 Electrical machines and apparatus, having individual functions
- 8501 Electric motors and generators
- 8536 Electrical apparatus for switching or protecting electrical circuits
- 8524 Records, tapes, and other recorded media for sound
- 8531 Electric sound or visual signaling apparatus
- 8516 Electric instantaneous or storage water heaters and immersion heaters
- 8534 Printed circuits
- 8539 Electric filament or discharge lamps

The details of the Canadian exports and imports in chapter 85 are below.

Canadian Imports by Economy
Chapter 85
(US\$ million)

Economy	2003	2004	2005
-- The World --	240,285.56	274,319.74	314,530.05
United States	145,590.99	160,871.34	177,628.00
China	13,337.38	18,635.70	24,423.83
Japan	9,871.87	10,411.08	12,211.05
Mexico	8,719.39	10,351.06	12,066.15
United Kingdom	6,578.02	7,432.19	8,605.01
Germany	6,179.83	7,257.94	8,473.41
Norway	3,075.50	3,837.60	4,991.73
Korea	3,665.84	4,491.58	4,440.15
France	3,632.13	4,096.85	4,115.22
Italy	3,304.01	3,515.74	3,781.86
Algeria	1,716.74	2,400.52	3,451.50

Source: World Trade Atlas

Canadian Imports by Province
Chapter 85
(US\$ million)

Province	2003	2004	2005
-All Provinces-	240,285.56	274,319.74	314,530.05
Ontario	150,254.97	169,912.68	188,776.50
Quebec	37,485.82	44,306.08	53,929.67
British Columbia	22,375.91	25,330.26	29,165.15
Alberta	9,462.61	10,472.34	13,589.60

Source: World Trade Atlas

Canadian Exports by Economy
Chapter 85
(US\$ million)

Economy	2003	2004	2005
-- The World --	12,225.84	14,513.90	16,970.13
United States	9,496.05	10,949.17	12,488.16
United Kingdom	397.57	641.58	736.22
China	263.69	264.54	305.91
Japan	189.73	229.14	258.41
France	120.00	220.46	242.87
Hong Kong, China	159.87	179.58	226.83
Germany	130.52	138.27	194.61
Korea	108.18	124.36	172.38
Mexico	67.22	96.09	167.58
Australia	96.02	106.55	163.77
Singapore	70.77	105.15	139.91
Spain	36.48	44.90	117.92
Netherlands	73.50	66.00	113.51

Source: World Trade Atlas

Canadian Exports by Province
Chapter 85
(US\$ million)

Province	2003	2004	2005
-All Provinces-	12,225.84	14,513.90	16,970.13
Ontario	6,680.31	8,087.79	10,035.59
Quebec	3,480.08	4,184.85	4,476.71
Alberta	1,090.54	1,104.93	1,129.69
British Columbia	671.44	785.76	932.70
Manitoba	135.34	143.18	177.69
Saskatchewan	91.69	131.68	128.32
Nova Scotia	50.44	50.80	58.19
New Brunswick	7.06	11.54	16.37
Newfoundland	17.20	11.12	11.92
Prince Edward Island	1.28	2.06	2.11
Yukon	0.18	0.04	0.49
Nunavut	0.23	0.09	0.33
North West Territory	0.07	0.05	0.02

Source: World Trade Atlas

We believe that it is important to depict code 8542, which refers to integrated circuits (ICs) that are commonly used in the electronics and IT sector, from 85 on the Harmonized Code.

Canadian Trade Balance (Economies)
HS 8542 – Integrated Circuits
(US\$ million)

Economy	2003	2004	2005
-- The World --	(891.05)	(1,488.45)	(1,467.93)
Malaysia	(221.96)	(298.08)	(281.92)
Chinese Taipei	(178.72)	(253.69)	(268.85)
Philippines	(178.35)	(223.18)	(257.95)
Korea	(152.36)	(230.57)	(231.71)
Canada	(132.13)	(163.61)	(194.56)
Singapore	(30.66)	(62.98)	(99.59)
China	(3.47)	(63.09)	(92.85)

Source: World Trade Atlas

III. Trade Negotiations Related to this Industry

Canada's participation in international trade agreements is driven by a fundamental reality – it must look outward for its prosperity, given that it has an abundance of production in natural resources, manufactured goods and services but a relatively small domestic market. This means it is critical for Canada to gain access to foreign markets and investment and secure that access through enforceable rules.

The Economist's Economist Intelligence Unit (EIU) has predicted that Canada will be the best country in the world to do business between 2004 and 2008. The best investment sector is Canada's exciting and dynamic ICT sector. Some areas within the sector are: multimedia, wireless technology, security, gaming and software design. World-leading Canadian ICT innovation is providing solutions for the future.

Canada participates in the following agreements and ongoing negotiations:

Information Technology Agreement (ITA)

The ITA was concluded at the Singapore Ministerial Conference in December 1996. At that time 29 economies, or separate customs territories, signed the declaration. However, it was still unclear whether the provisions of the declaration would come into effect, as the declaration stipulated that participants representing approximately 90 percent of world trade would have to notify their acceptance of the ITA by 1 April 1997. The original 29 signatories did not reach this 90 percent trade coverage criteria, as they collectively only accounted for 83 percent of world trade in IT products. However, in the ensuing months after the Singapore Ministerial and leading up to 1 April 1997, a number of other economies expressed an interest in becoming participants in the ITA and notified their acceptance. Thus, the 90 percent criteria had been met and the ITA entered into force with the first staged reduction in tariffs occurring on 1 July 1997.

North America:

North American Free Trade Agreement (NAFTA)

In January 1994, Canada, the United States and Mexico launched NAFTA and formed the world's largest free trade area. The agreement has brought economic growth and rising standards of living for people in all three economies. In addition, NAFTA has established a strong foundation for future growth and has set a valuable example of the benefits of trade liberalization.

NAFTA has enabled both Canada and Mexico to increase their exports to the United States. Canadian manufacturers now send more than half their production to the US, while Mexico's share of the US import market has almost doubled from 6.9 percent in pre-NAFTA 1993 to 11.6 percent in 2002.

In 2002, Canada was the most important destination for merchandise exports from 39 of the 50 US states.

Canada is a successful trading nation, their exports account for over 40 percent of total GDP—a higher proportion than for any other G7 country. An estimated one in four jobs in Canada is linked to their success in global markets.

NAFTA has played a significant role in that achievement. Today, 86.6 percent of total merchandise exports go to their NAFTA partners. And close to 2.3 million jobs have been created in Canada since 1994, representing an increase of 17.5 percent over pre-NAFTA employment levels. As of 2006, most of the industries are deregulated included the ICT.

Central America & South America:

Central America Four (CA4)

Canada remains committed to conclude free trade negotiations with the CA4 countries (El Salvador, Guatemala, Honduras and Nicaragua), and shares their commitment to hemispheric economic integration. The CA4 countries, with the Dominican Republic and Costa Rica, concluded a free trade agreement with the US in 2005. Implementation of this agreement—the US-CAFTA-DR— (including all said countries) will likely affect the competitiveness of Canadian companies.

Canada-Costa Rica Free Trade Agreement (CCRFTA)

The Canada-Costa Rica FTA (CCRFTA) entered into force on 1 November 2002, becoming the cornerstone of our increasingly important bilateral trade and investment relationship. Between

2002 and 2005, two-way merchandise trade increased 36 percent (from Cdn\$324 million to Cdn\$440 million). The CCRFTA provides for progressive elimination of tariffs, demonstrating that it is possible to take into account differences in the levels of development and size of free trade partners.

Free Trade Agreement of the Americas (FTAA)

At the November 2005 Summit of the Americas held in Argentina, Canada and most of the other countries reaffirmed their commitment to the Free Trade Agreement of the Americas (FTAA), which remains the best vehicle for trade and investment liberalization and for helping achieve the broader Summit objectives of prosperity, equity and democracy within the hemisphere.

Europe

European Union (EU)

Canada's political and economic relationship with the European Union (EU) is decades old. In 1976, Canada was the first non-European nation to sign an economic cooperation agreement with the former European Economic Community. This framework agreement for commercial and economic cooperation provides for regular official dialogue at several levels.

As a group, the current 25 EU member states rank as Canada's second most important trading partner, after the United States. Total trade between Canada and the EU in 2005 stood at Cdn\$70.1 billion. The EU also represents the second largest source of foreign direct investment into Canada, as well as the second largest destination for Canadian direct investment abroad. Canada-EU trade relations are covered by WTO agreements and bilateral agreements on cooperation in customs, competition policy, science and technology, among others.

European Free Trade Association (EFTA).

Canada's bilateral relations with the European Free Trade Association States (Iceland, Liechtenstein, Norway and Switzerland) are strong, and commercial ties continue to grow. Two-way merchandise trade in 2005 was Cdn\$10.9 billion, up 22.4 percent from 2004.

Negotiations for a free trade agreement with the EFTA States were launched on 9 October 1998. The last negotiating session was held in May 2000, in Geneva. The agreement has covered most issues and there is a framework for a deal. Canada remains interested in concluding free trade negotiations with the EFTA countries. However, no date has been set for the formal resumption of negotiations.

The EFTA countries are developed, modern economies, offering state-of-the-art technology as well as significant potential markets for competitive Canadian exporters as the opportunities to enhance joint venture activities and to work together to develop stronger and more efficient domestic industries.

Eastern Europe

Russia

Canada's exports to Russia surged to Cdn\$562 million in 2005, up 35 percent over 2004. Canadian providers focused on various commercial services, including engineering and architecture. The total value of services exported to Russia was Cdn\$251 million in 2003. In December 2005, Canada concluded its bilateral WTO negotiations with Russia.

Ukraine

Total Canadian merchandise exports to Ukraine rose 43.8 percent in 2005 to Cdn\$81.5 million. Canada's primary exports to Ukraine include various fish and pharmaceutical products and assorted industrial parts. There continues to be significant market potential for Canadian goods and services firms in agriculture, oil and gas, construction, and information and communication technology.

The Middle-East and North Africa Region

The Middle East and North Africa region incorporates 19 countries, plus the West Bank/Gaza. Altogether it has a population of more than 300 million. In addition to being a major exporter of oil and natural gas, the Middle East and North Africa region are an important and growing destination for Canadian investment and exports of goods and services. Economic development initiatives and trade and investment opportunities closely match Canadian capabilities, particularly in oil and gas supplies and services, building goods and services, agriculture, education and training, health-care management, and information and communication technologies.

Canada-Israel Free Trade Agreement (CIFTA)

Canada's bilateral trade with Israel has more than doubled since the implementation of the Canada-Israel Free Trade Agreement (CIFTA), from Cdn\$567 million in 1997 to an all-time high of over Cdn\$1.2 billion in 2005 (Cdn\$429.2 million in exports to Israel; Cdn\$810.9 million in imports from Israel).

Asia

India

India is rapidly transforming from a developing country into a world economic power, increasingly drawing on foreign technology and investment. With a vibrant private sector, India continues to expand its investment abroad, particularly in high technology, power and commodities. The business services sector also plays an important role in making India a global player.

The two-way investment relationship is modest (total stocks are reported at slightly over Cdn\$300 million) but likely to increase once a foreign investment protection and promotion agreements (FIPA), which is under negotiation, comes into force. The opening of several software development centers in Canada by India-based IT firms and investments from Indian banks point to the attractiveness of Canada as an investment destination. Canada has made progress in furthering its commercial relationship with India, signing a science and technology cooperation agreement on 18 November 2005.

Singapore

Singapore is a politically stable and economically advanced economy, with skilled human resources, efficient infrastructure and excellent intellectual property protection. A strong advocate of the multilateral trading system, Singapore has signed many free trade agreements and is pursuing several others, including with Canada. Canada and Singapore enjoy a strong trade relationship, with bilateral merchandise trade totaling Cdn\$1.6 billion in 2005. Two-way trade in services reached almost Cdn\$1.1 billion in 2004. Singapore is Canada's second largest investment destination in Asia after Japan, with almost Cdn\$3.8 billion invested in Singapore as of 2004. It is a hub for knowledge-based sectors and offers significant business and research and development (R&D) opportunities in areas such as information and communication technologies, new media, defense and security, environment, agri-food, life sciences and biotechnology.

Korea

In July 2005, Canada and Korea initiated negotiations toward a bilateral free trade agreement that could deliver significant commercial benefits across many sectors of the Canadian economy—from agriculture to high-tech services. An FTA would better enable Canadian companies to tap into the value chains of globally competitive production and supply from Korean corporations; to increase sales of raw materials and key technologies, products and services in that market; and to use Korea as a strategic base for building an increased export and manufacturing presence in Northeast Asia, including China and Japan.

Foreign Investment Promotion and Protection Agreements

Foreign direct investment (FDI) is an important determinant of Canadian productivity, contributing to the acquisition of new technologies, higher levels of innovation and R&D activity, and stronger trade performance. In 2004, the United States accounted for Cdn\$238.2 billion or 65 percent of FDI in Canada. The European Union represented Cdn\$91.2 billion or 25 percent of total FDI. Other significant investors included Japan (Cdn\$10.6 billion) and Hong Kong, China (Cdn\$5.3 billion). FDI assets were mainly in manufacturing (25 percent), energy and metallic minerals (24 percent), and finance and insurance (18 percent).

Since 1989, Canada has concluded 22 bilateral foreign investment promotion and protection agreements. These agreements assure Canadian firms that the rules governing their investments are bound by certain standards of fairness and predictability.

In 2004, following a comprehensive review, Canada introduced a new model called FIPA (foreign investment protection and promotion agreements), has since engaged in FIPA negotiations with China, India and Peru. It is believed that, these agreements will boost the interest of companies of the electronic and information technology to take advantage of the well-developed trade relationship the Canadian economy maintains with all the world regions.

IV. The Programs and Special Incentives to the Industry

Incentives for ITC Adoption: Canada and Major Competitors

Canada's depreciation rates for ICT equipment waited for almost three decades to catch up with the reality of quick technological obsolescence.

Still there are OECD countries that treat ICT capital investments more favorably than Canada. In particular Japan, Korea and Spain have tax credits for ICT equipment. Emerging economies of China and India have a variety of tax incentives for ICT adoption.

Tax Incentives for ICT Adoption

Tax Incentives for ICT Adoption are mainly composed of two items:

- Tax credits or allowances from taxable income.
- Depreciation allowances for ICT machinery and equipment.

Tax credits directed at ICT capital assets are not available in Canada. Only Saskatchewan and Manitoba have in effect a general investment tax credit for manufacturing machinery and equipment. Tax incentives that Canada offers for ICT adoption take a form of capital cost allowances (CCA). Canada offers an increased rate of CCA for ICT machinery and equipment: 45 percent for computer equipment and 30 percent for broadband and Internet equipment.

Tax Incentives for Skills and Training

Firm-level evidence suggests that effective diffusion and use of ICT are key factors in broad-based growth when combined with effective human resource strategies involving education, training and organizational change.

Firm-level studies confirm that the Skill-ICT combination improves productivity performance. Organizational change is also a benefit accruing from ICT investment and is closely linked to the need for skilled human resources.

There is a global trend to gear the tax incentives to corporate training that would assimilate a greater rate of ICT adoption. Tax Canada doesn't employ any tax incentive for corporate training at the federal level. Limited tax credits, however, are provided in Ontario for apprenticeship training and Quebec for on-the-job training.

Analytical Observations

Canada's tax incentives for ICT adoption are solely channeled through capital cost allowances. Since the 2004 increase in the depreciation rates for ICT equipment, Canada's gap to its major competitors for ICT investment has narrowed.

Canada also lags in providing tax incentives for creating a milieu for effective take-up of new information and communication technologies in the enterprise, such as corporate training and skill development.

The solution to meeting Canada's ICT adoption needs must be based on private sector investment, bolstered by well-designed government procurement. Canadian government and business could also explore the models of tax incentives for training with a view to strengthen corporate investment in training and education.

Organization for Economic Co-operation Development Countries

Canada

The current capital cost allowances (CCA) for ICT machinery and equipment are 45 percent for computer equipment and 30 percent for broadband Internet equipment. The increases in the CCA rates are expected to reduce the cost of ICT investment in ITC. Canada's competitors are not 'sleeping' as they too provide attractive tax environment for ICT investment and, in general have provided these incentives earlier and more aggressively.

Provinces

Currently two Canadian provinces-Saskatchewan and Manitoba-offer an investment tax credit for machinery and equipment purchased by manufacturing and processing sector in the province. The rates of the credit are seven percent and then percent, respectively.

A Country Review: Assimilating ICT Adoption-Through Training Tax Credits

There is no tax credit for company training at the federal level. As part of the system of refundable innovation, Quebec offers corporations on-the-job training credit at the rate 30 percent of the training costs.

Ontario offers much narrower in scope tax credit specifically designed to cover the company costs of apprenticeship-the Apprentice ship Training Tax Credit (ATTC). Its aim is to encourage employers to hire and train apprentices in skilled trades. Corporations and unincorporated business are eligible for a 25 percent refundable tax credit on wages and salaries paid after 18 May 2004 to eligible apprentices during the first 36 months of the apprenticeship.

Scientific Research and Experimental Development (SR&ED) Tax Incentive Program:

Supporting Canadian Innovation

The Scientific Research and Experimental Development program is a Federal Tax incentive program to encourage Canadian businesses of all sizes and in all sectors to conduct research and development (R&D) in Canada that will lead to new, improved, or technologically advanced products or processes. The SR&ED program is the largest single source of federal government support for industrial research and development.

Work that qualifies for SR&ED tax credits includes:

- Experimental development to achieve technological advancement to create new materials, devices, products, or processes, or improve existing ones;
- Applied research to advance scientific knowledge with a specific practical application in view;
- Basic research to advance scientific knowledge without a specific practical application in view; and
- Support work in engineering, design, operations research, mathematical analysis, computer programming, data collection, testing, or psychological research, but only if the work is commensurate with, and directly supports, the eligible experimental development, or applied or basic research.

The SR&ED tax incentives are intended to encourage the performance of SR&ED in Canada. The eligibility of work as SR&ED is evaluated in terms of the process of performing SR&ED for the purpose of scientific or technological advancement in the categories of basic research, applied research, or experimental development as defined in *subsection 248(1) of the Act*, quoted above. SR&ED eligibility is not evaluated based on outputs, such as software products or information systems, which may or may not arise through a process that includes SR&ED.

Generally, a Canadian-controlled private corporation (CCPC) can earn an investment tax credit (ITC) of 35 percent up to the first \$2 million of qualified expenditures for SR&ED carried out in Canada, and 20 percent on any excess amount. Other Canadian corporations, proprietorships, partnerships, and trusts can earn an ITC of 20 percent of qualified expenditures for SR&ED carried out in Canada.

As an eligibility guide, assess all of these criteria in light of your technology:

- 1) You have sought a technological advancement and hence an advancement in our understanding of the technologies
- 2) Embodied technological uncertainty.
- 3) Had technological content.

Making the Most of Technology (Government Incentive).

Starting with a 1997 study conducted for Information Technology Association of Canada (ITAC) and Industry Canada (conference Board of Canada), there has been increasingly broad acceptance that investment in ICT is a horizontal enabler that increases productivity in sectors across the entire Canadian economy, finance, automotive, retail, forestry, etc. in individual instances where results have been less positive, failings have been a result of organisations not retraining staff or amending business processes to suit the new technologies.

The relationship between ICT and productivity justify a Government policy supporting increased ICT investment; given the importance of ICT adoption to Canada's competitiveness and prosperity, the government should develop a national strategy with a set of objectives and specific actions to drive ICT investment and adoption by the public sector, businesses and

individuals across the entire economy. In ITAC's view, such a strategy should be the responsibility of a special committee chaired by the Minister of Industry, with high level engagement and support within both Cabinet and the Prime Minister's Office.

National Research Council – Industrial Research Assistance Program (NRC-IRAP) Incentives:

NRC-IRAP offers the following two financial assistance:

Contributions for R&D Activities

IRAP provides non-repayable contributions to Canadian small and medium-sized enterprises (SMEs) on a cost-shared basis for research and pre-competitive development technical projects, upon assessment of a project and firm by a team of Information Technology Advisors (ITAs). IRAP's partner organizations also receive contributions to provide technical and research assistance to Canadian SMEs.

Youth Employment Strategy (YES) Programs

NRC-IRAP's Internship Program with Innovative Small and Medium-sized Enterprises and Collaborative Research Internships Program provide firms with support to hire post-secondary graduates. Internships last between six to twelve months and are available anywhere in Canada. IRAP is responsible for delivering the program through its 260 ITAs situated in over 90 communities from coast to coast. Maximum internship support provided is \$12,000 to help cover a portion of the graduate's salary. The business is responsible for covering other expenses such as fringe benefits and overhead costs.

Technology Partnerships Canada (TPC)

TPC is a special operating agency of Industry Canada with a mandate to provide funding support for strategic research and development, and demonstration projects that will produce economic, social and environmental benefits to Canadians. IRAP and TPC have joined forces to support innovative SMEs by investing in pre-commercialization stage projects. The program focuses on key technology areas such as Environmental Technologies, Aerospace and Defence Technologies and Enabling Technologies, which includes biotechnology and health related applications, as well as manufacturing and communications technologies. All TPC's investments are repayable. However, it is important to remember that these are investments in research and development projects, which by their very nature are long-term. Repayment terms are negotiated on a case-by-case basis and usually take the form of royalties based on gross company revenue, fixed repayments, or warrants.

V. The Private Sector in the Industries

The following are some of the companies involved in the electronic and information technology industries.

Company	Power Measurement	
Chief Executive Officer	Bradford Forth	Power Measurement is an energy information technology company, founded on innovation. They are a global leader in enterprise energy management systems. Its products and services help energy suppliers and consumers take control of the cost and quality of energy. Some of its innovations have included the first micro-processor based power meter, the first meter with remote communications capability, and the first PC-based software for remote power monitoring Power Measurement, which was acquired by Schneider Electric in 2005.
Address	2195 Keating Cross Rd. SAANICHTON, British Columbia V8M 2A5	
Tel	(1-250) 652 7100	
Website	www.pwrm.com	

Products	Controllers, power demand, enterprise energy management systems, digital 3-phase power monitoring systems	Annual Sales: Cdn\$50 million
Company	Stantec Consulting International Ltd	Stantec was established in 1954 and provides professional services in infrastructure and facilities. The company provides comprehensive services in diverse areas such as planning, engineering, architecture and interior design. For five decades, Stantec has applied its full range of consulting services in the buildings, environment, industrial, transportation and urban land markets. With several offices across the province, Stantec addresses the complex urban issues faced by British Columbian cities, while meeting the needs of the rural, forestry, and environmental sectors.
Manager	Kevin Metcalfe	
Address	10160 - 112 St NW EDMONTON, Alberta T5K 2L6	
Tel Fax	(1-780) 917 7000 (1-780) 917 7464	
Website	www.stantec.com	
Products	Consulting engineer - environment and environmental standards Consulting engineer - buildings-electrical Consulting engineer - transportation-airports	Annual Sales: Cdn\$618 million
Company	MacDonald, Dettwiler and Associates Ltd	MDA provides advanced information solutions that capture and process vast amounts of data, produce essential information, and improve the decision making and operational performance of business and government organizations worldwide. MDA's Information Products Group delivers land information products and services in two categories – legal and asset information, and geographical information. MDA's Information Systems Group provides mission critical information systems to support the prime objectives of organizations in three areas – monitoring the planet, defense & robotics.
General Manager	Paul Cooper	
Address	13800 Commerce Pky RICHMOND, British Columbia V6V 2J3	
Tel Fax	(1-604) 278 3411 (1-604) 231 2773	
Website	www.mdacorporation.com	
Products	Robotic systems, NES, space systems & subsystems, robotic systems, custom electrical/electronic prop meas/test inst nes	Annual Sales: Cdn\$350 million
Company	Telesat Canada	Telesat is a pioneer in the delivery of satellite communications solutions, and a highly respected consultant and partner in satellite ventures around the globe. Founded in 1969, the company is one of the world's top satellite operators, providing telecommunications and broadcasting services throughout the Americas. Telesat provides satellite-based wireless data networks and related ground segment and maintenance services to private companies and government organizations that require voice, data and video applications such as point-of-sale transactions, electronic banking, airline and travel reservations, retail inventory management, video conferencing, distance education, LAN-to-LAN connectivity, intranets, and private voice networks.
Director	Len Lawson	
Address	1601 Telesat Crt. GLOUCESTER, Ontario K1B 5P4	
Tel Fax	(1-613) 748 0123 (1-613) 748 8712	
Website	www.telesat.ca	
Products	Satellite tracking telemetry & control facilities, satellites, communications systems, custom, and Satellite, ground terminals and transportable	Annual Sales: Cdn\$474.7 million
Company	Dendrite Canada Ltd.	Dendrite is a strategic business partner and

General Manager	Martin Hemy	technology solutions provider to biopharmaceutical and healthcare companies worldwide. Dendrite provides software-derived services, interactive marketing and market research to the healthcare industry. They are located in 23 economies and support clients in 30 economies. Dendrite is traded on the NYSE as DRTE.
Address	2210 Markham Rd. SCARBOROUGH, Ontario M1B 5V6	
Tel Fax	(1-416) 298 4631 (1-416) 298 9358	
Website	www.dendrite.com	
Products	Computer software and services - decision support Computer software and services - marketing and sales, other Computer software and services - education and training	Annual Sales: Cdn\$437 million
Company	Celestica	A recognized leader in quality, technology and supply chain management, Celestica provides competitive advantage to its customers by improving time-to-market, scalability and manufacturing efficiency. The company's global solutions include design and engineering; manufacturing and systems integration; and fulfillment and after-market services. Its customers include more than 200 original equipment manufacturers (OEMs) in the computing, communications, aerospace, defense, automotive, consumer and industrial markets.
Chief Executive Officer	Stephen Delaney	
Address	1150 Eglinton Ave E NORTH YORK, Ontario M3C 1H7	
Tel Fax	(1-416) 448 5800 (1-416) 448 4810	
Website	www.celestica.com	
Products	Electronic manufacturing services	
Company	UMA Engineering Ltd.	UMA provides consulting, engineering and management services to the community infrastructure, earth and water, transportation, and industrial sectors. UMA provides a full range of services for both large and small projects across all market sectors. Their consulting services include feasibility studies, conceptual and detailed planning, surveys and cost estimates. They also have expertise with public consultations and regulatory procedures. Furthermore, their engineering services cover civil, structural, mechanical, electrical and instrumentation design.
Administrator	Joanne Dockerill	
Address	5080 Commerce Blvd MISSISSAUGA, Ontario L4W 4P2	
Tel Fax	(1-905) 238 0007 (1-905) 238 0038	
Website	www.uma.aecom.com	
Products	Transportation, earth and environment, technology systems Earth and water, earth and environment and water and wastewater treatment Land development, industrial	
Company	A GTECH Company	Spielo is a full-service gaming solutions company that designs, develops and manufactures video gaming machines, games and central monitoring systems for the Lottery and Casino industries in North America and Europe. Originally a Canadian owned company, Spielo was acquired in 2004 by GTECH, a leading global information technology company with over \$1 billion in revenues and more than 5,300 employees in 6 continents.
Director	Carol Holmes	
Address	328 Urquhart Ave MONCTON, New Brunswick E1H 2R6	
Tel Fax	Tel. N.A. Fax:	
Website	www.spielo.com	
Products	Terminals, computers, video display type Games and entertainment equipment nes	Annual Sales: Cdn\$50 million +

	Central monitoring systems	
Company	NHC Communications Inc	Established in 1984, NHC Communications Inc. is a publicly traded company on the Toronto Stock Exchange (TSE). NHC Communications Inc. is a leading provider of products and services enabling the management of voice and data communications for telecommunications and internet service providers. They leverage proprietary products to revolutionize the management of copper wire telecommunications and internet networks.
CEO	Sylvain Abitbol	
Address	5450, ch. de la Côte-de-Liesse MONT-ROYAL, Quebec H4P 1A5	
Tel Fax	(1-800) 361 1965 (1-514) 735 8057	
Website	www.nhc.com	
Products	NHC Communications Inc. is a leading provider of products and services enabling the management of voice and data communications for telecommunications service providers.	Annual Sales: Cdn\$50 million +
Company	Prodomax Automation Inc.	Automation Inc. continues to strengthen its position as a leading solutions provider to the North American automotive industry. Providing automated manufacturing solutions in the areas of welding, assembly, machining, laser cutting and material handling, their high quality part-specific manufacturing systems have produced a variety of automotive components that are currently found in many North American vehicles.
Management Executive	Cheryl Stone	
Address	455 Welham Rd. BARRIE, Ontario L4N 8Z6	
Tel Fax	(1-705) 726 5841 (1-705) 722 8475	
Website	www.prodomax.com	
Products	Robotic systems, welding, robotic systems, industrial automated assembly systems, automated manufacturing systems	Annual Sales: Cdn\$50 million +
Company	Norsat International Inc.	Norsat designs, engineers and distributes products for use in the satellite wireless communications industry, primarily for application in VSAT and IP over DVB networks. Norsat's products are sold through the company's offices in Canada, the US, the UK, China and Singapore, and also through a global network of partners and distributors. Norsat has applied radio frequency (RF), video transmission and satellite data networking technologies to create the Norsat OmniLink.
Management Executive	Don Filmer	
Address	300-4401 Still Creek Dr BURNABY, British Columbia V5C 6G9	
Tel Fax	(1-604) 292 9000 (1-604) 292 9100	
Website	www.norsat.com	
Products	Internet gateway systems (hubs) VSAT components End-user terminals (ODUs)	Annual Sales: Cdn\$50 million +
Company	SED Systems – a division of CALIAN Ltd.	SED Systems is an advanced Canadian technology company specializing in space and communications engineering and custom RF and electronics manufacturing. SED has extensive expertise in space, communications, satellite test and control, defense systems engineering and in custom electronic system manufacturing. With proven professional capabilities, a strong renewing technological base, and an international reputation for excellence, SED is well positioned for growth in Canadian and international markets.
Director	Don Epp	
Address	18 Innovation Blvd. SASKATOON, Saskatchewan S7N 3R1	
Tel Fax	(1-306) 931 3425 (1-306) 933 1486	
Website	www.sedsystems.ca	
Products	Satellite gateway systems Satellite in-orbit test equipment Satellite spectrum monitoring	Annual Sales: Cdn\$50 million +

	systems Satellite command and control systems	
Company	Franklin Empire Inc.	A full line provider of electrical products, control and automation solutions. They are a manufacturer of control panels and industrial heating products. This company is ISO9002 certified and members of different associations in Canada. Franklin Empire Inc. is a family owned electrical distributor providing electrical components and systems for new construction, renovation and the maintenance of industrial plants, commercial buildings and homes. The standard and detuned systems that they manufacture single themselves out by their unique modular and expandable design as well as by their high-quality components.
President	Robert Shapiro	
Address	8421 Darnley Rd MONT-ROYAL, Quebec H4T 2B2	
Tel	(1-514) 341-3720	
Fax	Fax: (1-514) 341-3907	
Website	www.feinc.com	
Products	Lighting products, control and automation products, electrical hardware, conduit and fittings, all products related to electrical requirements	Annual Sales: Cdn\$50 million +
Company	ATS Automation Tooling Systems Inc.	ATS Automation Tooling Systems is a world leader in the supply of turnkey factory automation systems to the automotive, computer, semiconductor, and appliance industries. ATS is a Canadian company listed on the TSE. They are also a member of the TSE Composite 100 Index.
Chief executive Officer	Klaus Woerner	
Address	250 Royal Oak Rd. CAMBRIDGE, Ontario N3H 4R6	
Tel	(1-519) 653 6500	
Fax	(1-519) 653 6533	
Website	www.atsautomation.com	
Products	Coil winding machines, armature winders, material handling systems, Turnkey equipment and manufacturing line for producing and testing solar cells and modules.	Annual Sales: Cdn\$770 million
Company	Systematix Technologies de l'Information	Founded in 1975 by a group of accomplished information systems experts, Systematix has evolved to become a prominent consulting company, firmly established throughout Canada (seven offices with 700 professionals). Competent, seasoned professionals and sound management make it possible for Systematix to undertake large-scale projects, both nationally and internationally.
President	Daniel Dechenes	
Address	1601-1, Place Ville Marie MONTRÉAL, Quebec H3B 2B6	
Tel	(1-514) 393 1313	
Fax	(1-514) 393 8997	
Website	www.systematix.com	
Products	Information systems consulting services Electronic business strategy Electronic business technical architecture	Annual Sales: Cdn\$50 million +
Company	Glentel Inc.	Glentel is a provider of wireless communications solutions in North America. Its Wireless Business Division focuses on wireless communications solutions for businesses, industries, and government. The Wireless Wave Retail Division,
Manager	Harvey Evans	
Address	8501 Commerce Crt BURNABY, British Columbia V5A 4N3	

Tel Fax	(1-604) 415 6560 (1-604) 415 7009	through its 86 Wireless Wave retail mall stores in British Columbia, Alberta, Manitoba, and Ontario, Canada, focuses on the cellular retail market with choice in network service provider, cellular phones, rate plans, and accessories.
Website	www.glentel.com	
Products	Mobile and fixed satellite solutions Terrestrial radio solutions Cellular phones	Annual Sales: Cdn\$146 million
Company	Matrox Electronic Systems Ltd.	Matrox has taken its place as leader and innovator in today's hottest, most state-of-the-art technologies designing software and hardware solutions in the fields of graphics, video editing, image processing and new business media. Matrox employs more than 730 people dedicated to the design, development, and manufacturing of strategic products in all areas of the communications world: video, graphics, imaging, and networking. Over the last five years, Matrox has been recognized with 550 unprecedented international awards and has equipped more than 30 million people with leading-edge technology.
President	Lorne Trottier	
Address	1055 St-Régis Blvd. DORVAL, Quebec	
Tel Fax	(1-514) 685 2630 (1-514) 685 7030	
Website	www.matrox.com	
Products	Matrox DigiDesktop Matrox Imaging Library (MIL) Matrox DigiVid Matrox DigiMotion	
Company	Kontron Canada Inc.	Kontron Canada is a leading-edge designer and manufacturer of high-end industrial single board computers and systems aimed at major OEMs and systems integrators in the communications systems, industrial equipment and medical devices markets. Kontron offers a diverse line of products that includes CompactPCI and ATCA/AMC processing platforms.
Chief Executive Officer	Adrienne Cote	
Address	616 Curé Boivin Blvd BOISBRIAND, Quebec	
Tel Fax	(1-450) 437-5682 (1-450) 437-8053	
Website	www.kontron.com	
Products	6U cPCI processor boards, dual LV Xeon processors at 1.6GHz, 8GB max memory. 2.16 compliant.	
Company	Xantrex Technology Inc.	Xantrex Technology Inc. is the world's leading supplier of advanced power electronics and controls with products from 50 watts to 1 megawatt in size for commercial, residential and recreational markets, as well as distributed and renewable energy markets. Xantrex's corporate strategy is to focus on advanced power electronics markets with favorable growth prospects and plans to expand internally and through acquisitions, mergers and strategic alliances.
Chief Executive Officer	Nazir Mulji	
Address	8999 Nelson Way BURNABY, British Columbia	
Tel Fax	(1-604) 422-8595 (1-604) 420-1591	
Website	www.xantrex.com	
Products	Power supply, precision laboratory an power supply equipment.	
Company	Aastra Technologies Limited	Aastra Technologies develops and markets products and systems for accessing communication networks. These include network access equipment and communication access terminals. Offerings encompass telephones and accessories, digital video equipment and multi-service access switches. The company markets products under the Bell Equipment, Meridian, PowerTouch, Vista, Video Runner and CVX
Chief Executive Officer	Hugh Scholaert	
Address	155 Snow Blvd. CONCORD, Ontario	
Tel Fax	(1-905) 760-4200 (1-905) 760-4233	

Website	www.aastra.com	brands.
Products	Telephone sets, caller I.D. Telecommunications equipment, service & supplies.	Annual Sales: Cdn\$50 million +

VI. The Vision of the Private Sector

<i>The Electronic and Information Technology Industries Survey in APEC</i>	
Company: Spectrum Signal Processing Inc	
Name and title of the executive: Keith LaRose, Representative – Domestic Sales & Marketing	
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?	With the devaluation of the US dollar compared to the Canadian dollar, we have mainly concentrated on keeping our margins of sales as high as possible.
2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?	We already outsource much of our manufacturing to third party companies.
3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?	We are an OEM, but also an SME. This question is a little confusing.
4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plan?	Most of our business is conducted in the US, therefore free trade is useful.
5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influencing mostly a new investments decision?	We currently have our target markets identified and are pursuing them without attempts to diversify too much from our core focus.
6. Can you views or suggestions about the future of the electronic and the information technology industries?	I don't really have much to say.
Other comments:	
Date: September, 2006	

<i>The Electronic and Information Technology Industries Survey in APEC</i>	
Company: Schneider Canada	
Name and title of the executive: Sussex Davis, Marketing & Sales Manager	
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?	

<p>We are continuing to expand and look for new markets to improve our position in our current markets. We are well positioned to continue to grow.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>Yes, our company has factories and suppliers all around the world.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>We work with a lot of OEMs and thus, they are important to us.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plan?</p> <p>Yes, free trade has been very beneficial to us.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influencing mostly a new investments decision?</p> <p>We look at a wide variety of factors when considering foreign investment.</p>
<p>6. Can you views or suggestions about the future of the electronic and the information technology industries?</p> <p>These industries will continue to be very important to the world economy for a long time. As energy sources become scarcer the efficient use and management of electricity will become more and more important. Development of new economically viable alternative energy sources will depend upon the electronic and information technology industries. While they will continue to change and evolve, these are very good sectors to be in both now and in the future.</p>
<p>Other comments:</p>
<p>Date: September, 2006</p>

<p><i>The Electronic and Information Technology Industries Survey in APEC</i></p>
<p>Company: FrontLine Technologies Inc.</p>
<p>Name and title of the executive: Hossein Astaraki, title not available</p>
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>We are aware of these challenges and thus, at FrontLine we all work as a team looking for new technologies and value added services that would allow us to remain competitive.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>95% of our business is in the services sector. Whenever we are required to supply hardware, we get it directly from the supplier (sometimes in Canada and sometimes directly from Asia).</p>

<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>I think this is a great opportunity but also a big challenge for many companies (especially SMEs). They will have to move at the same time with these business models in order to survive.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Right now, in our case it has no effect on our plans. But, we are analyzing the possibility of expanding our operations (taking advantages of some trade agreements).</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>Well, it is one of many factors to consider. Geographical location and local market would also have a great influence in our final decision.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>I think we will see major mergers and takeovers. Competition will get though and, those companies that don't keep up with the changing trends and sources will definitely disappear.</p>
Other comments:
Date: 8 December 2006

VII Government and Private Organizations

Organization	Alberta Research Council	The Alberta Research Council develops and commercializes technologies to give customers a competitive advantage. The corporation performs applied research and development on a contract or fee basis, and co-ventures with others to develop new technologies, deriving a return on investment from the commercialization of new products and services. ARC also conducts applied research to support provincial science and technology needs and strategies. ARC provides a full spectrum of R&D and advisory services that effectively bridge the gap between basic research and market development.
Chairman / Secretary General	Kathleen Fleming	
Members	101-600	
Address	250 Karl Clark Rd NW EDMONTON, Alberta T6N 1E4	
Tel Fax	(1-780) 450 5360 (1-780) 450 5083	
Website	www.arc.ab.ca	
E mail	irm@arc.ab.ca	
Organization	Canadian Advanced Technology Association	Canadian Advanced Technology Alliance (CATAAlliance) is Canada's leading, most influential and entrepreneurial technology alliance. It is committed to growing the global competitiveness of its members, 80 percent of which are currently active exporters. The common purpose that unites the membership is CATAAlliances commitment to members' business growth. With offices across the country, we are focused on the
President and Co-Chair	John Reid	
Members	Not available	
Address	388 Albert St OTTAWA, Ontario K1R 5B2	
Tel Fax	(1-613) 236 6550 (1-613) 236 8189	
Website	www.cata.ca	

E mail	johnreid@attglobal.net	provision of business services and government relations programs that conserve and leverage member resources. Because members are action-oriented businesses, CATAAlliance responds with action when members need specific services or activities.
Organization	<i>British Columbia Technology Industries Association (BC TIA)</i>	BC Technology Industries Association (BC TIA) is a not-for-profit, member-funded organization that represents the technology industry of British Columbia. Our diverse membership encompasses companies in all sectors of technology ranging from BCs most prominent technology companies to early-stage companies and SMEs. As the largest and most influential technology association in the province we provide the leadership, connection and action needed to foster the continued growth and success of the technology industry in BC.
Chairman / Secretary General	Rob Cruickshank	
Members	Not available	
Address	900-1188 Georgia St W VANCOUVER, British Columbia V6E 4A2	
Tel	(1-604) 683 6159	
Fax	(1-604) 683 3879	
Website	www.bctia.org	
E mail	info@bctia.org	
Organization	<i>Wireless Innovation Network of British Columbia</i>	WINBC is the focal point for wireless services in BC and a leading wireless association in North America. British Columbia has a 30-year history of successful wireless design and innovation and has grown to over 250 wireless companies in all areas of the wireless value chain from infrastructure and devices to enabling software, enterprise applications, games and peer-to-peer solutions.
Chairman / Secretary General	Victoria Lohvin	
Members	Not available	
Address	900-1188 Georgia St W VANCOUVER, British Columbia V6E 4A2	
Tel	(1-604) 602-5237	
Website	www.winbc.org	
E mail	sang@winbc.org	
Organization	<i>ICTAM The Information & Communication Technology Association of Manitoba</i>	
Chairman / Secretary General	Kathy Knight	
Members	Not available	
Address	Location Address 411 - 435 Ellice Avenue Winnipeg, Manitoba R3B 1Y6	
Tel	(1-204) 9843-713	
Website	www.ictam.ca	
E mail	info@ictam.ca	
Organization	<i>The Information Technology Association of Alberta (InfoTech Alberta)</i>	Formerly the ICET Alliance, InfoTech Alberta is the emerging voice of the Alberta InfoTech industry. InfoTech Alberta is taking steps to become an inclusive and powerful representative alliance that inspires action and adds value for its members across the province. InfoTech Alberta does this by creating opportunities and partnerships that empower members to successfully grow the
Chairman / Secretary General	Mark Elrick	
Members	Not available	
Address	3553 - 31 Street NW Calgary, Alberta T2L 2K7	

Tel/Fax	Not available	InfoTech industry throughout Alberta.
Website	www.infotechalberta.com	
E mail	infotechalberta@shaw.ca	
Organization	<i>ITAC Information Technology of Canada</i>	The Information Technology Association of Canada (ITAC) is the voice of the Canadian ICT industry in all sectors including telecommunications and Internet services, ICT consulting services, hardware, microelectronics, software and electronic content. ITACs network of companies accounts for more than 70 percent of the 579,000 jobs, Cdn\$137.6 billion in revenue, Cdn\$5.2 billion in R&D investment, Cdn\$22.6 billion in exports and Cdn\$11.5 billion in capital expenditures that the industry contributes annually to the Canadian economy.
Chairman / Secretary General	Caren Adno	
Members	Not available	
Address	2800 Skymark Avenue Suite 402 Mississauga, Ontario CANADA L4W 5A6	
Tel	(1-905) 602-8345	
Fax	(1-905) 602-8346	
Website	www.itac.ca/	
E mail	cadno@itac.ca	

Bibliography:

- www.caw.ca/whatwedo/bargaining/cbpac/2002sectoralanalysis/electrical.asp
- [strategis.ic.gc.ca/epic/internet/ineas-aes.nsf/vwapj/srmei199911e.PDF/\\$FILE/srmei199911e.PDF](http://strategis.ic.gc.ca/epic/internet/ineas-aes.nsf/vwapj/srmei199911e.PDF/$FILE/srmei199911e.PDF)
 - www.techtriangle.com/KeyIndustries/hightech.cfm
- www.itac.ca/
- www.itac.ca/Library/PolicyandAdvocacy/ProductivityandInnovation/05JulyIncentivesforICTAdoption.pdf
- support.crtc.gc.ca/tlcm1sts/default.aspx?indx=29
- support.crtc.gc.ca/tlcm1sts/default.aspx?indx=32
- support.crtc.gc.ca/tlcm1sts/default.aspx?indx=39
- www.crtc.gc.ca/ENG/public/lplists/Reseller.htm
- canada.america-atlas.com/maps
- www.cata.ca
 - www.apec.org/apec/apec_groups/working_groups/telecommunications_and_information.html
- www.international.gc.ca/tna-nac/menu-en.asp
- www.nafta-sec-alena.org/DefaultSite/index_e.aspx?DetailID=134

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC Chile

I. Overview of the Industry

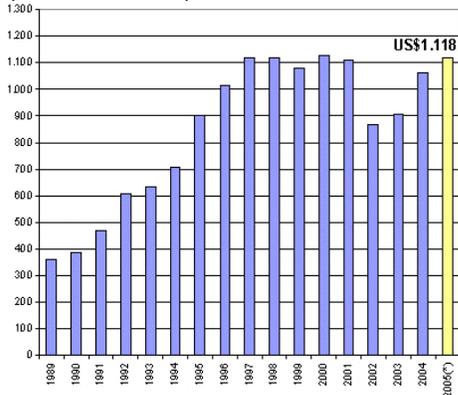
Chile's information technology and communication (ITC) industries make an average of US\$1.1 billion per year in revenue.

Software and hardware services are the biggest contributors to the annual revenue. The industry accounts for 1.4 percent of national gross domestic product (GDP) and provides employment to over 60,000 people.

There are identified 1,871 companies. By number of employees, 44 percent are micro-companies, 44 percent are small companies and 12 percent are medium and large companies.

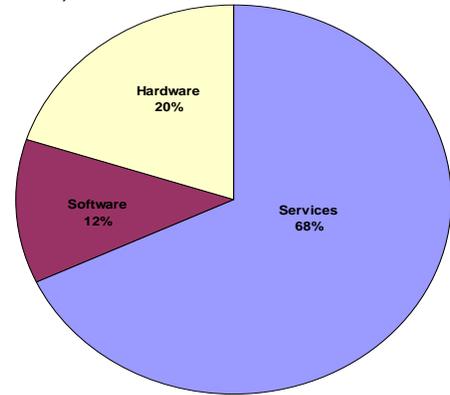
By type of activity, 56 percent are service providers, 24 percent software providers and 20 percent hardware providers. Medium and large companies show more expertise as hardware providers (29 percent) while micro companies show it as service providers (57 percent).

ITC Industry Annual Sales
(US\$ thousand)



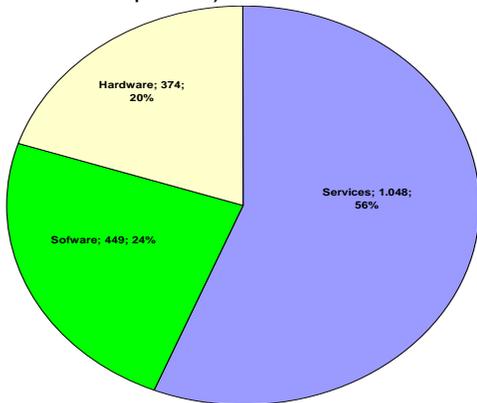
Source and Graphics: Asociación Chilena de Empresas de Tecnologías de Información (ACTI)

ITC Industry Revenue by Sub Sector.
(percent)



Source: Chile Innova; Graphics: Bancomext Chile

ITC Industry Company's activities
(percent of companies)



Source: Chile Innova; Graphics: Bancomext Chile

According to the type of activity, 53 percent of the companies are specialized in a) software and appliance development, b) hardware retail and, c) web page design. (is it supposed to be split up, like 53% in a, 27% in b..)

By size of companies the most important activities are: web designers, 23 percent of the micro companies; software developers, 26 percent of the small companies; and hardware retailers, 19 percent of the medium and large companies.

On average, the 95 percent of the invested capital in the industry originates from local sources, but as the size of the company grows, the foreign capital becomes more relevant. Micro companies make up 1.3 percent of the foreign invested capital, small companies make up 4.4 percent and middle and large companies make up 17 percent.

ITC Revenue by Industry Sub Sector
(US\$ thousand)

Type	2005	Percent
Services	760.240	68
Software	134.160	12
Hardware	223.600	20

Source: Chile Innova and ACTI

Companies in the ITC Industry by Company Size

Type	Employees	Companies
Micro	1 to 9	823
Small	10 to 49	823
Medium and Large	50 and more	225
Total		1.871

Source: Asociación Chilena de Empresas de Tecnologías de Información (ACTI)

Economy Supply

Type	Total	Micro	Small	Med. & L
Product Lines	8,232	3,320	3,358	1,576
Average	4.4	4.0	4.1	7.1
SKU	335,096	115,453	107,535	112,021
Average	179.1	139.1	131.3	504.6

Source: Asociación Chilena de Empresas de Tecnologías de Información (ACTI)

Employment by year ITC Industry

Year	Employees
1998	5.766
1999	6.522
2000	6.357
2001	6.009
2002	5.774
2003	5.846
2004	6.312
2005	6.722
Average	6.164

Source: ACTI

On average, each company supplies 4.4 product lines out of a total of 8,232 and 179 stock-keeping units (SKUs) out of a total of 335,096 SKUs.

The micro and small companies have a similar share of all the product lines in the economy, close to 81.12 percent, while medium and large companies keep 18.88 percent.

Most of the SKUs are hardware and software services. Technical support, consulting and context development are the most common provided services.

The distribution for the four stages (research, design, fabrication and integration) considered in the development and production of the local market for the three sub sectors – services, software and hardware – is as follows.

Services

The main category for services provided by ITC is technical support (24 percent), followed by informatics consulting (18 percent) and context development (15 percent). Other categories considered in the services segment are internet, system development, e-business, training, networks, automation, telecommunication, access and management.

Software

In the software sub sector the most common products offered are applications, accounting systems and enterprise resource planning (ERP), research and development in particular for e-commerce and design.

Utility, operative and productivity systems are the products with the less research, design, fabrication and integration done in the economy. This is because they are imported into Chile.

Hardware

In the hardware sub sector the most common products offered are CPU and consumables. Since most of the hardware is imported, 11 percent is sent to the research or designing stages. Only 9 percent of the hardware production is manufactured in Chile but in contrast 37 percent is just assembled here.

The research, development and production done in the economy for this sub sector are basically for security and communication hardware.

The three sub sectors – services, software and hardware – are composed as such.

ITC Industry Supply of Services

Services	SKU	Percent
Support	41.619	23
Consulting	32.571	18
Context Development	27.143	15
Internet	19.905	11
Teaching	10.857	6
Networks	10.857	6
Systems Development	7.238	4
Automation	7.238	4
Access	5.429	3
Administration	3.619	2
E- commerce services	1.810	1
Telecommunications	1.810	1
Others	10.857	6

Source: Chile Innova SKU: stock keeping units

ITC Industry Supply of Software

Software	SKU	Percent
Application suites	28.483	34
Accounting	15.079	18
ERP	10.891	13
Productivity	5.864	7
Utility	4.189	5
Database	4.189	5
E-commerce	1.675	2
Commercial	1.675	2
Operative system	838	1
Design	838	1
Others	10.053	12

Source: Chile Innova

SKU: stock keeping units

ITC Industry Supply of Hardware

Hardware	SKU	Percent
CPU	20.407	29
Consumables	13.370	19
Spare parts	7.037	10
Other equipment	5.630	8
Communication equipment	4.926	7
Printing equipment	3.519	5
Peripherals	3.519	5
Security equipment	1.407	2
Others	10.556	15

Source: Chile Innova

SKU: stock keeping units

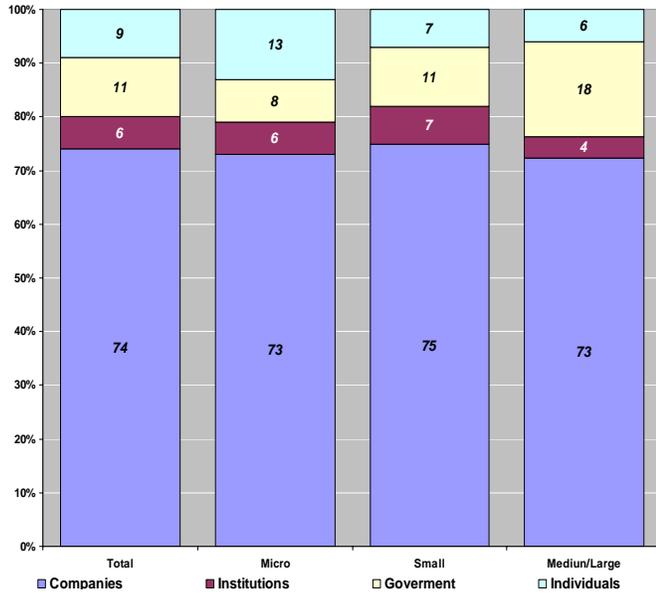
Out of all the products sold in the economy, 87 percent are imported, especially basic software since only 7 percent is built within the economy. On the other hand, due to special customer requirements, 38 percent of the application software is built in Canada. Medium and large local companies have 48 percent of this market share.

Economic Demand

Private companies are the most important customers for the ITC Industry with two thirds of market share, followed by the government sector with 19 percent, and individual clients with 9 percent.

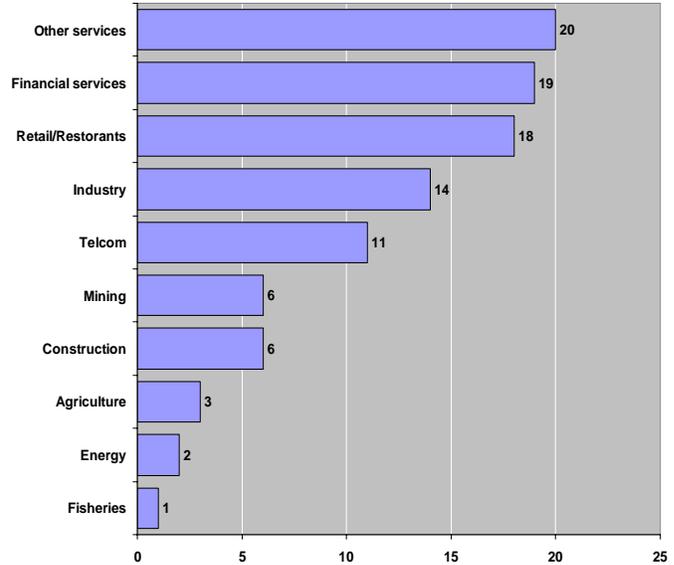
According to the ITC demand, the graph below shows that in kind of customer, companies are the largest customer segment, followed by government, while institutions and individuals are having a similar participation.

Demand Distribution by Type of Customer (percent)



Source: Chile Innova; Graphics: Bancomext Chile

Demand by Importance of Economic Sector (percent)



Source: Chile Innova; Graphics: Bancomext Chile

As far as demand by economic sector, financial services are the most important; follow by commerce, the industry and telecommunication.

Demand Distribution by Type of Client (percent)

	Total	Micro	Small	Medium/Large
Companies	74	73	75	73
Institutions	6	6	7	4
Government	11	8	11	18
Individuals	9	13	7	6

Source: Chile Innova

Demand Distribution by Sector (percent)

Sector	Percent
Other services	20
Financial services	19
Retail/Restaurants	18
Industry	14
Telecom	11
Construction	6
Mining	6
Agriculture	3
Energy	2
Fisheries	1

Source: Chile Innova

II. Recent Developments in Exports and Imports

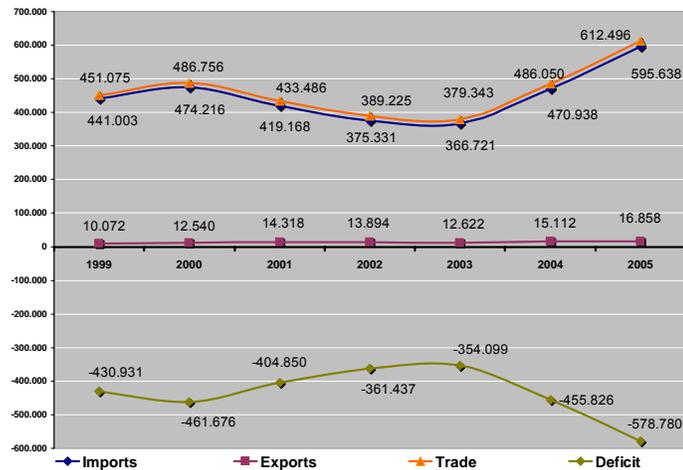
This industry shows an average trade deficit of US\$435.3 million for the period of 1999-2005 with an annual increase of 6 percent. The deficit is due to the relative importance of the imports in this

index (total economy imports in this industry are thirty three times bigger than exports). In 2005, the commercial deficit of the industry was US\$578.7 million.

Total imports during the same period of 1999-2005, accounted for US\$449.0 million, with an annual growth rate of 6 percent. Just in 2005, ITC imports summed US\$595.6 million composed of 99 percent hardware and 1 percent software. This pattern is evident in the last seven years, where hardware imports have grown at an annual rate of 6 percent while software imports have declined at an annual rate of 2 percent. Almost 90 percent of the imports were concentrated from the following origins: the United States with 47.8 percent, China with 15.8 percent, Mexico with 7.3 percent and Brazil with 5.3 percent. The others had a percentage lower than four.

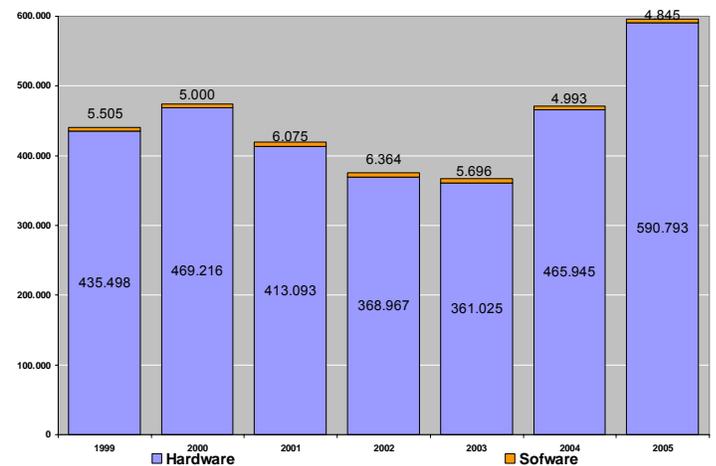
ITC exports accounted for US\$16.8 million in 2005. The exports were comprised of 97 percent hardware and 3 percent software. During the last seven years, hardware exports have grown at a rate of 12 percent per year, while the software exports have grown at an annual rate of 5 percent. Ten economies account for 90 percent of the Chile's total exports. They are the United States with a market share of 33.9 percent, followed by Peru with 23.3 percent, Argentina 10.7 percent, Cuba 5 percent, and Mexico, Brazil and Ecuador with close to 3 percent. Others had acquisitions lower than US\$3 million.

Total Economy Trade in the ITC Industry (8471 and 85243910)
(US\$ thousand)



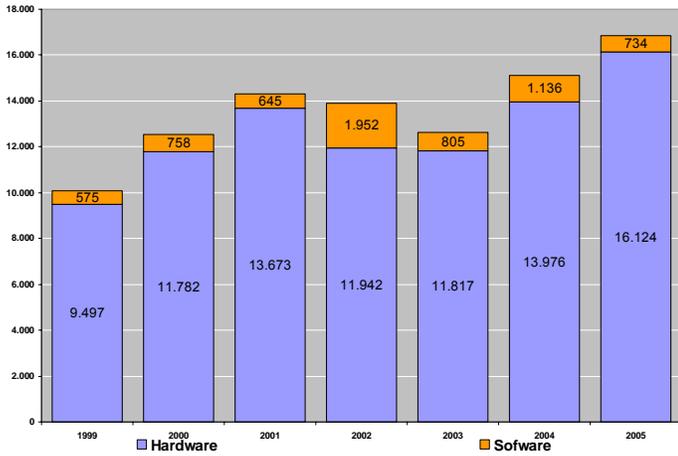
Source: Servicio Nacional de Aduanas de Chile; Graphics: Bancomext Chile

Total Economy Imports in the ITC Industry (8471 and 85243910)
(US\$ thousand)



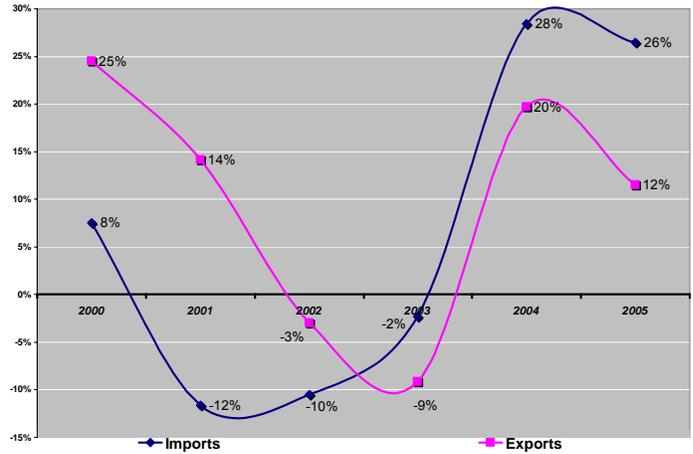
Source: Servicio Nacional de Aduanas de Chile; Graphics: Bancomext Chile

**Total Economy Exports in the ITC Industry
(8471 and 85243910)
(US\$ thousand)**



Source: Servicio Nacional de Aduanas de Chile; Graphics: Bancomext Chile

**Annual Exports/Imports
(variance percent)**



Source: Servicio Nacional de Aduanas de Chile; Graphics: Bancomext Chile

**Total Economy Trade in the ITC Industry
(8471 and 85243910)
(US\$ thousand)**

	Imports	Exports	Trade	Deficit
1999	441.003	10.072	451.075	-430.931
2000	474.216	12.540	486.756	-461.676
2001	419.168	14.318	433.486	-404.850
2002	375.331	13.894	389.225	-361.437
2003	366.721	12.622	379.343	-354.099
2004	470.938	15.112	486.050	-455.826
2005	595.638	16.858	612.496	-578.780
Total	3.143.015	95.416	3.238.431	-3.047.599
Average	449.002	13.631	462.633	-435.371

Source: Servicio Nacional de Aduanas de Chile

**Total Economy Imports in the ITC Industry
(8471 and 85243910)
(US\$ thousand)**

Imports	Hardware	Software	Total
1999	435.498	5.505	441.003
2000	469.216	5.000	474.216
2001	413.093	6.075	419.168
2002	368.967	6.364	375.331
2003	361.025	5.696	366.721
2004	465.945	4.993	470.938
2005	590.793	4.845	595.638
Total	3.104.537	38.478	3.143.015
Average	443.505	5.497	449.002

Source: Servicio Nacional de Aduanas de Chile

**Total Economy Exports in the ITC Industry
(8471 and 85243910)
(US\$ thousand)**

Exports	Hardware	Software	Total
1999	9.497	575	10.072
2000	11.782	758	12.540
2001	13.673	645	14.318
2002	11.942	1.952	13.894
2003	11.817	805	12.622
2004	13.976	1.136	15.112
2005	16.124	734	16.858
Total	88.811	6.605	95.416
Average	12.687	944	13.631

Source: Servicio Nacional de Aduanas de Chile

III. Trade Negotiations Related to the Industries

This economy is one of the most open to foreign trade in the region. It has signed thirteen free trade agreements (Canada, China, Korea, Costa Rica, Central America, El Salvador, EFTA, Guatemala, Honduras, Mexico, Nicaragua, Panama, the US), two economic association agreements (P4, EU), seven economic complementary agreements (Bolivia, Colombia, Cuba, Ecuador, Mercosur group, Peru, Venezuela) and one partial reach agreement (India) involving the most important economies in the world and in the region. These agreements are not only limited to commercial issues, but involve among other subjects services, investment and intellectual property.

In general terms, all the agreements include the products of this industry, but neither of them have a specific chapter on this subject.

IV. The Programs and Special Incentives to the Industry

Local Tax Revenue Service (Servicio de Impuestos Internos SII)

This charges imports of software a special tax of 34 percent of the invoiced intellectual value, regardless of the existence of trade agreements. On the other hand, it also grants a 3 percent invoice value tax exception to all the local software and hardware exporters.

The Fund for the Promotion of Scientific and Technological Development (FONDEF)

FONDEF was founded in 1991 as a direct government initiative to improve the level of research and development (R&D). CONICYT is the administrator of this fund. Its aim is to improve the productivity and competitiveness of the major economical sectors by means of:

- Improving the quantity and quality of R&D;
- Helping in the transfer of knowledge and techniques to the productive sector through joint activities between the researchers and the enterprises; and
- Increasing R&D in areas of great national interest.

FONDEF-CONICYT supports ten areas - agricultural industry, forestry, computer information, manufacturing, mining, fishing (including fish farming), water and energy, health, education (innovation in higher education) and infrastructure.

Its three major roles are:

- The evaluation of projects presented through contests.
- The follow up of the projects awarded.
- The application of the results.

FONDEF-CONICYT Program of Research and Development (R&D projects directed at innovative new processes, new products and services)

This program supports the accomplishment of R&D projects for the purpose of producing technological innovations, developing or improving products, processes and services. Also, there is a need to support projects that require a phase of research and previous scientific development for the expected technological objectives. This program is executed at the moment through annual public contests, according to the characteristics determined by the corresponding rules.

FONDEF-CONICYT Technological Scientific Infrastructure Program. (technological infrastructure projects):

This program supports the accomplishment of projects, whose objective is the installation or equipment of laboratories and other physical infrastructures, qualification of personnel or the implementation of scientific infrastructure.

FONDEF-CONICYT Program for the Promotion and Spread of Science and Technology (EXPLORA)

At the beginning, FONDEF created and developed the Culture of Innovation Program, with the objective of motivating the community to have a greater interest through the use of innovation, promoting it beyond the elite of the institutions and companies, thus, making it possible for the people to have a better access to the wealth produced by the innovation. EXPLORA is currently a program which has direct dependence on CONICYT.

FONDEF-CONICYT Technological Transfer Program. (Technological transfer of project results)

It is expected that most of FONDEF projects will contribute to the creation of wealth through the application of science and technology to production, basic social services and the markets.

The funds are awarded to universities, technological institutes, and other entities of R&D, through contests that are subject to further evaluation.

V. The Private Sector in the Industries

The following are some of the companies involved in the electronic and information technology industries.

Company	IBM CHILE	IBM intends to be the leader in the research, development and manufacture of the most advanced IT in the sector, including informatics systems, software, networks, storage systems and microelectronics. They transform those advanced technologies into something much more valuable for their clients through their global solutions and professional services.
Chief Executive Officer	Luis H. Siles	
Address	Avda. Providencia 655, Providencia, Santiago	
Tel Fax	(56-2) 200 6121 (56-2) 639 6976	
Website	www.ibm.com	
<i>VI. Products</i>	Hardware, software and data process services.	Annual Sales: Not available
Company	DELL COMPUTER DE CHILE LTDA.	Dell is a corporation whose systems are accepted worldwide. They are one of the principal suppliers of products and services required by clients all over the world to develop their infrastructures, on both IT and internet.
Chief Executive Officer	Ignacio Domeyko	
Address	Coyancura 2283, Piso 3	
Tel	(56-2) 685 6800	
Website	www.dell.com	
Products	Imports and retail of computer equipment.	Annual Sales: Not available
Company	HEWLETT PACKARD DE CHILE COMERCIAL LTDA.	HP is a supplier of technology solutions for consumers, businessmen and institutions all around the world. Its solutions range from TI infrastructure, personal systems and access devices, global systems, creation of images and printing for consumers, and small and medium
Chief Executive Officer	Egar Witt	
Address	Mariano Sánchez Fontecilla 310, Piso 13	
Tel	(56-2) 290 3300	

Website	www.hp.com	enterprises.
Products	Retail, distribution, technical support, training, leasing and financing of computer equipment and software	Annual Sales: Not available
Company	ORACLE DE CHILE S.A.	Oracle is dedicated to managing, sharing and protection information.. During the past three decades, the biggest software developer company in the world, has offered software and its services to allow corporations to obtain the most actual and accurate information on their commercial systems. The next generation platform for the industry –Fusion – used by Oracle, is being designed to allow the adoption of a rising, powerful IT infrastructure that is flexible and service orientated. This portfolio was created following the principles of the advanced Fusion design, customizing its priorities and practices for corporate systems strategy.
Chief Executive Officer	Jaime Pacheco	
Address	Avda. Vitacura 2939, Piso 15, Vitacura, Santiago	
Tel/Fax	(56-2) 339 2300	
Website	www.oracle.com	
Products	Network and computer processing services	Annual Sales: Not available
Company	SUN MICROSYSTEMS DE CHILE S.A.	Sun is focused on taking the companies to a network age, and on providing systems and software with the capability to escalate and the reliability needed to lead the electronic market. They help design, test, organize and manage computation solutions on networks that translate into real competitive advantages. Their professional experts provide solutions from a one point stand, according to the clients' business needs, whether it is the planning and integration of IT; advanced internet services; implementation of Java technology; systems and network management; or ERP integration services.
Chief Executive Officer	Oscar Lopez	
Address	Mariano Sánchez Fontecilla 310, Piso 5	
Tel Fax	(56-2) 372 4500 (56-2) 372 4501	
Website	www.cl.sun.com	
Products	Computers	Annual Sales: Not available
Company	MICROSOFT CHILE S.A.	Microsoft consists of three core business divisions that offer the greatest potential to serve their customers. They are: <i>Platform Products and Services Division:</i> Includes the Client Group, the Server & Tools Group, and the Online Services
Chief Executive Officer	Hernan Orellana	
Address	Mariano Sánchez Fontecilla 310, Piso 6	
Tel	(56-2) 330 6000	

Website	www.microsoft.com	<p>Group</p> <p><i>Business Division:</i> Includes the Information Worker Group, the Microsoft Business Solutions Group, and the Unified Communications Group</p> <p><i>Entertainment and Devices Division:</i> Includes the Home & Entertainment Group and the Mobile & Embedded Devices Group.</p> <p>They are committed long term to the mission of helping customers realize their full potential. In order to do so they constantly update and improve products, continually evolving the company to be in the best position to accelerate new technologies as they emerge and to better serve customers.</p>
Products	Software imports and retail	Annual Sales: Not available
Company	SQL TECHNOLOGY S.A.	SQL Technology is a Chilean enterprise dedicated to providing professional services for consulting, education and TI support. It also provides database software products, applications servers, development tools and business applications for internet architecture.
Chief Executive Officer	Rafael Lathrop	
Address	Coyancura 2283, Of. 202	
Tel	(56-2) 234 0340	
Website	www.sqltechnology.com	
Products	Data processing	
Company	MCAFFEE CHILE S.A. (NETWORK ASSOCIATES)	McAfee is the leading provider for security technology and network availability. It creates the best solutions regarding security for computers that prevents intrusions into networks and protects systems against combined next generation attacks and threats.
Chief Executive Officer	Loreto Serrano	
Address	Ricardo Lyon 222, Of. 401	
Tel	(56-2) 389 6000	
Website	www.nai.cl	
Products	Systems protection solutions and computers	
Company	SONDA S.A.	SONDA is one of the main systems integrators and IT service providers in Latin America. Its mission is to add value to its clients by providing world class IT services and solutions, helping them to achieve a better competitive position. Employing more than 3000 people, and with annual sales of more than US\$350 million, it has an extensive reach in the region, with operations in Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Peru, Uruguay and Venezuela.
Chief Executive Officer	Raul Vejar	
Address	Teatinos 500, Santiago Centro	
Tel	(56-2) 560 5103	
Website	www.sonda.com	
Products	Software and hardware	
Company	ACCENTURE ASESORÍAS Y SERVICIOS LTDA.	Accenture is a global management consulting, technology services and outsourcing company with a high performance business strategy that builds on their expertise to help clients perform at the highest levels so they can create sustainable value for their customers and shareholders. Using their industry knowledge, service-offering expertise and
Chief Executive Officer	Ricardo Cerdan	
Address	Enrique Foster Sur 20, Piso 12 Ofna. 1201, Las Condes - Región Metropolitana de Santiago	
Tel	(56-2) 337 7100	
Fax	(56-2) 337 7102	

Website	www.accenture.com	technology capabilities, they identify new business and technology trends and develop solutions to help clients around the world to become high-performance businesses and governments.
Products	Technology outsourcer and management consuler.	Annual Sales: Not available
Company	SEAPRENDE.COM CHILE S.A.	Seaprende collaborates in the creation of more intelligent corporations through the different solutions that they offer. These solutions clearly have a direct impact on their results. It also provides consultant services on knowledge skills using the latest technologies.
Chief Executive Officer	Ari Mishrahi	
Address	Fidel Oteiza 1953, 4° y 5° Piso. Of. 501, Providencia, Santiago	
Tel	(56-2) 499 1000	
Fax	(56-2) 754 9904	
Website	www.seaprende.com	
Products	E- learning solutions	
Company	THE STOCKER GROUP S.A.	The Stocker Group is an international consulting firm, which provides business solutions for organizations and individuals. Its mission is to generate a real added value for its clients that will leave them with the required competitive edge in the market. As a consulting firm, they adhere to economic and strategic criteria, focusing its services in four areas: knowledge management, communication, consulting and technology. Stocker Group takes the corporations ideas and projects and makes them into a successful and operational reality allowing them to exceed its own expectations.
Chief Executive Officer	Michael Stocker	
Address	Alfredo Barros Errázuriz 1953, Of. 1101	
Tel	(56-2) 381 2500	
Website	www.stockergroup.com	
Products	Technical, economic, financial and administrative assessments, consulting, technologic communications	Annual Sales: Not available

VI. The Vision of the Private Sector

<i>The Electronic and Information Technology Industries Survey in APEC</i>
Company: The Stocker Group S.A.
Name and title of the executive: Veronika Fischer, Programme Director
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>We are well aware that the IT market is a global market in essence, which implies a lot of challenges and a fast rhythm of progress and innovation. We try to keep up with it through the conformation of multi-disciplinary and multi-cultural teams, permanent interchange and internal learning. Also, we provide incentives for our people to represent themselves professionally in their areas of expertise, in formal and informal ways.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>We have a positive work experience with outsourcing in specific areas. Still, as we are a platform manufacturer, we try to keep our know-how internally. An interesting alternative to outsource development is the work with open-source software and modules. Being part of a community allows us to learn faster and to easily integrate good practices. Still, we are open to further outsource technology in the near future, as we consider that our added value is stronger in the consultancy process than in development itself.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>Of course, being a specialized part of a production or development cluster is one viable alternative for SMEs today, apart from heading for niche strategies. Of course, there is a challenge in the grade of dependence from large buyers, especially in Latin America, where power is used to press on commercial conditions and thus, SMEs have few options to defend their interests. Still, we are convinced that in the future, flexible business networks will dominate the global market.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>In general, we are open to free trade agreements, as our business is international and economic and commercial integration will lower bureaucracy and make our work easier.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>As a small enterprise participating in the IT market, these kinds of incentive are not directly decisive for us. Our strategy orients itself on the potential of our target markets and new business opportunities (in general specific niches). They only influence our decisions indirectly, as they may have an impact on the market environment.</p> <p>I think at this point, differences between big and small companies are important. For big firms, these incentives are really strategic, as could be seen from the positive reaction on the project Chile Plataforma de Negocios. For small firms, there will be a positive impact in the middle term, as big technological players help a lot to develop the IT market and this opens further chances for small players (chains, outsourcing, clusters, etc).</p>

Independently, there are also direct chances for firms like us, through projects related to these subventions. Examples are that there are many interesting bids going on in the frame of Chile Agenda Digital and IDB is working more strongly with knowledge management components. Both may give us the chance to develop further projects.

6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?

We feel that technology itself is becoming more of a commodity. The trend will be specialization, where innovative technologies are expensive but then become rapidly “democratic”. Outsourcing will be more general. We feel that the work in open developing communities will increase and that the added value is in offering tailor-made solutions to clients. So services will be more important than technology itself.

Other comments:

Date: 8 November 2006

The Electronic and Information Technology Industries Survey in APEC

Company: Unisys

Name and title of the executive:

Carlos Velasquez, Marketing Director – Lacsa

1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?

The key to our business strategy is keeping the most flexibility. We are implementing global sourcing initiatives and partnership agreements in order to increase our flexibility and competitiveness in the market place.

2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?

We are structuring and implementing manufacturing agreements with partners and suppliers.

3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?

Yes

4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?

Yes, they are.

5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?

Both are true.

Other comments:

Date: 16 November 2006

<i>The Electronic and Information Technology Industries Survey in APEC</i>
Company: BBS
Name and title of the executive: David Amon, General Manager
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>We analyze the flow of general and technological information on a weekly and monthly basis. This allows us to take actions and suggest service solutions to our customers.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>No, because we are a service product company.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>No.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Yes.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>No.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>We are always ten steps behind the advances of technology due to the slow pace in which we react and the fast pace in which technology advances.</p>
Other comments:
Date: 16 November 2006

VII. Government and Private Organizations

Organization	Subsecretaría de Telecomunicaciones	Subtel is the Undersecretary of Transportation and Telecommunication Ministry. Its main job is to control and develop the telecommunications industry in Chile.
Chairman / Secretary General	Pablo Bello	
Members	Does not apply	
Address	Amunategui N° 139 1st floor	
Tel/Fax	(56-2) 421 3000	
Website	www.subtel.cl	
E mail		
Organization	Ministerio de Economía División de Tecnologías de Información y Comunicación.	This organization generates ITC data and information for public policy formulation; coordinates and monitors the execution of the ITC ministerial committee resolutions, acts as an Executive Secretary; and is the link between the government and investors.
Acting Chief of the Division	Daniel Urbina	
Members	Does not apply	
Address	Teatinos 120, 11th floor, of 16	
Tel/Fax	(56-2) 473 3582	
Website	www.economia.cl	
E mail	durbina@economia.cl	
Organization	Grupo Acción Digital	The Grupo de Acción Digital, is a public and private sector initiative, and is presided by the Government Coordinator for ITC. It consists of government institutions, representative organizations of the private sector, the academic sector and other government officials. It has established an action plan (Digital Agenda) that contains 34 initiatives on ITC development to coordinate efforts between sectors.
Chairman / Secretary General	Carlos Alvarez	
Members	Not available	
Address	Moneda 921, 2nd floor, Santiago Center	
Tel/Fax	(56-2) 631 8897	
Website	www.agendadigital.cl	
E mail	agonzalez@corfo.cl	
Organization	Centro de Estudios de Economía Digital de la Cámara de Comercio de Santiago	Its work is orientated towards analyzing the development and impact of IT on people, business, industries and socioeconomic systems. This center works on designing strategies, both on sectors and nationwide, to enhance the use of technologies and the diffusion of its benefits.
Chairman / Secretary General	George Lever	
Members	Not available	
Address	Monjitas 392, Santiago Centro	
Tel/Fax	(56-2) 360 7056	
Website	www.ccs.cl	
E mail	glever@ccs.cl	
Organization	Centro de Estudios de Tecnologías de Información de la Universidad Católica de Chile	The aim of this organization is to enhance Chile's international competitiveness by promoting ITC Best Practices.
Chairman / Secretary General	Felipe Csaszar	

Members	Not available	
Address	Vicuña Mackenna 4860 (143),	
Tel/Fax	(56-2) 354 5804	
Website	www.ceti.puc.cl	
E mail	Not available	
Organization	Fundación País Digital	
Chairman / Secretary General	Claudia Bobadilla	This is a nonprofit organization with the aim at developing and diffusion of ITC to private, public and academic entities.
Members	Not available	
Address	Av. Kennedy 5757 of. 1502 Torre Oriente (Hotel Marriot), Las Condes, Santiago	
Tel/Fax	(56-2) 959 6800	
Website	www.paisdigital.org	
E mail	Not available	
Organization	Fundación Todo Chile Enter	
Chairman / Secretary General	María Eugenia Hirmas Rubio	This is a nonprofit organization created to reduce the existing ITC gap at the low-end economic sectors.
Members	Not available	
Address	Av. San Gregorio 0494, La Granja, Santiago	
Tel	(56-2) 516 0403	
Website	www.chilenter.cl	
E mail	mhirmas@presidencia.cl	
Organization	Chile Innova	
Chairman / Secretary General	Nicolas Eyzaguirre	Chile Innova is a government program coordinated by the Ministry of Economy for the development of ITC innovation in Chile.
Members	Does not apply	
Address	Morande 115 piso 5 of.501 Stgo.	
Tel	(56-2) 473 3551	
Website	www.innovacion.cl	
E mail	abandera@economia.cl	
Organization	Asociación Chilena de Empresas de Tecnologías de Información (ACTI)	
Chairman / Secretary General	Aldo Signorelli	The association integrates companies from the IT industry and communications: hardware, software, training, systems integration and Internet services.
Members	127 members	
Address	Av. Luis Thayer Ojeda 086, piso 3 – Providencia, Santiago	
Tel	(56-2) 959 9200 / 959 9222	
Website	www.acti.cl	
E mail	acti@acti.cl	

Bibliography:

- Diagnóstico de la Industria de las Tecnologías de la Información en Chile (Diagnose of the IT Industry in Chile)
- Document elaborated by Programa CHILE INNOVA, 2003
- Marcia Varela, Ing. Comercial.
- ED 2006 La Economía Digital en Chile (DE 2006 The Digital Economy in Chile)
- Santiago Chamber of Commerce
- Prospectiva Chile 2010. La industria Chilena de Software (Prospective Chile 2010. The Chilean software industry).
- Document elaborated by Programa Prospectiva Tecnológica de CHILE INNOVA, 2004
- Estudio Nacional Sobre Tecnologías de la Información 2005 (National Study on IT 2005)

- Centro de Estudios de Tecnologías de la Información de la Pontificia Universidad Católica de Chile)
- Mejores prácticas en TI: Cómo innovar y aumentar el valor de las TI, 2006 (Best practices on IT: How to innovate and increase the value of the IT, 2006)
- Estadísticas de desempeño del sector de las telecomunicaciones en Chile: junio 2004-junio 2005, Dic. 2005 (Statistics on the performance of the telecommunications sector in Chile: June 2004 – June 2005, Dec. 2005).
- Undersecretary of Telecommunications.
- Panorama de los Indicadores de las Tecnologías de la Información y Comunicación en Chile, 2003 (Overview of the indicators of ITC in Chile, 2003)
- Fundación País Digital
- Chile 2004-2006 Agenda Digital Te acerca el Futuro. (Chile 2004-2006 Digital Agenda Brings you close to the Future)
- Grupo de Acción Digital. Febrero 2004
- Base de datos del Servicio Nacional de Aduanas (Database of the National Customs Service)

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC The People's Republic of China

I. Overview of the Industry

For the past 25 years China has enjoyed an impressive rapid growth of its economy and its industries. The most important landmark for this development was set in 1978, with a series of financial and trade reforms that the central government implemented. Before these reforms, China's economy relied mostly on heavy industries and as result, all the other sectors, especially the electronics and information technology (IT) industry operated at a very small scale.

However, during the reform and the implementation of the series of policies, important sources were invested broadly in networking infrastructure, virtually planting optical fibers and establishing terminals in the developing coastal areas. On top of that, a wide variety of incentives and policies to attract foreign investment, technology, and management knowledge, were created, aiding China's electronics and IT industry in becoming an important world participant. In 2005, China's electronics and IT industry generated approximately US\$480.14 billion, representing 21.5 percent of its total gross domestic product (GDP) of US\$2,228.8 billion. Moreover, in 2005, the electronics and IT sectors represented 50.92 percent of China's manufacturing sector.

Therefore, electronics and IT industry has become one of the main engines of the Chinese economy in the past years and due to its large market, it is expected to grow at an even faster pace in the years to come.

The private sector is growing rapidly and is starting to gain more influence on the industry. However the large state owned companies still play an important role in the conformation and direction of the sector. In 2005, the electronic and IT industry registered 12,411 enterprises, from which 12,177 are small and medium enterprises (SMEs) representing 98 percent of the industry. The remaining 234 large corporations represent a mere 2 percent of the industry. According to figures from the Ministry of Information, the sector employs almost four million people.

Foreign investment and the exports sector have been the two most important engines that have spread geared growth of the Chinese economy in the past 25 years. This combination has also contributed to the rapid development of the electronics and IT sector. In 2005, there were 4,780 foreign invested corporations in China, accounting for 34 percent of the total registered companies.

In terms of total foreign trade, exports reached US\$268.1 billion in 2005, while imports reached US\$220.5 billion. This generated a surplus of US\$47.6 billion. Exports of computer manufacturing (US\$75.0 billion), home entertainment manufacturing (US\$20.4 billion) and telecommunications equipment manufacturing (US\$20.3 billion), were the leading forces for the industry. Meanwhile IC dominated imports with a total of US\$60.1 billion in 2005.

Two of the most relevant segments in the industry are computer manufacturing and the software industries. In 2005, computer manufacturing accounted for US\$133.05 billion, or 5.97 percent of total GDP. Meanwhile, China's software industry represented 2.14 percent of total GDP, surpassing that of India and South Korea. There was a total of 67,483 companies in this field, increasing 13.1 percent from 2004.

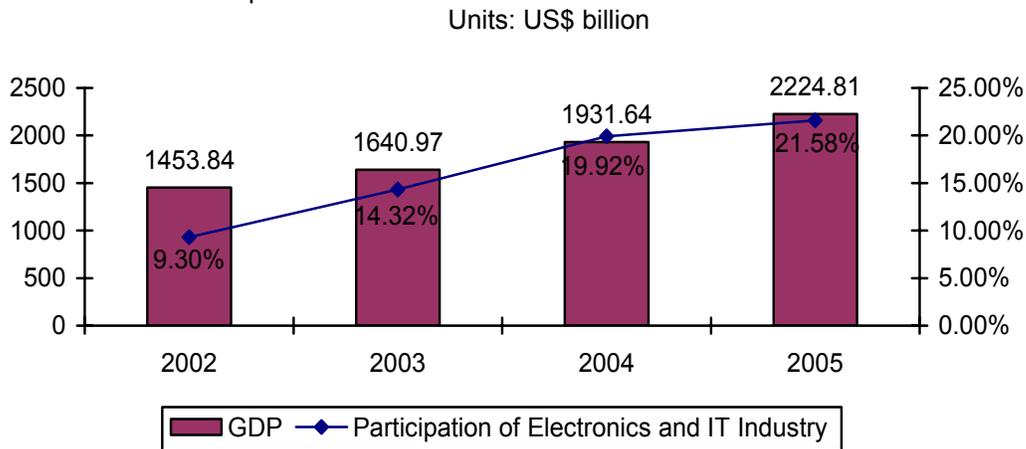
The Chinese telecommunication sector is forecasted to become one of the largest in the world. The mobile network's growth has surpassed the fixed telephone network and continues to grow at a faster speed. In 2004, a total of 393.4 million mobile phone users were registered, according to the Ministry of Information Industry of China.

Another relevant aspect of the industry is the trend started by large multinational companies (MNCs) of establishing R&D centers throughout China. To support this growth, the Chinese government has allocated nine special zones, set to help China become one of the R&D centers of the world.

Statistics

Subject Description	<u>China's GDP</u>					
	2000	2001	2002	2003	2004	2005
Gross domestic product, annual change (percent)	8.40	8.30	9.10	10.00	10.10	9.90
Gross domestic product, (US\$ billion)	1,198.4	1,324.8	1,453.8	1,640.9	1,931.6	2,224.8

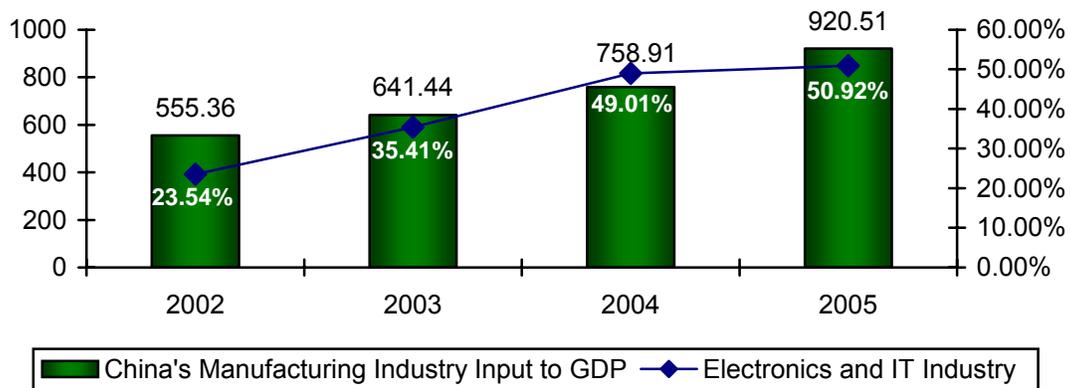
Note: GDP at constant prices



Source: International Monetary Fund, World Economic Outlook Database, April 2006
 Source: Ministry of Information Industry of the People's Republic of China

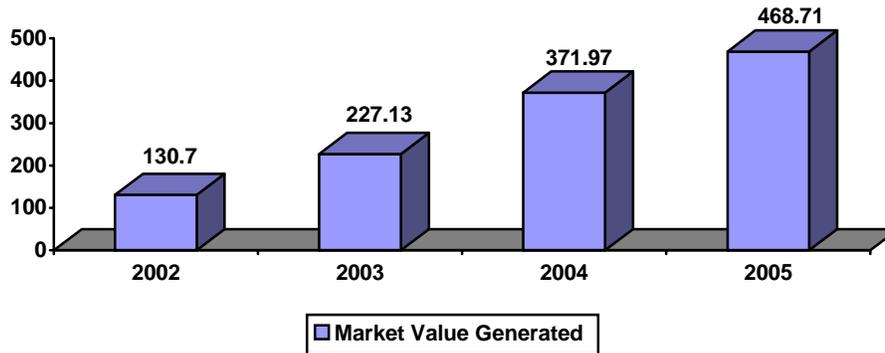
China's Manufacturing Industry and the Electronics and IT Industry

Units: US\$ billion



Source:
 b) National Bureau of Statistics of China. Data of 2004 were preliminary estimation.
 c) Data of 2005 were also preliminary estimation. Source: China Jianyi Investment Securities

Market Value Output by the Electronics and IT Industry
(US\$ billion)



Source: Ministry of Information Industry of the People's Republic of China

S

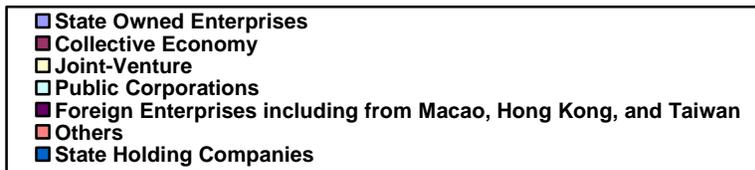
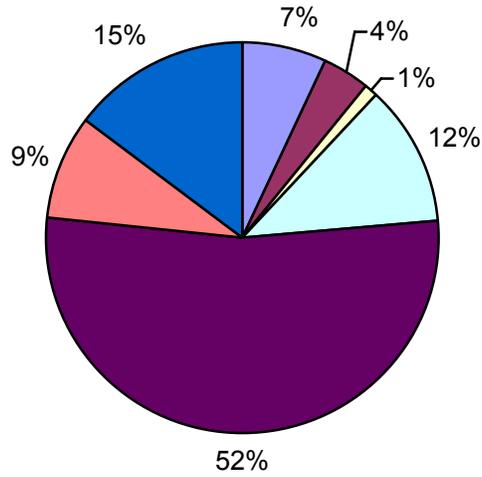
Enterprises in the Electronics and IT Industry

Type of Business	No. Enterprises
State Owned Enterprises	713
Collective Economy	786
Joint-Venture	509
Public Corporations	2011
Foreign Enterprises including from Macau; Hong Kong, China; and Chinese Taipei	4780
Others	3612
State Holding Companies	1419

Employment in the Electronics and IT Industry

Type of Business	No. Employess
State Owned Enterprises	353,526
Collective Economy	200,399
Joint-Venture	61,019
Public Corporations	610,369
Foreign Enterprises including from Macau; Hong Kong, China; and Chinese Taipei	2,729,066
Others	445,073
State Holding Companies	765,772

Employment in the Electronics and IT Industry



Size of the Enterprises in the Industry (US\$ million)

Size of the enterprises	No. Enterprises	No. Employees	Production Value in Current Prices	Exports
Large	234	1,142,496	12,934.9	8147.9
Medium	1930	1,783,473	11,232.3	6374.9
Small	10247	1,473,483	5,435.5	2239.0

II. Recent Developments in the Exports and Imports

As mentioned earlier, foreign investment in the electronics and IT industries has been the big trigger for the dynamic growth of the sector in recent years. Therefore, in lieu of the participation of foreign invested enterprises in this industrial activity, it is no surprise that the amount of foreign trade in these industries is substantial. At the end of 2005, total imports and exports reached US\$488.7 billion dollars.

During 2002 - 2005, exports grew at a rate of around 42 percent per year. Imports, on the other hand, grew at a rate of approximately 39.5 percent.

The main components were computer manufacturing, home entertainment and telecommunication equipment manufacturing. It is important to note that many MNCs have either established operations or have implemented large OEM programs in China. This trend takes advantage of the low production costs that are offered in this economy.

To support this notion is the ubiquity of the Made in China stamp on a large number of PC's, laptop computers, home entertainment equipment and mobile telephone.

The computer manufacturing sector led imports and exports in 2004, with imports of US\$51.1 billion and exports of US\$97.8 billion. IC dominated overall imports for this sector with a total of US\$60.1 billion.

Export and Import Relation

(US\$ million)

	2001	2002	2003	2004	2005
Export	65,000	92,000	142,100	207,500	268,168
Export Annual Growth Rate %	18	41.5	54.4	46	29.2
Import	59,100	85,100	132,200	180,900	220,564
Import Annual Growth Rate %	9.6	44	55.4	36.8	21.9

Source: 2005 Yearbook of the Information Industry of China

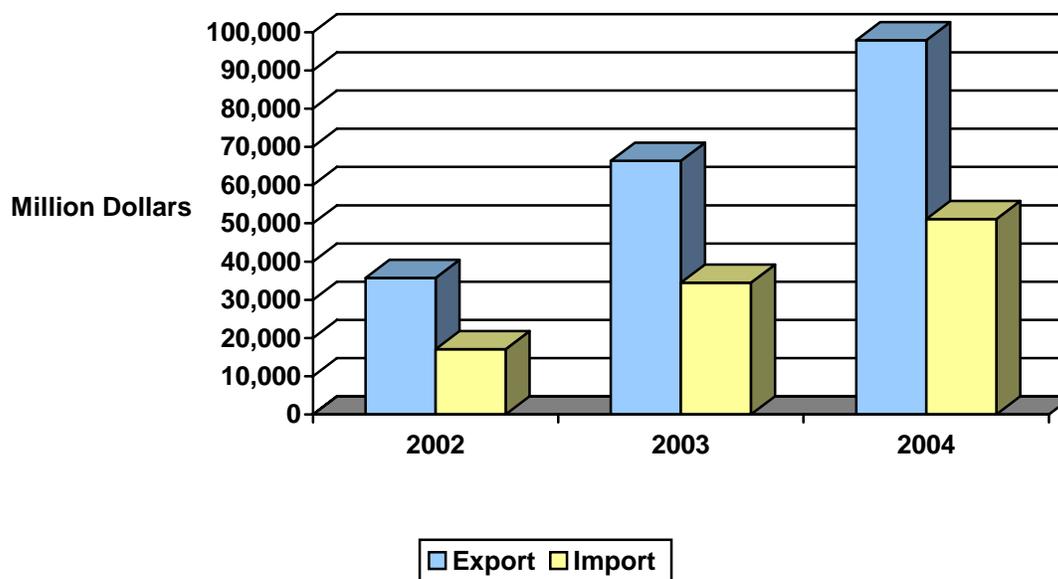
Export by Main Sectors

(US\$ million)

Export and Import of the Main Sectors	2002		2003		2004	
	Export	Import	Export	Import	Export	Import
Telecommunication equipment	11,571	8,431	17,371	11,703	29,731	13,851
Computers	35,763	17,059	66,321	34,457	97,890	51,100
Electronic component	10,622	15,091	13,251	19,018	15,770	24,041
Specialized electronic industrial equipment	N/A	N/A	305	1,220	581	3,520
Integrate Circuits	4,495	25,521	6,176	40,499	10,500	60,100
Semiconductors	1,339	4,711	1,727	5,870	2,430	7,420

Source: 2005 Yearbook of Information Industry of China

Export and Import in the Computer Manufacturing Sector, 2002-2004



Exports and Imports for the Telecommunication Equipment Manufacturing Sector (US\$ thousand)

Telecommunication Equipment Manufacturing Sector	2002		2003		2004	
	Export	Import	Export	Import	Export	Import
Telephones	140,480	1,969	166,575	2,643	197,680	4,560
Faxes	506,187	9,773	50,972	17,453	56,002	17,990
Terminals	249,095	2,409	45,288	6,339	106,237	3,005
IP sharers	173,412	39,720	23,498	39,925	33,029	45,319
Mobile phones	528,946	237,582	737,703	281,308	1,416,580	147,400
Walky-talkies	18,684	546	26,372	1,496	31,848	1,604
Mobile telecommunication terminals	470,628	15,025	51,185	18,878	114,976	9,548
Optical fiber equipment	3,912	19,745	11,467	11,268	19,269	8,828

Source: 2004 and 2005 Yearbook of the Information Industry

Exports and Imports for the Computer Manufacturing Sector (US\$ million)

Computer Manufacturing Sector	2002		2003		2004	
	Export	Import	Export	Import	Export	Import
Micro computers	1417	63	2204	47	2746.47	63.9180
Laptop computers	2734	267	11314	523	20774.46	736.2570
Computers	776	29	941	37	805.14	34.5690
Printers	2606	746	4317	842	6144.98	868.2730
Scanners	450	N/A	442	80	365.35	65.8140
Hard disk drive	1686	2501	2055	3034	2710.31	4610.254
Floppy disk drive	365	230	381	249	304.12	140.5950
Optical disk drive	1584	1698	2762	2211	3695.84	2716.407
LCD display monitors	N/A	N/A	6802	442	11859.87	765.6710

CRT display monitors	N/A	N/A	2560	131	2716.13	98.7690
ATM machines	41	N/A	70	87	113.86	101.2790
UPS, Uninterruptible Power Supply	163	N/A	260	80	334.57	86.7740
Hubs	N/A	N/A	90	10	222.89	15.1470
Routers	N/A	N/A	163	259	563.85	293.8740
Modem	355	222	493	351	1107.50	192.1130
Digital cameras	1296	74	2956	64	4855.86	8881.88

Source: 2004 and 2005 Yearbook of the Information Industry

The Software Industry

China's software industry represents about 3.5 percent of the world's software manufacturing industry. Although a small participation in the manufacturing, it is one of the largest consumers.

The electronics and IT Industry has a great growth potential, however, it lacks R&D resources that may come from other economies. Therefore, its role has been manufacturing lower cost products in the world supply chain.

In order to boost and strengthen this activity, the Chinese government, in 2001, developed 11 software R&D parks and has implemented several favorable policies to increase the number of qualified technicians and professionals in the field.

Software Industry compared to the Electronics and IT Industry

(US\$ million)

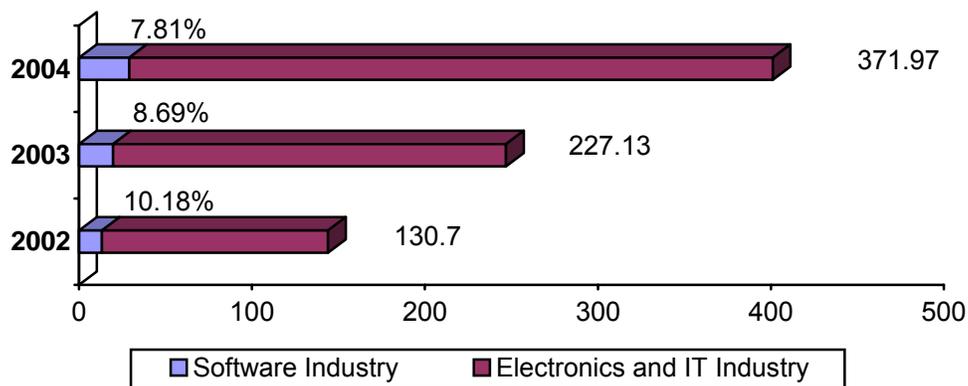
	2002	2003	2004
Software Industry	13.30	19.74	29.05
Electronics and IT Industry	130.70	227.13	371.97

Sources:

- a) Software Industry, 2005 Yearbook of Information Industry of China
- b) Electronics and IT Industry, Ministry of Information Industry of China

Software Industry as percentage of the Electronics and IT Industry

(US\$ billion)



Exports of the Software Industry 2000-2004

(US\$ million)

	2000	2001	2002	2003	2004
Value Generated	7,163	9,073	13,302	19,741	29,057
Exports	471	749	1,498	1,993	2,790

Source: Software Industry, 2005 Yearbook of Information Industry of China

The Telecommunications Sector

The 1990s represented the significant change in the growth of the telecommunications sector. During this period, China's telecommunications traffic and total assets of public telecom networks registered an average growth rate of approximately 43 percent, more than the annual GDP growth rate. In one decade, an 8-longitudinal and 8-latitudinal fiber optic cable transmission backbone network was constructed. The telephone network was enlarged 15 times, showing a simultaneous growth.

Starting from 2000, China's mobile phone market became the largest in the world, with more than 150 million subscribers. The mobile network's growth has surpassed the fixed telephone network and continues to grow at a faster rate. In 2005, a total of 393.428 million mobile phone users were registered, according to the Ministry of Information Industry of China.

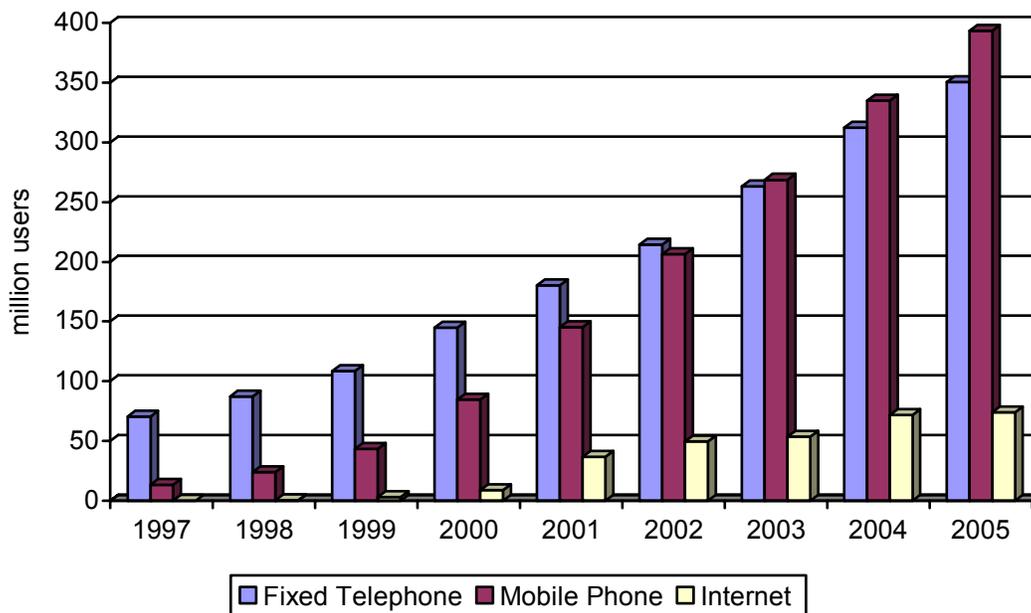
As for the Internet market, China's impressive growth is only second to the American market. In 2005, the total users reached 73.8 million, an increase of 820 percent since 2000.

Telecommunications (millions of users)

	2000	2001	2002	2003	2004	2005
Fixed Telephone	144.829	180.368	214.419	263.305	312.443	350.433
Mobile Phone	84.53	145.222	206.616	268.693	334.824	393.428
Internet	9.021717	36.562356	49.7	53.657	71.713	73.8501

Source: Ministry of Information Industry of China

Number of Users



III. Trade Negotiations related to the Industries

One of the more innovative elements in the opening up of China to the global economy is its recent participation in the liberalization of international trade. In order to get access for its exports to enter the international markets, China has accepted to reduce or eliminate its tariffs, to work for the elimination of its non-tariff barriers and to improve its legal framework for foreign investment. Its agreements have been fulfilled at multilateral, regional and bilateral levels.

The main achievement at multilateral level is the accession to the World Trade Organization (WTO) in December 2001. Although there are still many barriers and problems that China has to solve to fully comply with its commitments, there are also significant progresses. One of them is the reduction of the average tariff to 9.7 percent.

In regard to trade of electronic products and telecommunications equipment, China joined the WTO Information Technology Agreement (ITA) in 2003.

In addition, concerning the trade of services (ie, telecommunications), China signed the General Agreement on Trade in Services (GATS). One of its direct consequences was the relative liberalization of foreign investment in this sector.

At regional levels, the most important international groups that China is a member of are the Asia Pacific Economic Cooperation (APEC) and the Bangkok Agreement. In regards to bilateral negotiations, China has signed free trade agreements (FTAs) or started talks with a crescent group of economies that have recognized China as a market economy and also foreseen them as a strategic partner to market their products. This group of economies includes ASEAN nations such as Chile, Australia and New Zealand. China has also signed denominated Closer Economic Partnership Arrangements (CEPAs) with Hong Kong, China and Macau.

Many FTAs have direct influence on the electronics and IT sectors. Information, taken from a report prepared by the Secretariat of the WTO with information from the Ministry of Commerce of the People's Republic of China, regarding these FTAs are as follows:

Multilateral level: WTO

China acceded to the WTO on 11 December 2001. As a result, China has sought to incorporate WTO rules into its legal, administrative, and regulatory systems. Under China's Protocol of Accession, the WTO Agreement and WTO Protocols apply to the entire customs territory of China, including border trade regions, minority autonomous areas, special economic zones, open coastal cities, economic and technical development zones, and other areas where preferential regimes for tariffs, taxes, and regulations are established. China provides Most Favored Nation (MFN) treatment for all WTO Members that grant it MFN treatment on a reciprocal basis. However, it does not grant MFN treatment to the overseas territories of some EU member states.

Tariffs on electronic and communications equipment imports have fallen since China acceded to the WTO. The simple average applied MFN rate (including interim duty) for electrical machinery apparatus, appliances and supplies (ISIC 383) was reduced from 15.5 percent in 2001 to 9 percent in 2005. On 23 April 2003, China joined the WTO Information Technology Agreement (ITA), and 258 tariff lines at the harmonized system (HS) eight-digit level are subject to zero tariffs. Import licenses and quotas on certain electronic and communications equipment products have been removed.

As in other sectors, the value added tax (VAT) rebate policies regarding certain imports and exports in the electronic and communications equipment industry have been changed according to industrial policy goals. For example, the VAT rebate was discontinued on 1 October 2004 for imports of integrated circuits (ICs) designed in China but produced abroad, and as of 1 April 2005, for companies producing ICs in China on their domestic sales. On 1 November 2004, VAT

rebates for some IT exports (including some ICs, mobile communications equipment and terminal stations, computers, and digital controlled machines) were fully rebated.

GATS Commitments

China's GATS commitments relate to value-added, basic mobile voice and data services, and domestic and international services. With regard to market access through commercial presence for value-added services, foreign providers were permitted to establish joint ventures, with foreign equities restricted to 30 percent, and provide services in the cities of Shanghai, Guangzhou and Beijing. Access was liberalized gradually. China committed itself to expand geographical coverage to 14 additional cities and to allow foreign equities up to 49 percent within one year of accession. The geographic restrictions were lifted within the two years of accession and the limit on foreign equities was raised to 50 percent. With regard to national treatment, there were no limitations on cross-border supply, consumption abroad or commercial presence. The provision of these services through the presence of persons was unbound except as mentioned in China's horizontal commitments. Paging services were subject to the same limitations as the value-added services.

China's commitments on domestic and international telecom services provide market access through commercial presence of foreigners through joint ventures of up to 25 percent of foreign equity within three years of China's accession. Services were limited at that time to and between the cities of Shanghai, Guangzhou, and Beijing. The geographic area of service provision was expanded to include the 14 cities mentioned above within five years of accession and foreign investment limits were raised to 35 percent. Within six years after accession, the geographic restriction would be lifted, and foreign investment limits would be raised to 49 percent. As for the other services, cross-border supply seems to be subject to the same restrictions. For national treatment the limitations are the same as for value-added services.

Regional and bilateral agreements

China–Association of South East Asian Nations (ASEAN)⁵, ASEAN+3⁶
ASEAN–China free-trade agreement (ACFTA).

A framework agreement on comprehensive economic cooperation between China and ASEAN was signed on 4 November 2002, and implemented on 1 July 2003. The objectives of the agreement included:

- Strengthening and enhancing economic, trade, and investment cooperation; progressively liberalizing and promoting trade in goods and services
- Creating a transparent, liberal, and facilitative investment regime
- Exploring new areas and developing appropriate measures for closer economic cooperation
- Facilitating more effective economic integration of the newer ASEAN member states and bridging the development gap among the parties to the agreement.

Under the agreement, both parties agreed to negotiate the establishment of an ASEAN–China Free Trade Area (ACFTA) within the following ten years by

- Progressively eliminating tariff and non-tariff barriers to substantially all trade in goods progressively liberalizing trade in services
- Establishing an open and competitive investment regime to facilitate and promote investment among partners to the ACFTA
- Simplifying customs procedures and developing mutual recognition arrangements.

⁵ Cambodia, Myanmar, Laos, Viet Nam, Thailand, Malaysia, Singapore, Brunei, Indonesia, Philippines,

⁶ Japan, Korea and China

Bilateral agreements

CEPAs: China–Hong Kong, China; China–Macau, China

China has signed CEPAs with Hong Kong, China on 29 June 2003 and with Macau, China on 17 October 2003. From 1 January 2004, China began to implement, under both agreements, a staged elimination of tariffs on imports originating in Hong Kong, China and Macau, China. It was also committed to fully eliminating tariffs on imports originating in Hong Kong, China and Macau, China by 1 January 2006. This was successfully completed.

Under both CEPAs, China opened 18 service sectors to service providers from Hong Kong, China and Macau, China from 1 January 2004. Market access restrictions were relaxed for additional services from 1 January 2005.

China–Chile FTA

China and Chile signed an FTA on 18 November 2005. Chile has recognized China as a market economy since November 2004. The FTA includes chapters on inter alia, national treatment and market access for goods, rules of origin, trade remedies, SPS, TBT, transparency and dispute settlement. After both countries complete the required domestic legal procedures, tariff reductions will be implemented in the second half of 2006. Once the FTA is put into force, 74 percent of Chile's tariffs will be eliminated immediately, while 63 percent of China's tariffs will be eliminated within two years. Most other tariffs are to be eliminated within five or ten years with 97 percent of both economies' tariffs to be eliminated by 1 January 2015.

China–Australia

China and Australia signed a trade and economic framework agreement on 24 October 2003. It specifies that both economies will work to promote strategic cooperation in energy and mining; textiles, clothing and footwear; agriculture; mechanical and electronic products; tourism; education; inspection and quarantine; customs cooperation; environmental protection; investment; information and communications technology; biotechnology; public health; food safety; and intellectual property rights. The agreement also states that Australia will participate in China's central and western development initiatives.

On 18 April 2005, the two countries agreed to commence negotiations on a FTA. Australia has recognized China as a market economy since April 2005. A third round of talks was concluded in November 2005. At the time of this report negotiations were yet to be concluded.

China–New Zealand

China and New Zealand signed a Trade and Economic Cooperation Framework on 28 May 2004. Under this framework, both countries agreed to promote cooperation in: agriculture; animal husbandry; forestry; wool; services, including education, tourism, air services, and labor and professional services; science and technology; environmental protection; information and communication technology; and investment. FTA negotiations between the two countries started in December 2004. At the time of this report negotiations were yet to be concluded.

India

China and India agreed to form a joint study group in June 2003 to explore the potential for expanded bilateral trade and cooperation. The group met in March 2004. China and India also concluded bilateral tariff-reduction negotiations in February 2003. A feasibility study on a China–India FTA commenced in April 2005.

IV. The Programs and Special Incentives to the Industry

China's 10th Five-Year Plan

China's economic development plans are time-framed in 5 years intervals. As for the interval of 2001 to 2005, the main tasks detailed by the Ministry of Information Industry were as follows:

- Focusing on building the state information infrastructure;
- Continuing to build the broadband high-speed transmission network;
- Developing high-speed Internet access;
- Improving the service quality in telecommunications;
- Accelerating informationalization in western China;
- Accelerating the development of information technology and information industry;
- Removing restrictions on the development of integrated circuits and software;
- Promoting the application of digital technology;
- Enhancing the ability of technical rejuvenation and accelerating the regeneration of products;
- Devoting major efforts towards the application of information technology in the national technology;
- Transforming traditional enterprises;
- Promoting the use of information for the national economy and social services;
- Promoting the development of e-commerce.

For this particular plan, goals and objectives were determined. The end of 2005 accomplished most of these tasks.

Description	Objectives
Total length of optical cable lines	2,500,000km
Capacity of fixed switching system	300 million lines
Capacity of mobile switching system	360 million users
Online computers	40 million sets
ISP/ICP	5000
Output of mobile phones	100 million sets
Output of integrated circuit	20 billion units
Network product sales	USD\$4 billion
Output of optic cables	20 million km
Software industry revenue	USD\$30 billion
Fixed-line telephone subscribers	240~280 million
Data, multimedia and Internet subscribers	200 million
Cable TV users	150 million

Source: Ministry of Information Industry of China

China's 11th Five-Year Plan

China's Ministry of Information Industry's 11th Five Year Plan outlines the target framework for the period of 2006 to 2010. It is an important document for the industry since it contains the main goals to achieve within the period. The main tasks of the plan are to acquire more R&D resources and new patents for the following sectors: integrated circuits, software, digital instruments and electrical components. It also aims to increase the national information security sector by 70 percent, telecommunications and digital appliances by 30 percent, and the proportion of intellectual property material in the software industry. In this industry, China expects to produce 5 percent of the world's software products.

Industrial Policies

As China advances toward a stronger participation in the industry, several policies and laws have been created to shape its legal system and boost the local economy. Concerning digital information, in 2005, the E-Signature Law was made effective to supplement the Contract Law. During the same period, China has also implemented regulations for the registration of Internet domain names. All these policies and regulations are aiming to create a more structured legal system to support the IT industry.

Law of the People's Republic of China on Electronic Signatures

The E-Signature Law has been effective since April 1 2005 as a supplement to the Contract Law with respect to the validity of electronics contracts. The Contract Law simply recognizes the validity of electronic contracts. The E-Signature Law defines an electronics data message as information that is approved by the signatory. Under this law, a reliable electronic signature has the same legal effect as a handwritten signature or chops.

Incentives and Other Strategies

R&D Zones and Production Parks

As part of China's plan to boost local economy, specialized R&D zones and production parks were created in the last few years to harbor the main enterprises and R&D centers of the electronics and IT industries.

Export Drawback Policy

As a measure to increase the export of IT products, the Chinese government has implemented a 17 percent export drawback for some export products. The modification has been made from the previous 13 percent to 17 percent, and it has been effective since November 2004.

Catalogue for IT Products

Item	Tariff No.	Export Drawback
Electronic integrated circuits and micro assemblies	85421000, 85422111, 85422119, 85422121, 85422129, 85422191, 85422199, 85422900, 85426000, 85427010, 85427090, 85429000.	17percent
Diodes, transistors and similar semiconductor devices	85411000, 85412100, 85412900, 85413000, 85414000, 85415000, 85416000, 85419000.	
Mobile communication equipment and base station	85252092, 85175032, 84718020, 85252022.	
Automatic data processing machines and units	84714140, 84714940, 84716011, 84716012, 84717010, 84714190, 84717090.	
Machine-tools	84612010, 84612020, 84613000, 84614010, 84614090	

Incentives for FDIs and FIEs

The Ministry of Information Industry (MII) administers the electronic and communications equipment sector. This sector has two distinctive features. One is the government's effort in attracting foreign direct investment (FDI), the other is the relatively low level of technological development of domestic enterprises. The government actively seeks to attract FDI to the industry. The *Catalogue for the Guidance of Foreign Investment Industries* includes many areas relating to the electronic and communications equipment industry in the "encouraged" category (The Ministry of Commerce has that information available at www.investinchina.com). In addition, among the many preferential policies granted to both foreign invested enterprises (FIEs) and foreign-invested high-tech manufacturing enterprises, is to enjoy income tax exemptions during the first two years after making profits and income tax reductions by half in the following three years. There are no minimum capital or technology requirements for foreign investment in the industry. In addition, it is reported that many local governments refund their share (25 percent) of VAT revenue to FIEs.

Incentive to Promote Technological Capabilities of Domestic Enterprises

The Chinese government has adopted several measures to assist the development of the electronic and communications equipment industry, particularly to improve the technological capabilities of domestic enterprises. On 24 June 2000, the State Council issued certain policies on promoting software and IC industries aimed at reducing the technological gap between domestic and foreign enterprises. Under these policies, the government allocated funds to software and IC industries for the establishment of software design centres in, inter alia, universities and research institutes. Preferential policies include VAT rebates; tariff exemptions for imported equipment for own use; export loans provided by the EXIM Bank and export credit insurance provided by the state credit insurance SINOSURE with favourable conditions; government procurement preferences; and a special fund set up by Ministry of Information, the National Development and Reform Commission, and the Ministry of Finance to promote domestic enterprises' R&D ability in the semiconductor industry.

Export Insurance Policy

To enhance the competitiveness of Chinese enterprises, the government provides assistance, such as export credit insurance by SINOSURE, to select exporters in certain industries, including electronic and communications equipment. The Chinese government is also encouraging domestic enterprises to invest abroad, in an attempt to upgrade technology and to establish a commercial presence in the international market. For example, in December 2004, the nationally owned company Lenovo bought IBM's PC branch.

V. The Private Sector in the Industries

The following are some of the companies involved in the electronic and information technology industries.

Company	Lenovo	This corporation first introduced PCs to households and then promoted PC usage in China by establishing retail shops nationwide. By 1994, Legend was trading on the Hong Kong Stock Exchange, and four years later, it produced its one-millionth PC. In 2003, Legend changed its brand name to Lenovo. In 2003, Lenovo introduced a self-developed collaborative application technology. Lenovo's products catapulted them to a leadership
Chief Executive Officer	Mr. William J. Amelio	
Address	3039 Cornwallis Road, Research Triangle Park, North Carolina, 27709, USA	
Tel/Fax	Tel: +1 866-458-4465 (BOTH USA)	
Website	www.lenovo.com.cn	
Products	Desktop and laptop computers, and satellite products.	

Annual Sales:	US\$13.52 billion, 2005	position in China for eight consecutive years, with over 25 percent market share in 2004. With Lenovo's landmark acquisition of IBM's Personal Computing Division in May 2005, the new Lenovo is one of the leaders in the global PC market.
Company	Haier	Haier is the world's 4th largest whitegoods manufacturer and one of China's Top 100 electronics and IT companies. Haier has been widely recognized as a leader company in terms of domestic market shares and the 3rd player of 3 products in the world market and world-class company in the fields of home integration, network appliances, digital and large-scale integrated circuits and new materials. Haier has currently obtained 6,189 patented technology certificates (819 for inventions) and 589 software intellectual property rights. Haier has hosted and taken part in modification of about 100 China's technological standards.
Chief Executive Officer	Mr. Zhang Ruimin	
Address	NO.1 Haier Road Hi-tech Zone Qingdao China 266101	
Tel/Fax	Tel: +86 532-88939999	
Website	www.haier.com	
Products	Home appliances, computers, and mobile phones	
Annual Sales:	US\$12.99 billion, 2005	
Company	ZTE Corporation	ZTE Corporation is one of the first corporation in China's telecommunications equipment manufacturing industry and a comprehensive provider of telecommunications equipment, mobile terminals and services. With its three product series, i.e. wireless, network and terminal (mobile phone), ZTE is capable of providing diversified integrated telecommunications networking solutions and a wide range of professional services on a 24x7 basis, and has been involved in the market of international telecommunications operation services. ZTE is currently the biggest telecommunications equipment exporter in China.
Chief Executive Officer	Shi Lirong, Senior Vice President, ZTE	
Address	ZTE Plaza , Keji Road South , Hi-tech Industrial Park , Nanshan District , Shenzhen , P.R.China , 518057	
Tel/Fax	Tel: +86-755-26770000	
Website	www.zte.com.cn	
Products	Telecommunication equipments, systems and networks	
Annual Sales:	US\$2.7 billion, 2005	
Company	TCL Group	The TCL Group, with the headquarters located in the southern china city Huizhou, has maintained a speed development since the 1990s. In 2004, through acquiring Thomson color television business, TCL founded the TTE company, which has become the biggest color TV company in the world, and its sales volume of Color TV of TTE reached nearly 23 millions; The mobile phone division became the global mobile phone supplier for the European, South America, Southeast Asia and China market by acquiring the Alcatel Mobile business. At present, TCL Group has formed business units focusing on the multimedia electronics, telecommunications and digital electronic business including the household appliances, key components, energy sources and culture business.
Chief Executive Officer	Li Dongsheng	
Address	8/F, TCL Industrial Building, No.6 ELing South Road HuiZhou,GuangDong 516001,China	
Tel/Fax	Tel: +86-752-2288333	
Website	www.tcl.com	
Products	Home appliances, telephones, mobile phones, computer related products	
Annual Sales:	US\$6.52 billion, 2005	
Company	BOE Technology Group Co., Ltd	Founded in April 1993, BOE Technology Group Co., Ltd is a high-tech firm listed on the Shenzhen Stock Exchange As of now, the company boasts a registered capital of
Chief Executive Officer	Wang Dongsheng	

Address	No.10 Jiuxianqiao Road, Chaoyang District. Beijing PRC :100016	US\$280 million and a total capital of US\$2.61 billion, putting it in the third place among China's Top 100 electronic enterprises of 2006.
Tel/Fax	Tel: +86-10-64318888	
Website	www.boe.com.cn	
<u>Products</u>	<u>LCD and CRT displays for different applications</u>	
Annual Sales:	US\$6.85 billion, 2005	With 5 R&D Centers and 6 manufacturing bases including in China and Icheon of Kyonggi-Do of South Korea, the company has a sales and services system covering most areas of the world that employs 15 thousands of staff around the globe
Company	Hisense	Hisense has always led the Chinese electronic industry .At present, Hisense has 4 production plants in Zibo, Guiyang, Liaoning, and Linyi, over 200 sales companies, and more than 10000 service outlets a cross China . Over the world, Hisense has production bases in South Africa, Hungary, France, Pakistan, Algeria, Iran and sales offices in U.S, Europe, Australia, and Japan. The products are exported to about 100 countries and regions including Europe, America , South Asia, and Africa.
Chief Executive Officer	Ms. Yu Shumin	
Address	22F, Hisense Tower, 17 Donghaixi Road, Qingdao, P. R. China 266071	
Tel/Fax	Tel: +86 532 8676 1381	
Website	www.hisense.com	
<u>Products</u>	<u>Color TVs, air-conditionings, refrigerators, mobile phones, computers.</u>	
Annual Sales:	US\$4.17 billion, 2005	

Company	Huawei Technologies Co., Ltd.	Huawei Technologies provides telecommunications networks, and serves 28 of the world's top 50 operators, as well as over one billion users worldwide. Huawei has over 40,000 employees, of whom 48percent are dedicated to R&D. Huawei's global R&D centers are located in Bangalore India, Silicon Valley and Dallas USA, Stockholm Sweden and Moscow Russia in addition to those in Beijing, Shanghai, Nanjing, Shenzhen, Hangzhou and Chengdu China.
Chief Executive Officer	Mr. Ren Zhengfei	
Address	Bantian, Longgang District, Shenzhen 518129, P.R.China	
Tel/Fax	+86-755-28780808	
Website	www.huawei.com.cn	
<u>Products</u>	<u>Telecom equipment, network solutions, network terminals.</u>	
Annual Sales:	US\$5.87 billion, 2005	

Company	Midea Holding Co.,Ltd.	Midea is a sizeable conglomerate with focus on household appliances and concerning relevant fields of real estates, logistics, finance and maintenance equipment for public highways, turning into one of the most sizeable household appliance bases and export bases in China. Today, Midea Group holds total assets of 16 billion with 65,000 staff and owns over ten brands in several industries, namely Midea, Welling, etc. The Group has established production bases scattered in Shunde, Guangzhou, Zhongshan, Wuhu, Wuhan, Huaian, Kunming, Changsha, Hefei and Chongqing, Shangyu, Suzhou, etc, covering total area near 10000 acre, with marketing network spreading over the whole China, and establishing branch subsidiaries in America, Germany, Japan, Hong Kong, Korea, Canada, Russia, etc.
Chief Executive Officer	Mr. Fang Hongpo	
Address	Midea Industrial City, Bei Jiao Town, Shunde City, Guangdong Province 528311, P.R.China	
Tel/Fax	+86-757 26338540	
Website	www.midea.com.cn/	
<u>Products</u>	<u>Air-conditioning, refrigerators, washing machines, small appliances, compressors, color TVs.</u>	
Annual Sales:	US\$5.31 billion, 2005	

Company	SVA Group	Founded in 1995, since restructuring in 1997, SVA Group has gradually become a manufacturer of new photoelectron display products as well as a provider of network and information services. Under SVA Group, there are two listed companies, namely SVA Information Industry Co., Ltd. and SVA Electron Co., Ltd., and over 30 joint-venture companies jointly established with international renowned companies, giving it a broad range of joint-venturing experiences. It has been ranking among China top ten enterprises in the electronics and IT industry for several consecutive years.
Chief Executive Officer	Mr. Xu Weihu	
Address	3800 Jindu Road, Minhang District, Shanghai, P.R. China 201108	
Tel/Fax	Tel: +86 21 64185050	
Website	www.sva.com.cn	
<u>Products</u>	<u>LCD and CRT displays, multimedia equipment, satellite two-way transmission</u>	
Annual Sales:	US\$3.66 billion, 2005	

Company	Panda Electronics Group Company, Ltd.	<p>Since 1999, the company has been focusing on the restructures of existing assets, business scope and product mix for the purpose of integrating all of its advantages of assets. It has also actively cooperated with the world top 500 enterprises and achieved remarkable progress in high-tech fields such as communications. In 2003, the company's sales volume reached US\$3.29 billion, and exported US\$930 million. At present the company is positioned on the list of 100 most powerful electronic enterprises in China.</p>
Chief Executive Officer	Mr. Li Anjian	
Address	301 East Zhong Shan Road, Nanjing, PRC 210002	
Tel/Fax	Tel: +86 25 51802114	
Website	www.chinapanda.com.cn	
<u>Products</u>	<u>Satellite communication, HF communication, mobile phones, electromechanical equipment.</u>	
Annual Sales:	US\$3.52 billion, 2005	

Company	Founder Electronics Co., Ltd.	<p>With a total staff of over 20,000, Founder Group now owns 5 listed public companies on the securities exchanges of Shanghai, Shenzhen, Malaysia and Hong Kong, China as well as more than 20 wholly-funded companies and joint-ventures both home and abroad. It is one of the top 500 large state-owned enterprise groups and one of 120 large selected pilot enterprise groups in China.</p> <p>Founder Electronics employs over 1,000 people across 5 countries. Based in more than 20 branches and with nearly 1,000 distributors, Founder Electronics has formed an extensive global distribution and customer service network.</p>
Chief Executive Officer	Mr. Liu Xiaokun	
Address	Founder Building, No. 9, the 5th street Shangdi Information Industry Base Haidian District Beijing 10085 P. R. China	
Tel/Fax	+86 10-82529988	
Website	www.founder.com.cn	
<u>Products</u>	<u>Digital media software system, desktop computers, laptop computers, servers.</u>	
Annual Sales:	US\$3.24 billion, 2005	

Company	Sichuan Changhong Electric Co., Ltd.	<p>Established in 1958, Changhong has witnessed significant prosperity and is now one of the largest Chinese consumer electronics providers specializing in R&D, manufacturing and marketing of consumer electronics products. Changhong became a public traded company with shares listed on the Shanghai Stock Exchange in 1994. In 2005, Changhong's annual turnover hit US\$2.2 billion, with its overall brand valued at US\$4 billion. Today, Changhong has branches and joint ventures with over 30,000 employees worldwide.</p>
Chief Executive Officer	Mr. Zhao Yong	
Address	35 East Mianxing Road , High-tech Park , Mianyang 621000, Sichuan , China	
Tel/Fax	Tel: +86 760-3138779	
Website	www.changhong.com.cn	

<u>Products</u>	<u>Video systems, A/V, air conditioner, battery network system</u>	
Annual Sales:	US\$2.26 billion, 2005	

Company	Shenzhen Hua Qiang Group	Huaqiang Group is a large sized investment holding company with high technology industries as the core businesses. Founded in 1979, the company has formed its industrial layout which take hi-tech tourism and entertainment, electronic component manufacturing, information technology, electrical household appliances, sugar and paper making, pre-stressing products, real estate and property management as its leading industries.
Chief Executive Officer	Mr. Liang Guangwei	
Address	7/F, Block 2, Huaqiang Group, Huaqiang North Road , Shenzhen, China	
Tel/Fax	Tel: +86 755-83291198	
Website	www.szhq.com	
<u>Products</u>	<u>Equipment for amusement parks, laser pick-ups, TVs, telecom products, sugar, paper and pre-stressed anchors</u>	
Annual Sales:	US\$1.96 billion, 2005	

Company	China Great Wall Computer Group Corporation	China Great Wall Computer Group Corporation, affiliated directly to the central government of China, and is a large group specialized in the computer industry and relevant industries. Now it has 8 wholly-owned subsidiaries, 14 companies by majority of shares owned. The corporation is also a shareholder of 11 companies and has 4 listed companies. It also enjoys partnership and cooperation with several international corporations such as IBM, TI, KINGSTON, Hitachi, RICOH · Nokia, ELCOTEQ, etc. The Great Wall Group has built up a broadband network to provide network and value-added services to 2.5 million subscribers in 30 large cities in China. Except for infrastructure operators, it is the largest broadband network service provider on China's mainland.
Chief Executive Officer	Dr. Chen Zhaoxiong	
Address	No. 2 Great Wall Technology Building, Kefa Road, Nanshan District Shenzhen, P.R. China 518057	
Tel/Fax	+86 755-26728686	
Website	www.greatwall.com.cn/	
<u>Products</u>	<u>Magnetic heads, disk substrates, hard disk drivers, monitors, switching power supplies and board cards, computers, ATMs.</u>	
Annual Sales:	US\$1.89 billion, 2005	

Company	Skyworth Overseas Development Ltd	Skyworth Group is a manufacturer of electronic consumer products, display technology related products, audio and visual and information technology products for the consumer and professional markets with its best known "Skyworth" brand in China. In the overseas market, Skyworth offers OEM and ODM services for exporting to international markets. Operations include worldwide research and development group.
Chief Executive Officer	Mr. Sean Kim, President	
Address	Room 1505-06, Westlands Centre, 20 Westlands Road, Quarry Bay, Hong Kong.	
Tel/Fax	Tel: +86 755 - 2773 0867	

Website	www.skyworth.com.hk/index.aspx	
<u>Products</u>	<u>OEM and ODM color TVs, DVB, LCD TVs, monitors, DVD and VCD players</u>	
Annual Sales:	US\$1.63 billion, 2005	

Company	Inspur Group	<p>Inspur Group is the largest provider of application and resolution of IT industry in China. Inspur Group has two stock companies, "Inspur Information" and "Inspur Software", and many subsidiaries. The sales network and technical service network of Inspur can be found all over China. Inspur has also set research and development centers in Beijing, Shanghai, Jinan and Qingdao, and overseas offices in Japan and America, etc.</p> <p>Since as early as the beginning of 1990s, Inspur has started its international cooperative business. It has set up some joint ventures with CASIO of Japan, ERICSSON and LG, and set up good business and cooperative relations with such world-famous corporations as EDS of America, Furukawa Electric of Japan, NEC, NTT Soft, SOPIA and NUCLEUS of India, etc.</p>
Chief Executive Officer	Mr. Sun Pishu	
Address	224 Shanda Road, Jinan City, Shandong, P.R. China. 250014	
Tel/Fax	+86-531-88932888	
Website	www.langchao.com.cn/	
<u>Products</u>	<u>PCs, servers, tax controlling machine, mobile phones, information security, software outsourcing, and service application software.</u>	
Annual Sales:	US\$1.57 billion, 2005	

Company	Alcatel Shanghai Bell Co., Ltd.	<p>Alcatel Shanghai Bell is the first foreign invested company limited by shares in China's telecommunications industry. It was born through the integration between the former Shanghai Bell and Alcatel's key business units in China.</p> <p>China-based research and development, aligned with the global technologies, contributes a great to the core competencies of Alcatel Shanghai Bell. The company is playing a leading role in Alcatel's global R&D projects in broadband access, NGN, 3G and optical.</p> <p>With high production quality standards, Alcatel Shanghai Bell is fully integrated with Alcatel's global manufacturing system, and participated actively in the supply chain of Alcatel products.</p>
Chief Executive Officer	Mr. Yuan Xin,	
Address	No.388 Ningqiao Road, Pudong, Jinqiao, Shanghai, P.R.China	
Tel/Fax	Tel: +86-21-58541240	
Website	http://www.sbell.com.cn/	
<u>Products</u>	<u>Voice, mobile, broadband, and transmission networks, network applications, multimedia terminals.</u>	
Annual Sales:	US\$1.5 billion, 2005	

Company	DESAY Corporation	<p>Currently, DESAY Group has more than 50 joint ventures, shareholdings, and wholly-owned companies. DESAY has 4 industrial parks with a total area of over 1.5 million m². These industrial parks are equipped with modern industrial equipment and are run by modern management system. Furthermore, DESAY has set up branches and sales offices overseas, such as the U.S., Hong Kong, China and other countries or regions. In the past 20 years, DESAY has set up a number of joint ventures with multinationals including, Phillips (Netherlands), Siemens (Germany), GE, Citigroup, Solectron, Radio Shack, Merix (U.S.), Toshiba (Japan), Gerard (Australia), GP, Wong's (Hong Kong)</p>
Chief Executive Officer	Mr. Jiang Jie, Chairman and CEO	
Address	DESAY Building, No. 12, Yunshan West Road, Jiangbei, Huizhou, Guangdong, P.R. China. 516003	
Tel/Fax	+86 752 2833888	
Website	www.desay.com	
<u>Products</u>	<u>Digital communications, digital A&V, batteries, financial electronics and LED optoelectronics</u>	
Annual Sales:	US\$1.47 billion, 2005	

Company	Konka Group Co. Ltd	Konka Group is China's first Sino-foreign joint consumer electronics enterprise, manufacturing and distributing its own brand of products. It has five major manufacturing plants in the North-East, North-West, South, East and South-West of China, and has established production bases in India, Indonesia, Mexico and recently in Turkey.
Chief Executive Officer	Hou Songrong	
Address	Overseas Chinese Town, Shenzhen, P.R. China 518053	
Tel/Fax	Tel: +86 755 26608866	
Website	www.konka.com	
<u>Products</u>	<u>Color TVs, mobile phones, refrigerators</u>	
Annual Sales:	US\$1.45 billion, 2005	

Company	Galanz Enterprises Group Co.,Ltd	Galanz Group Co. Ltd. of Guangdong is one of the most outstanding groups of home appliance manufacturer in China. In the past 10 years, her microwave oven has developed rapidly from the national No. 1 to the world No.1. Light-wave Air-cons, which were initiated by Galanz, were hot sale all around the world and became the top-ranking brand in the world with larger sales volume (2.6 million sets).
Chief Executive Officer	Qingde Leung	
Address	25 Ronggui Nan., Shunde, Foshan, Guangdong 528305	
Tel/Fax	Tel:86 - 757 - 28886389	
Website	www.galanz.com.cn	
<u>Products</u>	<u>Microwaves, air conditioners, small home appliance</u>	
Annual Sales:	US\$1.69 billion, 2005	

V. The Vision of the Private Sector

The following is a summary of some interviews of leading companies in China.

Company: Alcatel Sbell

Name and title of the executive: Mr. Xu Feijie, Director Strategy Investment Department

1.-The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?

Alcatel Shanghai Bell Corporation (Alcatel Sbell) is the company established by Alcatel with Shanghai Bell Corporation. This company plays a great role in the global strategy of Alcatel (France), particularly in Alcatel's global R&D projects. Its main products in China are network applications and terminals. The main Alcatel Sbell preparation for future competition in Chinese market consists in jumping from fix telephones services to broad band-multimedia. It will work also to provide better wireless telecom services, especially those of 3rd generation. As part of its global strategy, Alcatel also plans to transfer more technical functions to Shanghai, move that will contribute to improve the quality of Alcatel global services. With this move it is also expected that the Chinese branch will have its own technological development, which eventually might make it a leader in what is called the second age in the development of telecommunications in China.

2.- Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?

Alcatel Sbell develops customized services according with project's specifications. This allows the company to enlarge its range of services. In order to meet the requirements of its customers, Alcatel Sbell outsource some products and services with local manufacturers and takes advantage of Chinese banks loans.

3.-The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Could free trade agreements influence your company's business plans?

Alcatel Sbell representatives think that FTA are a privileged way for Chinese corporations to increase their participation in the international economy. Foreign trade is crucial for Chinese economy and FTA will benefit the presence of Chinese products in foreign markets. If China eventually takes full advantage derived from a set of FTA, Alcatel Sbell will surely take full advantage and increase its investments. "These could be that platform to increase our exports from China and to cooperate more with other economies corporations in different business areas".

4.-The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?.

Alcatel Sbell view is that sustained political and economical instability in developing countries are the main risks for corporations that want to invest abroad. Regulations vary in a great manner among nations and that influence corporations regular operations. In order to attract more foreign investment, currently more and more countries adapt its policies. Alcatel Sbell is interested in learning more about these new policies. The first step for them in any investment abroad would be to gather strategic information. Besides, the company only considers overseas investments if the project is sponsored by the Chinese government official policy *for going out (zouchuqu)*, which means that every plan beyond China has to be approved by the local government.

5.- Can you provide your views or suggestions about the future of the electronic and the information technology industries?

Alcatel Sbell representatives think that the next three to five years will represent an important period in the reform of China's electronics and IT enterprises. Alcatel anticipates that this reform will include the following aspects: technological reform, consisting of broadband, NGN and third generation telecom services; change of approach, by which companies should know more about their client's requirements. They believe that in this period the industry will experiment important changes in the industrial chain and in business styles. "If Chinese companies want to increase their competitiveness, they need to put more attention to research, service, corporate management and training of middle managers".

Date: 29/08/2006

Company: Haier

Name and title of the executive: Benjamin Zhang, PR & Media Manager Marketing Center. Overseas Business Division

1.-The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?

Haier is the largest Chinese manufacturer of home appliances and is one of the selected group of few Chinese companies that could be denominated as authentically global. Haier has a state owned origin but has performed brilliantly in the international markets, where it is conducting a successful brand building strategy. Currently Haier is a brand renowned in the Asian, North American and European markets. Haier encounters the competition through a strategy that its officials call "Individual-Goal competition", that in their words consists in "that at any time each personnel has an order to be responsible for and each order corresponds to a personnel who is responsible for it. Order is market, so everyone should be combined with the market. The higher the personnel's quality is, the higher the quality of the order will be. With more qualified personnel we shall get more orders valuable, which will even not produce stockpile and receivable

2.- Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?

Up to now **Haier** has set up 15 industrial parks in China. In overseas markets Haier possesses 22 trading companies, 3 industrial parks (in United States, Middle East and Pakistan respectively) and 30 factories. Internationally the main aim for Haier is to extend its corporate size, to develop the market, before erecting a factory. "It means that we shall first open up the market in a district for our products, and only when more and more orders require us to extend our production scale, shall we consider setting up a factory there".

Through integrating and optimizing the supply resources, **Haier** has established a globe-oriented purchasing network. Haier's international logistic center has reached a globally advanced level. On their supplier list there is no lack of the Fortune 500 enterprises' names. Haier's global purchasing network effectively ensures the quality and delivery time of Haier's products.

3.-The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Could free trade agreements influence your company's business plans?

Haier looks at the establishment of China's free trade agreements as a great opportunity that will accelerate the enhancement of competitive power of Chinese electronic and information technology products. They say: "First, the tariff concession and convenience under the framework of the free trade area will extend the export of Chinese electronic and information technology products; second, the establishment of China's free trade area will facilitate the international industrial division of labor, and speed up the development of industries. China and other members of the free trade area respectively have their feature and predominance. There is obvious industry-developmental complementarity among them. In addition, the establishment of China's free trade area will be a stimulus to reducing the restriction on the cooperation among them in the field of electronic and information technology industries and increase the external investment of enterprises."

4.-The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important role in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?.

As mentioned before, **Haier** has established a global network, including affiliated companies which are in charge of local marketing, local manufacturing and local R&D center. Those investments are all serviced for Haier global branding strategy. Meanwhile the preferential policy of the target country is also one of the considerations for investment.

5.- Can you provide your views or suggestions about the future of the electronic and the information technology industries?

For **Haier** the current corporate size, profiting power, R&D capability, brand building and marketing channels, is what distance the local electronic and the information technology enterprises of China and the Multinational Corporations, however, in some fields, the former has acquired stronger competitive advantage. In the future, Chinese electronic and information technology industries will perform the process from large to strong.

Company: Inspur Group

Name and title of the executive: Mr. Zuo Baichen, Director of Public Relations Department

1.-The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?

Inspur Group is engaged in the software business. Inspur target mainly corporate customers, as well as Chinese enterprises and government agencies. Company statistics indicate how the software sector is growing in the electronics and IT industry, but still maintains a modest participation in the whole industry, as well as in its foreign trade. Inspur Group used to be not long ago a state - owned company. Nowadays this group is a public corporation. For the company the priority is still the domestic market, in terms of its revenues, and its representatives anticipate that this reality is going to remain for a long time. "The domestic market is huge. We still have so many things to do here. This market is growing at two digits rate in the production and consumption of products, technologies and services. We think that this –the preeminence of the domestic market- is going to continue in the future. In this scenario, we would like to attract and conquer more and more users of our software here in China. So, we think that the main strategy in order to consolidate and extend our position in the market, is to invest more resources in innovation and also to consecrate ourselves to learn more about our current clients. If we want to triumph in the market, we need to know more about the tendencies that the market is following and make a better work of following up the market needs. The goal of every software is to systematize human activities and behaviors and then transform this information into a tool called software . So, in the future, we have to struggle to be alert to the moves of the society. By doing that we will serving the society and designing new products that can improve our position in the market."

2.- Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?

Inspur is the typical Chinese software enterprise whose technological skills and commercial expertise attract international corporations for outsourcing. Besides its production and design of software solutions for the domestic market, its main source of revenues, the company manufactures orders from multinational companies such as IBM, NEC and Ericsson. This is one of its most important business beyond China and therefore has presence overseas, mainly in the US and Japan, where engineers and commercial agents take orders or design in situ the software required by their customers. Currently the company is evaluating to outsource some products and services in countries like Vietnam, where its technicians are already providing training.

3.-The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Could free trade agreements influence your company's business plans?

Inspur's representative don't even know that their country has already signed FTA with other countries and think that it is not probable that these kind of agreements have a great impact on their possible establishment of more alliances with another countries. In any case, until now this company considers the domestic market as its main field of operations which means that if they want to look for more partners it will be a consequence of its domestic assessment and not a sub product of an FTA.

4.-The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?.

As mentioned earlier, **Inspur's** main source of revenues is still the domestic market. They already have strategic relationships overseas and this is enough for the moment. They are not considering investing abroad. If one day Inspur do that, they say, the market size and potential revenues will be more important in their decisions than the incentive policies that the recipient country could have.

5.- Can you provide your views or suggestions about the future of the electronic and the information technology industries?

Inspur envisions a sustained growth in the demand for its software in the domestic market but a very strong competition. In order to cope with this challenge as well as to take advantage of this opportunity, Inspur will consecrate more efforts to meet the expectations of its customers.

Company: Panda Electronics

**Name and title of the executive: Ms. Huang Yanpin
Deputy General Manager**

1.- The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?

Panda Electronics is one of the most renowned Chinese electronics and IT companies. Main products are satellite communication equipment, HF communication systems, cell phones, color TV sets and home appliances. Panda Electronics prepares to the future competition through a continuous restructuring and adaptation of its industrial base. They think that the best way to maintain or even improve its position in future competition is producing more value-added goods, and that will require constant improvements to its productivity. Besides, it will be important to invest more in human resources and thus attracting more and more skilled and talented resources.

2.- Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?

In order to be more efficient, Panda is currently concentrating its efforts in the products in which they are more competitive and is starting to outsource parts of its production, on non core products. On the other hand, the company has provided outsourcing services to other large multinationals, as LG, Hp, Dell, Sony, Ericsson, which have established long term agreements with Panda subsidiaries. Panda representatives regard outsourcing as an important element in its efforts to integrate to the global manufacturing industry, and as a choice to cooperate with technological powerful partners.

3.- The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Could free trade agreements influence your company's business plans?.

Panda thinks that the evolution of the global economy as well as the integration of regional economies will long term influence the performance of the company. They think that if Chinese government signs more FTA company's general exports will rise. The company anticipates that China's FTA will influence Panda's targets of new markets, where the company will try to increase its exports and design new specific products. If a FTA partner become attractive to Panda, eventually it could consider invest and set up facilities in that country.

4.- The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?.

The main criteria that **Panda** bears in mind before deciding to invest overseas is the importance of the potential recipient country in the company's general strategy. It matters in its assessment, the general business environment in the potential country and the actual possibilities of doing business there, that is to say, the size of the market. In that regard Panda has a set of institutional policies and requirements that must be met. These have been the most important factors in the company's overseas investments and not the recipient country's incentive policies.

5.- Can you provide your views or suggestions about the future of the electronic and the information technology industries?

Panda's vision of the future contemplates a sustained expansion of domestic market derived from the more and more extensive usage of IT Technologies among Chinese society and enterprises. This process surely will improve Chinese enterprises management and competitiveness. As a result more and more enterprises will limit its non productive activities and will focus in the most profitable business of the future. Panda predicts a crescent need across Chinese society of specialized IT products, and is in this niche where all the market participants will have to compete. Specialization, added value and the ability to provide tailored solutions will be the competitive advantages of the future.

Date: 29/08/2006

Company: Potevio

Name and title of the executive: Mr. Li Peihua. Director of Latin America Business Division.

1.-The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?

Potevio is the name that the former China Putian has recently adopted. Potevio is one of the Chinese largest state owned enterprises and its business cover a long range of activities, among them manufacture of telecommunication equipment, systems, terminals and infrastructure as optical fiber, wire, postal equipment and so on. In less than twenty years China has become the largest telecommunications market in the world. Here all the biggest world players, like Nokia, Siemens, Motorola, Sony-Ericsson are long established and the competition between them and their Chinese counterparts, like Huawei and ZTE, is fierce. Potevio thinks that the key for its future relies in its concentration of efforts in the waves of the industry future: the third and fourth telephone generations, consisting in the enlargement of the current broadband, process that will allow to incorporate images and add speed to conventional phones. One important step of Potevio in that way has been the recent alliance that the company has established with Nokia in the city of Wuhan and that with Alcatel in the past. Potevio conceives thus its future lies in the concentration of efforts and alliances. Otherwise, they say, "you risk to lag behind".

2.- Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?

Potevio. Even though Potevio is one of the Chinese corporations with a stronger presence in the international markets, the ratio of the components or products that outsource overseas is not really important. Potevio relies mostly in its industrial strength and its presence overseas is mainly via its exports of devices and cell phones. This is no to say that Potevio is not considering establishing facilities overseas. In Latin America, Potevio is analyzing investments in Venezuela or Cuba, countries that offer a monopoly of the domestic market. However the last decision over where to invest depends ultimately on the size of the market, the return on investment and the preferential policies of these countries.

3.-The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Could free trade agreements influence your company's business plans?

Since exports are the main way of internationalization for **Potevio**, this company judges the future trade agreements of China as good news. However, the company dismisses the impact that a FTA would have on its own links with other companies. As noted above, Potevio has already began forging its future through strategic alliance with large world corporations such as Nokia or Sony - Ericsson. We can anticipate that Potevio will continue to operate in an independent manner, away from FTA negotiations, and orient more its operations by its own perception of the market.

4.-The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?.

Potevio has the same view. For them business will always be the most important consideration. No matter how attractive could be the incentive policies of a country, the most important thing is always a market with demand for their products. For Potevio as well as the economic incentives provided what also counts the market that the local government could provide for them. For instance "Mexico is a larger market than that of Venezuela, potentially we can make good business there. However, this is just potential: we still don't have there a real partner and we are not sure about how could we perform in that competitive market. On the other hand in Venezuela or Cuba we have the assurances of the local government that if we invest we could enjoy a centralized market, free of competition. That's why at the end of the day Venezuela or Cuba could look more attractive for us." They cited also the impact of fiscal or land policies in their investment decisions.

5.- Can you provide your views or suggestions about the future of the electronic and the information technology industries?

Potevio foresees a fast development of Chinese software industry in the future, a process that will accelerate the development of the whole industry. On the other hand, company's representatives think that Chinese market will continue its expansion but that enterprises will concentrate in the most attractive industrial niches, where China will get important achievements.

Date: 29/08/2006

Company: ZTE

Name and title of the executive: Li Xiaobing, ZTE Chief and Legal Representative in Mexico

1 - The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?

ZTE, is also one of the most outstanding Chinese corporations in the industry. They are engaged in terminals, networks and telecommunications equipments. ZTE is a public corporation (integrated by a board of shareholders) that has attained a high degree of internationalization: almost half of its revenues are made in the international markets. ZTE started venturing internationally when in 1996 established strong presence in Pakistan providing services, building terminals and equipment manufacturing . Since then, it has expanded all around the world.

ZTE also prepares itself for future competition targeting products and services of the future: broadband, wireless access, mobile equipment and the provision of value added services. All these requires more investment in R&D (currently it diverts 10percent of its revenues to that end). Besides, it will improve its worldwide strategy, integrating actions in different national markets in which ZTE has presence and increase the percentage of local human resources in every national market. Domestically, ZTE has already started to forge the necessary alliances for the future, with Ericsson, Alcatel and Cisco for the development of products of the third and fourth generation. Internationally, trying to improve the quality of telecom services in other countries.

2.- Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?

Localization and outsourcing are important elements of **ZTE's** worldwide strategy. The practice for this company is that more than 60percent of its personal in foreign counties are local. Is well acknowledged by the company, particularly in international markets, the need to outsource and subcontract products and services, as a way to avoid high tariffs and to respond efficiently to the specific requirements of the local market. In some countries, for instance, ZTE provides installation and maintenance services or outsource locally components with the support of a network of companies that after a long term relationships become their partners. Nevertheless, the degree in which ZTE relays in the local economies is related to the technical skills of the country where they are established.

3.- The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Could free trade agreements influence your company's business plans?.

In a similar way to Potevio, **ZTE** long time ago has started to build its own network of partners, in China as overseas. As noted above, this company collaborates with Ericsson, Alcatel and Cisco and different fields. And it also considers that strategic partnership as the bridge that will allow them to get closer to advanced technologies. In foreign markets ZTE follows the same approach to cooperate closely with local partners. ZTE does not develop foreign markets by its own, technically and commercially it offers to its corporate customers services in conjunction with local partners. In Mexico, for instance, it has established long term cooperation alliances with Telmex and Alcatel. Regarding its view of FTA, ZTE representatives considers that an FTA between China and its main trade partners will be beneficial to them because it will allow them to work in the reduction or elimination of the high trade tariffs that the company is facing in some of its main markets, and also because it will contribute to improve the investment environment in some of the countries in which they are interested in.

4.- The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?.

ZTE is a corporation with long overseas investment experience. They list the elements that always have mattered to them as: size of the market, the rule of law in the recipient country, political and social stability and cost of living.

5.- Can you provide your views or suggestions about the future of the electronic and the information technology industries?

ZTE anticipates a future in which Chinese enterprises will follow the technological trends of the global industry, which means that they will struggle to increase or improve their offer of broad band products and services, wireless access, mobile devices and value added services. Besides, they think, Chinese government will try to consolidate the projects in which it is currently involved as well as to maintain it support and encouragement of innovation. One important aspect mentioned by ZTE is that China authorities will continue to establish its own standards for the industry rather than simply accept a western designed one.

VII. Government and Private Organizations

The following is a list of the most relevant institutions related to the industry.

Organization	Ministry of Information Industry (MII)	The MII is involved in the formulation and execution of policies, strategy development, laws, and regulations concerning the industry.
Chairman / Secretary General	Wang Xudong	
Members	Not available	
Address	No. 13, Chang'an jie, Xicheng District, Beijing, PRC 100804	
Tel Fax	(86-10) 6601 1219 / 6601 1365 (86-10) 6601 1370	
Website	www.mii.gov.cn	
E mail	webmaster@mii.gov.cn	
Organization	China Council for the Promotion of International Trade (CCPIT) Electronics and Information Industry Sub-Council. China Chamber of International Commerce (CCOIC) Electronic and Information Industry Chamber of Commerce	These two institutions organize international exhibitions in China; attends overseas exhibitions; assists with international liaisons; arranges professional training; arbitrates international trade; and deals with membership affairs.
Chairman / Secretary General	Lou Qinjian, Vice-minister of MII	
Members	Individuals or companies related to the industry	
Address	2F Electronic Building No.27 Wanshou Rd. Beijing P.R. China 100846	
Tel Fax	(86-10) 6820 0626 (86-10) 6820 0639	
Website	www.ccpitecc.com/en/index.htm	
E mail	ecc@ccpitecc.com	
Organization	China Electronic Commerce Association	This organization provides a link between the government and enterprises to promote the development of e-commerce and to improve existing technologies and management methods.
Chairman / Secretary General	Song Ling	
Members	Individuals, enterprises, companies, manufacturers with no restriction.	
Address	Building No.2, No.27, Wanshou Road, Haidian District, Beijing 100846, People's Republic of China	
Tel Fax	(86-10) 6820 8247 (86-10) 6820 8238	
Website	www.ec.org.cn	
E mail	ec@ec.org.cn	
Organization	China Electronic Components Association	This association represents the members in public affairs; organizes business events such as exhibitions, workshops, etc.; provides technical information and training; and creates business opportunities and cooperation links among the members.
Chairman / Secretary General	Wen Xueli	
Members	Over 1600 member companies and manufacturers	
Address	Room 1508, Wangshang Building, No.22 Shijingshan Rd., Beijing, P.R.C. 100043	
Tel Fax	(86-10) 6863 8939 / 6863 9626 (86-10) 6863 7639	
Website	www.component.com.cn	
E mail	consulting@ic-ceca.org.cn	
Organization	China Electronics Enterprises Association	The China Electronics Enterprises Association is involved in analysis, strategic planning, designing management system, planning projects, executive advice, and
Chairman / Secretary General	Zhang Jinqiang	
Members	2700 members covering the manufacturers of consumer electronic products, electronic elements & equipment, Telecommunications, Information Technology, Broadcasting, IT, etc.	

Address	No.15 Cuiweizhongli, Wanshou Road, Haidian District, Beijing China 100036	conferences and expositions formulation of policies, regulations, standards and planning.
Tel	(86-10) 6825 6060 ext 212	
Fax	(86-10) 6825 7314	
Website	www.ceeaa.org.cn/bar/english/index.htm	
E mail	zdqx@ceeaa.org.cn / lls@ceeaa.org.cn	It helps to find business opportunities, organize technology exchange and imports, conduct marketing and scientific studies, and to offer consulting services, investigation reports, statistics data and agency services.
Organization	China Electronics Materials Industry Association	
President	Guan Pikai	
Vice President	Wang Laiying	
Members	Over 400 electronic material enterprises	
Address	Room 2204 B building International Apartment, Xibahe Xili, Chaoyang District, Beijing 100028, China	
Tel	(86-10) 6447 6901	This organization aims to help members promote their products; transmit regulations and policies of the government, and to supervise the members in correctly implementing laws and regulations.
Fax	(86-10) 6447 6900	
Website	www.c-e-m.com/english/index.htm	
E mail	cem@c-e-m.com	
Organization	China Electronic Chamber of Commerce	
President	Zhang Ting	
Vice President	Wang Ning	The CIITA is involved with developing information resources, developing information markets, developing E-commerce, and assisting its members in modernizing their business models.
Members	Individuals, companies, manufacturers.	
Address	15, Cuiwei Zhongli, Haidian District, Beijing, PRC 100036	
Tel	(86-10) 6825 2761 / 6825 6762	
Fax	(86-10) 6825 6764	
Website	www.cecc.org.cn	
E mail	ceccmail@126.com	The CCIA observes the constitution, laws, regulations and policies of the state; safeguards the lawful rights and interests of its members; serves as a bridge and link between government, enterprises and institutions; and promotes the development of China's computer industry.
Organization	China Information Industry Trade Association	
President	Zhan Qi	
Members	Individuals, companies, manufacturers.	
Address	Room 611, Dianke buiding, #35, Lugu Road, Shijingshan District, Beijing PR. China 100040	
Tel/Fax	(86-10) 8868 6020 (86-10) 8868 6019	
Website	www.ciita.org.cn/	This association communicates with international organizations of the same nature for research and cooperation purposes; sends and receives delegations for workshops; and organizes exhibitions, trade shows and workshops.
E mail	ciita@163bj.com	
Organization	China Computer Industry Association	
Chairman / Secretary General	Yan Yuanqing, President and CEO of Lenovo	
Members	Computer and/or related manufacturers	
Address	No.27, Wanshou Rd., Haidian District, Beijing, P.R. China, 100846	
Tel/Fax	(86-10) 68208763 (86-10) 68208764	The CSIA studies,
Website	www.chinaccia.org.cn/	
E mail	CCIA@ciw.com.cn	
Organization	China Semiconductor Industry Association	
Chairman / Secretary General	Yu Zhongyu	
Members	Semiconductor manufacturers	
Address	Room 316, No.27, Wanshou Rd., Haidian District, Beijing, P.R. China, 100846	The CSIA studies,
Tel/Fax	(86-10) 6820 8763 (86-10) 6820 8764	
Website	www.csia.net.cn	
E mail	xzh@cisa.net.cn	
Organization	China Software Industry Association (CSIA)	

Chairman / Secretary General	Chen Chong	publishes and implements policies; authenticates software enterprises and software products; conducts research and reports concerning the development of the industry; and organizes seminars and trainings.
Members	Enterprises and individuals engaged in software	
Address	A-4F, Zhong Ruan Building, No. 55 Xue Yuan South Road, Haidian District, Beijing, P. R. China -- 100081	
Tel/Fax	(86-10) 6214 3871 (86-10) 6218 6579	
Website	www.csia.org.cn	
E mail	csia@css.com.cn	

Additional Information

Currency Exchange Rate (US\$1: RMB) (RMB)

2000	2001	2002	2003	2004	2005	2006	2007
8.278382	8.277023	8.276925	8.277015	8.276792	8.194898	8.048001	8.048001

Source: International Monetary Fund (IMF)

Bibliography:

- International Monetary Fund, World Economic Outlook Database, April 2006: www.imf.org
- Ministry of Information Industry of the People's Republic of China: www.mii.gov.cn
- 2004 Yearbook of Information Industry of China.
- 2005 Yearbook of Information Industry of China.
- China's Telecommunication Sector, InterChina Consulting, 2006.
- National Bureau of Statistics of China: www.stats.gov.cn
- China Jianyi Investment Securities: www.cjis.cn/cjis/homepage/
- Trade Policy Review of the People's Republic of China to the WTO Secretariat, 28 February 2006, Ministry of Commerce of PR of China: english.mofcom.gov.cn/table/doc/WTTPRS161-0.doc

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC Hong Kong, China

I. Overview of the Industry

With its strategic location at the doorway to Mainland China, Hong Kong, China serves as a global center for trade, finance, business and communications⁷. It is regarded as the world's freest economy, the world's 11th largest trading economy and the world's 11th largest exporter of commercial services⁸. The gross domestic product (GDP) grew at 7.3 percent in real terms (2000 market prices), and over the past two decades, their economy has tripled in size with GDP growing at an average annual rate of 5.3 percent in real terms⁹. In 2005, total merchandise trade amounted to US\$587.1 billion; total exports grew 11.4 percent; domestic exports and re-exports increased by 8 percent and 11.7 percent respectively; and imports rose by 10.3 percent¹⁰. Small and medium enterprises (SMEs) are the backbone of this economy and the driving force of its economic development. Playing an important role in the process of economic restructuring, SMEs make up 98 percent of business establishments in this economy and employ about 60 percent of the working population in the private sector¹¹.

*Electronic Industry*¹²

According to the Hong Kong Electronic Industries Association, there are around 4,800 electronics enterprises in Hong Kong, China in which 90 percent of them are SMEs, one-third are manufacturers and the rest are in the import-export business¹³. Today most manufacturers have relocated the labor-intensive production processes to China in order to maintain cost competitiveness. Their offices in Hong Kong, China are mainly responsible for product development, quality control, management, marketing and logistic support. Due to the relocation of production facilities, most companies have been re-classified as non-manufacturing establishments, despite the fact that they have manufacturing activities across the border. Yet there are companies still maintaining the high value-added and/or capital-intensive production in Hong Kong, China (ie, IC packaging, production of multi-layer PCBs, manufacturing of flexible substrates for IC assembly, lead-frame bonding and PCB assembly by surface mount technology (SMT) for high-value products).

Hong Kong Electronic Industry Main Features		
	Manufacturing	Import/Export Trade
No. of Establishments	754 (Dec 2005)	9,237 (Dec 2004)
Employment	14,288 (Dec 2005)	66,041 (Dec 2004)
Gross Output	US\$1,697 million (2003)	--

Hong Kong, China's electronics industry is the largest merchandise export earner, accounting for 48 percent of total exports in 2005. According to the official reports, in 2004, it was the largest world exporter of sound recording apparatus and the second largest exporter of telephone sets, radios, computer parts/accessories and video recording/reproducing apparatus (including DVD/VCD recorders/players) in value terms.

With respect to finished goods, which constitute about one-third of its electronics exports, the majority are consumer electronics for domestic use. The largest category is audio-visual (AV) equipment, consisting of radios, cassette and CD players, hi-fi equipment, TV sets, videocassette recorders, digital versatile discs (DVDs) players/recorders, MP3 players, etc. Meanwhile, electronic toys, games and related articles, including battery-powered toys and TV games, as well as electronic watches and clocks, also share a significant portion of total

⁷ Ref. 2005 Hong Kong Year Book, Information Service Department, The Government of Hong Kong Special Administrative Region. Pag. 1 and 43.

⁸ Ref. Hong Kong's overall economy, www.tdc.com.hk, Hong Kong Trade Development Council, Economic & Trade Information, 26 July 2006.

⁹ Ref. 2005 Hong Kong Year Book, Information Service Department, The Government of Hong Kong Special Administrative Region. Pag. 41 and 43.

¹⁰ Ref. Hong Kong's overall Economy, www.tdc.com.hk, Hong Kong Trade Development Council, Economic & Trade Information, 26 July 2006.

¹¹ Ref. The Government of the HKSAR www.smefund.tid.gov.hk/eng_text/content.html

¹² Information compiled in this section is contained on a profile of 6 April 2006 about Hong Kong's Electronics Industry, published on the Hong Kong Trade Development Council's web page www.tdc.com.hk at Market Info/Industry Profiles section.

¹³ The introduction is a summary of what Dr. K. B. Chan, Chairman of the Hong Kong Electronics Association, said in an interview granted to staff of this office on 15 August 2006.

exports. Likewise, it exports a variety of computer products, such as desktop/notebook computers and magnetic and optical disk drives, as well as telecommunications products like corded and cordless telephones. Other items with smaller export value include calculators, electronic dictionaries and translators, batteries and personal security and smoke alarms.

Regarding parts and components, which constitute about two-thirds of the total electronics exports, the major items include parts and accessories for computers. It also re-exports a large amount of integrated circuits (ICs) and micro-assemblies, particularly to the Chinese outward processing production plants.

In the meantime, Hong Kong, China manufactures and exports a variety of parts and accessories for telecommunications items, AV equipment, office machines, calculators and electronic watches and clocks, as well as components like resistors, capacitors, diodes, transistors, inductors, crystals, resonators, speakers, switches, buzzers, liquid crystal displays (LCDs), printed circuit boards (PCBs) and transformers.

“The Electronics Manufacturing Service (EMS) has emerged as a significant development of Hong Kong’s electronics sector. For the last few decades, many companies have moved up the value chain from OEM production to ODM operation, and even OBM business. Industrial players that are competent in high-tech, high-precision processes have also moved into another area of EMS, specializing in contract manufacturing for other brand owners and manufacturers of both finished goods and semi-manufactures.

As mentioned, two-thirds of Hong Kong’s electronics exports are parts and components, and about one-third are finished electronic items. Hong Kong’s EMS service providers are engaged in both areas. The majority is providing EMS services for making finished goods and semi-manufactures for traditional product categories like AV equipment and IT equipment, as well as other new areas. In rendering EMS services, the companies are not only involved in mere assembly production, but also certain high-processes (such as SMT and bonding processes), quality assurance, reliability and product testing, material controls, logistics control, green manufacturing compliance, etc. The personnel responsible for different activities like research & development (R&D), product design and production may be located in different countries. Also, parts components and other inputs are usually sourced from a number of players in different corners of the world”¹⁴.

Hong Kong, China’s electronics industry is characterized by the heavy dependence on imported parts of key components, especially ICs and dices. Given its free port status and the advanced telecommunications infrastructure, Hong Kong allows companies to source freely worldwide. For other parts and components, such as PCBs, passive components, speakers, metal parts, plastics, connectors, gift-boxes and other packing materials, Hong Kong companies may source from other manufacturers here, or local Chinese enterprises in the mainland.

The success of this industry also lies in efficient management. Against the fast changing markets, the companies emphasize quick responses to ensure effective marketing services to their customers and to monitor the changing product trends. Moreover, due to the growing concern of quality conscious buyers, more and more companies have strengthened their quality assurance systems. This is evident by a growing number of companies certified as complying with ISO 9000, which is an internationally recognized standard for quality management system, as well as ISO 14000, a standard for environmental management system, amid the growing concerns for environmental protection.

*Information Technology Industry*¹⁵

Hong Kong, China is one of the most important information technology (IT) hubs in the region and also a mature IT market. This is due partly to its advanced communications infrastructure, hefty computer applications and popularity of various telecommunications services. While there are manufacturers and traders engaged in the hardware equipment business, the sector is well supported by a cluster of IT services providers, including those rendering software development and system maintenance services.

¹⁴ Ref.: These two paragraphs are taken from the book “Hong Kong the Technology Marketplace, Industry views” Published by the Hong Kong Trade Development Council on April 2006. Pag 36-37.

¹⁵ Information compiled in this section is contained on a profile about Hong Kong’s IT Industry of 13 February 2006, published on the Hong Kong Trade Development Council’s web page www.tdc.com.hk at Market Info/Industry Profiles section.

Apart from the business of hardware support and maintenance, the IT sector is mostly engaged in software related business, The major services offered by IT services providers include software design and development, application support and maintenance, IT consultancy and system integration and implementation. While such services largely ride on the established proprietary platform of third parties, certain companies also possess their own proprietary know-how.

According to the definition of Census & Statistics Department (C&SD), the local IT industry covers three groups of companies:

Group	Description	Major products specialized	Major services specialized	Geographic markets served
1	Manufacturing of computing machinery and equipment (including electronic parts and components for computers)	Computer peripherals (26.7 percent) Electronic parts and components	Hardware support and maintenance Hardware design and development	Hong Kong, China (20.2 percent) China (21.1 percent) Other economies (58.7 percent)
2	Distribution of computers, computer peripherals and software packages (including wholesale, retail, import and export)	Hardware: Computer peripherals (76.3 percent), Computers (59.5 percent), CPUs (41.2 percent) Software: Office Automation/Administration (71.4 percent), Security (42.9 percent), Accounting (13.1 percent)	Hardware support and maintenance (87.1 percent) Application support and maintenance (29.3 percent)	Hong Kong, China (92.4 percent) China (3 percent) Other economies (4.6 percent)
3	Provision of IT services (e.g. software development and maintenance)	Enterprise resources planning (25.1 percent), Accounting (20.3 percent), E-Commerce/internet (15.9 percent), Customer relationship management (15.0 percent) Office automation (13.5 percent), management security (13.0 percent), POS/Retail management (12.6 percent), Portail/Content management (11.6 percent)	Software design & development (75 percent), Application support & maintenance (64 percent), IT consultancy (50 percent) System integration & implementation (45 percent), Web design & development (27 percent), Infrastructure consultancy & support (25 percent), Web hosting (10 percent)	Hong Kong, China (85.1 percent) China (7.7 percent) Other economies (7.2 percent)

Source: Hong Kong IT Industry Study 2005 (November). Hong Kong Productivity Council

Hong Kong IT Industry Main Features		
	Manufacturing	Import/Export Trade
No. of establishments	310 (September 2004)	1,446 (December 2004)
Employment	1,668 (September 2004)	14,790 (December 2004)
Gross Output	Thousands of US\$33,247.42(2003)	--

* Industry statistics cover activities in Hong Kong, China only.

Although some information technology (IT) equipment manufacturers still maintain production and quality control of high value-added items in Hong Kong, China, most of the companies have relocated their production facilities to China, where labor intensive processes like component insertion, plastics injection molding and sheet metal working are carried out. Their Hong Kong, China's offices focus mainly on product design and development, industrial engineering, management, logistic support and marketing, etc. In the wake of this relocation, most of the companies have been re-classified as non-manufacturing establishments, despite the fact that they have manufacturing activities across the boundary.

Exports in this category include a wide range of IT products, especially computer parts and accessories, including motherboards, keyboards, computer cases, cooling fans, power supplies, display cards, memory cards, LAN cards and other add-on cards for multi-media applications, as well as screen filters, cables, harnesses, mouse pads and diskette holders. Some companies also manufacture computer peripherals, such as controller pads, mouse and audio-visual items for multi-media applications. Besides, some companies conduct trading and/or manufacturing business of complete set computers such as notebooks, desktops and personal digital assistants, while others deal with CRT and LCD monitors, hard/floppy disk drives, CD disk drives and DVD disk drives.

The IT equipment industry is characterized by a heavy dependence on imported parts of key components. Given its free port status and the advanced telecommunications infrastructure, Hong Kong, China allows companies to source freely worldwide. For example, CPU chips, memory chips and other integrated circuits are mainly sourced from overseas suppliers like the US, Japan, Chinese Taipei and Korea. For other parts and components, such as printed circuit boards, passive components, mechanical parts and connectors, its companies may source from other local manufacturers, or local enterprises in the mainland.

In recent years, there are an increasing number of manufacturers adopting a strategy of vertical integration to enhance value-added content to their products. Product design and development, tool-making, production and/or quality assurance are all done under one roof. In view of the short product life cycles of IT products, the companies place much emphasis on the collection of market intelligence. This enables them to start the development of new products at the earliest stage to catch up with the fast changing market environment. Indeed, the success of IT equipment industry lies in efficient management.

Also, due to the growing concern of quality conscious buyers, more and more companies have strengthened their quality assurance systems. This is evident by the growing number of Hong Kong companies certified as complying with ISO 9000, which is an internationally recognized standard for quality management system.

II. Recent Developments in the Exports and Imports

Exports

Electronic Industry¹⁶

Total Exports of Hong Kong, China's Electronic Industry (US\$ thousand)						
	2003		2004		2005	
	Amount	Growth (percent)	Amount	Growth (percent)	Amount	Growth (percent)
Domestic Exports	2,434,794	-22	2,864,691	18	4,706,443	64
Re-exports	91,979,253	22	114,114,175	24	133,584,536	17
Of China origin	52,721,778	22	66,681,572	27	81,563,789	22
Total Exports	94,414,046	20	116,978,995	24	138,290,851	18

¹⁶ Information compiled in this section is contained on a profile of 06 April 2006 about Hong Kong's Electronics Industry, published on the Hong Kong Trade Development Council's web page www.tdc.com.hk At Market Info/Industry Profiles section.

In 2005, Hong Kong, China's electronics exports surged to 18 percent. Exports of the three biggest categories, namely AV equipment and parts, IT equipment and parts and integrated circuits, grew by 11 percent, 33 percent

Total Exports of Hong Kong, China's Electronic Industry by Major Markets (Percent)						
	2003		2004		2005	
	Share	Growth	Share	Growth	Share	Growth
China	46	+32	48	+28	50	+23
European Union (25))	13	+15	14	+28	14	+21
Germany	4	+22	3	+16	3	+18
Netherlands	2	+4	2	+25	3	+41
United States	13	+1	12	+11	11	+11
Association of South East Asian Nations (ASEAN)	8	+10	7	+20	7	+8
Singapore	3	+19	3	+22	3	+8
Japan	5	+18	5	+23	5	+20

and 19 percent respectively. Market-wise, electronics exports to the US expanded by 11 percent in 2005. The impressive results was due to the robust sales of AV, IT and telecom equipment. On the other hand, exports to the European Union (EU) grew robustly by 21 percent. While sales of IT equipment were spurred by the better-than-expected performance of the computer market, exports of consumer items like AV products also increased, amidst a steadier EU economy.

Total Exports of Hong Kong, China's Electronic Industry by Categories (Percent)						
	2003		2004		2005	
	Share	Growth	Share	Growth	Share	Growth
Finished Products	37	+10	34	+14	32	+12
Parts & Components	63	+27	66	+30	68	+22
Total Exports of Hong Kong, China's Electronic Industry by Products (Percent)						
	2003		2004		2005	
	Share	Growth	Share	Growth	Share	Growth
AV Equipment & Parts	25	+27	27	+34	25	+11
IT Equipment & Parts	23	+26	22	+17	25	+33
ICs & Micro-assemblies	17	+25	18	+33	18	+19
Telecom. Equipment & Parts	7	+9	6	+10	6	+16
Elec. Toys & Games	5	-1	4	+5	4	+4
Elec. Watches & Clocks	4	+11	3	+8	3	+1

Regarding Asia, exports to China increased by 23 percent due to increases in input demand for outward processing production, and increases in exports of parts and components, which accounted for some four-fifths of total sales to the mainland.

Elsewhere in Asia, exports to Japan increased by 20 percent while the economy's outsourcing for both finished goods and components also increased. Likewise, exports to ASEAN, mainly parts and components, were spurred by increases in export production in the region.

Information Technology Industry¹⁷

Total Exports of Hong Kong, China's Information Technology Industry (US\$ thousand)						
	2003		2004		2005	
	Amount	Growth (percent)	Amount	Growth (percent)	Amount	Growth (percent)
Domestic Exports	599,098	-22	647,680	18	1,739,820	64
Re-exports	21,355,928	22	24,976,418	24	32,320,619	17
Of China origin	12,661,469	22	15,314,820	27	20,924,613	22
Total Exports	21,955,026	20	25,624,098	24	34,060,438	18

Total Exports of Hong Kong, China's Information Technology Industry by Major Markets (percent)						
	2003		2004		2005	
	Share	Growth	Share	Growth	Share	Growth
<i>China</i>	52	+43	53	+20	54	+35
<i>United States</i>	10	+4	9	+3	10	+42
<i>European Union (25)</i>	11	*	12	+25	13	+40
<i>Netherlands</i>	3	-1	4	+31	5	+72
<i>Germany</i>	3	+11	3	+16	2	+22
<i>ASEAN</i>	11	+33	11	+13	10	+15
<i>Singapore</i>	5	+26	5	+9	4	+17
<i>Japan</i>	5	+30	4	+8	4	+26

Total Exports of Hong Kong, China's Information Technology Industry by Categories (Percent)						
	2003		2004		2005	
	Share	Growth	Share	Growth	Share	Growth
Computer Parts & Accessories	70	+41	73	+21	73	+34
Data Processing Equipment	6	-13	6	+19	10	+116
Data Storage Units	10	+14	8	-6	9	+37
Computer Peripherals	10	+18	9	+4	6	-7

*Insignificant. Since offshore trade has not been captured by ordinary trade figures, these numbers do not necessarily reflect the export business managed by Hong Kong companies.

Hong Kong China's exports of IT equipment surged by 33 percent in 2005. Sales of computer parts and accessories, sharing over 70 percent of the total exports, grew rapidly by 34 percent. Exports of data processing equipment and data storage units also performed well, despite a decline in sales of computer peripherals.

China was the largest export market with a 35 percent last year, absorbing over half of the total exports, due to an increase in demand for relevant products, parts, and accessories facilitated by the liberalization of China's internet and telecommunications services. Sales of parts and accessories to the market were also stimulated by increases in China's processing production. In the meantime, exports of IT products to the US and the EU were aided by the good demand of the computer markets amid the continued popularity of IT applications. Elsewhere

¹⁷ Information compiled in this section is contained on a profile about Hong Kong's IT Industry of 13 February 2006, published on the Hong Kong Trade Development Council's web page www.tdc.com.hk At Market Info/Industry Profiles section.

in Asia, exports to ASEAN, consisting mainly of parts and accessories for computers, expanded thanks to the increases in export production. As an example, sales to Japan rose by 26 percent in 2005.

Imports

According to the World Trade Atlas, Hong Kong, China's imports of products categorized in chapter 84 of the Harmonized System amounted to US\$42.972 billion in 2005, representing 14.29 percent of total imports. The value of imports of products belonging to chapter 85 of the Harmonized System was bigger than the imports of products registered in chapter 84. In 2005, Hong Kong, China imported US\$109.377 billion, representing 36.38 percent of the total value of imports that year. The main categories were as follows.

HS CODE	DESCRIPTION	Value (US\$ million)
8471	Computers and their components	8,428
8443	Printing machinery	485
8542	Integrated circuits	35,798
8524	Recorded sound media	359
8523	Prepared unrecorded media (no film) for sound	279

Source: World Trade Atlas

III. Trade Negotiations Related to the industries

Hong Kong, China is a participant of the World Trade Organization (WTO) Information and its Information Technology Agreement (ITA). The ITA is solely a tariff cutting mechanism for IT products. While the declaration provides for the review of non-tariff barriers (NTBs), there are no binding commitments concerning NTBs.

The government of Hong Kong, China is endeavoring to boost trade and investment in the electronic and IT industries, particularly with China. In this context, has enacted the policy "The 2005-2006 Policy Agenda of Commerce and Industry

Branch and Innovation and Technology Commission, Commerce, Industry and Technology Bureau of The Hong Kong SAR"¹⁸, approved by the local Legislative Council. This document has 7 articles directly related to the electronics and IT industries.

- A. *Strengthen the representation of Hong Kong, China in China and Europe to further the economic and investment interests of Hong Kong.*

Since its establishment in 2002, the Guangdong Economic and Trade Office (ETO) has been effective in fostering economic cooperation and business ties between Hong Kong and Guangdong. The government of Hong Kong, China will strengthen its representation in China by broadening geographical coverage of the Guangdong ETO and setting up new offices in Shanghai and Chengdu. The three offices will cover the nine provinces in the PAN-PRD region, the Yangtze River Delta region as well as the municipality of Chongqing and the Anhui, Hubei and Shaanxi provinces. In addition, the government will also introduce changes to the role and functions of the Beijing Office, including strengthening its work in economic and trade liaison as well as investment promotion.

Hong Kong, China plans to establish a new ETO in Europe to be responsible for promoting economic and trade relations in the eastern part of Europe.

- B. *Working closely with China's authorities at the central, provincial and municipal levels to ensure the smooth and effective implementation of Close Economic Partnership Agreement (CEPA); promoting greater understanding of the opportunities under CEPA and making use of the standing consultation mechanism of CEPA; seeking discussions with Mainland authorities on further trade liberalization and additional market access opportunities for Hong Kong, China's goods and services.*

On 18 October 2005, both China and Hong Kong, China agreed to further liberalize the mainland market for Hong Kong, China's companies under the third phase of the CEPA III. China agreed to give

¹⁸ This document is available in its full version at the web on the following address: <http://www.legco.gov.hk/yr05-06/english/panels/ci/papers/ci1018cb1-48-4e.pdf>

all products of Hong Kong, China origin a tariff-free treatment starting from 1 January 2006. According to the stipulated procedures, products, which have no existing CEPA rules of origin, will enjoy tariff-free treatment upon applications by local manufacturers as long as the CEPA rules are being met.

The CEPA origin criteria for Hong Kong, China's items include change in tariff heading, performance of specific manufacturing process in Hong Kong, China, fulfillment of value-added requirement, under which at least 30 percent of the FOB value of the products need to met and, the completion of final manufacturing or processing operations in Hong Kong, China. Product development cost incurred in Hong Kong, China in addition to material costs and labor costs, can be taken into account in calculating the value-added percentage.

- C. *Stepping up promotional efforts to attract China's enterprises to invest in Hong Kong, China and to reach out to the rest of the world.*

InvestHK has launched the "One Stop Service" in response to the investment facilitation measures introduced by the Ministry of Commerce.

InvestHK also briefs incoming delegations from China on Hong Kong's investment environment. Together with the Commercial Office of the Economic Affairs Department, Liaison Office of the Central People's Government in the HKSAR, and the Ministry of Commerce, InvestHK organized the first CEO's training program, the Forum on global business strategies for Chinese CEOs in June 2005.

- D. *Undertaking joint promotional efforts with relevant authorities in China to attract more overseas enterprises to invest in Hong Kong, China and use it as a platform to tap the business opportunities in China.*

In order to promote the combined advantages offered by Hong Kong, China and China, InvestHK has conducted a series of joint seminars with China's cities in key overseas markets. The joint programs by InvestHK and the Mainland have been extended to include other provinces outside the Pearl River Delta (ie, the Hong Kong-Shanghai promotion)

- E. *Pursuing a series of measures to facilitate the movement of people and goods across the boundary*

This includes the establishment of a new boundary control point on the Hong Kong-Shenzhen Western Corridor and the installation of automated passenger, vehicle and cargo clearance systems.

- F. *Implementing the new strategic framework for innovation and technology development through the establishment of five research and development (R&D) centers to conduct applied R&D and promote technology transfer to the industry.*

With funding support from the government of Hong Kong, China, five R&D centers were set up in April 2006 to undertake industry-oriented research in technologies that were demanded increasingly in China. The five centers focus on the following technology areas: automotive parts and accessory systems; information and communications technologies; logistics and supply chain management enabling technologies; nanotechnology and advanced materials; and textiles and clothing.

- G. *Continuing to enhance collaboration in science and technology with China through the Mainland-Hong Kong Science and Technology Co-operation Committee*

IV. The Programs and Special Incentives to the Industry.

In Hong Kong, China tax incentives do not exist. However, the government supports the industry through funding projects. The government of the Hong Kong Special Administrative Region (HKSAR) Hong Kong, China attaches great importance with supporting domestic SMEs.

Funding Support

The Innovation and Technology Fund (ITF)¹⁹

This is a fund administered by the Innovation and Technology Commission that aims to increase the added value, productivity and competitiveness of Hong Kong, China's economic activities. The Government hopes that, through the ITF, the companies can be encouraged and assisted to upgrade their technological level and introduce innovative ideas to their businesses.

The following are the different programs under the ITF.

Name	Description
Innovation and Technology Support Program (ITSP)	Supports midstream/downstream R&D projects undertaken mainly by universities, industry support organizations, professional bodies and trade and industry associations.
Guangdong - Hong Kong Technology Cooperation Funding Scheme (TCFS)	TCFS is a sub-program under the ITSP of the ITF. It aims to enhance the level of collaboration on R&D between organizations in Hong Kong, China and the Guangdong Province.
General Support Program	Supports those projects that contribute to fostering an innovation and technology culture in Hong Kong, China and those that will be beneficial to the upgrading and future development of Hong Kong, China's industries.
University-Industry Collaboration Program	UICP aims to stimulate private sector interest in R&D through leveraging the knowledge and resources of universities. The emphasis is on close collaboration between private companies and universities in Hong Kong, China.
Small Entrepreneur Research Assistance Program	SERAP is a technology entrepreneurship program for the pre-venture capital stage, financing technology entrepreneurs to start-up, carry out research and development, and to conduct market validation.

The Applied Research Fund (ARF)

This a government owned venture capital fund of US\$96.6 million set up in 1993 to provide funding support to technology ventures and research and development projects that have commercial potential. The long-term aim is to increase the technology capability and to enhance the competitiveness of local industry, thereby promoting high value added economic development in Hong Kong, China.²⁰

The Patent Application Grant (the Grant)

This is a funding scheme to assist local companies and individuals with applying for patents of their own inventions. The Innovation and Technology Commission with Hong Kong Productivity Council (HKPC) as the implementation agent administer. For an approved application, could receive of not more than US\$12.8 million or 90 percent of the total cost of the patent application²¹.

New Technology Training Scheme

¹⁹This is a summary of the information on this fund. For more details please visit the web page at www.itf.gov.hk

²⁰ This is a summary of the characteristics of this fund, for more details please visit the web page at www.info.gov.hk/itc/eng/funding/arf.shtml

²¹ This is a summary of the characteristics of this grant, for more details please visit the web page at www.info.gov.hk/itc/eng/funding/pag.shtml

This scheme aims to provide assistance to companies that wish to have their staff trained in a new technology that would be useful to their business. New technologies include those that are not widely applied in Hong Kong, China. However, the absorption and application will significantly benefit Hong Kong²².

DesignSmart Initiative²³

This initiative was set up by the government to strengthen Hong Kong, China 's support for design and innovation, into the industries of high value-add and high intellectual property and creativity content. This will help to turn Hong Kong into the region's focal point for design excellence. The initiative includes a Design Support Program and an Innocentre. The four schemes are described below.

Name	Description
Design-Business Collaboration Scheme (DBCS)	Aims to promote the interest and investment of small-and-medium-sized enterprises (SMEs) in relation to utilizing design and transforming design activity into tradable deliverables that manifest exploitation and deployment of intellectual property, which may comprise of patents, copyrights, trademarks or industrial designs.
Design Research Scheme	Supports research-based activities in design or branding-related areas with a view to providing a platform for attaining greater awareness and knowledge critical to the effective utilization and deployment of design in mainstream industrial or business processes.
General Support Scheme	Caters for projects that contribute to fostering the culture, greater appreciation and adoption of design, and honoring excellence in design in Hong Kong, China including conferences, seminars, exhibitions, competition, awards, etc
Professional Continuing Education Scheme	Caters for the development of new professional training courses that contribute to designing capability building and nurturing talents as well as appreciating and understanding design according to industry

SME Funding Schemes²⁴

Name	Description
SME Loan Guarantee Scheme	The SME Loan Guarantee Scheme (SGS) aims to help small and medium enterprises (SMEs) secure loans from participating lending institutions (PLIs) for Acquiring business installations and equipment; Meeting additional operational expenses arising from or in relation to the business installations and equipment acquired or to be acquired under the SGS; and Meeting their working capital needs arising from provision of credit terms to their customers.
SME Development Fund (SDF)	This scheme provides financial support to projects proposed and carried out by eligible non-profit-distributing support organizations, trade and industrial organizations, professional bodies and research institutes which aim at enhancing the competitiveness of SMEs in general or SMEs in specific sectors.

²² This is a summary of the characteristics of this scheme, for more details please visit the web page at www.info.gov.hk/itc/eng/funding/ntts.shtml

²³ This is a summary of the characteristics of this initiative, for more details please visit the web page at www.designsmart.gov.hk

²⁴ This is a summary of the characteristics of these schemes, for more details please visit the web page at www.smefund.tid.gov.hk

SME Export Marketing Fund (EMF)	The SME Export Marketing Fund (EMF) aims at helping small and medium enterprises (SMEs) expand their businesses through participation in export promotion activities.
SME Training Fund (STF)	The objective of the SME Training Fund (STF) is to provide training grants to encourage small and medium enterprises (SMEs) in Hong Kong, China to provide training relevant to their business operations to their employers and employees, and to assist them in enhancing their human resources, with a view to improve the SMEs capabilities and competitiveness. The STF is divided into two categories: "Employers' Training" and "Employees' Training".

V. The Private Sector in the Industries

The following are some of the companies involved in the electronic and information technology industries.

Company	China Mobile (HK)	
Chairman	Wang Jianzhou	China Mobile is the world's largest mobile-phone operator. It also operates Internet services and international gateways. In addition, it is known for its brands like GOTOne, Easy-own and M-Zone.
Address	60/F., The Center 99 Queen's Road Central, Hong Kong	
Tel Fax	Tel (852) 3121 8888 Fax: (852) 2511 9092	
Website	www.chinamobile.com	
Products	Basic mobile voice services and value-added services such as data, IP telephone and multimedia.	Annual Sales: US\$30.5 billion (2005)

Company	Hutchison Whampoa Limited	Hutchison Whampoa Limited (HWL) is a leading international corporation committed to innovation and technology with businesses spanning the globe. Its diverse array of holdings range from some of the world's biggest port operators and retailers to property development and infrastructure to the most technologically advanced and marketing-savvy telecommunications operators. Hutchison has operations in 54 countries and over 200,000 employees worldwide
Chairman	Li Ka-shing	
Address	22/F Hutchison House 10 Harcourt Road Hong Kong	
Tel Fax	(852) 2128 1188 (852) 2128 1705	
Website	www.hutchison-whampoa.com	
Products	Ports and related services, telecommunications, property and hotels, retail, and energy, infrastructure, investments and others.	Annual Sales: US\$23.5 billion (2005)
Company	China Netcom Group	China Netcom Group is the leading fixed-line telecommunications operator in China and a leading international data communications operator in the Asia-Pacific region. China Netcom Group primarily target businesses and residential customers in selected high-density areas in the southern service region in China. They are also the only telecommunications company in China that operates an extensive network and offers international data services in the Asia-Pacific region.
Chairman	Zhang Chunjiang	
Address	Room 6701, 67/F, The Centre, 99 Queen's Road Central, Hong Kong	
Tel Fax	(852) 2626 8888 (852) 2626 8862	
Website	www.china-netcom.com	
Products	Fixed-line telephone services, broadband and other Internet-related services, and business and data communications	Annual Sales: US\$10.9 billion (2005)
Company	China Unicom	At present, China Unicom is engaged in the cellular business (both GSM and CDMA) in 30 provinces, municipalities and autonomous regions in China. As of 31 December 2005, the company had a total number of 127.794 million subscribers for its GSM and CDMA cellular businesses and was the third largest mobile telecommunication operator in the world in terms of subscribers.
Chairman	Chang Xiaobing	
Address	China Unicom Limited 75th Floor, The Center, 99 Queen's Road, Central, Hong Kong	
Tel Fax	(852) 2126 2018 (852) 2126 2016	
Website	www.chinaunicom.com.hk	
Products	The provision of international and domestic long distance calls, data and Internet services, mobile communication.	Annual Sales: US\$10.9 billion (2005)

Company	PCCW Limited	PCCW Limited is the largest and most comprehensive provider of communications services in Hong Kong and one of Asia's leading players in Information and Communications Technologies (ICT). The Company employs a total of approximately 14,000 staff, and beyond Hong Kong has a presence in geographies as diverse as mainland China, South America, Japan, Korea, Thailand, Malaysia, Singapore, Chinese Taipei, Europe, the US, India and the Middle East.
Chairman	Li Tzar Kai, Richard	
Address	PCCW Head Office 39/F, PCCW Tower, TaiKoo Place, 979 King's Road, Quarry Bay, Hong Kong	
Tel Fax	(852) 2888 2888 (852) 2877 8877	
Website	www.pccw.com	
Products	IP-based business services, New Generation Fixed Line services, broadband pay-TV and Internet-access, media content, large-scale IT solutions, mobility and wireless.	Annual Sales: US\$2.8 billion (2005)
Company	Truly International Holdings Limited	Truly International Holdings Limited is an investment holding company of the Truly Group. It was incorporated in the Cayman Islands with limited liability and listed its shares on the Stock Exchange of Hong Kong in July 1991. It has reported profits on its operations every year since this listing. The group has various manufacturing and marketing businesses.
Chairman	Wai Wah Lam	
Address	2/F., Chung Shun Knitting Center, 1-3 Wing Yip Street, Kwai Chung, N.T. Hong Kong	
Tel Fax	(852) 2487 9803 (852) 2480 0018	
Website	www.truly.com.hk	
Products	LCD panels and modules, printed circuit board panels, personal digital assistant devices, calculators, personal care products.	Annual Sales: US\$588.917 million (2005)
Company	IDT International Limited	IDT International Limited is a leader in the design, manufacturing, engineering, marketing and distribution of electronic lifestyle products that can be divided into four categories: LCD consumer electronic products; telecommunications products; digital media products and electronic learning products. For more than 25 years, IDT's reputation and distinctive image have been consistently developed across an expanding number of international markets.
Chairman	Raymond Chan	
Address	Block C, 9th Floor Kaiser Estate, 41 Main Yue St. Hunghom, Kowloon Hong Kong,	
Tel Fax	(852) 2764 7182 (825) 2765 7435	
Website	www.idthk.com	
Products	Digital cameras, mp3 players, memory cards, electronic toys.	Annual Sales: US\$305.41 million (Year ended 31 March 2006)

Company	Johnson Electric Holdings Limited	Johnson Electric Holdings Limited is a provider of motion products to global customers in the automotive, commercial and industrial sectors. The company, along with its subsidiaries, is engaged in the manufacture, sale, and trading of motors, electromechanical components and materials. Johnson Electric ships its products to more than 30 countries in over 100 different motion applications, and has a capacity of producing over three million motors per day
Chairman	Shui Chung Wang	
Address	6-22 Dai Shun Street Tai Po Industrial Estate, Tai Po New Territories, HKG	
Tel Fax	Tel: (86) 755-2990 0376 Fax: (86) 755-2990 0203 The official address is in Shenzhen, China	
Website	www.johnsonelectric.com	
Products	Camcorders, phone cameras, optical disk drives, printers, scanners, headlamps, car electric starters, stepper motors, DC motors, Switches, Solenoids, Flexi Circuits, Motion Control, Precision Plastics and Precision Gears	Annual Sales: US\$1.5 billion (Year ended 31 March 2006)
Company	iASPEC Services Limited	iASPEC is an IT consulting and software services firm. iASPEC offers an affordable solution for solving the vulnerability problems associated with traditional user ID passwords schemes used over the internet, which are static in nature and subject to the threat of hacker activities.
Chairman	C K Wong	
Address	Unit 507-509, 5/F., Hong Kong InnoCentre 72 Tat Chee Avenue Kowloon Tong, Hong Kong	
Tel Fax	(852) 3125-9000 (852) 2668-2166	
Website	www.iaspec.com	
Products	IT consulting and software services	Annual Sales: Not available
Company	V-tech Holdings Limited	With headquarters in Hong Kong, China and state-of-the-art manufacturing facilities in mainland China, VTech currently has a presence in 10 countries and approximately 30,000 employees, including around 1,000 R&D professionals in R&D centers in Canada, Hong Kong, China and Mainland China.
Chairman	Chi Yun Wong	
Address	23/F, Tai Ping Industrial Centre, Block 1 57 Ting Kok Road Tai Po, N.T. Hong Kong	
Tel Fax	(852) 2680-1000 (852) 2680-1300	
Website	www.vtech.com	
Products	Cordless telephones, electronic learning products for children.	Annual Sales: US\$1.2 billion (Year ended 31 March 2006)

Company	Daiwa Associate Holdings Limited	Daiwa Associate Holdings Limited is an investment holding company whose subsidiaries are engaged in three major businesses: contract electronic manufacturing service (EMS) and consumer electronics; manufacture and distribution of electrical components, and manufacture and distribution of personal computers and digital products.
Chairman	Tak Wan Lau	
Address	11/F Block G, East Sun Industrial Centre 16 Shing Yip St., Kwun Tong Kowloon, Hong Kong	
Tel Fax	(852) 2341 3351 (852) 2797 8275	
Website	www.daiwahk.com	
Products	Distributor of generic electronic components such as diodes, transistors and variable resistors	Annual Sales: Not available
Company	Proview International Holdings Limited	Proview is one of the top five computer monitor manufacturers in the world. Proview markets its products under its own as well as other brand names through its extensive distribution network worldwide.
Chairman	Long-san Yang	
Address	Unit 901, Paul Y. Centre, No. 51 Hung To Road, Kwun Tong, Hong Kong	
Tel Fax	(852) 27502228 (852) 27502230	
Website	www.proview.com	
Products	LCD and CRT Monitors, LCD TVs, plasma displays	Annual Sales: US\$1.5 billion (2005)
Company	Great Wall Technology Company Limited	Great Wall Technology Company Ltd. is an integrated information technology (IT) company in the People's Republic of China. The company's business covers four main areas: computer components, computer manufacturing, software and system integration, and broadband network services.
Chairman	Zhaoxiong Chen	
Address	No. 2 Keyuan Road Technology & Industry Park Nanshan District Shenzhen, 518057 China. This is the official address	
Tel Fax	86-0755-26728686	
Website	www.greatwalltech.com	
Products	Hard disk drives (HDDs) magnetic heads, HDD substrates, HDDs, monitors, switching power supplies and cards, computers, notebook computers, servers, network smart electric meters and tax controlling cashing machines	Annual Sales: US\$1.8 billion (2005)

Company	Huawei Tech. Investment Co., Limited	Huawei Technologies Co., Ltd., a Chinese company founded in 1988, specializes in the research, development, manufacture and marketing of telecommunications equipment, providing customized network solutions in various telecommunications fields. As of 31 December 2004, the company's products were exported to over 90 countries, including Germany, France, the United Kingdom, the United States, Japan, Thailand, Singapore and Korea. It is selected by over 300 operators worldwide, and has established eight regional headquarters and 55 branches all over the world.
Chairman	Yafang Sun	
Address	Rm3501-06, 35/F., The Center, No.99 Queen' s Road Central Hong Kong	
Tel Fax	(852) 25881899 (852) 21277241	
Website	www.huawei.com	
Products	Mobile communications, next generation networks, access networks, switching networks, optical networks, data communications, intelligent networks, value-added services, operation support systems, support networks, multimedia communications, distribution frames and handsets products.	
Company	Gold Peak Industries Group	Gold Peak Industries Group is an Asian multinational group that owns industrial investments via its major industrial investment vehicle, GP Industries Limited. Its technology and strategic division is engaged in the development of new product technologies and strategic investment.
Chairman	Chung Wing Lo	
Address	Gold Peak Building, 8/F, 30 Kwai Wing Road, Kwai Chung, New Territories, Hong Kong.	
Tel Fax	(852) 2427 1133 (852) 2489 1879	
Website	www.goldpeak.com	
Products	GP Batteries, KEF loudspeakers and Lighthouse light emitting device superscreens.	
		Annual Sales: US\$257.732 million (Year ended 31 March 2006)
Company	Alco Holdings Limited	Alco Holdings Limited operates in both China and Hong Kong, China. They are engaged in the design, manufacture and sale of consumer electronic products and plastic products, which includes the manufacture and sale of plastic and packaging products.
Chairman	Kai Ching Leung	
Address	11/F, Zung Fu Industrial Building, 1067 King's Road, Quarry Bay, Hong Kong	
Tel Fax	(852) 2880 0698 (852) 2880 0858	
Website	www.alco.com.hk	
Products	DVDs, LCD TVs, home audio systems, car audio systems, VOIP, web browsers, cordless phones.	
		Annual Sales: US\$644.32 million (2005)

Company	ZTE Corporation	ZTE Corporation (ZTE) is principally engaged in the design, development, production, distribution and installation of a range of telecommunications equipment, including wireless communications systems, wire line switch and access equipment, optical and data communications equipment, handsets, and telecommunications software systems and services
Chairman	Weigui Hou	
Address	RM 2906, 29/F, China Resources Bldg, 26 Harbour Rd, Wanchai, Hong Kong	
Tel Fax	(852) 2110 2270 (852) 2519 8986	
Website	www.zte.com.cn	
Products	Next-generation network (NGN), Internet protocol television (IPTV), digital subscriber line (DSL) systems, routers, routing switches and wireless access data products	Annual Sales: US\$2.71 million (2005)
Company	KanHan Technologies Group Limited	KanHan is a language and IT expert, excelling in real-time web-based text to speech engine applications for Cantonese, Mandarin, and English, among others.
Chairman	She Shing Ma	
Address	15/F, Sun House, 181 Des Voeux Road Central, Hong Kong	
Tel Fax	(852) 2865-3800 (852) 2861-1830	
Website	www.kanhan.com	
Products	Personal digital assistant (PDAs), second and third generation mobile phones and personal computers.	Annual Sales: Not available
Company	HKC International Holdings Limited	HKC International Holdings Ltd is an investment holding company. The company, through its subsidiaries, is engaged in the sale of mobile phones and other electronic products; research and development; sales and distribution of business solutions, and sales and distribution of telecommunication products
Chairman	Chung Yee Chan	
Address	25/F., Oxford House, TaiKoo Place, 979 King's Road, Quarry Bay, Hong Kong	
Tel Fax	(852) 2528 3936 (852) 2863 9123	
Website	www.hkc.com.hk	
Products	IP Phone Systems, Telephone Systems, Voicemail & IVRS, Call Logger, Video Conference, color video entry security systems, access control systems.	Annual Sales: US\$128.8 million (Year ended March 31 2006)
Company	Solomon Systech Limited	Solomon Systech (International) Limited is a leading fabless semiconductor company specializing in the design, development and sales of proprietary IC products that enable sophisticated display applications such as mobile phones, handheld devices and LCD TVs. It has around 20% share of the world market for mobile phone display lcs.
Chairman	Humphrey Leung	

Address	6/F., No.3 Science Park East Avenue, Hong Kong Science Park, Shatin, N.T., Hong Kong	
Tel/Fax	Tel: (852) 2207 1111 Fax: (852) 2267 0800	
Website	www.solomon-systech.com	
Products	ICs include STN/CSTN LCD driver controllers, TFT LCD driver controllers, OLED driver controllers, graphic controllers and image processors for mobile display applications.	2006 Revenue US\$ 17.9 millions

VI. The Vision of the Private Sector

<i>The Electronic and Information Technology Industries Survey in APEC</i>	
Company: ZTE (HK) Limited	
Name and title of the executive: Lin Xin, Vice President	
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?	ZTE enhances their R&D work to meet the domestic demand, and also set the international market strategy.
2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?	ZTE products are produced in mainland China, and we also have our own R&D Center and service support team.
3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?	No answer.
4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?	Surely there will be some advantages to our business under free trade agreements.
5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?	We will consider of high priority our market strategy, by taking advantage of favorable investment policies.
6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?	I believe China will be a big consumer and producer market in the electronics and information technology industries.
Date: 18 August 2006	

VII. Government and Private organizations

Organization	Commerce, Industry and Technology Bureau	This bureau is responsible for policy matters on Hong Kong, China's external commercial relations; broadcasting, film-related issues; inward investment promotion; development of telecommunications, innovation and technology; control of obscene and indecent articles intellectual property protection and industry and business support. They are also responsible for policy, strategy and execution of information technology programs and initiatives.
Chairman/Secretary General	Joseph Wong Wing Ping	
Members	Not available	
Address	1/F - 2/F Murray Building Garden Road Central, Hong Kong	
Tel	(852) 2189 2222	
Fax	(852) 2827 6646	
Website	www.citb.gov.hk	
E mail	ctbenq@citb.gov.hk	
Organization	Hong Kong Productivity Council	HKPC provides a diverse range of services in manufacturing technology, information technology, environmental technology and management systems to clients from different industrial and commercial sectors
Chairman/Secretary General	Andrew Leung Kwan-Yuen	
Members	Not available	
Address	HKPC Building, 78 Tat Chee Avenue, Kowloon, Hong Kong	
Tel	(852) 2788 5678	
Fax	(852) 2788 5900	
Website	www.hkpc.org	
E mail	enquiry@hkpc.org	
Organization	Hong Kong Trade Development Council	TDC facilitates and enhances efforts by Hong Kong, China based companies to sell, produce and source around the world
Chairman/Secretary General	Peter Woo	
Members	Not available	
Address	38/F, Office Tower, Convention Plaza, 1 Harbour Road, Wanchai, Hong Kong	
Tel	(852) 1830 6680	
Fax	(852) 2824 0249	
Website	www.tdc.com.hk	
E mail	hktcdc@tdc.org.hk	
Organization	Hong Kong Science and Technology Park	HKSTP offers a comprehensive range of services such as offering a series of management and technical support programs; industry and university collaboration; nurturing technology start-ups; Incu-Tech program support at the Tech Center; providing advanced facilities and support services in the 22-hectare state-of-the-art Hong Kong Science Park for applied R&D activities; and providing land and premises in the three Industrial Estates totaling 239 hectare for hi-tech manufacturing.
Chairman / Secretary General	Lo Chung / Wing, Victor	
Members	Not available	
Address	8/F, Bio Informatics Centre No. 2 Science Park West Avenue Hong Kong Science Park, Shatin, New Territories, Hong Kong	
Tel	(852) 2788 4433	
Fax	(852) 2629 1833	
Website	www.hkstp.org	
E mail	vega.wong@hkstp.org	
Organization	Hong Kong Electronics Industry Council	The Hong Kong Electronics Industry Council is under the auspices of the Federation of Hong Kong Industries that has focused its efforts on the modernization of local industry and the promotion of trade, investment, technological
Chairman/Secretary General	Dr. Samson Tam	

Members	Not available	
Address	Room 407-411, 4/F., Hankow Centre 5-15 Hankow Road, Tsimshatsui, Kowloon Hong Kong.	
Tel	(852) 2732 3188	
Fax	(852) 2721 3494	
Website	www.industryhk.org	
E mail	tsd@fhki.org.hk	
Organization	The Hong Kong Electronic Industries Association	
Chairman/Secretary General	Prof. Chan, Kei-Biu	
Members	293	
Address	Rm 1201, 12/F, Harbour Crystal Centre, 100 Granville Road, Tsimshatsui East, Kowloon, Hong Kong.	This association is a non-profit making trade body dedicated to the protection and promotion of Hong Kong, China's electronics industry.
Tel	(852) 2778-8328	
Fax	(852) 2788-2200	
Website	www.hkeia.org	
E mail	hkeia@hkeia.org	
Organization	America Hong Kong Electronic Association	
Chairman / Secretary General	Ng Wai Hung	
Members	140	
Address	Room 5T01, 5/F., HKPC Building, 78 Tat Chee Avenue, Kowloon, Hong Kong	The America Hong Kong Electronic Association aims to foster business and technology exchanges for the electronics industries in North America and China.
Tel	(852) 2788 5747	
Fax	(852) 3007 2993	
Website	www.ahkea.org	
E mail	kelvin.wong@ahkea.org	
Organization	Hong Kong Information Technology Federation Ltd	
Chairman / Secretary General	Daniel Ng	
Members	300	
Address	2505-6, 25/F, Stelux House, 698 Prince Edward Road East, San Po Kong, Kowloon, Hong Kong	This federation is a non-profit, non-political trade association providing a forum in which the IT-related business in Hong Kong, China can work together for the benefit of the industry and to maintain a high level of business practice amongst the members.
Tel	(852) 3101 8197	
Fax	(852) 3007 4728	
Website	www.hkitf.org	
E mail	info@hkitf.org	

Organization	Information and Software Industry Association Ltd	This association promotes the standard, recognition and profitability of the local information and software industry and also expedites the development of high value-added information and software services for the industries in Hong Kong, China and its region.
Chairman/Secretary General	Aldous Ng	
Members	Not available	
Address	B 20/F Guang Dong Investment Tower 148 Connaught Road, Central, Hong Kong	
Tel	(852) 2622 2867	
Fax	(852) 2622 2731	
Website	www.isia.org.hk	
E mail	info@isia.org.hk	
Organization	Hong Kong & Kowloon Electrical Appliances Merchants Association Ltd.	This organization is a non-profit, non-political trade association for the benefit of the industry maintaining a high level of business practice
Chairman/Secretary General	Mr. Chu Ka Low	
Members	Not available	
Address	4/F., 732 Nathan Road, Mongkok, Kowloon, Hong Kong	
Tel	(852) 2394 2135	
Fax	(852) 2398 0147	
Website	www.hkeama.com.hk	
E mail	info@hkeama.com.hk	

Bibliography:

Different sources were used and are mentioned along the document

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC Indonesia

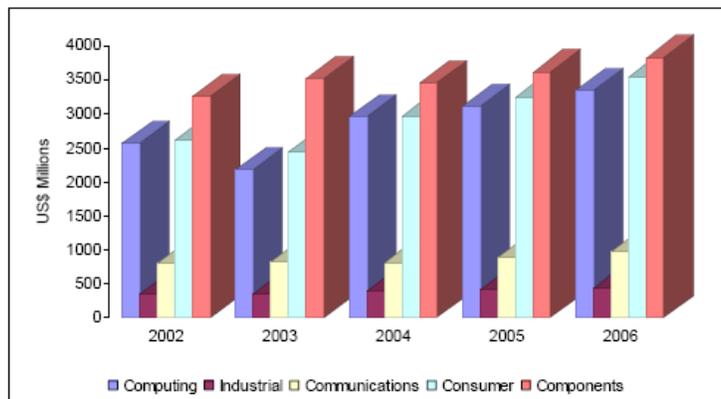
I. Overview of the Industry

During the period of 2000-2002, the electronics output declined 21 percent. The Indonesian electronics market saw a modest recovery in 2003, with a growth of 2.8 percent. Primarily increased by strong demand for communications and radar equipment, this growth rate further accelerated to 16.5 percent in 2004. In 2005, Growth again increased by approximately 10 percent and is forecasted for another 10 percent increase in 2006 with communications remaining a key driver.

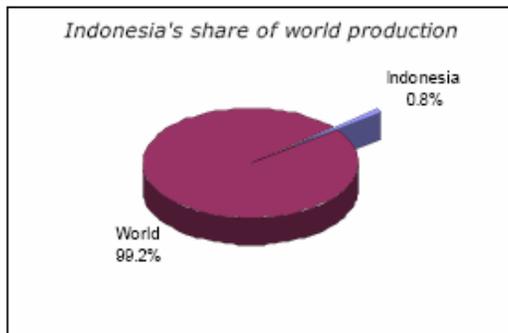
According to information from both experts on the sector and available statistics, it was estimated that in 2001 Indonesia had around 364 companies in this field, generating almost 200,000 employments. The electronic components and electro domestics industries contributed to 85 percent of the total employment.

Consumer electronics accounted for 28 percent of electronics output in 2003, compared to 39 percent in 1996. However, when compared to the previous year, it recorded an increase of 22 percent. Rising exports for video equipment combined with higher domestic demand will result in further growth in both 2005 and 2006. Color TV production is expected to rise to 5.7 million units in 2006 up from an estimated 4 million in 2003. In 2005 it was reported that Sanyo would start production of LCD TVs at its plant in Indonesia. The company will use the facility to serve the South East Asian market. LG Electronics and Toshiba have also

reportedly started production of LCD and plasma TVs at existing facilities in Indonesia. DVD/VCR production is also expected to rise, reaching 7.3 million units in 2006, although in terms of value, output is expected to remain flat due the continue pricing pressures that impact growth.



Indonesia Production 2002-2006



Source: Year Book of World Electronic Data, Indonesia 06, Reeds Electronics Research

II. Recent Developments in the Exports and Imports

The production of computer hardware also dominates exports, accounting for 87 percent of the total. A sharp decline in exports in 2003 led to a 16 percent fall in production. However, this was turned around with an increase in 2004 when the electronic domestic production increased by 37 percent.

Component production fell marginally in 2004, with a decline in passive and other components, which was offset by an increase in actives.) With semiconductors becoming the main driver, component production is forecasted to increase by 4.6 percent in 2005 and by a further 6 percent in 2006. Passive component production is also forecasted to increase by 3 percent in 2005. In 2004 components accounted for 33 percent of total output.

Electronic Exports 2000-2004 (US\$ thousand)					
Product group	Value 2000	Value 2001	Value 2002	Value 2003	Value 2004
COMPUTER EQUIPMENT	2,017,706	1,138,809	1,207,414	858,460	1,517,218
SOUND/TV RECORDERS ETC	823,281	829,503	1,356,368	971,391	1,315,082
OFFICE EQUIP PARTS/ACCS.	997,856	903,907	977,600	954,291	1,152,245
TELECOMMS EQUIPMENT NES	1,751,550	1,521,149	1,164,409	1,404,610	1,073,942
ELECTRICAL EQUIPMENT NES	662,243	581,344	631,449	679,036	865,752
VALVES/TRANSISTORS/ETC	738,865	520,677	558,601	720,878	762,482
ELECTRIC CIRCUIT EQUIPMT	470,614	483,831	575,699	648,254	645,427
ELECTRICAL DISTRIB EQUIP	353,208	391,078	241,679	328,383	435,963
RADIO BROADCAST RECEIVER	610,770	654,646	539,735	340,974	366,717
ELECT POWER TRANSM EQUIP	228,226	221,842	289,636	310,875	332,182
TELEVISION RECEIVERS	314,533	348,436	298,884	267,278	323,049
ELECTRONICS FOR PASSENGER CARS ETC	7,275	6,165	19,756	30,140	140,625
OPTICAL FIBRES	101,392	122,258	108,402	82,828	81,150
MECH TRANSMISSION EQUIMNT	19,691	14,918	24,126	28,173	60,764
MEDICAL ETC EL DIAG EQUI	18,361	23,483	29,048	47,450	52,734
PRINTED MATTER	26,689	25,461	20,981	36,153	44,904
METERS AND COUNTERS NES	26,843	23,987	15,273	19,294	25,594
MEASURE/CONTROL APP NES	16,335	13,826	24,200	19,863	24,335
MEDICAL/ETC INSTRUMENTS	23,933	27,790	30,937	14,528	12,594
OPTICAL INSTRUMENTS NES	864	1,096	2,361	5,255	1,087
TOTAL	9,210,235	7,854,206	8,116,558	7,768,114	9,233,846

Source: Year Book of World Electronic Data, Indonesia 06, Reeds Electronics Research

III. Trade Negotiations Related to the Industries

Bilateral and regional free trade agreements play an increasingly important role in international trade. Such agreements are under negotiation with most of Indonesia's trading partners and have proliferated around the world - particularly in the Asia-Pacific region. Indonesia, however, has been very cautious regarding which economies are more suitable to have this kind of agreement with.

Agreements under negotiation:

Indonesia – US Free Trade Agreement

Indonesia – Japan Free Trade Agreement

Indonesia – Australia Free Trade Agreement

Indonesia – India Comprehensive Economic Partnership Agreement

Indonesia is a committed participant of the World Trade Organization's (WTO) Information Technology Agreement (ITA). It has been a founder member since December 1996. The participating economies represent an important share of the 97% of the world trade in information technology products. While ITA is solely a tariff cutting mechanism, most of the IT products are rated zero. This applies to the 68 members & states or separate custom territories in the process of acceding to the WTO. As of July 2006, the following APEC economies have accepted the criteria: Australia; Canada; China; Hong Kong, China; Indonesia; Japan; Korea; Malaysia; New Zealand; the Philippines; Singapore; Chinese Taipei; Thailand and the United States.

Association of Southeast Asian Nations (ASEAN)

The Association of Southeast Asian Nations was established in Bangkok on 8 August 1967 by the five original Member economies, namely, Indonesia, Malaysia, the Philippines, Singapore and Thailand. Brunei Darussalam joined on 8 January 1984, Viet Nam on 28 July 1995, Lao PDR and Myanmar on 23 July 1997, and Cambodia on 30 April 1999.

The ASEAN region has a population of about 500 million, a total area of 4.5 million square kilometers, a combined gross domestic product of almost US\$700 billion, and a total trade of about US\$850 billion.

Objectives of ASEAN

The ASEAN Declaration states that the aims and purposes of the association are to: (1) accelerate economic growth, social progress and cultural development in the region and (2) promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries in the region and adherence to the principles of the United Nations Charter.

In addition, the ASEAN Vision 2020, adopted by the ASEAN Leaders on the 30th Anniversary of ASEAN, agreed on a shared vision of ASEAN as a concert of Southeast Asian nations, outward looking, living in peace, stability and prosperity, bonded together in partnership in dynamic development and in a community of caring societies.

In 2003, the ASEAN Leaders resolved that an ASEAN Community should be established comprising of three pillars, namely, the ASEAN Security Community, the ASEAN Economic Community and the ASEAN Socio-Cultural Community.

As far as the ASEAN Economic Community is concerned, it has the end-goal of economic integration measures as outlined in the ASEAN Vision 2020. Its goal is to create a stable, prosperous and highly competitive ASEAN economic region in which there is a free flow of goods, services, investment and a freer flow of capital, equitable economic development and reduced poverty and socio-economic disparities in year 2020.

The ASEAN Economic Community shall establish ASEAN as a single market and production base, turning the diversity that characterizes the region into opportunities for business complementation and making the ASEAN a more dynamic and stronger segment of the global supply chain. Its strategy shall consist of the integration of ASEAN and enhancing the groups' economic competitiveness.

In moving towards the ASEAN Economic Community, ASEAN has agreed on the following:

- Institute new mechanisms and measures to strengthen the implementation of its existing economic initiatives including the ASEAN Free Trade Area (AFTA), ASEAN Framework Agreement on Services (AFAS) and ASEAN Investment Area (AIA);
- Accelerate regional integration in the following priority sectors by 2010: air travel, agro-based products, automotives, e-commerce, electronics, fisheries, healthcare, rubber-based products, textiles and apparels, tourism, and wood-based products.
- Facilitate movement of business persons, skilled labor and talents; and
- Strengthen the institutional mechanisms of ASEAN, including the improvement of the existing ASEAN Dispute Settlement Mechanism to ensure expeditious and legally-binding resolution of any economic disputes.

Launched in 1992, the ASEAN Free Trade Area (AFTA) aims to promote the region's competitive advantage as a single production unit. The elimination of tariff and non-tariff barriers among Member Countries is expected to promote greater economic efficiency, productivity, and competitiveness.

As of 1 January 2005, tariffs on almost 99 percent of the products in the Inclusion List of the ASEAN-6 (Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore, and Thailand) have been reduced to no more than 5 percent. More than 60 percent of these products have zero tariffs. The average tariff for ASEAN-6 has been brought down from more than 12 percent when AFTA started to 2 percent today. For the newer Member economies, namely, Cambodia, Lao PDR, Myanmar, and Viet Nam (CLMV), tariffs on about 81 percent of their Inclusion List have been brought down to within the 0-5 percent ranges.

This agreement has been established as the "Roadmap for Integration of the Electronics Sector". The terms of the agreement are as follows.

Objectives

The objectives of integrating the electronics sector are to:

- Develop, strengthen and enhance the competitiveness of the ASEAN electronics sector and promote ASEAN as an integrated platform to do business with regarding electronics;;
- Strengthen regional integration efforts through liberalization, facilitation and promotion measures to ensure full integration of the electronics sector by 2010.
- Promote private sector participation.

Measures

This roadmap includes specific measures that are of direct relevance to the electronics sector, as well as common measures that cut across all priority integration sectors. The integration approaches are premised on:

- Combining the economic strengths of ASEAN member countries for regional advantage;
- Facilitating and promoting intra-ASEAN investments;
- Improving the condition to attract and retain manufacturing and other economic activities within the region; and
- Promoting the outsourcing program within ASEAN.

Coverage

The scope of products include electronic data processing (EDP) equipment, electrical and electronic home appliances, medical and industrial equipment, telecommunication equipment, communications and radar equipment, automotive electronics, instrumentation and controls, and mechanical equipment.

More information can be obtained at www.aseansec.org/16656.htm

IV. The Programs and Special Incentives to the Industries

All investment projects that are approved by the Investment Coordinating Board or by the Office of Investment in the respective districts, including existing companies expanding their projects to produce similar product(s) in excess of 30 percent of installed capacities or diversifying their products, will be granted the following supports:

1. *Import duties*

- a. Relief from import duty so that the final tariffs become 5 percent. In the case of tariffs of import duty which are mentioned in the Indonesian Customs Tariff Book (BTBMI) being 5 percent or lower, the effective tariffs shall be those in BTBMI:
 - On the importation of capital goods namely machinery, equipments, spare parts and auxiliary equipments, for an import period of two years, starting from the date of the stipulation of decisions on import duty relief.
 - On the importation of goods and materials or raw materials regardless of their types and composition, which are used as materials or components to produce finished goods for the purpose of two years full production (accumulated production time).
- b. Exemption from Transfer of Ownership Fee for ship registration deeds/ certificates made for the first time in Indonesia.

2. *Tax Facilities*

- a. The government introduced Tax Bill No's 16, 17, 18, 19 and 20 in 2000. These have been implemented since 1 January 2001. Based on this tax law, the domestic and foreign investors will be granted the following tax allowances in certain sectors and/or areas.
 - An Investment Tax Allowance in the form of taxable income reduction as much as 30 percent of the realized investment spread in six years.
 - Accelerated depreciation and amortization
 - A loss carried forward facility for a period of no more than ten years.
 - A 10 percent income tax on dividends, and possibly lower if stipulated in the provisions of a particular existing tax treaty.
- b. The government has also introduced Provisions No. 146 in 2000 and No. 12 in 2001 on the importation and/or delivery of Selected Taxable Goods, and the provision of Selected Taxable Services as well as the importation and or delivery of Selected Strategic Goods that are exempted from Value Added Taxes within the Tax Bill.

3. Export Manufacturing

There are many incentives provided for exporting manufacture products. Some of these incentives are as follows.

- a. Restitution (drawback) of import tax on the importation of goods and materials needed to manufacture the exported finished products.
- b. Exemption from Value Added Tax and Sales Tax on luxury goods and materials purchased domestically, for use in the manufacturing of the exported products.
- c. The company can import raw materials required regardless of the availability of comparable domestic products.

4. Bonded Zones

The companies with industrial purposes that are located in the bonded areas are provided with many incentives. These are as follows.

- a. Exemption from import duty, excise, income tax in Article 22, Value Added Tax on Luxury Goods on the importation of capital goods, equipment and raw materials for the production process.
- b. Allowed to divert their products amounted to 50 percent of their export (in terms of value) for the final products, and 100 percent of their exports (in terms of value) for other than final products to the Indonesian customs area, through normal import procedure including payment of customs duties.
- c. Allowed to sell scrap or waste in the Indonesian custom area as long as it contains at the highest tolerance of 5 percent of the amount of the material used in the production process.
- d. Allowed to lend their own machineries and equipments to their subcontractors located outside bonded zones for no longer than two years in order to further process their own products.
- e. Exemption of Value Added Tax and Sales Tax on Luxury Goods on the delivery of products for further processing from bonded zones to their subcontractors outside the bonded zones or the other way around as well as among companies in these areas.

Source: www.bkpm.go.id/en/investment.php?mode=baca&info_id=16

Besides the above information, the Ministry for Economic Affairs of Indonesia released this year a new "Policy Package for Improvement of the Investment Climate". The complete detail of this policy package can be found at www.ekon.go.id/v3/content/view/291/69/

V. The Private Sector in the Industries

The following are some of the companies involved in the electronic and information technology industries.

Company	Pt Jalco Electronics Indonesia	This company has been a quick response business achieving customer satisfaction in the field of electronic components since 1956. The diversification of both customer needs and sense of values is changing the global economy in the beginning of this new century. They are turning over a new leaf and aiming to be indispensable to their stockholders, employees and the local community. They have enhanced their technology to promptly respond to customer demands and supply their line-up of quality products.
Vice President Director	S Kawanaka	
Address	Karawang International Industrial City, Block C-6, Jawa Barat, Indonesia	
Tel	(62-21) 890 1508	
Fax	(62-21) 890 1888	
Website	www.jalco.co.jp	
Products	Metal Products: Contact, EMI shield applications	Annual Sales: Not available

	Mechanical components: Plug, Jack, Connector, Jack board, AC Outlet RF Products: RF Circuit Unit, Antenna terminal units for TV & VCR, RF switch, RF Modulator, Color encoder, Tuner, Power splitter	
Company	<i>Philips Electronics Indonesia, Pt</i>	PT Philips Ralin Electronics (PT PRE) is the first electric light producer to operate in Indonesia. This company originates from the factory established in Indonesia early in the 1940's by one of world's oldest manufacturers of electronic goods, Philips of the Netherlands. PT PRE obtained its status as one operating under the foreign capital investment (PMA) scheme in 1968, two years after the Government had issued the Act on Foreign Capital Investments in Indonesia.
President and CEO	Gerard Kleisterlee	
Address	Jl Mampang Prapatan Raya 99-100, Jakarta, Indonesia	
Tel	(62-21) 794.0040	
Website	www.phillips.co.id	
Products	Electrical Equipment and Supplies, Miscellaneous Electrical Equipment and Component Manufacturing	Annual Sales: Not available
Company	<i>Jit Electronics Indonesia, Pt</i>	With fiscal year 2006 revenues of US\$15.3 billion, JIT Electronics PT, a member of the Flextronics International helps customers design, build, ship, and service electronics products through a network of facilities in over 30 countries on five continents. This global presence provides design and engineering solutions that are combined with core electronics manufacturing and logistics services, and vertically integrated with components technologies, to optimize customer operations by lowering costs and reducing time to market.
Chief Executive Officer	Gay Chee Cheong	
Address	Kompl Industri Jababeka Sfb Jj/16-17, Bekasi, Indonesia	
Tel	(62-21) 893.7546	
Website	Not available	
Products	Electrical and Electronic Appliance, Television, and Radio Set Merchant Wholesalers	Annual Sales: US\$121 million
Company	<i>Goshen Electronics Indonesia</i>	This company was established with the name of E&E Indonesia in May 2000. In July 2003, after splitting with E&E Indonesia, they established their own company, Goshen Electronics Indonesia.
Director	Cunario Suriya	
Address	Komplek Agung Sedayu, Blok L-10, Harco Mangga Dua Jakarta 10730. Indonesia	
Tel	(62-21) 612 6388	
Fax	(62-21) 612 6677	
Website	www.goshenelectronics.com	
Products	Prerecorded Tape, Compact Disc, and Record Stores	Annual Sales: Not available
Company	<i>Samsung Electronics Indonesia, Pt</i>	The digital age has brought revolutionary opportunities and changes to global business. The Samsung Group has responded to these changes and is currently upgrading its business structure, management perspective, and corporate culture to meet global standards. At Samsung, they see every challenge as an opportunity, and believe that they are perfectly positioned to be one of the world's recognized leaders in digital technology.
Chief Executive Officer	Oh Suck Ha	
Address	Kantor Pusat Kawasan Industri Cikarang Jl. Jababeka Raya Blok F 29-33 Cikarang, Bekasi Jawa Barat, 17530.	
Tel	(62-21) 893.7114	
Fax	(62-21) 893 4273	
Website	www.samsung.com/id	
Products	Audio and Video Equipment Manufacturing Household Audio and Video Equipment	Annual Sales: Not available

Company	Six Electronics Indonesia, Pte	The firm known today as SIIX Corp. was fully capitalized by Sakata Inx and established in July 1992 as Sakata Inx International. The nucleus of this new organization - formed as an independent company to speed up the advancement and expansion of overseas businesses - was the Overseas Business Department of Sakata Inx that had, since 1957, been concerned with the export, import, sale, and the three-way trade of such products as electronic components/devices, consumer and business-use electronic equipment, and industrial machinery. In July 1998, after a string of new businesses were established, the firm's name was changed to SIIX.
Chief Executive Officer	Masao Okada	
Address	Batam Industrial Park, Batam, Indonesia	
Tel Fax	(62) 770 611486 (62) 770.611706	
Website	www.siix.co.jp/eg/corporate	
Products	Bare Printed Circuit Board Manufacturing Printed Circuit Boards	Annual Sales: Not available
Company	Pt Hit Electronics Indonesia	Company profile not available.
Chief Executive Officer	Not available	
Address	Kawasan Industri Delta Silicon Lippo Cikarang, Jl. Kruing 2 Blok L9 No. 9-10	
Tel Fax	(62-21) 8990 0071 (62-21) 8990 0072	
Website	Not available	
Products	power cords, RF cables, wire harnesses, electronics accessories	Annual Sales: Not available
Company	Pt Oh Sung Electronics Indonesia	This company started out as an electronic parts manufacturer in 1965 and established its Gumi Plant in 1974. Ever since, they have been ceaselessly investing in research and development, solidifying its position as a leading international company in an expanded global market through global network created by local plants in Mexico, China, Indonesia as well as North American and European branch offices.
Chief Executive Officer	President of Electronics Ha Taek Seon	
Address	Jl Sulawesi Kawasan Industri Mm 2100 BI I/2-4, Bekasi, Indonesia	
Tel: Fax:	(62-21) 8998-2550 (62-21) 8998 0326	
Website	www.ohsungec.com	
Products	Manufactures TV screen parts such as S/BAND, mask spring, F/fighter. Its non scrap metal molding has been internationally patented, ensuring the company's global competitiveness. It is investing to guarantee technological competitiveness.	Annual Sales: Not available
Company	Pt Venture Electronics Indonesia	Venture Corporation Limited, a leading global electronics services provider, offers an excellent combination of outstanding management, world-class technical capabilities, innovative manufacturing technology, reliable testing capabilities and state-of-the-art facilities. Founded in 1984, the Venture group comprises about 30 companies with global clusters of excellence in South-East Asia, North-East Asia, the Americas and Europe, and employs more than 13,000 people worldwide.
Chief Executive Officer	Wong Ngit Liong Executive Chairman	
Address	Lot D22 Bintan Industrial Estate, Pulau Bintan, Indonesia	
Tel Fax:	(62 770) 696 998 (62 770) 696.997	
Website	www.venture.com.sg	
Products	Telephone And Telegraph Apparatus	Annual Sales: Not available
Company	INDONESIA EPSON INDUSTRY P.T.	Epson's history spans more than 100 years, with a heritage that began in watch making and led to the invention of the world's first quartz watch along with many other technology "firsts." This long tradition of creating products that are smaller and more precise continues
Chief Executive Officer	John Lang	

Address	EJIP Industrial Park Plot 4E Cikarang Selatan Bekasi 17550, Indonesia	today, with the development of some of the world's most advanced micromechanronics capabilities for ultra fine, high precision processing. Moving into the 21 st century, it is the company's vision to drive Digital Image Innovation by providing cutting-edge imaging solutions, focused on the fields of imaging on paper, imaging on screen, and imaging on glass. Supporting this vision will be continued innovation in core devices, such as semiconductors that provide value-added solutions for linking imaging products.
Tel Fax	(62-21) 897 0101 (62-21) 897 5124 / 897 0218	
Website	www.epson.com	
Products	Printers All in Ones, Personal Photo Lab, Digital Photography Scanners, Multimedia Projectors Home Entertainment, Supplies & Accessories, Software	Annual Sales: Not available
Company	PANASONIC SHIKOKU ELECTRONICS INDONESIA	Since the day of foundation, they have always devoted themselves to the development, production and sales of audio-visual, information, healthcare, and heating equipment, to see the happy faces of their customers satisfied with high quality products. Moving into the 21st century, they have focused their vast technology and experiences on developing Health Care & Medical, Visual, Devices products, as their three target areas, on the theme of "Living in Harmony with the Global Environment". As a public entity, they will strive to earn the satisfaction and trust of their many customers around the world as they pursue their own dreams and goals.
Chief Executive Officer	Teruomi Nagai Managing Director	
Address	Lot 209-210 , Jalan Beringin Batamindo Industrial Park, Muka Kuning Batam 29433, INDONESIA	
Tel Fax	(62-21) 898 0005 (62-21) 898 0131	
Website	www.panasonic.co.id	
Products	TV/VCR; TV/DVD/VCR; TV/DVD-RAM/VCR Combinations, High Definition Projection TV, DVD/VCR Decks, Digital Video Camcorders (DVC), Digital Video Camcorders (DVD), Digital Still Cameras.	
Company	TEC INDONESIA P.T.	Toshiba believes in supplying products that are truly meaningful to users. Since the founding of their company, their commitment to monozukuri has driven them to create products with a focus on user needs. Their three business sectors-Retail Information Systems, Document Processing & Telecommunications Systems, and Home Electric Appliances - are devoted to providing solutions that bring comfort, convenience and efficiency to both business and home users. They pursue technology that's ahead of its time, whether accelerating in-store payment with RFTags, developing next-generation concepts for office document management, or creating new products that revolutionize the concept of household cleaning.
President and Chief Executive Officer	Yoshihiro Maeda	
Address	Lot 108-110 Batamindo Industrial Park, Mukakuning, Batam 29433, Indonesia	
Tel Fax	(62 770) 611528 (62 770) 611506	
Website	www.toshibatec.co.jp	
Products	EBusiness, FSP, General Merchandise System, Convenience Store/Shopping Center System, Super Market System, Hospitality/Hotel System Barcode	Annual Sales: Not available
Company	PT ASATA UTAMA ELECTRICAL INDUSTRIES	The Company was founded in 1976 in Jakarta, Indonesia to produce small transformers, ballast, mercury chokes, auto transformer, voltage converter 110v/220v etc. Then by 1980, the company became a full manufacturer of dry type distribution and oil-immersed distribution transformers. Since then the company has become a major player in supplying high quality distribution transformers to the
Chief Executive Officer	Not available	
Address	Jalan Alaydrus No.20 Jakarta, 10130 Indonesia	

Tel	(62-21) 633 3666 / 634 2580 / 634 1385	Indonesian Electricity Board (PT. P.L.N) as well as to the Indonesia Electric private markets sectors.
Fax	(62-21) 634 5582 / 633 2330	
Website	www.asata.com	
Products	Tranformers, Cores, Windings Fin/Radiators, Thermometer Oil level indicator, DGPT Tap changer, Bi-directional wheels, Elastimold bushing and connector, Conservator Dehydrating breather, Bushing Bucholz relay, Pressure relief device	Annual Sales: Not available
Company	PT LIVATECH ELEKTRONIK INDONESIA	Livatech Electronics (M) Sdn Bhd founded in Malaysia in 1992. In 1994, they expanded the operation to Indonesia and established PT Livatech Elektronik Indonesia, located in Batam Island, Riau Province, Indonesia with a 10,500 square meter facility and a 1,500 workforce.
Chief Executive Officer	Jackson Goh	
Address	Kara Industrial Park, Blok A No.72-80, Batam Center, Batam 29432, Indonesia	
Tel	(62-77) 846 1334	
Fax	(62-77) 846 1340	
Website	www.livatech.com	
Products	SMT/MI PCBA, Powder Coating, Electronic Components Assembly and Consumer Products (TV/ LCD/ Plasma etc) manufacturing	Annual Sales: Not available
Company	LG ELECTRONICS INDONESIA	LG Electronics Indonesia, which was named as PT Goldstar Astra, was established in 1990. Currently, the company is a major national force in electronics and information and communication products with more than 2000 employees in all regions in Indonesia. With the vision to be the number one electronics company in Indonesia, LG Electronics Indonesia determines to create product leadership with Indonesian market-oriented product and leadership in marketing through differentiated strategies/tactics. Thus, the management is committed in cultivating talented people to develop global competitiveness.
Chief Executive Officer	Mr. Kee Ju Lee	
Address	Wisma 77 Lt. 15 Jl. S.Parman Kav 77 Slipi Jakarta	
Tel	(62-21) 5366 0309	
Fax	(62-21) 5366 0308	
Website	id.lge.com	
Products	Digital Display & Media Company Digital TV, PDP, Monitor, CD-ROM Drives, DVD-ROM Drive, Super Multi DVD RW, Combo, Portable Combo, DVD Player, Audio Digital Appliance Company Air Conditioner, Refrigerator, Microwave oven, Washing Machine, Communication Handsets both for GSM & CDMA	Annual Sales: Not available
Company	PT. GREAT MICROTAMA ELECTRONICS INDONESIA (GXC)	PT. Great Microtama Electronics Indonesia (GXC) is the first and pioneer Quartz Crystal Resonator Units producer in Indonesia. ISO-9001 approved, the factory is located in Surabaya Industrial Estate With the support of more than 30 engineers in various fields, their products are manufactured under stringent in process controls and quality inspections combined
Chief Executive Officer	Laode Willy Tjahjadi	
Address	Rungkut (SIER), Jl. Berbek Industri III No. 21, Surabaya 61256, East - Java, Indonesia.	

Tel Fax	(62 31) 843 1330 (62-31) 843 1305	with the industries finest out-going quality inspection standards. Their QC and QA programs can also be tailored to meet different user needs.
Website	www.greatmicro.com	
Products	Quartz Crystal Resonator Units : HC-49/U, HC-49/S, UM-1, UM-5, SMU, SMD	Annual Sales: Not available
Company	PT. ELDA SARANA INFORMATIKA	Their company provides solutions for GPS tracking devices for vehicles and other telemetry devices based on radio, GSM, and satellite communications. Experienced in building GSM based GPS tracking devices since 1999, they are committed to make better, robust, and easy to use devices, while expanding the use of technology for broad ranges of use.
Chief Executive Officer	Akhmad Bafagih	
Address	Jl. Batik Jonas 15 Bandung 40123 Indonesia	
Tel Fax	(62-22) 251 5051 (62-22) 251 5052	
Website	www.esitrack.com	
Products	Vehicle tracking, vehicle tracking system, vehicle tracking device, vehicle tracking product, fleet management, Automatic Vehicle Locator (AVL), GPS system, GPS data logger, GSM/SMS/GPRS Tracking.	Annual Sales: Not available
Company	VERSAKOM INDONESIA	Experienced in the field of promoting and selling two-way radio products, Versakom offers customers a unique ability of designing and configuring the very basic, to the most complex radio communication needs. As Indonesia's leading one-stop radio communication provider, their products extends from those suitable for Amateur to that of Land Mobile, Aviation and Marine.
Chief Executive Officer	Not available	
Address	Mal Ambassador, Lantai 1 No.29 Kuningan Jln. Prof. Dr. Satrio Jakarta 12940	
Tel Fax	(62-21) 576 3092 (62-21) 576 3093	
Website	www.versakom.com	
Products	HF Transceivers, VHF/UHF Transceivers, VHF/UHF Handheld, Receiver, Land Mobile HF Transceivers, VHF/UHF Transceivers, VHF/UHF Handheld Aviation, Marine VHF Handheld, VHF Transceivers	Annual Sales: Not available
Company	PANACELL COMMUNICATIONS	Panacell Communication Inc. was founded in 1997 with a commitment to provide quality mobile communication equipment, mobile cases, battery & charger solutions products. They have established a strong customer base in Europe and Southeast Asia and their business is steadily growing. As an international company, they have Sales Offices in Hong Kong, Singapore and Indonesia for different market regions and two factories in Asia and Southeast Asia occupying 100,000 square meters.
Chief Executive Officer	Not available	
Address	Not available	
Tel/Fax	Not available	
Website	www.panacellular.com	
Products	Mobile communication, equipment accessories, mobile cases, battery and charger solutions products.	Annual Sales: Not available
Company	PT, TYCO PRECISION ELECTRONICS	Over the past five years, Tyco Electronics has kept pace – rapidly growing to become the world's largest passive component manufacturer. Based on the interconnect technology leadership of AMP products, Tyco Electronics has added a full complement of leading component
Chief Executive Officer	Not available	

Address	Lot 330 Jl Beringin, Batamindo Industrial Park, Makakuning, Batam 29433 , Indonesia	brands -- including Raychem, Elcon, P&B, M/A-COM, CII and many more - to offer customers an unparalleled portfolio of connectors, relays and circuit breakers, active and passive fiberoptic components, wireless products, power components, resistors and inductors, motors and myriad others across 25 product segments
Tel	(62-21) 526-7852	
Fax	(62-21) 526-7856	
Website	www.tycoelectronics.com	
Products	Electromechanical components and wire harnessing	Annual Sales: Not available

VI. The Vision of the Private Sector

The Electronic and Information Technology Industries Survey in APEC	
Company: PT Elda Sarana Informatika	
Name and title of the executive: Mr. Romi, Marketing Manager for Informatika.	
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?	Our company was established in 2000, we are a design hardware company. Therefore, it is difficult to compete in different markets and new investments are needed to create broader markets.
2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?	Thinking about that, in Indonesia we are very competitive. We are trying to capture markets so that design in Indonesia and manufacturing happens abroad.
3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?.	Yes.
4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?.	Yes, But a good product and service is needed. Otherwise, with or without FTA, it will not succeed.
5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?.	Both are important but if you receive an incentive, it will help your operations and make them more attractive.
6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?	Our company has very competitive products and services events. But of course, we need to keep watching the technology.
Other comments:	
Date: December 2006	

VII. Government and Organizations

Organization	Indonesia Investment Coordinating Board (BKPM)	BKPM is an investment service agency of the Indonesian government created with the purpose to effectively implement the enactment of law on foreign as well as domestic investment. At the time, BKPM is a non-departmental government agency serving under and directly responsible to the President of the Republic of Indonesia.
Chairman / Secretary General	Muhammad Lutfi.	
Members	Not available	
Address	Investment Coordinating Board (Badan Koordinasi Penanaman Modal - BKPM) Jalan Jend. Gatot Subroto No. 44 Jakarta 12190 Indonesia	
Tel	(62-21) 525-2008 / 525-2649 / 525-4981	
Fax	(62-21) 525-4945	
Website	www.bkpm.go.id	
E mail	sysadm@bkpm.go.id	
Organization	National Agency for Export Development (NAFED)	Established in 1971, the National Agency for Export Development (NAFED) is formed to act as a special service agency of the Ministry of Trade. NAFED functions as a focal point for Indonesian exporters and foreign importers to source for trade related information. Its objective is to assist and support local manufacturers in identifying and penetrating overseas markets for their products, which is done by providing market research information and relevant advice.
Chairman / Secretary General	Not available	
Members	Not available	
Address	Jalan Kramat Raya No. 172, Central Jakarta, Indonesia.	
Tel	(62-21) 3190 4554 / 3190 0569 / 3190 7664	
Fax	(62-21) 3190 1524 / 3190 1548 / 3190 7664	
Website	www.nafed.go.id	
E mail	nafed@nafed.go.id	

Organization	Electronic and Electrical Appliances Industries Association	EEIA-ID's mission to support the national economy stipulated in the 1945 Republic of Indonesia Constitution, through electronic and electrical appliances industries. To implement its mission, EEIA-ID has to carry out its goal. During earlier years after establishment in 1972, EEIA-ID's goal was to upgrade and develop skills of the domestic electronic and electrical companies established under Indonesian law, in the framework of manifesting a healthy performance of the national economy. Along with the growing electronic industries in Indonesia and the unavoids stream of globalization, EEIA-ID has to carry out even broader goals. However, it is still within the framework to support the healthy and strong national economy.
Chairman / Secretary General	Rachmat Gobel	
Members	Not available	
Address	Gedung Sasana Kriya TMII Ruang Teratai Lt.2 Jakarta 13560	
Tel Fax	(62-21) 840 9457 (62-21) 840 9467	
Website	www.eeia-id.com	
E mail	gabel@centrin.net.id	
Organization	Indonesia Computer Business Association	Their objective is to build a communication forum / media and to strengthen relations among members. It is the facilitator for members to accommodate opinions, ideas and share information for the strengthening of Indonesian IT industry and the development of Indonesia, especially in the IT infra-structure.
Chairman / Secretary General	Henky Tjokro Adhiguno	
Members	Not available	
Address	Glodok Plaza, 2 nd Floor No. A 21-23 Jl. Pinangsia Raya No. 1 Jakarta 10730, Indonesia	
Tel Fax	(62-21) 6230-2935 / 6230-2936 (62-21) 6230-2879	
Website	www.apkomindo.or.id	
E mail	apkomindo@indo.net.id	
Organization	Association of Community Internet Center	This association is a non profit business association, known in Indonesia as 'Asosiasi Pengusaha Warnet/Komunitas Telematika', and WSIS Tunis's designated focal point for NGO in Indonesia. Their vision is network of Multipurpose to its members, to provide value added Internet applications and access Centers to empower communities in developing communities.
Chairman / Secretary General	Not available	
Members	Not available	
Address	Golden Plaza A 30 - 39 Jl. R.S. Fatmawati #15 Jakarta 12410, Indonesia	
Tel Fax	(62-21) 7590-0091 (62-21) 7590-7545	
Website	www.apwkomitel.org	
E mail	info@apwkomitel.org	

Bibliography:

- *Year Book of World Electronic Data, Indonesia 06, Reeds Electronics Research*
- Indonesia Investment Coordinating Board: www.bkpm.go.id
- National Agency For Export Promotion (NAFED): www.nafed.go.id
- www.bilaterals.org

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC Japan

I. Overview of the industry

Japan is the world's second largest economy, the fourth largest exporter and the sixth largest importer worldwide according to the World Trade Organization's (WTO) revised statistics of 2004. Within its gross domestic product (GDP), the manufacturing sector represents 20.2 percent, which includes the electronic and information technology industries.

In 2005, the Japanese economy continued to improve due the increase in exports, as well as the expansion of the private sector's investments and the steady individual consumption.

Domestic production

In 2005, the domestic production of the Japanese electronics and information technology (IT) industries fell to 4.5 percent from the previous year (3.3 percent decreased in yen basis), to 19,102,600 million yen (approximately US\$174,230 million).

The electronics and IT industries represented 26.7 percent of the total machinery production (US\$653,593 million) in the same year, reducing 1.8 percent from the previous year. It comprises 702 companies and employed 292,633 persons as of 2004.

One of the reasons of this reduction was the downward trend of the consumer electronic equipment production, as inventory adjustments became necessary from mid-year of 2004 to September 2005. From October 2005 the Japanese electronics and IT industries started to recover. However, as mentioned before, the production in 2005 decreased 4.5 percent.

Domestic Production of Electronics and IT Industries²⁵
(US\$ million)

Year	Consumer electronic equipment	Industrial electronic equipment	Electronic components and devices	Total	Change (%)
2000	20,691	106,156	106,828	233,675	17.1
2001	15,813	82,306	71,835	169,954	-27.3
2002	16,123	59,913	68,071	144,107	-15.2
2003	19,876	67,043	78,881	165,800	15.1
2004	22,978	69,087	90,296	182,361	10.0
2005	23,370	66,433	84,427	174,230	-4.5

Source: Trade Commission of Mexico in Japan with data of the Ministry of Economy, Trade and Industry (METI) of Japan

Also during 2005, Japanese companies invested in the production of liquid crystal devices (LCDs) or Plasma panel TVs, but the overall aim to shift the production overseas was not accomplished and it was one of the reasons of the low domestic production.

In term value, the domestic production of consumer electronic equipment in 2005 rose 1.7 percent from the previous year, to US\$23,370 million and making the fourth consecutive annual increase. On the other hand, the production of industrial electronic equipment fell 3.8 percent year-on-year.

²⁵ The original data provided by METI is in yen bases. For the purpose of international comparison, the value was converted utilizing the following yen/US\$ change rates:
2000: 107.36 yen, 2001: 120.95 yen, 2002: 125.65 yen, 2003: 116.41 yen, 2004: 108.28 yen and 2005: 109.46 yen.

The domestic production of electronic components and devices declined 6.5 percent from the previous year.

The Ministry of Economy, Trade and Industry (METI) of Japan, reported that the number of full time employees in the electronic and information technology industries declined 1.2 percent in 2005 to 294,000 persons. The Ministry of Finance of Japan (MOF) stated that in 2005 the electronic and information technology industry companies invested US\$31,728 million, down 1.5 percent from the previous year.

Domestic Shipment of Consumer Electronic Equipment

In 2005, domestic shipment of major consumer electronic equipment totaled to US\$23,188 million, up 5.7 percent year-on-year, due to the continuous expansion of the video equipment market as well as the car AV and communications equipment market.

Domestic Shipment of Major Consumer Electronic Equipment, 2000 – 2005 (US\$ Million)

Year	2000	2001	2002	2003	2004	2005	Change 05/04 (%)
Video Equipment	10,658	9,639	9,676	11,030	13,976	14,601	4.5
Color TVs	5,165	4,184	3,285	2,645	1,981	1,062	-46.4
Plasma display panel (PDP) TVs and monitors	0	403	993	1,096	1,496	1,578	5.5
Liquid crystal device (LCD) TVs	161	377	706	1,836	3,996	5,016	25.5
DVD video players	402	550	1,053	1,997	3,222	2,964	-8.0
Video cameras with recorders	1,923	1,451	1,167	1,257	1,156	1,079	-6.7
Audio Equipment	3,526	2,741	2,243	2,122	1,938	2,169	11.9
Car AV/communications equipment	4,621	4,238	4,175	4,899	6,033	6,418	6.4
Total	18,805	16,618	16,094	18,051	21,946	23,188	5.7

Source: Japan Electronics and Information Technology Industries Association (JEITA).

In 2005, shipments of video equipment totaled to US\$14,601 million, up 4.5 percent from the previous year and making the sixth consecutive annual increase. This rise was largely driven by shipments of LCDs and plasma display panels (PDPs).

Matsushita Electric Industries is one of the most important producers of the PDP TVs in the world, holding 35 to 40 percent of global share. In 2005 the production of PDP TVs registered 816,626 units, where Matsushita accounted 65.2 percent followed by Fujitsu-Hitachi Plasma Display, Ltd. and Pioneer Plasma Display with 24.9 percent and 8.6 percent respectively.

Total domestic production of LCD TVs in 2005 amounted to 4.34 million units. Sharp held 47.2 percent of the market, followed by Sony with 17.3 percent, Matsushita with 16.2 percent, Toshiba with 10.5 percent and JVC with 5.0 percent. Shipments of audio equipment also grew 11.9 percent, to US\$2,169 million, after five consecutive annual decreases. This was due to the increased demand of portable digital audio players.

In the group of car AV/communications equipment shipments rose 6.4 percent, to US\$6,418 million, highly influenced by the increase of car navigation systems.

Production of Industrial Electronic Equipment

In 2005, the production of industrial electronic equipment declined 4.6 percent to US\$66,433 million. In the same year, the value of telecommunication equipment rose slightly to US\$6,369 million, marking the second consecutive annual increase since 2003. Nevertheless, the production of radio communication equipment declined 2.9 percent from the previous year, to US\$20,723 million.

Domestic Shipment of Major Consumer Electronic Equipment, 2000 – 2005
(US\$ Million)

Year	2000	2001	2002	2003	2004	2005	Change 05/04 (%)
Video Equipment	10,658	9,639	9,676	11,030	13,976	14,601	4.5
Color TVs	5,165	4,184	3,285	2,645	1,981	1,062	-46.4
Plasma display panel (PDP) TVs and monitors	0	403	993	1,096	1,496	1,578	5.5
Liquid crystal device (LCD) TVs	161	377	706	1,836	3,996	5,016	25.5
DVD video players	402	550	1,053	1,997	3,222	2,964	-8.0
Video cameras with recorders	1,923	1,451	1,167	1,257	1,156	1,079	-6.7
Audio Equipment	3,526	2,741	2,243	2,122	1,938	2,169	11.9
Car AV/communications equipment	4,621	4,238	4,175	4,899	6,033	6,418	6.4
Total	18,805	16,618	16,094	18,051	21,946	23,188	5.7

Source: Japan Electronics and Information Technology Industries Association (JEITA).

In 2005, shipments of video equipment totaled to US\$14,601 million, up 4.5 percent from the previous year and making the sixth consecutive annual increase. This rise was largely driven by shipments of LCDs and plasma display panels (PDPs).

Matsushita Electric Industries is one of the most important producers of the PDP TVs in the world, holding 35 to 40 percent of global share. In 2005 the production of PDP TVs registered 816,626 units, where Matsushita accounted 65.2 percent followed by Fujitsu-Hitachi Plasma Display, Ltd. and Pioneer Plasma Display with 24.9 percent and 8.6 percent respectively.

Total domestic production of LCD TVs in 2005 amounted to 4.34 million units. Sharp held 47.2 percent of the market, followed by Sony with 17.3 percent, Matsushita with 16.2 percent, Toshiba with 10.5 percent and JVC with 5.0 percent. Shipments of audio equipment also grew 11.9 percent, to US\$2,169 million, after five consecutive annual decreases. This was due to the increased demand of portable digital audio players.

In the group of car AV/communications equipment shipments rose 6.4 percent, to US\$6,418 million, highly influenced by the increase of car navigation systems.

Production of Industrial Electronic Equipment

In 2005, the production of industrial electronic equipment declined 4.6 percent to US\$66,433 million. In the same year, the value of telecommunication equipment rose slightly to US\$6,369 million, marking the second consecutive annual increase since 2003. Nevertheless, the production of radio communication equipment declined 2.9 percent from the previous year, to US\$20,723 million.

Production of Industrial Electronic Equipment, 2000 – 2005

(US\$ million)

Year	2000	2001	2002	2003	2004	2005	Change 05/04 (%)
Communication equipment	39,783	34,832	23,814	29,319	27,708	27,092	-2.2
Telecommunication equipment	18,403	13,518	6,473	5,894	6,368	6,369	0.0
Radio communication equipment	21,379	21,314	17,341	23,426	21,340	20,723	-2.9
Computer and related equipment	52,352	39,392	27,537	23,189	23,979	21,358	-10.9
Midrange computer	3,607	3,460	2,671	2,307	2,124	2,095	-1.4
Desktop PC	23,846	16,721	3,695	4,218	4,214	3,689	-12.5
Notebook PC	--	--	7,067	5,778	6,315	6,016	-4.7
Electronic application equipment	8,044	6,501	5,774	6,940	8,381	9,119	8.8
Electric measuring instrumentation	7,431	4,954	3,467	4,317	6,107	5,460	-10.6
Electronic business machines	6,439	4,558	3,982	3,245	3,480	3,404	-2.2
Total	114,049	90,237	64,574	67,010	69,655	66,433	-4.6

Source: Trade Commission of Mexico in Japan with data of the METI of Japan

In 2005, production of mobile telephones totaled 47.08 million units that accounted for US\$15,016 million or 55.4 percent of the total production of communication equipment. In this group, there are 13 manufacturers in Japan, including Sony-Ericson, Panasonic, NEC and Mitsubishi Electric.

In regards to the production of computer and related equipment it showed a downward trend from 2000. In 2005, its value totaled US\$21,358 million, down 10.9 percent from the previous year, due to the increasing imports of computer equipment not only from the overseas makers, but also from Japanese makers established abroad.

The domestic shipment of personal computers (PC) in 2005 increased 5.2 percent from the previous year to US\$14,930 million representing 12.7 million units, up 14.0 percent from the previous year. Some major PC producers are Fujitsu, Toshiba, NEC, Sony and Sotec.

In term value, domestic production of electronic application equipment increased 8.8 percent to US\$ 9,119 million in 2005. The production of electric measuring instrumentation fell 10.6 percent from the previous year, to US\$ 5.460 million, due to the decline of Semiconductor/ IC measuring equipment production in Japan. Nevertheless, imports of electric measuring instrumentation increased in 2005 from Japanese companies established overseas. The main producers of electric measuring instrumentation are Advantest, Yokogawa, Yamatake and Shimazu.

In value terms, the domestic production of electronic business machines fell 2.2 percent in 2005, to US\$3,404 million. The main manufacturers in this group are Canon, Fuji Film and Ricoh.

Production of Electronic components and devices

During the first semester of 2005, production of electronic devices decreased due to the low demand of electronic related equipment after the Athens Olympic Games in 2004. During the second half of the year, electronic components production increased due to the increased demand for mobile telephones, PCs and domestic digital equipment. Nevertheless, the total production of electric components in 2005 fell 1.7 percent from the previous year to US\$26,888 million.

Production of connecting components and electronic boards increased 0.5 percent and 0.3 percent from the previous year to US\$ 7,407 million and 7,609 million, respectively. However, the production of passive components, transducers and other electronic components declined in the same year.

The leading manufactures of electronic components are Kyocera, TDK, Alps Electric, Nito Denko, Murata Seisakusho, Nidec Corporation and Rohme.

Production of Electronic Components and Devices
(US\$ million)

Year	2000	2001	2002	2003	2004	2005	Change 05/04 (%)
Electronic components	28,962	33,272	24,329	25,148	27,354	26,888	-1.7
Passive components	8,481	11,175	6,974	7,389	8,268	8,143	-1.51
Connecting components	8,070	8,341	6,662	6,824	7,369	7,407	0.5
Electronic boards	7,362	8,004	6,278	4,187	7,582	7,609	0.3
Transducers	1,347	1,842	1,239	815	649	524	-19.3
Others	3,702	1,785	3,175	3,334	3,486	3,205	-8.1
Electronic devices	55,603	63,948	45,307	53,732	62,960	57,538	-8.6
Electronic tubes	3,751	3,594	2,470	2,746	3,023	2,771	-8.3
Discrete semiconductors	8,478	10,177	7,169	8,262	9,895	9,678	-2.2
Integrated circuits (ICs)	31,936	38,158	25,642	29,523	33,423	29,989	-10.3
Liquid crystal devices (LCDs)	11,438	12,019	10,027	13,200	16,618	15,100	-9.1
Total	84,565	97,220	69,636	78,879	90,314	84,427	-6.5

Source: Trade Commission of Mexico in Japan with data of the METI of Japan

Electronic tubes

Domestic production of electronic tubes in 2005 totaled to US\$ 2,771 million, down 8.3 percent from the previous year. This was due to the decline in domestic demand for CRTs and the increase in imports. Nevertheless, production of PDP modules increased 5.3 percent from the previous year, amounting to 75 percent of the total production of electronic tubes in Japan. The major manufacturing companies are Asahi Glass, Nippon Electric Glass and Nippon Sheet Glass (NSG).

Electronic Tubes Production

Year	2004		2005		Change 05/04 (%)	
	1000 units	US\$ million	1000 units	US\$ million	Volume	Value
Electronic tubes		3,023		2,771		-8.3
Microwave tubes	4,315	89	4,431	100	2.69	11.7
PDP modules	1,723	1,988	2,895	2,094	68.03	5.3
Display tubes	47,259	204	39,616	185	-16.17	-9.4
X ray tubes	76	126	82	133	7.61	5.5
Other electronic tubes	500	229	1,255	260	151.06	13.2

Source: Trade Commission of Mexico in Japan with data of the METI of Japan

Discrete semiconductors

In 2005, the demand for discrete semiconductors of PDP, LCD and digital camera was maintained at a high level. Nevertheless, the production of discrete semiconductors amounted to US\$9,678 million, down 2.2 percent from the previous year. The main reason of this decrement was the price reduction in the market and the increased imports from Japanese companies established in Asian economies. The leading semiconductors manufacturers are Toshiba, Renesas Technology Corp., NEC Electronics, Elpida Memory and Sony.

Discrete Semiconductors Production

Year	2004		2005		Change 05/04 (%)	
	Million units	US\$ million	Million units	US\$ million	Volume	Value
Discrete semiconductors	82,635	9,895	76,958	9,678	-6.87	-2.2
Silicon diodes	21,191	580	18,235	477	-13.95	-17.7
Rectification element	9,082	734	8,925	731	-1.72	-0.4
Transistor	25,882	2,821	23,262	2,690	-10.12	-4.6
Thermistor	2,782	334	3,000	351	7.84	4.9
Thyristors	752	166	786	175	4.55	4.9
Photoelectric transducer	17,006	4,792	15,983	4,739	-6.02	-1.1
Other discrete semiconductors	1,832	346	1,760	398	-3.95	15.0

Source: Trade Commission of Mexico in Japan with data of the METI of Japan

Integrated Circuits (ICs)

In 2005, the production units almost maintained the same level as 2004 due to the huge demand for PCs, mobile telephones and digital home appliances. However, in value terms, the production declined 10.3 percent from the previous year to US\$29,989 million.

Integrated Circuits (ICs) Production

Year	2004		2005		Change 05/04 (%)	
	Million units	US\$ million	Million units	US\$ million	Volume	Value
Integrated circuits	31,388	33,423	30,992	29,989	-1.26	-10.3
Large-scale integrated circuit (LSI)	30,099	30,826	29,786	27,817	-1.04	-9.8

Source: Trade Commission of Mexico in Japan with data of the METI of Japan

Liquid Crystal Devices

In 2005, the domestic production of LCDs rose 3.97 percent from the previous year to 578 million units. In terms of value, the production declined 9.1 percent to US\$15,100 million.

Growth is expected to continue in terms of volume due to the worldwide trend toward using LCDs in computer monitors and increasing demand for mobile telephones, as well as the strong demand for LCD televisions. The leading manufacturers are Sharp, Sony and IPS Alpa Technology.

Liquid Crystal Devices Production

Year	2004		2005		Change 05/04 (%)	
	Million units	US\$ million	Million units	US\$ million	Volume	Value
Liquid Crystal Devices	556	16,618	578	15,100	3.97	-9.1

Source: Trade Commission of Mexico in Japan with data of the METI of Japan

II. Recent developments in the exports and imports

Exports

In 2005, the exports of electric and electronic industries totaled to US\$ 124,160 million, down 2.2 percent from the previous year and accounting for 20.73 percent of the total Japanese exports in that year.

Exports of electronic components and devices rose 1.0 percent from the previous year, to US\$88,802 million, while exports of consumer electronic equipment and industrial electronic equipment decreased 6.8 percent and 11.7 percent respectively from the previous year.

Electronic and Information Technology Industries Exports, 2000 – 2005 (US\$ million)

Year	2000	2001	2002	2003	2004	2005	Change 05/04 (%)
Consumer electronic equipment	14,259	11,653	12,969	14,772	16,521	15,402	-6.8
Video equipment	11,621	9,942	11,313	13,460	15,299	14,453	-5.5
Audio equipment	2,638	1,712	1,656	1,312	1,222	948	-22.4
Industrial electronic equipment	30,038	24,008	20,209	19,834	22,591	19,957	-11.7
Communications equipment	4,944	3,670	3,643	4,455	4,794	3,969	-17.2
Telecommunications systems	1,881	894	560	524	458	429	-6.3
Radio communication systems	3,062	2,776	3,084	3,931	4,337	3,540	-18.4

Computers and related equipment	14,908	12,693	11,087	8,284	8,441	7,307	-13.4
Electronic application equipment	2,929	2,875	3,102	3,844	4,593	4,329	-5.8
Electric measuring instrumentation	3,926	2,328	1,998	2,834	4,321	4,131	-4.4
Electronic business machines	3,331	2,442	379	417	442	222	-49.8
Electronic components and devices	88,546	64,635	64,366	74,462	87,892	88,802	1.0
Electronic components	18,431	13,091	12,904	14,517	17,411	18,154	4.3
Passive components	7,283	4,479	4,233	4,513	5,176	5,131	-0.9
Connecting components	4,627	3,510	3,512	4,044	4,958	5,187	4.6
Electronic boards	2,758	1,946	2,020	2,262	3,010	3,159	5.0
Transducers	956	672	503	494	472	398	-15.6
Others	2,805	2,484	2,636	3,204	3,795	4,280	12.8
Electronic devices	35,461	25,285	26,193	30,416	35,468	35,113	-1.0
Electronic tubes	2,203	1,291	1,018	930	752	905	20.4
Discrete semiconductors	5,933	4,379	4,945	6,199	7,676	7,755	1.0
Integrated circuits (ICs)	27,326	19,615	20,230	23,287	27,040	26,453	-2.2
Parts and accessories	34,682	26,259	25,269	29,529	35,014	35,534	1.5
TOTAL	132,872	100,296	97,544	109,068	127,005	124,160	-2.2

Source: Trade Commission of Mexico in Japan with data of the METI of Japan and JEITA.

Regarding the exports by destination, Asia declined 1.5 percent in 2005 from the previous year after three consecutive years of increase, but occupied 55.7 percent of total Japanese exports. Exports to North America, the second most important market, also declined 3.1 percent from the previous year with a 21.0 percent share of total Japanese exports. The third region was Europe with a 19.4 percent share.

In addition, exports to Central and South America increased 40.2 percent in 2005 from the previous year. However, exports to this region only occupied 2.6 percent of total Japanese exports according to the Electronic and Information Technology Industries.

Electronic and Information Technology Industries Exports by Region, 2000 – 2005 (US\$ million)

Year	2000	2001	2002	2003	2004	2005	Change 05/04 (%)	Share (%)
Region								
Asia	60,219	46,301	50,361	60,453	70,200	69,129	-1.5	55.7
Asia NIES	36,891	26,445	28,228	32,436	38,589	37,395	-3.1	30.1
ASEAN 10 Economies	25,233	18,653	17,494	17,935	20,299	19,761	-2.6	15.9
China	6,841	6,811	9,212	14,567	16,699	17,397	4.2	14.0
Europe	28,062	21,232	19,161	21,685	25,923	24,079	-7.1	19.4
Europe Union	27,451	20,719	18,632	20,953	24,917	23,077	-7.4	18.6
North America	40,318	29,442	25,362	23,949	26,914	26,081	-3.1	21.0
Central & South America	2,562	1,994	1,469	1,609	2,264	3,174	40.2	2.6
Africa	317	250	232	240	324	334	3.2	0.3
Oceania	1,395	1,077	959	1,128	1,386	1,362	-1.8	1.1
Total	132,872	100,296	97,544	109,068	127,016	124,160	-2.2	100.0

Source: Trade Commission of Mexico in Japan with data of the METI of Japan and JEITA.
NIES: Newly Industrialized Economies. ASEAN: Association of South East Asian Nations

By destination, the United States ranked first, followed by China; Hong Kong, China; Korea and Chinese Taipei. As the table below shows, this same pattern has been maintained since 2003.

Electronic and Information Technology Industries Exports by Economy, 2003 – 2005
(US\$ million)

Year No.	2003		2004		2005		Change 05/04 (%)	Share (%)
	Economy	US\$ million	Economy	US\$ million	Economy	US\$ million		
1	USA	23,008	USA	25,842	USA	25,018	-3.2	20.2
2	China	14,567	China	16,697	China	17,397	4.2	14.0
3	Hong Kong, China	11,444	Hong Kong, China	13,702	Hong Kong, China	13,397	-2.2	10.8
4	Korea	8,508	Korea	9,894	Korea	9,040	-8.6	7.3
5	Chinese Taipei	6,920	Chinese Taipei	8,289	Chinese Taipei	8,136	-1.8	6.6
6	Netherlands	5,716	Netherlands	6,723	Singapore	6,822	1.8	5.5
7	Singapore	5,565	Singapore	6,699	Netherlands	6,279	-6.6	5.1
8	Germany	5,542	Germany	6,371	Germany	5,883	-7.7	4.7
9	Philippines	3,765	Thailand	4,350	Thailand	4,180	-3.9	3.4
10	Thailand	3,714	Philippines	3,911	Malaysia	3,750	-1.2	3.0

Source: Trade Commission of Mexico in Japan with data of the METI of Japan and JEITA.

Imports

As far as the Japanese importing of electronic and IT products is concerned, it grew 5.5 percent from the previous year, reaching record level and breaking the previous record posted in 2004.

Most imports of consumer electronic equipment increased, except for video equipment like TVs, digital cameras and video cameras. This was due to the growing shift production of Japanese manufacturers in overseas locations, as well as the increase of domestic demand.

Imports of industrial electronic equipment grew 7.6 percent in 2005, to US\$25,423 million. This was due to the increase in the imports of computers and related equipment. Similarly, imports of electronic components and devices rose 4.3 percent from the previous year.

Electronic and Information Technology Industries Imports, 2000 – 2005
(US\$ million)

Year	2000	2001	2002	2003	2004	2005	Change 05/04 (%)
Consumer electronic equipment	4,937	5,524	4,855	5,166	6,780	7,125	5.1
Video equipment	2,807	3,361	2,847	3,216	4,481	4,216	-5.9
Audio equipment	2,130	2,163	2,008	1,949	2,299	2,909	26.5
Industrial electronic equipment	23,634	21,032	19,176	21,031	23,617	25,423	7.6
Communications equipment	3,113	2,945	2,304	2,356	2,541	2,789	9.8
Telecommunications systems	2,487	2,494	1,695	1,558	1,407	1,609	14.4
Radio communication systems	625	451	609	798	1,134	1,180	4.1
Computers and related equipment	17,536	15,098	14,267	15,830	17,589	18,846	8.5

Electronic application equipment	1,407	1,474	1,435	1,576	1,908	2,158	13.1
Electric measuring instrumentation	1,191	1,195	909	987	1,307	1,421	8.7
Electronic business machines	387	320	261	281	272	209	-23.4
Electronic components and devices	39,447	32,697	31,027	34,708	42,004	43,803	4.3
Electronic components	4,678	4,093	3,973	4,739	5,635	6,004	6.6
Passive components	1,346	1,150	1,092	1,112	1,243	1,276	2.6
Connecting components	732	604	610	725	870	902	3.6
Electronic boards	579	601	652	992	1,287	1,295	0.7
Transducers	1,241	998	926	990	1,085	1,118	3.0
Others	780	740	693	919	1,150	1,413	22.9
Electronic devices	19,334	15,323	14,666	16,725	20,280	20,687	2.0
Electronic tubes	212	177	151	156	141	125	-11.0
Discrete semiconductors	1,252	1,098	1,205	1,498	1,885	2,008	6.5
Integrated circuits (ICs)	17,869	14,048	13,309	15,071	18,254	18,554	1.6
Parts and accessories	15,435	13,281	12,388	13,244	16,089	17,112	6.4
TOTAL	68,017	59,253	55,059	60,904	72,401	76,351	5.5

Source: Trade Commission of Mexico in Japan with data of the METI of Japan and JEITA.

Imports from Asia increased 6.4 percent and accounted for 79.1 percent of total Japanese electronic and IT imports in 2005. North America was the second most important source of electronic and IT imports. Imports from Europe grew 4.2 percent from the previous year and accounted for 6.1 percent of total Japanese imports in this industry.

Imports from Central and South America increased 34.9 percent in 2005 from the previous year and made up 1.1 percent of total Japanese imports in this industry.

Electronic and Information Technology Industries Imports by Region, 2000 – 2005 (US\$ million)

Year	2000	2001	2002	2003	2004	2005	Change 05/04 (%)	Share (%)
Region								
Asia	44,344	39,538	39,191	46,077	56,785	60,397	6.4	79.1
Asia NIES	21,158	16,405	15,134	16,798	19,172	19,198	0.1	25.1
ASEAN 10 Economies	18,762	16,367	14,060	14,959	17,572	16,413	-6.6	21.5
China	8,167	9,733	12,403	16,899	22,678	27,391	20.8	35.9
Europe	6,020	5,090	4,187	4,157	4,449	4,635	4.2	6.1
Europe Union	5,781	4,846	3,990	3,936	4,205	4,375	4.0	5.7
North America	16,756	13,846	10,907	10,009	10,489	10,415	-0.7	13.6
Central & South America	784	706	705	594	624	842	34.9	1.1
Africa	15	7	8	9	11	9	-15.6	0.0
Oceania	98	66	55	58	44	52	18.2	0.1
Total	68,017	59,253	55,059	60,904	72,401	76,351	5.4	100.0

Source: Trade Commission of Mexico in Japan with data of the METI of Japan and JEITA.

NIES: Newly Industrialized Economies. ASEAN: Association of South East Asian Nations

In terms of the origin, China took the first place for the fourth consecutive year totaled US\$27,391 million, up 20.8 percent from the previous year and occupied 35.9 percent of Japanese total imports of the sector.

United States ranked second with US\$9,988 million, but registered 1.3 percent down from the previous year. Imports from the United State occupied 13.1 percent. The third most important economy that exported electronic and IT products to Japan was Chinese Taipei with US\$ 8,797 million, that represented 11.5 percent share of the market and Korea ranked four with US\$ 7,117 million, decreasing 5.9 percent from the previous year.

Electronic and Information Technology Industries Exports by Economy, 2003 – 2005
(US\$ million)

Year	2003		2004		2005		Change 05/04 (%)	Share (%)
	No.	Economy	Value	Economy	Value	Economy		
1	China	16,899	China	22,678	China	27,391	20.8%	35.9%
2	USA	9,663	USA	10,119	USA	9,988	-1.3%	13.1%
3	Chinese Taipei	7,167	Chinese Taipei	8,290	Chinese Taipei	8,797	6.1%	11.5%
4	Korea	6,472	Korea	7,566	Korea	7,117	-5.9%	9.3%
5	Malaysia	4,447	Malaysia	5,194	Malaysia	4,654	-10.4%	6.1%
6	Philippines	3,495	Philippines	4,318	Thailand	3,998	8.5%	5.2%
7	Thailand	2,971	Thailand	3,684	Philippines	3,588	-16.9%	4.7%
8	Singapore	2,784	Singapore	2,924	Singapore	2,918	-0.2%	3.8%
9	Germany	1,327	Germany	1,600	Germany	1,660	3.8%	2.2%
10	Indonesia	1,023	Indonesia	1,166	Indonesia	941	-19.3%	1.2%

Source: Trade Commission of Mexico in Japan with data of the METI of Japan and JEITA.

III. Trade Negotiations Related to the Industries

Up until today, Japan has signed three Economic Partnership Agreements (EPAs), which include concepts of free trade agreements. Those agreements are with Mexico, Singapore and Malaysia.

Within each of these three EPAs, there is a special chapter regarding direct Investment.

Mexico-Japan Economic Partnership Agreement

The Mexico-Japan Economic Partnership Agreement (MJEPA) was signed on September 2004 and implemented on 1 April 2005.

One of the objectives of the agreement is to increase the number of investment opportunities as well as to strengthen the protection for investment activities in both economies.

The MJEPA not only established that each party agreed to provide National Treatment and Most-Favored-Nation Treatment to the investors of the other Party, but it also established the following issues:

- All investments will be in accordance with the international law, and must involve fair and equitable treatment, full protection and security.
- Neither party expropriates or nationalizes an investment of an investor of the other Party in its area either directly or indirectly through measures tantamount to expropriation or nationalization.
- With respect to measures, such as restitution, indemnification, compensation or any other settlement, it adopts or maintains relating to losses suffered by investments in its area owing to armed conflict, civil strife or any other similar event.

- Each party will allow all transfers made by investors of the other party to be made in its area, freely and without delay.
- Neither party may require appointing to senior management positions individuals of any particular nationality.
- A party may require that a majority of the board of directions, or any committee thereof, be of a particular nationality, or be a resident of the party, provided that the requirement does not materially impair the ability of the investor to exercise control over their investment.
- Neither party may impose or enforce any performance requirements, commitment or undertaking in connection with the establishment, acquisition, expansion, management, conduct or operation of an investment of an investor of either party in its area.
- The MJEPA establishes a mechanism for the settlement of investment disputes that assures both equal treatment among investors of the Parties and due process before an impartial tribunal.
- The MJEPA enabled both Japan and Mexico to eliminate all import taxes for electronic and IT products.

Japan-Singapore Economic Partnership Agreement

The Japan-Singapore Economic Partnership Agreement (JSEPA) was implemented on 30 November 2002.

The JSEPA also established that each party needed to provide National Treatment and Most-Favored-Nation Treatment to investors of the other party while also establishing the following issues:

- Neither party may impose or enforce any performance requirements, commitment or undertaking in connection with the establishment, acquisition, expansion, management, conduct or operation of an investment of an investor of either party in its area.
- Each party approved to allowing investments of the other party to be made in its territory with fair and equitable treatment, full protection and security. Neither Party shall expropriate or nationalize investments in its territory of an investor of the other party or take any measure equivalent to expropriation or nationalization.
- Each party agreed that investors of the other party that have suffered loss or damage to their investments in the territory of the former party due to armed conflict, or states of emergency such as revolution, insurrection and civil disturbance, treatment, are entitled to restitution, indemnification, compensation or any other settlement,
- Each party must allow all payments relating to investments in its territory of an investor of the other party to be freely transferred without delay.
- In the event of an investment dispute, it will be settled amicably through consultation between the parties.
- For an effective implementation of investment promotion, a Joint Committee on Investment will be established.

As a result of the JSEPA, Japan and Singapore now cooperate to promote the development of the information and communication technology (ICT) and ICT related services, such as the facilitation of

the procedures of accreditation/recognition of the certified authorities. In order to make the implementation efficient and effective, the Joint Committee of ICT was established.

The JSEPA also enabled both economies to eliminate all import taxes for electronic and IT products.

Japan-Malaysia Economic Partnership Agreement

The Japan – Malaysia Economic Partnership Agreement (JMEPA) was signed on 13 December 2005 and was implemented on 13 July 2006.

Similar to the previous two EPA Japan had signed, the JMEPA established the following issues to promote and protect the investments of both parties:

- National Treatment
- Most-Favored-Nation Treatment
- Fair and equitable treatment, full protection and security
- Access to the Court of Justice
- Prohibition of performance requirements
- Expropriation and Compensation
- Protection from strife
- Free flowing transfers
- Settlement of investment disputes
- Facilitation of movement of investors
- Cooperation in facilitation and promotion of investments
- Sub-Committee of Investment.

At this time, the Japanese government is either currently in negotiation or planning to start negotiations regarding EPAs with the following economies:

Thailand, the Philippines, Indonesia, Viet Nam, Brunei Darussalam, with the ASEAN group, Korea, Chile, GCC States (Bahrain, Omar, Qatar, Saudi Arabia, UAE and Kuwait), India, Switzerland and Australia.

Investment Promotion and Protection Agreements

Japan has already signed Investment Promotion and Protection Agreements with the following economies: Egypt, Sri Lanka, China, Turkey, Pakistan, Bangladesh, Russia, Mongolia, Korea, Viet Nam and Hong Kong, China.

These agreements aim at promoting and protecting investments with each economy. In general, this guarantees national treatment and most-favored-nation treatment to the investors of both countries and their investments at the stage of pre-investment, while also prohibiting the respective authorities from imposing performance requirements to provide rules in terms of liberalization, promotion and protection of investment in a comprehensive manner.

Information Technology Agreement (ITA)

Japan is one of the 29 original member economies that signed the Ministerial Declaration on Trade in IT Products, which was concluded at the Singapore Ministerial Conference in December 1996. The Information Technology Agreement (ITA) entered into force with the first staged reduction in tariffs occurring on 1 July 1997.

IV. Programs and special incentives to the industry

Foreign Direct Investment (FDI) not only brings new products, services, technologies, and businesses to Japan, but also creates new employment opportunities. It is seen by the government that FDI will contribute to Japan's growth and prosperity in the 21st century. Thus, the government aims to increase FDI to about 5 percent of GDP by 2010, doubling the current level.

For this purpose, a new program called "Attract Foreign Direct Investment Promotion Program" was implemented. It indicates the importance of the following five points.

1. Involving highly ranked government officials to attract FDI to Japan.
2. Improving the business environment, ie, facilitating cross-border mergers and acquisitions (M&A).
3. Reviewing the administrative processes to make it clearer, simpler and faster. For example, establish a single point of contact in each relevant ministry.
4. Creating favorable employment and living environments by broadening entry requirements for engineers and researchers, assisting foreign students in finding jobs, etc.
5. Improving local and national structures to and systems to attract FDI, ie, assist autonomous efforts by local governments or examine utilization of the special zones for structural reform system.

The Invest Japan Business Support Centers (IBSCs)

To promote FDI in Japan, the Japanese government established "Invest Japan Business Support Centers (IBSCs)" within the Japan External Trade Organization (JETRO) to serve as one-stop centers providing support and information on investment. The IBSCs mainly provide the following information on investment procedures to foreign businesses setting up an operation in Japan.

- Advice on market entry.
- Information on the regulations and incentives from national and local governments.
- Estimation of the cost to set up an office in Japan.
- Help with procedural requirements for establishing a business.
- The finding of a location for the office.
- Searching for qualified staff.

Additionally, IBSC provides temporary offices that can be used free of charge for up to 50 business days. These offices include basic equipment such as desks, chairs, cabinets, telephones and fax machines (with private lines). All rooms have broadband connections.

The temporary offices are in easily accessible locations within Japan's important business centers, including downtown Tokyo, Yokohama, Nagoya, Osaka, Kobe, and Fukuoka. These offices are furthermore located near government offices for convenience in delivering notifications and applications, conducting business negotiations, and making other preparations for a smooth establishment of their business.

The Office of Trade and Investment Ombudsman (OTO)

OTO is a Japanese government body with the primary function to process and address complaints from overseas and domestic enterprises concerning specific government regulations, which act as obstacles in Japan's improvement of their exports and investments. The OTO scope is very wide since it is comprised of many representatives of relevant government ministries and agencies, such as customs brokers and counselor offices, regional economic trade and industry bureaus, general quarantine offices, animal quarantine stations, plant epidemic prevention stations, regional transport bureaus, embassies and consulates as well as JETRO offices.

Recently, there have been some changes in the Japanese legal framework and business environment. A brief description of the changes is as follows.

Commercial laws and major elements of the economic legal framework

In recent years, Japan has made major revisions to both its commercial laws and major elements of its legal economic framework, as it has responded with speed and flexibility to changes in the business environment and globalization.

The following are most relevant changes:

Major reforms under the Corporate Law:

Areas of reform	Specific measures
Relaxation of restrictions concerning establishment of corporations, etc.	Abolition of minimum capital requirements
	Partial abolition of the requirement for a financial institution to issue a "capital custody certificate"
	Abolition of the regulation on corporate names similar to those registered by other companies
Corporate reorganization	Expansion of the scope of simplified organizational restructuring
	Introduction of informal organizational restructuring
	Flexibility in the form of compensation in mergers, etc. (Abolition of a number of stipulations and application procedures, including those concerning cash payments or transfers of stock of the acquiring company's parent company)
Flexibility in corporate organizational structure	Integration of systems of Yugen Kaisha (limited liability company) and Kabushiki Kaisha (a joint stock company) into one system
	Ability of corporate organizational structure without Board of Directors and/or statutory auditor for companies with stock transfer restrictions
Creation of new types of entities	Creation of a Godo Kaisha, or Japanese-version Limited Liability Company (LLC)
	Creation of Yugensekinin Jigyo Kumiai, or a Japanese-version Limited Liability Partnership (LLP) (Creation under the Law Concerning Yugensekinin Jigyo Kumiai Contracts)

Details of major revisions to the Commercial Code prior to enactment of the Corporate Law:

Areas of reform	Specific measures	Date of enactment
Enhancement of corporate governance	Clarification of responsibilities of executive officers	May 2002
	Strengthening of the auditing system	May 2002
	Introduction of a system of outside board members	April 2003
	Introduction of a corporate system for the establishment of committees	April 2003
Response to the information-oriented society	Paperless business documents	April 2002
	Paperless notification of General Shareholders Meetings and digital voting at such meetings	April 2002

Improving the capital procurement system and others	Abolition of restrictions on corporate bond issuance limit	October 1993
	Abolition of par value stock requirement	October 2001
	Lift of ban on treasury stock	October 2001
	Abolition of limits on maximum authorized stock at time of establishment and limits on new stock issuance	April 2002
	Introduction of corporate bonds with subscription warrants	April 2002
	Introduction of tracking stocks	April 2002
	Abolition of a foreign company's obligation to establish office in Japan	April 2003

Softening of legal restrictions on:

Areas of reform	Specific measures	Revision of Law (Date of Enactment)
Lifting of the ban on pure holding companies	Lifting of the ban on holding group companies through creation of pure holding company	Amendment to the Anti-monopoly Law (December 1997)
Lifting of the ban on financial holding companies	Lifting of the ban on financial holding companies which have banking, equity, or insurance businesses as subsidiaries	Establishment of two laws pertaining to financial holding companies (March 1998)
Creation of system for stock swaps (exchange and transfer)	Making it easier to create a holding company or totally owned subsidiary	Amendment to the Commercial Code (October 1999)
Assistance as to business restructuring and restructuring of corporations	Facilitating business restructuring and joint business restructuring, etc.	Establishment of Law on Special Measures for Industrial Revitalization (October 1999)
Merger & acquisitions to improve profitability	Support for swift transfers of businesses	Creation of Civil Rehabilitation Law (April 2000)
Creation of corporate divestiture systems	Making it easier to organize operations among subsidiaries and making it easier for specific business divisions to become subsidiaries	Amendment to the Commercial Code (April 2001)
Flexibility in form of compensation paid in mergers, etc.	Enabling cash payment or transfer of stock of the acquiring company's parent company	Amendment of the Law on Special Measures for Industrial Revitalization (March 2003)
	Abolition of the fixed stipulations and approval system	Creation of Corporate Law (March 2006)

Adoption of new accounting standards

The application of new accounting standards based on international accounting standards makes it easier to make comparisons between companies in Japan and parent companies overseas.

Areas of reform	Specific measures	Year of application
Transfer to a disclosure system through consolidated accounting	Obligation imposed on public companies to compile and disclose consolidated financial statements (Revision to Securities and Exchange Law)	April 1999
Obligatory tax effect accounting	Obligation imposed on public companies to apply tax effect accounting (Revision to Securities and Exchange Law)	
Application of accounting standards to R&D expenses, etc.	Obligation to incorporate costs incurred in R&D activities into accounting statements (Revision to Regulations on Financial Statements)	
Application of mark-to-market accounting for certain financial products	Application of mark-to-market accounting for financial products, such as publicly traded securities. ("Accounting standards for financial products" was announced by the Business Accounting Council of the Financial Services Agency)	April 2000
Application of accounting for retirement benefits	Establishment of rule that the sum of retirement benefit obligations exempt from external reserve pension assets shall be reflected in a retirement reserve allowance. ("Opinions Concerning the Setting of Accounting Standards for Retirement Benefits" announced by the Business Accounting Council)	
Application of mark-to-market accounting for stock owned	Introduction of mark-to-market accounting to common stock and other securities owned. ("Accounting Standards for Financial Products" announced by the Business Accounting Council)	April 2001
Application of consolidated tax return system	Application of corporate tax on consolidated basis to corporate members of a corporate group (Revision to Corporation Tax Law, etc.)	April 2002
Application of asset impairment accounting	Introduction of asset impairment accounting for fixed assets ("Guidelines for Application of Accounting Standards for Asset Impairment of Fixed Assets" announced by the Business Accounting Council)	April 2005

Revisions to the taxation system in 2004 (fiscal year)

Major tax reduction measures:

- In accordance with the revision of the Japan-US Income Tax Convention, there has been a substantial reduction in the level of taxes imposed on investment income (dividends, interest and usage fees) in the country of origin. Capital gain rates have been reduced with respect to sales of unlisted stocks, and there has been an expansion of the scope of venture companies eligible for the "Angel Tax System," aimed at SMEs and venture companies.

- The carry-over period for a corporation's losses has been extended from five to seven years.
- Consolidated additional taxation from perspective of business restructuring assistance has been abolished.

Special incentives to the electronic and information technology industries by regional prefecture government

Prefecture and Municipal level of Local Governments offer their own incentive measures to attract direct investments from foreign companies. Some of the incentive measures provided by local governments for attracting investment of electronic and IT industries are listed below:

Local Government	Type of Industry	Requirements	Investment amount	Incentive	Ceiling of incentive
Hokkaido	IT Industry	Establishment of new factory	New investment more than 10 billion yen (aprox. US\$90 million) or generation of more than 100 employees	10% of total investment in case of new establishment of factory. 5% in case of expansion of existing factory	1.5 billion yen (US\$13 million)
Hokkaido	IT industry	Generation of new employees	More than 100 million yen (US\$0.9 million) or more than 15 new employees	500 thousand yen (US\$4,500) per new employee	200 million yen (US\$1.8 million)
Aomori	IT industry	Companies invited by the Prefecture Government	More than 300 million yen (US\$2.7 million) of new investment and generation of more than 20 employees	300 million yen (US\$2.7 million). In case of expansion of existing factory, 100 million yen (US\$0.9 million)	
Akita	IT industry	Foreign affiliated	100 million yen (US\$0.9 million) acquired fixed assets	20% of acquired fixed assets	1,500 million yen (US\$13 million)
Yamagata	Electronic industry	Industrial park within the prefecture	Fixed asset acquisition cost (excluding land) = more than 100 million yen (US\$0.9 million)	20% of acquired fixed assets	Up to 3,000 million yen (US\$27 million)
Niigata	Electronic and IT industries	Newly established or expansion of factory			5 billion yen (US\$45 million).
Gifu	IT industry		More than 30 million yen	10% of acquired fixed	1 billion yen (US\$9 million)

Local Government	Type of Industry	Requirements	Investment amount	Incentive	Ceiling of incentive
			(US\$0.27 million) fixed asset acquisition cost and more than 5 new employees	assets	million)
Mie	Electronic Industry	FPD (Flat Panel Display) related manufactures	More than 500 million yen (US\$4.5 million) fixed assets and 20 new employees	10% of acquired fixed assets	1 billion yen (US\$9 million)
Kyoto	IT industry		More than 50 million yen (US\$0.45 million) fixed asset acquisition cost and more than 5 local employees newly haired	10% of acquired fixed assets and 300 thousand yen per newly hired local employee	2 billion yen (US\$18 million).
Hyogo	IT industry	Generate more than 11 new local employees		Subsidy for new local employees: 0.6 million yen to 1.2 million yen/person	
Hyogo	IT Industry		The amount of investment concerning high technology type industry (excluding land) 5 billion yen or more	Less than 3% of acquired fixed assets	No limit (10 billion yen per year for grant)
Shimane	Electronic industry		More than 300 million yen (US\$2.7 million) of new investment and generation of more than 20 employees	15% of acquired fixed assets	700 million yen (US\$6.3 million).
Fukuoka	IT and Semiconductor	Capital investment (excluding land value) shall exceed 500 million yen and 10 or more prefecture residents shall be newly		2% of the acquisition costs for buildings, machinery and equipment or half of the lease costs	Up to 150 million yen per event

Local Government	Type of Industry	Requirements	Investment amount	Incentive	Ceiling of incentive
		employed			
Fukuoka	IT and Semiconductor	Capital investment (excluding land value) shall exceed 5 billion yen and 50 or more prefecture residents shall be newly employed		2% of the acquisition costs for buildings, machinery and equipment or half of the lease costs	Up to 300 million yen per event
Fukuoka		Capital investment (excluding land value) shall exceed 5 billion yen and 100 or more prefecture residents shall be newly employed			Up to 500 million yen per event

Source: Trade Commission of Mexico in Japan with data of each Prefecture.

V. The Private Sector in the industries

The following are some of the companies involved in the electronic and information technology industries.

Company	<i>Hitachi, Ltd.</i>	Hitachi, Ltd. is the largest comprehensive manufacturer of electrical machinery. It has business alliances with Mitsubishi Electric in the field of LSI systems and NEC in the field of DRAMs. The priority of the company is to improve its HDDs, LCDs and Panel TVs sections.
Chief Executive Officer	Mr. Etsuhiko Shoyama	
Address	1-6-6, Marunouchi, Chiyda-ku, Tokyo, 100-8280, Japan	
Tel/Fax	(81-3) 3258 1111	
Website	www.hitachi.co.jp	
Products	PCs, HDDs, LCDs, Panel TVs, Batteries , Lamps , Visual Audio, Data Media, Beauty, Air Conditioners , AV Equipment, Mobile Phones, Home Equipment, Power Generation & Transmission , Energy Saving, Industrial System , Construction Machinery, Semiconductors , Device, Electronic Devices, Automotive Equipments	Annual Sales: US\$82.3 billion (March 2006) Number of employees: 41,157 (March 2006)
Company	<i>Matsushita Electric Industrial Co., Ltd.</i>	Panasonic (Matsushita Electric Industrial Co., Ltd) is one of the largest electronic product manufacturers in the world, comprised of over 600 companies. The company manufactures and markets over 15,000 products under brands such as Panasonic and National all around the world.
Chief Executive Officer	Mr. Fumio Ohtsubo	
Address	1006, Kadoma, Kadoma City, Osaka 571-8501, Japan	
Tel/Fax	(81-6) 6908 1121	
Website	www.panasonic.net	

Products	Digital AV like TVs, Digital Video Camera, DVD and VCR. Mobile phones, Car Navigation System, Air Conditioner, Washing Machine, Vacuum Cleaner, Batteries, Refrigerator, Microwave Oven, Digital Imaging System, Electronic Board, Business Telephone System, High-Speed Scanner, Network Camera, Passive & Electromechanical Semiconductors	Annual Sales: US\$77.3 billion (March 2006) Number of employees: 45,658 (March 2006)
Company	Sony Corporation	Sony is a globally renowned manufacturer of consumer electronics and the world's largest manufacture of audio and video equipment. It is enjoying rapid growth in the game business. Its business is diversifying into movies, music and finance, such as insurance. Capital investment is focused on the semiconductor field.
Chief Executive Officer	Mr. Howard Stringer/ Mr. Ryoji Chubachi	
Address	6-7-35 Kitashinagawa, Shinagawa-ku, Tokyo 141-0001, Japan	
Tel/Fax	(81-3) 5448 2111	
Website	www.sony.co.jp	
Products	Audio, car navigation systems, Video cameras, digital still cameras, video decks, and DVD-Video players/ recorders, and Digital-broadcasting receiving systems, CRT-TVs, projection TVs, PDP TVs, LCD TVs, PC, printer system, portable information PC, broadcast and professional use audio/video/monitors, LCD, CCD and other semiconductors, batteries.	Annual Sales: US\$65.0 billion (March 2006) Number of employees: 16,194 (March 2006)
Company	Toshiba Corporation	Toshiba is one of largest comprehensive electrical machinery manufacturers. It is highly competitive in fields of heavy electric machinery, social infrastructure, semiconductors and note type PCs. Its NAND type flash memories are also faring well.
Chief Executive Officer	Mr. Atsutoshi Nishida	
Address	1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, Japan	
Tel/Fax	(81-3) 3457 4511	
Website	www.toshiba.co.jp	
Products	Mobile phones, TVs; digital high-definition TVs; projectors; industrial and surveillance cameras; HD DVD players, DVD players and HDD & DVD recorders; digital audio players, PCs, Notebook PCs, Servers, NAND flash memories; MCPs; broadband system LSIs, opto-semiconductor devices, SED, LCD, Power system, home appliances	Annual Sales: US\$55.1 billion (March, 2006) Number of employees: 31,595 (March, 2006)
Company	Nec Corporation	NEC is one of Japan's representative high-tech companies. The company is focusing on the solution business. It is growing in the semiconductor business.
Chief Executive Officer	Mr. Kaoru Yano	
Address	7-1, Shiba 5-chome Minato-ku, Tokyo 108-8001 Japan	
Tel/Fax	(81-3) 3454 1111	
Website	www.nec.co.jp	
Products	Notebook PCs, Desktop PCs, Mobile Computers, LCD Monitors, Plasma Display Monitors, Optical Disk Drives, Projectors, Printers, POS Systems, Super Computers, Servers, Storage Area Network (SAN), Microcomputers, ASIC, ASSP, Discretes, Memory, Opto / RF & Microwave Devices	Annual Sales: US\$41.9 billion (March 2006) Number of employees: 23,631 (March 2006)
Company	Fujitsu Limited.	The company is the largest computer manufacturer in Japan and a world top-class player. Also it is a major producer of semiconductors and communication equipment. It is a top ranked company in software services in Japan. The company is currently strengthening Internet business, and is highly reliant on public demand. The company's operational profit is continuing o rise despite depreciation in the first phase construction of the LSI plant in Mie, Japan.
Chief Executive Officer	Mr. Hiroaki Kurokawa	
Address	Shiodome City Center 1-5-2 Higashi-Shimbashi Minato-ku, Tokyo 105-7123, Japan	
Tel/Fax	(81-3) 6252 2220	
Website	www.fujitsu.com	

Products	Notebooks, Laptops, LifeBooks, Mobile Workstations, Workgroup, Mid-Range & Enterprise Servers, Hard Disk Drives, Magneto-Optical Drives, Enterprise Storage Systems, Network Attached Storage, Scanners, Printers, Keyboard/Mice Input Devices, ATMs, Financial Software, Branch & Delivery Systems, Financial Document Printers, Point-of-Service (POS) Terminals, Barcode Scanners, Handheld Devices for Wireless Retail Networks	VII. <u>Annual Sales: US\$41.6 billion (March 2006)</u> Number of employees: 36,820 (March 2006)
Company	Canon Inc.	Canon is a top ranked manufacturer of PC printers, with a LBP accounting for 60% of its market share. It is globally known for Canon brand cameras. It is advancing to large display SEDs (surface-conduction electron-emitter display).
Chief Executive Officer	Mr. Fujio Mitarai	
Address	30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo 146-8501, Japan	
Tel/Fax	(81-3) 3758-2111	
Website	www.canon.co.jp	
Products	Digital Multifunctional Devices, Copying Machines, Laser Facsimiles, Laser Beam Printers, Inkjet Printers, Inkjet Multifunctional Devices, Image Scanners, Computers, Handy Terminals, Calculators, Electronic Dictionaries, Digital Cameras, Film Cameras, Digital Video Cameras, LCD Projectors, Semiconductor Production Equipment, Mirror Projection Mask Aligners for LCDs, Ophthalmic Equipment, Medical Image Recording Equipment	Annual Sales: US\$32.6 billion (March 2006) Number of employees: 19,707 (March 2006)
Company	Mitsubishi Electric Corporation	Mitsubishi Electric ranks third among the comprehensive electrical machinery manufacturers in Japan, with FA products as a major earnings source. It is highly competitive in the defense electronics and aerospace area. The company is globally renowned for power transmission.
Chief Executive Officer	Mr. Setsuhiro Shimomura	
Address	2-7-3, Marunouchi, Chiyoda-ku, Tokyo 100-8310, Japan	
Tel/Fax	(81-3) 3218 2111	
Website	www.mitsubishielectric.co.jp	
Products	Communication Systems, Information Security, Multimedia Projectors, Intelligent Transport Systems, Electron Beam Machines, Electronic Devices, Industrial Automation, Solar Power, LCD TVs, Plasma TVs, DVD, VCR, Air Conditioning Systems, Elevators & Escalators, High-speed Hand Dryer, Power line Communication, Space Systems, Transportation Systems, Contact Image Sensors	Annual Sales: US\$31.3 billion (March 2006) Number of employees: 27,832 (March 2006)
Company	Sharp Corporation	Sharp Corporation is a major producer of consumer electronics and the world's largest maker of LCD TVs. It is a top-ranked corporation in photovoltaic power generation panels. It has a technological edge for mobile communications using semiconductors and optics. Its sales volume of LCD TVs has increased by 50% to 6 million units.
Chief Executive Officer	Mr. Katsuhiko Machida	
Address	22-22 Nagaïke-cho, Abeno-ku, Osaka 545-8522, Japan	
Tel/Fax	(81-6) 6625 3000	
Website	www.sharp.co.jp	
Products	PCs, PDAs, mobile communications handsets, , LCD color monitors, PC software, digital copier/printers, LCD TVs, DVD recorders, mobile phones, Flash memories, CCD/CMOS imagers, LSIs for LCDs, TFT LCD modules, Duty LCD modules, System LCD modules, optoelectronics, regulators, switching power supplies, solar cells, LEDs, analog ICs	Annual Sales: US\$24.3 billion (March 2006) Number of employees: 22,949 (March 2006)
Company	Sanyo Electric Co., Ltd.	Sanyo Electric is a major comprehensive manufacturer of consumer electronics. It is a globally top ranked maker of secondary batteries.
Chief Executive Officer	Mr. Toshimasa Iue	
Address	5-5, Keihan-Hondori 2-Chome, Moriguchi City, Osaka 570-8677, Japan	
Tel/Fax	(81-6) 6991 1181	
Website	www.sanyo.co.jp	

Products	LCD Projector, Digital Camera, Air-Conditioning Equipment, Solar power generating system, Semiconductor, Electronic Components and devices, Biomedical Equipment	Annual Sales: US\$21.6 billion (March 2006) Number of employees: 14,137 (March 2006)
Company	<i>Seiko Epson Co.</i>	Seiko Epson is a leading printer manufacturer. It ranks highly domestically and is one of the world's largest players in the ink jet printer, LCD projector and electronic devices market. It is also highly competitive in small and medium size LCD modules for mobile phones.
Chief Executive Officer	Mr. Seiji Hanaoka	
Address	3-3-5, Owa, Suwa-shi, Nagano-ken, 392-8502, Japan	
Tel/Fax	(81-2) 6652 3131	
Website	www.epson.jp	
Products	Information-related equipment (computers and peripherals, including PCs, printers, scanners and projectors), electronic devices (semiconductors, displays, and quartz devices), precision products (watches, plastic corrective lenses, and factory automation equipment) and other products	Annual Sales: US\$13.4 billion (March 2006) Number of employees: 12,414 (March 2006)
Company	<i>Kyocera Corporation</i>	Kyocera is a major comprehensive ceramics manufacturer. It is highly competitive in ceramic products such as IC packages and capacitors. The company is also a major maker of telecommunication equipment. Its production of semiconductor parts, electronic devices and telecommunication equipment sections is currently growing.
Chief Executive Officer	Mr. Makoto Kawamura	
Address	6 Takeda Tobadono-cho, Fushimi-ku, Kyoto 612-8501, Japan	
Tel/Fax	(81-7) 5604 3500	
Website	www.kyocera.co.jp	
Products	Fine Ceramic Components, Semiconductor Components, Optoelectronic Products, Ultra High Vacuum Components, Organic IC Packages, Capacitors, Timing Devices, Crystal Devices, LCDs, Thermal Printheads, LED Printheads, Amorphous Silicon Photoreceptor Drums, Solar Module, Printers, Digital Copiers, Wireless Network Systems, Solar Power Generating Systems, Mobile Phones, Digital Cameras	Annual Sales: US\$10.2 billion (March 2006) Number of employees: 12,457 (March 2006)
Company	<i>Renesas Technology Corp.</i>	Renesas Technology Corp. is a company specializing in the manufacture of semiconductor devices. It was established in April 2003 through the merger of the semiconductor divisions of Hitachi Ltd. and Mitsubishi Electric Corporation.
Chief Executive Officer	Mr. Satoru Ito	
Address	Marunouchi Bldg., 4-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-6334, Japan	
Tel/Fax	(81-3) 6250-5500	
Website	www.renesas.co.jp	
Products	System LSIs, including microcomputers, logic and analog devices, discrete devices and memory products, including flash memory and SRAM.	Annual Sales: US\$7.8 billion (March 2006) Number of employees: 10,000 (March 2006)
Company	<i>Victor Company of Japan, Ltd.</i>	Victor Company of Japan is a leading manufacturer of electronic home appliances, with car AV products and digital cameras as a major earnings source. It was also an original developer of home-use VHS formatted VCRs. It is also engaged in the music related business. It is a group firm of Matsushita Electric Industry.
Chief Executive Officer	Mr. Masahiko Terada	
Address	12, Moriya-cho 3-chome, Kanagawa-ku, Yokohama, 221- 8528	
Tel/Fax	(81-4) 5450-1652	
Website	www.jvc-victor.co.jp/	
Products	AV & Multimedia Accessories, Video Accessories, Movie Entertainment, JVC Affordable HD solution, Video Surveillance Products, Visual Network System, Imaging camera products, Professional DV Products, Professional Camcorders & Editing Equipment, D-ILA Projectors, Components & Device, Factory Automation System, Card Printer, Test Media	Annual Sales: US\$7.0 billion (March 2006) Number of employees: 6,602 (March 2006)
Company	<i>TDK Corporation</i>	TDK is a major manufacturer of electronic parts such as ferrite cores. It is the world's largest maker of magnetic tapes and ferrites. It also engaged in the production of floppy disks.
Chief Executive Officer	Mr. Takehiro Kamigama	
Address	1-13-1, Nihonbashi, Chuo-ku, Tokyo, 103-8272, Japan	

Tel/Fax	(81-3) 3278-1111	
Website	www.tdk.co.jp	
Products	EMC, Inductors(Coils), RF Components, Ferrite Cores for the Radio Frequency Identification (RFID) systems, Magnets, Sensors, Flash Memory Controller, Noise Suppressing Sheets, Magnetic Sheets, Radio Wave Absorbers, High-intensity/Long Operation Organic EL Display	Annual Sales: US\$6.9 billion (March 2006) Number of employees: 5,169 (March 2006)
Company	Pioneer Corporation	
Chief Executive Officer	Mr. Tamihiko Sudo	Pioneer is a major manufacturer of high-end audio equipment, especially in regard to car audio systems. It was the first to launch the laser videodisk system in Japan.
Address	1-4-1 Meguro, Meguro-ku, Tokyo 153-8654, Japan	
Tel/Fax	(81-3) 3494 1111	
Website	www.pioneer.co.jp	
Products	Plasma TVs, DVD Recorder, Home theater, System audio, Car navigation system, DVD/ CD writer	
Company	Alps Electric Co., Ltd.	
Chief Executive Officer	Mr. Masataka Kataoka	Alps Electric is a major producer of electronic components. It is highly competitive in components for information-communications and automobiles.
Address	1-7, Yukigaya-otsuka-cho, Ota-ku, Tokyo, 145-8501, Japan	
Tel/Fax	(81-3) 3726 1211	
Website	www.murata.co.jp	
Products	Sensors, switches, Potentiometers, encoders, card connectors, transceiver unit, glidpoint, key-boards, tables, mouse, GMR, LCD, Printer, Wireless Lan Modules, HD heads, remote control units	
Company	Oki Electric Industry Co., Ltd.	
Chief Executive Officer	Mr. Katsumasa Shinozuka	Oki Electric is a major manufacturer of telecommunications equipment with a history of over 100 years. It is noted for its IP (internet protocol) telephone technology. Moreover, it is highly competitive in the data processing systems market and is also strong in the computer terminals market, which includes ATMs and in communications-use LSIs.
Address	7-12, Toranomom 1-chome, Minato-ku, Tokyo 105-8460, Japan	
Tel/Fax	(81-3) 3501 3111	
Website	www.oki.com	
Products	ATN (Aeronautical Telecommunication Network), CTstage, eSound, eVideo, MWINS, Iris Recognition System IRISPASS, FSE (Face Sensing Engine), Face Communicator, ITS (Road/Air), SMART TALK, SMART TALK DLL, Semiconductors, Printers, Optical components	
Company	Murata Manufacturing Co., Ltd.	
Chief Executive Officer	Mr. Yasutaka Murata	Murata is a leading manufacturer specializing in electronic components. It is the world's largest maker of ceramic capacitors and a major maker of ceramic filters for communications equipment. Production of large capacity capacitors and high frequency devices for mobile phones and PCs is growing rapidly.
Address	10-1, Higashikotari 1-chome, Nagaokakyo-shi, Kyoto 617-8555, Japan	
Tel/Fax	(81-7) 5951 9111	
Website	www.murata.co.jp	
Products	Capacitors, Resistors /Thermistors, Coils (Inductors) / Delay Lines, Resonators, Noise Suppression Products / EMI Suppression Filters, Spherical Speaker Products / Sound Components, Filters / Components / Modules for Audio Visual Equipment, Filters / Components / Modules for Communication Equipment, Sensors, Power Supplies, Optical Products	
Company	Elpida Memory, Inc.	
Chief Executive Officer	Mr. Yukio Sakamoto	Elpida Memory was born out of the DRAM business of NEC and Hitachi, and afterwards merged into the same division of Mitsubishi Electric. It is a comprehensive operation ranging from development to production and marketing.
Address	Sumitomo Seimei Yaesu Bldg. 3F 2-1 Yaesu 2-chome, Chuo-ku Tokyo, 104-0028 Japan	
Tel/Fax	(81-3) 3281 1500	
Website	www.elpida.com	

Products	DDR3 SDRAM, DDR2 SDRAM, DDR2 SDRAM Devices, DDR2 DIMM, DDR SDRAM Devices, SDRAM Devices, Mobile RAM, DDR Mobile RAM Devices, SDR Mobile RAM Devices, XDR DRAM Devices, Rambus DRAM Devices	Annual Sales: US\$2.1 billion (March 2006) Number of employees: 771 (March 2006)
----------	--	---

Source: Trade Commission of Mexico in Japan with data of Tokyo Keizai Inc.

VI. The Vision of the Private Sector

<i>The Electronic and Information Technology Industries Survey in APEC</i>
Company: Elpida Memory, Inc.
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>In order to compete with overseas memory makers, three major Japanese DRAM makers, Hitachi, NEC and Mitsubishi Electric founded the company. We concentrate our effort in manufacturing high performance and high value added premium DRAMs in order to be the number one DRAM maker in the world.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>Yes we have. If a supplier has advanced technologies that can manufacture high quality products or offer high level services, we can consider buying products from them.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>Yes, we consider that the business models like OEM, ODM and OSM could provide a good opportunity for SMEs, as long as they have a high level of both technology and performance ability to satisfy their customers.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Yes, we consider free trade agreements, investment promotion and protection agreements as good tools for attracting foreign direct investment. Nevertheless, it is also important to acknowledge the roles of the technology level, production capability, cost performances and government support.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>Yes, of course. Especially when we compare promotion policies and incentives programs to decide which economy we will establish our new production plant in.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>Nowadays some economies have the same technology level as Japan's. Thus, it is very important for the industry to set up a plant near the market or in the market, in order to reduce cost and take full advantage of the situation.</p>
Other comments:
Date: 17 August 2006

<i>The Electronic and Information Technology Industries Survey in APEC</i>
Company: Matsushita Electric Industry Co., Ltd.
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>In order to be competitive in the world market, Matsushita decided to revise and restructure its overseas operations, closing the manufacturing plants that are suffering serious decrease of sales and incomes. As a result, we would like to integrate small scale manufacturing plants in order to be more productive and competitive.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>We are open to any company that provides us with good quality products and excellent services.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>We consider that in the globalization of economy it is very important and necessary to create open and multilateral alliances with OEM, ODM and OSM companies, in order to attend to the variety of market needs. If each company can create complementary relationship with us, SMEs can be our partner.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Yes, we consider free trade agreements useful for expanding our business.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>Yes, of course. It is a very important factor to decide the location of new factory establishments.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>For our company, overseas business is extremely important to our development. Therefore, we are putting emphasis on enforcing our business abroad. We concentrate our administrative resources on the overseas business, deciding target products and sales routes by region and country. We see the BRICs countries (Brazil, Russia, India and China) as an important market for us. We are currently in the process of creating bases in each country.</p>
Other comments:
Date: 17 August 2006

The Electronic and Information Technology Industries Survey in APEC

Company: Sharp Corporation

1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?

The environment surrounding the electronics industry is rapidly changing as IT and network infrastructure advance, along with the acceleration of technological innovation. Companies worldwide are furiously competing to capture new markets. By once again returning to our business creed of "Sincerity and Creativity" and being an innovator of products and services, Sharp is aiming to become a "one-of-a-kind company that creates 21st century lifestyles with electronics technology.

2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?

We are open to any company that provides us with good quality products and excellent services.

3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?

We consider the mentioned business models as a good opportunity for companies that have a high technological level and cost competitiveness, despite their size.

4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?

Yes, for our business, free trade agreements are a very important factor.

5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?

Yes, of course. It is a very important factor to decide the location of new manufacturing plants.

6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?

We view that the market of energy-saving products and energy creating products would be unavoidable in the future of the electronics industry. Thus, Sharp embraces high ideals for contributing to the preservation of the natural environment through its unique proprietary technologies. Our target is to become an "environmentally advanced company."

Other comments:

Date: 17 August 2006

VII. Government and Private Organizations

Organization	Ministry of Economy, Trade and Industry, Commerce and Information Policy Bureau, Information and Communication Electronics Division	<p>The Commerce and Information Policy Bureau is engaged in the designing of a wide range of measures to promote informatization, whilst also developing the service and distribution industries and protecting consumers.</p> <p>In doing so, the Bureau takes the perspective of both individuals and the economy, with the ultimate goal of creating a richer 21st-century socioeconomic environment</p>
Chairman / Secretary General	Mr. Koezuka Masahiro, Director General	
Members	Not required	
Address	1-1, Kasumigaseki, Chiyoda-ku, Tokyo, 100-8901, Japan	
Tel/Fax	(81-3) 3501 6944	
Website	www.meti.go.jp	
E mail		
Organization	Information-Technology Promotion Agency, Japan	<p>This organization is about developing human resources and technologies to sustain the information industry, as well as tapping for people and technologies with original ideas which form a base for creativity.</p>
Chairman / Secretary General	Mr. Buheita Fujiwara, Chairman	

Members	Not required	
Address	16 th Floor, Bunkyo Green Court, 2-28-8, Hon-Komagome, Bunkyo-ku, Tokyo, Japan 113- 6591	
Tel	(81-3) 5978 7501	
Fax	(81-3) 5978 7510	
Website	http://www.ipa.go.jp/	
E mail		
Organization	<i>International Foundation for Information Technology</i>	
Chairman / Secretary General	Mr. Jiro Ushio, Chairman (Chairman, Ushio Co., Ltd.)	This organization aims to carry out appropriate international communication, development support, research, and promotion concerning artificial intelligence and related telecommunication technologies.
Members		They also promote the sound development of IT and IT related economic activities from an international viewpoint.
Address	4F Misuji 313 Bldg. 3-13-3 Akasaka, Minato-ku, Tokyo 107- 0052 Japan	
Tel/Fax	(81-3) 3568 3107 (81-3) 3568 3103	
Website	www.ifit.or.jp	
E mail	ifit@ifit.or.jp	
Organization	<i>Japan Electronics and Information Technology Industries Association (JEITA)</i>	
Chairman / Secretary General	Mr. Naoyuki Akikusa, Chairman (Chairman and Representative Director, Fujitsu Limited)	The objective of JEITA is to promote the healthy manufacturing, international trade and consumption of electronics products and components in order to contribute to the overall development of the electronics and IT industries, and thereby further Japan's economic development and cultural prosperity.
Members	376 companies and 6 organizations	
Address	3 rd Floor, Mitsui Sumitomo Kaijo Bldg. Annex 11, Kanda Surugadai 3-chome, Chiyoda-ku, Tokyo 101-0062, Japan	JEITA's mission is to foster a digital network society for the 21 st century, in which IT advancement brings fulfillment and a higher quality of life to everyone.
Tel	(81-3) 3518 6421	
Fax	(81-3) 3295 8721	The association is also actively promoting environmental preservation countermeasures, including those to combat global warming.
Website	www.jeita.or.jp	
E mail	s-miyagi@jeita.or.jp	
Organization	<i>Semiconductor Equipment Association of Japan</i>	
Chairman / Secretary General	Mr. Tetsuro Higashi, Chairman	In order to promote the sound development of the semiconductor manufacturing equipment industry and other related industries, SEAJ is actively involved in a wide range of activities such as the statistical and investigative research of imperatives and new technologies relating to the industry, the conducting of various seminars and lectures and the promotion of standardization.
Members	215 companies	
Address	6F Rokubancho SK Bldg., 3 Rokubancho Chiyoda-ku, Tokyo 102-0085 Japan	
Tel	(81-3) 3261 8260	
Fax	(81-3) 3261 8263	
Website	www.seaj.or.jp	
E mail	info@seaj.or.jp	
Organization	<i>Japan IT Services Industry Association</i>	
Chairman / Secretary General	Mr. Yasuro Tanahashi, Chairman	The aim of this organization is to maintain sound, steady growth of Japan's IT Services industry in accordance with the progress of IT infrastructure to contribute to the promotion of national economy.
Members	720	
Address	17th Floor, TIME24 Building, 2- 45, Aomi Koto-ku, Tokyo, 135- 8073 Japan	

Tel	(81-3) 5500 2610	
Fax	(81-3) 5500 2630	
Website	www.jisa.or.jp/	
E mail	webmaster@jisa.or.jp	
Organization	<i>Japan Business Machine and Information System Industries Association (JBMIA)</i>	The mission of JBMIA is to support the total development of business machine and information system industries in order to contribute to the development of the Japanese economy and the improvement of office work efficiency through the promotion and the rationalization of production, trade, distribution and utilization of business machines and information systems.
Chairman / Secretary General	Mr. Yoshihiro Maeda, President (President & Chief Executive Officer, TOSHIBA TEC CORPORATION)	
Members	50 companies	
Address	NP Onarimon Bldg., 4th Floor, 3-25-33 Nishi-Shimbashi, Minato-ku, Tokyo 105-0003 Japan	
Tel/Fax	(81-3) 5472 1101 (81-3) 5472 2511	
Website	www.jbmia.or.jp	
E mail	webmaster@jisa.or.jp	
Organization	<i>Japan Recording-Media Industries Association</i>	This organization focuses on supporting the total development of recording media industries through statistical and investigative researches of recording media and creation of standards.
Chairman / Secretary General	Mr. Yoshito Tsunoda, Chairman (President and CEO, Hitachi Maxell)	
Members	68 companies and 1 organization	
Address	2-9-8, Toranomom, Minato-ku, Tokyo 105-0001, Japan	
Tel	(81-3) 3501 0631	
Fax	(81-3) 3501 0630	
Website	www.jria.org	
E mail	ifit@ifit.or.jp	
Organization	<i>Research and Development Association for Future Electron Devices (FED)</i>	The main purpose of FED is to promote R&D projects of future electron devices aimed at the development of novel devices useful for future electronic industries in cooperation with the national research institutes like the Electro technical Laboratory (ETL) and universities, then to disseminate the R&D results to the industrial community. FED is thus contributing to the development of basic technologies related to electronics and information in Japan and the world.
Chairman / Secretary General	Mr. Hajime Sasaki, Chairman	
Members	26 companies	
Address	Hatsumei-kaikan Bldg. 2-9-14 Toranomom, Minato-ku Tokyo 105-0001, JAPAN	
Tel	(81-3) 5512 7281	
Fax	(81-3) 5512 7291	
Website	www.fed.or.jp	
E mail	info@fed.or.jp	
Organization	<i>Optoelectronic Industry and Technology Development Association</i>	This organization contributes to the progress of the Japanese national economy by promoting the comprehensive development of the optoelectronics industry and technology and assisting further sophistication of the related industry and additional improvement of the citizens' life.
Chairman / Secretary General	Mr. Tamotsu Nomakuchi, Chairman (Chairman, Mitsubishi Electric Corporation)	
Members	169 companies	
Address	Sumitomo Edogawabashi ekimae Bldg. 7F, 20-10, Sekiguchi 1-Chome, Bunkyo-ku, Tokyo 112-0014, Japan	
Tel	(81-3) 5225 6431	
Fax	(81-3) 5225 6435	
Website	www.oitda.or.jp	
E mail	webmasterA@oitda.or.jp	

Bibliography:

- *Ministry of Economy, Trade and Industry of Japan (METI)*
Report on Machinery Statistics of Japan, 1995 – 2005
White Paper on International Trade and Industry 2006
Ministry of Finance of Japan (MOF)
Trade Statistics of Japan, 2000 - 2005
- *Ministry of Foreign Affairs of Japan (MOFA)*
Text of the Agreement between Japan and the United Mexican States for the Strengthening of the Economic Partnership.
Text of the Agreement between Japan and the Republic of Singapore for a New-age Economic partnership.
Text of the Agreement between the Government of Japan and the Government of Malaysia for an Economic Partnership
- *Japan External Trade Organization (JETRO)*
Investing in Japan
- Local Prefecture Governments of Hokkaido, Aomori, Akita, Yamagata, Niigata, Gifu, Mie, Kyoto, Hyogo, Shimane and Fukuoka
- *Japan Electronics and Information Technology Industries Association (JEITA)*
Industry Review: Electronics and Information Technology Industries in Japan, 2005
Trend of Electronics Industries in Japan, 2005.
Production and Exports/Imports of Electronic Equipment
Domestic Shipments of Major Consumer Electronic Equipment

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC Korea

I. Overview of the Industry

The gross domestic product (GDP) of Korea in 2005 increased to US\$694.1 billion from US\$667.4 billion in 2004, recording a 3.9 percent growth rate. In 2004, the Korean economy grew by almost 4 percent, while even though private consumption and facilities' investments showed a mild recovery, the export growth rate still slowed down due to a base-period effect. The exports have shown a remarkable growth of 11.4 percent from 2004. This surge placed Korea as the 10th largest economy in the world in 2005, with a per capita GDP of US\$14,700, up from US\$14,100 in 2004.

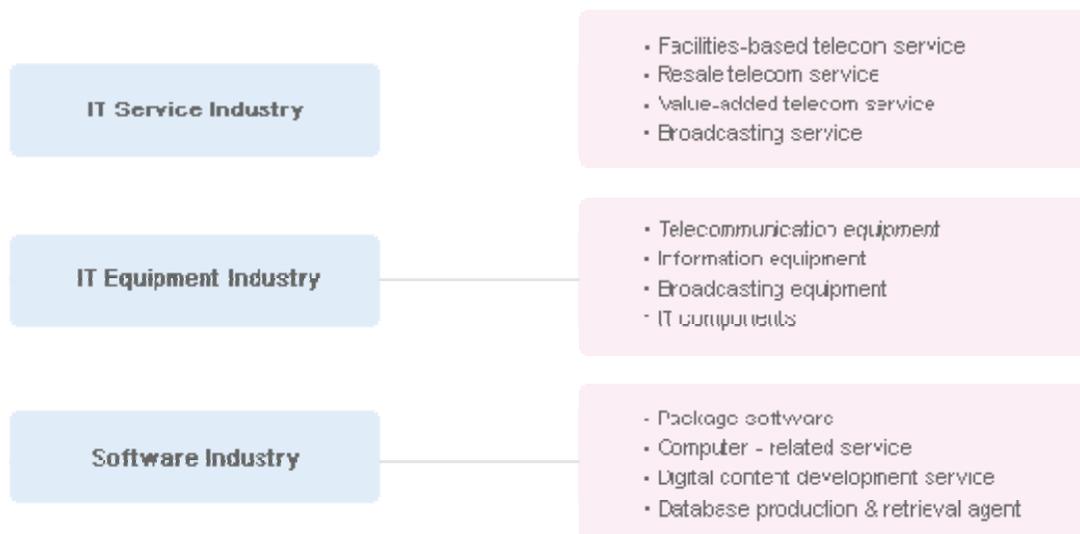
	2002	2003	2004	Q1/2005	Q2/2005	Q3/2005
Percentage of GDP (%)	11.1	12.3	14.2	15.2	14.3	15.6
Growth contribution ratio (%)	26.3	51.3	53.5	44.3	25.7	47.5

Source: Bank of Korea

Regarding the changes in the industrial structure of the GDP, the importance of agriculture, forestry and fisheries has continued declining. The significance of the manufacturing sector has gradually increased since the 1970s, and by the late 1980s it accounted for more than 30 percent of the GDP. Currently, the manufacturing sector represents 40.3 percent of the GDP in which the main industries include the electronic, information technology, electrical, machinery, mechanical appliances, plastics, transportation equipment and chemical industries.

In Korea, during the period of 1998 to 2004 the Information and Telecommunications (IT) Industry has increased an average of 15.9 percent per year. The revolution of IT based on the Internet and digital technology is not only dramatically changing humanity, but also making individual lives more comfortable. The IT industry became one of the nation's most dynamic domestic industries establishing itself as the new national backbone industry. This is explained by the fact that it makes up 15 percent of the economy's GDP.

Under the unified classification system of the Ministry of Information and Communication of Korea (MIC), the IT industry is divided into three main segments: IT service, IT equipment, and software. This system was first outlined in 1994, and was followed by a partial revision in 1997. In 2002, it was revised again to reflect the trend in technological evolution and changes in the IT environment. The next table shows how the Korean IT industry has grown to account for 29.4 percent of total exports (US\$74.7 billion out of US\$253.8 billion in 2004). Within a relatively short period of twenty years, the IT industry has positioned itself as a key driver of economic growth.



Korea has built an important IT infrastructure involving 10 million high-speed Internet users and 32 million mobile phone users. This industry has played a key role in driving Korean economy growth through the continuous increasing of exports. Today, Korea is home to a large number of highly ranked IT products and firms.

Size of the Korean IT Industry
(US\$ billion)

Category	2003	2004	2005
Total Production	201.6	229.6	233.2
IT Services	41.6	46.0	46.7
IT Equipment	141.6	164.9	165.9
Software	18.4	18.7	20.6
Trade Balance	28.1	43.9	48.4
Exports	70.5	93.7	102.3
Imports	42.4	49.8	53.9

Source: Ministry of Information and Communication of Korea, and the International Cooperation Agency for Korea IT (ICA)

Size of the Companies and Foreign Investment in IT Industry in Korea in 2005

Unit: number of companies

Classification	Size of the Companies				Foreign Investment (US\$ million)
	Large	Medium	Small	Total	
IT Services	39	1,571	1,411	3,021	919.8
IT Equipment	232	1,773	7,686	9,691	1,009.9
IT Software	46	2,805	1,703	4,554	686.5
Total				17,266	2,616.2

Source: Korea Association of Information and Telecommunication (KAIT)

Total Production, Number of Companies and Workers of the Korean IT Industry in 2005.

Classification	No. Companies	No. Workers	Total Production (US\$ billion)
IT Services			
Basic T/C Service	25	43,460	30.9
Special Category	174	6,600	1.9
Additional T/C Service	2,250	40,490	6.0
Emission Service	572	29,050	7.8
Subtotal	3,021	119,600	46.6
IT Equipment			
T/C Equipment	2,237	90,520	46.5
Information Equipment	1,712	58,890	17.2
Emission Equipment	971	37,330	9.9
Components	4,771	265,620	92.4
Subtotal	9,691	452,360	166.0
IT Software			
Package Software	2,214	28,805	5.1
Computer related	1,812	64,599	13.7
Digital Contest	460	9,079	1.5
Data base elaborated	68	1,878	0.3
Subtotal	4,554 (e)	104,361 (e)	20.6
Total	17,266	676,321	233.2

Note: T/C: Telecommunication, E: estimated

Source: Korea Association of Information and Telecommunication (KAIT)

The IT Industry in Korea is significant due to the rapidly emerging era of digital technology, based on the Internet and information communication. The current significance of the semiconductor industry is greater than before. Now, electricity and telecommunications has changed the way we live whilst driving the surfacing of the digital age that will be primarily reliant upon semiconductors. The semiconductor industry in Korea has grown steadily, producing many world-class semiconductor manufacturers. It also has the world's largest DRAM production capacity as well as the industry's best technical development capacity.

The success as manufacturer of various high technology products is based on a number of factors such as efficiency of production, ongoing R&D investment and extensive marketing activities, in domestic and international markets.

Furthermore, Korea houses many of the world's largest or second-largest producers of TVs, monitors, cathode ray tube (CRT), liquid crystal display (LCD) panels and PDP panels. Korean display makers have begun to supply full color organic light emitting diode (OLED) displays to mobile phone makers. 17-inch LCD monitors now account for approximately 80 percent of the Korean domestic monitor market. In addition, is the world's supplier of thin film transistor-liquid crystal display (TFT-LCD) used on notebook computers by holding a 54.3 percent of the global market.

II. Recent Developments in Exports and Imports.

The Ministry of Information and Communication (MIC) announced that the export of IT products in March 2006 amounted to US\$9.4 billion, which is equivalent to 11 percent of the export volume for the same month last year (March 2005).

The growth rate of 11 percent is somewhat lower than that of Korean industries as a whole, which recorded a 13 percent growth rate. Total export amount for March 2006 was US\$27.4 billion, the

highest monthly export value ever recorded, particularly due to the dynamism of the shipbuilding, automatic components and general machinery industries.

However, the IT industry has succeeded in recovering a monthly export volume of US\$9 billion in the four months since November 2005 while also demonstrating consistent two figure growth rates in terms of export volume for eight consecutive months from August 2005. The significant growth in the IT Industry was attributed to the consistent increase of exports to China and Japan and the diversification of export areas. The diversification was due to the development of new markets throughout the world, despite unfavorable conditions such as this year's higher value of the Korean won, the global surplus of semiconductor devices and display panels, and the global growth rate of mobile phone consumption.

The volume of imported IT products mainly consisted of semiconductor devices, and information systems for the production of mobile phones and digital home appliances. These import products amounted to US\$5.2 billion in March 2006, an increase of 125 percent from the same period in 2005.

Classification	2004	2005		2006			Growth rate (%)	
		March	January ~ March	February	March	January	March	January ~ March
◎ Communication systems and equipments	25,877	2,459	6,696	2,202	2,402	6,910	-2.3	3.2
· Cable communication systems and equipments	1,422	148	381	160	174	467	17.4	22.5
· Wireless communication systems and equipments	24,455	2,311	6,314	2,042	2,228	6,442	-3.6	2.0
· Mobile communication handsets (including components)	24,134	2,288	6,224	2,023	2,204	6,389	-3.7	2.6
· Mobile communication systems	322	23	90	20	24	53	6.9	-40.4
◎ Information systems	20,625	1,414	4,161	1,230	1,279	3,847	-9.5	-7.6
· Desktop computers	6,987	421	1,312	292	324	921	-23.0	-29.8
· Notebook computers	497	24	57	13	15	43	-36.2	-24.7
· Other computers	272	35	66	22	21	58	-40.9	-11.8
· Computer components	6,218	363	1,189	256	289	820	-20.4	-31.0
· Computer peripherals	13,132	941	2,710	891	906	2,782	-3.8	2.7
· Monitors	9,416	619	1,765	569	576	1,806	-7.0	2.3
- LED monitors	6,753	446	1,239	445	449	1,434	0.6	15.7
· Storage devices	2,548	243	710	265	273	812	12.7	14.3
- HDD	1,087	118	329	153	162	493	37.0	50.1
· Printers / copying machines	766	54	163	42	41	123	-23.6	-24.5
· Office / calculation systems	179	19	53	18	19	59	-1.4	11.5
◎ Digital home appliances / broadcasting systems	11,434	947	2,664	857	945	2,639	-0.2	-0.9
· Digital TVs (including components)	5,448	483	1,420	523	575	1,622	18.9	14.2
· Set-top boxes	1,027	78	192	58	63	172	-19.5	-10.3
· Digital media systems	3,559	268	743	191	209	574	-22.2	-22.7
· Audio accessories	804	74	200	58	68	183	-8.3	-8.4
◎ IT components	35,745	3,611	10,030	4,133	4,735	13,208	31.1	31.7
· Semiconductor devices	27,013	2,624	7,453	2,583	2,849	8,190	8.6	9.9
· Digital ICs	21,974	1,977	5,694	1,972	2,129	6,235	7.7	9.5
- Logics	5,260	502	1,352	551	609	1,700	21.3	25.8
- Memories	16,139	1,381	4,071	1,123	1,239	3,596	-10.3	-11.7
· Other semiconductor devices	5,040	647	1,758	611	719	1,955	11.2	11.2
· Display panels	4,353	616	1,550	1,130	1,381	3,690	124.4	138.0
· Universal components	4,378	371	1,027	420	505	1,328	36.1	29.4
Total	93,681	8,430	23,550	8,422	9,361	26,602	11.0	13.0

Source: Ministry of Information and Communication

Table 3. Records of the Import of Major IT Products (Unit: million dollars)

Classification	2004	2005		2006			Growth rate (%)	
		March	January ~ March	February	March	January	March	January ~ March
◎ Communication systems and equipments	3,721	377	948	383	474	1,229	25.8	29.7
· Cable communication systems and equipments	1,526	141	396	155	194	506	37.3	27.9
· Wireless communication systems and equipments	2,195	235	552	229	280	724	18.9	31.0
· Mobile communication handsets (including components)	2,166	235	550	222	270	698	15.2	26.9
· Mobile communication systems	30	1	2	6	10	26	1016.0	1087.1
◎ Information systems	7,189	824	2,088	753	967	2,505	17.4	20.0
· Desktop computers	3,028	387	964	335	435	1,125	12.2	16.8
· Notebook computers	465	93	212	72	91	242	-2.0	13.9
· Other computers	681	82	171	62	99	218	20.5	27.4
· Computer components	1,882	213	580	201	245	666	15.3	14.7
· Computer peripherals	3,375	343	888	332	434	1,103	26.6	24.2
· Monitors	1,395	121	320	107	121	344	0.1	7.6
- LED monitors	864	84	208	86	96	275	14.2	32.1
· Storage devices	1,174	128	328	131	208	470	62.1	43.4
- HDD	507	61	145	47	73	172	20.3	17.9
· Printers / copying machines	427	53	133	43	47	129	-11.3	-2.6
· Office / calculation systems	190	26	56	21	30	77	14.7	36.8
◎ Digital home appliances / broadcasting systems	3,172	272	748	224	265	707	-2.9	-5.5
· Digital TVs (including components)	548	38	123	35	41	110	6.5	-11.0
· Set-top boxes	29	1	4	0	0	1	-73.8	-65.1
· Digital media systems	1,651	146	395	117	128	354	-12.4	-10.6
· Audio accessories	632	61	160	60	73	199	20.8	24.3
◎ IT components	35,673	3,139	8,741	3,150	3,482	9,806	10.9	12.2
· Semiconductor devices	25,068	2,194	6,105	2,173	2,409	6,802	9.8	11.4
· Digital ICs	14,202	1,244	3,346	1,040	1,231	3,403	-1.1	1.7
- Logics	10,394	886	2,372	765	888	2,474	0.2	4.3
- Memories	1,367	142	386	106	120	345	-15.4	-10.5
· Other semiconductor devices	10,866	950	2,759	1,133	1,179	3,399	24.1	23.2
· Display panels	4,201	352	989	365	412	1,155	17.1	16.8
· Universal components	6,404	593	1,647	612	661	1,849	11.5	12.2
Total	49,755	4,612	12,525	4,511	5,188	14,248	12.5	13.8

Source: Ministry of Information and Communication

III. Trade Negotiations related to the Industries

Thus far, Korea has signed free trade agreements (FTAs) with Chile, Singapore and the European Free Trade Association (EFTA), which consists of Switzerland, Norway, Liechtenstein and Iceland. These FTAs not only boost both trade and investments, but also create a mutually beneficial business environment and enhance bilateral relations. The content of the agreements do not require a specific treatment for the electronic and information technology industries. Korea is also a member of the World Trade Organization (WTO) Information Technology Agreement (ITA), and has participated in an active way in different forums and international meetings related to the IT industry.

In addition, there have been other discussions with the Association of Southeast Asian Nations (ASEAN), which consists of ten countries. Furthermore, in December 2005, Korea signed a basic agreement for conflict resolution. However, the final resolution for more products and services in 2006 is pending. Other talks and negotiations have been or currently are with Canada, Mexico, Japan and the United States. Furthermore, there have been some studies suggesting negotiations with India, the Mercosur (Brazil, Argentina, Paraguay and Uruguay) and China.

Furthermore, following the initiative taken at the sixth Asia Pacific Economic Cooperation (APEC) Ministerial Meeting to develop an advanced information infrastructure in the Asia Pacific Region, the establishment of the Asia Pacific Information Infrastructure (APII) Cooperation Center was endorsed at the second APEC Ministerial Meeting on the Telecommunications and Information Industry (TELMIN) held in Gold Coast, Australia, in September 1996. A month later, the APII Cooperation Center was established at the Korea Information Strategy Development Institute

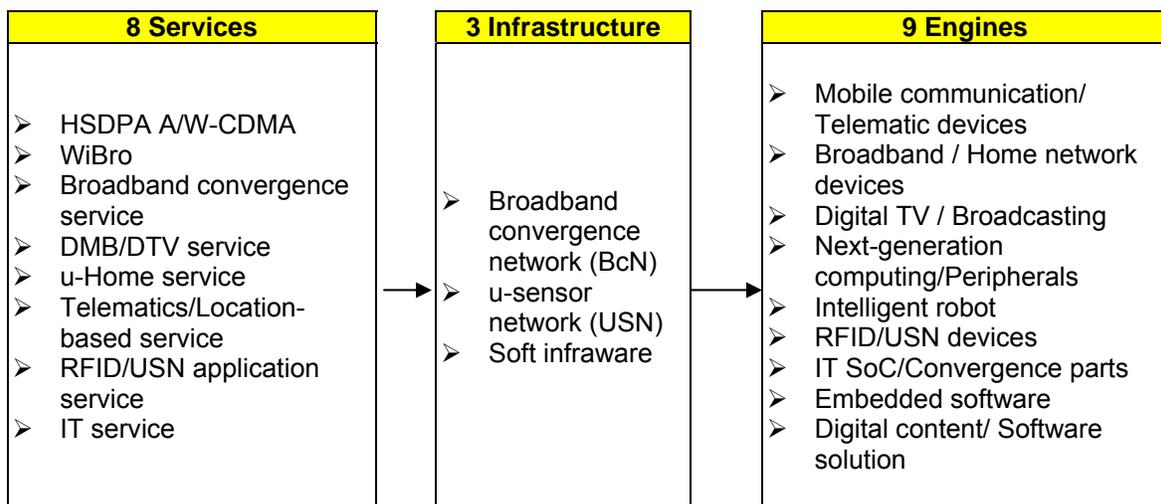
(KISDI), Seoul, Korea. It was initially designed as a coordination body for building the Asia Pacific Information Infrastructure (APII) in the APEC region.

IV. Programs and Special Incentives to the Industry

The strategy called *IT839 Strategy* was established in the early days of the participatory government in February 2004 to present a new strategic vision for the IT Industry, with the aim of achieving US\$20,000 GDP per capita, amid deepening concerns over the decreasing growth potential of the Korean economy. Based on the IT Industry value chain, the *Broadband Convergence Network + 9 Major New Growth Engines* development model was expanded and systemized into eight major services and three infrastructures.

An important point in the strategy is to look at new IT growth engines that will lead the growth of the Korean economy for the next five to ten years. In March 2003, nine new major IT growth engines were designated to the devices, parts and software areas based on 50 promising next-generation items listed in the comprehensive *IT Industry Development Plan* drawn up at the end of 2002. Based on this plan, development vision and strategy of each sector was made concrete. The broadband IT Korea Strategy was confirmed in August 2003.

Items of u-IT839 Strategy



Furthermore, a growing number of Korean IT firms are willing to try their chances in overseas markets. As a result, the Korean government is extremely careful because they know that they must have a viable strategy to successfully compete against products from all over the world.

The government has established a variety of support resources to assist small and medium size IT firms with promising technologies in their global marketing efforts. Organizations from Korea (ie, ICA and iPark) operate overseas market development teams to help arrange participation in international fairs and exhibitions of Korean companies, and offer market information and consulting.

The government is also assisting foreign companies that enter the Korean market, especially the leading global IT firms that have lately been interested in setting up R&D centers in Korea. Their IT infrastructure and savvy consumers make Korea an ideal market to test new products and technologies. Recently Intel of the US opened a total of twelve multinational R&D centers. One of the reasons is due to the government support toward joint research programs with Korean institutions. This has made it possible for foreign R&D center to tap into high-quality university manpower in the IT manpower program. Furthermore, R&D centers in Korea are given

preferential consideration for residence in the NuriTcum Square, which is under construction, but when completed, will be a key location in the Digital Media City of Sangam-dong.

Furthermore, the Foreign Investment Promotion Act (FIPA) was enacted and promulgated on 16 September 1998, repealing the previously enforced Foreign Investment and Foreign Capital Inducement Act. This followed the overhaul of the foreign exchange transaction and foreign investment system that the government announced in March 1998. The purpose of the act is to promote foreign investment by providing incentives and inducements with the ultimate view of contributing to the sound development of the national economy. In this sense, the Korean government has joined with business sector to increase investment opportunities in promising areas of IT. The Korean government offers resources for the electronic and IT industry in the R&D stage. Examples of these are as such:

- The Ministry of Information and Communication (MIC); the Ministry of Science & Technology (MOST); and the Ministry of Commerce, Industry and Energy (MOCIE) support the R&D programs.
- Technological development is also promoted through financing programs provided by the Korea Development Bank (KDB), the Industrial Bank of Korea (IBK), Kookmin Bank (KB) and KDB Capital.
- Companies in advanced technology industries or industry-supporting services and companies located in foreign investment zones are all eligible for exemptions from tariffs and national and regional taxes.
- In some cases, the central and local governments will purchase land and lease it free of charge.
- National and regional taxes may be reduced or exempted – 100 percent for five years, 50 percent for the next two years or less.
- Traffic generation charges will be exempted.

V. The Private Sector in the Industries.

The following are some of the companies involved in the electronic and information technology industries.

Company	Samsung Electronics	Samsung Electronics currently has nine tier-1 products in the global electronics market. They plan to expand to digital TVs, IMT-2000, computer peripherals and home appliances as their new tier-1 products to strengthen four strategic business areas and to setup solid foundations for future growth.
Chief Executive Officer	Jong Yong YUN	
Address	416, Maetan-dong, Youngtong-gu, Suwon, Gyeonggi-do	
Tel Fax	(82-3) 1200 1114 (82-3) 1200 1530	
Website	www.sec.co.kr	
Products	Computers, audiovisual products, wired & wireless phones, electronic domestics appliances, kitchen equipments, semiconductors, networks, CCTVs, home networks, TFT LCD modules, optical communications	Annual Sales: US\$56.1 billion
Company	KT Corp.	The KT Corporation (KT) was established on December 10, 1981 in accordance with the plans of the Ministry of Information & Communications. Later, the ministry converted KT into a public corporation by separating the communications sector to ensure the efficient management of the electric communication
Chief Executive Officer	Joong Soo NAM	
Address	206, Jeongja-dong, Bundang-gu, Seongnam, Gyeonggi-do	
Tel Fax	(82-3) 1727 0114 (82-3) 1727 0949 (Investment Div.)	

Website	www.kt.co.kr	business. In 2002 was completely privatized. The new vision of KT - 'The Value Networking Company' - embodies a strong commitment to maximize customer value and pursue corporate growth by optimizing customized solution offerings.
Products	Domestic: internet enterprise solutions, telephones Global: overseas businesses, broadband internet, telecommunications networks, solutions, global voice & data services	Annual Sales: US\$11.9 billion
Company	KTF	Since 1997 when it first launched its PCs business, KTF has grown into a leading player in Korea's mobile communications industry, setting new records. The company set a record by securing more than 9 million subscribers within three years of commencing services, and ranked first among mobile communications companies in Business Week's top 100 global IT companies.
Chief Executive Officer	Young Chu CHO	
Address	7-18, Shincheon-dong, Songpa-gu, Seoul	
Tel	(82-2) 1588 0010	
Website	www.ktf.com	
Products	Mobile services, design, entertainment, visual services, world phone views, high speed data services, roaming services	Annual Sales: US\$6.1 billion
Company	LG Electronics	LG Electronics is the world's major force and technology innovator in electronics, information and communications products. The company has more than 72,000 employees working in 77 subsidiaries and marketing units around the world.
Chief Executive Officer	Ssang Su KIM	
Address	Twin Tower W 26f. 20, Yoido-dong, Youngdeungpo-gu, Seoul	
Tel Fax	(82-2) 3777 1114 (82-2) 6719 7509	
Website	www.lge.co.kr	
Products	Computer equipment, audiovisual products, mobile phones, communication equipment, home network systems, air conditioner equipment, lighting systems, security solutions	Annual Sales: US\$23.2 billion
Company	SK Telecom	SK Telecom has been opening the ubiquitous world through a wide range of advanced multimedia services. These include 'NATE', a wired and wireless integrated multi-Internet service; 'June', a premium multimedia service; and 'MONETA', a state-of-the-art financial service. It has expanded in communication channels with its customers by encouraging them to directly participate in improving the development of its services.
Chief Executive Officer	Shin Bae KIM	
Address	11, Euljiro 2-ga, Jung-gu, Seoul	
Tel	(82-2) 6100 2114	
Website	www.sktelecom.com	
Products	Mobile services, international roaming services, wireless mobile internet, wired & wireless Moneta, digital home satellite DMB services, telematics services, BCP services	Annual Sales: US\$10.2 billion
Company	LG Telecom	LG Telecom was established in July 1996 as the world's first mobile telecommunications service provider of CDMA technology. In May 1999, LG Telecom became the first operator to launch wireless internet services in Korea. As the first in the world to develop Java Station, a
Chief Executive Officer	Il Jae CHUNG	
Address	GS Tower. 679, Yeoksam-dong, Gangnam-gu, Seoul	
Tel	(82-2) 1544 0010	

Website	www.lgtelecom.com	Java technology used in CDMA phones, LG Telecom has been leading Korea's wireless internet technology. LG Telecom also launched the world's first Ez-Pass service enabling payment of public transportation fares via PCS phones. Furthermore, LG Telecom initiated a new era of mobile financial transactions by launching the world's first infrared payment service that allows credit card purchases via PCS phones.
Products	Mobile phones, mobile internet services, wired & wireless services for PM3 music file downloads, mobile banking services, mobile entertainment, digital entertainment	Annual Sales: US\$3.5 billion
Company	SK C&C	SK C&C's IT outsourcing service is firmly based on the advanced infrastructure. This infrastructure includes the Service Level Agreement (SLA), modeled after the world's best practice, the largest integrated data center facility in Korea and a customer support center based on Single Point of Contact (SPOC).
Chief Executive Officer	Suk-Kyong YOON	
Address	25-1, Jeongja-dong, Bundang-gu, Seongnam, Gyeonggi-do	
Tel	(82-2) 6499 0114	
Fax	(82-2) 6400 0115	
Website	www.skcc.com	
Products	IT outsourcing, ERPs, KMs, ECs, DWs, CRMs, networking and VAN solutions	Annual Sales: US\$1 billion
Company	DACOM	Dacom introduced the information technology service for the first time in Korea. It has played a key role as leader of information technology services and the industrial development over the last 24 years.
Chief Executive Officer	Jong Eung PARK	
Address	DACOM Bldg. 706-1, Yeoksam-dong, Gangnam-gu, Seoul	
Tel	(82-2) 1544 0001	
Website	www.dacom.net	
Products	Internet leased-line services, high speed internet & multimedia services, network solutions, VAN solutions, telephone services (int'l & domestic long distance), mobile satellite services, networks linking all public institutions	Annual Sales: US\$1.1 billion
Company	Tong Yang Systems	Tong Yang Systems provides outsourcing services that help identify the vision of its customers, rather than providing simple outsourcing duties.
Chief Executive Officer	Ja Hong KU	
Address	24, Ogeum-dong, Songpa-gu, Seoul	
Tel	(82-2) 405 7700	
Fax	(82-2) 404 2414	
Website	www.tysystems.com	
Products	Systems integration, outsourcing services, IT consulting, solutions	Annual Sales: US\$90 million
Company	Hanaro Telecom	Hanaro Telecom is a company based on leading technology and ongoing CS management with various broadband-centered product composition, offering a differentiated digital communication experience and a flexible and innovative company, opening up a new, user-friendly world of communication.
Chief Executive Officer	Byung Mu PARK	
Address	Asia Ocean Bldg. 17-7, Yoido-dong, Youngdeungpo-gu, Seoul	
Tel	(82-2) 6266 5000	
Website	www.hanaro.com	
Products	Dedicated private lines, phone services, in-house communication services, business solution software, internet data centers	Annual Sales: US\$1.4 billion

Company	ERAE Electronics	Erae Electronics started from a humble garage of less than 15 square meters in 1990 and now it is the third largest display manufacturer in South Korea. Erae Electronics continues to expand internationally and now provides sales, marketing and manufacturing services in South Korea, Asia, Europe and the USA. It continues investing in R&D related to display TVs, cellular phone manufacturing and other key high tech products.
Chief Executive Officer	Mun Shik JUNG	
Address	371-51, Gasan-dong, Geumcheon-gu, Seoul	
Tel	(82-2) 3282 0992	
Website	www.erae.com	
Products	LCD TVs, PDP TVs, PDP monitors, TFT LCD monitors, CDMA mobile phones, mobile phone chargers	Annual Sales: US\$140 million
Company	KDN	KDN provides comprehensive services in information system consulting, high-speed communication infrastructures, construction of automatic systems and e-commerce. KDN has established a technology research center and the only electric power technology center in Korea. Annual Sales: US\$310 million
Chief Executive Officer	Chang Kun LIM	
Address	1355, Seocho 2-dong, Seocho-gu, Seoul	
Tel	(82-2) 6262 6114	
Website	www.kdn.com	
Products	Power line communications (PLCs): High speed PLC modems, coupling units, PLC network devices Energy management systems (EMSs), and others related.	
Company	Dongah Elecomm	A leader in the Korean communications industry, this company participated in the national project to develop TDX, the Korean electronic switching system. Since then, it has developed and supplied all types of embedded power products for asynchronous transfer model (ATM) switching systems, CDMA mobile communications systems (both cellular and PCS), and for IMT-2000's global mobile telecommunications standards. Annual Sales: US\$70 million (2004)
Chief Executive Officer	Kun Soo LEE	
Address	167, Geumgok-ri, Yangji-myeon, Cheoin-gu, Yongin, Gyeonggi-do	
Tel Fax	(82-3) 1330 5500 (82-3) 1338 9040	
Website	www.dongahelecomm.com	
Products	Power supply systems, rectifiers, DC/DC converters, AC/DC converters, BMP modules, power management systems, mobile communications, switching systems, network access, industrial equipment, multimedia, satellite communications	
Company	Kisantelecom	Kisantelecom has led massive waves of local mobile telecommunications and IP & wired technology. Products of Kisantelecom have shown the changes & trend of the domestic mobile telecommunications market of CDMA/WCDMA repeaters, VoIP and echo cancellers. Annual Sales: US\$40 million
Chief Executive Officer	Byoung Ki PARK	
Address	Segi Bldg. Bangi-dong, Songpa-gu, Seoul	
Tel Fax	(82-2) 3433 8200 (82-2) 3433 8341	
Website	www.kisantel.co.kr	
Products	Repeater products, VQES, VoIP products, MSPP products, business service platforms	
Company	Realtelecom	Realtelecom was founded as a nationwide wireless data network operator. Today it is providing MICESS (Mobile Internet Access) 013 Service, which is Korea's first PDA-based mobile internet service through a strategic partnership with Ericsson, and CNI and
Chief Executive Officer	Kwang Jo BAIK	
Address	Green Cross Bldg. 20F. 395-68, Sindaebang-dong, Dongjak-gu, Seoul	
Tel	(82-2) 3434 7000	

Website	www.realtelecom.co.kr	paging.
Products	Mobile internet access services, special services (traffic card wireless charge services), Intelligent traffic systems, pager services, stock services, I-fax services, real traffic services	Annual Sales: US\$10 million
Company	KT Networks	The company aims to become a leader of telecommunication system construction with its services, such as technical expertise, quality assurance and excellent reference sites.
Chief Executive Officer	Yo Dong KIM	
Address	Samil Plaza Bldg. 837-26, Yeoksam-dong, Gangnam-gu, Seoul	
Tel Fax	(82-2) 2222 9114	
Website	www.ktn.co.kr	
Products	Premises telecommunication services, SI equipment, NI equipment, structured writing systems, Networks products, ADSL products, wireless LAN products (802.11), digital cellular system repeaters	Annual Sales: US\$400 million
Company	LS Cable	LS Cable will continue to build a high value-added business structure that is centered on further advances in optical communication and electronic cable as well as optical communications components all essential elements of information age. Has its division as Telecommunication, Electric Power, Electronic Components & Materials and Industrial Machinery .
Chief Executive Officer	Cha YoI KOO	
Address	ASEM Tower 19-20f. 159, Samsung-dong, Gangnam-gu, Seoul	
Tel Fax	(82-2) 2189 9114 (82-2) 2189 9119	
Website	www.lscable.com	
Products	Cables & wires, components, materials, systems, machineries	
Company	Samsung SDS	Samsung SDS has created global standard solutions in order to help various industries actualize their IT potential and consider value added through the creation of a new paradigm for software business. Samsung SDS offers many levels of services.
Chief Executive Officer	In KIM	
Address	Ilok Bldg. 707-19, Yeoksam 2-dong, Gangnam-gu, Seoul	
Tel Fax	(82-2) 3429 2114	
Website	www.sds.samsung.co.kr	
Products	IT businesses (e-government), cyber trading systems, business recovery services, auto lines, integrated systems, medical, educational systematization, SOC (IICS, AIMS, IBS, SMART Card), transportation	Annual Sales: US\$1.9 billion
Company	KIDC	KDIC provides an environment for customer-owned servers including electrical power, network connectivity and security. KDIC recently merged with the company Dacom in order to provide better services.
Chief Executive Officer	Young Woo NAM	
Address	KIDC Bldg. 261-1, Nonhyeon-dong, Gangnam-gu, Seoul	
Tel Fax	(82-2) 2086 2764 (82-2) 2086 2719	
Website	www.kidc.net	
Products	Managed co-location, managed server hosting, value added services, IT outsourcing services, mobile services, platform services, solution services, streaming hosting services, exclusive line services	Annual Sales: US\$80 million

Company	Pantech Unlimited	Pantech has become one of the world's most competitive handset manufacturers. With a leading edge in mobile technology, Pantech is producing both CDMA and GSM handsets.
Chief Executive Officer	Byeong Yeop PARK	
Address	Pantech Bldg. 34-12, Yoido-dong, Youngdeungpo-gu, Seoul	
Tel	(82-2) 2030 1114	
Website	www.pantech.co.kr	
Products	Mobile phones (Sky, Curitel, Pantech)	Annual Sales: US\$660 million

VI. The Vision of the Private Sector

The Electronic and Information Technology Industries Survey in APEC	
Company: LG Electronics	
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?	<p>The global business environment is constantly changing. In the case of the electronics sector, which is the sector this company focuses on, the emergence of the digital convergence era is not only changing the business environment, but also the logistic and value chain. The global communication ambience is developing quickly and customers need the products in order to take active advantage about it. If not, they will be in a disadvantage with their competitors. For the same reason it can be a leader with mega hit products.</p> <p>LG Electronics has business in all areas that are necessary in the digital convergence era, such as home appliances, displays, multimedia and the articles related with mobile products. Furthermore, they are making a great effort in their R&D sector, and thus, developing new products. Also, regarding the Global Network presence from the advanced market until new emerging markets like Africa. LG is working on different activities for marketing in order to establish different brands according to customer and market demands. At this time, LG Electronics is aiming to be the future world leader in electronics.</p>
2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?	<p>LG Electronics has 29 plants and 37 affiliates sales companies throughout the world. For this reason, the company can supply the best products according to the region, because each plant has a strategy to analyze dates about simulation tools, sourcing of components and logistics.</p> <p>In the case of building a new plant with the target to increase the participation in the market, the decision will only be made after analysis of services, such as custom facilities, access to the market and overview of the production and suppliers. For the current manufacture platform, LG is receiving support in having all the resources to produce the best output. Regarding the electronic industry, the supplier of the components is a very important factor in all stages, since we have to meet the date of delivery and we also need to keep the right level of production cost. For that, it is important to look at the right and successful partnership regarding suppliers and services.</p>
3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?	<p>LG Electronics was the OEM partner of Zenith Co. in the United States, which used to be one of the leading TV brands. However, Zenith Co. is now the affiliate company of LG Electronics. LG has also been the ODM partner of HP and IBM. LG Electronics currently has a new opportunity in the electronic industry doing its own competitive know-how from the time it works under OEM and ODM schemes.</p>

Prosperity is the key element of this company. It will still be applied in the same way to the management environment. Another key element is increasing the OEM, ODM and OSM model businesses. In this sense, the companies who want benefits in the short term are just a partnership away. But companies who constantly want to improve their development, increasing these businesses will provide them with the opportunity to change and transform into the best company. To sum up, the electronics industry is changing very fast, and by being in the OEM and ODM model businesses, companies can change and adapt to the new environment, emphasizing the company's focus on the future.

4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans? Similar to other organizations, FTAs for LG Electronics can be seen as both a threat and an opportunity. A FTA offers the chance for growth in the market, but at the same time, it can also reduce sales levels. In addition, we have observed that FTAs not only affect economic restrictions, but they also influence consumer distribution and trends. Thus, FTAs are a significant aspect of the current business environment.

But, as mentioned before, LG Electronics has facilities all around the world, while also having good relations with customers due to an excellent management team. This means that there is a high probability that FTAs will open up opportunities for LG Electronics, rather than competitors without any globalization sense, due to its focus in developing markets. The truth is that LG Electronics is planning to confront FTAs in each region in the most effective way in order to take full advantage.

5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?

The objective to attract foreign direct investments (FDIs) in developed or developing economies with policies that support investments, in order to increase the competitiveness of a particular industry, is a very well supported reason to penetrate the market of another economy. In order to increase the overseas base of manufacture, LG Electronics previously decided to invest as a response to the promotion policies. The company, however, did not consider the infrastructure, such as logistics and human resources. Thus, in some cases, after the facilities were established, we experienced losses, instead of gains. Learning from that, we now consider the incentives and policies of the developing economy supporting FDIs as only a small part out of the general analysis.

6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?

As we have mentioned in the first answer, we are sure that the digital convergence era will drive a fast development in the electronics and IT industries. The fusion of communication and emission, and the unification of technology and products, is not only dramatically changing humanity, but making individual lives more comfortable. New developing economies, including BRIC (Brazil, Russia, India and China), are growing fast and as a result, the electronic market will expand and consumption will increase.

The influence of the electronics and IT industries can be seen in the economies where the population uses mobile technology, as compared to the economies without a normal distribution of wired land lines. We are sure that the electronics and IT industries will develop quicker than before. The development of technology can be seen almost everywhere. It is evident, for example, on subways, when we see people watching TV, or writing e-mails through DMB phones.

Date: 28 August 2006

The Electronic and Information Technology Industries Survey in APEC
Company: SK Telecom
Name and title of the executive: Kim Shin Bae, CEO & President
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>Based on rapid network advancement, the information and communications sector is facing unparalleled changes that are removing the boundaries between the areas of different industries. To meet the challenges of these paradigm shifts, SK Telecom has mapped out a variety of future growth engines that continue to create new values for our customers. Our focus is on the development of the wireless internet businesses and we are also concentrating on exploring new services such as M-Finance and Satellite DMB. We are preparing for the increasing convergence in telecommunications, broadcasting, finance and entertainment.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>Actually, we are now focusing on mobile network operator (MNO) business. Therefore, we don't have any strategies regarding manufacturing platforms.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>Answer: For the same reason as above, we currently do not have any relations with SMEs.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>The saturation of the Korean mobile market is the main reason why SKT has to expand its business portfolio to the global market. From a strong foothold at home, we have successfully advanced into targeted Asian markets such as Mongolia, China, Vietnam and Israel. We have also made greater inroads into the USA, as well as France. This has laid a solid foundation for SK Telecom to spring forward to become a major player in the global market.</p> <p>At the same time, our wireless internet technologies, platforms and content, are being exported to advanced countries. SK Telecom is now standing high on the world's technology stage. And, FTAs will allow the global handset vendors to enter the Korean market, which will allow partnerships to be made. The close and friendly relationship between global vendors and our company will be able to strengthen our globalization strategies.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>Most of developing economies are not willing to liberalize their local telecommunications industry especially to foreign operators since they consider the telecommunications network as a national asset. They are not willing to transfer the ownership of IT infrastructures. However, in other areas such as electronics, FDI incentives could be an important factor for making an investment decision.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p>

Today, due to the convergent and ubiquitous business environment we are confronting new competition in a rapidly changing market situation. And, customer needs will become more complicated, and the lifecycle of IT will become shorter. Also regarding economies of scale, the globalization and mergers and acquisitions (M&A) will be more common in the future.

Other comments:

Date: 30 August 2006

VII. Government and Private Organizations

Organization	Ministry of Information and Communication	The MIC is involved in the planning & management of information & communication, ubiquitous society strategy, telecommunications & broadcasting policy, information & communication policy, international ICT cooperation, radio & broadcasting strategic planning, software industry policy and information security & privacy policy.
Chairman / Secretary General	H.E. RHO Jun Hyong Minister	
Members	Not available	
Address	Communication Center Bldg. 100, Sejongro, Jongro-gu, Seoul	
Tel	(82-2) 750 2114	
Fax	(82-2) 750 2915	
Website	www.mic.go.kr	
E mail	webmaster@mic.go.kr	
Organization	Electronics and Telecommunications Research Institute (ETRI)	The ETRI contributes to the nation and prosperity of humans through the creative development of core IT technology. It is the backbone of R&D, assisting the construction of Korea as the world's leading country in information communication. Their aims are to strengthen global capacity, advance human capacity, strengthen cooperation industry, school, and research, maximize intellectual capital, and to strengthen ethics and transparency.
Chairman / Secretary General	Dr. YIM Chu Hwan President	
Members	1,916 employees (including 1,666 researchers)	
Address	161, Gajeong-dong, Yuseong-gu, Daejeon	
Tel	(82-4) 2860 3910	
Fax	(82-4) 2860 4900	
Website	www.etri.re.kr	
E mail	jspark@etri.re.kr	
Organization	Korea Information Society Development Institute (KISDI)	The KISDI is involved in the research of IT industry policy; future information society policy; telecommunications and broadcasting policy; fair competition policy; international IT cooperation and postal services strategies.
Chairman / Secretary General	Dr. SUK Hoick President	
Members	108 employees (including 90 researchers)	
Address	1-1, Juam-dong, Gwacheon, Gyeonggi-do	
Tel	(82-2) 570 4000	
Fax	(82-2) 570 4011	
Website	www.kisdi.re.kr	
E mail	hoicksuk@kisdi.re.kr	

Organization	International Cooperation Agency for Korea IT (ICA)	The ICA aims to share the Korea brand of "Ubiquitous Korea" through international cooperation. They also aim to help Korean IT SMEs easily make inroads into the global market; to assist Korean IT companies to better understand and find the opportunities and needs of their partners; to trade their products in local and abroad markets; and to enhance international cooperation. They also conduct optimized joint activities for technology development while providing comprehensive information of the global IT market for Korean IT companies.
Chairman / Secretary General	Mr. KIM Sun Bae President	
Members	46 employees	
Address	Sejongro Daewoo Bldg. 2f. 167, Naesu-dong, Jongro-gu, Seoul	
Tel/Fax	(82-2) 2022 1400 (82-2) 2022 1499	
Website	www.ica.or.kr	
E mail	paul@ica.or.kr	
Organization	National Computerization Agency	This organization focuses on developing u-Korea strategy, expanding IT consulting, implementing IT 839 strategy, implementing e-Government, systemizing information from small to medium business (SMBs), auditing and standardizing.
Chairman / Secretary General	Mr. KIM Chang Kon President	
Members	200 employees	
Address	168, Jukjeon-dong, Yongin, Gyeonggi-do	
Tel Fax	(82-3) 1260 0114 (82-3) 1262 2751	
Website	www.nca.or.kr	
E mail	webmaster@nca.or.kr	
Organization	Korea Association of Information & Telecommunication (KAIT)	KAIT provides IT services like joint management of overdue information & telecom service payments, M-Safer services; and management of lost or stolen handsets. In addition, they operate the next-generation PC industry cooperation committee. They also offers services related to software, promotion of the industry and other different supports to its members, like reports about domestic and international advanced technology trends and market information.
Chairman / Secretary General	Mr. LEE Ki Tae Chairman	
Members	172 member companies	
Address	Donga Villat 2 Twon 2f. 1678-2, Seocho-dong, Seocho-gu, Seoul	
Tel Fax	(82-2) 580 0580 (82-2) 580 0599	
Website	www.kait.or.kr	
E mail	webmaster@kait.or.kr	
Organization	Korea Software Industry Association (KOSA)	In order to benefit its members, KOSA participates in different activities, such as studying and recommending policies, supporting international cooperation to increase exports, researching and reviewing publications.
Chairman / Secretary General	Mr. CHOI Hun Kyu Chairman	
Members	938 member companies	
Address	Daeyoung Bldg. 5f. 9-1, Sam-sung-dong, Gangnam-gu, Seoul	
Tel Fax	(82-2) 2188 6940 (82-2) 2188 6901	
Website	www.sw.or.kr	
E mail	Kosainfo@sw.or.kr	

Bibliography:

- Ministry of Information and Communication of Korea: www.mic.go.kr
- Bank of Korea: www.bok.or.kr
- Asia Pacific Information Infrastructure Cooperation Center: www.apiicc.org
- Korea Information Strategy Development Institute: www.kisdi.re.kr
- Korea National Statistical Office: www.nso.go.kr
- Korea Association of Information and Telecommunication: www.kait.or.kr

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC Malaysia

I. Overview of the Industry

Today, Malaysia's electronic industry has developed significant capacities and skills in the manufacture of a wide range of semiconductor devices, high-end consumer electronic goods and information and communication technology (ICT) products. This economy also offers to the world the Multimedia Super Corridor (MSC), which brings together a legislative framework, a high capacity global telecommunications and logistics framework, and eco-friendly surroundings to create the ideal environment for the growth of multimedia industries. The types of companies encouraged in the MSC are computer hardware and software vendors, system integrators, R&D organizations and relevant high-tech service providers.

With three decades of development, Malaysia is now a leading manufacturing center for many electronic components and equipment. The skills and technical capabilities of the Malaysian workforce, the pro-business environment and the commitment of the government to continuously invest in upgrading the physical and technology infrastructure has provided a strong base for the expansion of electronics production. This is attested to by many MNCs which have continuously brought into Malaysia new products and processes or have shifted key manufacturing related activities, such as R&D, product development and international procurement, from their home bases to Malaysia.

The future development of the electronics industry in Malaysia focuses on sustaining this high growth sector which is in the process of transforming into competitive, full-fledged skills-based electronics and ICT clusters, capable of supplying most kinds of electronic and ICT goods for the global market.

There are vast business opportunities for electronic companies seeking a competitive base for manufacturing and other skill-intensive activities such as R&D, product design and development. The Malaysian government is particularly keen to seek investment projects that will contribute substantially to technology advancement in areas of automation, miniaturization, digitalization and multimedia applications. But also, is promoted projects in the components, consumer and industrial electronics sectors.

Number of companies	>900
*Output	RM147.1 billion (US\$38.7 billion)
**Electronic Components	68.1%
**Consumer Electronics	19.5%
**Industrial Electronics	12.4%
Average Annual Growth, 1997 - 2003	9.6%
*Employment	360,048
**Exports	RM183.2 billion (US\$48.2 billion)
**Electronic Components	RM88.5 billion (US\$23.3 billion)
**Consumer Electronics	RM19.8 billion (US\$5.2 billion)
**Industrial Electronics	RM74.9 billion (US\$19.7 billion)
**Imports	RM138.3 billion (US\$36.4 billion)

II. Recent Developments in the Exports and Imports

The electrical and electronics (E&E) industry is the leading industry within the manufacturing sector and is the largest contributor to output, exports and employments opportunities. In 2003, Malaysia's exports of E&E products were worth RM147.1 billion (US\$48.2 billion), which accounted for around 50 percent of Malaysia's total exports and most of Malaysia's total manufactured goods for the international markets. Major export destinations were the US, Singapore, China, Japan and Hong Kong, China. As one of the world's leading exporters of electronics products, Malaysia markets electronics components, consumer electronics and industrial electronics. The biggest export item is semiconductor devices, which is used in a diverse range of industries, such as both the automotive and telecommunications industry. With regards to imports, in 2003 registered RM\$138.3 billion (US\$36.4 billion), where ICs, parts and components and machines for data processing were the most relevant.

Malaysia's Electronics Industry, 1997-2003								
Year	Output*		Employment*		Exports**		Imports**	
	RM billion (US\$ billion)	% growth	No.	% growth	RM billion (US\$ billion)	% growth	RM billion (US\$ billion)	%growth
1997	85.6 (22.5)	12.6	343,300	4.3	107.3 (28.2)	17.0	75.2 (19.8)	11.3
1998	106.7 (28.1)	24.6	341,700	(0.5)	146.7 (38.6)	36.7	92.5 (24.3)	28.8
1999	129.8 (34.2)	21.6	382,000	11.8	179.7 (47.3)	22.5	109.8 (28.9)	12.6
2000	167.1 (44.8)	31.0	423,600	10.9	212.7 (56.0)	18.4	143.4 (37.7)	30.6
2001	144.4 (38.0)	(15.1)	355,800	(16.0)	182.6 (48.0)	(14.2)	122.1 (32.1)	(14.9)
2002	136.6 (35.9)	(5.4)	345,500	(3.0)	188.4 (49.4)	3.2	138.6 (36.5)	13.5
2003	147.1 (38.7)	7.7	360,048	4.2	183.2 (48.2)	(2.8)	138.3 (36.4)	(0.2)

Consumer Electronics

This sub-sector includes the manufacture of color TV sets, audiovisual products, VCD players, DVD players, home theaters and video and digital cameras. It also provides opportunities for the local small and medium companies to become vendors in supplying parts, components and services to the MNCs. The capital investment in this sub-sector for the period 2000 to 2004 amounted to RM2.8 billion (US\$750 million).

Source: www.mida.gov.my/beta/pdf/pdf_elec.pdf

Electronic Components

The products under this sub-sector include semiconductor devices, passive components (capacitors, inductors, resistors) and display devices. Capital investment for the year 2004 amounted to RM5.9 billion (US\$1.6 billion). Within this sub-sector, the semiconductor industry is dominant in terms of production, employment creation and export contribution. Major semiconductor devices produced are linear and digital integrated circuits, memories and microprocessors, opto-electronics, discrete devices, hybrids and arrays. Malaysia was the second largest exporter of semiconductor devices among developing economies and it accounted for 7.1% of the global semiconductor exports. Exports of semiconductor devices in 2004 were valued at RM89.3 billion (US\$23.5 billion) and accounted for 37% of total electrical and electronics exports.

Industrial Electronics

This sub-sector covers the production of copier machines, fax machines, typewriters, automatic data processing machines, i.e. computer and computer peripherals, telecommunications equipment and industrial controllers. Companies in this sub-sector have moved into the production of higher-end industrial electronic products such as computer networking equipment, new generation audio-visual digital equipment and data storage devices (MR magnetic heads, compact disc (CD) media and hard disc drives). The capital investment under this sub-sector amounted to RM1.5 billion (US\$400 million) for the year 2004.

Electrical

Electrical products are categorized into three sub-sectors, namely industrial equipment, electrical components and household appliances. There are presently more than 250 companies producing a wide range of products such as household electrical appliances, wire and cables, and electrical industrial equipment. Manufacturing activities in the electrical industry have evolved from mere assembly of simple components and products such as coils, rice cookers and refrigerators of foreign brands to higher-value added activities including R&D, design and marketing of local brands for the regional and global markets. In 2004, Malaysia exported electrical products valued at RM17.2 billion (US\$4.5 billion).

III. Trade Negotiations Related to the Industries

Malaysia's objectives in negotiating Free Trade Agreements (FTAs) are to: (1) seek better market access by addressing tariffs and non-tariff measures; (2) further facilitate and promote trade,

investment and economic development; (3) enhance the competitiveness of Malaysian exporters; and (4) build capacity in specific targeted areas through technical cooperation and collaboration.

Malaysia's trade policy is to pursue trade liberalization through the rule-based multilateral trading system under the World Trade Organization (WTO). To complement the multilateral liberalization approach, Malaysia has also chosen to pursue regional and bilateral trading arrangements,

Malaysia is a committed participant of the Information Technology Agreement (ITA). It has been a founder member since December 1996. The participating economies represent an important share of the 97% of the world trade in information technology products. While ITA is solely a tariff cutting mechanism, most of the IT products are rated zero. This applies to the 68 members & states or separate custom territories in the process of acceding to the WTO. As of July 2006, the following APEC economies have accepted the criteria: Australia; Canada; China; Hong Kong, China; Indonesia; Japan; Korea; Malaysia; New Zealand; the Philippines; Singapore; Chinese Taipei; Thailand and the United States.

Association of Southeast Asian Nations (ASEAN)

The Association of Southeast Asian Nations was established in Bangkok on 8 August 1967 by the five original Member economies, namely, Indonesia, Malaysia, the Philippines, Singapore and Thailand. Brunei Darussalam joined on 8 January 1984, Viet Nam on 28 July 1995, Lao PDR and Myanmar on 23 July 1997, and Cambodia on 30 April 1999.

The ASEAN region has a population of about 500 million, a total area of 4.5 million square kilometers, a combined gross domestic product of almost US\$700 billion, and a total trade of about US\$850 billion.

Objectives of ASEAN

The ASEAN Declaration states that the aims and purposes of the association are to: (1) accelerate economic growth, social progress and cultural development in the region and (2) promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries in the region and adherence to the principles of the United Nations Charter.

In addition, the ASEAN Vision 2020, adopted by the ASEAN Leaders on the 30th Anniversary of ASEAN, agreed on a shared vision of ASEAN as a concert of Southeast Asian nations, outward looking, living in peace, stability and prosperity, bonded together in partnership in dynamic development and in a community of caring societies.

In 2003, the ASEAN Leaders resolved that an ASEAN Community should be established comprising of three pillars, namely, the ASEAN Security Community, the ASEAN Economic Community and the ASEAN Socio-Cultural Community.

As far as the ASEAN Economic Community is concerned, it has the end-goal of economic integration measures as outlined in the ASEAN Vision 2020. Its goal is to create a stable, prosperous and highly competitive ASEAN economic region in which there is a free flow of goods, services, investment and a freer flow of capital, equitable economic development and reduced poverty and socio-economic disparities in year 2020.

The ASEAN Economic Community shall establish ASEAN as a single market and production base, turning the diversity that characterizes the region into opportunities for business complementation and making the ASEAN a more dynamic and stronger segment of the global

supply chain. Its strategy shall consist of the integration of ASEAN and enhancing the groups' economic competitiveness.

In moving towards the ASEAN Economic Community, ASEAN has agreed on the following:

- Institute new mechanisms and measures to strengthen the implementation of its existing economic initiatives including the ASEAN Free Trade Area (AFTA), ASEAN Framework Agreement on Services (AFAS) and ASEAN Investment Area (AIA);
- Accelerate regional integration in the following priority sectors by 2010: air travel, agro-based products, automotives, e-commerce, electronics, fisheries, healthcare, rubber-based products, textiles and apparels, tourism, and wood-based products.
- Facilitate movement of business persons, skilled labor and talents; and
- Strengthen the institutional mechanisms of ASEAN, including the improvement of the existing ASEAN Dispute Settlement Mechanism to ensure expeditious and legally-binding resolution of any economic disputes.

Launched in 1992, the ASEAN Free Trade Area (AFTA) aims to promote the region's competitive advantage as a single production unit. The elimination of tariff and non-tariff barriers among Member Countries is expected to promote greater economic efficiency, productivity, and competitiveness.

As of 1 January 2005, tariffs on almost 99 percent of the products in the Inclusion List of the ASEAN-6 (Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore, and Thailand) have been reduced to no more than 5 percent. More than 60 percent of these products have zero tariffs. The average tariff for ASEAN-6 has been brought down from more than 12 percent when AFTA started to 2 percent today. For the newer Member economies, namely, Cambodia, Lao PDR, Myanmar, and Viet Nam (CLMV), tariffs on about 81 percent of their Inclusion List have been brought down to within the 0-5 percent ranges.

Together with five other economies, Malaysia is one of the founders in the establishment of the ASEAN FTA. This agreement has been established a "Roadmap for Integration of Electronics Sector". The terms of the agreement are as follows.

Objectives

The objectives of integrating the electronics sector are to:

- Develop, strengthen and enhance the competitiveness of the ASEAN electronics sector and promote ASEAN as an integrated platform to do business with regarding electronics;;
- Strengthen regional integration efforts through liberalization, facilitation and promotion measures to ensure full integration of the electronics sector by 2010.
- Promote private sector participation.

Measures

This roadmap includes specific measures that are of direct relevance to the electronics sector, as well as common measures that cut across all priority integration sectors. The integration approaches are premised on:

- Combining the economic strengths of ASEAN member countries for regional advantage;
- Facilitating and promoting intra-ASEAN investments;
- Improving the condition to attract and retain manufacturing and other economic activities within the region; and
- Promoting the outsourcing program within ASEAN.

Coverage

The scope of products include electronic data processing (EDP) equipment, electrical and electronic home appliances, medical and industrial equipment, telecommunication equipment, communications and radar equipment, automotive electronics, instrumentation and controls, and mechanical equipment.

More information can be obtained at www.aseansec.org/16656.htm

Malaysia has recently signed a free trade agreement with Japan, the Japan-Malaysia Economic Partnership Agreement (JMEPA). This economy is also currently in the negotiating stage of making a free trade agreement with Australia, New Zealand, the United States, Pakistan, Chile, Korea and India.

IV. Programs and Special Incentives to the Industries

In Malaysia, tax incentives, both direct and indirect, are provided in the Promotion of Investments Act 1986, the Income Tax Act 1967, the Customs Act 1967, the Sales Tax Act 1972, the Excise Act 1976 and the Free Zones Act 1990. These legislative acts cover investments in the manufacturing, agriculture, tourism (including hotel) and approved services sectors as well as in R&D, training and environmental protection activities.

The direct tax incentives grant partial or total relief from income tax payment for a specified period, while indirect tax incentives come in the form of exemptions from import duty, sales tax and excise duty.

Main Incentives for Manufacturing Companies

The major tax incentives for companies investing in the manufacturing sector are the Pioneer Status or Investment Tax Allowance. Eligibility for Pioneer Status or Investment Tax Allowance is based on certain priorities, including the levels of value-added, technology used and industrial linkages. Such eligible projects are termed as “promoted activities” or “promoted products”.

- *Pioneer Status*: Income tax exemption of 70% or 100% on the statutory income for a period of five or 10 years.
- *Investment Tax Allowance*: Investment tax allowance of 60% or 100% on the qualifying capital expenditure incurred within five years. The allowance can be used to offset against 70% or 100% of the statutory income.
- *Reinvestment Allowance*: Reinvestment allowance of 60% on the qualifying capital expenditure. The allowance can be used to offset against 70% or 100% of the statutory income.
- *Accelerated Capital Allowance*: After the reinvestment allowance period, companies can apply for the accelerated capital allowance. Companies that qualify are given an initial allowance of 40% and an annual allowance of 20% for three years.

Incentives for High Technology Companies

- *Pioneer Status*: Income tax exemption of 100% on the statutory income for a period of five years.
- *Investment Tax Allowance*: Investment tax allowance of 60% on the qualifying capital expenditure incurred within five years. The allowance can be used to offset against 100% of the statutory income.

Incentives for Strategic Projects

- *Pioneer Status*: Income tax exemption of 100% on the statutory income for a period of 10 years.
- *Investment Tax Allowance*: Investment tax allowance of 100% on the qualifying capital expenditure incurred within five years. The allowance can be used to offset against 100% of the statutory income.

Pre-packaged Incentives

- A customized incentive package that includes both tax and non-tax incentives.

Incentives for Research & Development

- *Pioneer Status*: Income tax exemption of 100% on the statutory income of five years.
- *Investment Tax Allowance*: Investment tax allowance of 100% on the qualifying capital expenditure incurred within 10 years. The allowance can be used to offset against 70% of the statutory income.

Other Incentives

- Industrial Building Allowance
- Infrastructure Allowance
- Incentives to Strengthen Industrial Linkages
- Tariff-Related Incentives

V. The Private Sector in the Industries

The following are some of the companies involved in the electronic and information technology industries.

Company	DELL ASIA PACIFIC SDN	Dell Inc. listens to customers and delivers innovative technology and services they trust and value. Uniquely enabled by its direct business model, Dell sells more systems globally than any computer company, placing it at number 25 in the Fortune 500. Dell's climb to market leadership is the result of a persistent focus on delivering the best possible customer experience by directly selling standards-based computing products and services.
Vice President & Managing Director	Simon Wong	
Address	Plot P27, Bayan Lepas Industrial Zone Phase IV, 11900 Bayan Lepas, Penang	
Tel Fax	(60-4) 633 4888 (60-4) 633 7135	
Website	www.dell.com	
Products	Desktops, personal computer systems and laptops.	
Company	BERJAYA GROUP BERHAD	The Dunham-Bush Group, from the Berjaya Group Berhad, specializes in the manufacturing, distribution, and sale of air-conditioning and refrigeration equipment such as air diffusion product, chillers, cooling tower, large commercial air-conditioner, blowers and ventilators worldwide
Chief Executive Officer	Vincent Tan	
Address	Level 16, Menara Shahzan Insas, 30 Jalan Sultan Ismail, 50250, Kuala Lumpur	
Tel Fax	(60-3) 2935 8888 (60-3) 2935 8054	
Website	www.berjaya.com.my	
Products	Air-conditioners, motor vehicles, audio products.	

Company	MOTOROLA MALAYSIA SDN BHD	The Motorola Malaysia Software Center, known formally as the Motorola Multimedia Sendirian Berhad (MMMSB), started its operations in mid-1999 and was inaugurated as a Multimedia Super Corridor (MSC) status company. The Center's domain of excellence includes software applications and network management solutions in 2G, 2.5G and 3G Wireless Communication Systems, embedded test software applications for portable wireless devices as well as automotive systems.
Chief Executive Officer	P Y Lai	
Address	10 th floor, Wisma Damansara, Jalan Semantan, 50490, Kuala Lumpur, Malaysia	
Tel Fax	(60-3) 2098 3095 (60-3) 2093 3771	
Website	www.mot.com	
Products	Modules, electronic components, semiconductors, telecommunication equipment.	
Company	TEXAS INSTRUMENTS MALAYSIA SDN BHD	Texas Instruments is the world leader in digital signal processing and analog technologies, the semiconductor engines of the Internet age. TI is a leader in the real-time technologies that help people communicate. They are moving fast to drive the Internet age forward with semiconductor solutions for large markets such as wireless and broadband access and for new emerging markets such as digital cameras and digital audio.
Chief Executive Officer	Tham Wai Keong	
Address	1 Lorong Enggang 33, Ampang/Ulu Klang FTZ, 54200, Kuala Lumpur, Malaysia	
Tel Fax	(60-3) 4256 7077 (60-3) 4256 9195	
Website	www.ti.com	
Products	Semiconductor devices, radio frequency identification system products, control products.	
Company	KENWOOD ELECTRONICS TECHNOLOGIES (M) SDN BHD	Kenwood draws on their unique technology accumulated over the years for the world of electronics and communications in order to stay in the forefront of the industry. The establishment of KETM is an important milestone as it marks the first time that Kenwood has set up a manufacturing presence in Johor Bahru, Malaysia.
Chief Executive Officer	Tadayuki Kobayashi	
Address	8 Jalan Padu, Kawasan Perindustrian Tampoi, 80350, Johor Bahru, Johor Darul Takzim, Malaysia	
Tel/Fax	(60-7) 237 1261 (60-7) 235 9248	
Website	www.kenwood.com.my	
Products	Home audio systems and equipment, car audio systems and equipment	
Company	INTEL TECHNOLOGY SDN BHD	Intel constantly pushes the boundaries of innovation in order to make people's lives more exciting, more fulfilling, and easier to manage. Their unwavering commitment to moving technology forward has transformed the world by leaps and bounds.
Chief Executive Officer	Glusher S. Grewal	
Address	Bayan Lepas Free Industrial Zone Phase 3, Halaman Kampung Jawa, 11900 Penang, Malaysia	
Tel/Fax	604-6422222/ 604-6435200	
Website	www.intel.com	
Products	Integrated circuits	
Company	HITACHI ELECTRONIC DEVICES (M) SDN BHD	Hitachi has acted from a corporate philosophy of contributing to society through technology. In the intervening years, the world and society have changed greatly, but they have never lost their pioneering spirit, based on the principles of harmony and sincerity. Now, as they embark upon the new century, global change is becoming ever more dynamic. They have adopted the phrase
Chief Executive Officer	Tadao Kubo	
Address	PLO 44 Kawasan Perindustrian Senai, Karung Berkunci 108, 81400 Senai, Johor Darul Takzim, Malaysia	
Tel Fax	(60-7) 599 5001 (60-7) 599 5021	

Website	www.hitachi.com	"Inspire the Next" as a declaration of their vow that the Hitachi brand will meet the expectations of their customers and society in this new age.
Products	Power semiconductor devices	Annual Sales: US\$429.26 million
Company	MATSUSHITA TELEVISION & NETWORK SYSTEM CO., (M) SDN BHD	Matsushita Television & Network Systems Co., (M) Sdn Bhd (MTV), formerly known as Matsushita Television Co., (Malaysia) Sdn Bhd, has a vision to top the industry on a worldwide basis, aggressively competing in the industry through the production of high-quality goods for customers, and through continuous innovation in technology.
Chief Executive Officer	Masaru Maruo	
Address	Lot 5, Persiaran Tengku Ampuan, Shah Alam Industrial Site, 40300, Shah Alam, Selangor Darul Ehsan, Malaysia	
Tel Fax	(60-3) 5891 3888 (60-3) 5891 3998	
Website	www.melcom.panasonic.com.my	
Products	Fly back transformers, television components, television parts, television receivers.	
Company	SAPURA HOLDINGS SDN BHD	For three decades, Sapura has been dedicated to achieving growth by identifying, developing and managing opportunities with their partners, for their customers. This has resulted in the expansion of their Group's intellectual capital and technology capabilities.
Chief Executive Officer	Datuk Shahril Shamsuddin	
Address	Sapura@Mines, No.7 Jalan Tasik, The Mines Resort City, 43300, Seri Kembangan, Selangor Darul Ehsan, Malaysia	
Tel Fax	(60-3) 8949 7000 (60-3) 8943 7272	
Website	www.sapura.com.my	
Products	Telephones, facsimile machines, cellular phones, private branch exchange (PBX) and equipment, pagers.	
Company	INVENTEC ELECTRONICS (M) SDN BHD	Inventec Multimedia & Telecom Corporation was established in 1999, along with the establishment of the main R&D and Operation Headquarter in Taipei. The company consists of two manufacturing sites in Penang, Malaysia and Tian Jin, China.
Chief Executive Officer	Lee Chia Hwa	
Address	Plot 102 Bayan Lepas Industrial Estate, Lebuhraya Kampung Jawa, 11900, Bayan Lepas, Penang, Malaysia	
Tel Fax	(60-4) 643 9566 (60-4) 643 9900	
Website	www.importek.com	
Products	Databank calculators, desktop calculators, electronic cash registers, screen phones, computer video, video conference cameras, digital cameras	
Company	MATSUSHITA DISPLAY DEVICES CORPORATION (M) SDN BHD	This company markets, sells and services electrical and electronic products that are manufactured by the Matsushita Group of Companies.
Chief Executive Officer	Masakazu Maeda	
Address	Lot 1 Persiaran Tengku Ampuan, Section 21, 40719, Shah Alam, Selangor Darul Ehsan, Malaysia	
Tel Fax	(60-3) 5891 2188 (60-3) 5891 2180	
Website	www.panasonic.com.my	
Products	Cathode ray tubes, Color monitor tubes	

Company	MATSUSHITA ELECTRIC CO., (M) BHD	Matsushita Electric Co., (M) BHD is involved in the manufacture of many home appliances.
Chief Executive Officer	Masakazu Yanagawa	
Address	No.3 Jalan Sesiku 15/2, Shah Alam Industrial Site, 40200, Shah Alam, Selangor Darul Ehsan, Malaysia	
Tel Fax	(60-3) 5891 5000 (60-3) 5891 5108	
Website	www.panasonic.com.my	
Products	Dry cell batteries, food processors, and electric domestic items.	Annual Sales: US\$229.4 million
Company	CHUNGHWA PICTURE TUBES (M) SDN BHD	TV cathode ray tubes (CRTs) are based on technology that is over a hundred years old. This company has superiorities in the aspects of true color rendering, real time response speed, product life span and cost. With many years of experience, this company has successfully gained a good reputation in terms of product quality, flexible delivery time, guaranteed after-sales service and stable CRT supply during the peak seasons.
Chief Executive Officer	Jeff Yueh Jia Fang	
Address	Lot 1 Subang Hi tech Industrial Park, Batu Tiga, 40000 Shah Alam, Selangor Darul Ehsan, Malaysia	
Tel Fax	(60-3) 5635 5055 (60-3) 5891 7989	
Website	www.cptm.com.my	
Products	Color picture tubes, electron guns	Annual Sales: US\$217.98 million
Company	TKR MANUFACTURING (M) SDN BHD	TKR Manufacturing (M) SDN BHD is a private international company focused on the manufacture of man electronics products.
Chief Executive Officer	M Yoshida	
Address	Lot 11, Kawasan Perindustrian, Tangga Batu, 76400 Melaka, Malaysia	
Tel Fax	(60-6) 351 6050 (60-6) 351 5557	
Website	www.tkrm.com.my	
Products	Video discs mechanics, photocopier mechanisms, printed circuit board assembly, car stereos, compact disc, mechanic deck parts.	Annual Sales: US\$208.17 million
Company	SAMSUNG ELECTRONICS (M) SDN BHD	Malaysia plays a key role in Samsung's strategy as both a manufacturing export base as well as a market for high-value technology products. They have a total of 2200 employees in Malaysia. Samsung Electronics offices in Malaysia consist of 1 subsidiary office and 2 manufacturing facilities. In recent years, Samsung has evolved as a major consumer technology brand. They consistently hold top 3 positions in South-East Asia for TV monitors/LCD monitors, side-by-side refrigerators, washing machines and DVD players.
Chief Executive Officer	Cho Jung Hwan	
Address	Lot 2 Leboh 2, North Kiang Straits, Area 21 Industrial Park, 42000, Port Klang, Selangor Darul Ehsan, Malaysia.	
Tel Fax	(60-3) 3176 1068 (60-3) 3176 3461	
Website	www.samsung.com	
Products	Microwave ovens, printed circuit board assembly, magnetrons	Annual Sales: US\$206.81 million
Company	MITSUBISHI ELECTRIC (M) SDN BHD	MMC Electronics (M) Sdn. Bhd. is a wholly owned subsidiary of Mitsubishi Material Corporation (MMC) in Japan and is a world leader in the production for ceramic electronic components and advanced electronic materials. Their offices are located in several global regions in order to support the electronics industry.
Chief Executive Officer	Ikuo Marisada	
Address	Plo 32, Kawasan Perindustrian Senai, Fasa II, 81400, Senai Johor Darul Takzim, Malaysia.	
Tel Fax	(60-7) 599 6060 (60-7) 599 6076	

Website	www.mitsubishi.com	
Products	Video cassettes recorders, time lapse VCRs	Annual Sales: US\$190.73 million
Company	ASAHI INDUSTRIES (M) SDN BHD	
Chief Executive Officer	Masateru Ono	
Address	Plo 1 Kawasan Perindustrian, Mengkibol, Off Jalan Batu Pahat, 86000, Kluang, Johor Darul Takzim	Not available
Tel Fax	(60-7) 772 2788 (60-7) 772 4626	
Website	www.tradenex.com/sites/asahiindM/main.htm	
Products	Digital pianos, handy copy pen printers, musical keyboards, audio products, digital cameras, mini discs	Annual Sales: US\$177.11 million
Company	HITACHI ELECTRONICS PRODUCTS (M) SDN BHD	
Chief Executive Officer	Elichi Funaki	
Address	No. 12, Jalan Kemajuan, Banmgi Industrial Estate, 43650 Bandar Baru Bangi, Selangor Darul Ehsan, Malaysia	Since it was founded on 17 May 1980, Hitachi Electronic Products Malaysia (M) Sdn Bhd has become a major supplier of key electronic components to the global audio/video market. To date, it has already produced more than 200 million products of these high quality components namely.. During these years, our products are found in homes in more than 60 countries, providing the technology for the brilliant colors that entertain millions of color television viewers all over the world.
Tel Fax	(60-3) 8925 9230 (60-3) 8925 0233	
Website	www.hitachi.com.sg	
Products	Chassis for color televisions, chassis for video cassette recorders, DVD-ROMs, VTRs, Time Lapsed VTRs	Annual Sales: US\$163.48 million
Company	SANKYO PRECISION (M) SDN BHD	
Chief Executive Officer	Shigeru Okayama	
Address	Lot 4, Jalan Sultan Hishamuddin 2, Kawasan Perusahaan Selat Kelang Utara, 42000 Pelabuhan Kelang, Selangor Darul Ehsan, Malaysia	The Sankyo Motor is a world-class device used in the multimedia device industry as an integral part of multiple applications. With the introduction of the fluid dynamic bearings motor in 1993, Sankyo maintains its position as a technological leader by introducing a motor that does not use ball bearings, and rotates in the axle by dynamic pressures such as air and oil.
Tel Fax	(60-3) 3176 5621 (60-3) 3176 1621	
Website	www.sankyo.com	
Products	Micro motors, peripheral units, home electric appliances, audio and video	Annual Sales: US\$163.48 million
Company	FLEXTRONICS TECHNOLOGY (M) SDN BHD	
Chief Executive Officer	Simon Choo Peng Yee	
Address	No. 8688 & 8690 (Lot 19 & 20), Kawasan MIEL, Batu Berendam FTZ III, 75350 Melaka, Malaysia	Flextronics is a leading Electronics Manufacturing Services (EMS) that offers complete design, engineering, and manufacturing services to the aerospace, automotive, computing, digital, industrial, infrastructure, medical and mobile OEM customers. With a network of facilities in over 30 countries, it helps customers design, build, ship, and service electronics products worldwide.
Tel Fax	(60-6) 282 1613 (60-6) 282 1503	
Website	www.flextronics.com	
Products	Printed circuit board assembly	Annual Sales: US\$136.23 million

VI. The Vision of the Private Sector

The Electronic and Information Technology Industries Survey in APEC
Company: Request not be disclosed
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>We are adjusting all of our systems to the changes the industry is presenting plus we are negotiating new alliances with different players in the market so that we are more prepared to face these changes.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>We are buying some spare parts from other sources so we can concentrate in what we are good at. That saves us time and manpower.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>Those are scale economics. If you understand this, it will be easier to find products that are more accessible in the market and also generate more employment.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Yes, they allow us to penetrate new markets and save money.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>We have no plans to invest outside Asia.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>Changes happen so fast and you have to be prepared for them and adjust accordingly.</p>
Other comments:
Date: November 2006

The Electronic and Information Technology Industries Survey in APEC
Company: Request not be disclosed
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>We are constantly creating new products to meet our clients' needs.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p>

<p>We are currently doing so.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>Using the OSM helps to create new things without paying extra costs (royalties, packaging, distribution margins).</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Our products suit the needs of the clients, and thus, benefits them</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>We outsource mainly from China and India. We don't need to invest elsewhere.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>You have to always be reinventing the wheel if you want to sustain your business in this industry. Innovation generates new opportunities to grow.</p>
<p>Other comments: Creating solutions to satisfy our clients is our main objective.</p>
<p>Date: November 2006</p>

<p align="center">The Electronic and Information Technology Industries Survey in APEC</p>
<p>Company: Request not be disclosed</p>
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>We renovate and adapt our technologies to meet our clients' demands on a regular basis</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>We are buying components from other sources to be included in our products.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>We follow the requirements that our main clients request from us, and thus, work under their brand. Indirectly, we are also generating opportunities for SMEs.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Our main clients in Europe and America are being benefited by the agreements signed with those countries they negotiate with. We will benefit once Malaysia has a leading position among ASEAN countries.</p>

<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>No plans for the near future.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>Think out of the box and be creative.</p>
<p>Other comments:</p>
<p>Date: November 2006</p>

VII. Government and Private Organizations

Organization	Malaysian Industrial Development Authority (MIDA)	<p>The Malaysian Industrial Development Authority (MIDA) is the government's principal agency for the promotion and coordination of industrial development in Malaysia. MIDA assists companies, which intend to invest in the manufacturing and its related services sectors, as well as facilitates the implementation and operation of their projects.</p> <p>The wide range of services provided by MIDA includes providing information on the opportunities for investment and facilitating companies that are looking for joint venture partners.</p>
Director General	Datuk R. Karunakaran	
Members	Not available	
Address	Ground Floor, Block 4, Plaza Sentral Jalan Stesen Sentral 5, Kuala Lumpur Sentral 50470 Kuala Lumpur, Malaysia	
Tel Fax	(60-3) 2267 3663 (60-3) 2274 7970	
Website	www.mida.gov.my	
E mail	promotion@mida.gov.my	
Organization	Multimedia Development Corporation (MDC)	<p>The MDeC has been incorporated under the Companies Act of Malaysia, owned and funded by the Government. At MDeC, it is combined the entrepreneurial efficiency and effectiveness of a private company, with the decision-making and authority of a high-powered government agency. Their role is to advise the Malaysian Government on legislation and policies, develop Multimedia Super Corridor (MSC) Malaysia-specific practices, and set breakthrough standards for multimedia operations. They also promote the MSC Malaysia locally and globally, as well as support companies, which are located within the MSC Malaysia.</p>
Chairman	YBhg Tan Sri Abdul Halim Ali	
Members	Not available	
Address	MSC Headquarters 2360 Persiaran APEC 63000 Cyberjaya, Selangor, Malaysia	
Tel Fax	(60-3) 8315 3000 (60-3) 8318 8519	
Website	www.mdc.com.my	
E mail	info@mdc.com.my	
Organization	Malaysia Electrical & Electronics Industry Group (MEEIG)	<p>The Federation of Malaysian Manufacturers (FMM) is Malaysia's premier economic organization. Since its establishment in 1968, the FMM has consistently led</p>
President	YBhg Datuk Yong Poh Kon	

Members	Not available	
Address	Wisma FMM (Federation of Malaysian Manufacturers) No. 3, Persiaran Dagang PJU 9, Bandar Sri Damansara 52200 Kuala Lumpur, Malaysia	
Tel	(60-3) 6276 1211	
Fax	(60-3) 6274 1266/ 6274 7288	
Website	www.fmm.org.my	
E mail	webmaster@fmm.org.my	
Organization	The Electrical & Electronics Association of Malaysia (TEEAM)	
President	Dato' Lee Peng Joo	TEEAM is a representative body of the electrical and electronics industries in Malaysia. It aims to work closely with all government departments, statutory bodies and the private sector to ensure and promote orderly growth and development of the electrical and electronics industries.
Members	1,750	
Address	5-B, Jalan Gelugor Off Jalan Kenanga 55200, Kuala Lumpur, Malaysia	
Tel	(60-3) 9221 4417 / 9221 2091	
Fax	(60-3) 9221 8212	
Website	www.teeam.com	
E mail	teeam@po.jaring.my	
Organization	Computer & Multimedia Industry Association, Malaysia (PIKOM)	
Chairman / Secretary General	Lee Boon Kok	PIKOM, the Association of the Computer and Multimedia Industry, Malaysia is the association representing the information and communications technology (ICT) industry in Malaysia. Its membership currently stands at over 600 comprising companies involved in a whole spectrum of ICT products and services, which commands 80 percent of the total ICT trade in Malaysia.
Members	600	
Address	1107, Block B, Phileo Damansara II 15, Jalan 16/11 46350 Petaling Jaya, Selangor, Malaysia	
Tel/Fax	(60-3) 7955 2922 / 7955 2933 (60-3) 7955 2933	
Website	www.pikom.org.my	
E mail	info@pikom.org.my	
Organization	Technopreneurs Association of Malaysia (TeAM)	
Chairman / Secretary General	Tengku Farith Rithauddeen	TeAM has been formed by a group of Malaysian Technopreneurs to further the interests of Technopreneurs and to assist in the development of the Digital Economy in Malaysia. The immediate short-term objective would be to act as a think tank and as a voice for entrepreneurs devoted to technology. The medium term objective is for the professional development of members and the industry in general. The longer-term objective is to provide community education and to bridge the digital divide.
Members	Not available	
Address	Unit C-902 Penthouse 9th Floor, Block C, Kelana Square 17, Jalan SS7/26, Kelana Jaya 47301 Petaling Jaya, Selangor Malaysia	
Tel	(60-3) 7804 3876	
Fax	(60-3) 7803 9143	
Website	www.team.net.my	
E mail	info@team.net.my	
Organization	Malaysia Cable Manufacturers Association (MCMA)	Malaysia Cable Manufacturers Association - MCMA (Formerly known as Malaysia Electric Cable & Wires Association - MECWA) was established in 1980
President	Ybng. Dato' Dr. Abdul Razak Bin Abdul	

Members	18	
Address	15A, Jalan PJS 10/24 Bandar Sri Subang 46000 Petaling Jaya, Selangor, Malaysia	
Tel	(60-3) 5634 0294	
Fax	(60-3) 5634 8460	
Website	www.mcma.org.my	
E mail	info@mcma.org.my	
Organization	Malaysian American Electronics Industry (MAEI)	
President	Vincent Leusner	
Members	More than 750	MAEI has served as a platform for providing information to its members, representing their interests before the Malaysian and U.S. governments, and in establishing closer relationships with other business organizations and the local community.
Address	11.03-11.05, Level 11 AMODA, 22 Jalan Imbi 55100, Kuala Lumpur, Malaysia KUALA LUMPUR	
Tel	(60-3) 2148 2407	
Fax	(60-3) 2142 8540	
Website	www.amcham.com.my	
E mail	sharon@amcham.com.my	

Bibliography:

- Malaysia Trade Development Corporation: www.matrade.gov.my
- Ministry of International Trade and Industry: www.miti.gov.my
- Malaysia Industrial Development Authority: www.mida.gov.my
- Matrade Industry Directory Electrical & Electronic, 3rd Edition, 2005/06
- The Electrical & Electronics Association of Malaysia: www.teeam.com

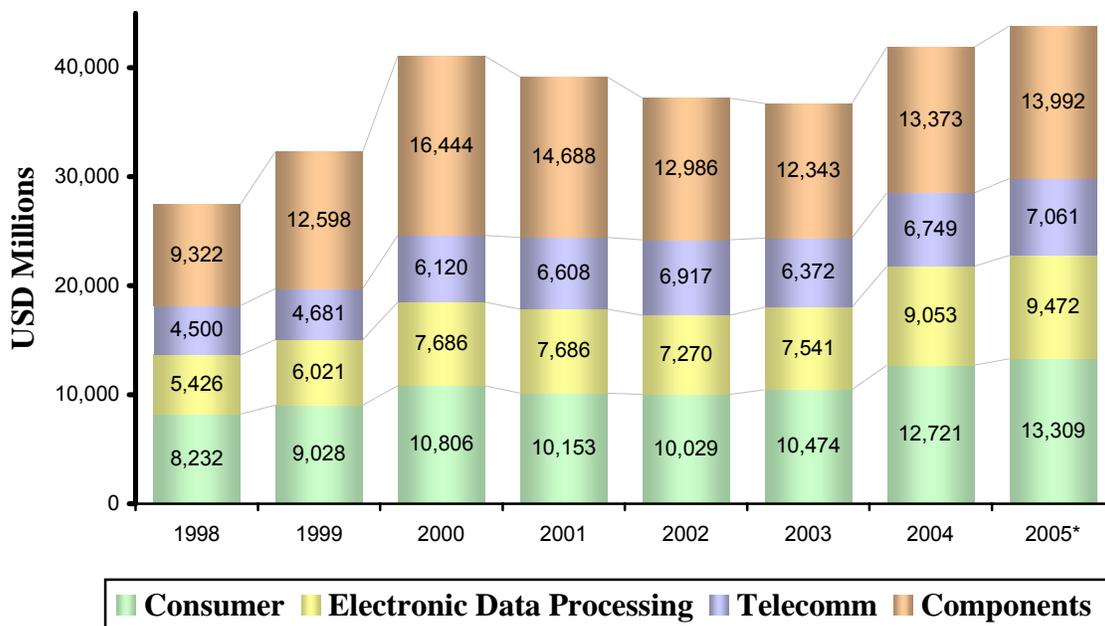
[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC Mexico

I.- Overview of the industry

Mexico has a highly competitive Electronics and IT Industry that is one of the pillars of the manufacturing sector. According to the Ministry of the Economy, in 2005 this sector accounted for 3.4% of manufacturing gross domestic product (GDP) and around 300,000 jobs. Total production in that year reached US\$43,834 million dollars with exports of US\$46,856 millions or 27% of total manufacturing exports.

After three years of negative growth between 2001 and 2003, the industry grew 14% in 2004 and 6% in 2005, and it is expected a double digit growth in 2006 (see Graph 1)



Graph 1.- Mexico Production²⁶ USD millions

The largest contributor is the manufacture of components, which accounted for 32% of total output in 2005. The production of color televisions (CTVs) has grown appreciably to make the consumer electronics sector the second largest, accounting for 30% of the total in 2005. Electronic data processing accounted for almost 22% setting up as the 3rd in importance. The majority of production was also exported, with around 95% of complete products and peripherals going to The United States.

Close to 1,000 companies integrate the sector, (between local and in-bond assembly plants). Of these, about 400 are in-bond industries; most of them (90%) are located in the Northern States next to the US border. In addition to the border area, the western state of Jalisco, has developed a very important electronics manufacturing center, the so called "Mexican Silicon Valley". It is estimated that only between 6 to 10% of the inputs for the electronics industry come from domestic suppliers. It is important to mention that this dynamism has been fueled by foreign direct investments, which accounted for almost to US\$5,000 million from 1994 to 2004

²⁶ Ref. Ministry of Economy

The output of CTVs was 31.5 million sets in 2004 compared with 9.2 million in 1993. The majority of sets are exported to the US, due the proximity to the American market; it is key factor in making Mexico an ideal location for the major global TV manufacturers. Some companies that have previously operations are expanding its manufacturing bases. For example, Philips Electronics in 2005 announced it has started a new production line for flat-screen television sets at its facility in Ciudad Juarez, Chihuahua. This increase will triple its TV output in Mexico from 100,000 sets in 2004 to 600,000 TV sets in 2006.

The Japanese company Matsushita plans to increase production of both plasma and LCD TVs and will convert existing cathode ray tube (CRT) production lines to accommodate the increase. Sharp plans to double its Mexican plant's LCD TV output capacity to 2.4 million units in 2006 by also reducing production of CRT models and fellow Japanese company Sanyo has also announced it plans to switch production from CRT to LCD models.

Mexico relies on imports of electronic components and in 2004 around 70% were imported from the US suppliers although an increasing proportion are being sourced globally, in particular, in the semiconductor sector which is increasingly shifting in origin from the US to Japan, Chinese Taipei, Malaysia, Korea and Singapore.

An important proportion of electronics production in Mexico is carried out through the Maquiladora programme. The term Maquiladora (In bond company) refers to an assembly plant operating in Mexico territory under special customs treatment and liberal foreign investment regulations. The Maquiladora imports into Mexico, duty free, machinery, equipment, parts, raw materials and other components. Finished or semi finished products are exported back to their market of origin or to a third market. There are almost 4,000 Maquiladora plants employing close to one million people, representing more than 30% of total employment in the Mexican manufacturing sector.

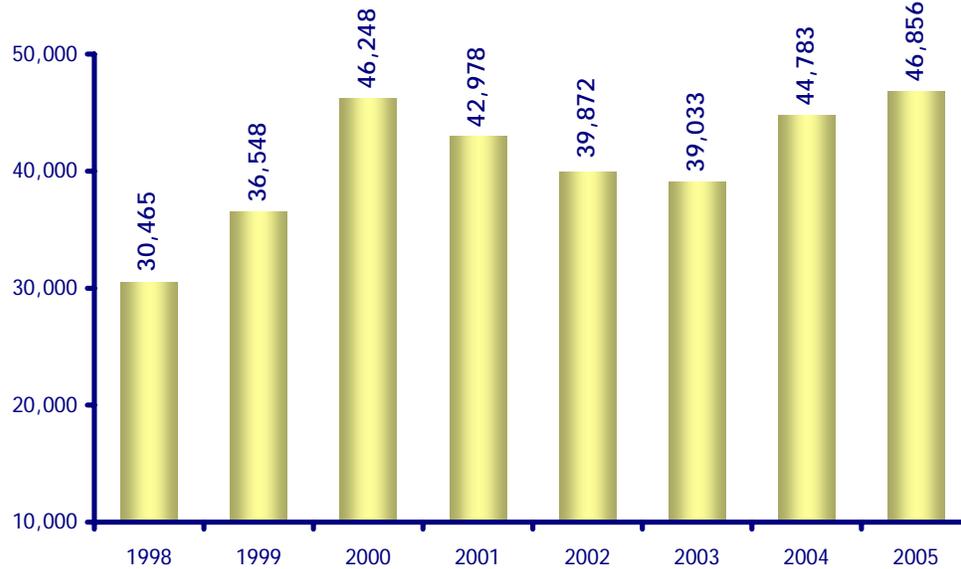
Whilst most plants are clustered along the border the number in the interior has increased a trend that is expected to continue as new plants are built in the Southern states like; Yucatan, Jalisco and Quintana Roo. Around a third of the Maquiladora plants are engaged in electrical and electronic production. However, since the implementation of NAFTA's Article 303 Mexican Maquiladora must develop sufficient controls and procedures for managing the origin and valuations of all its materials, components, machinery and equipment. Most Maquiladora plants are foreign owned, principally by companies from the US but also from South Korea, Japan, Chinese Taipei, Hong Kong, China, Sweden, France and Canada.²⁷

II.- Recent Developments in the Electronics Industry

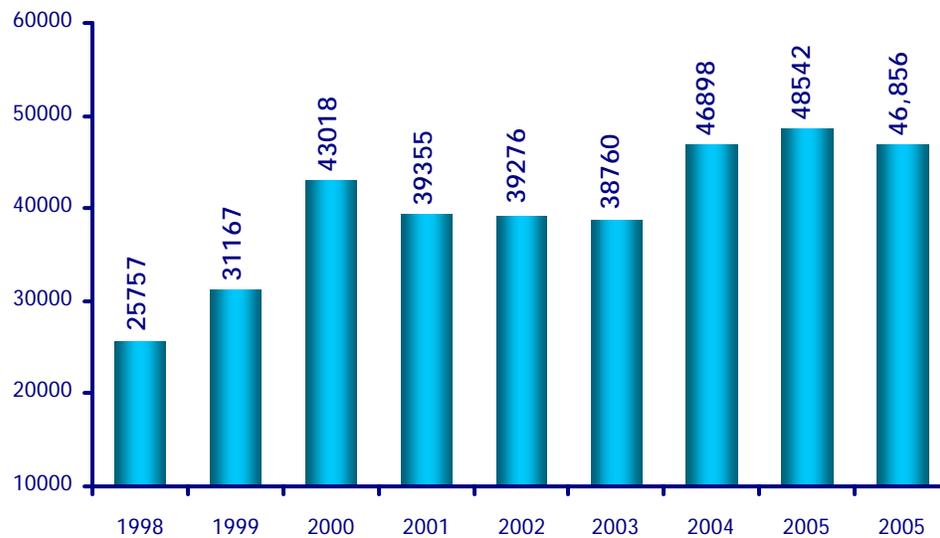
The domestic market is small compared to total exports. The Mexico's electronic production is made mainly by Maquiladora industry, having the US as the final market. These industry imports most of their inputs and assemble in Mexico to re-export with low value added.

²⁷ Information in this section is contained in the "Yearbook of World Electronics Data 2006/2007 Mexico"

Graph 2.- Exports²⁸ (US\$ Millions)



Graph 3.- Imports²⁹ (US\$ Millions)



Between October 2000 and March 2002, Mexico's Maquiladora - factories that assemble imported parts for re-export - lost 270,000 jobs, or more than one in five, sparking fears that Mexico had permanently lost ground to China. But now the trend seems to have sharply reversed.

²⁸ Ref. Ministry of Economy

²⁹ Ref. Ministry of Economy

Mexico has continued to lose jobs in such labor-intensive sectors as textiles, furniture, toys and leather goods. The new expansions are coming bundled with manufacturing innovation, "just in time" inventories, and complete integration into the chain of American production.

The Mexican industry has refocused on providing goods and services with higher added value. The industry has transformed from low technology content to medium or high technology products and services (design centers, technical support and parts replacement centers). This trend has required improving in providing trained labor, professional support, intellectual property systems, and excellent infrastructure in networks and telecommunications.

One example of this shift towards higher value added manufacturing is TV sets assembly. In the 90's, Mexico was the most important TV manufacturer of the world, specifically in the low technology TV sets. With the arrival of China as a manufacturing powerhouse, the biggest TV manufacturers moved production to China.

After the shock, the industry in Mexico started to move forward in the value chain and activities like design and engineering became more important in the manufacturing process.

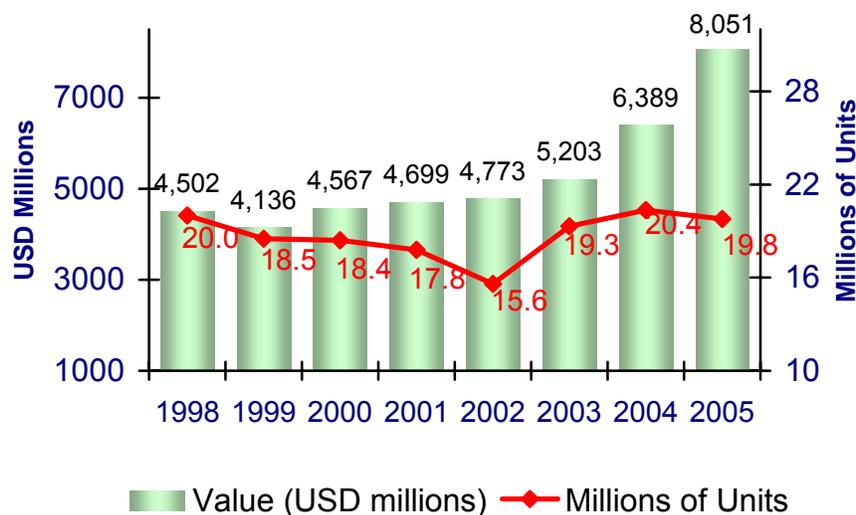
Electronics Sub sectors Share in Foreign Trade (%)

2005

	EXPORTS	IMPORTS
Electronic Data Processing	21.6	20.6
Consumer Electronics	20.3	3.1
Components	19.7	43.0
Communications	17.9	17.3
Medical & Industrial	7.8	6.1
Control & Instrumentation	6.9	6.9
Telecommunications	5.7	2.7
Office Equipment	0.2	0.3

At present, TV is once again the most important export product in the industry, but this time is digital flat screen TV sets with higher export value. (See Graph No. 4).

Graph 4.- TV Sets Exports³⁰ to USA



³⁰ Ref. Ministry of Economy

III.-Trade Negotiations Related to the Industries

A fundamental element of the strategy to open and diversify Mexico's foreign trade is the different treaties and trade agreements signed by Mexico since 1992. The most important aspect of such agreements is the cooperation undertaken by the parties involved to generate economic, legal, sector, labor, cultural and other benefits aimed at boosting productivity, the flow of capital, technology and trade.

Mexico has signed more free trade agreements (FTAs) than any other country in the world and this has placed us in a privileged position as one of the ten biggest exporters worldwide and one of the main recipients economies of foreign direct investment. To date, Mexico has signed FTAs with 32 economies and is in preliminary negotiations with 6 more.

The free-trade agreements in force are (ordered by date):

- North American Free-Trade Agreement (NAFTA in 1994): Canada and the United States
- Colombia and Venezuela, also called G-3 Free-Trade Agreement (1995)
- Costa Rica, Free-Trade Agreement (1995)
- Bolivia, Free-Trade Agreement (1995)
- Nicaragua, Free-Trade Agreement (1998)
- Chile, Free-Trade Agreement (1999)
- European Union (EU) Free-Trade Agreement (2000)
- Israel, Free-Trade Agreement (2000)
- Guatemala, El Salvador and Honduras, also called TN Free Trade Agreement (2001)
- Iceland, Norway, Liechtenstein, and Switzerland, also called AELC (Free Trade European Association) Free-Trade Agreement (2001)
- Uruguay, Free-Trade Agreement (2004)
- The Economic Partnership Agreement between Mexico and Japan (MJEPA) was signed on September, 2004 and entered into force in April 1st 2005.
- Uruguay, Argentina, Brazil and Paraguay, also called Mercosur Free-Trade Agreement (pending of ratification)

All of these FTAs include provisions related to the electronics sector for trade in goods and services, investment, intellectual property rights, technological, trade barriers, public sector acquisitions, administrative regulations and the resolution of disputes.

One of the most important agreements for the electronics sector is the NAFTA, which went into effect on 1994. This agreement established timetable for the elimination or reduction of tariffs and other barriers to the movement of goods, services and investment between Mexico, Canada and the US. Duties were, with several exceptions, to be either eliminated immediately or phased out in five or ten equal annual stages. The tariff exemption system under the Maquiladora program was to be eliminated in 2001, but the exemption was extended to 2003.

Under NAFTA, none of the signatory nations may prohibit the importation of any good from another NAFTA region; export restrictions are also prohibited. All three economies committed to providing national treatment for investor thereby eliminating most investment barriers. In addition, NAFTA also strengthens domestic content regulations in several key sectors while retaining import tariffs for non-member countries. In the electronics industry, rules of origin are supplied to key products such as computers and TV sets.

NAFTA, Selected Facts

In Effect From	January 1, 1994
Overall Goals	1) To eliminate tariffs and other barriers to the movement of goods, services and investment among the three member countries (Mexico, Canada and the U.S.A.) 2) To protect the member countries by keeping tariffs on import from non-member countries while strengthening country-of-origin regulations in several key sectors
Tariffs	Tariffs on almost all goods were eliminated from the beginning or are being phased out over 5, 10 or 15 years. In the first 5 years, 90% of Mexican exports to the U.S. and 60% of U.S. exports to Mexico were covered.
Investment	NAFTA have eliminated most investment barriers (except in the energy sector) by committing all three countries to provide national treatment to investors from all NAFTA partners.
Electronics Industry	Tariffs on most products were eliminated during the first five years. Local content regulations require the use of certain parts produced in North America for selected products such as computers (motherboards) and TVs (picture tubes).
Maquiladoras	The tariff exemption system of the maquiladora program was to be eliminated in 2001, but the exemption has been extended to 2003
Labour	The North American Agreement on Labor Cooperation (the "labour side-agreement") is committed to promote eleven guiding principles including the rights to bargain collectively, organise freely and to strike, labour protection for children, equal pay for women and men, and protection for migrant workers.

IV.- The Programs and Special Incentives to the Industry

Program for the Competitivy of the Electronics and High Tech Industries

The program's objective is to enhance the capabilities of the industry to become one of the top five electronics manufacturers in the world through a variety of strategies, including developing local providers of electrical and electronic components, promoting the transition from analogue to digital technology, creating marketable technology nationally, and increasing investment in the sector

Goals

The goals of this Program by the year 2010 are:

- To turn Mexico into one of the 5 top exporters of electronics industry worldwide
- To increase Mexico's exports up to US\$80,000 million by 2010
- To increase up to 60,000 the direct jobs generated in this sector
- To increase and consolidate the "*Hecho en México*" (Made in Mexico) and to evolve into "*Creado en México*" (Created in Mexico)
- To promote the transition of analog technologies into digital ones
- To develop 250 local suppliers of electric and electronic components, metal and plastic parts and complementary, and service materials.
- To invest between US\$5,000 to US\$10,000 million.
- To develop own technology in Mexico and to have the opportunity to transfer it to other sectors

Strategies

The Programa para la Competitividad de la Industria Electrónica y de Alta Tecnología (PCIEAT as its acronym in Spanish) includes nine strategies; four aim at promoting competitiveness while the other five aim at strengthening the sector:

- A)** Strategies to promote competitiveness:
1. Competitive tariff structure
 2. To make foreign trade processes more efficient
 3. To develop a standardizing and regulating framework
 4. To develop supplying chains
- B)** Strategies to strengthen the sector:
1. Competitive fiscal policies
 2. Promotion of technological development
 3. To promote the human factor
 4. To create an appropriate infrastructure
 5. To own competitive operational and macro-economic environment

In line of this strategy, from November 2006 the new Decree for the Promotion of the Manufacturing Industry, Assembly Plant and of Services of Export (IMMEX, as its acronym in Spanish) is in force. This Decree reforms the legal framework of the previous Program of Temporary Import to Produce Articles of Export (PITEX, as called in Spanish) and the Maquiladora program.

Its objective consists in simplifying the identity of the programs of different tariffs and consolidating the legal and regulatory framework of the Maquiladora and PITEX programs.

A company that is registered under the IMMEX program will benefit of:

1. Simplified procedures of the annual reports to the Government offices. These reports could be submitted via Internet.
2. The percentage of production required to export is reduced from 30% to 10% of annual sales. It can import machinery and equipment under temporary bases free of duties.
3. It extends the benefits to those registered as "Certified Company" by being a supplier or service provider of an IMMEX program holder.
4. Could be order to a third party company the totality of the processes of manufacture or services.
5. When the production is for export purposes, the value added tax (IVA) of 15% is given back to the IMMEX companies in the import of parts, raw materials and components.
6. It will be allowed to provide services of direct export like software, design & engineering or business process outsourcing (BPO).

This Decree states that the merchandise used to make processes by the assembly plants of services are free of the payments taxes to foreign trade. It will also facilitate to the Ministry of Economy and the Service of Tributary Administration (SAT as its acronym in Spanish) to perform its verification and surveillance.

ITA-Plus

Mexico did not signed the Information Technology Agreement (ITA) signed under the World Trade Organization among 56 countries that considers the tariff elimination on diverse goods of computer and telecommunications sectors, including their subassemblies. Instead, Mexico established the *ITA Plus Program* that was the Mexico's reaction to the entry in force of the ITA . As equal as with the *ITA Program*, with the ITA Plus Mexico eliminates tariffs on goods from three sectors: computers, telecommunications and other electronic devices to import into Mexico from any country. But in addition this program considers backward linkages in productive chains, including tariff exemptions to raw materials such as steel and plastics and also consumer electronics. The total of Harmonized Tariffs System Codes liberalized were almost 4,000.

Sectoral Promotion Programs (PROSEC)

In order to maintain competitiveness of Maquiladora companies, since 2001 Mexico has applied "Sectoral Promotion Programs" (PROSEC acronym in Spanish). Under these programs, Most Favored Nation import duties on listed inputs and components used to produce specific products are eliminated, or reduced to a competitive level. These programs comply with NAFTA because import duty reduction is available to all producers, whether the final product is sold domestically or is exported to NAFTA region.

Currently there are 22 PROSECs, including electronics and home appliances, automotive and auto-parts, textile and apparel, footwear, and others. The lists of inputs and components incorporated under each PROSEC are not exhaustive, and the Mexican government regularly consults with industries to include more goods.

In the last two years the Ministry of Economy has conducted, in partnership with the private sector, 12 studies, called "Programs for Sectoral Competitiveness", of the country's most important sectors according to their levels of exports, employment and FDI. Studies covering the electronics, automotive, textile, Maquiladora, leather and footwear, and software sectors are currently available at the website of the Ministry of Economy. Other studies will be available in the coming months.

Program for the Development of the Software Industry (PROSOFT)

In accordance with the country's strategic interests, the Ministry of Economy launched the PROSOFT. This program sets 10-year goals to be achieved by the year 2013. The goals are:

- A production level of US\$5 billion of software development and related services
- To equate the IT expenditure average of the OECD members
- To become Latin-America's leader in the software

To this end, different sectors within Mexico are active participants including state and national entities, academia, as well as the software and related services industry itself. Together, the latter established seven strategies to which they committed their efforts with significant results to date.

- Promotion of exports and investments in the sector
- Education and training of competent personnel in the development of software, as well as the required quantity and quality
- Appropriate legal framework in place promoting this industry
- Development of the IT domestic market
- Strengthening of the local industry
- Achieve international levels in process capability
- Promote cluster development throughout Mexico

In order to provide support for high impact projects promoting the creation, development, consolidation, feasibility, productivity, competition and sustainability among companies within the IT sector, the "*Fondo PROSOFT*" -Fund Supporting the Development of the Software Industry- was created by the Mexican government and assigned the Ministry of Economy as the administrator. The Fund is meant to support a variety of activities such as education and development of human capital, technological innovation and development, processes capacity and quality, productive projects, as well as promotion and marketing, among others.

Incentives awarded may account for up to 50 percent of the total expenses specified on a project. State governments usually provide additional incentives or supplement those given by the Federal Government.

Those companies wishing to establish IT services operations in Mexico are, likewise, eligible for these incentives, which may be used to lessen initial investment.

Federal and State Incentives to Foreign Investment

In addition to all these specific programs there are general incentives to foreign investment given by state and federal governments. These incentives include tax reductions, support to lessen infrastructure costs, training and proceedings facilitation, among others. The specific incentives package depends on the characteristics of the investment project like size, location, employment, and technology intensity, among others. The main are listed below:

Foreign Trade Programs

1. **DRAW BACK: Reimbursement of Duties on Imports to Exporters:** This provides beneficiaries the possibility of the reimbursement of general import duties paid on the goods incorporated to export merchandise, or on merchandise that are returned in the same condition or that was submitted to repair or alteration processes.
2. **Export Maquiladora Program:** This is an instrument by which temporary import of the necessary goods to be used in transformation, manufacturing or repair processes of merchandise, or to carry out those service activities provided to merchandise that is to be exported, without paying the VAT or those compensatory fees applied to definitive imports is allowed. From November, this is now integrated under IMMEX program described above.
3. **Temporary Import Program to produce export products (PITEX):** This program provides the possibility of temporarily importing goods that are used in manufacturing export products, without paying the VAT or those compensatory fees applied to definitive imports. From November, this is now integrated under IMMEX program described above.
4. **Sector Promotion Program (PROSEC):** Instrument directed to entities that produce certain types of merchandise, through which they are allowed to import different goods that are to be used in manufacturing specific products with a preferential duty (mostly zero), without considering whether those products are exported or enter the national market.
5. **Highly Exporting Companies (ALTEX):** Those companies that are registered in the program are promptly reimbursed the VAT credit balance, have access to the Trade Information System, and to customs administrative simplification.
6. **Eighth Rule:** This is a mechanism that is linked to the Sector Promotion Programs that allows importing materials, input, parts and components applying those paragraphs of entry 98.02 of the New Import and Export General Tariff Act (TIGIE for its initials in Spanish -Tarifa del Impuesto General de Importación y Exportación-) having a zero duty.

Fiscal Support-Incentives Programs:

1. **Immediate Deduction.** Investment in the whole Mexican territory, except in Metropolitan Areas and in those influenced by the Federal District, Monterrey and Guadalajara: An immediate deduction on the Income Tax can be decided upon for investment outside the three great Metropolitan Areas mentioned. This mechanism can be applied in those areas when dealing with intensive labor companies using clean technologies in their polluting emissions, and that do not require intensive use of water in their productive processes. The immediate deduction rates were increased with the reduction of 6 to 3% of the discount rate with which said rates are estimated, which also allows to deducting the investment in the fiscal year in which it is made or in the following fiscal year.
2. **Subcontracting Incentives.** In accordance with decree published on October 31, 2003, the subcontracting industry is granted a partial exemption on the income tax payment equivalent to the difference between the determined tax considering those percentages provided for in sections a) and b) of paragraph II of Article 216-BIS of the Income Tax Act, and of the income tax that would result from estimating tax profits considering a 3% which enables the estimation of the income tax in which the exemption applies, leaving out the estimate of the value of the inventories used in the subcontracting operation out.

3. Moving South (PMHS): Public trust created to promote the creation of direct and permanent jobs in the Southern – Southeastern states of Mexico. It provides economic support for the small, medium and big enterprises or to moral persons with business activities who have an investment project. Economic support that amounts up to \$5,000.00 (five thousand pesos 00/100 Mexican Currency) per generated job, that must be destined to:
 - a) Training men and women who integrate their labor force;
 - b) Adapting, remodeling and/or equipment for the industrial premises;
 - c) Building, adapting, remodeling and/or equipment of the commercial or service premises or locations where to carry out their productive activities, and
 - d) Purchasing machinery or equipment; as far as transportation equipment the support shall be only destined to purchasing collective transportation equipment for employees (buses or microbuses), that shall only be used to collectively move workers from the company to or from their communities, as long as the company is located in marginalize zone 1 and 2 in accordance with the National Institute of Statistics and Geography (INEGI) classification.

It also provides additional supports per zone, amount of wages and type of project. All of the aforementioned supports are provided prior approval of the Technical Committee.

Labor programs

Training for Labor Competence: The Ministry of Education (SEP as its acronym in Spanish) and Labor and Social Welfare Ministry through CONOCER program are promoting training programs for the current employees of the company, based on technical labor competence techniques, designed according to the needs of entrepreneurs in the following sectors and specialties: agricultural, maritime – fishing, industrial and services. Depending on the required course, training is provided at a medium and high education level of the National System of Technological Education such as the Technical Studies Centers (CETAC, CETI); Technological High Schools (IT, ITA, ITMAR; or Training Centers for Industrial Work (CECATI). In the event those responsible for the training programs and the entrepreneur agree, the respective courses can be given at the company's facilities or elsewhere.

Linking: The SEP promotes the creation of linking state centers so that technical and professional education responds to the needs of the local industry “customizing” and adapting the profile of the labor force to the objectives of the industry.

Stays (national and international): In order to develop qualified labor, the federation, the states, the universities and the companies promote stays for technicians and professionals in the companies both at the national and international facilities. Stays in a foreign country (CO-OP programs) need “anchor” companies established in Mexico whose affiliates in the foreign country open a position for Mexican technicians or engineering so that they are trained in specific processes. The training period for a technician would last six months, and that for an engineer up to one year.

Training Support Program. The Ministry of Labor (Secretaria del Trabajo y Previsión Social), gives free training courses for new employees based on labor competence norms that apply in the whole country, together with a scholarship while the course is being taken, so that participants have the resources to survive while they get or reinforce their knowledge and skills and thus get a job more easily. In addition to the scholarship and to the training course, participants who take the course shall receive during the training period: transportation support, training materials, accident insurance and when the course ends, information on the existing job opportunities, as well as the guidance needed in case they want to work on their own or be part of an independent work group.

Creation of New Businesses of High Aggregated Value based on Scientific and Technological Developments (AVANCE as its acronym in Spanish). To achieve the transformation of discoveries and scientific-technological developments in new business of a high aggregated value. Support of up to 100% is provided for the development in the integration of the investment prospect.

Profile of the projects that shall receive support:

1. Results of border research having the potential to become radical innovations.
2. Scientific discoveries with clear business possibilities.
3. Technological developments that support sustainable competitive advantages.

Eligibility Criteria

1. Compatibility of the profile and of the bidder's experience and his project.
2. Incubation cycle of less than 18 months.
3. Presentation and personal involvement of the bidder.
4. Equipment with proven administrative capacity.

Technological Development and Innovation.-

Sector Programs: Support Fund for the Micro, Small, and Medium Enterprise (PYME FUND) provides temporary support to projects that promote creation, development, consolidation, viability, productivity, competitiveness, and sustainability of micro, small, and medium enterprises.

Type of Support:

- Entrepreneur training, creation and strengthening of business incubators, innovation and technological development.
- Consolidation of a service center net (Business Development Centers) that offer integral solutions for the creation, development and consolidation of companies.
- Support for original capital in business in the formation process.
- Support destined to productive, industrial, commercial or service projects.
- Creation and strengthening of Productive Articulation Centers (CAPs)-
- Support destined to productive infrastructure.
- Installation or rehabilitation and equipment of physical areas to service Mexican MIPYMES in Mexico and in foreign countries.
- Exploitation and making up information data bases that record processes, services, and offer and demand of products to develop the exporting process and the internal market of MIPYMES.
- Constitution and strengthening Guarantee Funds.
- Support destined to Intermediate Financial Developers for the services provided to the MIPYMES. (including micro enterprises)
- Support destined to Financial Non-Banking groups for the purchase of the following systems: portfolio, risk administration and quality management
- Promotion of capital market
- Workshops, seminars, courses, among others.
- Support destined to providing professional and technical consulting services.
- Design of training and consulting methodologies, content and materials, as well as developing reports of events related to the development of MIPYMES and documentation of success cases of projects supported by the Ministry of Economy.
- Instructors' and consultants' formation.
- Development of studies and projects.
- Promotion and execution of events for the development of competitiveness of MIPYMES
- Direct support destined just once to a project to strengthen and develop Intermediate Organizations and government of the Federative Entities through project management, training and consulting; development of information systems to plan and to find information on chains and prioritized productive sectors; design and documentation of

programs and strategies to promote MIPYMES; and adoption and implementation of systems to open business, record papers and services fast.

- The Sector Fund of Science and Technology for Economic Development, jointly supported by the Ministry of Economy and the National Council for Science and Technology (CONACYT).
 1. Fiscal credit: The Ministry of Finance and Public Credit and the CONACYT offer the following support.

In accordance with Article 219 of the Income Tax Law, a fiscal incentive is granted to income tax payers for research and technological development projects carried out during the fiscal year. Said incentive consists of applying a 30% fiscal credit against the income tax payable in the tax return for the fiscal year in which said credit is determined, in relation to the expenses and investment made in research or in the development of technology. However it is needed to review the most recent modifications to the operation of this credit.

2. Technological Centers of the System:

The CONACYT offers support to develop specific research lines for the productive sector. These centers provide consulting and training services to the different industrial sectors and also provide comparative advantages based on technological innovation, mainly to develop machinery, equipment, processes and systems. Seven institutions that specialize in technological development form the Subsystem. Six of them house the laboratories that constitute the Secondary Metrology Net (CENAM). Their final purpose is to create examples of high innovation corporations, the CONACYT participates with all its Science and Technological Development support programs with the following instruments: scholarships, repatriation, CONACYT and AVANCE funds, Investment Funds, and Guarantees.

3. Highly Qualified Human Resources.

This fund is destined to support companies when hiring specialists and professionals who have post-graduate degrees to facilitate their integration to Mexico by granting scholarships, repatriation and with the Post-Doctorate circuit. The support that is provided amounts up to:

50% in customized programs; 100% in an open call; 100% in integration of ex scholarship holders and \$20,000 a month in industrial post-doctorates.

It is important to mention that States offer different supports and other incentives on a case-by-case basis. The State and the investors reach an agreement under private basis.

The following list is a example of incentives offered by the States, but it is not limited to other incentives and considering the amount of the investment; the amount of employment created by the new investment; and the expected economic contribution to region, among other issues.

- 1.- Exemption from tax on remunerations from self-employment.
- 2.- Exemption from fees for potable water and sewage hook-ups.
- 3.- Exemption from fees for potable water.
- 4.- Training for personnel.
- 5.- Consultation services for initiating new businesses.
- 6.- Scholarship program for workers.
- 7.- Consultation services for handling procedures with financial institutions.
- 8.- Construction of hydraulic projects or water installations.
- 9.- Construction of drainage and water treatment projects.

The main sectors of interest in most of the regions are:

Electronics, automotive, aerospace, wood furniture, mechanical metallurgy, high technology, food products and beverages, plastics and medical.

To obtain more details, please visit the web site: www.investinmexico.com.mx

V. The Private Sector in the Industries.

The following are some of the companies involved in the electronic and information technology industries.

Company	SANMINA-SCI SYSTEMS DE MEXICO	EMS provider focused on delivering complete end-to-end manufacturing capabilities and highly complex solutions to technology companies around the world
Chief Executive Officer	Cuahutemoc Moreno	
Address	Av. de la Solidaridad Iberoamericana, Col. Club de Golf Atlas, Jalisco	
Tel/Fax	(52) 33-32842200	
Website	www.sanmina-sci.com/	
<i>Products</i>	Backplanes, cables, plastic injection molding, memory modules, enclosures, frames and optical solutions.	Annual Sales: not available
Company	SAMSUNG MEXICANA SA DE CV	The SAMSUNG group of companies produce, market, and sell a wide variety of electronic parts and components such as next generation memory chips, computer and telecommunications equipment, color TV picture tubes, and glass bulbs. They also develop computer systems and produce general electronics and precision machines.
Chief Executive Officer	Joseph Chung	
Address	Bldv. Los Olivos 11110, Parque Industrial Florido, 2DA, Secc Av Morelos, Baja California	
Tel/Fax	Tel: (52) 664-627-6000 Fax: (52) 664-627-6045	
Website	www.samsung.com.mx	
Products	Household Audio and Video Equipment. Television sets, monitors, cellular and screens.	
Company	NOKIA MEXICO SA DE CV	Assembly of cellular phones and manufacturing components
Chief Executive Officer	Jeff Marquiz	
Address	Ave. Ind. Río Bravo s/n con Ave. Industrial del Norte, Tamaulipas.	
Tel/Fax	(52) 8999091200	
Website	www.nokia.com.mx/	
Products	Cellular phones, communications equipment	Annual Sales: US\$ 6.9 Billion (worldwide)
Company	MOTOROLA DE NOGALES OPERACIONES S DE RL DE CV	Main manufacturer in the economy for set-top boxes, Wideband equipments, and telematics. It was the first plant in Mexico founded since 1966.
Chief Executive Officer	Robert Visintainer	
Address	Prol. Ruiz Cortinez y San Patricio/sn// Parque Industrial, Sonora.	
Tel/Fax	(52) 631 311 11 19	
Website	www.motorola.com/content.jsp?globalObjectId=704-1174	
Products	Cellular phones, communications equipment, hand sets	
Company	SONY DE TIJUANA SA DE CV	It was established in Mexico in 1987. Strategic located allows the company to become a bridge for the whole continent, manufacturing products that are sold mostly in the United States.
Chief Executive Officer	Juan Manuel Hernández Niebla	
Address	Laguna Mainar #5520 Seccion "C" Parque Industrial El Lago Tijuana, Baja California	
Tel/Fax	(52) 664 627 7200	
Website	www.sony.com.mx	
Products	Color televisions, computer monitors, auto stereos and components	
		Annual Sales: not available

Company	KEMET DE MEXICO SA CV	KEMET maintains its headquarters in Simpsonville, South Carolina, with manufacturing plants in Simpsonville and Fountain Inn, South Carolina; Matamoros, Monterrey, and Ciudad Victoria, Mexico. The Matamoros plant is focused primarily on tantalum and polymer capacitors production. KEMET capacitors are fundamental elements used in every type of electronic equipment, including computers, telecommunication, automotive electronics, military electronics, medical electronics, and consumer electronics
Chief Executive Officer	Per-Olf Loof	
Address	Av. Carlos Salazar y Blv. Manuel Cavazos Lerma #15 Matamoros, Tamaulipas, México 87380	
Tel/Fax	(52) 868 813 6170	
Website	www.kemet.com	
Products	Electronic components, surface-mount capacitors in aluminum, ceramic and tantalum and leaded capacitors in ceramic and tantalum	
Company	JABIL CIRCUIT DE CHIHUAHUA SA DE CV	Jabil designs, manufactures and services electronics products by managing a global supply chain and delivering world-class quality. Customers - companies like Cisco Systems, Hewlett-Packard and Philips
Chief Executive Officer	Andrew Amstrong	
Address	Alejandro Dumas 11341 Complejo Industrial Chihuahua C.P. 31109 Chihuahua, Chihuahua, Mexico CP 31109	
Tel/Fax	(52) 614 442 6000	
Website	www.jabil.com/622.asp	
Products	Electronic components	
		Annual Sales: not available
Company	LG ELECTRONICS REYNOSA, SA DE CV	In 1995 Goldstar starts operations in Reynosa manufacturing in the beginning TV's. LG Electronics' TV factory makes televisions under the brands Zenith, LG, and Electra., today they are working in Bare Printed Circuit Board Manufacturing and TV sets.
Chief Executive Officer	Ben Sung	
Address	Carretera Matamoros Bretcha E99 Parque Industrial, Reynosa CP. 88230 Reynosa, Tamaulipas	
Tel/Fax	(52) 89-99 21 62 00	
Website	www.lg.com.mx/	
Products	Electronic consumer, TV components, Multimedia Displays, Hand sets	
		Annual Sales: not available
Company	DELPHI DE MEXICO SA DE CV	Delphi Mexico is a leading global supplier of mobile electronics and transportation systems, including powertrain, safety, steering, thermal, controls & security systems, and in-car entertainment technologies.
Chief Executive Officer	Adrian Medina	
Address	Hermanos Escobar 5756, Foviste Chamizal, Av del Charro y Plutarco Elías Calles, Chihuahua	
Tel/Fax	(52) 656 629-7000	
Website	www.delphi.com.mx	
Products	Electronic components for the automotive industry	
		Annual Sales: USD\$ 16 Billion (worldwide)
Company	JABIL CIRCUIT DE MEXICO SA DE CV	Facility opened in 1997, was the first plant for the US and Latin America market. Their main products are related for the computing sector.
Chief Executive Officer	Cesar Castro	
Address	AV Valdepeñas 1993, Lomas de Zapopan, Periférico y Covadonga, Jalisco	
Tel/Fax	(52) 33 3819 1300	
Website	www.jabil.com	
Products	Electronic components for Computing Industry	
		Annual Sales: not available

Company	SCIENTIFIC ATLANTA DE MEXICO SA DE CV	Scientific Atlanta is a leading provider of broadband technology and services for Latin America.	
Chief Executive Officer	Mauricio Mares		
Address	Intermex 1680 Parque Industrial Intermex Av de las Torres, Chihuahua		
Tel/Fax	(52) 656 616 0830		Annual Sales: USD\$ 19 billion (estimated)
Website	www.cientificatlanta.com/		
Products	TV Receptors, modular telecommunications		
Company	FLEXTRONICS MANUFACTURING MEX SA DE CV	Provides design and engineering solutions that are combined with core electronics manufacturing and logistics services. The operations are vertically integrated with components technologies.	
Chief Executive Officer	Heriberto Santana		
Address	Carr base aerea 5850 4 la mora carr a Tesistan y Ramon Corona, Jalisco		
Tel/Fax	(52) 33 3818 3200		Annual Sales: USD\$1.5 Billion
Website	www.flextronics.com		
Products	Electronic consumer, TV components		
Company	CELESTICA DE MONTERREY SA DE CV	The first electronics manufacturing services (EMS) provider to receive the Shingo Prize was the Celestica's Monterrey, Mexico facility. It specializes in providing electronics manufacturing services to leading OEMs, primarily in the telecom and networking sectors. The successful implementation of lean at Celestica's Monterrey facility resulted in space utilization improvements of 34%, reduction in set up times of 85%, and reduction of scrap by 66%. By applying lean principles, Celestica's Monterrey facility reduced customer lead times by 71%, while achieving greater simplicity and enhancing service to its customers, ultimately improving customers' bottom-line benefits and exceeding their expectations.	
Chief Executive Officer	Enrique Aguilera		
Address	Calle Octava # 102, Parque Industrial Monterrey Apocada, Nuevo Leon Mexico, C.P. 66600		
Tel/Fax	(52) 81 8156 1500		
Website	www.celestica.com/hr/Dispatcher?Action=300&languageID=1&locationID=14		
Products	PCBAs, Box/System Integration, Value Engineering, World Class Supply Chain, Materials Laboratory, Test Development, Direct Fulfillment and Repairs to the telecom, enterprise, automotive, aerospace, industrial and optics industries.		Annual Sales: Not available
Company	TATUNG MEXICO SA DE CV	Tatung Mexico is a worldwide leader in the design and manufacturing of a vast array of digital consumer products, including LCD TVs and PDPs. Tatung offers customers tremendous advantages of cost, speed, and seamless backend support in order to stay ahead in today's dynamic business world. Tatung specializes in the ODM/OEM business and serves branded customers on a global basis.	
Chief Executive Officer	Pedro M. Padilla		
Address	Av Fuentes Sur 7050 Complejo Industrial Las Fuentes Tecnologico Y Fuente Nte, Cd. Juarez, Chihuahua.		
Tel/Fax	52 (656) 692 4402 52 (656) 692 4413		
Website	www.tatungmx.com		
Products	LCD TV and PDP TV's and computers		Annual Sales: USD\$ 2.5 billion

Company	SHARP ELECTRONICA MEXICO SA DE CV	Today manufacturing base for color TVs and home appliances in Mexico (production begins in November 1998). For the new future cellular telephones for Latin America markets
Chief Executive Officer	Kiosuke Mishiyama	
Address	Bldv Sharp 3510 Parque Industrial Rosarito Arroyo Seco Cerro, Baja California	
Tel/Fax	15 00 15 00	
Website	www.sharp.com.mx	
Products	Consumer electronics	
Company	JABIL GLOBAL SERVICES DE MEXICO	Jabil Global Services Mexico provides a closed-loop support model where our OEM customers gain the greatest return for their investment. Repair and logistics functions are integrated in order to optimize the model and increase efficiency. With integration, the need for transactions and the associated costs between a traditional logistics provider and a traditional repair services provider is eliminated.
Chief Executive Officer	Not Available	
Address	Bldv. Montebello, Col. Parque Industrial Reynosa , Tamaulipas	
Tel/Fax	52-89 99 21 1200 52-89 99 21 1484	
Website	www.jabil.com	
Products	Electrical transformers, switches, relays, fuses, diodes, transistors	
Company	ALTEC ELECTRONICA CHIHUAHUA SA DE CV	Altec is an automotive system leader manufacturer. It was established in 1986, in Chihuahua and since then has focused in achieving the excellence in all its process, and to contribute with the community, to improve its quality of life. Altec's success is based on its adequate management of material and technological resources; in its innovative process; in its continuous improvement; as well as in the work carried out by each and everyone of its employees, which altogether make of Altec a "worldwide quality leader company"
Chief Executive Officer	Ilson Stanpaccio	
Address	Miguel de Cervantes 100 A Complejo Industrial Chihuahua Cristobal Colon, Chihuahua.	
Tel/Fax	(52)614-429-2200; 614-429-4000 (52) 614-429-2177	
Website	www.maquilaportal.com/Profile/altec/ippl.htm	
Products	Radios, Amplifiers, Posterior Entertainment Control and Navigation Systems	
Company	PRODUCTOS DE CONSUMO ELECTRONICO PHILIPS SA DE CV	Consumer Electronics helps realize Philips' focus on Lifestyle through enhancing people's lives by giving them simple access to content, information and services, anytime and anywhere. With over 19,000 employees, the company is a global leader in connected displays, home entertainment networks and mobile infotainment. Constantly innovating, we introduce hundreds of new products every year. And we sell more than five consumer electronics products to consumers worldwide, every second.
Chief Executive Officer	Félix Ramírez	
Address	Magneto 1320, Parque Industrial Gema, Chihuahua	
Tel/Fax	(52 55) 5269-9000 (Contact for all plants in México)	
Website	www.philips.com	
Products	Consumer Electronics	

Company	SOLETRON MANUFACTURA DE MEXICO	Providing manufacturing and supply chain services that improve the supply chain efficiencies of brand name electronics companies around the world. The Soletron Production System™ (SPS)-our Lean Six Sigma vision for supply chain excellence-combines the quality-oriented statistical analysis of Six Sigma with a relentless focus on Lean operating principles. It system eliminates activities that do not add value to our customers. The result is increased flexibility, product yield and quality for our customers
Chief Executive Officer	Roberto Hernández Lecanda	
Address	Prol. Av. Lopez Mateos, Km 6.5 Col. La Tijera, Jalisco	
Tel/Fax	(52) 33 37704200/ (52) 33-37704216	
Website	www.soletron.com	Annual Sales: USD\$1.1 billion
Products	PCB Assembly	
Company	TOSHIBA ELECTROMEX, SA DE CV	Toshiba, a world leader in high technology, is a diversified manufacturer in Mexico. It markets advanced electronic and electrical products, spanning information & communications equipment and systems, computing, coping equipment,
Chief Executive Officer	Atsutoshi Nishida President and Chief Executive Officer	
Address	Ave Rio Bravo no. 1230 , Col.Parq Ind Rio Bravo C.P.32550 , Nuevo Zaragoza , Chih.	
Tel/Fax	52 (656) 6824104	
Website	www.toshibalatino.com/mexico/toshmexico.aspx	Annual Sales: 1 billion
Products	TV's. Home Theater, DVD devices, Laptops and PC's	

VI. The Vision of the Private Sector

The Electronics and Information Technology Industries Survey in APEC	
Company: Sharp Electrónica de Mexico, S.A. de C.V.	
Name and title of the Executive: Marco Esponda, Gerente General	
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?	Answer: We have continual improvement quality, environmental & performance systems that enable us to cope with today's business environment, achieving with the highest of our clients needs.
2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?	Answer: Yes, this is part of our company goals. Specifically on the most expensive items.
3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?	Answer: We currently have this types of agreements made with some companies.
4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?	Answer: Yes they are especially with south American countries.
5. The interest from major developing economies to attract new foreign investments generates a list of	

<p>incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>Answer:.. It is a very important part in our decision making, to minimize risk & maximize productivity.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>Answer: The industry will continue to develop at a dramatic rate, especially where government incentives, support & stability are offered.</p>
<p>Other comments: Countries with long term plans to develop industry will benefit from foreign investments due to the certainty they offer to plan over long periods of time.</p>
<p>Date:September 6, 2006</p>

The electronic and Information Technology Industries Survey in APEC
<p>Company: CENI2T</p>
<p>Name and title of the Executive: Carlos Duarte, Director General</p>
<p>1 The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>Answer: We check for changes in the environment periodically and adjust our strategies accordingly. We are particularly interested in monitoring emergent technologies in order to enter the technology cycle from its infancy and capitalize its growth.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>Answer: We develop new technologies in the area of wireless applications. Our business model considers licensing IP to OEMs for manufacturing.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>Answer: Of course, SMEs have a very good opportunity of developing new technologies and products that can be licensed to large and established manufacturing companies.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Answer: Yes, definitely they are, they provide an advantage for establishing alliances between companies.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influencing mostly a new investment decisions?</p> <p>Answer: We will be using government incentives such as tax exemptions and grants for developing new technologies.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>Answer: Convergence, higher frequencies and higher throughput are the technology trends. Higher competition and new applications are the market trends. Mexico is going to be definitely an important player in the next ten years.</p>
<p>Other comments:</p>
<p>Date: Sept, 20,2006</p>

The electronic and Information Technology Industries Survey in APEC	
Company: Sony Electronics Inc.	
Name and title of the Executive: Sergio Langarica, Director of International Trade	
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?	Answer: Constant Innovation
2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?	Answer: Yes.
3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?	Answer: Yes.
4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?	Answer: Yes.
5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?	Answer: Incentives play a big role in site determinations. However, analysis of the market is the primary concern.
6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?	Answer: Convergence is a major issue. Policies and structures currently differentiate consumer electronics from information technology. Convergence is requiring new decisions and reconsideration of existing policies and public/private organizational structures.
Other comments:	
Date: 25 September 2006	

VII. Government and Private Organizations

Organization	<i>National Chamber of the Electronics, Telecommunications and Informatics Industry (CANIETI)</i>	Represents the Electronics, Telecommunications and Informatics Sector in Mexico, promoting the development of the sector in a global environment with high quality services. The main objective is to achieve the competitive development of the National Industry with a guild sense and social responsibility.
Chairman / Secretary General	Ms. Maria Teresa Carrillo Prieto President	
Members	700 companies	
Address	Culiacán 71, Col. Hipódromo Condesa, C.P. 06100 Deleg. Cuauhtémoc, D.F.	
Tel y fax	(52 55) 52 64 08 08	
Website	www.canieti.org/	
E mail	presidencia@canieti.com.mx	
Organization	<i>Suppliers Development for the Jalisco Electronics Industry (CADELEC)</i>	Consolidates the integration of the electronics & IT sectors in the State of Jalisco by the development and the assistance in the incorporation of regional, national and international companies into the supply chain of electronics industry and strategy sectors of the national economy.
Chairman / Secretary General	Ernesto Sánchez President	
Members	36 companies	
Address	Av. Niños Héroes 1555-502 Guadalajara, Jalisco	
Tel y fax	Tel: (52 33) 3793 21 40 Fax: (52 33) 37 93 21 47	
Website	www.cadelec.com.mx/	
E mail	cadelec@cadelec.com.mx	
Organization	<i>AMITI. Mexican Association for the Information Technology Industry</i>	To position the Mexican IT as a key player in the competitiveness of Mexico to strengthen the social and economic development. It represents the Mexican companies' interests forward a legal and regulatory environment to ease business.
Chairman / Secretary General	Felipe Sánchez Romero President	
Members	39 companies	
Address	Av. Paseo de la Reforma #295 - 6to piso. Col. Cuauhtémoc. México, D.F.	
Tel/Fax	Tel.: (52 55) 52 07 04 09 Fax: (52 55) 52 07 60 16	
Website	www.amiti.org.mx	
E mail	amiti@amiti.org.mx	

Organization	ANFAD Asociación Nacional de Fabricantes de Aparatos Domésticos, A.C.	Represents the house ware industry with responsibility and leadership with government, associates, clients, consumers and society.
Chairman / Secretary General	Rafael L. Nava y Uribe President	
Members	29 companies	
Address	Homero 109 Desp. 1601, Colonia Polanco México, D.F.	
Tel/Fax	Tel.: (52 55) 55 45 03 20 Fax: (52 55) 55 45 00 18	
Website	www.anfad.com	
E mail	anfad@anfad.com.mx	
Organization	CNIME National Council of the Industry of Maquiladora of Export	Represents efficiently and professionally the Industry of export by actions and services of high quality to obtain a competitive global environment. The vision is to be the Council of the manufacturing industry of export.
Chairman / Secretary General	Enrique Castro Septien President	
Members	20 local councils	
Address	Av. Ejercito Nacional #418 Floor 12, Office 1204, Col. Chapultepec Morales, México, D.F.	
Tel/Fax	(52 55) 5250-6093, 5250-5817, 5203-0337	
Website	www.cnime.org.mx/english/home.asp	
E mail	cnmie@cnmie.org.mx	
Organization	AMAC. Asociación de Maquiladoras de Cd. Juárez	Supports their associates with legal advise, promote employment and to be considered as a leader in the export industry.
Chairman / Secretary General	Tomás Mena President	
Members	300 members (companies and associates)	
Address	Av. Antonio Bermudez 3545, Col. Partido Senecu, Cd. Juárez, Chihuahua	
Tel/Fax	(52 656) 629 20 01	
Website	www.amacweb.org	
E mail	presidente@amacweb.org	
Organization	MINISTRY OF ECONOMY Electric-electronics Department	Coordination of studies and promotional programs. Coordination of activities to design and operate public policies and programs to enhance the competitiveness of industrial sectors as well as their modernization. Participate in the elaboration of the tariff policy of industrial sectors.
Chairman / Secretary General	Leticia Borja Director	
Members	Not Applicable	
Address	Insurgentes Sur 1940 6°. Piso, Col. Florida México, D.F.	
Tel/Fax	(52 55) 52 29 61 27	
Website	www.economia.gob.mx	
E mail	lborja@economia.gob.mx	
Organization	MINISTRY OF ECONOMY Digital Economy Department	To promote the development of a digital economy and the IT industry.
Chairman / Secretary General	Sergio Carrera Director	
Members	Not Applicable	
Address	Insurgentes Sur 1940 4°. Piso, Col. Florida México, D.F.	
Tel/Fax	(52 55) 52 29 61 80	
Website	www.economia.gob.mx	
E mail	scarrera@economia.gob.mx	

Organization	CONACYT Consejo Nacional de Ciencia y Tecnología	To drive and to strengthen the scientific development and the technological modernization of Mexico, by the formation of human resources of high level, promotion and support of specific projects related to investigation and the dissemination of scientific and technological information.
Chairman	Gustavo Adolfo Chapela	
Members	Not Applicable	
Address	Av. Insurgentes 1582 Col. Crédito Constructor	
Tel/Fax	(52 55) 53 22 76 97	
Website	www.conacyt.mx	
E mail	gchapela@conacyt.mx	
Organization	BANCOMEXT Mexican Bank for Foreign Trade Electronics Industry Promotion Unit	To offer integral solutions providing financial and promotional services to the companies according to their needs in order to increase their participation in the international markets.
Chairman / Secretary General	Jose Antonio Rivas Manager	
Members	Not Applicable	
Address	Periférico Sur 4333 1st Floor Col. Jardines en la Montaña México, D.F.	
Tel/Fax	(52 55) 54 49 93 32	
Website	www.bancomext.com	
E-mail	jrivash@bancomext.gob.mx	

Bibliography

- *Banco Nacional de Comercio Exterior*. Programa de Promoción para la Industria Eléctrico-electrónica 2006. www.bancomext.com
- *Banco Nacional de Comercio Exterior*. Industrial Costs in Mexico. A guide for foreign investors. 2006. www.investinmexico.com.mx
- *CANIETI & FOA Consultores*. Instrumentación del Programa de Competitividad de la Industria Electrónica. Vol I y II. 2004
- *Contreras, Oscar and Rhonda Evans* (2002). Working Under Nafta: The Consumer Electronics Industry in the Mexico-USA Region. Department of Sociology Centre for Comparative Labour Studies, University of Warwick, United Kingdom
- *Diario Oficial de la Federación de México*. Secretaría de Economía. ITA-Plus Program. September 4th, 2002
- *Market Forecasts*. Yearbook of World Electronics Data; Mexico 2006/2007
- *Secretaría de Economía de México*. Subsecretaría de Negociaciones Comerciales Internacionales. El TLCAN y la industria Manufacturera. 2006. www.economia.gob.mx
- *Secretaría de Economía de México*. Unidad de Promoción de Inversiones. Instrumentos Federales para la Promoción de Inversión Extranjera. 2006. www.economia.gob.mx
- *Secretaría de Economía de México*. Subsecretaría de Industria y Comercio. Programa para el Desarrollo de la Industria de Software, Prosoft. 2006. www.economia.gob.mx

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC New Zealand

I. Overview of the Industry

The information and communications technology (ICT) sector is an integral part of the New Zealand economy, accounting for 4.3 percent (NZ\$5 billion) of the GDP.

The ICT sector consists of around 7,700 companies. 78 percent of these companies have annual revenues of less than NZ\$250,000. Through this sector, 41,000 full-time jobs are provided to the New Zealand community.

Exports of ICT goods and services currently total NZ\$1.25 billion. Over the 10-year period from 1994 to 2004, exports have grown an average of 23 percent each year.

The ICT sector offers a highly valued opportunity for growth in the New Zealand economy. The importance of this sector is shown in the following three points.

- The ICT sector is not only a potential powerhouse, but it is also a key enabler and driver of productivity in the rest of the economy, providing linkages in global value chains.
- ICT is an attractive, high return industry, whereby New Zealand ICT employees add twice the value of an average New Zealand employee.
- The ICT sector provides competitive advantages such as flair in using innovative approaches to problem solving established strategic positions in niche markets (ie, mobile communications) and an ability to target niche products and services for smaller enterprises.

Connectivity, consolidation and convergence are three global ICT industry trends that offer valuable opportunities for New Zealand companies.

Connectivity: Both the public and private sectors want to electronically improve their interactions with their consumers and suppliers.

Consolidation: A rapidly evolving market is creating large global supply chains, which buy ICT products and services from a diminishing number of multinational suppliers. These suppliers, however, have not developed products or services that cater well to the small and medium enterprise (SME) market.

	<i>Currently</i>	<i>Where ICT can be in 10 years' time</i>
Employees	41,000	125,000
Contribution to GDP (OECD measurement)	4.3%	10%
Export income	\$924m p.a.	\$16,000m p.a.
Companies with \$20m – \$50m annual sales	42	
Companies with \$50m – \$100m annual sales	15	
Companies over \$100m annual sales	16	116
ICT graduate supply	4,000 p.a.	
Relevance of tertiary graduate course material		
Relevance of Government-funded research and development		

Source: New Zealand Trade & Enterprise

Convergence: The boundaries between the telecommunications, IT and entertainment industries are disappearing while software is increasingly being embedded in every product.

Most New Zealand ICT firms, which are considered very small by world standards, operate in isolation from each other. As a result, not only do they lack capital and specialist business skills, but they also have limited offshore presence.

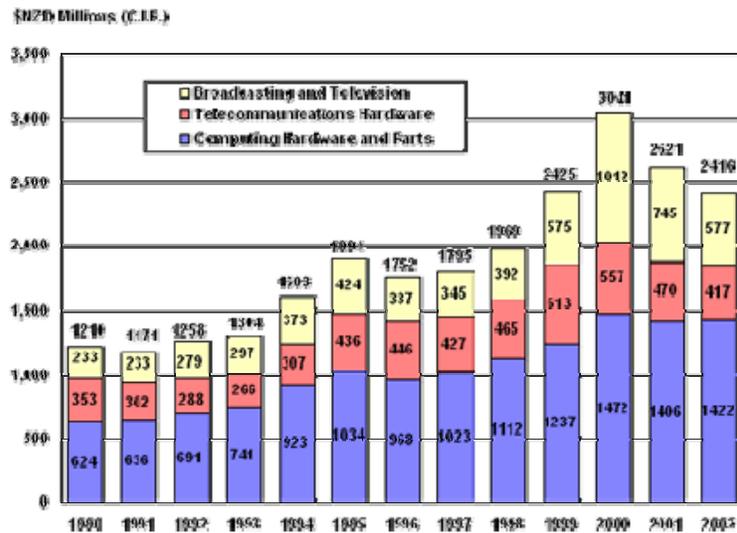
The ICT sector's contribution of 4.3 percent to the GDP is only 60 percent of the OECD average. This means that this sector is not being fully utilized by New Zealand businesses.

New Zealand has identified the US, the UK, Singapore, Australia and Asia as their priority markets. They will first identify and develop strategies to enter or expand in these markets, and then seek to position New Zealand ICT companies in these growing markets.

II. Recent Developments in the Exports and Imports

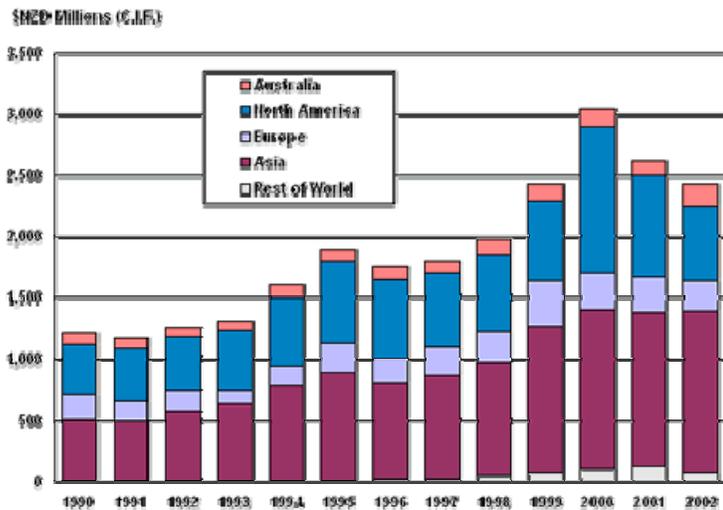
Hardware Imports

According to the trade figures, in 2002 there was a 7.8 percent decrease in imports, compared with a 13.8 percent decrease in 2001. There was also a 1.1 percent increase in computing hardware and parts, a 22.6 percent decrease in broadcasting and television and 11.2 percent decrease in telecommunications hardware.



Source: Statistics on Information Technology in New Zealand: Updated to 2003

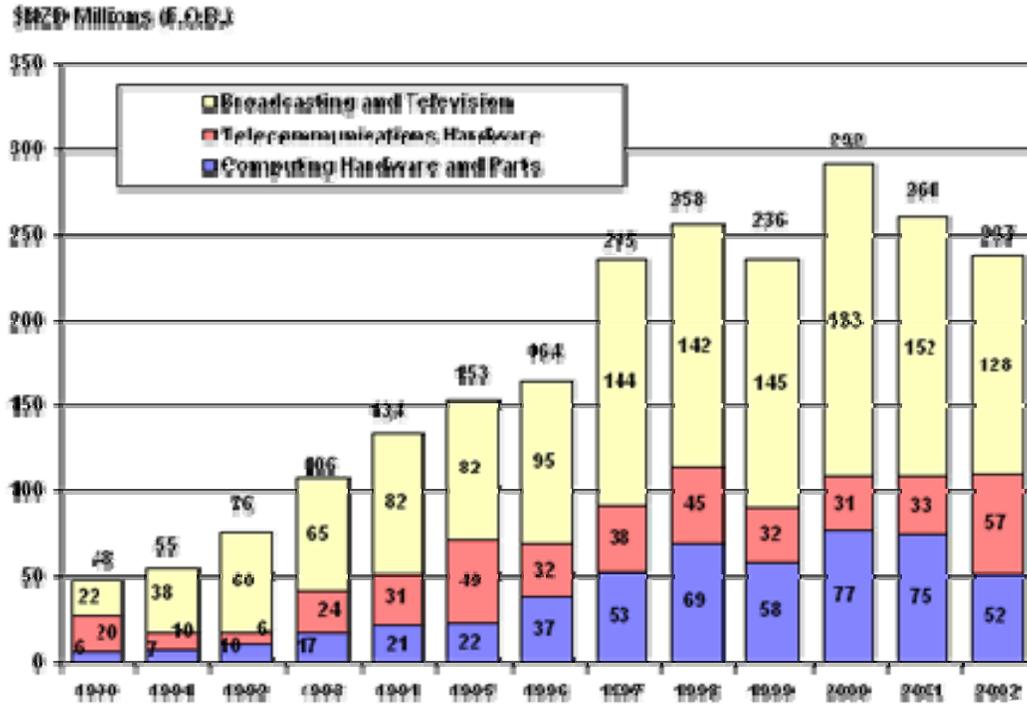
The bulk of information technology (IT) related hardware imports come from Asia and North America. In 2002, North American imports decreased 26.1 percent, after a decrease of 31.3 percent the year before. North American imports are now less than half of those from Asia, which increased by 5.2 percent. There was also an increase of 39.7 percent in imports from Australia, which decreased 21 percent the year before, and a decrease of 41.7 percent from the rest of the world. Imports from Europe fell by 15.7 percent after a decrease of 5 percent the year before.



Source: Statistics on Information Technology in New Zealand: Updated to 2003

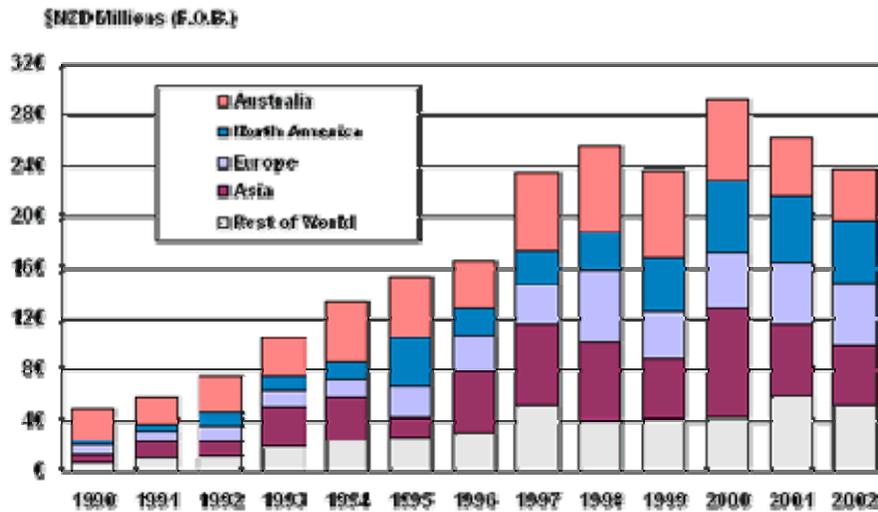
Hardware Exports

The downward trend of hardware exports from 2001 continued in 2002 with a decline of 9.2 percent after a decline of 10.6 percent in 2001. Exports of computing hardware and parts decreased by 30.7 percent along with broadcasting and television, which fell by 15.7 percent. On the other hand, exports of telecommunications hardware increased by 72.7 percent.



Source: Statistics on Information Technology in New Zealand: Updated to 2003

The total IT related hardware exports are shown below by export destination. In 2002, there was an 18 percent decrease in exports to Asia, after a 31 percent decrease the year before. Exports to Europe increased by 5.3 percent



Source: Statistics on Information Technology in New Zealand: Updated to 2003

III. Trade Negotiations Related to the Industries

Bilateral and regional free trade agreements (FTAs) play an increasingly important role in international trade. Many of New Zealand's trading partners are currently in negotiations with one another regarding such agreements. FTAs have proliferated around the world, particularly in the Asia-Pacific region. It is important to ensure that New Zealand is a part of these activities thereby enabling themselves to strengthen economic links and obtain access to other markets. Therefore New Zealand exporters will enjoy the same benefits in markets where other economies have negotiated lower or zero tariffs.

Trade Agreements in Force

- New Zealand-Australia Closer Economic Relationship - 1983
- New Zealand-Singapore Closer Economic Partnership - 2001
- New Zealand-Thailand Closer Economic Partnership - 2004

Trade Agreements Concluded but Not Yet in Force

- Trans-Pacific Strategic Economic Partnership – 2005 (Chile, Singapore, Brunei Darussalam)

Agreements under Negotiation

- New Zealand-China Free Trade Agreement
- New Zealand-Malaysia Free Trade Agreement
- ASEAN-Australia/New Zealand Free Trade Agreement
- Hong Kong-New Zealand Closer Economic Partnership

This economy became a member of the World Trade Organization (WTO) Information Technology Agreement on 1 April 1997.

Together with Australia, New Zealand is also involved in FTA negotiations with the ten members of the Association of Southeast Asian Nations (ASEAN). This ASEAN FTA (AFTA) has been established as the "Roadmap for the Integration of the Electronics Sector". The terms of the agreement are as follows.

Objectives

The objectives of integrating the electronics sector are to:

- Develop, strengthen and enhance the competitiveness of the ASEAN electronics sector and promote ASEAN as an integrated platform to do business with regarding electronics;;
- Strengthen regional integration efforts through liberalization, facilitation and promotion measures to ensure full integration of the electronics sector by 2010.
- Promote private sector participation.

Measures

This roadmap includes specific measures that are of direct relevance to the electronics sector, as well as common measures that cut across all priority integration sectors. The integration approaches are premised on:

- Combining the economic strengths of ASEAN member countries for regional advantage;
- Facilitating and promoting intra-ASEAN investments;
- Improving the condition to attract and retain manufacturing and other economic activities within the region; and
- Promoting the outsourcing program within ASEAN.

Coverage

The scope of products include electronic data processing (EDP) equipment, electrical and electronic home appliances, medical and industrial equipment, telecommunication equipment, communications and radar equipment, automotive electronics, instrumentation and controls, and mechanical equipment.

More details can be found at www.aseansec.org/16656.htm

IV. Programs and Special Incentives to the Industry

Some of the important features of the New Zealand tax system and policy environment that is offered to investors are:

- No capital gains tax
- No employee payroll tax
- No social security tax

The Inland Revenue Department (IRD) collects and administers taxes and duties for the government. All companies, resident or non-resident, are taxed at the same rate of 33 percent. In the case of a New Zealand subsidiary of a non-resident company, they are taxed 33 percent of their worldwide income. Distributions from the subsidiary to its parent company are also subject to non-resident withholding tax (NRWT).

New Zealand's indirect, or consumption, tax is a goods and services tax (GST) of 12.5 percent, payable by the final consumer of goods and services.

For tax purposes, taxpayers are now able to deduct the research and development (R&D) expenditure that is recognized by the IRD as an expense under Financial Reporting Standard 13, Accounting for Research and Development Activities (FRS 13).

The FRS 13 requires all research costs be expensed. If a set of five criteria is met, development costs may also be expensed. These criteria are designed to approximate the point at which the R&D expenditure gives rise to a valuable asset.

However, fixed assets (ie, vehicles, buildings and patents) used in the R&D process will continue depreciating under the normal tax rules. Whether to abide by this new rule will be optional. Thus, a taxpayer will be able to use the pre-existing law to deduct R&D expenses if that is preferred. The change addresses the uncertainty around the capital/revenue boundary by permitting taxpayers to follow accounting treatment to the extent that when R&D expenditure is immediately written off for accounting purposes, it will be immediately deductible for tax purposes.

Other major incentives or special programs related to the electronic industry are as follows.

Name of Fund	Provider	Description
Pre/seed Accelerator Fund (PSAF)	Foundation for Research, Science & Technology (FRST) www.frst.govt.nz	The new Pre-Seed Accelerator Fund (PSAF) is intended to help bridge the gap in publicly funded R&D between generating potentially valuable new knowledge and producing a first prototype so that a commercial prospect is 'investor-ready'.

SmartStart	Foundation for Research, Science & Technology (FRST)	Smart Start supports the investigation and resolution of early stage barriers of technological innovation R&D projects.
	www.technz.co.nz/Business/fund_SmartStart.cfm	
Technet Expert Access	Foundation for Research, Science & Technology (FRST)	This fund provides businesses that need advice on technical issues access to consultants in crown research institutes, universities and research organizations.
	www.technz.co.nz/Business/technet.cfm	
Grants for Private Sector Research and Development (GPSRD)	Foundation for Research, Science & Technology (FRST)	GRSRD provides SMEs with R&D support for products, services and processes.
	www.technz.co.nz/Business/fund_GPSRD.cfm	
Technology for Business Growth (TBG)	Foundation for Research, Science & Technology (FRST)	TBG is targeted towards projects that move companies towards high added-value, high-margin, technology-based products.
	www.technz.co.nz/business/Fund_TBG.cfm	
Technology for Industry Fellowships (Expert)	Foundation for Research, Science & Technology (FRST)	This fund aims to assist companies to undertake commercially focused research for technology development projects.
	www.technz.co.nz/business/fund_expert.cfm	
Cluster Development Fund	New Zealand Trade & Enterprise	This fund is made available to cluster groups in order to promote cluster development.
	www.nzte.govt.nz	
Enterprise Development Grants - Capability Building	New Zealand Trade & Enterprise	The aim of this fund is to enable entrepreneurs start-ups and established businesses to apply for a grant allowing them to employ a business mentor, undertake advanced technology based training, engage specialized expert advise and expertise, and undertake market development activities.
	www.nzte.govt.nz/	
Enterprise Development Grants - Market Development	New Zealand Trade & Enterprise	The aim of this fund is to enable entrepreneurs start-ups and established businesses to apply for a grant allowing them to employ a business mentor, undertake advanced technology based training, engage specialized expert advise and expertise, and undertake market development activities.
	www.nzte.govt.nz/	
Growth Services Fund	New Zealand Trade & Enterprise	Growth Services Fund offers firms with high growth potential, external advice, expertise and market development services. They also assist firms with new initiatives aimed at having a significant impact on business and leading to substantial growth. This includes international business.
	www.nzte.govt.nz/	
Incubator Funding Awards	New Zealand Trade & Enterprise	This funding is targeted towards approved New Zealand Incubators.
	www.nzte.govt.nz/	

BIZ	New Zealand Trade & Enterprise	BIZ provides information to SMEs for the purpose of business development assistance.
	www.biz.org.nz/public/home.aspx?sectionid=53	
Venture Capital Investment Fund	NZ Venture Investment Fund Limited	VIF is a Crown-owned company responsible for implementing the New Zealand government's Venture Capital Programme.
	www.nzvif.com/	
Institutes of Technology and Polytechnics (ITP) Business Links Fund	Tertiary Education Commission	This fund is designed to foster greater engagement between Institutes of Technology and Polytechnics (ITP) and the private sector.
	www.tec.govt.nz/funding/strategic/itp_bus_links/itpbusinesslinks.html	
Escalator	New Zealand Trade & Enterprise	This fund is aimed at assisting business growth by providing innovative SMEs and entrepreneurial New Zealanders who need capital to expand, diversify or commercialize a new concept with skills and assistance to pursue investment opportunities.
	www.nzte.govt.nz/section/11734.aspx	

V. The Private Sector in the Industries

The following are some of the companies involved in the electronic and information technology industries.

Company	<i>Datacom Group Ltd</i>	
Executive Managing Director	John Holdsworth	Datacom's focus remains on big software development projects, systems integration and outsourcing services
Address	68-86 Jervois Quay, Wellington	
Tel	(64-4) 460 1500	
Fax	(64-4) 460 1511	
Website	www.datacom.co.nz	
Products	Software Services	Annual Sales: US\$198 million
Company	<i>Weta Workshop/Wingnut Films</i>	
Managing Director	Peter Jackson/Richard Taylor	Weta Digital Ltd is an Academy Award® winning visual effects facility based in Wellington, New Zealand. Weta Digital offers world class visual effects for international feature films and commercials.
Address	9-11 Manuka St.Miramar, Wellington	
Tel	(64-4) 388 9450	
Fax	(64-4) 388 9723	The company is best known for its visual effects work on The Lord of the Rings trilogy (New Line Cinema) and King Kong (Universal Pictures).
Website	www.wetafx.co.nz	
Products	Digital and Special Effects for Motion Pictures	Annual Sales: US\$97 million
Company	<i>Rakon Limited</i>	
Chief Executive Officer	Brent Robinson	Rakon Limited (RAK) is a world leader in the development and production of high performance quartz crystal components used for timing reference and frequency control in demanding applications, such as global positioning systems (GPS) and wireless communications
Address	1 Pacific Rise, Mt Wellington, Auckland	
Tel	(64-9) 573 5554	
Fax	(64-9) 573 5559	
Website	www.rakon.co.nz	
Products	Crystal Manufacture for Electronics	Annual Sales: US\$39 million

Company	<i>BCS (Berrill Control Systems)</i>	BCS Group Ltd is dedicated to providing innovative, turnkey automation solutions within a broad range of industries, with expertise that spans the entire scope of a project.
Director, Business Development	Patrick Teo	
Address	2a/17 Corinthian Drive, Albany, Auckland	
Tel Fax	(64-9) 414 1350 (64-9) 414 1355	
Website	www.berill.com	
Products	Conveyors, Controls and IT Software	Annual Sales: US\$26 million
Company	<i>Zintel Group Limited</i>	Established in 1995, Zintel Group Limited is a customer focused provider and integrator of a broad range of leading converged information systems and communication technology solutions to businesses across New Zealand and Australia.
Chief Executive Officer	Peter Halkett	
Address	5 Wilkins St., Freemans Bay, Auckland	
Tel Fax	(64-9) 360 7730 (64-9) 360 4238	
Website	www.zintel.co.nz	
Products	Systems Integrator for Telephony	Annual Sales: US\$23 million
Company	<i>Prolificx</i>	Prolificx is an electronics solutions company specializing in mobile computing platforms for automotive and machine-to-machine applications. Providing off the shelf and custom solutions, their products are specifically targeted to meet the rapidly growing market for high performance, low power, embedded computing devices in applications such as fleet management, mobile gateways, and other location based products.
Chief Executive Officer	Lena Lim	
Address	13 Ronwood Avenue, Manukau, Auckland	
Tel Fax	(64-9) 261 0400 (64-9) 261 0410	
Website	www.prolificx.com	
Products	Computing devices in applications such as fleet management, mobile gateways, and other location based products.	Annual Sales: US\$11.6 million
Company	<i>Actronic</i>	Actronic specialize in the design, development and manufacture of electronic measurement and control products, and software. Actronic has developed products for a wide range of industries over the years - including mining and quarrying, forestry, LPG distribution and marine and medical/bioengineering sectors.
Chief Executive Officer	Paul Corder	
Address	8 Walls Rd, Penrose, Auckland	
Tel Fax	(64-9) 525 7006 (64-9) 525 7373	
Website	www.actronic.co.nz	
Products	Loadrite - Onboard Weighing Systems, Logrite - measurement & control equipment for log harvesting, Equipment & software for LPG cylinder filling, Mono-filament tensile strength measurement system, Surgical morcellator, Pasteurising monitor	Annual Sales: US \$7.8 million

Company	<i>4RF</i>	4RF advanced wireless solutions are deployed worldwide in rural fixed telecommunications; cellular and mobile radio transmission; private networks; emergency services, defense and utility networks; and other enterprises that seek high-performance transport solutions for Internet, voice and data communication.
Chief Executive Officer	Peter Troughton	
Address	26 Glover St., Ngauranga, Wellington	
Tel	(64-4) 499 6000	
Fax	(64-4) 473 4447	
Website	www.4RF.co.nz	
Products	Wireless Systems Manufacturer and service provider	Annual Sales: US\$6.9 million
Company	<i>Enatel</i>	Enatel signals a return to the market of customer-oriented electronic products and solutions from a team that pioneered market-focused, world-leading design and manufacturing capabilities. They create electronic components for systems integrators and large-scale power equipment manufacturers around the world. Built for responsiveness and performance, their products are designed to meet the needs of the market at a reasonable price.
Chief Executive Officer	John Morrissey	
Address	321 Tuam St., Christchurch	
Tel	(64-3) 366 4550	
Fax	(64-3) 366 0884	
Website	www.enatel.net	
Products	Power Electronic Products for Telecomms & IT	Annual Sales: US\$6.4 million
Company	<i>Nautech</i>	Nautech Electronics Ltd is one of New Zealand's largest locally owned contract electronic manufacturing companies. Nautech Electronics Ltd now operates from a purpose built 30,000 sq.ft premises in East Tamaki, Auckland with 70 employees. They have also developed into a market leader in specialized electronics, electronic design, manufacturing and fleet installation for large and small businesses.
Chief Executive Officer	Andrew Turner	
Address	120 Cryers Rd., East Tamaki, Auckland	
Tel	(64-9) 273 2001	
Fax	(64-9) 274 7487	
Website	www.nautech.co.nz	
Products	Contract Electronics/ Vehicle Electronics	Annual Sales: US\$6.1 million
Company	<i>Greentree International</i>	Greentree International is a local company that specializes in developing effective financial and business management software for medium sized enterprises. For over 20 years, through a widespread, dedicated Greentree Business Partner Network, their products have been chosen by and successfully enhanced the operations of more than 10,000 organizations in Australia and New Zealand.
Chief Executive Officer	Peter Dickinson	
Address	Bldg 4, Rosedale Office Park, 331 Rosedale Rd, Albany, Auckland	
Tel	(64-9) 366 3888	
Fax	(64-9) 366 3889	
Website	www.greentree.com	
Products	Financial Software for SME's	Annual Sales: US\$4.5 million
Company	<i>Animation Research/ Taylormade</i>	Located in Dunedin, New Zealand, Animation Research Limited is one of the Australasian region's leading computer graphics production facilities turning digital data into pictures. ARL was founded in 1989 and since then the company has won numerous national and international awards for its work in computer generated television commercials and has also developed award-winning applications used for education and entertainment.
Chief Executive Officer	Ian Taylor	
Address	442 Moray Place, Dunedin	
Tel	(64-3) 479 9750	
Fax	(64-3) 479 9751	
Website	www.arl.co.nz	
Products	3D Animation/AV Production	Annual Sales: US\$4.1 million

Company	<u>Compuspec Industries</u>	Compuspec is a fresh, vibrant, and innovative company dedicated to technology and the people who use it. While telecommunications has been their technological focus, they also recognize that it is the comfortable and efficient use of this technology that matters most. Their attention to detail and core engineering expertise continues to give customers the most reliable, technically capable, and energy efficient products available.
Chief Executive Officer	Mark Eaton	
Address	3 Rakino Way, Mt Wellington, Auckland	
Tel	(64-9) 918 1990	
Fax	(64-9) 918 1970	
Website	www.compuspec.com	
Products	Telco Hardware (Dialling Systems)	Annual Sales: US\$4 million
Company	<u>Comacc</u>	The Customer Service Team, which has 2 dedicated Customer Service Representatives - Abby Mills & Jackie Darmody, was created to ensure clients are receiving the top quality services and products. Acting independently from other departments, this team acts with a proactive - non-sales outlook to ensure clients are receiving the service they deserve.
Chief Executive Officer	Steve Nathan	
Address	3 Olive Rd., Penrose, Auckland	
Tel	(64-9) 580 0729	
Fax	(64-9) 580 0730	
Website	www.comacc.co.nz	
Products	Payroll and Employee Information Systems	Annual Sales: US\$3.8 million
Company	<u>Argent Networks</u>	Argent designs and integrates billing and customer care solutions for fixed line, wireless, broadband and next generation telecommunications companies. Argent has built its reputation by developing highly flexible, scalable and cost-effective solutions that support real-time, transaction-based, convergent billing and customer care for voice, data, video and content services.
Chief Executive Officer	Chris Jones	
Address	41 Sale Street, Auckland.	
Tel	(64-9) 300 1790	
Fax	(64-9) 300 1791	
Website	www.argentnetworks.com	
Products	Software Systems (billing, accounting)	Annual Sales: US\$3.6 million
Company	<u>Open Cloud</u>	Open Cloud was formed in 2000 to create innovative software infrastructure for Telecommunication and Internet services. Open Cloud is the co-specification edit lead with Sun Microsystems on the JAIN™ SLEE (Service Logic Execution Environment) specification and is responsible for producing the Reference Implementation (RI) and Technology Compatibility Kit (TCK). Open Cloud works with partners to deliver, integrate and support end-to-end solutions to operators and service providers.
Chief Executive Officer	Peter Barralet	
Address	Level 4, 54-56 Cambridge Terrace, Wellington	
Tel	(64-4) 462 5000	
Website	www.opencloud.com	
Products	Infrastructure Software For telecommunications and Internet	
Company	<u>IPFX</u>	IPFX is a dynamic developer and distributor of Computer Telephony Integration (CTI) solutions in the Australasian and the United Kingdom regions and offers training and support of a high level to customers and resellers. IPFX is a leading IP Telephony solution provider in the market with over 1,100 systems and 200,000 end users. The key benefit for IPFX customers is a significant improvement in employee productivity.
Chief Executive Officer	Kevin Plumpton	
Address	Level 13, HSBC Building, 1 Queen St, Auckland	
Tel	(64-9) 357 3573	
Fax	(64-9) 357 0083	
Website	www.ipfx.com	
Products	Computer telephony integration	Annual Sales: US\$2.5 million

Company	<i>Mako Networks</i>	Mako Networks was formed in New Zealand in 2000. The first Mako System was made commercially available in July 2002 and Mako Systems now operate in New Zealand, Australia, the United Kingdom, Ireland, the United Arab Emirates, Saudi Arabia, the United States, Canada and South Africa. Customers of Mako Networks include IT Integrators, Resellers, Internet Service Providers and Telco's.
Chief Executive Officer	Bill Farmer	
Address	1/62 Paul Matthews Rd., Albany, Auckland	
Tel	(64-9) 448 1340	
Fax	(64-9) 448 1350	
Website	www.makonetworks.com	
Products	Internet Security Hardware	Annual Sales: US\$2.1 million
Company	<i>Black Coffee Software Limited</i>	Black Coffee Software Ltd provides high-quality Java/J2EE software development and integration services for enterprises within New Zealand, the United Kingdom, Australia and Hong Kong, China. Black Coffee does Java and Java only. They stick to their specialty and provide the best professional advice and service, undiluted by too broad a focus. Their company maxim – 'undiluted no-nonsense business software' – reflects their approach, which is one of pragmatism coupled with an absolute commitment to quality.
Chief Executive Officer	Terence Burns	
Address	Level 13, Compudigm House, 49 Boulcott St, Wellington	
Tel	(64-4) 472 8818	
Fax	(64-4) 472 8811	
Website	www.bcsoft.co.nz	
Products	Java software developers	Annual Sales: US\$2 million

VI. The Vision of the Private Sector

The Electronic and Information Technology Industries Survey in APEC
Company: Axon Computer Systems Ltd
Name and title of the executive: Robin Thornton, Southern Region Manager
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>We are finding the current environment very buoyant. Our largest challenge is attracting suitably skilled staff. To counter the difficulty in attracting staff we are promoting additional training, flexibility and varied work.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>No, we do not.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>We believe that it is very difficult for SMEs to be competitive and sustain their business over the longer term.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Not presently. But our wider view is that anything that provides better business certainty is a benefit.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is</p>

<p>this definitive in your case or market target influence mostly a new investment decisions?</p> <p>We have experienced help in product development. It can be a criterion in making business decisions.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>We believe that the rate of change and dependency on information technology is increasing. Thus we see a strong demand and more change going forward.</p>
<p>Date: 2 October 2006</p>

<p align="center"><i>The Electronic and Information Technology Industries Survey in APEC</i></p>
<p>Company: IDATA Limited</p>
<p>Name and title of the executive: Bruce Robinson, Director</p>
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>Our company undertook a re-branding exercise, which included employing outside marketing assistance. We also looked at additional suppliers to augment the range of products and services we could offer our market and existing customer base. We have also expanded our services to an Australian company base.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>We would consider any portfolio of products that fit with the business profile that we have developed.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>Increasingly yes although we would have to give due consideration to how to best service the SME model.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>The only consideration apart from legal/statute is the profit margin we are able to negotiate with any supplier, but free trade agreements are useful.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>We would look at investment decisions along the lines of our business model and whether the resource available to us can bridge or fill a niche in the market.</p>
<p>Other comments:</p>
<p>Date: 29 October 2006</p>

VI. Government and Private Organizations

Organization	<i>New Zealand Trade and Enterprise (NZTE)</i>	New Zealand Trade and Enterprise (NZTE) is the New Zealand government's national economic development agency. Through their network of offices worldwide, NZTE aims to grow New Zealand's economy by boosting the capability of businesses and regions and facilitating their sustainable and profitable participation in overseas markets.
Chief Executive Officer	Tim Gibson	
Members	Not available	
Address	Level 11, ANZ Center, 23-29 Albert St	
Tel	(64-9) 366 4768	
Fax	(64-9) 366 4767	
Website	www.nzte.govt.nz	
E mail	www.nzte.govt.nz/emailus	
Organization	<i>Technology Investment Network LTD</i>	Technology Investment Network is a private company established by Greg Shanahan in 1999 to facilitate the growth of the technology sector in New Zealand.
Managing Director	Greg Shanahan	
Members	Not available	
Address	PO Box 32 525 Dovonport	
Tel	(64-9) 445 0362	
Fax	(64-9) 445 0233	
Website	www.tinetworks.com	
E mail	greg@tinetworks.com	
Organization	<i>Software New Zealand</i>	Software New Zealand is New Zealand's national software association. They have relationships with regional software clusters and other ICT sector groups, associations and organizations. They also have working relationships with the New Zealand government and other agencies responsible for software sector growth, development and investment
Chairman / Secretary General	Chip Dawson — President of the New Zealand Software Association	
Members	Not available	
Address	Vero Centre, 48 Shortland Street. Auckland, New Zealand PO Box 31692 Milford 1309	
Tel	(64-2) 7428 2669	
Website	www.nzsa.org.nz	
E mail	helen@nzsa.org.nz	
Organization	<i>Information Technology Association of New Zealand</i>	ITANZ is the New Zealand national association of organizations involved in the development, production, marketing and support of goods and services related to the processing of information. Through its vision and mission, ITANZ works to improve the business climate in the interests of all suppliers.
Chairman / Secretary General	David Irving - President Chief Executive Officer	
Members	Not available	
Address	Level 9, 108 The Terrace, Box 1710, Wellington, New Zealand.	
Tel	(64-4) 472 2731	
Fax	(64-4) 499 3318	
Website	www.itanz.org.nz	
E mail	info@itanz.org.nz	
Organization	<i>Electronics South</i>	Electronics South is the central contact point for the Electronics
Chairman / Secretary General	Ron Sutherland	

Members	Not available	
Address	Canterbury Electronics Cluster P O Box 2962 Christchurch New Zealand	
Tel	(64-3) 379 5575	
Fax	(64-3) 379 5554	
Website	www.electronicssouth.com	
E mail	hamish.house@cdc.org.nz	This organization is a volunteer group of enthusiastic people drawn from private and government organizations run by Canterbury Software Inc. They work together to provide practical ways of achieving growth in the Canterbury software sector.
Organization	Canterbury Software Organization	
Chairman / Secretary General	Owen Scott	
Members	19	
Address	Canterbury Development Corporation, 193 Cashel Street, 2nd floor, New Zealand	
Tel	(64-3) 378 0090	
Website	www.canterburysoftware.org.nz	
E mail	hamish.house@cdc.org.nz	

Bibliography

- New Zealand Trade & Enterprise: www.nzte.govt.nz
- New Zealand Trade & Enterprise Singapore Office
- Technology Investment Network: www.tinetmork.com
- Ministry of Economic Development: www.med.govt.nz
- Ministry of Foreign Affairs: www.mfat.govt.nz/Trade-and-Economic-Relations/Trade-Agreements/index.php
- Software New Zealand: www.nzsa.org.nz
- Association of the Southeast Asian nations: www.aseansec.org
- World Trade Organization: www.wto.org/english/tratop_e/inftec_e/itaintro_e.htm
- Invest in NZ: www.nz.govt.nz

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC Papua New Guinea

I. Overview of the industry

The main economic sectors of Papua New Guinea are agriculture and mining. According to the economic data there are no registered investments in the electronic and IT sector. Thus, this survey has focused on the economy's local development, foreign trade and foreign investment policy.

Since 2003, after several years of contraction, the Papua New Guinea economy has been growing, reaching a growth rate of 3 percent in 2005. It is forecasted to grow a further 3.5 percent in 2006. Other macroeconomic indicators have also improved, such as the decline of both inflation and interest rates.

An essential component of the structural adjustment program is the promotion of non-mining sectors of the economy to ensure economic growth can be sustained after the depletion of the mineral resources. In order to promote economic self-sufficiency, government policies encourage the development of Papua New Guinea's non-mining sectors, which include manufacturing, renewable resources, agriculture and business services.

The focus of these policies is on industries and businesses, where private sector investment is more likely to contribute significantly to the government's desired objectives of growth and employment. The implementation of industrial policies remains the responsibility of various statutory authorities, which were established for that purpose within the Ministry of Trade and Industry. These authorities include the Investment Promotion Authority (IPA), the Small Business Development Corporation (SBDC) and the Industrial Centers Development Corporation (ICDC).

While macro-economic policy reforms are the prime objectives of the government, micro-economic reforms are equally crucial in facilitating the development of private enterprise. In that context, the government is committed to a privatization policy that will allow a transition from commercial activities to the public sector. The establishment of a stock exchange complements these initiatives. It allows for greater opportunities for business and individual investors as new and existing investment entities become listed on the exchange. Investors will benefit from a more liquid and transparent capital market.

Papua New Guinea has a dual economy, comprising of a formal, corporate-based economy and a large informal economy where subsistence farming accounts for the bulk of economic activity. The formal sector provides a narrow employment base, which consists of mineral production, a relatively small manufacturing sector, a public sector and service industries including finance, construction, transportation and utilities. However, most the population is involved in the informal sector.

The local government is also committed to the provision of adequate physical infrastructure and a favorable taxation regime. Papua New Guinea currently has one of the lowest rates of corporate tax in the Asia Pacific region.

There are significant reforms underway in the area of trade. Import bans and quotas are being replaced with low tariff rates, consistent with World Trade Organization (WTO) requirements. Other forms of protection to locally produced goods, such as price controls, are also being removed. However, in certain industries where a natural monopoly exists (ie, electric power, telecommunications, water), price controls will prevail. This protection is not expected to remain if private sectors begin to run the monopolistic industries.

Foreign direct investment (FDI) was only US\$87.6 million in 1997 and US\$109.6 million in 1998. However, FDI nearly tripled to US\$296.5 million in 1999 before falling back to US\$130.7 million in 2000. FDI in 2002 was \$178.7 million.

II. Recent Developments in the Exports and Imports

Due to the strong relation between Papua New Guinea and Australia, this economy represents their major source of supplies and also the most important export market.

Foreign Trade of Papua New Guinea
(US\$ million)

Year	Imports	Exports	Balance
2000	945.5	541.7	-403.8
2001	1,451.3	676.0	-775.3
2002	1,511.4	1,169.1	-372.3
2003	1,312.1	2,553.3	1,241
2004	1,440.0	2,593.0	1,153
2005	1,524.0	3,242.0	1,718

Source: National Statistics Office of Papua New Guinea

The trade account recorded a surplus of US\$1,718 million in 2005, compared to a surplus of only US\$1,153 million in 2004. The higher surplus was due to an increase in the value of exports combined with a decrease in the value of imports. Total exports increased 20.5 percent from 2004. The increase was attributed to higher values of copper, crude oil, coffee, copra, copra oil, rubber, logs, marine products and refined petroleum products exports.

- Main Exports (50.6 percent of GDP): gold, copper ore, oil, timber, palm oil and coffee.
- Major markets: Australia, Japan, China, Germany, the UK and Indonesia.
- Imports (29.2 percent of GDP): machinery and transport equipment, manufactured goods, food, fuels and chemicals.
- Major suppliers: Australia, Singapore, New Zealand, China, Japan and Malaysia.

III. Trade Negotiations Related to the Industries

Papua New Guinea belongs to two international trade related organizations. In 1993 they became a participating economy in the Asia-Pacific Economic Cooperation (APEC) Forum, and in 1996 they joined the WTO.

They are also an observer at ASEAN and have been a member of the ASEAN Regional Forum since 1994.

IV. The Programs and Special Incentives to the Industry

There are some tax incentives granted to investors since Papua New Guinea has an economy that is large in primary exports, mainly raw agricultural and mineral export commodities. The incentives are as follows:

Ten-year exemption from income tax for new businesses in designated rural development areas. There are 41 rural development areas, such as Bogia in Madang Province and Wabag in Enga Province.

- The venture must not be dependant on natural resources for its development. (Areas covered by Petroleum Development Licenses or Special Mining Leases are excluded.)
- Prescribed industries include agriculture, construction, hotels, restaurants and manufacturing.

Five-year tax exemption for pioneer industries

- Must bring beneficial economic activities to the economy or introduce a new form of industry

Export Incentives – Seven-year tax exemption period

- Export profits for the first four years are exempt
- Profits of any increase in export sales from the average for the first three years are also exempt
- Exports must be new manufactured products, including canned foods, confectionary, dairy products, glass products, paper products, wooden furniture components and doors, and must be exported by the manufacturer.

Accelerated depreciation 100% deduction available for the capital cost of:

- Industrial plants not previously existed in the economy with an effective life exceeding five years and belonged of the manufacturing sector (includes buildings and structural improvements for the housing of the manufacturing plant, component parts and the finished product).
- The plant or articles used directly for the purposes of agricultural production (includes vehicles)
- The plant or articles used by residents solely of commercial fishing purposes
- Boats or ships (including ancillary equipment) used by accredited scuba diving or snorkeling tour operators.

V. The Private Sector in the Industries

Due to the absence of companies established related to the electronic or IT industries in this economy, this survey does not include a list of companies.

VI. The Vision of the Private Sector

Due to the absence of companies established related to the electronic or IT industries in this economy, this survey does not include interviews.

VII. Government and Private Organizations

Organization	<i>Investment Promotion Authority (IPA)</i>	The IPA implements policies and programs aimed at increasing total annual investments (including FDI), non-mining sector investments and the level of investments financed by the domestic sector. The IPA is a statutory organization established in 1992 by an Act of Parliament to promote and facilitate investment in Papua New Guinea.
Managing Director	Mr. Ivan Pomaleu	
Members	Not available	
Address	PO Box 5053 Boroko National Capital District Papua New Guinea	
Tel Fax	(67-5) 308 4425 (67-5) 321 2819	
Website	www.ipa.gov.pg	
E mail	biepd@ipa.gov.pg	
Organization	<i>Papua New Guinea Chamber of Commerce and Industry</i>	Papua New Guinea Chamber of Commerce and Industry (PNGCCI) is a non-stock, non-profit, and non-government organization that plays an important role as the representative of the business communities by providing a unified approach to the government and other associations. It has an ongoing commitment to the development and growth of the economy to make it a better place for the residents of Papua New Guinea.
Chairman / Secretary General	Mr. Michael Mayberry	
Members	Not available	
Address	Trukai Building, Lawes Road, Konedobu P.O. Box 1621, Port Moresby Papua New Guinea	
Tel Fax	(67-5) 321 3057 (67-5) 321 0566	
Website	www.pngcci.org.pg	
E mail	pngcci@global.net.pg	
Organization	<i>Port Moresby Chamber of Commerce and Industry</i>	The Port Moresby Chamber of Commerce & Industry is governed by volunteer councilors who are elected by the members at each Annual General Meeting. It has the usual structure of President, Deputy President, Treasurer, Secretary and Committee Members. A Secretariat consisting of three staff members services the Chamber. The Chamber meets once a month, usually the first Wednesday of the month.
President	David A. Conn	
Members	Not available	
Address	PO Box 1764, Port Moresby 6th Floor, Monian Tower, Douglas St. Port Moresby, Papua New Guinea	
Tel Fax	(67-5) 321 3077 / 321 3254 (67-5) 321 4203	
Website	www.pomcci.org.pg	
E mail	info@pomcci.org.pg	

Bibliography:

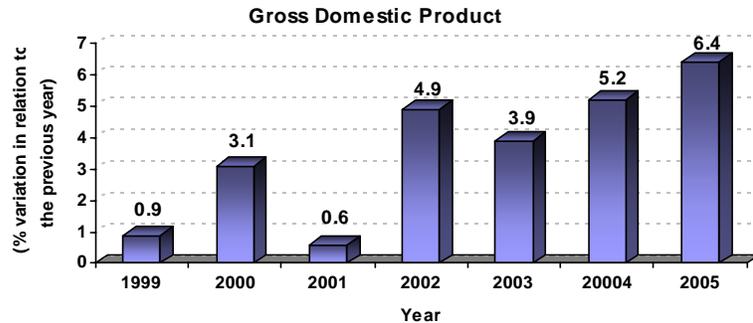
- *Papua New Guinea*, Australian Department of Foreign Affairs: www.dfat.gov.au/geo/png
- *Government Investment Incentives*, Investment Promotion Authority: www.ipa.gov.pg
- *Merchandise Trade Statistics*, National Statistics Office of Papua New Guinea: www.nso.gov.pg
- *Quarterly Economic Report*, Bank of Papua New Guinea: www.bankpng.gov.pg

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC Peru

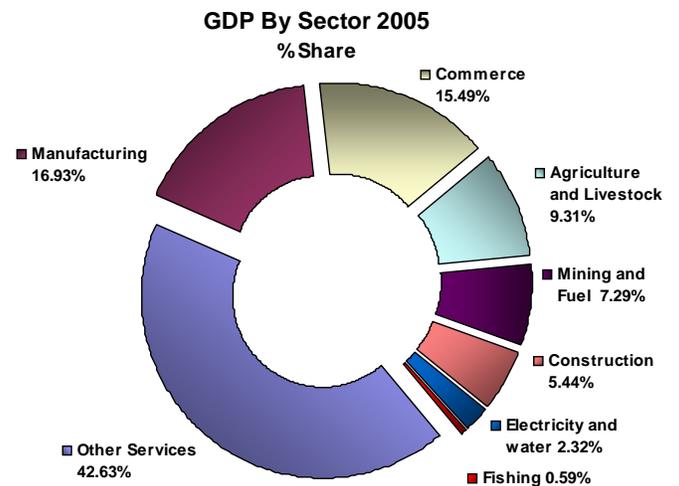
I. Overview of the Industry

Peru has experienced 54 consecutive months of growth. This sustained economic expansion began in the middle of 2001 and has continued until 2005. Driven by favorable conditions for Russian exports and increased domestic demand, the rate of growth in 2005 reached 6.4 percent, the highest rate since 1997.



Peruvian economic activity has maintained a persistent upward trend in the past few years and has stood out as one of the most dynamic economies in its region. According with the Private Investment Promotion Agency, PROINVERSION, the current value of Peruvian gross domestic product (GDP) is estimated to be US\$78.6 billion. The growth rate in 2005 was 6.4 percent and it is estimated that the growth rate for 2006 will be 5 percent.

The structure of Peru's GDP has slightly changed over the last ten years. The percentage of GDP represented by construction, commerce, other services, manufacturing and fishing has decreased, while sectors such as mining, electricity and water, as well as agriculture and livestock have increased. However, manufacturing and commerce still continue to account for a significant portion of the GDP. In 2005, manufacturing contributed to 16.93 percent of the GDP, down from 17.28 percent in the mid 1990s.



With regard to Peru's Information, Communication and Telecommunications (ICT) industry, the information technology (IT) infrastructure has improved since the privatization of the telecommunications system in 1994. However, this IT infrastructure is still poor and will most likely continue to be for several years until Peru solves the more urgent problems such as improving the quality of life.

Another issue that Peru faces is that technology and development rarely target Peruvian rural provinces. There are still some small towns in Peru where people cannot make phone calls because there are no telephones.

Peru is an economy of about \$2,780 of GDP per capita and \$5,970 of GDP per capita of purchasing power parity. In 2005, 52 percent of the Peruvian population was under the poverty line and 28 percent of the population lived in rural areas. Since money is scarce in Peru, funding ICT seems to be a constraint. Therefore, unlike other developed countries, the percent amount of GDP that Peru assigns to science and technology is very low.

According to the National Council of Science and Technology (CONCYTEC), Peru invests only 0.08 percent of its GDP in science and technology whereas Latin America invests an average of 0.7 percent and the United States invests 2.5 percent. CONCYTEC does not provide specific information about the percentage of GDP invested on ICT. However, according to the World Bank, ICT expenditures in Peru are 6.90 percent of its GDP.

The telecommunications regulator in Peru estimates that 3.6 percent of monthly income is spent on the ICT industry and that this percentage is consistent between income groups. This should mean that the richest 2 percent of the society has on average US\$127 to spend monthly on ICT products (US\$1,524 per year), while the poorest 20 percent would have only US\$4.8 (58 dollars per year). Assuming that a very basic computer costs US\$1,000 and is used for 36 months (28 dollars per month), to which must be added the monthly fee of US\$40 for broadband access, then only 7 percent of the population could afford 256 kbps Internet access.

In order for half of the Peruvian population to have individual access to broadband, the price of this package must be brought down to a mere US\$10. The government pledged this in its plan of action for the world summit on information society. The further down the income distribution scale, the sharper the fall in income levels. Thus, it is difficult to imagine that the free market will ever substantially reduce the prices of technology, at least not in the short term.

The ICT with the highest penetration is mobile phones, with 21 users per 100 inhabitants in 2005. According to the market prices for this year, a user could buy a maximum of 12 minutes of cellular phone use per day, assuming that all his/her ICT expenses were concentrated on this service.

According to the Global Information Technology Report 2005 – 2006, Peru reach the 85th position out of 115 economies in the Networked Readiness Index (NRI), climbing 5 positions compared from its 2004 ranking. The World Economic Forum's Networked Readiness Index (NRI) measures the propensity for economies to exploit the opportunities offered by information and communications technology. The NRI seeks to better comprehend the impact of ICT on the competitiveness of nations.

Telecommunications and information technologies are priority sectors for the Peruvian government and its economy. Along with mining and tourism, they constitute a key engine of growth for investment, technological advancement and education.

Telecommunications

Peru is a leader in telecommunications deregulation and privatization in South America, having closely followed the example of Chile. Most regulatory authorities in the region are now following their example. Thus, successful solutions in Peru often find ready markets in the rest of South America.

All barriers to foreign investment in the sector have been dropped and Peru offers unrestricted access for foreign companies with full national treatment, regardless of the size of holdings. Licensed telecom providers are free to compete without restrictions as to the type or volume of service that they intent to provide. There is, however, legal separation between the local and long distance service providers.

There are currently no restrictions on services and new technologies (ie, cable TV suppliers may provide telephone services) or on provision of services outside of Peru (ie, 800 numbers, phone cards, etc.).

Peru now has 10 licensed long distance carriers and five fixed-line operators, mostly controlled by multi-nationals

Mobile Services

The mobile market has undergone considerable changes in 2004-2005. In mid-2004, the market was shared among Telefonica Moviles Peru (52 percent market share), BellSouth Peru (20 percent share), TIM Peru (23 percent share) and Nextel (5 percent share). In October 2004, Telefonica purchased BellSouth Peru (part of a US\$7.2 billion deal to take over BellSouth

	Pre paid	Post paid	Total	Market Share (%)
Telefónica	2,804,336	579,499	3,383,835	60.32
Claro / TIM	1,712,796	237,250	1,950,046	34.76
Nextel	38,775	237,250	276,025	4.92
Total	4,555,907	1,053,999	5,609,906	100.00

Source: Osiptel (Peru's telecommunications regulatory agency)
Made by: Trade Commission of Mexico in Colombia

assets throughout Latin America) and merged the two companies under the new name Movistar Peru (as of 1 June 2005). As Nextel holds a minor share of the total market and focuses primarily on the corporate sector, the Telefonica's acquisition of BellSouth Peru effectively made the mobile market a duopoly between Movistar and TIM Peru. In an attempt to generate greater competition, Peruvian authorities issued a fourth mobile license, for which America Movil paid US\$25.8 million in March 2005. However, America Movil's purchase of TIM Peru (from Telecom Italia) for US\$615 million in August 2005 once again left two key players in the market. The government, nevertheless, intends to auction another mobile license this time with the condition that no asset acquisition be completed within a specified period. The three leading mobile network systems operating in Peru are Telefónica (Telefónica de España), Claro / TIM (América Móvil), Nextel.

Mobile penetration remains low at 20.61 percent and is well below the Latin American average penetration rate, which stands at 35 percent, but is rapidly catching up to fix line use and there are now 2.5 mobile lines for every fixed line in Peru.

With the majority of users still too poor to obtain credit, prepaid service dominates at 81.2 percent of the market. Prepaid services increased with the introduction of new service providers to the market.

Internet

Although only seven percent of Peruvian households have personal computers (most

Population (Census 2005)	Internet Users Latest Data	Percent Population (%) (Penetration)	Use Growth (%) (2000-2005)
27,219,264	4,570,000	16.79	82.80

Source: www.internetworldstats.com

Made by: Trade Commission of Mexico in Colombia

of these are the wealthiest households in Lima), use of Internet in Peru is raising quickly, both in business and consumers. Most consumers (over 87 percent) access the Internet at cyber cabins and cafés, which are now common in almost every city and town.

Internet connections are expensive and flat-rate fees for unlimited-access telephone service are uncommon, so the cost of being online is very high. Secure and low-cost access to the Internet are therefore key issues driving new investments by internet service providers, led by the Telefonica subsidiary of Terra Networks. Traditional wire telephony provided the most important means of access to Internet in Peru, although nowadays-new technologies like broadband wireless and ADSL services provided by companies such as Comsat and Diveo are likely to rapidly gain market share.

Number of Subscribers according to Access Mode and Type of Subscriber in December 2005

Access Modality	Residential	Companies	Public Cabins	Others	Total
Dial up	57,869	107,605	0	0	165,474
Wire Dedicated Lines	249	1,997	185	402	2,833
Wireless Dedicated Lines	167	2,549	165	37	2,918
New technologies	414,903	213,736	33,285	60	661,984
Total	473,188	325,887	33,635	499	833,209

Source: Osiptel (Peru's telecommunications regulatory agency) / Made By: Trade Commission of Mexico in Colombia

E-Commerce

The e-commerce revolution has yet to reach Peru and for most of the population the Internet is still beyond reach for economic reasons. Internet cabins/cafes are found throughout Peru; so even in provincial cities small businesses are searching for software and equipment online. Companies may be contacted directly by an interested but inexperienced buyer but since export transactions or systems integration may still be beyond them companies should exercise caution. Business-to-business (B2B) opportunities are concentrated within the economy's major industries of construction, mining, natural gas and energy, and their dealings with local and foreign partners and distributors.

Production and Services

In the information technology (IT) industry, Peru has diverse comparative advantages, like the capacity and quality of its professionals and national products (as much in software as in ICT services), reason for which they enjoy certain acceptances in foreign markets. Comparatively, Peru has an economy with low costs of labor and, in addition, from a cultural and geographic perspective, it is next to markets whose potential demand is immense. The hardware, software and IT services industry had a revenue of US\$566 million in 2004. 54 percent of this market constitutes hardware sales, 12 percent constitutes licenses of software and maintenance and, 34 percent constitutes IT services.

Peruvian IT Revenue (US\$ million)	2000	2004	2009
Hardware Revenue	297	307	369
Software Revenue	61	69	86
IT Services Revenue	172	190	243
Total Revenue	530	566	698

Sources: IDC, BSA, Latin Business Chronicle /
Made By: Trade Commission of Mexico in Colombia

According to a new report from the Business Software Alliance (BSA), IT revenues in Peru are expected to reach US\$698 million in 2009. Hardware sales are also expected to reach US\$369 million in 2009. Revenues from IT services will likely reach US\$243 million, while software sales are expected to end up at US\$86 million.

Hardware

The Peruvian hardware market consists of equipment and imported spare parts and pieces. Peru lacks companies that can altogether be called the Peruvian hardware industry. Nevertheless, it is possible to emphasize that an important activity of assembly is being developed. Locally assembled computers account for 49 percent of the total hardware market. There is also an added value of transformation and skill creation. Peru is also estimated to have approximately 2,689,000 personal computers (PCs) in service, of which half are considered to be obsolete (over five years old).

Although desktop PCs still dominate overall computer purchases, the popularity of laptops has increased dramatically in recent years. Currently, desktop computers account for 90 percent of revenues from computer sales. However, laptop computers will account for a growing share of the total market as laptop sales are increasing by 24 percent annually, while growth of the desktop computer market stands at 10-12 percent annually. Private enterprises generally replace their PCs every 2-3 years while public institutions replace them every four years and private consumers average five or more years between computer purchases.

Software

The software market is relatively small. Most of the revenue comes from licenses and maintenance (76 percent) of imported software. The remainder of the licenses sold corresponds to the production of companies that constitute the local software industry. Piracy, an unlicensed use of software, is a threat to the development of the local market. Although they have managed to reduce piracy indexes in the economy, it is still a risk for the industry development. Because of this reason, it is necessary to make additional efforts to strengthen audit and protection of the intellectual property.

According with the Business Software Alliance (BSA) for 2005 the Peruvian PC software piracy rate was 73 percent, with a loss of US\$40 million.

Local Development

The Peruvian Chamber of Commerce and the Peruvian Association of Software Producers (APESOF) estimated that approximately 300 firms operate in the Peruvian software market. The Chamber is made up of 25 member companies who produce software locally on a small-scale basis. Such software ranges from sophisticated banking and financial applications to customized applications for small businesses. Among the more popular customized applications are accounting, taxation, procurement, sales and entertainment. Some of these locally manufactured products are exported to Latin American countries, including Venezuela and Uruguay. The most important clients in the Peruvian software market are medium and large companies, who generate 74 percent of the total sector revenue.

Local Peruvian software producers compete with foreign companies to carve out a niche providing services to small and medium businesses.

Foreign Companies

Peru is also home to many of the well-known worldwide software companies, including Microsoft, IBM, Novell, Oracle, PeopleSoft, 3Com, SAP, and others. These companies either have their own local offices, or local distribution representatives. Like in the case of German software company SAP, some firms have joint ventures with local producers. Aside from their expertise in the Peruvian market and language skills, local companies are often engaged because Peruvians often feel more comfortable with a local company than a foreign one. The United States firms dominate the Peruvian market much as they do in other markets worldwide.

Peruvian Companies

Number of Formal and Informal Enterprises by Size in 2004		
Enterprise Size	Number of Enterprises	Percentage (%)
Micro Sized Formal	622,209	24.7
Micro Sized Informal	1,855,075	73.7
Small Sized Formal	25,938	1.0
Small Sized Informal	15,395	0.6
Medium and Large Sized Formal	10,899	0.4
Total	2,518,617	100.0

Source: Prompyme
Made By: Trade Commission of Mexico in Colombia

Peru has one of the largest and most dynamic micro, small and medium enterprise (SME) sectors in Latin America. According to Prompyme, (Peruvian SME Agency) SMEs make up 98.4 percent of the enterprises in the economy, though it is important to mention that there are a huge percentage of informal companies in the Peruvian economy (74.3 percent). Small and medium enterprises are the most important source of employment, as they account for 72 percent of total employment and 42.1 percent of the gross domestic product (GDP). However, they only generate 1.84 percent of total Peruvian exports.

Law No. 28015 for the Promotion and Formalization of the Micro and Small Company defines an SME on the basis of the number of employees or the total annual sales according to the following range:

- Micro enterprises of up to 10 employees or annual sales of 150 Taxation Units (UITs)
- Medium-sized firms from 11 to 50 employees or annual sales up to 850 UITs
 - Note: One Taxation Unit is approximately US\$1,000

The SME sector is clearly an important part of the productive structure of the Peruvian economy and in some regions; it represents the only enterprise level, which is the basis of economic activity. It is also clear that a large portion of the labor force consists of independent workers, for which reason there is a lot of instability. The geographic distribution of formal SMEs shows that the Peruvian capital, Lima, accounts for nearly 52.24 percent of firms, with the remaining regions ranked as follows: Arequipa 6.28 percent, La Libertad 5.48 percent, Junin 3.89 percent, Piura 3.65 percent and the rest of the country 28.46 percent.

ICT Use by Enterprises

Many executives are reassessing the advantages that the ICT sector provides to their businesses and are taking steps to ensure that their information systems and business units are working together in coordination. They are also confident that ICT products can help manage the business strategically in connection with an excellent corporate strategy to increase company profits and achieve success.

A survey conducted by The National Institute of Statistics and Informatics made in 2001 shows that 80 percent of businesses nationwide have computers in their workplaces, irrespective of the type, capacity and number of computers. The other 20 percent of the 6,769 companies surveyed did not have computers – a result that draws attention to the fact those surveyed were medium-sized and large companies. An analysis of economic sectors shows that out of all firms with computers in their workplaces, 40.9 percent belong to the productive sector and 59.1 percent are in the services sector. Data on the number of computers in an enterprise's workplaces show that in the administration area, 65.2 percent of companies with computers have between 1 to 5 PCs, 16.3 percent have between 6 to 10 units, 5.8 percent have between 11 to 15 units, 3.7 percent from 16 to 20 computers, and 8.9 percent of all companies with computers in the administration area have over 20 PCs.

At the national level, 64.2 percent have an Internet connection, while 33.6 percent do not. From a sectoral standpoint, 63.9 percent of productive-sector companies have Internet connections and 34.3 percent do not. In the services sector, 64.5 percent of firms have an Internet connection, while 33.1 percent do not. Hence, 22.6 percent of the companies use the internet to publicize the corporate image, 45.2 percent of firms that have computers and are connected to the internet carry out business over the web, 37.8 percent use the internet for research and investigation, 11.5 percent carry out training through web-based courses, and 8 percent maximize the benefits that the internet provides them with.

A quick situational analysis of firms would show that, regrettably, only 14.1 percent of companies undertake some type of e-commerce activity. Of the various e-commerce modalities used by firms, the most frequent is B2B. At the national level, this modality represents 74.5 percent of all business types. Second in importance is business to consumer (B2C), which accounts for 49 percent, and third, business to government (B2G), which represents 8.9 percent.

II. Recent Developments in the Exports and Imports

As described above in the “Production and Services” section, hardware is the most important ICT sub sector in the Peruvian economy, because it generates a portion of the total revenue. In addition the Peruvian economy does not have local hardware production. For that reason we are going to focus our analysis in hardware products, more specifically, in those products considered as automatic data processing machines and units.

Trade Balance

Peruvian Trade Balance by Commodity Code 8471 (2002 – 2005)					
FOB US\$ thousands					
Commodity Code	Article Description	Balance			
		2002	2003	2004	2005
847110	Analog or hybrid automatic data processing machines.	-486.59	-583.87	-264.18	-216.58
847130	Portable digital automatic data processing machines, weighing not more than 10 kg, consisting of at least a central processing unit, a keyboard and a display	-14,385.85	-17,255.79	-21,292.84	-27,740.15
847141	Comprising in the same housing at least a central processing unit and an input and output unit.	-9,887.35	-11,946.45	-6,605.74	-8,061.99
847149	Other, entered in the form of systems	-3,858.96	-6,333.60	-6,636.71	-5,313.59
847150	Digital processing units other than those of subheading 8471.41 or 8471.49, whether or not containing in the same housing one or two of the following types of unit: storage units, input units, output units	-40,539.85	-45,934.40	-64,747.17	-70,766.94
847160	Printer units	-22,592.50	-25,234.52	-26,875.07	-26,925.20
847160	Keyboards	-2,829.89	-3,337.24	-4,417.86	-5,731.14
847160	Other:	-29,562.28	-33,459.93	-41,268.84	-38,285.44
847170	Storage units	-21,727.94	-33,030.54	-40,361.25	-41,282.30
847180	Other units of automatic data processing machines	-8,879.43	-7,033.59	-9,532.96	-7,164.38
847190	Other	-2,018.25	-2,913.87	-3,555.37	-4,289.50
TOTAL		-156,768.90	-187,063.78	-225,557.98	-235,777.20
Source: Sunat.					
Made by: Trade Commission of Mexico in Colombia					

Exports

Peruvian Exports by Trade Partner 8471 (2002 – 2005)				
FOB US\$ thousands				
Trade Partner	2002	2003	2004	2005
United States	3,669.88	1,650.00	4,574.63	2,001.40
Chile	324.35	34.73	291.92	504.09
Argentina	13.27	68.69	71.47	179.83
Brazil	100.79	15.52	12.10	175.23
Ireland	0.00	0.00	0.00	174.86
México	53.83	253.95	1,550.44	127.43
Colombia	51.04	12.40	103.47	110.93
Ecuador	2.00	607.65	39.15	107.82
Bolivia	149.31	82.91	155.29	91.17
Other economies	215.80	671.72	395.37	166.56
TOTAL	4,580.27	3,397.56	7,193.84	3,639.32
Source: Sunat.				
Made By: Trade Commission of Mexico in Colombia				

Peruvian Exports by Commodity Code 8471 (2002 – 2005)					
FOB US\$ thousands					
Commodity Code	Article Description	2002	2003	2004	2005
847110	Analog or hybrid automatic data processing machines.	139.47	11.11	11.73	9.71
847130	Portable digital automatic data processing machines, weighing not more than 10 kg, consisting of at least a central processing unit, a keyboard and a display	48.90	44.44	321.25	146.73
847141	Comprising in the same housing at least a central processing unit and an input and output unit.	132.04	58.88	2,680.46	4.38
847149	Other, entered in the form of systems	1,974.43	47.29	21.42	492.87
847150	Digital processing units other than those of subheading 8471.41 or 8471.49, whether or not containing in the same housing one or two of the following types of unit: storage units, input units, output units	367.77	607.01	1,862.29	971.46
847160	Printer units	88.38	50.88	138.77	82.41
847160	Keyboards	8.66	3.01	9.74	15.35
847160	Other:	184.32	195.95	534.09	417.74
847170	Storage units	852.74	1,266.29	1,104.90	1,169.50
847180	Other units of automatic data processing machines	750.84	1,086.88	259.27	235.13
847190	Other	32.73	25.81	249.92	94.03
TOTAL		4,580.27	3,397.56	7,193.84	3,639.32
Source: Sunat.					
Made By: Trade Commission of Mexico in Colombia					

The Peruvian hardware market is entirely dependent on the foreign suppliers. Due to this, Peru's trade balance has always had a negative balance. The most important suppliers in 2005 were China (38.55 percent), the US (16.02 percent) and Mexico (14.35 percent). In 2005, hardware imports represented 1.98 percent of the total Peruvian imports.

Hardware imports have been growing an average of 14.37 percent per year. The most dynamic products since 2002 are keyboards (average growth rate 26.67 percent), storage units (average growth rate 25.06 percent), and portable computers (average growth rate 25.06 percent).

Imports

Peruvian Imports by Trade Partner 8471 (2002 – 2005)				
FOB US\$ thousands				
Trade Partner	2002	2003	2004	2005
China	21,483.69	41,173.88	65,383.05	92,295.37
United States	50,012.80	51,738.57	50,638.80	38,355.00
Mexico	31,877.54	26,005.77	34,903.05	34,352.83
Indonesia	4,990.07	7,983.45	10,915.58	12,725.66
Korea	4,654.00	8,397.37	8,207.42	10,526.85
Brazil	10,039.48	14,315.90	18,220.67	9,438.67
Singapore	10,490.52	11,467.31	11,522.26	7,637.24
Japan	3,941.43	2,662.00	4,028.51	5,807.55
Malaysia	3,330.17	5,264.37	5,767.14	5,118.49
Other economies	20,529.47	21,452.72	23,165.33	23,158.85
TOTAL	161,349.17	190,461.34	232,751.82	239,416.52

Source: Sunat.
Made By: Trade Commission of Mexico in Colombia

Peruvian Imports by Commodity Code 8471 (2002 – 2005)					
FOB US\$ thousands					
Commodity Code	Article Description	2002	2003	2004	2005
847110	Analog or hybrid automatic data processing machines.	626.07	594.98	275.91	226.29
847130	Portable digital automatic data processing machines, weighing not more than 10 kg, consisting of at least a central processing unit, a keyboard and a display	14,434.75	17,300.23	21,614.09	27,886.87
847141	Comprising in the same housing at least a central processing unit and an input and output unit.	10,019.40	12,005.33	9,286.21	8,066.36
847149	Other, entered in the form of systems	5,833.39	6,380.89	6,658.13	5,806.46
847150	Digital processing units other than those of subheading 8471.41 or 8471.49, whether or not containing in the same housing one or two of the following types of unit: storage units, input units, output units	40,907.63	46,541.41	66,609.46	71,738.40
847160	Printer units	22,680.88	25,285.40	27,013.83	27,007.61
847160	Keyboards	2,838.54	3,340.25	4,427.59	5,746.49
847160	Other:	29,746.60	33,655.88	41,802.92	38,703.19
847170	Storage units	22,580.68	34,296.83	41,466.16	42,451.79
847180	Other units of automatic data processing machines	9,630.27	8,120.47	9,792.23	7,399.51
847190	Other	2,050.97	2,939.68	3,805.29	4,383.54
Total		161,349.17	190,461.34	232,751.82	239,416.52

Source: Sunat.
Made By: Trade Commission of Mexico in Colombia

In order to provide an example of the tariff structure, it is showed for code: 8471 Automatic data processing machines and units thereof the details:

Unit: percent

Commodity Code	Article Description	Duty Rates				
		General AD Valorem	Selective Consumer Tax or Luxury Tax (ISC)	General Sales Tax (IGV)	Municipal Promotion Tax	Insurance
847110	Analog or hybrid automatic data processing machines.	4	0	17	2	1.5
847130	Portable digital automatic data processing machines, weighing not more than 10 kg, consisting of at least a central processing unit, a keyboard and a display	4	0	17	2	1.5
847140	Other digital automatic data processing machines:					
847141	Comprising in the same housing at least a central processing unit and an input and output unit.	4	0	17	2	1.5
847149	Other, entered in the form of systems	4	0	17	2	1.5
847150	Digital processing units other than those of subheading 8471.41 or 8471.49, whether or not containing in the same housing one or two of the following types of unit: storage units, input units, output units	4	0	17	2	1.5
847160	Input or output units, whether or not containing storage units in the same housing					
847160	Printer units	4	0	17	2	1.5
847160	Keyboards	12	0	17	2	1.5
847160	Other:	4	0	17	2	1.5
847170	Storage units	4	0	0	0	1.5
847180	Other units of automatic data processing machines	4	0	17	2	1.5
847190	Other	4	0	17	2	1.5

Source: Sunat
Made By: Trade Commission of Mexico in Colombia

III. Trade Negotiations Related to the Industries

Peruvian trade policy was significantly modified with the opening of the economy. The reforms were focused on reducing customs duties and eliminating most non-tariff barriers for imports.

Current tariff structure includes 5 levels: zero percent, 4 percent, 7 percent, 12 percent and 20 percent. Due to the sensitivity of some agricultural products a temporary 5-point additional tariff is applied on the 4 percent, 12 percent and 20 percent rates. In practice, eight tariff levels are really applied, the average of which, including the surcharge, is 10.2 percent.

Multilateral Agreements

World Trade Organization (WTO): Peru has been a member since 21 January 1996. It is also relevant to say that Peru is not a signatory economy of the Information Technology Agreement (ITA) within the WTO.

GATT (now WTO) Peru has been part of the contracting party since 30 March 1987.

Regional Scope Agreements

ALADI / LAIA: Peru has been a member since 12 August 1980

Customs Unions

Andean Community

Economic Complementation

Peru - Chile

Economic Complementation Agreement No. 38 signed on 22 June 1998 and entered into force on 1 July 1998.

Peru, Colombia, Ecuador, and Venezuela (as Members of the Andean Community) - Brazil
Economic Complementation Agreement No. 39 signed on 12 August 1999 and entered into force on 16 August 1999.

Peru, Colombia, Ecuador, and Venezuela (as Members of the Andean Community) - Argentina
Economic Complementation Agreement No. 48 signed on 29 June 2000 and entered into force on 1 August 2000.

Peru - MERCOSUR

Economic Complementation Agreement No. 58 signed on 25 August 2003.

Forthcoming Free Trade Agreements (FTAs)

There are a number of FTAs currently under negotiation with the United States as well as with the European Union (EU). Likewise, a FTA with Thailand, Singapore and Chile are also part of the agenda. The first FTA with Thailand is expected to set the basis for the incursion of Peruvian products into Asian markets.

Bilateral Investment Treaties

Since 1994, Peru has subscribed bilateral investment agreements with 10 countries in America (Argentina, Bolivia, Colombia, Chile, Cuba, Ecuador, El Salvador, Paraguay, Venezuela, and the United States); 14 countries in Europe (Germany, Denmark, Spain, Finland, France, Italy, Norway, the Netherlands, Portugal, the United Kingdom, the Czech Republic, Romania, Sweden, Switzerland); 5 countries in Asia (Malaysia, Korea, China, Thailand, Singapore); and, 1 country in Oceania (Australia).

IV. The Programs and Special Incentives to the Industry

Industrial policies related to Information, Communication and Telecommunication (ICT)

The policies of the Peruvian government regarding IT are focused on using IT to improve the efficiency and productivity in the existing sectors of Peru's industrial production, as opposed to creating a new IT sector.

Government policies towards information and communications technologies in Peru have focused on those developed by the National Office of Electronic Government and Information Technology (ONGEI, Spanish acronym), which indicate the development level in terms of implementation and use of the ICT sector.

This framework has been used to evaluate the Peruvian government's action plan in the role of the ICT sector in the creation of new opportunities, elimination of access barriers to information and in elimination of physical and virtual isolation among individuals, promotion of efficiency in production and distribution, and reduction of transaction costs for individuals, firms and government.

The five areas developed as part of state policies correspond to: leadership, connectivity, information security, human capital and e-commerce. The 2003-2006 National IT Development Policy raises the need for public-private sector coordination to promote a national system of investigation, development and innovation in IT, as a network of agents that will develop information technologies in Peru.

These efforts were initiated by a variety of entities such as the Peruvian International Cooperation Agency (APCI), the Peruvian Chamber of Software and recently the Peruvian Association of Software Producers (APESOFT).

On the other hand, Peru PC is a national program, and a public-private partnership promoted and articulated by the Ministry of Production in a strategic alliance with INTEL, Telefónica and Microsoft, with the aim at increasing the population with access to IT, through promoting PCs at accessible prices for Peruvians. This should diminish the digital division in the economy. Peru PC integrates Peruvian manufacturers, wholesalers, and technology and communication companies together to help provide technology access to thousands of Peruvian citizens.

The Peru PC program and the government's public-private partnerships made it possible to overcome the cost barrier of PCs in Peru. PC quality was also an indispensable requirement for Peru PC. In order to ensure success, the government required that the PC provide a complete solution, including warranty and support. These requirements raised manufacturing standards and as a result, the government consolidated the Peru PC program into the successful national Program "Cómprale al Perú" [Buy from Peru], under which Peruvian manufacturers are authorized to bear a "Made in Peru" quality stamp, a significant achievement for the national hardware industry.

Launched in March 2005, the program helps lower income Peruvians purchase computers at less than 50 percent of the cost. Government authorities expect to generate sales of 140,000 units during the two-year time frame of the PC Peru program. Additionally, Telefonica is offering three months of free internet access to anyone participating in this program.

During the second phase of the Peru PC deployment, the government offered users access to free capacity building tools, antivirus protection and the internet. In order to make the purchase of the first PC even more affordable, Peru PC offered a 36-month payment plan through Banco de Crédito and Banco del Trabajo. This credit option extended the program throughout the domestic territory, with over 300 points of sale opening across the country.

To increase competitiveness of the assembly industry in Peru, the government published Law 28827 on 23 July 2006, which exempted some computer components (micro processors, hard disks and memories) from taxes.

V. The Private Sector in the Industries

In the Peruvian economy one of the most important bodies that represent the private ICT sector, is the ICT committee, which is located at the Chamber of Commerce in Lima.

Another important private body is the Peruvian Association of Software Producers (APESOFT). As mentioned above, the Peruvian software industry is the only ICT sub sector that has been developed locally.

The following are some of the companies involved in the electronic and information technology industries.

Company	NOVATRONIC	
Contact	Carolos Uribe Ramo	
Address	Not available	Software producer
Tel	2249099	
Website	www.novatronic.com	
Products	Banking and financial software	Annual Sales: Not available
Company	LOLIMSA	
Contact	Rolando Liendo Chicata	
Address	Not available	Software producer
Tel	2253430	
Website	www.lolimsa.com.pe	
Products	Health sector software	Annual Sales: Not available
Company	GMD S.A.	
Contact	Jaime Dasso Botto	
Address	Not available	Outsourcing and Computing Consultant
Tel	2136300	
Website	www.gmd.com.pe	
Products	Not available	Annual Sales: Not available
Company	DOMINIOTECH SAC	
Contact	Manuel Perez Eusebio	
Address	Not available	Website designers
Tel	2224094	
Website	www.dominiotech.com.pe	
Products	Website designs	Annual Sales: Not available
Company	DMS. SAC	
Contact	Benito Ponce Lastre	
Address	Not available	Software producer
Tel	4225003	
Website	www.dms.com.pe	
Products	Barcode software	Annual Sales: Not available
Company	COSAPISOFT	
Contact	Emilio Fernández	
Address	Not available	Software producer
Tel	3133200	
Website	www.cosapisoft.com.pe	
Products	Banking and financial software	Annual Sales: Not available
Company	BUSINESS SOFT SRL	
Contact	Marcelo De La Cruz Heredia	
Address	Not available	Software producer
Tel	4477184	
Website	www.siscont.com	
Products	Banking and financial software	Annual Sales: Not available
Company	VISUAL SOFT SAC	
Contact	Richard Velásquez Alva	
Address	Not available	Software producer
Tel	2218922	
Website	www.pcsistel.com	
Products	Telephonic software	Annual Sales: Not available
Company	RECOURSE SAC	
Contact	Domingo Lester Tromo Rivas	Software producer

Address	Not available	
Tel	2214226	
Website	www.e-recourse.net	
Products	Banking and financial software	Annual Sales: Not available
Company	KEEPERTECH S.A	
Contact	Ernesto Aranda Vergara	
Address	Not available	Software producer
Tel	3488877	
Website	www.kprtech.com	
Products	Security software	Annual Sales: Not available
Company	DATA BUSINESS SRL	
Contact	Walter Guerrero Liendo	
Address	Not available	Software producer
Tel	4225156	
Website	www.dbperu.com	
Products	Sales software	Annual Sales: Not available

VI. Vision of the Private Sector

<i>The Electronic and Information Technology Industries Survey in APEC</i>	
Company: Amadeus Perú S.A.	
Name and title of the executive: Harold F. Blair, Manager – New Business Development	
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?	<p>We are in a process of internal adaptation. The focus is to improve personnel attitude and commitment to that of company standards. We are also aligning our IT area so it can fulfill our business objectives to generate new opportunities, revenue growth and profits, while optimizing operating costs and systemizing our processes.</p>
2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?	<p>In order to rationalize our costs, we are aiming to centralize our customers operations in one economy through regional contact centers. We have global and regional agreements with many different suppliers in order to take the advantages that the economies of scale offer.</p>
3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?	<p>Our core businesses are services. Although competitiveness and globalization allow substantial reductions in equipment costs, this should be accompanied by state policy that encourage the commercial exchange, with special emphasis in those economies with small indexes of development in the ICT sector. By doing so, problems like spare parts illegal imports would be avoided.</p>
4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?	<p>We definitely see an opportunity for business growth with the trade opening since services can be adapted and offered in each different economy.</p>

<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>Peru's new government has focused on the objective to be an economy with an investment level similar to that of Mexico and Chile. The current macroeconomic equilibrium and the necessary political stability will enable Peru to attract investments in different sectors in order to generate new jobs opportunities.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>It is important to have a common digital agenda between the government and the private sector. There is a great opportunity for developing economies to participate in the ICT market. It is indispensable to have ambition, business attitude, effort and desires to reach the designed objective.</p>
<p>Other comments:</p>
<p>Date: 23 August 2006</p>

VII. Government and Private Organizations

Organization	PRESIDENCIA DEL CONSEJO DE MINISTROS (PCM)	The Prime Minister's Office coordinates with sectors and institutions within the Executive to ensure the efficient execution of general government policy.
E-Government and Computing Director	Cesar Lopez Rodriguez	
Address	Av. 28 de Julio N° 878, LIMA, MIRAFLORES	
Tel	610-9800	
Fax	444-9168	
Website	www.pcm.gob.pe	
E mail	calopez@pcm.gob.pe	
Organization	ORGANISMO SUPERVISOR DE INVERSIÓN PRIVADA EN TELECOMUNICACIONES. (OSIPTEL)	This entity regulates and supervises access to modern telecommunications services through a framework of free and fair competition.
President	Edwin San Román Zubizarreta	
Address	Calle de la Prosa N° 136, LIMA, SAN BORJA	
Tel	225-1313	
Fax	475-1816	
Website	www.osiptel.gob.pe	
E mail	presidencia@osiptel.gob.pe	
Organization	INSTITUTO NACIONAL DE INVESTIGACIÓN Y CAPACITACIÓN DE TELECOMUNICACIONES (INICTEL)	National Institute for Research and Training in Telecommunications
General Director	Ing. Pedro Valdivia Maldonado	
Address	Av. San Luis N° 1771, LIMA, SAN BORJA	
Tel	346-1808	
Fax	346-1816	

Website	www.inictel.gob.pe	
E mail	informes@inictel.gob.pe	
Organization	COMISIÓN DE PROMOCIÓN DE LA PEQUEÑA Y MICRO EMPRESA (PROMPYME)	PROMPYME is an agency that reports to the Ministry of Labour and Social Promotion and promotes the creation of partnerships and the development of small and medium-sized enterprises (SMEs).
Technology Director	Ramón Espinoza Perata	
Address	José Faustino Sánchez Carrión N° 250, LIMA, SAN ISIDRO	
Tel	221-0018	
Fax	422-4063	
Website	www.prompyme.gob.pe	
E mail	respinoza@prompyme.gob.pe	
Organization	MINISTERIO DE LA PRODUCCIÓN PRODUCE	Ministry of Production
National Industry Director	Johann Spitzer Cáceres	
Address	Calle Uno Oeste N° 60. Urb. Córpac, LIMA, SAN ISIDRO	
Tel	6162222	
Fax	6162203 Anexo 641	
Website	www.produce.gob.pe	
E mail	jspitzer@produce.gob.pe	
Organization	CONSEJO NACIONAL DE CIENCIA, TECNOLOGÍA E INNOVACIÓN TECNOLÓGICA (CONCYTEC)	The National Council of Science & Technology foment, coordinates and orients scientific and technological research in Peru.
Technology Director	Ing. Fernando Ortega San Martín	
Address	Calle Del Comercio N° 197, LIMA, SAN BORJA	
Tel	225-1150 anexo 1001	
Fax	2240920	
Website	www.concytec.gob.pe	
E mail	fortega@concytec.gob.pe	
Organization	COMISIÓN MULTISECTORIAL PARA EL SEGUIMIENTO Y EVALUACIÓN DEL PLAN DE DESARROLLO DE LA SOCIEDAD DE LA INFORMACIÓN (CODESI)	Multi-sector Commission includes representatives from government, the private sector and civil society. Together they define Peru's overall information society strategy.
Address	Av. 28 de Julio N° 878, LIMA, MIRAFLORES	
Tel	274-4356	
Fax	274-4358	
Website	www.codesi.gob.pe	
E mail	onpei@pcm.gob.pe	
Organization	AGENCIA DE PROMOCIÓN DE LA INVERSIÓN PRIVADA (PROINVERSIÓN)	The Investment Promotion Agency is in charge of advisory services to investors and the promotion of public assets and projects.
Executive Director	René Cornejo Díaz	
Address	Paseo de la República 3361 - Piso 9 / Lima 27, LIMA, SAN ISIDRO	
Tel	612-1200	
Fax	221-2941	

Website	www.proinversion.gob.pe	The Peruvian Association of Software Producers
E mail	rcornejo@proinversion.gob.pe	
Organization	ASOCIACIÓN PERUANA DE PRODUCTORES DE SOFTWARE (APESoft)	
General Manager	Félix Castro Valdez	
Address	Av. Aviación 2468 2do. Piso, LIMA, SAN BORJA.	
Tel Fax	224-6382 224-6380	
Website	www.apesoft.org	
E mail	fcastro@apesoft.org	

Bibliography:

- Perfil de la industria peruana de software 2005, Lima, octubre del 2005, Cámara de Comercio de Lima
- Public policies for the development of information societies in Latin America and the Caribbean, June 2005, United Nations.
- The Global Information Technology Report, 2005, World Economic Forum
- The Telecommunications Market in Peru, November, 2005, Market Research Centre (TMR),
- International Trade Canada.
- La Agenda Digital Peruana, 2003, Presidencia del Peru.
- Situación de la Tecnologías de Información y Comunicaciones, Agosto, 2004, Oficina Nacional de Gobierno Electrónico e Informática
- ICT at a Glance, 2005, World Bank
- Why investing in Peru?, 2005, ProInversion
- Doing Business In Peru, 2005, U.S. & Foreign Commercial Service
- Economic Outlook for Peru, June 2006, Central Bank of Peru

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC Philippines

I. Overview of the industry

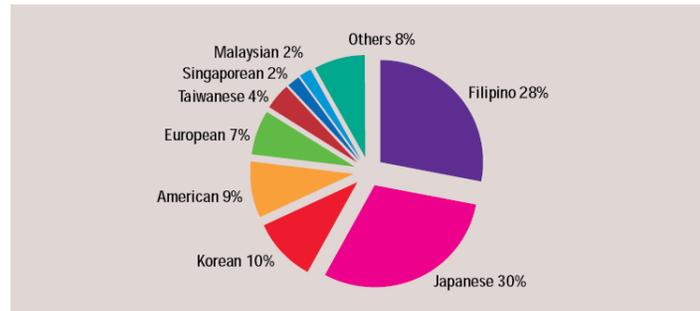
The Philippines electronics industry can be characterized as such:

- Involved in assembly and Manufacturing
- Export Oriented
- Dominated by Multinational Companies (MNCs) in the Economic Zone: 715 firms: 72 percent foreign and 28 percent local
- Growing base of component suppliers

Given this data, it is evident that this industry has many long-term goals. Nevertheless, it is influenced by many factors and structures, which can hamper growth not only for the MNCs but for the local industries as well. Thus a comprehensive strategic plan should be in place to fulfill the industries' short term and long term goals of symbiotic competitiveness within the Philippines and in the international market.

The Philippine Semiconductor and Electronics Industry 2004

Exhibit 3
Companies in the Philippine Electronics Industry, 2004

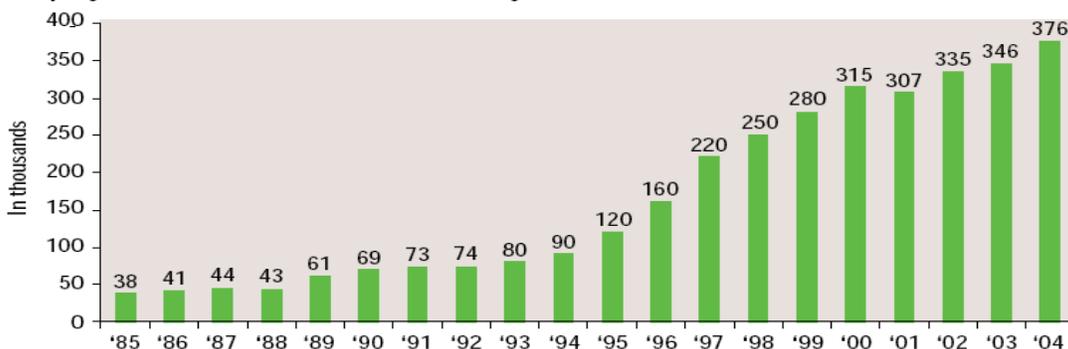


Source: Philippine Board of Investments (BOI), Philippine Economic Zone Authority (PEZA)

As of 2004, there were 860 companies in the semiconductor and electronics industry. Of these, 72 percent were foreign companies while 28 percent were Filipino.

In recent times, the media has given a lot of attention to IT services such as call centers, business process outsourcing, and software development as areas for growth. For its contributions to the economy, however, the electronics sector should not be ignored. The sector not only produces the bulk of Philippine exports but also provides employment to around 370,000 workers, 300,000 of who are women.

Exhibit 4
Employment in the Electronics Industry, 1985-2004



Source: Philippine BOI, PEZA

The Philippine electronics industry covers the following sub-sectors:

Semiconductors (Microelectronics) and Other Components

It is the biggest sub sector of the industry and consists of manufacturers of integrated circuits (ICs), transistors, diodes, resistors, capacitors, coils, transformers, PCBs and other components.

Electronic Data Processing (EDP) Equipment

This sub sector consists of manufacturers of computers, peripheral storage and input/output devices. Products include laptops, desktop PCs, printers, computer monitors, drives: hard disk, optical, ZIP and CD-ROM.

Telecommunication Equipment

Products in this sub sector include telephone sets, modems, copper communication cables, and fiber optic cables.

Communications and Radar

Products in this sub sector include cellular phones, pagers, closed circuit television (CCTV), CB transceivers, radar detectors, marine and land mobile radios

Control and Instrumentation

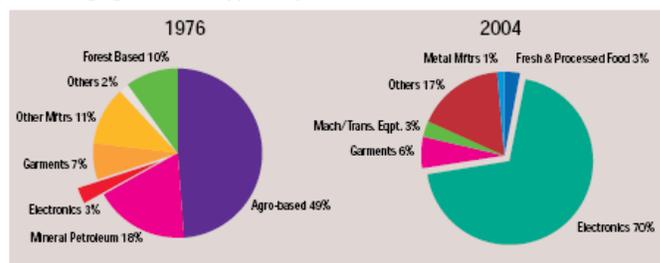
This sub sector refers to test and measuring instruments such as oscilloscopes, signal generators, ammeters, voltmeters, ohmmeters, cross talk meters, etc. Philippine-based companies includes manufacturers of PCB assemblies for instrumentation / testing equipment, digital thermometers, microscope of PCB assemblies for instrumentation / testing equipment, digital thermometers, microscope, automotive test equipment and multi-testers.

Automotive Electronics

This sub sector is comprised mainly of manufacturers of car stereos, anti-skid brake systems (ABS), and car body electronics (CBE)

II. Recent Developments in the Exports and Imports

Exhibit 1
The Changing Face of Philippine Exports



Source: Semiconductor and Electronics Industries in the Philippines, Inc. (SEIPI)

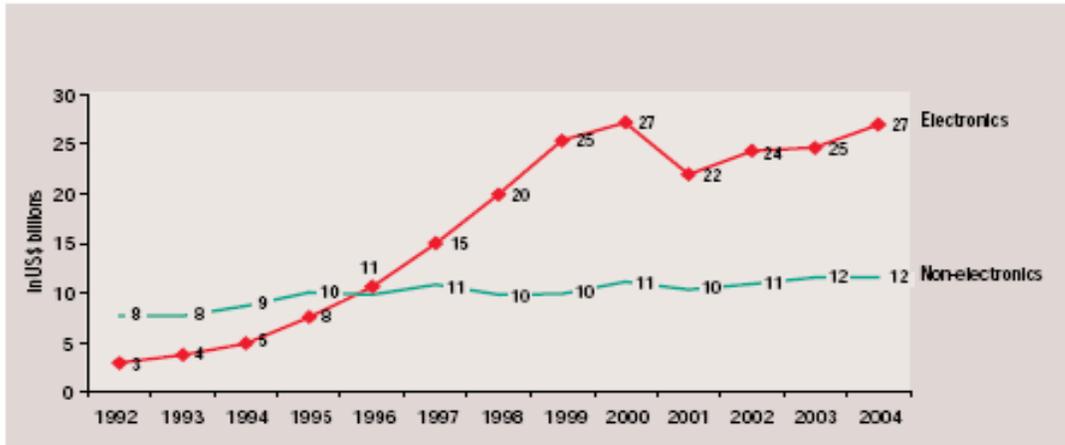
The semiconductor and electronics industry continues to be a major contributor to the Philippine economy.

Although in 1976, electronics accounted for only 3 percent of Philippine exports, by 2004, these represented 70 percent of total exports (see Exhibit 1). The garments industry was a distant second exporter.

In 2004, the Philippines exported US\$27 billion worth of electronics, growing at an annual rate of 19 percent from 1994 (see Exhibit 2). In the past 10 years, electronics exports increased by over 550 percent while non-electronics exports as a whole have remained relatively flat.

Exhibit 2

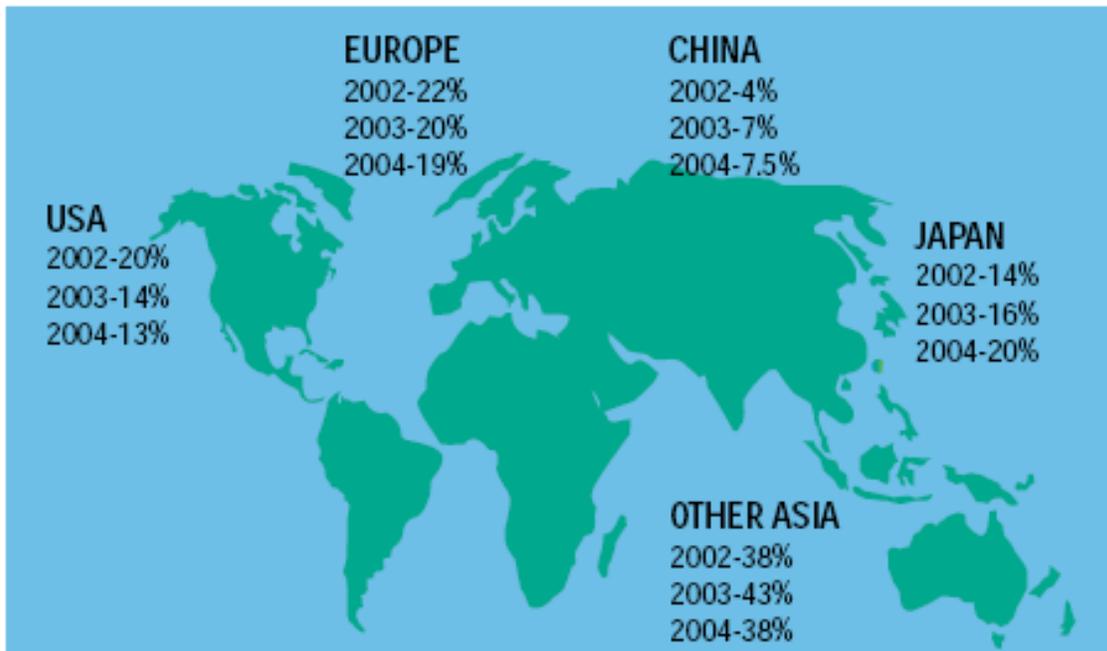
Philippine Exports, Electronics and Non-electronics Exports, 1992-2004



Source: Bureau of Export Trade Promotions, Department of Trade and Industry

Exports of Philippine electronics to Europe and the US have declined but exports to China and Japan have increased gradually over time. The increase in exports to Vietnam, which grew in 2004 by over 300 percent, positioning Vietnam ahead of South Korea and Germany as the ninth top export market, is also worth noting.

Destination of Electronics Exports:



Source: SEIPI

The Philippine semiconductor and electronics industry targeted exports of US\$28.35 billion in 2005, a growth of 5.3 percent. As such, the industry still faces several challenges that need to be addressed in order to enhance its competitiveness. Given the importance and size of the industry

coupled with the increasing competition from economies focusing on electronics, industry leaders should concentrate on retaining, expanding, and diversifying products and services.

As far as the imports are concerned, questions on the reliability and accuracy of the published imports and exports data have been raised by some sectors. An improvement in the trade balance has been observed, with electronics industry as the main driver of exports growth, but with no corresponding increase in its imported materials. This was further supported by a comparative study, which showed that reported material value of electronic exports exceeded imported raw materials in spite of the fact that electronics are highly import-dependent. These observations led to the conclusion that there was underestimation of imports, specifically concerning electronic imports.

These findings were:

- The industry functioned largely under consigned arrangement/outsourcing in which manufacturing is limited to mostly assembly work and therefore, local value added is relatively low. The value added, or the amount that local companies charged to the foreign companies for assembly work, enters the local company books as its revenue. Note that free on board (FOB) values of exports and imports under consigned arrangements are not entered in the books of the local companies.
- Companies do not know the exact value of their imports and have no urgent need to know since, as previously mentioned, these are off balance sheet items. In most cases, the foreign companies whose only use for the companies is to comply with customs declaration dictate import values.
- For big companies, brokers and forwarders who would not be in a position to report the true value of imports do declaration.
- Moreover, since consigned imports are non-dutiable, they are not subjected to thorough customs examination and therefore, any error in valuation would not be corrected

Below is the data that was collected during the study:

Items	Value (US\$)		
	2002	2003	2004
Material Value	10,013,947,741	8,782,180,463	8,697,996,513
Consigned Imports	5,811,761,217	5,530,363,413	5,797,273,681
Revised Consigned Imports	9,621,767,643	8,504,371,528	9,535,900,740
Difference/Adjustment	3,810,006,426	2,974,008,115	3,738,627,059
Total Electronic Imports	16,873,334,297	17,793,818,271	18,503,936,506
Rate of Change (percent)	12.55	5.46	3.99
Total Electronic Revised Imports	20,683,340,723	20,767,826,386	22,242,563,565
Rate of Change (percent)	37.96	0.41	7.1

Source: National Statistic Office

www.census.gov.ph/data/technotes/TR2005_Interim_Methodology_Elect_Import.html

Therefore, at this time it is not possible to obtain more details by sub industries or product.

III. Trade Negotiations Related to the Industries

The Philippines has been an active player looking into new possibilities on how to open international markets the best way possible for their electronic industry. Negotiations of free trade agreements (FTAs) have played a major role.

The Philippines has been a committed participant of the Information Technology Agreement (ITA) since 1998. The participating economies represent an important share of the 97% of the world trade in information technology products. While ITA is solely a tariff cutting mechanism, most of the IT products are rated zero. This applies to the 68 members & states or separate custom territories in the process of acceding to the WTO. As of July 2006, the following APEC economies have accepted the criteria: Australia; Canada; China; Hong Kong, China; Indonesia; Japan; Korea; Malaysia; New Zealand; the Philippines; Singapore; Chinese Taipei; Thailand and the United States.

Association of Southeast Asian Nations (ASEAN)

The Association of Southeast Asian Nations was established in Bangkok on 8 August 1967 by the five original Member economies, namely, Indonesia, Malaysia, the Philippines, Singapore and Thailand. Brunei Darussalam joined on 8 January 1984, Viet Nam on 28 July 1995, Lao PDR and Myanmar on 23 July 1997, and Cambodia on 30 April 1999.

The ASEAN region has a population of about 500 million, a total area of 4.5 million square kilometers, a combined gross domestic product of almost US\$700 billion, and a total trade of about US\$850 billion.

Objectives of ASEAN

The ASEAN Declaration states that the aims and purposes of the association are to: (1) accelerate economic growth, social progress and cultural development in the region and (2) promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries in the region and adherence to the principles of the United Nations Charter.

In addition, the ASEAN Vision 2020, adopted by the ASEAN Leaders on the 30th Anniversary of ASEAN, agreed on a shared vision of ASEAN as a concert of Southeast Asian nations, outward looking, living in peace, stability and prosperity, bonded together in partnership in dynamic development and in a community of caring societies.

In 2003, the ASEAN Leaders resolved that an ASEAN Community should be established comprising of three pillars, namely, the ASEAN Security Community, the ASEAN Economic Community and the ASEAN Socio-Cultural Community.

As far as the ASEAN Economic Community is concerned, it has the end-goal of economic integration measures as outlined in the ASEAN Vision 2020. Its goal is to create a stable, prosperous and highly competitive ASEAN economic region in which there is a free flow of goods, services, investment and a freer flow of capital, equitable economic development and reduced poverty and socio-economic disparities in year 2020.

The ASEAN Economic Community shall establish ASEAN as a single market and production base, turning the diversity that characterizes the region into opportunities for business complementation and making the ASEAN a more dynamic and stronger segment of the global supply chain. Its strategy shall consist of the integration of ASEAN and enhancing the groups' economic competitiveness.

In moving towards the ASEAN Economic Community, ASEAN has agreed on the following:

- Institute new mechanisms and measures to strengthen the implementation of its existing economic initiatives including the ASEAN Free Trade Area (AFTA), ASEAN Framework Agreement on Services (AFAS) and ASEAN Investment Area (AIA);
- Accelerate regional integration in the following priority sectors by 2010: air travel, agro-based products, automotives, e-commerce, electronics, fisheries, healthcare, rubber-based products, textiles and apparels, tourism, and wood-based products.
- Facilitate movement of business persons, skilled labor and talents; and
- Strengthen the institutional mechanisms of ASEAN, including the improvement of the existing ASEAN Dispute Settlement Mechanism to ensure expeditious and legally binding resolution of any economic disputes.

Launched in 1992, the ASEAN Free Trade Area (AFTA) aims to promote the region's competitive advantage as a single production unit. The elimination of tariff and non-tariff barriers among Member Countries is expected to promote greater economic efficiency, productivity, and competitiveness.

As of 1 January 2005, tariffs on almost 99 percent of the products in the Inclusion List of the ASEAN-6 (Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore, and Thailand) have been reduced to no more than 5 percent. More than 60 percent of these products have zero tariffs. The average tariff for ASEAN-6 has been brought down from more than 12 percent when AFTA started to 2 percent today. For the newer Member economies, namely, Cambodia, Lao PDR, Myanmar, and Viet Nam (CLMV), tariffs on about 81 percent of their Inclusion List have been brought down to within the 0-5 percent ranges.

Likewise, this FTA with the ASEAN economies has been a great opportunity for the Philippines' electronic industry. Two of their top ten markets (Singapore and Malaysia) belong to this agreement, and thus, enables the economy to be recognized as a major player of this industry in the region. This agreement has been established as the "Roadmap for Integration of the Electronics Sector". The terms of the agreement are as follows.

Objectives

The objectives of integrating the electronics sector are to:

- Develop, strengthen and enhance the competitiveness of the ASEAN electronics sector and promote ASEAN as an integrated platform to do business with regarding electronics;;
- Strengthen regional integration efforts through liberalization, facilitation and promotion measures to ensure full integration of the electronics sector by 2010.
- Promote private sector participation.

Measures

This roadmap includes specific measures that are of direct relevance to the electronics sector, as well as common measures that cut across all priority integration sectors. The integration approaches are premised on:

- Combining the economic strengths of ASEAN member countries for regional advantage;
- Facilitating and promoting intra-ASEAN investments;
- Improving the condition to attract and retain manufacturing and other economic activities within the region; and
- Promoting the outsourcing program within ASEAN.

Coverage

The scope of products include electronic data processing (EDP) equipment, electrical and electronic home appliances, medical and industrial equipment, telecommunication equipment,

communications and radar equipment, automotive electronics, instrumentation and controls, and mechanical equipment.

More information can be obtained at www.aseansec.org/16656.htm

IV. Programs and Special Incentives to the Industries

The Philippines' "Executive Order No. 226" otherwise known as the "1987 Omnibus Investments Code" (OIC) provides basic guarantees to all investors. These guarantees are the repatriation of investments; remittance of earnings; right to avail of foreign loans; freedom from expropriation and a comprehensive scheme of benefits for certain entities in high-priority areas of economic activity. Some of the main incentives in the OIC are:

Tax Exemptions

1. Income Tax Holiday (ITH)

- a) BOI registered enterprises shall be exempt from the payment of income taxes reckoned from the approved target of commercial operations or actual date of commercial operations, whichever comes first, but in no case earlier than the date of registration. The benefits are as follows:
- Six years for new projects that are granted with pioneer status;
 - Six years for projects located in Less Developed Areas (LDA), regardless of status and regardless of whether new or expansion;
 - Four years for new projects that are granted with non-pioneer status; and
 - Three years for expansion and modernization projects. (As a general rule, ITH shall be limited only to incremental sales in revenue/volume.)
- b) Newly registered pioneer and non-pioneer enterprises and those located in LDA may avail themselves of a bonus year in each of the following cases:
- The indigenous raw materials used in the manufacture of the registered product is at least fifty percent of the total cost of raw materials for the preceding years prior to the extension unless the BOI prescribes a higher percentage; or
 - The ratio of total imported and domestic capital equipment to the number of workers for the project does not exceed US\$10,000 to one worker; or
 - The net foreign exchange savings or earnings amount to at least US\$500,000 annually during the first three years of operation. In no case shall a registered firm avail of ITH for a period exceeding eight years.

2. Exemption from taxes and duties on imported spare parts.

A registered enterprise with a bonded manufacturing warehouse shall be exempt from customs duties and national internal revenue taxes on its importation of required supplies/spare parts for consigned equipment or those imported with incentives.

3. Exemption from wharfage dues and export tax, duty, impost and fees

All enterprises registered under the IPP will be given a ten year period from the date of registration to avail of the exemption from wharfage dues and any export tax, impost and fees on its non-traditional export products.

4. Tax exemption on breeding stocks and genetic materials

Agricultural production and processing projects will be exempt from the payment of all taxes and duties on their importation of breeding stocks and genetic materials within ten years from the date of registration or commercial operation.

Tax Credits

1. Tax credit on the purchase of domestic breeding stocks and genetic materials.

A tax credit equivalent to one hundred percent of the value of national internal revenue taxes and customs duties that would have been waived (had these been imported) on the purchase of local breeding stocks and genetic materials within ten years from the date of registration or commercial operation.

2. Tax credit on raw materials and supplies.

Tax credit equivalent to the national internal revenue taxes and duties paid on raw materials, supplies and semi-manufactured products used in the manufacture of export products and forming part thereof shall be granted to a registered enterprise.

Additional Deductions from Taxable Income

1. Additional deduction for labor expense.

For the first five years from date of registration, a registered enterprise shall be allowed an additional deduction from taxable income equivalent to fifty percent of the wages of additional skilled and unskilled workers in the direct labor force. This incentive shall be granted only if the enterprise meets a prescribed capital to labor ratio and shall not be availed of simultaneously with ITH. This additional deduction shall be doubled if the activity is located in a LDA.

2. Additional deduction for necessary and major infrastructure works

A registered enterprise locating in LDA or in areas deficient in infrastructure, public utilities and other facilities may deduct from taxable income an amount equivalent to the expenses incurred in the development of necessary and major infrastructure works. This privilege, however, is not granted to mining and forestry-related projects, as they would naturally be located in certain areas to be near their source of raw materials.

Non-fiscal Incentives

1. Employment of foreign nationals

A registered enterprise may be allowed to employ foreign nationals in supervisory, technical or advisory positions for five years from date of registration. The position of president, general manager and treasurer of foreign-owned registered enterprises or their equivalent shall, however, not be subject to the foregoing limitations.

2. Simplification of customs procedures for the importation of equipment, spare parts, raw materials and supplies and exports of processed products

3. Importation of consigned equipment for a period of 10 years from date of registration, subject to posting of a re-export bond

4. The privilege to operate a bonded manufacturing/trading warehouse subject to Customs rules and regulations.

The BOI uses the incentive package of E.O. 226 to influence industry and encourage enterprises to locate outside the National Capital Region (NCR). Registered projects locating in LDA may enjoy six years income tax holiday regardless of status (pioneer or non-pioneer) or type of project (new or expansion) as well as additional deductions from taxable income equivalent to expenses incurred in the development of necessary and major infrastructure facilities.

V. The Private Sector in the Industries

The following are some of the companies involved in the electronic and information technology industries.

Company	ACBEL POLYTECH PHILIPPINES, INC. (FORMERLY: EMC COMPUTER)	With more than 6,000 employees worldwide, AcBel Polytech Inc. has major power supply design and manufacturing facilities located in Chinese Taipei, China, and the Philippines as well as sales and service organizations throughout the world. In 1996 AcBel Polytech Inc. joined into a strategic alliance with the Kinpo Group, a major worldwide supplier in the electronics field. AcBel continued its technology specialization of design and manufacturing of power supplies in this alliance.
Managing Director	Not available	
Address	1000 Aurora Blvd., Cubao Quezon City, Philippines	
Tel Fax	(63-2) 913-8811 (63-2) 913-8823	
Website	www.acbel.com	
Products	Mini-Computer Components such as: Printed Circuit Board & Cable Assemblies	
Company	ALLEGRO MICROSYSTEMS PHILS., INC.	Established in 1975, it was a joint venture of Filipino, Spanish, Japanese and American businessmen and engineers. Allegro Microsystems, Inc. is a worldwide leading supplier of analog integrated circuits to the automotive, portable electronics, office automation, and industrial market segments. Allegro, Philippines houses the main assembly & test plant.
Chief Executive Officer	Not available	
Address	Sampaguita ST. Marimar Village Bicutan, Paraneque City, Philippines	
Tel Fax	(63-2) 842-7176 (63-2) 823-3582	
Website	www.allegromicro.com	
Products	Innovative system-level solutions in the design and manufacture of advanced mixed-signal hall-effect sensor and analog power ICs	
Company	CEBU MITSUMI, INC.	Located at the northern part of Cebu, Philippines, the company is situated in a 12-hectare plant facility and manufactures a wide array of computer peripherals and electronic components. Extensive research and development are continuously conducted to cater to the industry's expectations and requirements.
Managing Director	Shigeru Moribe	
Address	Luzon Avenue, Bataan Economic Zone Mariveles, Bataan, Philippines MRI Special Economic Zone Sabang, Danao City Cebu, Philippines 6004	
Tel Fax	(63-4) 935-4011 / 935-4013 (63-4) 731-1534	
Website	www.mitsumi.com.ph	
Products	Magnetic tape head (MTH), floppy disk drive (FDD), connector (CON), flexible printed circuit (FPC), CD-ROM Drive (CD-ROM), etc.	
Company	MARUBENI PHILIPPINES	In the briskly evolving world of information technology, Marubeni Philippines Corporation's Telecom and IT Department stands out as a total solutions provider and value creator, moving fast with the times. The department develops IT-related businesses in
President	Morihiko Maruyama	
Address	8th/9th Floors, L.V. Locsin Building Ayala Avenue Corner, Makati Avenue, Makati City	

Tel Fax	(63-2) 819-0211 (63-2) 818-8602	the Philippines with the help of its extensive global network of strategic partners and affiliates.
Website	www.marubeniphil.com/ittel.htm	
Products	PILTEL E.O. 109 Project for 400,000 lines Supply of PLDT's ANRITSU Integrated Chip (IC) Card Payphone System Satellite broadcast of ABS-CBN Technical & Marketing Support for Smart's Inter-operator SMS between Japan and the Philippines	Annual Sales: Not Available
Company	DPL SEMICON SPECIALIST, INC.	DPL expanded its operation capacity to deal with the increase in order for Radio Frequency Identification Devices (RFID) for American customers. In terms of production space, DPL has added 2,500 square meters on this expansion in the total lot area of 10,000 square meters located in Calamba Premier International Park (CPIP) in Batino, Laguna City . CPIP is a world class Philippine Economic Zone Area (PEZA).
Vice-President Sales and Marketing	Mr. & Mrs. Rene Someros.	
Address	Lot 5 DBP Extension Naga Road, Pulang-Lupa Las Piñas City, Philippines 1740	
Tel Fax	(63 2) 825-3538 / 825-5918 / 826-4309 (63-2) 825-3538	
Website	www.dplsem.com/main.htm	
Products	Semiconductor Devices such as: Receiver Frequency Identity Card & Electronic Modules	
Company	ELECTRONIC ASSEMBLIES, INC.	EAI was established in 1988 to produce high volume printed circuit board assemblies (PCBA) for telecommunication devices. The company later diversified and expanded its services to cover flex printed circuit (FPC) assembly, chip-on-board (COB) assembly, through-hole technology (THT) assembly, surface mount technology (SMT) assembly, and final product assembly
Chief Executive Officer	Sonia N. Meroy	
Address	16 Acsei Ave. Severina Industrial Estate KM.16 West Services Rd. South Expressway, Paranaque, Philippines	
Tel Fax	(63-2) 823-8035/37 (63-2) 823-8326/3447	
Website	www.eai.com.ph/main.html	
Products	Printed Circuit Board Assemblies	
Company	HIMMAX ELECTRONICS MANUFACTURING CORPORATION	Himmax Electronics Manufacturing Corporation can boast of its ability and capability to produce quality products for the local and export market. Himmax's latest product innovation is its addressable fire alarm system, an innovation of its conventional version, making the company the first and only local manufacturer of this type of product, the imported version being its only competition.
Chief Executive Officer	Serafin R. Garcia	
Address	37 Congressional Ave., Project 8 Quezon City, Philippines	
Tel Fax	(63-2) 453-5752 / 53 (63-2) 456-2205	
Website	www.himmax.com	
Products	Fire and burglar alarm systems, emergency lights, PA/BGM equipment	
Company	INNOVATRONIX	Innovatronix has reached Filipino households with its Power-on-Delay (POD10), electronic ballasts, AVRs and ACT20 for window-type air conditioners. In 1997, when the Asian financial crisis came, Innovatronix was resilient by venturing into another business concept. This was due to the advent of digital cameras. Castillo, also a photography hobbyist, established the Tronix Imaging Centers in 1998. It started in Farmers Plaza, Ever Ortigas and Pavilion Mall in Biñan, Laguna offering digital imaging services plus retail of Tronix brand of consumer electronics.
Chief Executive Officer	Ramon I. Castillo	
Address	10 Rose St., Lourdes Subd., Brgy Mambagan Sumulong Hiway, Antipolo City	
Tel Fax	(63 2) 645-1592 / 645-1598 / 645-6124 (63-2) 645-1903	
Website	www.innovatronix.com	
Products	AVR's, electronic ballasts, power-on delay devices, timers, electronic scoreboards,	

	robotics, ODM, ODS	
Company	MANUFACTURING TECHNOLOGY SOLUTIONS, INC.	GenNext Manufacturing Technology Solutions Incorporated will be the main transportation to reach the goals and success through mutual human interaction built on shared power, shared risk and shared accountability, each fostering the development of trust, commitment of willingness to put the welfare of Gennext Manufacturing Technology Solutions Incorporated and partners first.
Chief Executive Officer	Engr. Joselito Isaac P. Morallo	
Address	L33 B33 corner Cabrera Rd., Fatima Drive Dolores, Taytay, Rizal	
Tel	(63-2) 679-2032	
Fax	(63-2) 658-5666	
Website	www.mfgtsi.com	
Products	PCBs and base Materials	Annual Sales: Not Available
Company	MICROLOGIC SYSTEMS INC.	The company provides technology-based solutions for transportation and utility industries. It designs and manufactures products that improve the efficiency; safety and traffic flow in roadways and mass transit systems. It also has products that will optimize the operation of water, electric and utility systems. Micrologic's products are highly cost-effective and can be designed to meet the exact needs of the customer. The user is not limited by a fixed set of product specifications or features, whether it be hardware or software.
Chief Executive Officer	Hilary L. de Leon	
Address	2402 One San Miguel Avenue cor. Shaw Blvd. Ortigas Center, Pasig City	
Tel	(63-2) 687-7652	
Fax	(63-2) 687-1163	
Website	www.micrologic-systems.com	
Products	Computerized toll collection systems, mass transit automated fare collections systems, wireless telemetry and SCADA systems, message sign systems	Annual Sales: Not Available
Company	MICROCONTROL DESIGN TECHNOLOGY, INC	It is an industrial automation company providing innovative productivity solutions to manufacturing requirements since 1995. These include the design and development various automated equipment for the semiconductor, automotive and packaging industries with exports to the US, Mexico, Malaysia, Costa Rica and China.
President and General Manager	Ceferino V. Arquiza, Jr.	
Address	8178 Dr. A. Santos Avenue, Paranaque City	
Tel	(63-2) 820-7853 / 825-8063	
Fax	(63-2) 829-6039	
Website	www.microcontroldesign.com	
Products	High speed SMT Diode, Marking machine SMT, LED dosing machine, Epoxy Curing Electric Ovens, Burn-in Oven Controller with power supply and temperature monitoring, Conveyor systems, Automatic Automotive Engine Sealant, Wafer XY positioning drive, Magazine Elevator and Loader / Off-loader, Vision inspection station	Annual Sales: Not Available
Company	STARCOMM Star Communications Holdings Corp.	STARCOMM is a communications and electronics company that continuously pushes the limits of technology. Their innovative products provide integrated solutions to clients in various industries making them more efficient and globally competitive. They appreciate the technical expertise, business know-how and commitment to excellence of STARCOMM.
Chief Executive Officer	Patrick Co	
Address	37 Samat St., SMH, Brgy Lourdes 1114 Quezon City.	
Tel	(63-2) 416-0936 to 38	
Fax	(63-2) 416-0935	
Website	www.starcomm.com.ph	
Products	GPS vehicle tracking systems	Annual Sales: Not Available

Company	TRIDENT ELECTRONICS CORPORATION	The company specializes in complete systems for Personnel Identification, Time & Attendance Monitoring, and Access Control for big and small businesses. Originally established in 1974 as a single proprietorship under the name Trident Systems Design & Services Company, it has since then grown slowly but steadily into a medium size enterprise with strong in house capability for product development, small scale manufacturing, systems integration, marketing and after sales support.
Chief Executive Officer	Felipe B. Santiago	
Address	Trident Corporate Centre, 6 Scout Magbanua St., Quezon City 1103	
Tel Fax	(63-2) 374-1722 / 374-1733 (63-2) 373-7842	
Website	www.tricorp.com.ph	
Products	Computerized timekeeping systems, access control systems (biometric and proximity), electronic nurse call systems	
Company	VOLEX CABLE ASSEMBLIES (PHILS) INC.	The company intends to achieve World-Class product and service quality standards through total quality management and doing the job right the first time. It pursues continuous improvement globally in the quality of their products and services. It achieves these aims through well-trained, empowered employees, led by a focused participatory management team, involving the whole supply chain. It will improve the Volex Group's global excellence by the exchange of Best Practice between Volex sites and outside the Group.
Chief Executive Officer	Joaquin M. Savellano	
Address	Unit 303 Richville Corporate Center, 1314 Commerce Ave. Ext., Madrigal Business Park, Alabang, Muntinlupa City, Philippines	
Tel Fax	(63-2) 842-9867 / 842-9876 (63-2) 842-7941	
Website	www.volexasia.com	
Products	Power supply cords, electronic and electrical cable assemblies	
Company	TEXAS INSTRUMENTS ASIA LTD.	Texas Instruments Incorporated (TI) is the world leader in digital signal processing and analog technologies, and in the semiconductor engines of the Internet age. TI is a leader in the real-time technologies that help people communicate. It is moving fast to drive the Internet age forward with semiconductor solutions for large markets such as wireless and broadband access and for new emerging markets such as digital cameras and digital audio
Chief Executive Officer	Edgar Galutera	
Address	1707 Jollibee Plaza, Emerald Avenue Ortigas Center, Pasig City, Philippines	
Tel Fax	(63-2) 910-6379 / 910-6445 (63-2) 631-7702	
Website	www.ti.com	
Products	Semiconductors, ASIC, Amplifiers & Linear Automotive, Clocks & Timers DLP® - DMD Discovery™, DSP-Digital Signal Processing, Data Converters, HiRel, Defense & Aerospace Interface, Logic Microcontrollers, Power Management, RF/IF Components Space Products, Standard Linear Storage Products Group, Switches & Multiplexers, Temperature Sensors & Control ICs , DLP® - TV, Projectors, & Cinema, Educational Technology & Calculators, Sensors & Controls, TI-Rfid™	
Company	EAZIX, INC.	Eazix, Inc. is one of the oldest electronics manufacturing service providers in the Philippines providing manufacturing services for electronic products, components and assemblies. The company is engaged in electronics product design, intended to support the growing need for R&D and
Chief Executive Officer	Lucrecio Mendoza	
Address	Unit 301 Plaza B, Bldg. B, 6530 Northgate Avenue Alabang, Muntinlupa City, Philippines	

Tel Fax	(63-2) 772-4941 / 772-4942 / 772-4943 (63-2) 772-4944	product development outsourcing of its existing and future customers. Its main objective is to work with OEM customers and distributors for product realization, by offering embedded modules, ODM solutions and design services to reduce product time-to-market.	
Website	www.eazix.com		
Products	OEM contract design and manufacturing, ODS	Annual Sales: Not Available	
Company	FASTECH SYNERGY, LTD.	Fastech Synergy Ltd is a Philippine-based company that provides one-stop manufacturing services for semiconductor and RF and Microwave companies in Europe, the USA and Asia. Listed in the Singapore Stock Exchange, Fastech offers a wide range of services including assembly, test and packaging of discrete components, RF / microwave components and module assemblies on a consigned materials and complete turnkey basis.	
Chief Executive Officer	Octavio Cruz, Jr		
Address	Ampere cor. West Rd., LISP Bo. Diezmo, Cabuyao, Laguna, Philippines		
Tel Fax	(63-49) 843-4155 .049-5430351 loc 235 (63-49) 543 0352		
Website	www.fastechsynergy.com		
Products	Semiconductor packages such as TOs, SOTs, DPAKs, IPAKs, LCCs, PDIPs, PLCCs, metal cans, and clear packages. It also has the capability to do printed circuit board assembly, module assembly and complete product assembly.		Annual Sales: Not Available
Company	GLOBALTECH AUTOMATION, INC	Globaltech Automation, Inc. started in 1993 primarily to represent foreign manufacturers desiring to enter or expand their market in the Philippines. Our company caters to sell & provide the best available quality & cost effective systems, instruments, tooling, parts direct/auxiliary supplies, turnkey projects and after sales service & support to their clients in the Semicon, SMT, Consumer Electronics & Non-Electronics Industries.	
Chief Executive Officer	Leonides A. Santos		
Address	3F Unit IV, VPP-MDC Building II Veterans Industrial Center Taguig, Metro Manila.		
Tel Fax	(63-2) 821-2177 / 839-0538 (63-2) 821-2178		
Website	www.globaltechphil.com		
Products	ODM, trading/reselling electronic products		Annual Sales: Not Available
Company	LABTECH MANUFACTURING INDUSTRIES, INC		The company is an Original Equipment/Designer Manufacturer (OEM/ODM) and Turnkey Manufacturing Supplier (TMS) of lighting control products, telecommunication power rectifiers and fiber optic cable assemblies. The company has over 22 years of experience in electronics manufacturing. Initially engaged in contract manufacturing of power electronic devices including transistors, silicon diodes and bridge rectifiers for Shindengen Electric Manufacturing Limited of Japan, Labtech shifted to OEM/ODM and turnkey manufacturing activities in 1995
Chief Executive Officer	Julius Labrador		
Address	25 Samar Avenue, Quezon City		
Tel Fax	(63-2) 658-7930 (63-2) 928-4794		
Website	www.oita-fta.jp		
Products	Centralized lighting system, standard and custom electronic ballast fiber optics cable assemblies, rectifiers and power supplies	Annual Sales: Not Available	
Company	M. HANSSON CONSULTING	The company is an engineering-oriented systems integrator based in the Philippines, supplying high-end test, measurement and control solutions to the electronics and semiconductor industries in Southeast Asia. Their focus lies in the development of	
Chief Executive Officer	Michael R. Hansson		
Address	107 M. Alvarez Avenue, Talon Uno Las Pinas City		

Tel	(63-2) 801-3097	Automated Test Equipment and Machine Vision Systems, but they also service the industry with hardware and software solutions for customized Test and Measurement applications
Fax	(63-2) 800-5797	
Website	www.mhconsulting.com.ph	
Products	Customized test & measurement systems	Annual Sales: Not Available

VI. The Vision of the Private Sector

The Electronic and Information Technology Industries Survey in APEC	
Company: ACBeI Polytech Philippines Inc.	
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?	Innovating process and paying attention to production costs.
2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?	No at this time.
3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?	Yes.
4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?	Yes. In general. It allows to reach markets without paying taxes.
5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?	Incentives are more useful.
6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?	I think we will have to find out which manufacturers to compete efficiently with in places like China and India. Thus, service and quality are key.
Other comments:	
Date: 13 December 2006	

VI. Government and Private Organizations

Organization	BUREAU OF EXPORT TRADE PROMOTION INDUSTRIAL MANUFACTURES DIVISION (BETP)	DTI's Bureau of Export Trade Promotion (BETP) delivers timely and relevant information and assistance to current and potential exporters to enhance their capabilities and competitiveness as suppliers of quality goods and services to international markets.
Secretary	Peter B. Favila.	
Members	Not available	
Address	5 th Floor, New Solid Bldg., 357 Sen. Gil J. Puyat Ave., Makati City	
Tel	(63-2) 890-4726 / 890-4638	
Fax	(63-2) 890-4638 / 890-4707	
Website	tradelinephil.dti.gov.ph/betp/dti2.main	
E mail	betpimd@dti.gov.ph	
Organization	COMPUTER MANUFACTURERS, DISTRIBUTORS AND DEALERS ASSOCIATION OF THE PHILIPPINES (COMDDAP)	The vision of promoting and elevating the standards of the information technology (IT) in the Philippines fueled a group of prominent computer companies to form the Computer Manufacturers, Distributors and Dealers Association of the Philippines, or COMDDAP. Its initial member companies represent the world's leading makers and providers of computer products, solutions and peripherals. In 1997, the manufacturing sector was integrated into the COMDDAP membership, making the association a better and more diverse representation of the IT sector.
President	Juan G. Chua	
Members	Not available	
Address	Sedcco 1 Bldg., Rada cor. Legaspi St. Legaspi Village, Makati City, Metro Manila	
Tel	(63-2) 810 3814 / 892 7947	
Fax	(63-2) 815 6531	
Website	www.comddap.org	
E mail	ginavildim@comddap.org	
Organization	ELECTRONICS INDUSTRIES ASSOCIATION OF THE PHILIPPINES, INC. (EIAPI)	The Electronics Industries Association is dedicated to the growth of the Philippine electronics industry by serving as a vehicle where members may be able to contribute to strengthening capabilities of the industry in general management, original product design, quality assurance, marketing and customer support. EIAPI espouses the principles of good corporate citizenship and environmental responsibility.
Chairman / Secretary General	Mr. Victor B. Gruet	
Members	Not available	
Address	UP Technology Business Incubator Bldg. UP-Ayala Technopark, C.P. Garcia cor. Katipunan Avenue, Diliman, Quezon City	
Tel	(63-2) 928 9344 / 9289451	
Fax	(63 2) 928 7755	
Website	www.eiapi.org.ph	
E mail	secretariat@eiapi.org.ph	
Organization	PHILIPPINE ELECTRONICS AND TELECOMMUNICATIONS FEDERATION (PETEF)	PETEF engages the government in matters directly affecting the industry and those of national interest. The Federation presents its views, opinions and firm position, and helps formulate and define policies and guidelines to accelerate the development of the
Chairman / Secretary General	Renato B. Garcia	

Members	116	
Address	Rm. 711, Phil. Axalife Ctr Bldg., Tindalo Street cor. Sen. Gil J. Puyat Ave. Makati City, Metro Manila	
Tel	(63-2) 813 6398	
Fax	(63-2) 813 6397	
Website	www.petef.org.ph	
E mail	contactus@petef.org.ph	<p>The Semiconductor and Electronics Industries in the Philippines, Inc. (SEIPI) is the leading and largest organization of foreign and local semiconductor and electronics companies in the Philippines.</p> <p>Electronics is acknowledged as the main driver of the Philippine economy as it accounts for 70 percent of the economy's total exports. With their member companies responsible for over 80 percent of total electronics exports, this unequivocally makes SEIPI a major economic force in the Philippines.</p>
Organization	SEMICONDUCTOR AND ELECTRONICS INDUSTRIES IN THE PHILIPPINES, INC. (SEIPI)	
President	Arthur Tan	
Members	231	
Address	Unit 902, RCBC Plaza Ayala Avenue cor. Sen. Gil Puyat Avenue, Makati City	
Tel	(632) 844-9028 / 844-9030	
Fax	(632) 844-9036 / 844-9037	
Website	www.seipi.org.ph	
E mail	philippine.electronics@seipi.org.ph	

Bibliography:

- Department of Trade and Industry: www.dti.org.ph
- Bureau of Export Promotion: tradelinephil.dti.gov.ph/betp/dti2.main
- Semiconductor and Electronic Industries in the Philippines: www.seipi.org.ph
- "The Semiconductor and Electronic Industry in the Philippines", The SGV Review June 2005, Francis L. Huang & Pamela V. De Veyra
- National Statistics Office: www.census.gov.ph

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC The Russian Federation

I. Overview of the Industry

Russia is the largest country in the world. The urban population accounts for 73 percent of the 143 million inhabitants with adult literacy rate of 99 percent. In 2005, Russia reached a 7 percent GDP growth and attracted a significant amount of foreign direct investment. As of June 2006, FDI totaled US\$26 billion while it only reached US\$ 9.3 billion during the same period last year.

The Electricity Industry

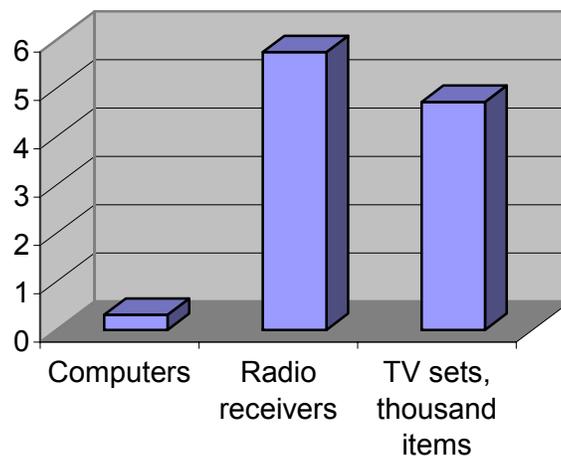
Russia's electricity industry is the largest in Europe and the fourth largest in the world. The installed capacity is about 215,000 MW. The important primary energy resources of coal, gas, oil, nuclear fuel and hydropower support this sector. The electricity network has more than 44,000 kilometers of high-voltage transmission lines. The network is well integrated with neighboring countries that were once part of the Soviet Union and interconnected with the former socialist countries of Central and Eastern Europe. It is the largest heat producer in the world and the power infrastructure is operated by a competent technical workforce and supported by local construction and equipment manufacturing industries.

The Electronics Industry

In the Soviet Union large investments were made in the electronics industry during 1970-1980. All sectors were developed, including components production, module and subassembly manufacturing and equipment manufacturing, during the Soviet period when the economy was under the autonomous vision. Up to 1990, the industry's turnover accounted for just 2 percent of GDP and the sector had more than 1 million employees. Nearly 400 enterprises were operating in the industry, with dozens of training specialists from more qualified schools and R&D institutions participating in designing new products in this field. Due to both the industrial policy in Soviet times and the transition period of the economy in the 1990s, Russia has been left behind in the development of electronic technologies. Thus, its share in the world market is still very small.

Production of Consumer Electronic Devices in 1990 (millions of units)

Production Spread in 1990



Source: Goscomstat

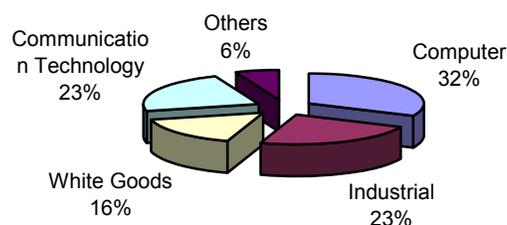
Two decades ago, electronics manufacturing in the Soviet Union was mostly concentrated in science and production associations, which united research and development (R&D) institutions with a number of specialized plants. The most well known were Rubin, which produced TV sets; Minsk enterprise, which made computer techniques; and Svetlana, Krasnaya and Zariya, which manufactured telecommunication equipment. The strengths and weaknesses of the contemporary Russian electronics industry were predetermined by the industry's development in 1970-1980. A large part of the state financed R&D spending that was focused on the military electronics sector. The electronics industry suffered greatly from the collapse of the Soviet Union and Perestroika. The transition resulted in a break down of the traditional production connections, a decrease of the state military orders and a shortfall of state R&D spending. Some science and production associations fell apart, as some departments were located in the other Soviet Republics. As a result, the development of the sector was frozen and it gradually lost its position. With the opening of the Russian market to the foreign companies, local manufacturers of consumer electronics and components lost their presence in the market.

Most Soviet electronics manufacturers survived, regardless of the new economic environment and high competition. In the year 2000, only 257 companies were operating in the industry, while the employment in the sector declined substantially. In 2000, the sector employed only 170,000 specialists. Suffering from the problem of an ageing workforce: the average age of electronics' employee was close to 55 years. This could have been due to the higher salaries in other industries attracting the young engineers and specialists.

In 2000, the electronics industry contributed to 0.12 percent of the economy's GDP. The total output accounted for US\$300 million, while the whole market of civil electronics goods in Russia was US\$20 billion. Russian manufacturers lost almost all position in the consumer electronics market - the share of imports was nearly 100 percent in all the main segments, including computers, monitors, TV sets, audio devices, and telecommunication equipment.

The Russian government understood the difficult situation in the industry in the early 1990s and in 1994, it launched a federal program called the "Development of Electronics Production in Russia, 1994-2000". This program helped to stop the rapid decrease of production and contributed to maintaining the research works. After six years, in 1998, the industry finally experienced positive growth in production.

Local Market Structure for Electronic Goods in 2003.



Source: Report for the Session at the State Congress, "Current situation and perspective of the Semiconductor Industry in Russia", www.cnews.ruell, 31.05.04

At the moment, the Russian electronics industry is competitive mostly in avionics, equipment for nuclear power stations and military equipment. Most of these products have been around for a long time. The science center in Zelenograd is where some successful manufacturers are located, such as Micron, the leading components producer; Leninetz, a company manufacturing avionics;

and Antey, a producer of anti-aircraft systems. However, the market for the servicing of equipment supplied in Soviet times is large and still helps some companies to survive.

The main competitive advantage of the Russian electronics industry is educational infrastructure and science. Russian scientists have always been famous for fundamental research. Many Russian universities focus on training specialists for the electronics industry, providing the sector with a qualified labor force.

The Russian electronics industry is considered a high-risk sector for investments. However, the current stabilization and growth of the industry encourages investors to take this risk. For example, the Micron plant in Zelenograd, located forty kilometers from the center of the Russian capital, received substantial investments from the company AFK Systema, and at the same time, in St. Petersburg, NEC, Elqotec and Lucent Technologies launched their production of telecommunication equipment. These successful stories prove that the electronics industry could be an attractive area for investors.

In addition, more interest is being paid to Russia as their consumer market grows. It is said that by 2006, Russia will be the largest mobile communication market in Europe. The Information Telegraph Agency of Russia (ITAR-TASS), the major news agency of the Russian Federation, published a report that pointed out that the Russian penetration rate of the cellular telephony has exceeded 54 percent. It seems that in the following years, this rate will increase even more, thus greatly increasing the potential of this market.

Russian handset manufacturers are predicting that by 2006 Russia will be the largest mobile communication market in Europe with approximately 100 million mobile phone users. The increasing number of new additions in the regions will offset quick saturation in Moscow and St-Petersburg where penetration rates will reach 100 percent. The IKS-Consulting agency estimated that the revenue grew by more than 100 percent in 2005, approaching US\$600 million.

Other consumer electronics, like mobile games, promises to gain a share of the market. Last year, the mobile games market sold 5.3 million units, which amounts to a revenue of US\$12.3 million.

The Semiconductor Industry

With Russia's business and investment environment are improving and President Vladimir Putin has officially endorsed Russia's high-tech industry as a means of expanding the economy beyond energy. The semiconductor industry is trying to grow. At specialized exhibitions like the Semi Expo, CIS spoke about the long-anticipated resurgence of the post-Soviet chip industry. This year's conference sponsored by Semiconductor Equipment and Materials International (SEMI) is also expanding its scope to cover several growing Russian markets, including semiconductors, photovoltaic and design, for manufacturing.

"The Russian IT market has increased three fold in the year 2005 as compared to 2004, and should reach at least US\$40 billion by 2010," said Heinz Kundert, president of Semi Europe/CIS. "An estimated US\$650 million in investments are planned for the IT sector over the next five years. To receive all these new investments, Russia has established four high-tech zones," he added.

Moscow has also endorsed state programs for expanding electronic services for the government and consumers. The programs covering medical education, housing, agriculture and industrial sectors are expected to boost volume domestic production of integrated circuits (ICs). That could also provide western chip equipment makers with a new market to tap.

Earlier this year Mikron, the largest semiconductor device manufacturer in Russia, launched production of ICs for electronic passports. Mikron is also expanding its plant to accommodate

0.18-micron process technology to meet demands generated by electronic passports, telecommunications and consumer electronics manufacturers.

The Communications Industry

The telecommunications industry has traditionally been one of Russia's most developed industries. During the 1990s, it could not escape the effects of recession and in just 10 years, the production of telecommunication equipment was reduced by 75 percent. During the last few years, this industry has experienced a huge growth and taken large steps towards modernization. It has now become one of the most profitable industrial areas with the best future.

The fast growing Russian telecommunications market is expecting to gain from the switch from analog to digital broadcasts by 2015, and the Soviet-built Global Navigation System that will be restored by 2008. All are expected to boost the consumption of chip production.

In order to maintain a 1 percent national growth rate, Russia needs to increase its communication infrastructure by 3 percent annually. The World Bank has opened a US\$100 million credit line to finance a development program for technoparks in areas of high technology in Russia.

The Russian telecommunications industry specializes in components and equipment but not in technology intensive products, like cables and aerials. Russian products are usually either sold in the domestic market or exported to less developed countries. A small group of companies has been able to produce competitively at an international level of quality.

The Software and Service Industry

The top ten Russian companies are maturing, widening the gap between big and medium companies. Thus, merges and acquisitions have been encouraged. But at the same time, the market remains fragmented with a number of providers having only 10 to 40 employees. These providers are all looking for larger players to team up with. The most likely scenario of development for the next couple of years, however, is a decreasing base of active players in the Russian software outsourcing industry.

Foreign direct investments (FDIs) are flowing into Russia-based IT services companies. Examples of these FDIs are the Nordic investment in St.Petersburg-based Reksoft in November last year, the funds going in to Epam Systems in February, and the acquisition of Nizhny Novgorod's Telma by a Swedish system integration house. All these investments are evidence of the rising attractiveness of the software and service industry.

Another remarkable aspect of the Russian industry is the establishment of the European system, either through building their own captive centers or by development centers at third-party providers' sites.

Although government support is not as extensive as the Russian community hoped, there are still some incentives for IT. Examples include the development of a number of techno parks in many regions, the federal law "On Special Economic Zones in the Russian Federation" and the value added tax (VAT) exemption for IT services companies.

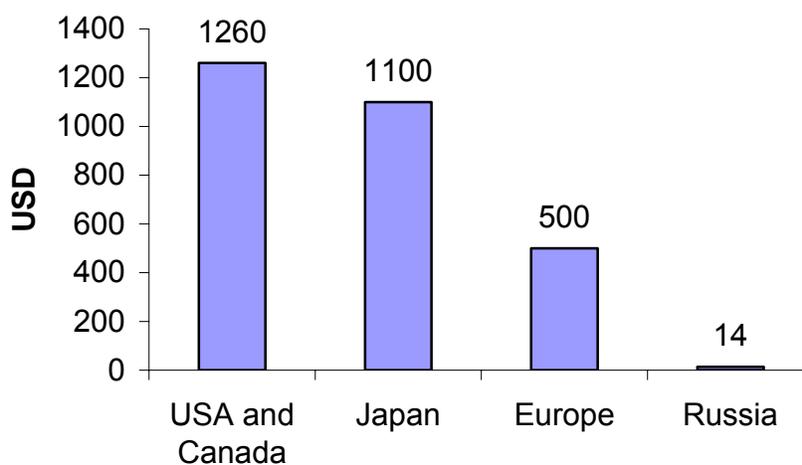
With an outsourcing market worth US\$1 billion, Russia is expected to grow at the rate of 30 percent for the next three years and thus, surpassing the whole of Eastern European outsourcing produce.

In addition, the capabilities and skills of the Russian people is very promising. According to a report by the IBM, 1.3 million students graduate with degrees in information technology related skills every year.

In 2004, there were 111 Internet users per 1,000 people in Russia. The following year, there were more than 23.7 million Internet users and 1,306,427 hosts. Some companies like Deutsche Bank, Fujitsu Siemens Computers, Nokia, Siemens, T-Mobile and T-Systems have chosen Russia over closer Eastern European regions as an outsourcing destination.

The size of the software services market is growing, from US\$48 billion in 2004 to US\$60 billion in 2008. According to Peter Ryan, an analyst in Montreal, the share of that market belonging to Russia and Eastern European companies will increase from 5 to 8 percent over that period of time.

Per Capita Production of Electronic Technology



Source: www.cnews.ruell

II. Recent Developments in the Exports and Imports

The global foreign trade of Russia in 2005 improved significantly. It increased by 36.6 percent from 2004, and exceeded US\$350 billion by the end of 2005. Russia has been able to retain a considerable trade surplus.

Foreign Trade of Russia with Foreign Countries that are not Members of CIS*
(US\$ billion)

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Russian Export (F.O.B)	63.7	69.2	68.4	57.6	62.2	89.3	85.4	91.0	113.2	152.2	208.6
Russian Import (C.I.F)	33.2	31.5	38.8	32.3	21.9	22.3	30.7	36.0	44.2	57.8	79.6
Total trade	96.9	100.7	107.2	89.9	84.1	111.6	116.1	127.0	157.4	210.0	288.2
Balance	+30.5	+37.7	+29.6	+25.3	+40.3	+67.0	+54.7	+55.0	+69.0	+94.4	+129

Source: Official Russian State Customs Committee Statistics, 1995-2005

*Note: The Commonwealth of Independent States (CIS) is the international organization, consisting of 11 former Soviet Republics: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Ukraine, and Uzbekistan.

Main Imports of Electronic Machinery (Chapter 84)
(US\$ million)

Product	2005 Import Value	2004 Import Value	2003 Import Value	2005 share (percent)
Automatic data processing machines; optical reader, etc	1,351.976	968.627	607.811	9
Machinery, plant/lab, involving a change of temp ex. heating, cooking, etc	969.441	647.283	516.094	6
Machines & mechanical appliances having individual functions and other	761.112	606.733	334.36	5
Air, vacuum pumps; hoods incorporate a fan	713.461	392.38	375.363	5
Household or laundry-type washing machines	638.755	531.723	364.415	4
Centrifuges, incl centrifugal dryers; filtering/purifying machinery	611.750	281.082	242.155	4
Lifting/handling/loading/machinery (excl. lift/escalator/conveyors) and other	578.309	349.303	317.848	4
Self-propel bulldozer, angle dozer, grader, excavator, etc	545.383	305.925	247.449	3
Pumps for liquids; liquid elevators	519.707	471.467	347.849	3
Refrigerator, freezer, etc	495.972	350.608	224.165	3
Total of the above products	7,185.87	4,905.13	3,577.51	-

Source: Official Russian State Customs Committee Statistics

In 2005, total imports of electronic machinery accounted to US\$15.7 billion, in which the two most dominant products were automatic machines representing 9 percent and the plant/lab machines representing 6 percent.

Imports of Electronic Products (chapter 85)
(US\$ million)

Product	2005 Import Value	2004 Import Value	2003 Import Value	2005 share (percent)
Television camera, transmissn app for radio-telephony	2,547.041	1,007.779	610.57	26
Electric app for line telephony, incl curr line system	1,162.797	1,098.945	697.025	12
Electric instantaneous water heater, space htg; hair dryer	592.299	464.052	327.59	6
Television receivers (incl video monitors & video projectors)	431.194	204.105	103.715	4
Board & panels, equipped with two/more switches, fuses	377.042	310.166	232.038	4
Insulated wire/cable	363.521	270.831	158.658	4
Part suitable for use solely/princ with televisions, recpt app	357.235	277	166.56	4
Thermionic, cold cathode valves & tube (e.g. TV camera tubes)	352.676	298.756	216.567	4

Electric transformer,static converter (for example rectifiers)	327.382	213.783	152.619	3
Electric generating sets and rotary converters	313.732	151.718	103.528	3
Total of the above products	6,824.92	4,297.14	2768.87	-

Source: Official Russian State Customs Committee Statistics

In 2005, total imports of electronics products accounted to US\$9.9 billion, in which the two most dominant products were television cameras representing 26 percent and electric apparatus for line telephony representing 12 percent.

Main Exports of Electronic Machinery (chapter 84)
(US\$ million)

Product	2005	2004	2003	2005 share (percent)
Nuclear reactor; fuel element for reactor	781.774	853.694	798.414	19
Turbo-jets, turbo-propellers and other gas turbines	533.120	458.701	593.341	13
Machinery part (hd 84.25 to 84.30)	184.620	144.699	120.627	4
Tap, cock, valve for pipe, tank for the like, incl pressure reducing valve	179.968	181.594	135.39	4
Pumps for liquids; liquid elevators	171.237	145.638	122.733	4
Machinery, plant/lab ,involving a change of temp ex heating, cooking, etc	153.389	143.819	110.408	4
Harvesting/threshing machinery, hay mower, etc	144.038	95.652	63.668	3
Self-propelld bulldozer, angledozer, grader, excavator,etc	143.160	86.122	71.765	3
Engines and motors, nes	128.021	91.531	81.354	3
Part for use solely/principally with the motor engines	121.288	96.012	74.424	3
Total of the above products	2,540.62	2,297.46	2,172.124	-

Source: Official Russian State Customs Committee Statistics

In 2005, total exports of electronic machinery accounted to US\$4.2 billion, in which the two most dominant products were nuclear reactors representing 19 percent and turbo-jets representing 13 percent.

Exports of Electronic Products (chapter 85)
(US\$ million)

Product	2005	2004	2003	2005 share (percent)
---------	------	------	------	-------------------------

Radar apparatus, radio navigational app & radio remote control apparatus	266.590	217.657	153.247	6
Insulated wire/cable	172.348	154.445	114.305	4
Board & panels, equipped with two/more switches, fuses	156.185	76.069	84.846	4
Electric motors and generators (excluding generating sets)	153.774	105.908	77.486	4
Part suitable for use solely/princ with televisions, recpt app	118.561	93.656	69.608	3
Electrical mach & app having individual function, nes	99.468	66.013	61.267	2
Electrical app for switchg (ex fuse, switche, etc) not exceedg 1000 volt	94.258	76.946	62.288	2
Electric transformer,static converter (for example rectifiers)	82.009	58.479	40.618	2
Carbon electrodes / brushes / lamp carbons	64.365	60.246	51.683	2
Electronic integrated circuits and microassemblies	52.061	55.54	47.236	1
Total of the above products	1,259.62	964.96	762.584	-

Source: Official Russian State Customs Committee Statistics

III. Trade Negotiations Related to the Industries

The Russian Federation is an active member of the United Nations (UN), and has signed many different bilateral, multilateral and international agreements aiming to improve its trade and investment.

In addition, current negotiations with the World Trade Organization (WTO) are still in process and are expected to conclude in 2007. This will certainly bring a challenge to Russia's economy, but at the same time, it will also encourage investments.

Russia participates in many international organizations. Some of these organizations are:

- Asia Pacific Economic Cooperation (APEC)
- Black Sea Economic Cooperation (BSEC)
- The Council of Europe (CE)
- The Commonwealth of Independent States (CIS)
- European Bank for Reconstruction and Development (EBRD)
- International Bank for Reconstruction and Development (IBRD),
- International Finance Corporation (IFC)
- International Development Association (IDA)
- Multilateral Investment Guarantee Agency (MIGA)
- The World Bank Group,
- International Chamber of Commerce World Council (ICC),
- International Confederation of Free Trade Unions (ICFTU) within the World Federation of Trade Unions (WFTU)
- International Monetary Fund (IMF)
- The Paris Club
- The Shanghai Cooperation Organization (SCO)
- United Nations (UN)
- World Trade Organization (WTO), as an observer
- The Nuclear Exporters Committee (Zangger Committee)

IV. Programs and Special Incentives to the Industry

The Russian government and president are promoting different activities aimed at driving the development of the Russian high-tech and electronic industries.

As a result, several incentives and programs are being granted and implemented. These are as follows:

- The state program for the development of IT-parks
- The enactment of laws on tax incentives for the exporting software developers
- The development of the federal fund for both technology and innovations.
- The law on tax incentives to the Russian IT industry (proposal) in which taxation for the exporting IT-companies will be decreased.

Currently, there is a federal fund reserving US\$54 million of federal budget for technology and innovations and US\$52 million for the development of IT-parks in 2007.

Furthermore, two federal agencies are devoted to these industries. The first one is the Agency for Information Systems, which is intended to provide high-level management and coordination during the implementation of complex ICT projects of national level. The second agency is the ICT Export Promotion Agency, which provides informational, analytical and marketing support to Russian IT companies for their products and services promotion in the global markets.

V. The Private Sector in the Industries

The following are some of the companies involved in the electronic and information technology industries.

Company	Luxoft	Luxoft is Russia's leading software developer and IT services exporter. The company was founded in 2000 and is a member of the IBS Group. They have operations in the US, UK and Russia. It runs a research and offshore development centers in Moscow, St. Petersburg, Dubna and Omsk. Luxoft has clients in the IT, manufacturing, energy, aviation, finance and government sectors. They also serve some Fortune 500 corporations such as Boeing, Deutsche Bank, IBM, Citibank and Dell.
Chief Executive Officer	Dmitriy Loschinin	
Address	1, Kurchatov Square, Moscow, RUSSIA, 123182	
Tel Fax	(7-095) 967 8030 (7-095) 967 8032	
Website	www.luxoft.com	
Products	Software development services and skills	
Company	ANGSTREM Joint Stock Company	Angstrem is considered to be the biggest manufacturer of games in Russia. They primarily produced calculators (based on casio models) during the 70's and 80's but then decided to cash in on the Game & Watch Games frenzy.
Chief Executive Officer	Andrey Alexenko	
Address	Yuznaya promzona, Zelenograd, Moscow, Russia, 124460	
Tel Fax	(7-095) 531 4906 / 532 9621 (7-095) 531 4906 / 531 3270	
Website	www.angstrem.ru	
Products	Games	Annual Sales: Not available
Company	Mikron JSC	Mikron JSC is the leading Russian and CIS chipmaker. It was founded in 1964. The company performs full cycles of IC
Chief Executive Officer	Nikolay Shcherbakov	

Address	12/1 Pervyi Zapadny Proezd, Zelenograd, Moscow, Russia 124460	manufacturing including design, silicon facilities, packaging and distribution. It is the largest exporter of ICs. It is also known as one of the largest hi-tech companies in Eastern Europe. Mikron is part of Sitronics Semiconductors Division.
Tel Fax	(7-495) 229 7001 (7-495) 229 7001	
Website	www.mikron.ru	
Products	Semiconductors, voltage regulators/stabilizers, switching power supply and switches	Annual Sales: US\$100 Million (estimated)
Company	EPAM Systems	EPAM is recognized as a main supplier in Central and Eastern Europe and listed among the global "Top 10 specialty application development leaders" in Global Services' top 100 lists of 2005 and 2006 by CMP-CyberMedia and neoIT. EPAM specializes in delivering highly complex, new generation projects for European and North American clients. It has development centers in Russia, Hungary, Belarus, and Ukraine and client support and delivery centers in the US, the UK, and Germany. EPAM serves clients like Reuters and the London Stock Exchange.
Chief Executive Officer	Arkadiy Dobkin	
Address	Russian Headquarters EPAM Systems 19/1 Kuznetskiy Most 107031 Moscow, Russia	
Tel Fax	(7-495) 363 2883 (7-495) 625 5341	
Website	www.epam.com	
Products	Software development services and skills	Annual Sales: more than US\$40 million
Company	MERA Networks	MERA Networks is a multinational software development outsourcing company providing offshore programming services to world leading telecom and IT solutions and equipment vendors. MERA delivers services from design and development to testing and maintenance to re-engineering and customization. It has headquarters in Toronto, Canada and in Nizhny Novgorod, Russia for R&D facilities
Chief Executive Officer	Dmitry Ponomarev	
Address	Delovaya st., 13 Nizhny Novgorod, 603163 Russia	
Tel Fax	(7-831) 278 8801 (7-831) 278 8836	
Website	www.meranetworks.ru	
Products	Software telecommunication development services & skills	Annual Sales: Not available
Company	EPIEL	EPIEL was established in 1998 to become a major supplier of silicon epitaxial wafers for the power device industry and the bipolar IC industry in Russia. In a short time, EPIEL has able to take a leading position in the Russian market.
Chief Executive Officer	Aleksey Leontiev	
Address	103460 Nikron, 1st Zapadny Proezd, 12 Bld 1	
Tel Fax	(7-095) 536 8387 (7-095) 536 8487	
Website	www.epiel.ru	
Products	Silicon epitaxial	Annual Sales: Not available
Company	ALTONIKA Ltd.	Altonika was established in 1987 and today, they have become a high-technology company focusing on new product development. Its strategy is to apply latest technology to create innovative and better products. Atonica has an experienced team of developers with their own research center and factory with top of the line equipment. It has got ISO 9001:2000 certified and has more than 80 dealers in Russia and the CIS, more than 40 new products each year and owns more than 500 patents.
Chief Executive Officer		
Address	2A, Sivashskaya Str., Moscow, 117638, Russia	
Tel Fax	(7-095) 795 3050 (7-095) 795 3051	
Website	www.altonika.com	
Products	Cardio graphic and Spiro metric equipment	Annual Sales: Not available
Company	Elvis Plus	Elvis Plus was founded in 1991 and has

Chief Executive Officer		become one of the leading Russian companies in its field. They develop and maintain complex information security systems and multi-service secure networks, while providing a wide range of consulting services, high-end technical solutions and software. Their mission is to help clients to create an effective and secure information environment for business on the base of competence, professionalism, scientific research and development compliance with local and international standards.
Address	Centralny prospect 11, 124460, Moscow (Zelenograd), Russia	
Tel Fax	(7-095) 531 1622 (7-095) 531 2403	
Website	www.elvis.ru	
Products	System integrator information, network security and business solutions.	Annual Sales: Not available
Company	Fastwel Co. Ltd	Fastwel is the leading Russian company developing and manufacturing hardware and software for industrial automation, process automation and embedded systems. It offers a full range of OEM and ODM products and services.
Chief Executive Officer		
Address	108 Profsoyuznaya Str. Moscow, 117437 Russia	
Tel Fax	(7-495) 232 1681 (7-495) 232 1654	
Website	www.fastwel.com	
Products	Hardware and software for industrial automation and embedded systems	Annual Sales: Not available
Company	Amex Ltd.	Amex Ltd is a Russian company involved in the production of silicon wafers.
Chief Executive Officer		
Address	Moscow, Zelenograd Russia 124460	
Tel Fax	(7-095) 531 6501 (7-095) 531 0916	
Website		
Products	Silicon wafers	Annual Sales: Not available
Company	Elma Corporation	Elma was founded in 1963. It was the biggest producer of materials for electronics for the former USSR. Now, they are focused on the semiconductor, solar cell and ingot industries.
Chief Executive Officer	Mr. Sergey Petrov	
Address	124460 Zelenograd, Moscow, Russia	
Tel Fax	(7-095) 531 1556 (7-095) 530 9205	
Website	www.elma.msk.ru	
Products	Silicon wafers, solar cells	Annual Sales: US\$5 Million - US\$10 Million
Company	Leninets Holding Co. Joint-Stock Co.	The Leninets Holding Company comprises of more than 70 enterprises, centered around the military industrial complex. They produce a variety of airborne radars and other radio electronic equipment as well as other consumer goods. The group consists of 16 factories, 10 research organizations, and 50 small enterprises. The share of the military operations is 74 percent.
Chief Executive Officer	Anatoly A. Turchak	
Address	Moskovsky pr-t, 212 Saint Petersburg, Leningrad (St Petersburg) 196066 Russian Federation	
Tel Fax	(7-812) 373 7178 (7-812) 371 8138	
Website	Not available	
Products	Aircraft radars, aircraft computers	Annual Sales : Not available
Company	Concern Almaz-Antey, JSC	The Antey concern is the biggest Russian developer and manufacturer of the most sophisticated systems and complexes of short, medium and long range guided surface-to-air weapons. The company has a half-century experience in the creation of advanced technologies for the manufacture
Chief Executive Officer	Vladislav Menshikov	
Address	Vereyskaya str., 41, Moscow 121471, Russia	
Tel Fax	(7-095) 780-54-27 (7-095) 443-79-59	

Website	Not available	of communication systems and radios, and also in the development of new technical solutions. It has well-equipped research institutes and production facilities and the best scientific and technical personnel.
Products	High-technology products of military and non-military application	Annual Sales Not available
Company	Podolsky Chemical & Metallurgical Plant (PCMP)	For almost 50 years PCMP has been one of the leading silicon semiconductor producers in Russia. It has a plant of monocrystalline production of solar grade, which counts for more than 15 percent of the total world production. The company has taken a number of aggressive steps towards the improvement of quality control on all levels of the production process. ISO 9001 certificate is one of these confirmations. The company is trying to diversify their product range as much as the market allows.
Chief Executive Officer	Tolokonnikov (Commercial Director)	
Address	3 Roschinskaya Str., Moscow region, Podolsk, Russia 142100	
Tel Fax	(7-095) 137 9228 (7-096) 754 8917	
Website	www.pcmp.ru	
Products	Photovoltaic cell materials, solar grade monocrystalline silicon ingots (CZ), semiconductor grade monocrystalline silicon ingots (CZ), solar grade polycrystalline silicon ingots and semiconductor grade polycrystalline silicon ingots, solar grade monocrystalline silicon wafers	
Company	Telecom-STV Company, Ltd.	This company is the leading Russian producer of SEMI-grade silicon wafers and monocrystalline solar cells.
Chief Executive Officer	Not available	
Address	1 Solnechnaya Alley, Zelenograd, 103527, Moscow, Russia	
Tel Fax	(7-095) 531 8351 (7-095) 531 8354	
Website	www.telstv.ru	
Products	Process materials	
Company	SOE CDB ME "Rubin"	The Rubin Central Design Bureau for Marine Engineering has designed three generations of submarines (more than 20 projects, totaling approximately 950 submarines, of which 138 were nuclear), since it was founded by Special Design Bureau No. 143 in 1901. Rubin designed most of the Soviet Union's and Russia's ballistic and cruise missile submarines, as well as attack submarines. Diesel submarines built from Rubin designs serve in 14 navies around the world. It has been involved in technological planning for handling and transporting reactor compartments, providing environmentally-safe storage, and supplying designs and technical documentation to submarine dismantlement facilities.
Chief Executive Officer	Igor D.Spasky	
Address	90 Marata Street, St. Petersburg 191126, Russia	
Tel Fax	(7-812) 113 5132 (7-812) 164 3749	
Website	www.ckb-rubin.ru	
Products	Submarine designs	
Company	Rolsen Electronic Inc.,	Rolsen Electronic Inc. aims to hold the leading position in the market through innovative approach, developments, market research and management. The company, with headquarters in Korea, entered the Russian market in 1995. It has its own production capacities in Fryazino
Chief Executive Officer		
Address	80/1 Leningradsky prospect 125190 Moscow, Russia	
Tel Fax	(7-495) 785 2433 (7-495) 785 2355	

Website	www.rolsen.com	(Moscow region) and in Voronezh. The plants are equipped with new production lines and at present are among the most modern enterprises involved in electronics manufacturing in Russia.
Products	Audio & Video	Annual Sales: not available
Company	Sokol JSC	The joint-stock company Nizhny Novgorod Aircraft Building Plant "Sokol" is a large enterprise of the aircraft-building industry. Established in 1929, prior to World War II, the Sokol plant has been Russia's primary MiG aircraft factory, having produced fighter aircrafts since the Spanish Civil War. Most recent productions are centered on the MiG-31 Foxhound fighter-interceptor and the MiG-29 Fulcrum fighter (two-seat trainer version). With a decline in state orders for fighters, Sokol is moving towards the production of civil aircraft.
Chief Executive Officer	Vladimir Pomolov	
Address	Chaadajeva stree, 1 603035 Nizhny Novgorod, Russia	
Tel Fax	(8-31) 246 7103 (8-31) 224 7966 / 246 7059	
Website	www.sokolplant.ru	
Products	Aircrafts	
Company	Vestel	Vestel's production exceeded 15 million in 2005 with an export turnover of over €2.2 billion. Its targets for 2006 are 23 million units in production and €3 billion in export revenue, maintaining its position as the number one exporter in Russia.
Chief Executive Officer	Ahmet Zorlu	
Address	Strastnoy Blv No: 16 Podyezd 3, 107031 Moscow / Russia	
Tel Fax	(7-095) 956 8230 (7-095) 956 8233	
Website	www.vestel.ru	
Products	Audio and video, TV sets	
Company	LG ERA (LG Electronics RUS, LLC)	By developing the nation's first radio in 1959, LG Electronics created the beginnings of Korea's electronics industry has been improving over the past four decades.
Chief Executive Officer	Sang Su Kim	
Address	9, Solntseva Str. Ruza District, Moscow Region, 143100	
Tel	Not available (website in Russian)	
Website	ru.lge.com	
Products	Electronics (audio & video)	
Company	LUTCH-CERAMICS, Scientific and Technological Complex	Lutch-Ceramics manufactures high-purity processing parts for diffusion furnaces in the semiconductor industry. Lutch-Ceramics also manufactures SiC-based astronomical and laser mirrors and growing silicon carbide single crystals. They ensure a high level of quality in all their products.
Chief Executive Officer	Not available	
Address	24 Zheleznodorozhnaya, 142100, Podolsk, Moscow Region, Russia	
Tel Fax	(7-095) 137 9339 (7-095) 743 5334	
Website	Not available	
Products	High-tech ceramics	

VI. The Vision of the Private Sector

The Electronic and Information Technology Industries Survey in APEC	
Company: Novgorodsky Plant GARO	
Name and title of the executive: Anatoly Alexeev, President – Committee of Directors	
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?	Our company cooperates with foreign partners. We work according to the market laws and international standards. Our company also places high emphasis on the level of quality.
2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?	We sell our production by use of both distributors and direct sales (35 percent). Our direct sales are of the first level. This means we sell our big consignments of products straight to the plants or to large clients, while distributors sell our small consignments of products.
3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?	Our company is big. Our model is product group, holding company. We have a plant, a scientific center and a wide net of representatives and distributors.
4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?	No.
5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?	The same company makes investments in different branches of holding.
6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?	We are interested in the developing of electronics according to the standards and regulations of Russian Federations.
Other comments:	
Date: 2 September 2006	

The Electronic and Information Technology Industries Survey in APEC	
Company: AVTOINTERSVET	
Name and title of the executive: Mikhail Laukhin, Sales Manager	
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?	By elaborating new production and conveying deliveries to the biggest Russian automobile plant.

<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>We have no direct-sales. We work with distributors.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>Our company is not big. We form part of the holding company called the UTS Commercial House.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Yes. The company buys some components abroad, so such agreements facilitate custom procedures.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>No.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>We see the widening of assortments and the enlargement of production.</p>
<p>Other comments:</p>
<p>Date: 2 September 2006</p>

<i>The Electronic and Information Technology Industries Survey in APEC</i>	
Company: GERKON-AVTO	
Name and title of the executive: Serge Bogomolov, Chief of the Marketing Department	
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>The company develops internationally (elaboration of new products) and extensionally (opens new markets) –We cooperate with foreign partners, such as General Motors, Volkswagen, and Chrysler. As a result we have established a very good reputation. We also ensure the highest level of quality – ISO16949.</p>	
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>The company uses direct sales to sell to the primary market (plants). The secondary market is not as big, because the equipment produced by the company doesn't wear out. However, not long ago the company began to produce new products (additional stop signals) that also target the secondary market.</p>	
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>The company is of medium size (300 persons).</p>	

4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?
No. Russia will be cheaper than other economies, even with all the incentives.
5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?
Yes, but it must not be a proposal to buy the company.
6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?
We see a larger diversity of products, but we also see rational specialization (every company must produce their special products). There will also be a development in the production of electronics in Russia (not to buy abroad).
Other comments:
Date: 2 September 2006

VII. Government and Private Organizations

Organization	Department Telecommunication	It elaborates the regulations that aim at to develop the telecommunication industry with sound balance in to information communication industries.
Deputy Director General	Blyachanov oleg vladimirovic	
Members		
Address	Tverskaya 7, Moscow, 125375 Teletype 113748 MSRF RU	
Tel	(7-095) 292 7128	
Website	www.minsvyaz.ru	
E mail	office@ptti.gov.ru	
Organization	Ministry of Economy Russian Federation	The Ministry is responsible to design the policies to enhance the economic growth and the industry sector. In particular the ICT industries and with national scope.
Chairman / Secretary General		
Members		
Address	125993, GSP-3 Moscu, A-47 1a Tverskaya-Yamskaya Str., Number 1, 3	
Tel		
Website	www.economy.gov.ru	
E mail		
Organization	Committee of the Russian Federation for Statistics	It is responsible to compiled all statistics of the economy and prepare official tendencies and reports.
Chairman / Secretary General		
Members		
Address	Mjasnickaja, 39 103450, Moskau	
Tel	(7-095) 207 4902	
Fax	(7-095) 207 4087	
Website	www.gks.ru	
E mail	stat@gks.ru	
Organization	Chamber of Commerce and Industry of the Russian Federation	The Chamber aggregates all the private sector of the Federation representing their interest before the Government offices. It also
Chairman / Secretary General		

Members		
Address	103684, Moskow GSP, K-12, ul. Ilinka,6	
Tel	(7-095) 929-0009	
Website		
E mail		
Organization	RUSSOFT - Russian Software Developers Association	
Chairman / Secretary General	Not available	
Members		
Address	Innovation Technology Center, Birzhevaya line 16, St.Petersburg, 199034, RUSSIA	Private organization of the producers of software and IT products. It provides information and supports the members to develop and growth in the markets.
Tel	(7-812) 331 7560	
Fax	(7-812) 331 7543	
Website	www.russoft.org	
E mail	info@russoft.org	
Organization	Association of Manufacturers of Electronic and Computer Industry APKIT	
Chairman / Secretary General	Not available	
Members		
Address	Moscow, 5a Str. Yamskovo Polya, number 9, office 22, PO Box: 101000 Moscow a/ya 626	The Association represents all the makers of electronics and its industries. It assists its members to promote their products abroad and represents their interests in domestic market.
Tel	(7-495) 739-8928	
Website	www.apkit.ru	
E mail	info@apkit.ru	

Bibliography:

- The President's Business Administration Directorate (Federal Agency): www.udprf.ru
- Ministry of Industry and Energy of the Russian Federation: www.minprom.gov.ru
- Ministry of Economic Development and Trade of the Russian Federation: www.economy.gov.ru
- Report for the Session at the State Congress "Current situation and perspective of the Semiconductor industry in Russia", www.cnews.ru, 31.05.04

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC Singapore

I. Overview of the Industry

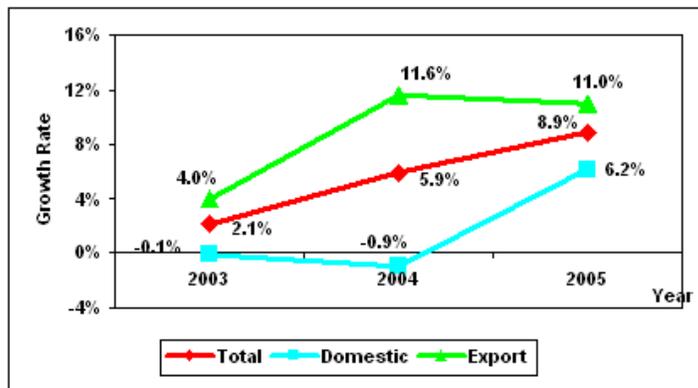
Singapore's electronics industry continues to power ahead. A mainstay of the manufacturing sector, it accounted for about half the manufacturing output in 2005 and attracted half of the S\$8.5 billion in fixed asset investments. Singapore's eminence in the electronics industry is evident in the quantity and scope of facilities currently residing on its shores. Home to over 14 semiconductor wafer fabrication plants (including two 12-inch plants), 20 assembly and test operations, and 40 IC design centers, Singapore includes in this number the world's top three wafer foundries, the world's top three assembly and test foundries, and four of the world's top 10 fabless design companies.

A commanding lead of 30 percent global share of hard disk drive output volumes has earned Singapore the confidence of the world's top five storage and electronics manufacturing services (EMS) companies, all of which have significant operations in Singapore, ranging from design and high value-added manufacturing to regional activity management. The presence of key industry players illustrates Singapore's unwavering commitment to the development and support of innovation and growth of this sector.

In 2004, the electronic manufacturing sector accounted for 8.4 percent of Singapore's US\$109 billion GDP, employing 92,446 across 209 companies. 59 percent of these companies were local while the remaining 41 percent were foreign. There were a total of 154 small and medium enterprises (SMEs) in this industrial activity and in which 83 percent of the output was exported.

Singapore is committed to maintaining manufacturing as an engine of growth, accounting for about 25 percent of the gross domestic product (GDP). To achieve this target on an enlarged economic base, the manufacturing sector would have to double its output to S\$300 billion by 2018 with the electronics industry taking the lead with a projected output of S\$117 billion. Its benefits are evident:

- It creates good jobs at all skill levels;
- It generates many spin-offs in other sectors of the economy; and
- It creates a robust platform for technology and innovation development.



In 2005, the revenue of the information and communication technology industry (infocomm) grew by 8.9 percent to reach US\$24.28 billion. External demand, which increased by 11 percent, provided much of the growth impetus.

Source: EDB, Singapore

The composition of the industry did not change significantly from 2003 to 2005. The hardware market segment had the highest share of the infocomm industry's revenue, followed by the telecommunication services segment.

Singapore's electronic cluster is divided into four sub-sectors:

- Semiconductors
- Electronic Manufacturing Services, Storage and Peripherals
- Electronic Modules and Components
- Consumer Electronics and Infocomm Products

Semiconductors

Worldwide sale of semiconductors is heading up as they are now being used in a broader array of products. The trend towards digitization in music, photos, videos and television broadcasting, coupled with the convergence of computing, communications, networking and entertainment to create new generations of hybrid devices, is fuelling the demand for semiconductors.

As the choice location for semiconductor production, Singapore is reaping the fruits of this success. Since its modest beginning in the late 1960s with assembly and test activities, the semiconductor cluster now encompasses all facades of the value chain, employing more than 30,000 people.

Electronics Manufacturing Services, Storage and Peripherals

With their cost competitiveness, operational efficiency and global footprint, EMS companies offer an unbeatable value proposition to original equipment manufacturers (OEMs).

Established to provide manufacturing and related product support for electronics OEMs in the early years, EMS companies have expanded their range of services to include front-end design, logistics and supply chain management as well as after-sales services of return and repair.

Strong demand for hard drive disk (HDD) is allowing Singapore to rise as a leading manufacturer, accounted for about 30 percent of the worldwide hard disk production in 2005. Also driving the increase is the proliferation of consumer electronics that require high storage capacity in small devices.

Electronic Modules and Components

Consumer demand for flat screen television sets is driving the demand for liquid crystal displays (LCDs), as increasing availability and plummeting prices have pushed LCD TVs into the mainstream. According to DisplaySearch, a specialist in flat panel display market research and consulting, LCD TV shipments from this economy rose 141 percent to 21.2 million units in 2005. Most impressive was the rapid growth of the larger size LCD TVs, fuelled by lower prices resulting from severe price competition following a ramp up in capacity and improving yields. The hottest product was the 32-inch panel TV.

Consumer Electronics and Infocomms Products

The convergence of digital-based audio, video and information technology is fuelling the demand for consumer devices used at home, in the car and on the move. The emergence of mobile telecommunications technology, incorporating both digital visual and digital MP3 capabilities, is buttressing that demand.

The global sale of consumer electronics, including audio, video and gaming consoles, is expected to touch an all-time high of US\$135.4 billion in 2006, an 8 percent increase from 2005. The World

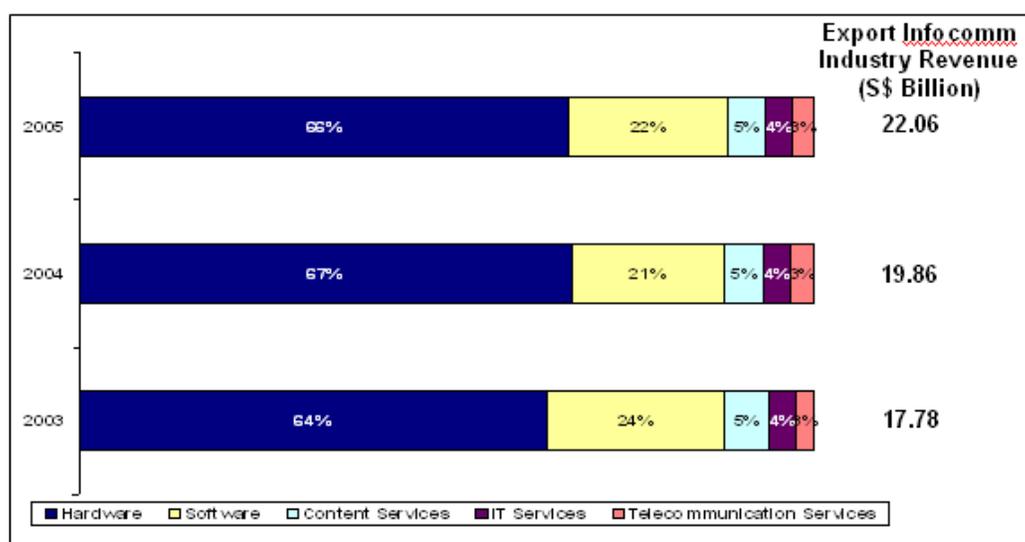
Cup in Germany fired up the demand for new generation television sets— flat-screen TVs, high-definition television – as well new mobile phones that can transmit broadcasts.

Singapore is plugged into this huge market following the Economic Development Board decision to promote box build manufacturing to create spin-offs for other industry segments. Electronics is the cornerstone of Singapore’s manufacturing sector. By building on the strong foundation and broadening its spectrum of activities, Singapore is confident that it can secure its leadership in electronics manufacturing.

II. Recent Developments in the Exports and Imports

The export market spurred most of the infocomm industry's revenue growth in 2005 with its 11 percent growth. All the export market segments registered positive growth in 2005 with the two largest segments (software and hardware) registering the two highest growth rates at 16.4 percent and 10.4 percent respectively.

Export Market Composition by Market Segments



The electric and electronic industries export value reached US\$113.7 billion in 2005, contributing to 54.1 percent of total exports. Hardware was the main sub sector of Singaporean exports, maintaining an average of 65.5 percent of the total exports for the last three years. The software industry was the second most important sub-sector of the electronic industry’s exports with an average of 23 percent over the period of 2003-2005.

On the other hand, shown in the following tables, more than 60 percent (US\$55 billion) of the total import value of US\$90 billion was integrated circuits (IC) and part and accessories. Computers, telephony apparatus and diodes contribute to another 20 percent of the imports and the rest is divided into other products like electro domestic products and electric industrial products.

The following statistical information demonstrates that this economy is one of the largest manufacturers of electronics in the Asian region, especially in terms of HDDs and ICs.

Singapore: Main Exports Products by Value

(US\$ thousand)

		2003	2004	2005
8542	Electronic integrated circuits and micro assemblies	35,868,356	45,991,159	51,206,986
9013	Liquid crystal devices	421,995	772,008	484,456
8473	Parts and accessories suitable for use solely or principally with the machines	11,321,039	13,768,819	17,100,853
8531	Electric sound or visual signaling apparatus for example, bells, sirens, indicator panels, burglar or fire alarms	456,806	266,904	667,349
8471	Computers: automatic data processing machines and units	17,630,687	17,520,894	16,402,650
8534	Printed circuits	955,037	1,154,096	1,192,617
8523	Prepared unrecorded media for sound recording or similar recording	790,758	959,524	1,355,822
8525	Transmission apparatus for radio-telephony, radio-telegraphy, radio-broadcasting or television	4,350,085	7,733,743	7,970,361
8541	Diodes, transistors and similar semiconductor devices	4,525,455	5,331,793	5,213,892
8528	Reception apparatus for television, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus; video monitors and video projectors	765,315	687,442	565,367
8529	Parts suitable for use solely or principally with the apparatus said above	2,172,885	2,681,045	2,977,536
8517	Electrical apparatus for line telephony or line telegraphy, including cordless handsets	1,470,201	1,276,804	1,986,189
8504	Electrical transformers, static converters and inductors	1,047,724	1,207,539	1,288,176
8536	Electrical apparatus for switching or protecting electrical circuits ei., switches, relays, fuses, surge suppressors, plugs, sockets, lam	1,873,786	2,075,955	2,388,728
8532	Electrical capacitors, fixed, variable or adjustable	1,212,866	1,194,096	1,220,889
8544	Insulated wires, cables and other insulated electric conductors	426,116	450,073	487,286
8538	Other electronics parts	247,320	359,071	230,132
8533	Electrical resistors	463,916	491,267	554,945
8518	Microphones and stands therefore; loudspeakers, headphones and earphones,	458,818	467,772	473,821
	Total	86,459,165	104,390,004	113,768,055

Source: Statslink, IE Singapore Nov, 2006

Singapore: Main Import Products by Value

(US\$ thousand)

		2003	2004	2005
8542	Electronic integrated circuits and micro assemblies	28,343,960	36,562,483	41,111,265
9013	Liquid crystal devices	391,840	648,341	668,872
8473	Parts and accessories suitable for use solely or principally with the machines	11,418,640	12,775,050	14,940,537
8531	Electric sound or visual signaling apparatus for example, bells, sirens, indicator panels, burglar or fire alarms	336,938	313,123	312,272
8471	Computers: automatic data processing machines and units	5,729,594	6,317,132	6,451,444
8534	Printed circuits	1,093,343	1,413,444	1,486,564
8523	Prepared unrecorded media for sound recording or similar recording	1,117,366	1,218,545	1,313,548
8525	Transmission apparatus for radio-telephony, radio-telegraphy, radio-broadcasting or television	4,446,151	6,708,243	6,580,716
8541	Diodes, transistors and similar semiconductor devices	4,519,582	5,222,217	5,059,249
8528	Reception apparatus for television, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus; video monitors and video projectors	723,302	828,466	681,618
8529	Parts suitable for use solely or principally with the apparatus said above	1,429,526	2,316,130	3,058,254
8517	Electrical apparatus for line telephony or line telegraphy, including cordless handsets	1,016,961	1,390,407	1,446,068
8504	Electrical transformers, static converters and inductors	1,129,312	1,259,318	1,572,440
8536	Electrical apparatus for switching or protecting electrical circuits ei., switches, relays, fuses, surge suppressors, plugs, sockets, lam	1,559,604	1,838,786	2,051,799
8532	Electrical capacitors, fixed, variable or adjustable	1,270,070	1,272,244	1,265,786
8544	Insulated wires, cables and other insulated electric conductors	576,986	642,596	808,198
8538	Other electronics parts	309,235	357,530	355,349
8533	Electrical resistors	384,462	436,626	485,764
8518	Microphones and stands therefore; loudspeakers, headphones and earphones,	565,747	592,743	606,401
	Total	65,362,619	82,113,424	90,256,144

Source: Statslink, IE Singapore Nov, 2006

III. Trade Negotiations Related to the Industries

Singapore has been very active in developing trade and economic links with various economies in the world. It has in operation free trade agreements (FTAs) with the Association of Southeast Asia Nations (ASEAN), Australia, the European Free Trade Association, the Hashemite Kingdom of Jordan, India, Japan, Korea, New Zealand, Panama, the Trans-Pacific Strategic Economic Partnership (Brunei, New Zealand and Chile) and with the United States.

On the other hand, it also has FTAs under negotiation with: ASEAN-People's Republic of China, ASEAN-Australia and New Zealand, ASEAN-India, ASEAN-Japan Comprehensive Economic Partnership Agreement, ASEAN-Korea, Bahrain, Canada, Egypt, Mexico, Pakistan, Peru, Sri Lanka, the State of Kuwait, the State of Qatar and the United Arab Emirates.

Singapore is a committed participant of the Information Technology Agreement (ITA). It has been a founder member since December 1996. The participating economies represent an important share of the 97% of the world trade in information technology products. While ITA is solely a tariff cutting mechanism, most of the IT products are rated zero. This applies to the 68 members & states or separate custom territories in the process of acceding to the WTO. As of July 2006, the following APEC economies have accepted the criteria: Australia; Canada; China; Hong Kong, China; Indonesia; Japan; Korea; Malaysia; New Zealand; the Philippines; Singapore; Chinese Taipei; Thailand and the United States.

Association of Southeast Asian Nations (ASEAN)

The Association of Southeast Asian Nations was established in Bangkok on 8 August 1967 by the five original Member economies, namely, Indonesia, Malaysia, the Philippines, Singapore and Thailand. Brunei Darussalam joined on 8 January 1984, Viet Nam on 28 July 1995, Lao PDR and Myanmar on 23 July 1997, and Cambodia on 30 April 1999.

The ASEAN region has a population of about 500 million, a total area of 4.5 million square kilometers, a combined gross domestic product of almost US\$700 billion, and a total trade of about US\$850 billion.

Objectives of ASEAN

The ASEAN Declaration states that the aims and purposes of the association are to: (1) accelerate economic growth, social progress and cultural development in the region and (2) promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries in the region and adherence to the principles of the United Nations Charter.

In addition, the ASEAN Vision 2020, adopted by the ASEAN Leaders on the 30th Anniversary of ASEAN, agreed on a shared vision of ASEAN as a concert of Southeast Asian nations, outward looking, living in peace, stability and prosperity, bonded together in partnership in dynamic development and in a community of caring societies.

In 2003, the ASEAN Leaders resolved that an ASEAN Community should be established comprising of three pillars, namely, the ASEAN Security Community, the ASEAN Economic Community and the ASEAN Socio-Cultural Community.

As far as the ASEAN Economic Community is concerned, it has the end-goal of economic integration measures as outlined in the ASEAN Vision 2020. Its goal is to create a stable, prosperous and highly competitive ASEAN economic region in which there is a free flow of goods,

services, investment and a freer flow of capital, equitable economic development and reduced poverty and socio-economic disparities in year 2020.

The ASEAN Economic Community shall establish ASEAN as a single market and production base, turning the diversity that characterizes the region into opportunities for business complementation and making the ASEAN a more dynamic and stronger segment of the global supply chain. Its strategy shall consist of the integration of ASEAN and enhancing the groups' economic competitiveness.

In moving towards the ASEAN Economic Community, ASEAN has agreed on the following:

- Institute new mechanisms and measures to strengthen the implementation of its existing economic initiatives including the ASEAN Free Trade Area (AFTA), ASEAN Framework Agreement on Services (AFAS) and ASEAN Investment Area (AIA);
- Accelerate regional integration in the following priority sectors by 2010: air travel, agro-based products, automotives, e-commerce, electronics, fisheries, healthcare, rubber-based products, textiles and apparels, tourism, and wood-based products.
- Facilitate movement of business persons, skilled labor and talents; and
- Strengthen the institutional mechanisms of ASEAN, including the improvement of the existing ASEAN Dispute Settlement Mechanism to ensure expeditious and legally-binding resolution of any economic disputes.

Launched in 1992, the ASEAN Free Trade Area (AFTA) aims to promote the region's competitive advantage as a single production unit. The elimination of tariff and non-tariff barriers among Member Countries is expected to promote greater economic efficiency, productivity, and competitiveness.

As of 1 January 2005, tariffs on almost 99 percent of the products in the Inclusion List of the ASEAN-6 (Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore, and Thailand) have been reduced to no more than 5 percent. More than 60 percent of these products have zero tariffs. The average tariff for ASEAN-6 has been brought down from more than 12 percent when AFTA started to 2 percent today. For the newer Member economies, namely, Cambodia, Lao PDR, Myanmar, and Viet Nam (CLMV), tariffs on about 81 percent of their Inclusion List have been brought down to within the 0-5 percent ranges.

Together with five other economies, Singapore is one of the founders in the establishment of the ASEAN FTA. Within this agreement has been established a "Roadmap for Integration of Electronics Sector". The terms of the agreement are as follows.

Objectives

The objectives of integrating the electronics sector are to:

- Develop, strengthen and enhance the competitiveness of the ASEAN electronics sector and promote ASEAN as an integrated platform to do business with regarding electronics;;
- Strengthen regional integration efforts through liberalization, facilitation and promotion measures to ensure full integration of the electronics sector by 2010.
- Promote private sector participation.

Measures

This roadmap includes specific measures that are of direct relevance to the electronics sector, as well as common measures that cut across all priority integration sectors. The integration approaches are premised on:

- Combining the economic strengths of ASEAN member countries for regional advantage;
- Facilitating and promoting intra-ASEAN investments;
- Improving the condition to attract and retain manufacturing and other economic activities within the region; and
- Promoting the outsourcing program within ASEAN.

Coverage

The scope of products include electronic data processing (EDP) equipment, electrical and electronic home appliances, medical and industrial equipment, telecommunication equipment, communications and radar equipment, automotive electronics, instrumentation and controls, and mechanical equipment.

More information can be obtained at www.aseansec.org/16656.htm

IV The Programs and Special Incentives to the Industry

Singapore offers a comprehensive range of programs to help businesses grow. There are incentive and development schemes which range from assistance in manpower development and technological or equipment upgrading, to assistance in R&D, intellectual property and industry development.

Approved Foreign Loan Incentive (AFL)

What the scheme does	Eligibility	Benefits	Type of assistance
Tax incentive: grants full or partial exemption on withholding tax on interest payments to non-residents	Interest payments must be made on loans taken to purchase productive equipment only. Minimum loan amount is S\$200,000.	Non-resident recipient of payments will be paying lower taxes in Singapore on its interest income.	Equipment investment

Investment Allowance (IA)

What the scheme does	Eligibility	Benefits	Type of assistance
Tax incentive: IA is a further capital allowance on qualifying equipment costs incurred within a set period.	Equipment must contribute to greater efficiency or introduce new technology to the industry.	Reduces tax liability.	Equipment investment Technology

Approved Royalties Incentive (ARI)

What the scheme does	Eligibility	Benefits	Type of assistance
Tax incentive: provides full or partial exemption on withholding tax for royalty payments or technical assistance fees payable to non-residents. Includes royalties, fees and contributions to R&D costs paid for the transfer of technology and know-how to Singapore.	Technology or know-how must be more advanced than the prevailing industry average.	Non-resident recipient of payments will be paying lower taxes in Singapore on its royalty income. This could assist the payee company in reducing its overall payment costs. Assists the company in transferring technology and know-how to Singapore.	Technology R&D

Innovation Development Scheme (IDS)

What the scheme does	Eligibility	Benefits	Type of assistance
<p>Grant: provides co-funding to support innovation in products, processes and applications.</p> <p>Eligible project costs include expenditure on manpower, equipment, intellectual property and professional services.</p>	<p>Open to companies registered in Singapore.</p> <p>Project must lead to the build-up of innovation capabilities.</p>	<p>Co-funds costs related to innovation</p>	<p>Innovation</p> <p>R&D</p>

Research Incentive Scheme for Companies (RISC)

What the scheme does	Eligibility	Benefits	Type of assistance
<p>Grant: provides partial grants to offset costs resulting from R&D projects.</p> <p>These include manpower training, equipment investment, intellectual property management, and professional services.</p>	<p>Must develop or bring in new R&D capabilities.</p> <p>Projects should result in the increased hiring and training of research scientists and engineers.</p>	<p>Defrays costs of R&D activities.</p>	<p>Technology development</p> <p>R&D</p> <p>Manpower development</p>

Development & Expansion Incentive (DEI)

What the scheme does	Eligibility	Benefits	Type of assistance
<p>Tax incentive: provides preferential corporate tax rates on all qualifying profits above a pre-determined base, for a set period.</p>	<p>Project must generate significant economic spinoffs for Singapore.</p>	<p>Reduces tax liability.</p> <p>Assists the company to move into higher value-added business activities.</p>	<p>Business development</p>

Initiatives in New Technology (INTECH)

What the scheme does	Eligibility	Benefits	Type of assistance
<p>Grant: awards grants to offset the costs of developing/introducing new capabilities.</p> <p>These include skills development in the application of new technologies, industrial R&D and professional know-how.</p>	<p>Open to all Singapore-based companies.</p> <p>Activities must lead to the development or introduction of new capabilities for companies or industry.</p>	<p>Defrays costs related to the introduction or development of new capabilities.</p>	<p>Industry development</p>

Pioneer Incentive (PC-M or PC-S)

What the scheme does	Eligibility	Benefits	Type of assistance
Tax incentive: tax exemption on qualifying profits for up to 15 years. Encourages the introduction and growth of new and better industry technologies, know-how or skills.	Projects must result in the creation of new, or strategically expand existing, industries in Singapore.	Reduces tax liability.	Industry development Upgrading

Source: Economic Development Board (EDB)

V. The Private Sector in the Industries

The following are some of the companies involved in the electronic and information technology industries.

Company	HENKEL	As a manufacturer and vendor of brand name products and system solutions in international markets, Henkel is particularly concerned with the early identification and effective satisfaction of consumer demands. Henkel Technologies focus consistently on the needs of their target groups and demonstrate one hundred percent commitment to their customers by responding quickly to customer wishes with innovations and ground-breaking solutions.
Executive Managing Director	Vincent Chia	
Address	19 Jurong Port Road Singapore 619093	
Tel Fax	(65) 6473 1822 (65) 6266 1161	
Website	www.henkel.com	
Products	Packing material, semiconductor, optoelectronic, board level assembly adhesive, etc	Annual Sales: US\$1.7 Billion
Company	VENTURE	A leading global electronics services provider, Venture offers an excellent combination of outstanding management, world-class technical capabilities, innovative manufacturing technology, reliable testing capabilities and state-of-the-art facilities.
Managing Director	N L Wong	
Address	Block 5006 Ang Mo Kio Avenue 5 #05-01/12 TECHplace II Singapore 569873	
Tel Fax	(65) 6482 1755 (65) 6482 0122	
Website	www.venture.com.sg	
Products	EMS, ODM, EFS, etc.	Annual Sales: US\$3.16 billion
Company	FUJITSU PC ASIA PACIFIC PTE LTD	Fujitsu is a leading provider of customer focused IT and communications solutions for the global market place. Pace-setting technologies, highly reliable computing and telecommunications platforms, and a worldwide corps of systems and services experts uniquely positions Fujitsu to deliver comprehensive solutions that open up infinite possibilities for its consumers success.
President & Representative Director	Hiroaki Kurokawa	
Address	20, Science Park Road #03-37 Tele Tech Park, Singapore Science Park II, Singapore 117674	
Tel Fax	(65) 6512 7555 (65) 6512 7502	
Website	www.sg.fujitsu.com	

Products	Computer Peripherals, Computer Systems	Annual Sales: US\$3.8 billion
Company	MITSUBISHI CHEMICAL INFONICS PTE LTD	Not Available in English
Managing Director	Takashi Hashimoto	
Address	103 Pioneer Road Jurong Singapore 639582	
Tel	(65) 6863 8038	
Fax	(65) 6863 3581	
Website	www.m-kagaku.co.jp	
Products	Computer Peripherals	Annual Sales: US\$1.7 billion
Company	CREATIVE TECHNOLOGY LTD	It is the worldwide leader in digital entertainment products for the personal computer and the Internet. These products and solutions are marketed to consumers and system integrators through a worldwide distribution network that include traditional marketing channels, original equipment manufacturers (OEMs) and the Internet
Director, Business Development	W H Sim	
Address	31 International Business Park Creative Resource Singapore 609921	
Tel	(65) 6895 4000	
Fax	(65) 6895 4999	
Website	www.creative.com	
Products	Personal computer with a wide range of interactive PDE products that comprise MP3 players, portable media centers, multimedia speakers, digital and web cameras, PC peripherals, graphics solutions, revolutionary music keyboards, and video & communications products	Annual Sales: US\$815 million (2004)
Company	INVENSYS SOFTWARE SYSTEMS (S) PTE LTD	Invensys is a global automation, controls and process solutions group. They empower consumers to increase productivity, reduce waste, remove cost from your supply chain, boost profitability and demonstrate measurable improvement in their company's overall performance. As a global leader in resource productivity, Invensys offers products and services, expertise, and technologies that enable you to maximize return on investments, conserve resources and optimize performance across your value chain
Chairman	Martin Jay	
Address	15 Changi Business Park Central 1 Singapore 486057	
Tel	(65) 6829 8888	
Fax	(65) 6829 8889	
Website	www.invensys.com	
Products	Sales, marketing, engineering and service of process instrumentation and computer based control systems, analytical and environmental monitoring systems and educational services for industries such as chemical, oil & gas, power, food, beverage & pharmaceutical, pulp & paper, water & wastewater infrastructural, etc.	Annual Sales: US\$483 million
Company	YOKOGAWA ELECTRIC ASIA PTE LTD	With its significant resources in measurement and control technologies and its insight into technology trends, Yokogawa is developing new information systems for the always changing IT landscape.
President and Managing Director, Asia Pacific	Toshio Ikeda	
Address	5 Bedok South Road Singapore 469270	

Tel	(65) 6241 9933	
Fax	(65) 6444 6252	
Website	www.yokogawa.com.sg	
Products	Manufacturers control systems, panels, meters, test & measurement instruments & power supply units.	Annual Sales: US\$753 million
Company	PARKER HANNIFIN SINGAPORE	
Chairman and Chief Executive	Donald E. Washkewicz	Parker Hannifin is the world's leading diversified manufacturer of motion & control technologies, providing systematic, precision-engineered solution for a wide variety of commercial and industrial markets
Address	11 Fourth Chin Bee Road Singapore 619702	
Tel	(65) 6887 6300	
Fax	(65) 6265 5125	
Website	www.parker.com	
Products	Control Systems	Annual Sales: US\$160 million
Company	BROADCOM SINGAPORE PTE LTD	Broadcom Corporation is a global leader in semiconductors for wired and wireless communications. Their products enable the delivery of voice, video, data and multimedia to and throughout the home, the office and the mobile environment. Broadcom provides the industry's broadest portfolio of state-of-the-art system-on-a-chip and software solutions to manufacturers of computing and networking equipment, digital entertainment and broadband access products, and mobile devices.
HR Director	Rick Kenneth Hodgman	
Address	29 Woodlands Industrial Park E1 #03-13/18 NorthTech Lobby 3 Singapore 757716	
Tel	(65) 6668 4690	
Fax	(65) 6668 4707	
Website	www.broadcom.com	
Products	Integrated Circuits (ICs)	Annual Sales: US\$2.5 billion
Company	SEMICONDUCTOR COMPONENTS INDUSTRIES SINGAPORE PTE LTD	ON Semiconductor is dedicated to becoming the premier supplier of performance power solutions worldwide. With their strong portfolio of products and a proven history of superior support and logistics, they are a preferred supplier of power components and systems to designers of computers, communications, consumer, and industrial systems throughout the world.
Chief Executive Officer	David Chow	
Address	300 Beach Road #28-05/06 The Concourse Singapore 199555	
Tel	(65) 6298 1768	
Fax	(65) 6298 1608	
Website	www.onsemi.com	
Products	Integrated Circuits (ICs) and Semiconductors	Annual Sales: US\$1.3 billion
Company	NELCO PRODUCTS PTE LTD	A leading producer of advanced electronics materials used to fabricate complex multilayer printed circuit boards and interconnection systems and semiconductor packages
Chief Executive Officer	Andrew Chan	
Address	4 Gul Crescent Singapore 629520	
Tel	(65) 6861 7117	
Fax	(65) 6861 7114	
Website	www.parknelco.com	
Products	Printed Circuit Board Fabrication Materials and Printed Circuit Board Laminates	Annual Sales: US\$214 million
Company	A2O TECHNOLOGY (S) PTE LTD	A2O is a new generation, niche market leader in multi-technology printed circuit board assembly manufacturing. Operating on a client-partnership
Chief Executive Officer	Robin Ng, Marketing Manager	

Address	Block 20 Woodlands Link #09-38/39/40 Woodlands East Industrial Estate Singapore 738733	principle, their focus goes beyond just manufacturing - they first seek to understand the whole value-chain process of what their clients are offering their own clients. Complement this with an excellent manufacturing facility and operation support, and this expands their services into technology development and product enhancements.
Tel Fax	(65) 6756 1157 (65) 6756 2607	
Website	www.a2otech.com	
Products	Burn-In Boards, Printed Circuit Board Assemblies, Printed Circuit Board Sub-Assemblies & Contract Manufacturing, Printed Circuit Boards (PCBs)	Annual Sales: US\$342 million
Company	Esys	ESys is also the largest Distributor of Hynix Memory Chips (Asia & Europe) and a major player in other SI components. Since its incorporation in Singapore in 2000, eSys has set a scorching pace to become a major IT component distribution network in Asia and Europe with 25 in-country subsidiaries and 65 points of presence.
Chief Executive Officer	Vikas Goel	
Address	40 Kaki Bukit Place, Singapore-416218	
Tel Fax	(65) 6547 0250 (65) 6547 0260	
Website	www.esysdistribution.com	
Products	Hard disk driver, monitors, peripherals, motherboard, communications.	Annual Sales: US\$1.8 billion
Company	BEYONICS TECHNOLOGY LTD	It is a leading provider of advance contract manufacturing services to original equipment manufacturers ("OEMs") in computer storage devices, medical devices and electronics communication products and a leading manufacturer of precision machining parts for the hard disk drive, electronics and automotive industry. The contract manufacturing services include printed circuit board assembly, full turnkey system assembly, testing, packing and distribution, manufacturing of plastics injection mould parts and precision stamping parts.
Chief Executive Officer	Goh Chan Peng	
Address	30 Marsiling Industrial Estate Road 8 Singapore 739193	
Tel Fax	(65) 6349 0600 (65) 6349 0500	
Website	www.beyonics.com	
Products	HDD PCBA, Tape Drive, Box Build, Printer, PC Video, TFT Monitor, Infusion pump, Safety Syringe, Insulin Cartridge, Sensors, Cordless Telephone, Handphone, Audio/Video	Annual Sales: US\$500 million +
Company	CHARTERED SEMICONDUCTORS	Chartered Semiconductor Manufacturing is one of the world's top dedicated semiconductor foundries, providing innovative solutions for manufacturing ICs that power today's consumer, communications and computing products. Offering both mature and advanced processes, Chartered has a technology offering that spans 90 nanometer (nm) and 65nm to 0.13, 0.18, 0.25, and 0.35 micron with a roadmap to 45nm and beyond. Their customer-centric services begin even before the design stage. Chartered provides consultation and design support through their alliance with leading EDA, IP and design services companies. Turnkey manufacturing solutions that leverage their collaboration with suppliers of backend services supports this. Chartered operates five manufacturing plants in Singapore, including Fab 7, a fully automated 300-millimeter facility.
Chief Executive Officer	Chia Song Hwee	
Address	60 Woodlands Industrial Park D Street Two, Singapore 738406	
Tel Fax	(65) 6362 2838 (65) 6362 2938	
Website	www.charteredsemi.com/	

Products	Semi-custom, synopsys, cadence, tech files, memory ip, analog &MS IP, 300mm manufacturing, etc	Annual Sales: US\$750 million
Company	FLEXTRONICS	Flextronics helps customers design, build, ship, and service electronics products through a network of facilities in over 30 countries on five continents. This global presence provides design and engineering solutions that are combined with core electronics manufacturing and logistics services, and vertically integrated with components technologies, to optimize customer operations by lowering costs and reducing time to market.
Chief Executive Officer	Mike McNamara	
Address	2, Changi South Lane Singapore 486123	
Tel Fax	(65) 6543 2888 (65) 6543 1888	
Website	cy.awyong@sg.flextronics.com	
Products	Interface, tooling, electronics systems, PCB, Software, circuit, industrial parks, etc	
Company	GEOLOGISTICS PTE LTD	It is one of the largest non-asset based providers of logistics services and the only privately held company in its class. Established in 1975 to respond to the demanding global logistics requirements of multinational corporations, GeoLogistics' unique business model encompasses three service disciplines in a hierarchical model – traditional freight forwarding, integrated logistics and supply chain management – complemented by several specialty services to optimize consumers' operations.
Managing Director	Mr Mykell Lee	
Address	1 Changi North Way Singapore 498802	
Tel Fax	(65) 6220 9055 (65) 6224 4939	
Website	www.geo-logistics.com	
Products	Event & Exhibition Logistics Integrated Logistics Project Forwarding	Annual Sales: Not available
Company	JURONG HI-TECH	Jurong Technologies began providing Electronics Manufacturing Services (EMS) to local as well as overseas electronics original equipment manufacturers (OEMs) in 1988, and has today become a name synonymous with top quality and innovative solutions.
Chief Executive Officer	Lee Lok Fui	
Address	18, Tuas West Avenue Singapore 638434	
Tel Fax	(65) 6264 3344 (65) 6265 6170	
Website	http://www.jurtech.com	
Products	Product and Process Development, Materials Procurement & Management, Prototyping and NPI, PCBA - Both Turnkey and Consignment, Complete Unit Assembly (Box Builds), System Integration, ODM Products	Annual Sales: US\$1.2 billion
Company	STATS CHIPPAC LTD	A trusted partner supplier to leading semiconductor companies worldwide, STATS ChipPAC's unique value to its customers is fully integrated, multi-site, end-to-end assembly and testing solutions that bring cost effective products to market and volume faster. STATS ChipPAC is a leader in mixed signal testing and advanced packaging
Chief Executive Officer	Tan Lay Koon	
Address	10 Ang Mo Kio Street 65 #05-17/20 Techpoint Singapore 569059	
Tel Fax	(65) 6824-7777 (65) 6720-7823	

Website	www.statschippac.com/en-US/statschippac/	technology for semiconductors used in diverse end market applications including communications, power, digital consumer and computing. Their customers comprise some of the largest wafer foundries, integrated device manufacturers (IDMs) as well as fabless companies in the United States, Europe and Asia
Products	Semiconductor, packing design, assembly, etc.	Annual Sales: Not available
Company	SYSTEMS ON SILICON MANUFACTURING COMPANY PTE LTD	This company focuses on offering flexible and cost effective semiconductor fabrication solutions through the utilization of leading CMOS process technologies, SSMC has gained recognition from its global customers for consistently delivering semiconductor wafers of high quality and reliability. With a dedicated & motivated workforce, unified by a desire to make the customers' success their success, delivery lead-times are continuously managed and improved to enable rapid customer product introduction and ramp-up in their respective markets. They have business excellency with different kinds or ISO.
Chief Executive Officer	Fred Rausch	
Address	70 Pasir Ris Industrial Drive 1, Singapore 519527	
Tel	(65) 6248-7000	
Website	www.ssmc.com.sg	
Products	Semiconductors, technologies, support design, electronics, computers, etc.	Annual Sales: Not available

Source: Kompas & Economic Development Board Singapore

V. The Vision of the Private Sector

The Electronic and Information Technology Industries Survey in APEC
Company: Requested no to disclose
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>Innovate, trim cost, and use channel partners instead of setting up branches.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>No.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>I personally believe in this kind of business model. But I'm not sure if my company will go on this direction.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Free trade agreements certainly are beneficial as FTAs will bring down barriers and at the same time, also create opportunities</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>Yes, I believe so.</p>

<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>China is the main factory – Hardware India – Software factory Singapore & Hong Kong regional hubs</p>
<p>Other comments:</p> <p>Barriers are coming down due to the internet, e-commerce and many enabling technologies that are designed to reach the unreachable. Many old economy jobs and trade will disappear fast, such as photo finishing businesses and certain commercial printing industries. At the same time, there will be new industries created. Many small companies will also emerge. There will be more mini-entrepreneurs. Many people will also work at home.</p>
<p>Date: 13 October 2006</p>

<i>The Electronic and Information Technology Industries Survey in APEC</i>	
Company: Network E-Solutions Pte Ltd	
Name and title of the executive: Ben Teo, Managing Director	
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>We must come out with value added services and provide the best of breed solutions for our clients. We must be able to plan for them the ROI on their IT products and services.</p>	
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>Yes definitely. This will provide us with more profit and competitive pricing.</p>	
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>Yes because in this way consumers will have more variety to select from, giving us more options to provide better price to customers. This will definitely bring more opportunities in the business.</p>	
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>No because I don't deal with overseas yet. So far I've developed my software for local companies, but maybe in the near future.</p>	
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?.</p> <p>Not really.</p>	
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p>	

In order to sustain long in the IT industries, we must always stay ahead with new age technology. Being a player, we must come out with innovative and creativity solutions for our customer.

Other comments:

Date: 2 October 2006

The Electronic and Information Technology Industries Survey in APEC

Company: abKey Pte Ltd

Name and title of the executive:

Bob Teo, Managing Director

1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?

Alliances, partnerships, strong IP regime and protection, and lots of prayer.

2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?

Eventually we will reach the point where we will use regional manufacturing platforms to cut down on freight costs.

3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?

Yes.

4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?

Definitely.

5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?

We are essentially target market driven, so the said incentives are not the driver but a key element in our decision-making.

6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?

Convergence and consolidation, and driven by innovation.

Other comments:

Date: 10 October 2006

VII. Government and Private Organizations

Organization	Singapore Manufacturers' Federation	SMA was founded in 1932 by 17 pioneering manufacturers with the objective of representing the interests of Singapore manufacturers. At SMA, they provide their members with many business opportunities. To this end, they have organized many business-matching events. Some of these are small-scale events. A few are national events.
Chairman / Secretary General	Edwin Khew	
Members	over 2,800 corporate members	
Address	The Enterprise #02-02 No 1 Science Centre Road Singapore 609077	
Tel Fax	(65) 6826 3000 / (65) 6822 8828	
Website	www.smafederation.org.sg/	
E mail	hq@smafederation.org.sg	
Organization	Economic Development Board of Singapore	
Chairman / Secretary General	Teo Ming Kian	
Members	12-member board comprises private and public sector representatives.	
Address	250 North Bridge Road #28-00 Raffles City Tower Singapore 179101	
Tel Fax	(65) 6832 6832 (65) 6832 6565	
Website	www.edb.gov.sg	
E mail	--	
Organization	International Enterprise Singapore	International Enterprise Singapore (IE Singapore) is an agency under the Ministry of Trade and Industry spearheading Singapore's efforts to develop its external economic wing. They were formerly known as the Singapore Trade Development Board. IE Singapore works to position Singapore as a base for foreign businesses to expand into the region in partnership with Singapore-based companies.
Chairman / Secretary General	Chong Lit Cheong	
Members	IE Singapore currently supports 14 alliances, benefiting 78 Singapore-based companies.	
Address	230 Victoria Street 7th Floor, Bugis Junction Office Tower Singapore 188024	
Tel/Fax	(65) 6337 6628 (65) 6337 6898	
Website	www.iesingapore.gov.sg	
E mail	enquiry@iesingapore.gov.sg	
Organization	Singapore Infocomm Technology Federation (SITF)	The Singapore Infocomm Technology Federation (SiTF) is Singapore's premier infocomm industry association and was formed as a result of the merger of the Singapore Federation of the
Executive Director	Colin Chow	

Members	400 corporate members from MNCs and local companies.	
Address	SITF House, 55 Neil Rd. Singapore 088892	
Tel	(65)6327-2019	
Fax	(65)6325-4993	
Website	www.sitf.org.sg	
E mail	info@sitf.org.sg	
Organization	Association of the Telecommunications Industry of Singapore (ATiS)	Established in 1986, ATiS handle industry issues on behalf of the ICT / Telecommunications industry in Singapore. It seeks to provide a common platform for all members of the industry to interact, work together and position Singapore as a leading global InfoCommunications hub. ATiS members come from all areas of the ICT sector.
President	Lord John E. Shazell	
Members	8 important companies	
Address	50 Playfair Rd. #05-03 Noel Building, Singapore 367995	
Tel	(65) 6345 2300	
Fax	(65) 6345 2400	
Website	www.atiss.org.sg	
E mail	atis@atis.org.sg	
Organization	Infocomm Development Authority of Singapore (IDA)	IDA has, and continues to embark on initiatives to empower Singaporeans with convenient access to infocomm products and services. On the business front, IDA's strategies will focus on using infocomm as an agent for change to enhance business processes and optimize existing resources. In addition, the vision details strategies to strengthen infocomm contribution to the local economy through seizing the early-mover advantage in the emerging areas such as digital content creation and distribution..
Chairman	Lam Chuan Leong	
Members	5	
Address	#14-00 Suntec Tower Three Singapore 038988	
Tel	(65) 6211 0888	
Fax	(65) 6211 2222	
Website	www.ida.gov.sg	
E mail	info@ida.gov.sg	

Bibliography:

- International Enterprise Singapore: www.iesingapore.com
- Economic Development Board Singapore: www.sedb.com
- Info-comm Development Authority Singapore: www.ida.gov.sg
- Ministry of Trade and Industry of Singapore / FTAS: app.fta.gov.sg/asp/index.asp
- Singapore Electronics Industry Directory 2006/2007
- IDA YERABOOK 2005, Info-comm Development Authority of Singapore
- Singapore Electronics Association
- WTO Information Technology Agreement: www.wto.org/English/tratop_e/inftec_e/itaintro_e.htm

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC Chinese Taipei

I. Overview of the industry

Chinese Taipei is considered the world's 17th largest economy, the 17th largest exporter and the 16th largest importer according to the World Trade Organization's (WTO) revised statistics of 2004. Within its gross domestic product (GDP), the manufacturing sector represents 25.53 percent in which the main industries include electronics, information technology, electrical machinery, mechanical appliances, textiles, plastics, transportation equipment, iron and steel precision instruments and chemicals.

The development of the industrial activities with technology and capital intensive started in the 1970s. Since the 1980s, high-tech and the knowledge industries have played a significant role. Today, it is electronic and information technology (IT) industries maintain a strong participation in the manufacture production and in the worldwide IT market. In 2005 it participated with an estimated value of US\$95 billion that represented 27.4 percent of the gross domestic product with 13,538 companies that employed 774,000 persons.

Information & Communication Industry (US\$ million)

	2003	2004
Information hardware	57,100	69,600
Semiconductor	23,900	32,900
LCD panel	9,900	16,900
Communications	7,700	10,000
Software and service	4,400	4,700

Source: Market Intelligence Center (MIC)

Institute of Information Technology

The information hardware division integrates; notebook and PCs, which ranks first in the world with 72.4 percent, motherboards 78.3 percent, LCD monitors 67.7 percent, CDT monitors 53.6 percent and PDAs with 79 percent. Other products are switches, routers, cable modems and wireless area networks (WLAN).

Information and Communication Hardware (US\$ millions / K units)

Products	2004 Shipment Value	2004/2003 Value Growth (%)	2004 Shipment Volume	2005 (e) Volume
Notebook PC	21,831	29.9	33,406	43,304
Desktop PC	9,404	13.2	34,651	37,851
Motherboard	6,228	-2.3	107,987	112,902
Server	1,837	17.8	2,108	2,458
CDT Monitor	3,492	-7.8	35,329	23,305
LCD Monitor	14,402	44.4	45,693	70,581
ODD	3,544	7.5	105,835	106,862
DSC	1,972	33.8	21,204	23,910
Projector	1,034	94.7	856	1,356
Mobile phone	3,643	16.7	52,325	66,100
PDA	1,821	53.1	9,056	11,940
Switch	668	51	129,568	149,003

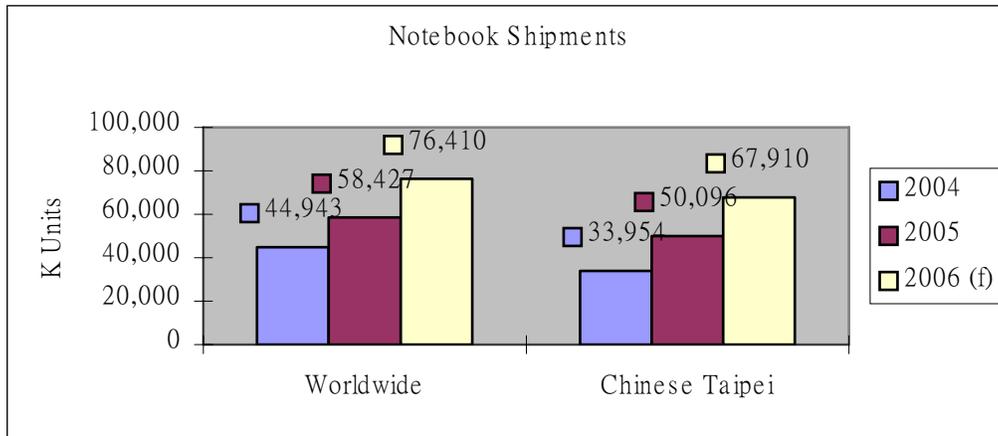
Wireless Lan NIC	993	64	53,619	90,656
Wireless Lan AP	304	34	7,580	13,440
Soho router	690	44	16,622	18,193
DSL CPE	1,133	51	32,771	40,107
Cable modem	482	61	11,968	14,559
IP-phone	173	n/a	2,621	3,234
Voice IP	420	n/a	6,957	16,535

Source: Market Intelligence Center, Institute of Information Technology
E: estimated; n/a: not available

Regarding to the locations of the Chinese Taipei production deployment, 71.2 percent comes from China, 15.6 percent from its own territory and 13.2 percent from other regions according to the Market Intelligence Center of the Institute of Information Technology.

The Computing Industry

In 2005, the Asian region accounted for 58.4 million notebooks, while manufacturers based in Chinese Taipei economy accounted for 50.1 million units or 86 percent of the total shipped worldwide. There are 14 original design manufacturers (ODMs) making notebooks. This is shown below.



Source: DigiTimes research, January 2006

Notebook Makers Consolidated revenues*, 2004-2005 (NT\$ billion)

	2004	2005	Y/Y
Arima	22.32	27.05	21.2
ASUS	250.04	357.84	43.1
Clevo	11.85	10.14	-14.4
Compal	229.79	265.46	15.5
ECS	39.78	39.82	0.1
FIC	92.02	71.97	-21.8
Foxconn	541.60	911.77	68.3
Inventec	136.93	198.58	45.0
Mitac	33.33	38.41	15.3
MSI	68.66	74.27	8.2
Quanta	330.03	479.22	45.2
Twinhead	8.92	6.41	-28.2
Uniwill	22.57	27.99	24.0
Wistron	116.75	164.73	41.1

*Total revenues for the makers, not just for their notebook sales
Source: Stock Exchange in Chinese Taipei (TSE), May 2006

The existence of more than 20 top IC design and packaging companies contributes in making Chinese Taipei the leader in the semiconductor industry. It is also an important player in Mask ROM production, and in DRAM manufacture.

As far as the motherboards are concerned, the shipments in economies of China; Hong Kong, China; and Chinese Taipei reached a volume of 135.6 million units in 2004. For 2005 the shipments for the same markets were around 140.8 million.

The Semiconductor Industry

It is an important contributor to the production since the two world largest contract chip manufacturers are from Chinese Taipei. These manufacturers are Taiwan Semiconductor Manufacturing Corporation (TSMC), and United Microelectronics Corporation (UMC). In 2006, the total production value of the semiconductor industry is expected to reach NT\$1.5912 trillion (US\$ 48.9 billion) in which the 12-inch wafer fabrication is the largest concentration. Worldwide the semiconductor sales growth in 2006 may reach US\$208 billion representing an 8.2 percent increase.

Chinese Taipei Semiconductor Industry (US\$ billion)

Sector	2003	2004	Global Position (2004)	
			Market share (%)	World Rank
IC Design	5.68	8.15	28.2	2
IC Manufacturing	14.03	19.50	67.6	1
IC Packaging	3.51	4.89	41.0	1
IC Testing	1.22	1.80	50.1	-

The exchange rate used for 2003 NT\$33.5: US\$1.00 and 2004 NT\$32:US\$1.00

Source: Industrial Development and Investment Center, Ministry of Economic Affairs

The Liquid Crystal Display (LCD) Panel Industry (including optoelectronics)

This economy is emerging as one of the largest producers in the world for large screens of 10 inches and above. In 2004, the industry reached US\$22.3 billion or 40.6 percent of the world market. There are several major LCD TV makers, such as AU Optronics Corp. which bought the Quanta Display early in 2006 making it the largest maker; Chi Mei Optoelectronics; Chunghwa Picture Tubes; Hannstar; and Quanta. Optical display is booming with an annual growth of more than 42 percent while the optical storage represents 20 percent of the displays' production. In addition, other small and medium panel manufacturers' shipments volumes accounted for more than 520 million panels. The main small and medium panel makers are Wintek, Toppoly, PVI and AUO. According to the Industrial Technology Research Institute, it is expected that in 2006 to produce US\$23 billion of large TFT-LCD (thin film transistor-liquefied crystal display), to reach for 45.7 percent of the worlds market. The mass production covers from fifth-generation and higher.

The Communication Industry

This industry has kept its growth very steadily with outstanding performance by cell phones, wireless area networking equipment global positioning systems, IP area networking equipment and broadband modem industries. In 2004, production value reached US\$14.5 billion. In order to benefit from this growth and advance technologies and market requirements, the government plans to spend additional budget into construction wireless network applications. With these actions in 2006, the production value is expected to grow to US\$23.6 billion.

The Software and Service Industry

The numbers of local companies has expanded their business scope and now have a significant presence in the car electronic market. In 2004, the total value of he software market reached US\$4.9 billion. Software products accounted for the largest share of this total, followed by web

services and then project services. A worldwide Taiwanese company is Microtrend, which is devoted to antivirus and protection applications software.

The Small and Medium Enterprises (SMEs)

These enterprises are an important pillar for the economy. In 2004, the manufacturing sector totaled 214,053 companies, which accounted for 18.39 percent of the total SMEs. Although is not a particular classification of the companies in the electronic and IT industries, it is believed that their participation is important since these industries contribute to more than 50 percent of the annual GDP.

The Number of Enterprises in 2003 and 2004, by Sector

Year/Industry		All Enterprises		Large Enterprises		SMEs	
		Number of enterprises	Percentage of total	Number of enterprises	Percentage of total	Number of enterprises	Percentage of total
2003	Total	1,171,780	100.00	25,428	100.00	1,146,352	100.00
	Agriculture	10,751	0.92	33	0.13	10,718	0.93
	Manufacturing	217,307	18.55	5,900	23.20	211,407	18.44
	Service	943,722	80.54	19,495	76.67	924,227	80.62
2004	Total	1,190,176	100.00	26,167	100.00	1,164,009	100.00
	Agriculture	10,679	0.90	29	0.11	10,650	0.91
	Manufacturing	219,995	18.48	5,942	22.71	214,053	18.39
	Service	959,502	80.62	20,196	77.18	939,306	80.70

Note: The agricultural sector in the Table above refers to the farming, forestry, fishing and livestock raising industries; the Manufacturing sector includes mining and quarrying, the manufacturing industry, the utilities industry, and the construction industry; the Service sector includes the wholesale and retail industries, the accommodation and eating-drinking places industry, the transportation, warehousing and communications industries, the finance and insurance industries, the real estate industry and leasing industry, the professional scientific and technical service industries, the educational service industry, the medical service and health care and social welfare service industries, the cultural, sporting and entertainment industries, and other service industries.

Source: Ministry of Finance Tax Data Center, VAT data for consecutive years.

II. Recent Developments in the Exports and Imports

The electric and electronic industries export value reached US\$91,007 million, or 48.1 percent of total export in 2005. Meanwhile, total imports from these industries accounted for US\$57,824 million, contributing to 31.8 percent of the total imports.

In the tables below, the most important exports and imports are listed by value. In exports, the electronic ICs and micro assemblies (semiconductors) accounted for 29.7 percent followed by LCD panels with 12.07 percent, parts for machines (computers) with 10.9 percent, sound and visual apparatus with 5.11 percent and computers with 4.91 percent. It is important to note that while the exports of semiconductors and LCD/TFT panels are increasing, the sales of computers are reducing by a significant rate. This can be explained by Taiwanese companies setting up their factories in other sites to take advantage of lower industrial costs, while the high technological content are remaining and even increasing the production in Taiwan.

As far as imports are concerned, the ICs and assemblies (semiconductors) account for 45.20 percent of the total electric and electronic imports; followed by computers with 4.97 percent; parts for these machines with 4.07 percent; diodes, transistor and similar with 3.95 percent and LCD TFT panels with 3.39 percent.

Chinese Taipei: Main Exports Products by Value

(US\$ million)

		2001	2002	2003	2004	2005
8542	Electronic integrated circuits and microassemblies	13,477	15,116	18,091	24,196	27,051
9013	Liquid crystal devices	1,287	2,254	5,107	9,030	10,988
8473	Parts and accessories suitable for use solely or principally with themachines	11,684	10,972	11,193	11,302	9,919
8531	Electric sound or visual signalling apparatus for example,bells, sirens, indicator panels, burglar or fire alarms	685	2,200	1,965	3,346	4,655
8471	Computers: automatic data processing machines and units	12,157	11,925	9,189	7,450	4,479
8534	Printed circuits	2,776	2,692	3,111	3,997	4,468
8523	Prepared unrecorded media for sound recording or similar recording	1,508	1,245	2,219	2,756	3,681
8525	Transmission apparatus for radio-telephony,radio-telegraphy, radio-broadcasting or television	827	1,276	2,439	3,131	3,523
8541	Diodes, transistors and similar semiconductor devices	1,221	1,527	1,945	2,547	2,886
8528	Reception apparatus for television, whether or notincorporating radio-broadcast receivers or sound or videorecording or reproducing apparatus; video monitors and video projectors	564	647	1,139	1,729	2,441
8529	Parts suitable for use solely or principally with theapparatus said above	1,051	1,352	1,528	1,970	2,058
8517	Electrical apparatus for line telephony or line telegraphy,including cordless handsets	2,648	2,692	2,291	2,081	1,810
8504	Electrical transformers, static converters and inductors	1,677	1,345	1,495	1,805	1,331
8536	Electrical apparatus for switching or protecting electricalcircuits ei., switches, relays, fuses, surgesuppressors, plugs, sockets, lam	695	723	826	1,012	1,049
8532	Electrical capacitors, fixed, variable or adjustable	624	655	766	945	951
8544	Insulated wires, cables and other insulated electricconductors	595	556	560	650	708
8538	Other electronics parts	322	331	379	398	440
8533	Electrical resistors	340	365	393	393	377
8518	Microphones and stands therefor; loudspeakers, headphones and earphones,	434	389	387	402	375
	Total	54,571	58,261	65,020	79,140	83,187

Source: Board of Foreign Trade, August 2006

Chinese Taipei: Main Imports Products by Value

(US\$ million)

		2001	2002	2003	2004	2005
8542	Electronic integrated circuits and	16,219	18,444	19,922	24,221	26,138
9013	Liquid crystal devices	662	879	2,222	2,545	1,961
8473	Parts and accessories suitable for use solely or principally with themachines	1,392	1,643	2,070	2,455	2,357
8531	Electric sound or visual signalling apparatus for example,bells, sirens, indicator panels, burglar or fire alarms	349	555	709	884	885
8471	Computers: automatic data processing	5,470	6,166	4,132	3,398	2,875
8534	Printed circuits	168	182	335	555	745
8523	Prepared unrecorded media for sound recording or similar recording	75	55	149	245	456
8525	Transmission apparatus for radio-telephony,radio-telegraphy, radio-broadcasting or television	1,315	1,350	1,486	1,610	1,961
8541	Diodes, transistors and similar	1,746	1,880	2,064	2,338	2,285
8528	Reception apparatus for television, whether or notincorporating radio-broadcast receivers or sound or video-recording or reproducing apparatus; video monitors and video projectors	132	173	278	203	252
8529	Parts suitable for use solely or principally with theapparatus said above	352	338	456	738	954
8517	Electrical apparatus for line telephony or line telegraphy,including cordless handsets	1,410	907	836	822	966
8504	Electrical transformers, static converters	859	851	905	1,056	1,115
8536	Electrical apparatus for switching or protecting electricalcircuits ei., switches, relays, fuses, surge suppressors, plugs, sockets, lam	1,122	1,076	1,155	1,241	1,271
8532	Electrical capacitors, fixed, variable or adjustable	790	808	939	1,044	954
8544	Insulated wires, cables and other insulated electricconductors	360	323	354	390	488
8538	Other electronics parts	174	147	185	219	242
8533	Electrical resistors	143	140	157	168	150
8518	Microphones and stands therefor;	140	156	154	167	175
	Total	32,879	36,071	38,508	44,299	46,229

Source: Board of Foreign Trade, August 2006

III. Trade Negotiations Related to the Industries

Since its formal adhesion to the World Trade Organization (WTO) in January 2002 it is a committed participant of the Information Technology Agreement (ITA). The participating economies represent an important share of the 97% of the world trade in information technology products. While ITA is solely a tariff cutting mechanism, most of the IT products are rated zero. This applies to the 68 members & states or separate custom territories in the process of acceding to the WTO. As of July 2006, the following APEC economies have accepted the criteria: Australia; Canada; China; Hong Kong, China; Indonesia; Japan; Korea; Malaysia; New Zealand; the Philippines; Singapore; Chinese Taipei; Thailand and the United States.

Other free trade agreements have been signed with Panama, Nicaragua and Guatemala. These three agreements will boost trade and investment and create a mutually beneficial business environment and enhance bilateral relations. The content of the agreements does not consider a specific treatment for the electronic and IT products. Thus, the market is deregulated.

There have been other approaches with the United States of America to explore the possibilities of negotiating a bilateral free trade agreement. However at this time, there are no promises.

In addition Chinese Taipei is a member economy of the Asia Pacific Economic Cooperation since November 1991 and has committed to deregulate manufacturing sectors.

IV. Programs and Special Incentives to the Industry

As part of the government plan to support strategic industries in maintaining a 4 percent economic growth until 2015, there are a number of incentives and programs that are in place up until 2009. However, the government is now considering allowing these incentives to remain until the 2015.

US\$30 billion	
2004	2008
Semiconductors	Semiconductors Flat Panel Displays <ul style="list-style-type: none"> ● Communications ● Petrochemicals ● Steel
US\$15 billion	
2004	2008
Flat Panel Displays Petrochemicals Steel Machinery & Equip.	<ul style="list-style-type: none"> ■ Textiles ◀ Electronic Components ◀ Digital Hardware ■ Automobiles ◀ Machinery & Equip ■ (Processed) Foods

US\$3 billion	
2004	2008
Communications Electronic Components Information Hardware Automobiles Textiles (Processed) Foods Metallic Products Digital Content Information Services Bio-tech Electronic Materials Plastic Products Bicycles & Motorcycles Paper Making	<ul style="list-style-type: none"> ◆ Digital Content ◆ Bio-tech ◀ Electronic Materials ■ Plastic Products ■ Bicycles & Motorcycles ■ Metallic Products ■ Paper Making ◀ Optical Media Storage ◀ Machine Tools ◀ Machinery Parts & Accessories ◀ Information Services <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-left: 20px;"> <p>Strategic Services</p> <p>Design Services</p> <p>Cultural & Creative</p> <p>R & D Services</p> <p>Distribution & Logistics Services</p> </div>

Source: Industrial Development and Investment Center, Ministry of Economic Affairs

- NT\$2 Trillion Industries
 - ◆ Twin Star Industries
 - ◀ High-growth Industries
 - Core Industries (production over NT\$100 billion)
- Exchange Rate: US\$1: NT\$32

Industrial Parks

As part of the support to the strategic industrial areas, there are various industrial parks regulated and developed by the regional and/or national government with participation of the private sector. Most of them are located in the areas with good location, developed and well maintained road systems, access to public utilities (e.g. water, electric supply, sewage system), and professional management. Consequently, the parks are typically a company's first choice when choosing between industrial lands. As of 2005, there were 60 government-regulated industrial parks in Chinese Taipei, with the majority located in the northern and central regions.

The industrial Development Bureau of the Ministry of Economic Affairs (MOEA) introduced lease and sales incentives to promote plant investment by manufacturers. As an incentive, tenant companies will enjoy waived rent for industrial land for the first two years, a 40 percent rent discount for the third and fourth years, and a 20 percent discount for the fifth and sixth years. The payment of full lease fees starting in the seventh year, so called "006688 Incentive", while "6688 Incentive" is for leasing buildings in industrial park. If a tenant wishes to purchase during the lease period, their rent will be counted against purchase price. Rents are the product of the price used to calculate rent and the "lease rent, which are set on the bases of costs and market factor.

Special Incentives

Incentive Measure	Nature of Incentive
<i>Investment in emerging, important, and strategic industries</i>	The investor may choose one of the following: <i>The investment tax credits for shareholders:</i> A company or individual who subscribes to the registered stock issues by a company in an emerging, important, or strategic industry, and who holds the stock for at least three years, may claim a deduction from the profit-seeking-enterprise income tax or consolidated income tax due over a period of five years beginning with the current year. A profit-seeking enterprise may deduct up to 20 percent of the cost of such stock from its profit-seeking-enterprise

	<p>income tax for the current year.</p> <p>An individual may deduct up to 10 percent of the cost of such stock from the consolidated income tax for the current year, provided that the deductible amount within each year is not more than 50 percent of the consolidated income tax payable for that year; this limitation will not apply, however, to the amount deducted in the final year. The rate of tax reduction provided above will be reduced by 1 percentage point every two years beginning on 1 Jan 2000.</p> <p><i>Five-year tax holiday for companies:</i></p> <p>A company investing in an important, emerging, or strategic industry may, within two years from the date at which shareholders begin paying their stock price and with the approval of its shareholders meeting, select exemption from the profit-seeking-enterprise income tax and waive the right of shareholders to claim income tax deductions as set forth above. Once the selection is made, no change will be allowed.</p> <p>A newly incorporated company that meets certain conditions will be exempted from the profit-seeking-enterprise income tax on the increased income derived from the expansion for a period of five consecutive years from the date the newly added equipment begins to operate or the rendering of services begins. However, this provision is limited to the expanded construction of independent production or service units, or the expansion of primary production or service equipment, via capital increase.</p> <p>A company that is eligible for a tax exemption as described above may, within two year of the date on which it starts to sell its precuts or render its services, choose to defer the commencement of the tax-exemption period. The period of deferment may not be more than four years, and the date on which the exemption period begins following deferment must be the first day of a fiscal year.</p> <p>A company that carries out a capital increase using undistributed profits may apply the three items above.</p>
<p><i>Accelerated depreciation of equipment and facilities</i></p>	<p>Equipment and facilities used exclusively for R&D, experimentation and quality control purposes, equipment, machinery and facilities that are utilized for energy conservation or that use new and clean energy, are eligible for an accelerated depreciation period of two years. If there is any residual post-depreciation service life remaining following the accelerated depreciation period, depreciation may be continued for one or several years within the service life of the assets as specified in the Income Tax Law until the assets are fully depreciated.</p>

<i>Science-based industries</i>	<p>Effective 1 January 2002, machinery and equipment that is imported for a company's own use and that is not yet manufactured domestically may, with the approval of the Ministry of Economic Affairs, be exempt from import tariffs and business taxes.</p> <p>Import tariffs and business taxes will be levied on imported machinery or equipment that, within five years of its importation, is sold or its use is changed so that it no longer meets the conditions for tax exemption or conforms to its original use. Machinery or equipment that is sold to companies that operate within science-based industrial parks, export processing zones, or other science-based industrial companies is not subject to this limitation.</p> <p>Raw materials that are imported by bonded factories are exempt from import tariffs and business taxes. Import tariffs and business taxes will be levied on such raw materials, however, if they are shipped outside the bonded area.</p>
<i>Establishment of International logistics and distribution centers</i>	<p>When foreign profit-seeking enterprises or branch companies which they have established within the Chinese Taipei economy set up themselves, or commission domestic profit-seeking enterprises to set up logistics and distributions centers to engage in the warehousing and simple processing of goods from the said foreign profit-seeking enterprise which are then delivered to domestic customers, the income so derived is exempt from the profit-seeking-enterprise income tax.</p>
<i>Company mergers</i>	<p>Merged companies are exempt from profit-seeking-enterprise income taxes and securities transaction taxes resulting from their merger, and may apply the provisions for the deduction of losses. In addition, the land increment tax due on land that is owned by a company and is transferred along with the merger of that company may be charged to the account of the surviving enterprise.</p>
<i>Establishment of operations headquarters</i>	<p>For companies that establish operations headquarters in Chinese Taipei that reach a certain scale and that have a major economic effect, the income that they derive from the provision of management services or research and development to the related companies which they acquire in Chinese Taipei, as well as royalty income, profit from investment, and gain from the disposition of properties, are exempt from the profit-seeking-enterprise income tax; in addition, such companies may procure publicly owned land at preferential prices.</p>
<i>Reinvestment</i>	<p>If for the purpose of adjusting its business operations, a company invests in production or service equipment and the land on which such equipment is located in a another enterprise in which it holds at least a 40 percent share, the land value increment tax on the reinvested land may, with prior government approval, be deferred based on the ratio of shares held and upon receipt of a proper guarantee from the company.</p>

<i>Five-year tax deferment for exchange of technology for shares</i>	Effective 1 January 2004 persons who obtain share in emerging-industry companies by exchanging technology for the shares may defer the payment of income tax on those shares for five years, on condition that the shares so obtained make up more than 20 percent of the company's total equity and that the number of shareholders who exchange technology for shares does not exceed five.
<i>Exchange of technology for stock options</i>	Effective 1 January 2004 enterprises may provide stock options to technology owners as compensation for the provision of that technology. When the stock options are exercised, income tax must be paid on the amount by which the market price of the shares at the time when the options are exercised exceeds the option price.
<i>Incentive for Research & Development (R&D)</i>	A company (including a wholly foreign owned subsidiary in Chinese Taipei) can have a tax credit of up to 30 percent of the amount invested in R&D against its profit-seeking enterprise income tax payable. Unused credit could be carried over for five years starting from the year the expenditure is made. Qualified R&D expenses should be those for the company's research on new products or technologies, improvement of their production or service providing technology, and improvement of manufacturing processes
<i>Incentive for Personnel Training</i>	A company (including a wholly foreign owned subsidiary in Chinese Taipei) can have a tax credit of up to 30 percent of the amount invested in personnel trainings against its income tax payable. Unused credit could be carried over for five years starting from the year the expenditure is made. The expenses should be for the development of company employees or relevant training activities relating to its business, conducted either in-house or by outside training agents.
<i>Incentive for New Equipment or Technology</i>	<p>A company may deduct 5 percent to 20 percent of the amount invested in the following areas from its income tax liability. Again, unused tax credit could be carried over for five years starting from the year the new equipment or technology is delivered.</p> <ul style="list-style-type: none"> ➤ Investments in automation equipment or technology. ➤ Investments in recycling and pollution control equipment or technology ➤ Investments in equipment or technology for the use of new and clean energy, energy conservation, and industrial wastewater recycling. ➤ Investments in equipment or technology for reducing greenhouse gas emissions and enhancing energy efficiency. ➤ Investments in the hardware, software, and/or technology that can promote an enterprise's digital efficiency, such as enhancing the digital telecommunication capabilities, enterprise resource planning, communication and telecommunication products, electronics and/or audio visual equipment.

V. The Private Sector in the Industries

The following are some of the companies involved in the electronic and information technology industries.

Company	Taiwan Semiconductor Manufacturing Co	TSMC is the world's leading chip foundry, producing semiconductors for clients rather than selling under its own brand. TSMC boasts a strong base of customers from the US and Europe and has benefited from the explosion in demand for semiconductors in wireless LAN gear and cellular phones. It has a plant in China of 12" wafer.	
Chief Executive Officer	Rick Tsai		
Address	8, Li-Hsin Rd. 6, Hsinchu Science Park Hsinchu, Taiwan 300-77		
Tel	(886-3) 563 6688		
Website	www.tsmc.com		
Products	Global Semiconductor chips		Annual Sales: US\$8.2 billion (2005)
Company	BenQ Corp.	BenQ stands for "bringing enjoyment and quality to life." Occasionally its originality and creativity results in winning awards around the world making it one of the island's most successful firms. Recently, BenQ acquired the handset division of German giant Siemens and skyrocketed into becoming the world's fourth largest cellular-phone maker.	
Chief Executive Officer	Lee Kun-yao		
Address	157 Shan-Ying Road, Gueishan Taoyuan 333, Taiwan		
Tel	(886-3) 359-5000		
Fax	(886-3) 359-3235		
Website	www.benq.com		Annual Sales: US\$3.1 billion (2004)
Products	Personal Computers, MP3 players, LCD/TFT monitors, mobile phones, digital cameras and projectors, CD , DVD drives.		
Company	Hon Hai Precision Industry Co (FOXCONN)	The company is successful thanks to its ability to maintain profitability despite customer's relentless pressure to drive costs down. It has factories in the Czech Republic, plants in Brazil and Hungary, is expanding in Mexico and leverages its 200,000 strong-workforce in China. Now the company is expanding into LCD manufacturing and is boosting production in areas of electronics.	
Chief Executive Officer	Terry TM Gou		
Address	2, Tzu Yu St., Tu-Cheng City, Taipei Hsien, 236, Taiwan		
Tel	(886-2) 2268-3466		
Fax	(886-2) 2268-6204		
Website	www.foxconn.com		Annual Sales: US\$6 billion
Products	PCs, cell phones, PlayStation games, MP3 players for Apple, LCD monitors		
Company	Acer Inc.	The company hit back by becoming the world's number four PC brand this year and number one in Europe. Slick and functionally design are part of Acer's success and to counter slower growth the company recently announced it was moving into LCD TV production. In addition, by focusing on marketing the Acer branded IT products and services, the company has managed to build itself into a global force.	
Chief Executive Officer	JT Wang		
Address	8F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih Taipei Hsien 221, Taiwan		
Tel	(886-2) 2696-1234		
Website	www.acer.com		Annual Sales: US\$9.7 billion
Products	Personal Computers, LCD TV production, Acer branded IT products		
Company	Quanta Computer Inc.	It is considered the world largest manufacturer of notebooks. The company employs around 20,000 workers. However, more important, is that head quarter's operations really made the company tick and add value to the island and customers worldwide. Quanta adopts a "can-do" attitude that sets projects into generations of excellence development and production in emerging markets.	
Chief Executive Officer	Barry Lam		
Address	No. 188, Wen Hwa 2 nd Rd., Kuei Shan Hsiang, Tao Yuan Shien, Taiwan		
Tel	(886-3) 327-2345		
Fax	(886-3) 327-1511		
Website	www.quantatw.com		Annual Sales: Approximately US\$6 billion
Products	Notebook PC's, servers, cell phones,		

	auto electronics	
Company	AUO Optronics Corp.	The merger of Acer Display Technologies Inc. and Unipac Optoelectronics Corp. formed AUO Optronics Corp. It is a subsidiary of the BenQ Group and the third largest company focused on TFT-LCD design, development, manufacturing and marketing. It is one of the few suppliers in the market with the technology to manufacture a complete product line of TFT-LCD modules. The company employs around 19,000 workers.
Chief Executive Officer	K.Y. (Kuen-Yao) Lee	
Address	No. 1, Li-Hsin Rd. 2, Science-Based Industrial Park, Hsinchu 300, Taiwan	
Tel Fax	(886-3) 500-8899 (886-3) 563-7608	
Website	www.auo.com	
Products	Desktop Displays, audio-video displays, mobile displays, TV displays.	
Company	United Microelectronics Corp.	UMC is a world-leading semiconductor foundry, specializing in the contract manufacturing of customer designed IC for high performance semiconductor applications. In 2003, UMC was the first pure-play foundry to deliver working 90nm customer products. UMC is the foundry technology leader, receiving more semiconductor patents than any other company in Chinese Taipei. It employs over 12,000 people worldwide with offices in Japan, Singapore, Europe, and the United States.
Chief Executive Officer	Robert Tsao	
Address	3 Li-Hsin Road, Sec. 2, Science-based Industrial Park, Hsinchu City, Taiwan, R.O.C.	
Tel Fax	(886-3) 578 2258 (886-3) 5774767	
Website	www.umc.com	
Products	Semiconductor Foundry main products: chips, wafers	
Company	TATUNG Company	Tatung Company is a worldwide leader in the design and manufacturing of a vast array of digital consumer products, including LCD TVs and PDPs, network-connected devices, storage-based media players and home appliances. It has global network of operations in 12 countries and has developed a solid position to deliver products more efficiently and render customer services more effectively.
Chief Executive Officer	W.S. Lin	
Address	22 Chungshan North Road, Sec. 3, Taipei, Taiwan, R.O.C.	
Tel Fax	(886-2) 2592-5252 (886-2) 2591-5158	
Website	www.tatung.com	
Products	Electronical Appliances, Electric Machinery, Motors, Transformers, Monitors, Servers, Table PC, Power Cable and Cable wire.	
Company	TECO Electric & Machinery Co., Ltd.	Over the years, this company has successfully diversified into a conglomerate with worldwide business operations. TECO is not only renowned as a leading heavy electrical industrial motor brand, but also as a leading manufacturer of home appliances, telecommunications equipment, IT systems, electromechanical components and commercial electronics. TECO Group is also committed to the medical information system, e-commerce, semiconductor, optronics, network, software, infrastructure, financial investment, food services, and distribution industries, becoming a globalized, high-tech enterprise group with about 30 subsidiaries and affiliations across Asia, America and Europe. The total employee amount is over tens of thousands.
Chief Executive Officer	Theodore M.H. Huang	
Address	5F, 19-9 San Chong Rd., Nan-Kang, Taipei 115, Taiwan, R.O.C.	
Tel Fax	(886-2) 2655-333 (886-2) 2655-2261	
Website	www.teco.com.tw	
Products	Industrial Motors, Household appliances, Commercial Air Conditioning Appliances, Control & Systems, Smart Card.	
Company	Inventec Corporation	Inventec has implemented ERP, SCM, PDM, and Knowledge Management systems for global operations with high efficiency. Armed with leading
Chief Executive Officer	Yeh, Kuo-I	

Address	66 Hou Kang St. Chih Lin, Taipei, Taiwan, R.O.C.	innovative technologies, relentless 24/7 R&D drive, hardware integration capability, advanced and reliable products, and flexible build to order (BTO) as well as versatile configure to order (CTO), they commit to supporting and meeting customers' highest expectations. The overall annual production quantity is seven millions notebook computers and two million servers.
Tel	(886-2) 2881-0721	
Website	www.inventec.com.tw	
Products	Notebook PC, Electronic Dictionary, Desktop PC	Annual Sales: US\$4.9 billion (2005)
Company	<i>Chi Mei Optoelectronics (CMO)</i>	CMO is one of the world's leading manufacturers of thin film transistor liquid crystal display panels. CMO is also one of the world's top three suppliers of LCD panels for televisions. In addition, It provides products with wide view, fast response, high brightness, high contrast and high color saturation. CMO is the largest supplier of LCD television panels in Chinese Taipei.
Chief Executive Officer	Hsu Wen-Lung	
Address	No.3, Sec. 1, Huanshi Road, Southern Taiwan Science Park, Sinshih Township, Tainan County, 74147, Taiwan R.O.C.	
Tel	Tel: 886-6-505-1888	
Website	www.cmo.com.tw	
Products	TFT- LCD panels for desktop monitors and notebook PCs, LCD panels for television	
Company	<i>Compal Electronics Inc.</i>	Compal has wined the trust of costumers and developed itself into one of the main leading companies in the global IT industry. In 2004, its total annual revenue has reached US\$6.32 billion dollars and its worldwide workforce is over 16,000. Compal has founded plenty of customer service branches in China, South Korea, the US, and the UK which provide customers with prompt and flexible services.
Chief Executive Officer	Ray Chen	
Address	No. 581, Jui-Kuang Rd., Neihu, Taipei, Taiwan, 114	
Tel	(886-2) 8797-8588	
Fax	(886-2) 2658-5001	
Website	www.compal.com	
Products	Notebook, Monitor, and PDA & Phone	Annual Sales: US\$6.32 billion (2004)
Company	<i>Wistron Corp.</i>	Wistron Corporation is among the world's largest ODM (original design manufacturer) companies producing ICT products. It has expanded to include operations in Asia, Europe, and North America and focuses on engineering-based company with extensive experience in product development. It develops leading IT concepts to expand the marketplace potential.
Chief Executive Officer	Simon Lin	
Address	21F, 88, Sec. 1, Hsin Tai Wu Road., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Tel	(886-2) 8691-2888	
Fax	(886-2) 8691-2188	
Website	www.wistron.com	
Products	ICT products: mobile and desktop systems, networking and communication products	Annual Sales: US\$5 billion
Company	<i>Asustek Computer Inc.</i>	Asus, a technology-oriented company blessed with one of the world's top R&D teams, is well known for high-quality and innovative technology. As a leading provider of 3C (computers, communications and consumer electronics) total solutions, Asus offers a complete product portfolio to compete in the new millennium. In 2005, Asus shipped 52 million motherboards, which means one out of every 3 desktop PCs sold last year was powered by an ASUS motherboard.
Chief Executive Officer	Johhny Shih	
Address		
Tel	(886-2) 2894-3447	
Fax	(886-2) 2895-9254	
Website	www.asus.com	
Products	Barebones PCs, broadband, LCD monitors, Motherboards, networking, Notebooks, and PC components.	Annual Sale: US\$5.4 billion (2005)

Company	High-Tech Computer Corp.	Founded in 1997, High Tech Computer Corp. (HTC) is a technology provider specializing in cutting-edge converged mobile devices. Since its establishment, the company has developed strong R&D capabilities, pioneered many new designs and product innovations, and launched state-of-the-art PDA Phones and Smartphones for operators and distributors in the global telecommunications industry. Today, HTC makes 80 percent of the mobile phones running the Windows OS. Worldwide, it is number three on the "IT 100" Makers.
Chief Executive Officer	Cher Wang	
Address	23 Hsin Hua Rd., Taoyuan 330, Taiwan, R. O. C.	
Tel Fax	(886-3) 375 3252 (886-3) 375 3251	
Website	www.htc.com	
Products	Smart phone and PDA mobile devices.	
Company	Trend Micro Inc.	Trend Micro Incorporated is a global leader in network anti-virus and internet content security software and services. Founded in 1988 by Steve Chang, the company led the migration of virus protection from the desktop to the network server and the Internet gateway, gaining a reputation for vision and technological innovation along the way. Trend Micro focuses on outbreak prevention and on providing customers with a comprehensive approach to managing the outbreak lifecycle and the impact of network worms and virus threats to productivity and information, through such initiatives as Trend Micro Enterprise Protection Strategy.
Chief Executive Officer	Eva Chen	
Address	11F, No. 198, Sec.2, Tun Hwa S. Road., Taipei, Taiwan(106)	
Tel Fax	(886-2) 2378-9666 (886-2) 8733-1811	
Website	www.trendmicro.com	
Products	Network anti-virus and Internet content security software and services	
Company	Advanced Semiconductor Engineering Inc.	Over the past twenty years, ASE has built a world-class company, committed to providing global customers with the most advanced technologies, innovative product solutions, and dedicated customer service. ASE's strong drive and commitment has culminated in the company becoming the world's largest provider of independent semiconductor manufacturing services in assembly and test.
Chief Executive Officer	Jason C.S, Chang	
Address	Rm 1901, 19F, 333 Keelung Rd., Sec. 1, Taipei 110, Taiwan, R.O.C.	
Tel Fax	(886-2) 8780-5489 (886-2) 8780-6797	
Website	www.aseglobal.com.tw	
Products	IC Packaging Testing, Total Solutions for Electronic Services (EMS)	
Company	Logitech Inc.	Logitech is a growing EMS with OEM/ODM products ranging from computer peripherals to an array of wireless devices. In 2005, revenues surpassed US\$40 million. Furthermore, strategic managing has enabled this incorporation to act efficiently by manufacturing at low costs but still be competitive. Logitech currently employs over 1, 400 employees.
Chief Executive Officer	Dr. K. Casey Chuang	
Address	8F, 56 Nanking East Rd., Sec. 4, Taipei 105, Taiwan, R.O.C.	
Tel Fax	(886-2) 2578-0235 (886-2) 2578-3137	
Website	www.logi.com.tw	
Products	Calculators, Replay Calculators and Personal Organizers/Data Banks.	
Company	Nanya Technology Corp.	The company conducts research and development, design, manufacturing, and sales of DRAM products, with worldwide sales offices in the US, Europe, Japan and China. The main shareholder is Nanya Plastics Corporations of the Formosa Plastics Group. In 2005, the company achieved US\$1,547 million in revenue, a 22.8 percent growth compared with the previous year.
Chief Executive Officer	Chin Jen Wu	
Address	Hwa Ya Technology Park 669,Fu Hsing 3rd Rd, Kueishan Taoyuan, Taiwan R.O.C.	
Tel Fax	(886-3) 328 1688 (886-3) 396 0997	

Website	www.nanya.com	
Products	R&D, design, manufacture, marketing and foundry service for the most advanced DRAM.	Annual Revenue: US\$1.5 billion

VI. The Vision of the Private Sector

<i>The Electronic and Information Technology Industries Survey in APEC</i>	
Company: Inventec Corporation	
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?	In order to keep our business and compete effectively, the company looks for low cost regions. People are a key part in the manufacturing process. Therefore, salaries should be low to keep our costs at an optimum level.
2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?	Yes. In order to have presence in all markets, the company sets up factories in Europe, Asia and North America under the low cost region strategy. In addition, quality and the landing cost must be attractive in order to source products from local suppliers.
3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?	The company is an ODM therefore we supply products and its design. It might source from SMEs, but the problem is that our customer must certify the part and this takes up a lot of time throughout the process.
4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?	Overall they are very useful.
5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?	The incentives are very important for us. They could perhaps influence more than the market size.
6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?	The industries will continue to grow. There are various manufacturers from Japan, Korea, and Singapore that ship their products to everywhere. However, China and India are becoming also important suppliers to the world. In return, their people should improve their prosperity, job opportunity and better income. Thus, these become new and promising markets.
Date: 9 August 2006	

The Electronic and Information Technology Industries Survey in APEC

Company: Asustek Computer Inc.

1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?

By having manufacturing capacity in different parts of the world. Our expansion started in 1999 with our factory in China and then in 2003 to the North America region including Mexico as well as to the Czech Republic. It is important to reduce cost and time to respond efficiently to the market. Therefore, logistics are also crucial to overcome the challenges. Furthermore, investing in R & D for long-term vision is necessary.

2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?

Yes. We follow the self-sustain. However, in some cases sourcing locally is a better option. For example, some services in the assembly process are needed; therefore it is better to use the local suppliers. Same example could be for transportation of goods or employees, for food service or bulky items.

3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?

Yes, in some cases the suppliers can provide services including design. For example, designing a case or carton to carry the items or transportation of employees, recruiting human resources, and others are good opportunities for SMEs.

4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?.

Yes, in general they are useful.

5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?

Incentives are more attractive for a long-term commitment. The markets change so rapidly and the decision to start up a new plant should be a long-term vision.

6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?

To continue investing in R & D. These industries rely on technology and technology is changing everyday. Also important is to develop strategic alliances with related parties of the same business line. It is important to sum up and avoid division with key suppliers and at the same time, creating differentiation to face the competition.

Date: 10 August 2006

<i>The Electronic and Information Technology Industries Survey in APEC</i>	
Company: Eastern Precision Industries Co.	
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?	Our company is specialized in mold & die for the electronic industry. Our customers require us to maintain quality and good service, but at the same time request a competitive price. Therefore, we need to keep improving our processing lines in order to be competitive.
2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?	Yes. We have two factories in China and we sources services from local suppliers. It is more convenient for our operations.
3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?	Yes. It provides opportunities for many companies related to the industry.
4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?	Yes, in general they are useful, but at the same time, they also create more competition coming from the companies that benefit from these new agreements.
5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?	Incentives are welcome, but in our case, we need to be where our customers are located. Therefore, market influence more in our decisions of new projects.
6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?	The electronic industry will continue growing, but at the same time, the number of competitors from other economies will increase. The electronic consumer manufacturers are creating more and more new products to respond to the demand. This shortens the shelf life of products, therefore demands more production and development from all companies involved.
Other comments:	
Date: 13 September 2006	

VII. Government and Private Organizations

Organization	<i>Ministry of Economic Affairs, The Department of Investment Services</i>	The aim of this organization is to provide information on the economy, publish investment promotion material and assist foreign and local companies to invest abroad.
Deputy Director General	Robert Y.G. Ho	
Members	Not available	
Address	8F., No. 71, Guancian Road, Taipei 10047, Taiwan, R.O.C.	
Tel Fax	(886-2) 2389 2111 (886-2) 2382 0497	
Website	www.dois.moea.gov.tw	
E mail	ygho@moea.gov.tw	
Organization	<i>Industrial Technology Research Institute</i>	ITRI has played a vital role in the transformation of the economy from an agriculture-based model to an industrial one. ITRI serves as the technical center for industry and an unofficial arm of the government's industrial policies. Backed by its broad research scope and close industrial ties, ITRI is becoming an increasingly active member in the global industrial R&D community.
General Director	Dr.-Ing. Liang-Han Hsieh	
Members	6,300 researchers and employees	
Address	A000, IBC/ITRI Rm. 607, Bldg. 51, 195, Sec. 4, Chung Hsing Rd. Chutung, Hsinchu, Taiwan 310, R.O.C.	
Tel Fax	(886-3) 591-2686 (886-3) 582-0464	
Website	www.itri.org.tw	
E mail	Lhsieh@itri.org.tw	
Organization	<i>Taiwan Electrical and Electronic Manufacturer's Association</i>	This association focuses on providing information to members and advising them in legislation conferences, fairs, training and others.
Deputy Secretary General	Cindy Chen	
Members	4,060; 1,137 large scale and 2,923 SMEs	
Address	6F, No. 109, Sec. 6 Min Chuan E. Rd., Taipei 114, Taiwan, R.O.C.	
Tel Fax	(886-2) 8792-6666 (886-2) 8792-6141	
Website	www.teema.org.tw	
E mail	cindy@teema.org.tw	
Organization	<i>Taipei Computer Association</i>	The Taipei Computer Association provides information about the computer industry, services related legislations, major exhibition services, online services, membership services, training services and holding expositions.
Chairman	Dr. Frank Huang,	
Members	4,000	
Address	No. 2, 3rd Floor, Pa Teh road, section 3, Taipei city, 105 Taiwan	
Tel Fax	(886-2) 2577-4249 (886-2) 2578-5392	
Website	www.tca.org.tw	
E mail	e-service@mail.tca.org.tw	
Organization	<i>Taiwan Mould & Die Industry Association</i>	This association provides focus to the production of mold and die for electrical home appliances, glass and ceramics, casting
Secretary General	Johnson Tsai	

Members	1,100	
Address	Rm16, 6fl. No. 12, Lane 609, sec 5, ChungHsin Rd. san Chung City, Taipei Hsien, Taiwan	
Tel	(886-2) 2999 5108	
Fax	(886-2) 2999 5116	
Website	www.tmdia.org.tw	
E mail	tmdia@ms2.hinet.net	

Bibliography:

- Taiwan Electrical and Electronic Manufacturers Association, report 2006
- 2006 Taiwan Industrial Outlook, Ministry of Economic Affairs
- Electronics, Communication Products and Computer Peripherals, Market Intelligence Center (MIC). 2005-2006
- DigiTimes Research, January 2006
- Bureau of Foreign Trade, Trade Statistics
- Industrial Development and Investment Center, Ministry of Economic Affairs

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC Thailand

I. Overview of the industry

The Thai electronics industry took off in the 1980s with Japanese investment in television and stereo production. Today, Thailand is a world leader in the manufacturing of hard disk drives (HDDs), digital office equipment, air conditioners, televisions and other household appliances. Three out of the economy's top five exports in 2004 were electronics products. Also, the vibrant integrated circuits (ICs), packaging and testing industry is continuing to grow rapidly.

Thailand is now focusing on developing its information and communication technology (ICT) sector. Its success is evident. Between 2003 and 2004, the software and hardware industries grew by 14 percent and 19 percent respectively, with software revenue totaling 899 million baht and the hardware industry yielding 1.68 billion baht. In addition, Thailand is well positioned industrially and logistically to become the regional base for 'just-in-time' schemes for electrical and electronics manufacturing.

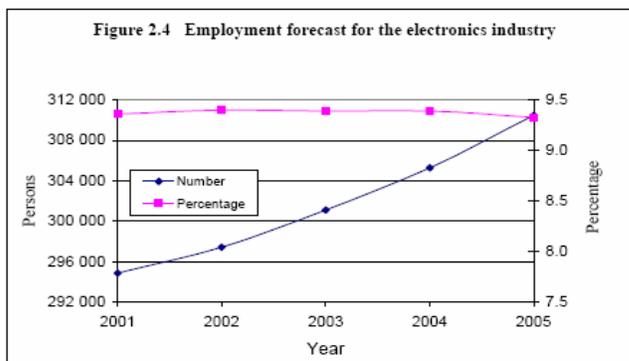
Thailand is the world's second largest HDD producer with four out of five of the world's leading HDD manufacturers having established production bases in this economy. Forecasts indicate that Thailand's HDD world market share will hit 42 percent for 2005, an astounding increase from 19.9 percent in 2004. As the world leader in HDD technology, Seagate remarks the availability of skilled workers as a top reason for being located in Thailand.

The global HDD industry projects an annual growth rate of 17 percent, from 261 million units in 2003 to 500 million in 2010. The forecast is to produce 147 million HDD in 2005, up from 72 million in 2004. In 2004, exports of HDDs grew by 86.5 percent, accounting for 12.3 percent of the economy's exports. Cluster development facilitates domestic production of many components, including spindle motors, suspensions and tooling/heat treatment systems.

Software Industry

Added to its electronics profile, the software industry in Thailand has been established for 35 years and is worth more than US\$700 million, growing at 23 percent annually. But the industry is still not sufficient to meet domestic demand. Though Thailand exports US\$32 million worth of software each year, it still imports 70 percent of its products. This means there are many investment opportunities in this sector, particularly in multimedia, business solutions, animation and telecom software for mobile phones.

Currently, Thailand is home to more than 600 local software companies, employing 40,000 professionals. In addition, Microsoft recently donated US\$2.8 million in order to train more Thai software developers. Investment in the industry increased 126 percent from US\$3.15 million in 2002 to US\$7.125 million in 2003 and US\$8.7 million in 2004.



Source: Office of Industrial Economics, Ministry of Industry, Thailand.

The electronic industry employs a large number of Thai workers and is expected to grow at a consistent rate.

The number of persons employed in the electronics industry is predicted to rise from about 295,000 in 2001 to about 310,000 in 2005. Within the

manufacturing sector, it is ranked as the third largest employer and accounts for about 9 percent of the total Thai labor force. Foreign-owned firms have employed most of the workers in the electronics industry.

The ownership composition of firms in the electronics industry reflects the impact of foreign direct investment (FDI). Most firms with fewer than 200 employees are either owned by Thais or are under Thai majority control. About 76 percent of the companies employ more than 1,000 workers with foreign participation (ownership) of above 50 percent, while the remaining 24 percent employ fewer than 50 employees and also have a foreign participation of above 50 percent. Therefore, most of the larger firms are either wholly owned or controlled by foreign investors.

II Recent Developments in the Exports and Imports

The electronics component industry is vital to the economy's exports. The products of the electronic industry in Thailand, especially semiconductors, integrated circuits, printed circuit boards and computers, depend on the demand of the global market. The value of export is a good estimate of the market size and the market growth of the electronics industry in Thailand as 80 percent of production is for export. The export value of this industry ranks first and accounts for around 20 percent of the economy's total exports. In 2004, Thailand's exports of electronic components topped 790 billion baht (US\$21.2 billion), rising by 11.3 percent over 2003. This value represents some 15.8 percent of the gross domestic product (GDP).

Export value in important market

		Million Baht		
	Market	2004	2003	Change (%)
Part and Accessories	US	61,767	77,984	26
	EU	65,520	83,765	28
	Japan	29,112	33,265	14
	Asean	88,399	91,797	4
	China	61,436	97,147	58

Source: BEZ and the Customs Department

The HDD and parts industry has long been among the most significant industries in Thailand's export business. More than half of the exports of computers, parts and accessories –

Thailand's top export category – come from the HDD and parts industry. It is estimated that exports of this industry account for around 6 percent of the economy's total export and there is a production value of more than 3 percent of the economy's GDP. The HDD manufacturers in Thailand will soon benefit from the supply of electronic parts produced locally by Digi Cron, a semiconductor and electronic parts manufacturer. Set up last year, the company will produce electronic parts and supply them directly to HDD and semiconductor manufacturers in Thailand. This will help them reduce the cost of imported products as well as delivery time.

Other key export items are electronic integrated circuits to the USA, Netherlands, Chinese Taipei, Japan and Singapore.

During 2004 manufacturers imported electronics parts from abroad, mostly from Korea, Japan, Chinese Taipei and Singapore. In that year, the electric and electronics imports value was 1,146,600 million baht, a 2.2% decrease compared to the previous year. The only electronic products that showed increase were mobile phones, notebooks and personal computers. This was in particular because the increasing demand for products with the latest technology. Regarding to the electrical products it also increased in 2004, especially in magnetic tapes with a 75.2%, alone with parts and accessories of video, pick-up cartridges.

Electronic parts represented for almost 65 percent of the total imports in 2004, with integrated circuits taking 43 percent of the share, and parts and accessories with 27 percent. On the electric sub-sector, electrical switchers took 20 percent of the share while magnetic tapes had 13 percent.

III. Trade Negotiations Related to the Industries

Thailand has only signed a few free trade agreements (FTAs). These are with the Association of Southeast Asian Nations (ASEAN), Australia and New Zealand. The agreements cover all sectors and industries.

Association of Southeast Asian Nations (ASEAN)

The Association of Southeast Asian Nations was established in Bangkok on 8 August 1967 by the five original Member economies, namely, Indonesia, Malaysia, the Philippines, Singapore and Thailand. Brunei Darussalam joined on 8 January 1984, Viet Nam on 28 July 1995, Lao PDR and Myanmar on 23 July 1997, and Cambodia on 30 April 1999.

The ASEAN region has a population of about 500 million, a total area of 4.5 million square kilometers, a combined gross domestic product of almost US\$700 billion, and a total trade of about US\$850 billion.

Objectives of ASEAN

The ASEAN Declaration states that the aims and purposes of the association are to: (1) accelerate economic growth, social progress and cultural development in the region and (2) promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries in the region and adherence to the principles of the United Nations Charter.

In addition, the ASEAN Vision 2020, adopted by the ASEAN Leaders on the 30th Anniversary of ASEAN, agreed on a shared vision of ASEAN as a concert of Southeast Asian nations, outward looking, living in peace, stability and prosperity, bonded together in partnership in dynamic development and in a community of caring societies.

In 2003, the ASEAN Leaders resolved that an ASEAN Community should be established comprising of three pillars, namely, the ASEAN Security Community, the ASEAN Economic Community and the ASEAN Socio-Cultural Community.

As far as the ASEAN Economic Community is concerned, it has the end-goal of economic integration measures as outlined in the ASEAN Vision 2020. Its goal is to create a stable, prosperous and highly competitive ASEAN economic region in which there is a free flow of goods, services, investment and a freer flow of capital, equitable economic development and reduced poverty and socio-economic disparities in year 2020.

The ASEAN Economic Community shall establish ASEAN as a single market and production base, turning the diversity that characterizes the region into opportunities for business complementation and making the ASEAN a more dynamic and stronger segment of the global supply chain. Its strategy shall consist of the integration of ASEAN and enhancing the Groups economic competitiveness.

In moving towards the ASEAN Economic Community, ASEAN has agreed on the following:

- Institute new mechanisms and measures to strengthen the implementation of its existing economic initiatives including the ASEAN Free Trade Area (AFTA), ASEAN Framework Agreement on Services (AFAS) and ASEAN Investment Area (AIA);
- Accelerate regional integration in the following priority sectors by 2010: air travel, agro-based products, automotives, e-commerce, electronics, fisheries, healthcare, rubber-based products, textiles and apparels, tourism, and wood-based products.

- Facilitate movement of business persons, skilled labor and talents; and
- Strengthen the institutional mechanisms of ASEAN, including the improvement of the existing ASEAN Dispute Settlement Mechanism to ensure expeditious and legally binding resolution of any economic disputes.

Launched in 1992, the ASEAN Free Trade Area (AFTA) aims to promote the region's competitive advantage as a single production unit. The elimination of tariff and non-tariff barriers among Member Countries is expected to promote greater economic efficiency, productivity, and competitiveness.

As of 1 January 2005, tariffs on almost 99 percent of the products in the Inclusion List of the ASEAN-6 (Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore, and Thailand) have been reduced to no more than 5 percent. More than 60 percent of these products have zero tariffs. The average tariff for ASEAN-6 has been brought down from more than 12 percent when AFTA started to 2 percent today. For the newer Member economies, namely, Cambodia, Lao PDR, Myanmar, and Viet Nam (CLMV), tariffs on about 81 percent of their Inclusion List have been brought down to within the 0-5 percent ranges.

Together with five other economies, Thailand is one of the founders in the establishment of the ASEAN FTA. This agreement has been established as the "*Roadmap for Integration of Electronics Sector*". The terms of the agreement are as follows.

Objectives

The objectives of integrating the electronics sector are to:

- Develop, strengthen and enhance the competitiveness of the ASEAN electronics sector and promote ASEAN as an integrated platform to do business with regarding electronics;;
- Strengthen regional integration efforts through liberalization, facilitation and promotion measures to ensure full integration of the electronics sector by 2010.
- Promote private sector participation.

Measures

This roadmap includes specific measures that are of direct relevance to the electronics sector, as well as common measures that cut across all priority integration sectors. The integration approaches are premised on:

- Combining the economic strengths of ASEAN member countries for regional advantage;
- Facilitating and promoting intra-ASEAN investments;
- Improving the condition to attract and retain manufacturing and other economic activities within the region; and
- Promoting the outsourcing program within ASEAN.

Coverage

The scope of products include electronic data processing (EDP) equipment, electrical and electronic home appliances, medical and industrial equipment, telecommunication equipment, communications and radar equipment, automotive electronics, instrumentation and controls, and mechanical equipment.

More information can be obtained at www.aseansec.org/16656.htm

This economy has been a member of the World Trade Organization (WTO) Information Technology Agreement (ITA) since 1 April 1997. The participants of ITA represent an important share of the 97 percent of the world trade in information technology (IT) products. While ITA is solely a tariff-cutting mechanism, most of the IT products are rated zero. This applies to the 68

members & states or separate customs or separate custom territories that are in the process of acceding to the WTO. As of July 2006, the following APEC economies have accepted the criteria: Australia; Canada; China; Hong Kong, China; Indonesia; Japan; Korea; Malaysia; New Zealand; the Philippines; Singapore; Chinese Taipei; Thailand and the United States.

There are also many available opportunities for negotiations with Peru, India, China, Japan, Korea and the United States.

IV. The Programs and Special Incentives to the Industry

As part of Thailand's drive to boost its position as a major manufacturing base for the HDD industry, the Thai Board of Investment (BOI), the promotional investment institution of the government, expanded its customized incentives for this industry to include HDD parts suppliers and also increased the alternatives to qualify for certain privileges.

The new regulations will allow both HDD parts suppliers and manufacturers to receive up to eight years of income tax holiday. These changes are designed to support Thailand's ambition to become the largest manufacturing base of HDD worldwide. Currently, Thailand ranks as the second largest producer of HDDs with only Singapore exceeding it in terms of output. Four out of five of the world's largest manufacturers of HDD produce and export from their Thailand operations. The introduction of additional incentive packages is expected to yield significant growth for the HDD industry in Thailand over the next several years.

As part of its plan, the BOI announced that new HDD investment projects would be able to locate in any zone while receiving a wide range of industry-stimulating incentives.

In a further incentive, these corporate income tax holidays will not be limited to the amount of investment. Approved HDD projects will also receive an additional year of corporate income tax holiday for meeting each of the following criteria:

1) Average research & development (R&D) or design expenditures for the first 3 years must:

On 22 May 2006, the Board of Investment (BOI) approved that additional incentives be given to the three target industries — electronics, petrochemical and agro-processing.

Electronics Industry – Projects with investments of over 30 billion baht that are considered as priority activities (ie, requiring high technology applications or manufacturing products not yet produced in Thailand) will receive maximum tax incentives and other additional assistance measures. Those measures include setting up human resource and R&D funds according to the following:

- Above 1 percent of total annual sales, or
- Above 50 million baht for HDD manufacturing, or
- Above 15 million baht for HDD parts manufacturing

2) At least 5 percent of the total workforce in the first three years should consist of science and technology personnel with a minimum of a Bachelor's Degree in science, engineering or other fields related to technology, R&D or design.

3) Average costs to train Thai staff for the first three years are at least 1 percent of total payroll costs.

HDD projects will also receive an additional two years corporate income tax holiday for meeting each of the following criteria:

- a. Cost of developing vendors or costs of supporting related educational institutes for the first three years must be at least:
 - o 1 percent of annual total sales, or
 - o 150 million baht for HDD manufacturers, or
 - o 15 million baht for HDD parts manufacturers

- b. Establish an R&D center in Thailand within 3 years

To qualify for this package of incentives, a company must submit to the BOI an action plan that identifies the ways in which the company will interact with Thai entrepreneurs, Thai R&D facilities or Thai educational institutions. Projects that have been approved for promotion by the BOI, but have not yet earned any income, are also eligible to apply.

The following is a selection from the list of specific activities announced by the BOI:

CHAPTER 4: List of Activities Eligible for Investment Promotion	
Activities	Conditions
5.5.24 Manufacture of solar cells	<ol style="list-style-type: none"> 1. Classified as a priority activity of special importance and benefit to the country and is entitled to receive exemption from machinery import duty and corporate income tax exemption for a period of 8 years, regardless of zone, and will not be subject to the cap on the amount of corporate income tax exemption specified in Paragraph 2 of Section 31. Other rights and benefits shall be granted according to BOI Announcement No. 1/2543. 2. Production processes must be approved by the BOI.
5.6 Manufacture of material for micro-electronics: 5.6.1 Wafers 5.6.2 Thin film technology	<ol style="list-style-type: none"> 1. Classified as a priority activity except that projects located in industrial estates in Zone 1 will receive a 3-year corporate income tax exemption. For projects located outside industrial estates in Zone 1, no corporate income tax exemption will be granted 2. Projects must have a research and development plan, that has been approved by the Board
5.7 Electronic design: 5.7.1 Micro electronics design 5.7.2 Prototype design 5.7.3 Imbedded system design 5.7.4 Design for specific applications including artificial intelligence, virtual reality, neuro-network, fuzzy logic, and education	<ol style="list-style-type: none"> 1. Classified as a priority activity 2. Corporate income tax exemption includes revenue from sale of products and related products which are of own design but manufactured by others
5.8 Software: 5.8.1 Enterprise Software 5.8.2 Digital Content (1) Animation, Cartoons & Characters (2) Computer-generated Imagery (3) Web-based Applications (4) Interactive Applications (5) Games: incl. Windows-based, Mobile Platform, Console, PDA, Online Games, Massive Multi-Player Online Games (6) Wireless Location-Based service Content (7) Visual Effects (8) Multimedia Video Conferencing Application (9) E-Learning Content via Broadband and Multimedia (10) Computer-Aided Instruction 5.8.3 Embedded Software	<ol style="list-style-type: none"> 1. Classified as a priority activity and crucial to the country's development. Approved activities will be exempted from import duties on machinery and will receive an 8-year corporate income tax exemption with no cap on amount exempted, as specified in Paragraph 2 of Section 31. 2. Projects must include software development process as specified or approved by the Software Industry Promotion Agency (SIPA). 3. Projects which have an investment of 10 million baht or over (excluding cost of land and working capital) must obtain a quality standard certificate from SIPA or receive a Capability Maturity Model (CMM) quality standard certificate or any equivalent international standard, approved by SIPA.
5.9 E-commerce business:	Regarding tax and duty privileges, e-commerce projects will receive exemption of import duty on machinery only. Other privileges will be granted according to Board of Investment Announcement No. 1/2543

CHAPTER 4: List of Activities Eligible for Investment Promotion

Activities	Conditions
<p>5.4.5 Manufacture of professional and scientific measuring and controlling equipment not elsewhere specified, and manufacture of photographic and optical goods:</p> <ol style="list-style-type: none"> (1) Intrusion alarms (2) Emergency alarms (3) Video cameras (4) Electronic cameras (5) Watches and clocks (6) Lighting and appliance controllers (7) Measuring, testing, analyzing equipment (8) Power supplies (9) Electronic equipment for use in nuclear industry (10) Electronic equipment for medical use, including diagnostic equipment, therapeutic, surgical and medical devices and patient monitoring and laser equipment (11) Measurement equipment for industries 	
<p>5.4.6 Manufacture of electronic musical instruments</p> <p>5.5 Manufacture of parts or supplies used for electronic apparatus:</p> <ol style="list-style-type: none"> 5.5.1 Diodes 5.5.2 Transistors 5.5.3 Thyristors 5.5.4 Integrated circuits 5.5.5 Opto-electronic devices 5.5.6 Resistors 5.5.7 Capacitors 5.5.8 Relays 5.5.9 Switches and keyboards 5.5.10 Magnetic components, including telescopic antenna, transformers with capacity of less than 1 KVA, coils or other magnetic components 5.5.11 Transducers 5.5.12 Quartz crystals 5.5.13 Passive filters and networks, including electro-mechanical filters, RFI and EMI filters, RC networks, delay lines, attenuators 5.5.14 Connectors 5.5.15 Printed circuit boards 5.5.16 Plugs and sockets 5.5.17 Acoustic parts, including micro-phones, ear-phones, loudspeakers and accessories, head-phones, cartridges or other acoustic parts 5.5.18 Micro-motors 5.5.19 Electronic tubes 5.5.20 Microwave telecommunication components, including microwave switches, ferrite devices 5.5.21 Computer components, including storage equipment,* optical discs, terminals, keyboards, printers, computer communication equipment 5.5.22 Electronic sub-assemblies, including printed circuit board assemblies or electro-mechanical sub-assemblies 5.5.23 Flat, shielded, coaxial or signal cables 	<ol style="list-style-type: none"> 1. Projects in every zone will receive exemption of import duty on machinery until 31 December 2009 2. Other privileges will be granted according to Board of Investment Announcement No.1/2543

* Announcement of the Board of Investment No.5/2547

Thailand is ideally situated to attract new investors as well as to expand the operations of existing investors. Through its long-term commitment to promoting HDD projects, the BOI helps provide vital links between the industry and academic and research institutions to further develop the Thai workforce's technological skill capacity, as well as to expand various support, parts and components industries.

V. The Private Sector in the Industries

The following are some of the companies involved in the electronic and information technology industries.

Company	Seagate Technology (Thailand) Co.,Ltd.	Seagate is the worldwide leader in the design, manufacturing and marketing of HDDs, providing products for a wide-range of PC, and Notebook and Consumer Electronics applications enterprises The company is committed to delivering award-winning products, customer support and reliability, to meet the world's growing demand for information storage.
Vice President of Asia Pacific	Ms Jiraphanee	
Address	7/5 Moo1, Ramkamhang Rd., Sapansoong, Bangkok 10240	
Tel Fax	(66-2) 715 2846 (66-2) 715 2271	
Websites	www.seagate.com www.siamfuture.com	
Products	HDDs	
Company	Hitachi Global Storage Technology (Thailand) Co., Ltd.	Established in 1992, Hitachi Asia (Thailand) Co., Ltd. (HAS-TH) provides expert solutions in meeting the needs of customers in Thailand, Laos and Cambodia. HAS-TH markets a wide range of products and services for various industry sectors ranging from power and industrial systems, information systems and electronic devices to international procurement services.
Managing Director	Mr. Masamitsu Horike	
Address	18th Floor, Ramaland Bldg., No.952 Rama IV Road, Bangrak, Bangkok 10500	
Tel Fax	(66-3) 720 8700 ext 3001 (66-3) 720 8717	
Website	www.hitachi.com	
Products	HDDs	
Company	Sanyo Semiconductor (Thailand) Co.,Ltd.	Established in the Rojana Industrial Park, in Ayutthaya Province in 1990, SANYO Semiconductor (Thailand) Co., Ltd. obtained promotional privileges from the BOI to manufacture and distribute semiconductors, transistors, LSI and CCD for export to global markets.
Managing Director	Mr. Pornchai Yongwatsunthorn	
Address	1/7 Moo 5 Rojana Industrial Park, T. Karnham, A. Utai, Phra Nakhon Si Ayutthaya 13210 Thailand	
Tel Fax	(66-3) 533 0116 - 24 (66-3) 533 0115	
Website	http://hosting.thailand.com/NSP0065/	
Products	HDDs, semiconductors, transistors, large scale integrated circuits, CCDs	
Company	Rohm Integrate Semiconductor (Thailand) Co.,Ltd.	Rohm was established in Kyoto in 1958 initially as a manufacturer of small electronic components. In 1967, they expanded to include transistors and diodes and in 1969 IC's and other semiconductor products were added to their range. ROHM's expansion overseas soon became a template for other companies.
Director/General Manager	Mr. Hirayuki Baba	
Address	Not available	
Tel Fax	(66-2) 909 2060 (66-2) 909 2060	
Website	www.rohm.com	
Products	Semiconductors	
Company	Fujitsu (Thailand) Co.,Ltd.	Fujitsu was created to supply high quality products of computer and electronic components to support costumers around the world. All products are conceived and produced with creativity and high reliability using innovation technology and dynamic
President	Mr. Tadashi Hasegawa	
Address	60/90 (Navanakorn Industrial Estate Zone 3) Moo 19, Phaholyothin Rd. Pathunthani Rd., Klongluang, Pathunthani 12012	

Tel Fax	(66-2) 909 5407 (66-2) 909 5437	policy.
Website	www.fujitsu.com	
Products	HDDs, plastic parts for electronic products, sand computers & parts	
Company	Celestica (Thailand) Co.,Ltd.	Celestica is a global leader in the electronics manufacturing services industry. With over 31,000 employees worldwide, Celestica operates 36 manufacturing and design facilities in the United States, Canada, Mexico, the United Kingdom, Ireland, Italy, the Czech Republic, China, Thailand, Malaysia, Brazil and Hong Kong, China.
Vice President	Mr. Pichai Duangtaweasap	
Address	49/18 Leam Chabang Inds. Est. Tungsukhla, Sriracha Chonburi, Thailand. 20230	
Tel Fax	(66-3) 8493 561-80 ext 1808 (66-3) 849 3584-85	
Website	www.celestica.com	
Products	Electronic Parts	
Company	Delta Electronics Public (Thailand) Co.,Ltd.	This company was established as a cost effective production for the Delta group. From its experience of over 10 years, their expertise in manufacturing and product design & development has brought the company and its staff to the next level of technology with wider and bigger opportunities.
Factory Manager	Mr. Wiboon Suthornwivat	
Address	714 Moo 4, Tambon Prakasa, Amphur Muangsamutprakarn, Samutprakarn Province 10280, Thailand	
Tel Fax	(66-2) 709 2800 (66-2) 709 2843	
Website	www.delta.com	
Products	Electronic product, transformers, magnetic components, etc.	
Company	Okidata Manufacturing (Thailand) Co., Ltd.	Oki Electric Industry Co., Ltd. was Japan's first telecommunications manufacturer headquartered in Tokyo, Japan. With more than 25,000 employees worldwide, Oki Electric provides customers with top-notch products and technologies for telecommunication systems, information systems and electronic devices.
Vice President	Mr. Kaoru Nagai	
Address	1/39 Moo 5. T. Kanham, A. U-Thai, Ayutthaya 13210	
Tel Fax	(66-3) 533 0943-51 (66-3) 533 0953	
Website	www.oki.com	
Products	Electronic parts	
Company	Philips Semi Conductor (Thailand) Co., Ltd.	Philips began in Thailand in 1952. Today it produces a vast line of lighting products, domestic electrical and electronic goods, audio-visual equipment and professional products. The commitment to quality is evident in the standards Philips' Thai operations have attained.
Vice President	Mr. Doualag G Sampson	
Address	7/5 Moo1, Ramkamhang Rd., Sapansoong, Bangkok 10240	
Tel Fax	(66-2) 551 1052 (66-2) 552 3193	
Website	www.semiconductors.philips.com	
Products	Semiconductors, integrated circuits	
Company	JVC Manufacturing (Thailand) Co., Ltd.	JVC is a leading developer and manufacturer of sophisticated audio and video products that use superior technologies to deliver high quality sound and images. For nearly 80 years the JVC brand name has been associated with the very best in audio and video entertainment, and has also been a strong supporter of the creative side of the entertainment world.
Chief Executive Officer	Mr. Kamol Triwibool	
Address	107 Moo 18, Tambol Klong Nueng, Amphur Klong Luang, Pathumthani 10210	
Tel Fax	(66-2) 529 2105-9 (66-2) 529 2241-2	
Website	www.jvc-asia.com/corporateprofile	
Products	Electronic parts, electronic cameras, electronic goods	

Company	Minebea Thai Co.,Ltd.	Minebea Group has many production facilities in Asia, such as Thailand, China and Singapore. These facilities account for approximately 80 percent of the total group production. The group's facilities in Thailand, which represent about 49 percent of total output, form its largest production base and is responsible for most of Minebea's mainstay products.
President	Mr. Masayoshi Yamanaka	
Address	5/2 Moo 8, Phaholyothin Road, Km.149, Tambol Nikom Sang Ton-Eng, Amphoe Muang, Lop Buri Province, 15000 Thailand	
Tel Fax	(66-3) 536 1439 (66-3) 536 1477	
Website	www.minebea.co.th	
Products	Electronic parts, ball bearing	
Company	Spansion (Thailand) Co.,Ltd.	Spansion is dedicated to enabling, storing and protecting digital content in the automotive, consumer electronics, networking and wireless markets. As the largest company exclusively focused on flash memory solutions, Spansion has one of the most diverse and comprehensive flash product lines on the market.
Vice President & Managing director	Mr. Yulthana Hemmangkorn	
Address	229 Moo 4 Changwattana Road Pakkred, Nonthaburi 11120 Thailand	
Tel Fax	662 962 1180 ext 31100 662 962 2054	
Website	www.spansion.com	
Products	Integrated circuits (IC)	
Company	Microchip Technology (Thailand) Co.,Ltd.	Microchip Technology Inc. is a leading provider of micro controller and analog semiconductors, providing low-risk product development, lower total system cost and a faster marketing process for thousands of diverse customer applications worldwide.
Vice President/ Managing director	Mr. John Outley	
Address	7th Floor Le Concorde Tower Room 707 202 Rajchadapisek Road Huaykwang, Bangkok 10310 Thailand	
Tel/Fax	(66-3) 885 7120-45 (66-3) 885 7157	
Website	www.microchip.com	
Products	ICs	
Company	Bench Mark Electronics (Thailand) Co. Ltd.	The Thailand Systems Integration facility occupies 65,000 square feet and provides a comprehensive range of system integration services in a low cost region. Services include new product introduction, build to order (BTO) and configure to order (CTO) integration, direct order fulfillment, field replacement, collaborative supply chain management, and end of life support.
Vice President	Mr. Douglas H. Hebara	
Address	157 Moo 1 Hi-Tech Industrial Estate Banlane, Bang Pa-In Ayudhaya 13160 Thailand	
Tel Fax	(66-3) 535 0890 (66-3) 535 0945	
Website	www.bench.com	
Products	Electronic products, telecommunication equipment, electronic control devices	
Company	Fabrinet Co.,Ltd.	Fabrinet aims to be the leading engineering and manufacturing services technology company by providing customers with the highest quality precision electromechanical and optomechanical manufacturing, process engineering, and supply chain management across a range of industries that match their core areas of expertise.
Managing director	Dr. Soon Kaewcharnsin	
Address	294 Moo 8, Vibhavadi Rangsit Rd. Kookot, Lumlookka, Patumthanee 12130, Thailand.	
Tel Fax	(66-2) 998 966/ (66-3) 5249690	
Website	www.fabrinet.com	
Products	Electronic parts	
Company	Hana Semi Conductor Co.,Ltd.	The Hana Group is one of South East Asia's leading independent electronic manufacturing service (EMS) producers with facilities in Bangkok, Lamphun (in northern Thailand), Hana also has a significant stake in Advanced
Vice President	Mr. Richard Hann.	
Address	10/4 Moo 3 Soi Vibhavadi 64, Vibhavadi-Rangsit Road, K. Laksi Bangkok 10210, Thailand	

Tel	(66-2) 551 1297	Interconnect Technologies Ltd which is involved in IC assembly and test operations
Fax	(66-2) 551 1299	
Website	www.hanagroup.com	
Products	ICs	Annual sales: Not available
Company	<i>N.S. Electronics Bangkok (1993) Co., Ltd.</i>	This company was established in 1973 as the economy's first integrated circuit assembly and test manufacturing company. N.S. Electronics has a 30-year experience in the field and is now one of the world leaders in the assembly of integrated circuits.
Chief Executive Officer	Mr. Chareon Hutanananta	
Address	40/10 Sukhumvit 105 (Lasalle) Bangna, Bangkok 10260	
Tel	(66-2) 749 1680 ext 1329	
Fax	(66-2) 398 7157	
Website	www.nseb.com	
Products	ICs	Annual sales: Not available
Company	<i>Western Digital (Thailand) Co., Ltd.</i>	Western Digital (WD) is a data storage pioneer and a leader in the hard drive industry. The company provides cost-effective storage solutions for people and organizations that collect, manage and use digital information. Customers rely on WD hard drives in desktop and notebook computers, mobile and handheld devices, corporate networks and home entertainment applications to keep data secure and close at hand.
Senior Director of Fund	Mr. Kiatisak Iertpraphan	
Address	60 / 90/ 2 Navanakorn Industrial Estate Zone 3 Phaholyothin Road, Moo 19 Klongnueng Kongluang, Pathumthani 12120 Thailand	
Tel	(66-2) 529 5222 ext 7036	
Fax	(66-2) 529 7040	
Website	www.wdc.com	
Products	HDDs	Annual sales: Not available
Company	<i>Oki (Thailand) Co., Ltd.</i>	Global networks are changing the structures of societies, economies and industries. Individual freedom is expanding since in this age, individuals can make interactive communications wherever they may be without worrying about the network. Thus, in this individual-oriented era, there are strong demands for individual security. Oki Co., Ltd. aims to meet these demands.
President	Mr. Katsumi Onaru	
Address	Rojana Industrial Park, 1/39 Moo 5, Tambol Kanham, Amphur U-Thai, Ayutthaya 13210, Thailand	
Tel	(66-3) 5 330171-8/	
Fax	(66-3) 5 330180	
Website	www.okisysthai.com	
Products	Electronic Parts	Annual sales: Not available
Company	<i>Sony Thai Co., Ltd.</i>	Since its establishment, Sony Thai Co., Ltd. remains firmly committed to operate business with sincerity to ensure highest satisfaction for customers. This can be seen in an increasing number of Sony Customer Service Centers currently opened in downtown Bangkok and in many up-economy provinces with the aim to provide customers with maximum comfort when looking for Sony products. Sony Customer Service Center now consists of a total of 25 branches: 11 in Bangkok, 1 Home Service Center and 13 in other provinces
President	Not Available	
Address	4F Kromadit Bldg., 2126 New Petchburi Road, Bangkok, Huay Kwang, Bangkok 10320 Thailand	
Tel	(66-2) 715 6086	
Fax	(66-2) 715 6021	
Website	www.sony.co.th	
Products	Camcorders, DVDs, VCDs, Cameras	Annual sales: Not available

Source: Kompas Thailand / Electric & Electronic Institute

VI. The Vision of the Private Sector

The electronic and Information Technology Industries Survey in APEC	
Company: Hana Semi Conductor	
Name and title of the executive: Ms. Sudara, Costumer Services Manager	
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?	We try to find suitable materials to help us maintain or help us reduce our costs, in order to meet the costumer requirements.
2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?	Yes, we import; and we also have plants in other places, like in China. Therefore, we source from local suppliers but at the same time, we import as well.
3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?.	Yes. However, the product needs to have the quality that is required by the customers.
4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?.	Yes, in general.
5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?.	In our case, Hana is a subcontractor. Meaning, we go to where our costumer is located.
6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?	The industry is definitely growing. Therefore, we need to maintain the quality of the products.
Other comments:	
Date: December 2006	

VII. Government and Private Organizations

Organization	<i>Electrical and Electronics Institute</i>	Electrical and Electronics Institute (EEI) is an autonomous institute under the Ministry of Industry Industrial Development Foundation. EEI was established on 7 July 1998 following the cabinet approval. EEI is a center for sustainable development of production, export, research and development potentialities in electrical and electronics industry, towards national and international standards
Chairman / Secretary General	Not available	
Members	71	
Address	57 Department of Industrial Works Building, 6th floor, Phrasumen Road, Banglumphu, Phranakorn, Bangkok 10200	
Tel Fax	(66-2) 280 7272 (66-2) 280 7277	
Website	www.thaieei.com	
E mail	Not available	
Organization	<i>The Association of Thai ICT Industry (ATCI)</i>	Officially inaugurated in 1989, the primary mission of the ATCI has been to represent the overall IT industry by promoting its continued growth and facilitating industry excellence in areas such as quality, production and service, which ultimately brings added value, both to the national economy and Thai society, as a whole.
Chairman / Secretary General	Pravit Chattalada	
Members	94	
Address	Level 6, Phayatai Plaza Building, 128 Phayatai Road, Bangkok 10400 Thailand	
Tel Fax	(66-2) 216 5991 (66-2) 216 5867	
Website	www.atci.or.th	
E mail	pravit@atci.or.th	
Organization	<i>Department of Export Promotion</i>	This department is entrusted with the duties and responsibilities to promote and expand the market for Thai exports in goods and services by penetrating new markets and to preserve existing ones, and to develop and perform activities that promote trade and increase the competitiveness of the export sector, such as the expansion of production bases overseas.
Chairman / Secretary General	Phakhaorn Wiraamornkul	
Members		
Address	22/77 Rachadapisek Road, Chatuchak, Bangkok 10900, Thailand	
Tel/Fax	(66-2) 511 5066-77 (66-2) 512 2670	
Website	www.thaitrade.com	
E mail	phakhaorn@depthai.go.th	
Organization	<i>The Federation of Thai Industries</i>	The Federation of Thai Industries (FTI) is an upgraded body of the Association of Thai Industries that was created on 13 November 1967. The transformation took place in December 1987 by the enactment of the FTI
Chairman / Secretary General	Amporn Jitapunkul	

Members	64	
Address	4th floor Zone C Queen Sirikit National Convention Center 60 New Rachadapisek Road Klongtoey, Bangkok 10110	
Tel	(66-2) 345 1000	
Fax	(66-2) 345 1296 99	
Website	www.fti-nkp.or.th	
E mail	information@off.fti.or.th	Information not available in English
Organization	Ministry of information and Communication Technology (MICT)	
Chairman / Secretary General	Not available	
Members	Not Available	
Address	Building 9, TOT PCL Chaeng Wattana Rd. Laksi Bangkok 10210	
Tel/Fax	(66-2) 505 7370	
Website	www.mict.go.th	
E mail	pr@mict.go.th	

Bibliography:

- Ministry of Commerce Royal Thai Government: www.moc.go.th
- Department of Export Promotion: www.depthai.go.th
- Thailand Board of Investment: www.boi.go.th
- Thailand Free Trade Agreement: www.boi.go.th:8080/issue/200507_17_6/17.htm
- Electronic Sector Overview, Royal Danish Embassy, Bangkok, September 2006
- “A case of study, The Electronic Sector in Thailand”, UNCTAD, 2005
- “Electronic & Electric Economic Industrial Situation Report”, Ministry of Commerce, January 2006

[Back to Index](#)

The Electronic and Information Technology Industries Survey in APEC The United States of America

I. Overview of the Industry

The United States of America has the largest and most technology powerful economy in the world with the world's third largest population.

Key indicators and statistics for 2005 show that its gross domestic product (GDP) growth of 3.2 percent accounted for US\$12,365.9 billion, with a GDP per capita of US\$41,815. The inflation rate reached 3.2 percent, and the unemployment rate was 5.1 percent.

Information technology (IT) is the fastest growing sector in this economy, with a 68 percent increase in the projected output rate between 2002 and 2012 (U.S. Bureau of Labor Statistics).

The US economy is market-oriented, where businesses and large corporate bodies have a strong voice in the development of economic policy. Strong traditions in competition and enterprise have made the US the world's leader in software, electronics, and communications technology.

Employment opportunities are expected to improve in the IT industry. Demand for computer-related occupations is increasing due to rapid advances in computer technology, continuing development of new computer applications, and the growing significance of information security. According to the U.S. Bureau of Labor Statistics, 92 percent of all IT workers are in non-IT companies, in which 80 percent are small companies.

The key players within the US computer services market are IBM-LENOVO, Global Services, HP Services, EDS, and Computer Sciences Corporation. The growing number of full-service providers in the marketplace stems from the trend amongst leading companies to drive revenue growth through increasing their solutions portfolios.

Businesses are using their cash to purchase more and more productive equipment. Thus, most investments are from the new information processing equipment and software that these businesses buy.

Domestic Production

The US market is the world's largest producer and consumer of information and communications technology (ICT) products and services, spending more than US\$812.6 billion per annum. Although recent economic and corporate data (including jobs, tech spending and venture funding growth) suggest a coming turnaround in the North American market, the slow pace of business spending continues and thus having effects in other business areas. The industries generate 5.4 percent of the gross domestic product with 333,000 companies that employed 5,627,000 persons.

Given the growing optimism across most sectors, the huge US market offers opportunities for innovative technology solution providers to establish or expand a regional position. As a market of 300 million consumers, the US has many markets and regional areas of opportunity. However, most markets firms are still targeting cost reduction technologies and programs. The

Electronic Computers and Peripheral Equipment

In 2005, manufacturers' shipments of electronic computers were valued at US\$49.2 billion, a 23.5 percent increase from the 2004 value of US\$39.9 billion. Detail amounts are shown in the following table.

**Value of Shipments of Computers and Peripheral Equipment by Product Class
2000-2005 (US\$ Million)**

Product description	2005	2004	2003	2002	2001	2000
Host computers, multiusers (mainframes, super computers, medium scale systems, UNIX servers, PC servers)? ? ?	15,477.1	12,622.2	12,236.6	13,053.2	16,469.3	22,877.4
Single user computers, microprocessor-based, capable of supporting attached peripherals (personal computers, workstations, portable computers)? ? ? ? ? ?	33,028.1	26,635.4	25,163.8	26,586.0	31,492.2	38,981.3
Other computers (array, analog, hybrid, and special-purpose computers).....	719.4	592.5	870.2	809.1	581.4	998.2
Computer storage devices (except parts, attachments, and accessories)? ? ? ? ? ? ? ? ? ? ?	6,037.6	5,000.8	5,101.0	5,026.9	7,318.7	8,995.4
Parts, attachments and accessories for computer storage devices? ? ? ? ? ? ? ? ? ? ?	1,154.5	883.6	1,129.5	1,578.0	1,699.1	1,691.9
Computer terminals (except point-of-sale and funds-transfer devices)? ? ?	244.8	274.1	258.0	266.1	360.9	415.1
Parts, attachments, and accessories for computer terminals (except point-of-sale and funds-transfer devices)? ? ?	(D)	1.7	1.3	(D)	(D)	(D)
All other miscellaneous computer peripheral (input/output) equipment (except parts, attachments, and accessories)? ?	10,244.0	9,006.6	9,482.6	10,460.4	10,636.7	12,434.4
Parts, subassemblies, and accessories for computer peripheral equipment? ? ? ? ? ? ? ? ? ?	2,665.0	2,285.9	1,848.9	1,905.3	2,359.9	2,766.3
Point-of-sale terminals and fund-transfer devices? ? ? ?	510.4	527.2	732.0	632.4	977.0	852.3
Parts and attachments for point-of-sale terminals and fund-transfer devices? ? ? ? ? ? ? ? ? ?	(D)	(D)	(NA)	(NA)	(NA)	(NA)
Magnetic and optical recording media.....	1,665.0	1,678.2	2,270.8	2,207.3	2,227.6	3,205.5

D Withheld to avoid disclosing data for individual companies. NA Not available. r/Revised by 5 percent or more from previously published data.

Source: Us Census Bureau

Semiconductors, Electronic Components, and Semiconductor Manufacturing Equipment

During 2005, the total value of shipments of semiconductors, electronic components, and semiconductor manufacturing equipment was US\$120.1 billion.

Value of Shipments of Semiconductors, Electronic Components and Semiconductor Manufacturing Equipment by Product Class
2000-2005
(US\$ million)

Product description	2005	2004	2003	2002	2001	2000
Semiconductor machinery? ? ? ? ? ? ? ?	7,968.5	(NA)	(NA)	(NA)	(NA)	(NA)
Transmittal, industrial, and special-purpose electron tubes (except X-ray).....	652.3	641.4	628.8	584.2	700.2	702.8
Receiving type electron tubes, including cathode ray (new and rebuilt)? ? ? ? ? ? ? ? ? ? ? ?	620.8	1,049.0	1,508.0	2,486.0	2,846.5	3,457.5
Electron tube parts.....?	83.6	77.8	63.4	91.0	124.5	143.5
Bare printed circuit boards.....	4,794.1	4,708.8	4,871.1	5,763.5	8,910.9	11,891.8
Integrated microcircuits, including semiconductor networks, microprocessors, and MOS memories? ? ? ? ? ?	62,983.7	60,097.3	54,830.4	49,726.3	46,337.1	73,663.7
Transistors.....?	598.4	656.0	607.8	818.2	913.4	1,569.3
Diodes and rectifiers.....	323.4	304.9	391.2	370.1	402.6	620.6
Other semiconductor devices, including semiconductor parts such as chips, wafers, and heat sinks? ? ? ? ? ?	8,389.5	7,247.4	6,519.2	6,632.3	7,631.9	9,757.0
Capacitors for electronic circuitry.....? ?	1,031.1	1,184.1	1,191.6	1,338.0	1,733.9	2,786.1
Resistors for electronic circuitry.....	649.5	743.9	636.3	652.6	775.9	981.7
Electronic coil, transformer, and other inductor manufacturing.....?	1,201.7	1,115.7	956.5	1,154.4	1,362.4	1,718.8
Coaxial (RF) connectors for electronic circuitry.....	376.1	402.6	402.3	464.1	505.6	805.0
Cylindrical connectors for electronic circuitry.....	505.7	631.0	563.4	527.8	687.8	725.3
Rack and panel (rectangular) connectors for electronic circuitry.....?	304.0	290.5	268.1	264.3	359.2	531.7
Printed circuit connectors for electronic circuitry.....	938.5	1,012.9	833.7	776.4	1,147.3	1,810.8
Other connectors for electronic circuitry, including parts.....	1,144.7	1,078.9	1,418.4	1,435.7	2,051.9	2,058.9
Printed circuit assemblies, loaded boards and modules (printed circuit boards with inserted electronic components).....	19,151.2	19,565.6	19,714.7	23,170.8	31,214.0	37,272.5
Crystals, filters, piezoelectric, and other related electronic devices (except microwave filters).....? ? ? ?	771.1	654.0	600.5	726.1	984.0	1,167.9
All other miscellaneous transducers, including electrical-electronic input/output transducers.....? ? ?	1,519.1	1,494.8	1,218.5	1,203.3	1,330.5	1,519.3
Switches, mechanical, for electronic circuitry.....?	741.7	715.8	739.1	835.6	827.7	902.6
Microwave components and devices, except antennae, tubes, and semiconductors.....	1,157.9	1,326.0	1,414.8	1,510.6	1,847.8	2,435.1
All other miscellaneous electronic components? ? ? ?	4,182.8	4,158.3	4,060.4	4,365.8	6,173.1	8,331.6

Source: US Census Bureau

NA Not available.

Telecommunication Equipment

During 2005, domestic manufacturing of telecommunication equipment totaled US\$54.7 billion, a decrease of 4.5 percent from the 2004 total of US\$57.3 billion. Shipments of telephone switching equipment totaled US\$1.6 billion, a 52.1 percent decrease from the US\$3.3 billion shipped in 2004.

**Value of Shipments of Telecommunications Equipment by Class of Product
2000-2005
(US\$ million)**

Product description	2005	2004	2003	2002	2001	2000
Telephone switching and switchboard equipment.....	1,576.4	r/ 3,293.7	4,899.9	7,437.0	12,187.7	15,173.7
Carrier line equipment and and nonconsumer modems...	2,824.0	r/ 3,598.1	3,045.1	4,487.5	10,943.4	13,112.3
Wireline voice and data network equipment.....	12,288.9	12,052.4	12,271.8	13,885.6	22,840.9	28,970.6
Communication systems and equipment, including microwave equipment and space satellites.....	30,271.7	r/ 31,230.3	25,805.2	25,103.8	36,501.3	36,357.1
Broadcast, studio, and related electronic equipment.....	3,288.8	r/ 2,763.3	2,931.7	3,304.3	3,490.5	4,029.4
Alarm systems, including electric sirens and horns.....	1,909.6	r/ 2,013.8	2,257.8	2,439.9	2,374.4	2,755.2
Vehicular and pedestrian traffic control equipment, including electric railway signals and attachments.....	1,020.1	898.4	944.7	927.9	805.6	838.1
Intercommunications systems, including inductive paging systems (selective paging) (except telephone and telegraph).....	416.3	455.3	428.4	384.7	450.6	446.8
External modems, consumer.....	97.5	r/ 100.4	75.4	111.9	179.3	94.7
Laser sources.....	1,040.6	r/ 928.4	833.0	928.6	1,050.9	(S)

r/Revised by 5 percent or more from previously published data. S Does not meet publication standards.
Source: US Census Bureau

Consumer Electronic Equipment

During 2005, the value of shipments of TV sets, speakers, automotive audio equipment and other audio and video equipment all increased in contrast to the previous year.

**Value of Shipments of Consumer Electronics by Selected Products
2000-2005
(US\$ million)**

Product description	2005	2004	2003	2002	2001	2000
Automotive audio equipment, excluding speakers? ? ? ? ? ? ? ? ?	1,208.6	r/ 1,096.7	2,553.5	2,269.8	1,157.5	1,024.9
Household television receivers, including combination models? ? ? ? ? ? ? ?	3,835.6	3,704.7	3,499.2	3,284.9	3,039.0	3,409.1
Speakers, including loudspeakers systems and loudspeakers sold separately and commercial sound systems? ? ? ? ?	1,562.3	r/ 1,421.7	1,601.6	1,616.5	1,717.4	2,026.7
Other consumer audio and video equipment, including audio and video recorders and players (camcorders)? ? ?	1,854.0	r/ 1,504.7	1,526.4	1,385.1	1,280.0	1,206.2

Source: US Census Bureau

Control instruments

During 2005, the total value of shipments of control instruments was slightly over US\$23 billion. The 2005 shipments included controls for monitoring residential and commercial environments valued at US\$2.18 billion, an increase of almost 4 percent from 2004.

Electro medical equipment

During 2005, the total value of shipments of electro medical equipment and analytical instruments totaled US\$30.4 billion, up 8.7 percent from the 2004 value of US\$28.0 billion.

The Value of Shipments of Electromedical Equipment and Analytic Instruments 2000-2005 (US\$ million)

Product description	2005	2004	2003	2002	2001	2000
All other miscellaneous optical instruments and lenses...	1,982.1	1,871.2	1,702.6	2,174.4	2,302.9	2,698.5
Electromedical equipment, including diagnostic, therapeutic, and patient monitoring equipment, excluding ionizing radiation equipment.....	14,778.9	13,611.1	11,747.0	12,125.7	11,088.3	10,896.7
Analytical and scientific instruments (except optical).....	8,126.2	7,544.6	7,918.2	7,271.9	7,873.3	6,808.2
Irradiation (ionizing radiation) equipment.....	5,558.5	4,971.2	4,873.5	4,524.2	4,283.5	3,502.1

Source: US Census Bureau

Meters and test devices

During 2005, the total value of shipments of meters and test devices totaled US\$15.7 billion, a slight increase from the 2004 value of US\$15.6 billion. The 2005 figure includes electrical integrating instruments which increased US\$105 million from the 2004 revised value, an increase of 18 percent.

Market

While telecommunications and hi-tech sectors (traditionally big spenders) have slowed their spending on financial services, federal and state governments have increased. According to a report by Input Inc., the US federal government spending on information systems and services will increase 11 percent to US\$63.3 billion by 2007 from a base of US\$37.1 billion in 2002. Five agencies will account for nearly 70 percent of the total federal spending on information systems and services by 2007 - the Departments of Defense, Treasury, Transportation, Justice and NASA. Homeland security and e-government sectors are currently the highest IT priorities for federal agencies.

Some areas of opportunity for IT companies in the US market are financial services, government, intelligent transport, data security, entertainment, wireless, e-learning and healthcare. Several new government regulations in the US (such as Sarbanes-Oxley - compliance, USA PATRIOT - money laundering prevention, HIPPA - health care records) are also creating opportunities for firms in security, networking and database management.

Corporate IT spending priorities include network security, enterprise application integration, web services applications, business and technical simulation. Non-enterprise opportunities exist for intelligent transportation systems, wireless applications, gaming and entertainment, and many other niche vertical and horizontal market applications.

Significant trends

A number of computer and IT service providers have begun to outsource a portion of their operations to economies such as Canada, China, India and Mexico to benefit from the availability of low-cost labor. Whilst time and cultural differences will pose complex managerial problems, the

key challenge will involve training the generally low-skilled workforce to provide the same level of service to clients as their US counterparts.

The pace of change in the semiconductor industry is rapid, driven by fierce competition, ever-improving technology, and ever-falling chip prices. Through advances in manufacturing technology, chipmakers have managed to rapidly decrease their cost of production by continually shrinking transistor sizes, increasing wafer sizes, and improving throughput. Despite the deflation it has endured, the semiconductor industry historically has enjoyed sufficiently strong unit volume growth to maintain both strong revenue growth and high levels of profitability.

Several IT outsourcing operations have become treated like commodities, leading companies to develop strong techniques aimed at differentiating themselves in the marketplace.

II. Recent Developments in the Exports and Imports

The US market for technology goods and services is the largest in the world, but it is also one of the most competitive, attracting an array of domestic and international companies all competing for a share of the market. Foreign companies seeking entry must develop a competitive, well-formulated and long-term market strategy.

In a growth environment, purchases of imported goods and services increase along spending on domestic products. The US imports surged by double digits in 2004 but decelerated to a 6.2 percent pace in 2005.

The imports of foreign-made goods and services are expected to rise in 2006 and 2007 at a moderate 5 percent pace. Meanwhile, foreign purchases of the US goods and services also will increase, reflecting higher growth in the rest of the world. The value of the US dollar on the foreign exchange markets is expected to decline, which will make its products more competitive in the world markets.

Tariffs, regulations and quotas apply on a case-by-case basis (if at all to IT products and services) and should be reviewed by a knowledgeable source. While industrial standards apply to different market segments, some common guidelines apply to all companies selling technology products and services in the US.

The US imports and exports of the articles of Chapters 84 and 85 are as follows.

US Computer Trade 2004-2005

Computer product exports rebounded in 2005, increasing 6 percent to US\$28.6 billion, after declining for four consecutive years. Demand, however, remained sluggish in many major export markets.

Additionally, many US companies have shifted manufacturing and assembly operations to foreign affiliates to support their global manufacturing and sourcing patterns.

Imports increased 6 percent to US\$78.2 billion during 2005, which supported the ongoing recovery in US demand.

China, the primary supplier, sent US\$35.4 billion in computer products in 2005, an increase of 20 percent over the same period last year, but well below the growth of 58 percent achieved in 2004.

Top Destinations – US Computer Exports

Exports 2005
(US\$ million)

Destination	Export Value
Canada	4,166
Mexico	2,362
United Kingdom	1,855
Germany	1,591

Source: US Department of Commerce

Top Suppliers – US Computer Imports

Imports 2005
(US\$ million)

Destination	Export Value
China	35,398
Malaysia	9,937
Mexico	6,730
Japan	6,126
Singapore	5,735

Source: US Department of Commerce

Exports of semiconductors
(US\$ thousand)

Economy	2001	2002	2003	2004	2005	Change 2004-2005 (percent)
Malaysia	3,618,863	4,439,023	6,049,434	5,111,053	4,601,732	-10.0
Korea	3,049,292	3,329,186	4,093,688	4,118,795	4,250,644	3.2
Philippines	4,315,552	4,406,583	5,275,603	4,115,476	3,811,104	-7.4
Chinese Taipei	3,014,346	3,520,697	3,409,797	3,019,127	3,103,409	2.8
China	946,060	1,237,502	2,024,588	2,303,225	2,675,783	16.2
Mexico	3,382,329	2,497,241	2,481,824	2,444,012	2,307,129	-5.6
Canada	1,833,674	1,294,241	1,170,960	1,474,889	1,992,735	35.1
Singapore	1,805,386	1,559,269	1,550,286	2,251,685	1,912,590	-15.1
Hong Kong, China	1,339,887	1,227,889	1,504,110	2,066,707	1,874,888	-9.3
Thailand	1,523,231	758,399	792,453	1,212,123	1,379,682	13.8
Subtotal,	31,992,182	30,807,711	34,759,776	34,092,653	33,110,002	-2.9

Top 20 :							
All Other:		1,462,457	929,877	952,314	1,037,755	1,085,454	4.6
Total		33,454,639	31,737,587	35,712,090	35,130,408	34,195,456	-2.7

Source: US Department of Commerce. International Trade Administration

**Imports of semiconductors
(US\$ thousand)**

Economy		2001	2002	2003	2004	2005	Change 2004-2005 (percent)
Chinese Taipei		3,391,681	3,087,213	3,009,014	3,731,010	3,697,440	-0.9
Malaysia		4,532,868	4,260,578	3,579,759	3,635,223	3,455,416	-4.9
Korea		3,501,529	3,456,744	3,337,784	3,862,137	2,984,093	-22.7
Japan		4,531,008	2,809,075	2,504,724	2,958,942	2,788,379	-5.8
Philippines		3,512,707	3,231,579	2,868,490	2,417,410	2,386,768	-1.3
China		625,166	706,959	820,473	1,296,028	1,734,367	33.8
Canada		1,760,531	1,068,286	1,052,160	1,186,406	1,628,477	37.3
Singapore		1,755,151	1,252,264	1,213,180	1,395,920	1,482,735	6.2
Mexico		1,072,309	900,352	864,723	898,457	749,919	-16.5
Thailand		814,788	611,375	599,705	650,367	659,703	1.4
Subtotal, Top 20:		29,206,316	25,074,148	23,579,674	25,570,236	24,776,256	-3.1
All Other:		809,620	576,490	610,403	686,088	648,784	-5.4
Total		30,015,936	25,650,639	24,190,077	26,256,324	25,425,040	-3.2

Source: US Department of Commerce. International Trade Administration

**Electrical Machinery
Subindustries
Total Exports Custom Value
Millions of US Dollars**

HS	Description	2002	2003	2004	2005
847130	PORT DIGITL =<10 KG	1,538	1,777	2,016	2,264
847170	OT ADP STORAGE UNIT	3,181	3,166	3,683	4,084
? 47149	O DIG,ENTER AS SYST	3,905	3,416	3,311	3,528
? 47150	OT DIG PROCESS UNIT	3,281	3,220	3,257	3,692
? 47160	OT ADP IN/OUTPUT UN	3,348	3,735	4,637	4,392
? 47180	OTHER ADP UNITS	4,455	4,512	5,281	5,312
? 47330	ADP MACHINES,UNITS	16,046	17,605	17,913	19,281
? 51711	W CORDLESS HANDSETS	239	234	184	160
? 51730	TELPH/GRPH SWTCH AP	712	560	563	494
? 51750	OTHER 8517	2,619	2,637	3,657	4,555
? 51790	PARTS FOR 8517	4,471	3,706	4,408	4,491
? 52510	RAD/TV TRANSMTN APP	1,353	1,154	1,179	1,285
? 52520	TRANSMT AP W REC AP	3,477	3,405	4,656	5,007
? 52540	STILL IMAGE VID CAM	259	378	514	670
? 52812	COL W/W-O RAD/PLAYR	921	839	1,040	1,230
? 54221	DIGITAL MONOLITHIC INTEGRATED	27,450	31,147	30,389	30,097
? 54229	MONOLITHIC INTEGRATED CIRCUIT	6,841	7,449	9,039	8,626
	TOTAL OF THIS LIST	84,095	88,938	95,726	99,169

**Electrical Machinery
Subindustries
General Imports - Customs Value
Millions of US Dollars**

HS	Description	2002	2003	2004	2005
? 47330	ADP MACHINES,UNITS	23,484	22,700	26,991	27,686
? 52520	TRANSMT AP W REC AP	13,794	15,556	20,989	24,906
847130	PORT DIGITL =<10 KG	10,401	13,166	16,020	19,429
? 47160	OT ADP IN/OUTPUT UN	17,374	15,893	18,709	17,682
? 52812	COL W/W-O RAD/PLAYR	7,975	8,952	11,918	16,009
? 54221	DIGITAL MONOLITHIC INTEGRATED	17,511	15,701	16,130	15,381
847170	OT ADP STORAGE UNIT	11,999	11,395	10,835	10,779
? 51790	PARTS FOR 8517	4,110	4,735	5,622	8,605
? 51750	OTHER 8517	3,708	4,113	5,510	7,508
? 52540	STILL IMAGE VID CAM	4,894	6,028	6,989	7,461
? 47150	OT DIG PROCESS UNIT	3,425	5,560	6,936	6,919
? 54229	MONOLITHIC INTEGRATED CIRCUIT	4,014	4,373	5,299	5,097
? 47180	OTHER ADP UNITS	4,422	4,318	4,937	5,006
? 47149	O DIG,ENTER AS SYST	1,738	862	1,315	2,648
? 52510	RAD/TV TRANSMTN APP	3,360	2,864	2,520	2,074
? 51711	W CORDLESS HANDSETS	1,789	1,948	1,627	1,478
? 51730	TELPH/GRPH SWTCH AP	408	411	461	708
	TOTAL OF THIS LIST	134,405	138,574	162,809	179,377

United States - Total Exports Customs value
Millions of US Dollars

HS	Description	2002	2003	2004	2005
	-- World --	693,103	724,771	818,775	905,978
8400	MACHINERY	130,189	131,032	149,788	167,051
8471	COMPUTERS+COMPONENTS	21,804	21,594	24,093	25,387
8473	OFFICE MACHINE PARTS	16,802	18,414	18,719	20,197
8500	ELECTRICAL MACHINERY	110,607	112,775	125,194	129,646
8517	LN TELEPH,ETC EL APPR	8,584	7,609	9,349	10,258
8525	TRNS AP F R-TEL;TV CM	5,213	5,064	6,508	7,196
8528	TELEVISION RECEIVER	1,305	1,263	1,559	1,841
8542	INTEGRATED CIRCUITS	38,215	41,912	43,031	41,978
	TOTAL HS 84 y 85	240,796	243,807	274,982	296,697
Source World Trade Atlas					

General Imports - Customs Value
Millions of US Dollars

HS	Description	2002	2003	2004	2005
	-- World --	1,161,366	1,257,121	1,469,704	1,673,455
8400	MACHINERY	161,634	170,653	200,630	222,439
8471	COMPUTERS+COMPONENTS	49,957	51,997	59,678	63,448
8473	OFFICE MACHINE PARTS	24,101	24,474	29,354	30,374
8500	ELECTRICAL MACHINERY	151,986	157,693	184,996	207,413
8517	LN TELEPH,ETC EL APPR	11,548	12,822	14,897	20,562
8525	TRNS AP F R-TEL;TV CM	22,510	24,958	31,131	35,234
8528	TELEVISION RECEIVER	9,986	11,898	16,096	21,141
8542	INTEGRATED CIRCUITS	22,727	21,281	22,853	21,867
	TOTAL HS 84 y 85	313,620	328,346	385,626	429,853
Source: World Trade Atlas					

III. Trade and Investment Negotiations Related to the Industries

The United States government has signed 12 free trade agreements (FTAs). The North American Free Trade Agreement (NAFTA) is one of the most important.

NAFTA is a trade agreement between the United States, Canada and Mexico, which has been implemented since 1 January 1994. It liberalizes restrictions on trade among the three economies. Some of the agreement's objectives include the elimination of tariff or duty rates and promoting conditions of free competition; and increasing market access and investment opportunities within the free trade area.

In regards to investment, the Chapter Eleven of NAFTA includes:

- National Treatment. Each party shall accord to investors of another party treatment no less favorable than that it accords, in like circumstances, to its own investors.
- Minimum Standard of Treatment. Investors of another party will receive the same treatment in accordance with international law, which requires fair and equitable treatment and full protection and security.
- Non-discriminatory treatment with respect to measures it adopts or maintains relating to losses suffered by investments in its territory owing to armed conflict or civil strife.

- No party may impose or enforce any of the following requirements, or enforce any commitment or undertaking, in connection with the establishment, acquisition, expansion, management, conduct or operation of an investment of a party or of a non-party in its territory.
- Expropriation and Compensation. No Party may directly or indirectly nationalize or expropriate an investment of an investor of another party in its territory or take a measure tantamount to nationalization of expropriation of such an investment (expropriation) except for a public purpose, on a non-discriminatory basis, in accordance with due process of law and Article 1105 (of NAFTA) and on payment of compensation.*

In regards to the IT industry, the United States is part of the following agreements:***

- The US-Japan. Computer Products and Services Agreement. 22 January 1992.
- The US-Japan. Supercomputer Procurement Agreement. 15 June 1990.
- The US-Korea Commitment on Trade in Telecommunications, Goods and Services. 14 July 1997.
- The European Union, the United States, Japan and Korea. Joint Statement Concerning Semiconductors. 10 June 1999.
- The US-Chinese Taipei. Telecommunications Liberalization Agreement Minute. 15 July 1996.

Trade and Investment Framework Agreements (TIFA)

The United States has signed several TIFA agreements establishing a framework for expanding trade and resolving outstanding disputes. The TIFAs are often seen as an important step towards establishing FTAs. As of today, the following agreements exist:

- The US-Central Asian TIFA (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan)
- The US-Common Market for Eastern and Southern Africa (COMESA) TIFA
- The US-West African Economic and Monetary Union (WAEMU) TIFA
- The US-Algeria TIFA
- The US-ASEAN TIFA
- The US-Bahrain TIFA
- The US-Ghana TIFA
- The US-Kuwait TIFA
- The US-Mozambique TIFA
- The US-Nigeria TIFA
- The US-Pakistan TIFA
- The US-Qatar TIFA
- The US-Saudi Arabia TIFA
- The US-South Africa TIFA
- The US-Thailand TIFA

Bilateral Investment Treaties

A bilateral investment treaty (BIT) is an agreement establishing the terms and conditions for private investment by nationals and companies of one state in the state of the other. This type of investment is called foreign direct investment (FDI). BITs are established through trade pacts.

*NAFTA. Chapter Eleven. www.export.gov

*** US Government Export Portal. www.export.gov/fta

Information Technology Agreement (ITA)

The World Trade Organization (WTO) Ministerial Declaration on Trade in Information Technology Products Agreement (ITA) was concluded by 29 participants at the Singapore Ministerial Conference on 13 December 1996. Since then, the number of participants has grown to 68. The United States is one of the member economies that originally signed this Ministerial Declaration, which entered into force in 1997.

The ITA is solely a tariff cutting mechanism. While the declaration provides for the review of non-tariff barriers, there are no binding commitments concerning non-tariff barriers. There are three basic principles that one must abide by to become an ITA participant. They are as follows.

- All products listed in the declaration must be covered,
- All items must be reduced to a zero tariff level, and
- All other duties and charges must be bound at zero. There are no exceptions to product coverage, however for sensitive items, it is possible to have an extended implementation period.

More details can be accessed at the www.wto.org/english/tratop_e/inftec_e/inftec_e.htm

IV. Programs and Special Incentives to the Industry

The benefits that foreign direct investment (FDI) brings to any economy are obvious. In the US, the affiliates of foreign companies (majority owned) employ 5.3 million US workers, which accounts for 4.7 percent of private industry employment. In addition, these investments boost wages, as foreign companies tend to pay higher wages than local companies. Furthermore, foreign companies support an annual payroll of US\$318 billion, with an average annual compensation of over US\$60,000 per employee.^{****} At the same time, foreign investment strengthens US manufacturing activity since 41 percent of the jobs related to the US affiliates of foreign companies are in the manufacturing sector. These type of companies also spend a significant amount on research and development. FDI also contributes to US tax revenues. For instance, in 2002 affiliates paid US\$17.8 billion in taxes, which represented 12 percent of US corporate tax revenues.^{*****}

There are many entities on the federal level that are related to the FDI. Some are as follows.

The Committee on Foreign Investment (CFIUS)

It was originally established in 1975 to monitor and evaluate the impact of foreign investment in the United States. In this Committee, participates as well the Director of the Office of Science and Technology Policy and the Assistant to the President for National Security under the chairmanship of the Secretary of Treasury.

The Office of Investment Affairs (IFD/OIA)

This is an agency of the US Department of State. They develop and carry out the US Policy on international investment matters, in cooperation with other agencies. Its goals are to promote the US investment abroad, to promote market-based investment standards and to encourage other countries to adopt policies that create sound investment regimes. The office pursues these goals by negotiating investment treaties, leading investment work in multilateral forums and developing strategies for combating international bribery and corruption.

**** Bureau of Economic Analysis (BEA) US Department of Commerce. March 2006.

***** Internal Revenue Service

Foreign investment is vital to economic growth. It creates good jobs, increases productivity, and raises living standards. The US encourage non-discriminatory, open and market oriented environments for US investments overseas through the negotiation of bilateral investment treaties and investment chapters in free trade agreements (FTAs).

On the state level, every state has its own promotion office in charge of attracting domestic and foreign investors to their cities, counties or states.

Two categories of incentives exist. The first is the statutory incentives, which are pre-approved by state, province and local government and made available to all eligible companies. Some of them give preferential treatment to high-tech industries. The second category is negotiated incentives, which are limited solely by the needs of the relocating corporation, its negotiators and the ability of political leaders to accept and approve them. Granting of incentives is not limited to governments. Generally, they can be categorized into tax related, employment related and financial related incentives.

In the case of the electronic and information technologies industries, every state offers different options. Below are some examples with brief description.

State/ Government	Type of Industry	Type of Incentive
<p>Massachusetts Office of International Trade and Investment</p>	<p>New manufacturing and R&D</p>	<p>Manufacturing and R&D. Corporate taxes do not increase as a function of investments in plants, equipment or personnel; local property tax exemption; sales and use tax exemptions; tax credits up to 10%; investment tax credit 2-5% of depreciable capital expense. Emerging Technology Fund A recently created fund of US\$25 million aimed at stimulating increased financing for new manufacturing, R&D and related facilities; expansion and improvements of such facilities; and acquisition of specialized equipment.</p>
<p>Florida Enterprise Florida, Inc. (EFI) is the public-private partnership responsible for leading Florida's statewide economic development efforts.</p>	<p>High value added industries such as silicon technology</p>	<p>Tax Refund. For qualified industries that create high paid jobs, refunds in corporate, income and sales tax. For businesses paying 150 percent of the average annual wage, add US\$1,000 per job; for businesses paying 200 percent of the average annual salary, add US\$2,000 per job. The local community where the company locates contributes 20 percent of the total tax refund. There is a cap of US\$5 million per single qualified applicant in all years</p>
<p>Texas Office of the Governor, Economic Development and Tourism</p>	<p>High Tech Industries</p>	<p>The Texas Emerging Technology Fund. The North Texas Regional Center for Innovation and Commercialization, the fund was established with US\$200 million dollars of state funds made available over the 2006-2007 fiscal years. Primary goals are to expedite innovations and their commercialization and to attract, create and expand private sector entities. Venture Capitalist funds. There are almost 6,000 banks offices in Texas - 661 separate institutions in the State. 25 Small Business Administration in Dallas Fort Worth allocated more than US\$5.09</p>

**Office of the US Trade Representative. www.ustr.gov

		million for tech and related industries. Incubator Funds. It is a revolving loan program through a \$45 million bond issuance in 2005. The programs support the development of small businesses or eligible products with a statutory preference in the areas of semiconductor, nano-technology, biotechnology and biomedicine
California	High Tech Industry	The California Nano-technology Initiative (CNI) calls for an investment of US\$4.6 billion over 10 years by a combination of private equity and public bond financing. CNI plans to raise US\$2.3 billion from the consortium members consisting of leading nano-technology companies, and US\$2.3 billion funds by selling State of California Bonds over 10 years. The annual investment will be US\$460 million per year. Research Grant Matching. The Emerging Technology Fund (Research Grant Matching Program) is to allow the state to leverage research funds from outside the state of California that contribute toward the growth of emerging technology economy including technology research and development of products.
New York	High Tech industries	It has Centers in Bioinformatics in Buffalo, Environmental Systems in Syracuse, Photonics in Rochester, Nano-electronics in Albany, and Wireless Internet and Information Technology in Long Island. Offers different kind of incentives such as: Financial Incentives to different industries including R&D, services providers and manufacturers with direct loans, grants, infrastructure assistance and interest rate subsidies.
Federal Incentive US Department of Commerce	High Tech industry	Advance Technology Program (ATP) of the National Institute of Technology Administration. Helps US industry invent and manufacture superior products reliably, provide services, ensure a fair marketplace, and promote acceptance of US products in foreign markets. Through partnerships with the private sector, ATP's early stage investments accelerate the development of innovative technologies.
Federal Incentive Enterprise Zone Program	Any industry	It is an economic development tool for local communities to partner with the States to promote job creation and capital investment in economically distressed areas of the state.

Source: US Department of Commerce. State of Texas, State of California, State of Florida, State of Massachusetts and State of New York.

Government, Private Programs and Incentives Related with the IT Industry.

Program	Nature of Incentive
Capital Connections Incentives State of Texas	It is a program that is focused on bringing technology and life sciences entrepreneurs together with the knowledge and resources necessary to fund their companies and products. CC Workshops: In order to meet this goal, the CC committee, with the support and sponsorship of PricewaterhouseCoopers and Entrepreneurs Foundation of North Texas, developed a series of workshops for entrepreneurs to address the skills and know-how needed to approach a potential funding situation.
Phase Zero Program	With the partnership of Tech Fort Worth, the Phase Zero Award grant program has been developed. This program helps small North Texas technology businesses compete more effectively and increase participation in federal small business innovation research / small business technology transfer (SBIR/STTR) programs by providing seed grants (up to US\$3000) to qualified firms for the development of high-quality, competitive SBIR/STTR proposals.
Texas Incubator Funds	This program has been established as a revolving loan programs through a US\$235 million bond issuance in 2005. The programs support the development of small businesses or eligible products with a statutory preference given in the areas of semiconductor, nanotechnology, biotechnology and biomedicine.
Enterprise Zone Program	The Enterprise Zone Program is an economic development tool for local communities to partner with the States to promote job creation and capital investment in economically distressed areas of the state. Designated projects are eligible to apply for state sales and use tax refunds on qualified expenditures. The level and amount of refund is related to the capital investment and jobs created at the qualified business site.
Research Grant Marching	The Emerging Technology Funds Research Grant Matching Program is to allow the state to leverage research funds from outside the state of California that contribute toward the growth of our emerging-technology economy. The priority for the ETF Research Matching Funds is to support emerging-technology research and development activities that are directed toward the creation of a new product to be marketed.
California Enterprise Fund	The California Enterprise Fund provides the state's leaders with a "deal-closing fund" that has the flexibility and financial resources to help strengthen the state's economy. The fund can be used for a variety of economic development projects, including infrastructure development, community development, job training programs and business incentives.
Advance Technology Program of the National Institute of Technology Administration of the US Department of Commerce	For more than a century, NIST (National Institute of Technology Administration) has helped to lay the foundation for the innovation, economic growth, and quality of life that Americans have come to expect. NIST technology, measurements, and standards help U.S. industry invent and manufacture superior products reliably, provide critical services, ensure a fair marketplace for consumers and businesses, and promote acceptance of US products in foreign markets.

Source: Larta Institute, Los Angeles, California Office

V. The Private Sector in the Industries

The following are some of the companies involved in the electronic and information technology industries.

Company	Microsoft Corp	Microsoft runs their business in much the same way, and their three core business divisions offer the greatest potential to serve their customers. The business divisions are the Platform Products and Services Division, the Business Division, and the Entertainment and Devices Division.
Chief Executive Officer	Steven A Ballmer	
Address	1 Microsoft Way Redmond, WA 98052-8300	
Tel Fax	(1-425) 882 8080 (1-425) 936 7329	
Website	www.microsoft.com	
Products	Software publisher, computer software development, computer terminals	Annual Sales: US\$39.8 billion
Company	International Business (IBM)	Leader in the invention, development and manufacture of the industry's most advanced information technologies, including computer systems, software, storage systems and microelectronics.
Chief Executive Officer	Samuel J Palmisano	
Address	1 New Orchard Rd Armonk, NY 10504-1722	
Tel Fax	(1-914) 499 1900 (1-914) 499 6007	
Website	www.ibm.com	
Products	Computer system consulting services; machinery & equipment finance leasing services; software development.	Annual Sales: US\$91.5 billion
Company	Oracle Corp	Oracle is the only vendor to offer solutions for every tier of consumers' business-database, middleware, business intelligence, business applications, and collaboration.
Chief Executive Officer	Lawrence J Ellison	
Address	500 Oracle Pkwy Redwood City, CA 94065-1677	
Tel Fax	(1-650) 506 7000 (1-650) 506 7200	
Website	www.oracle.com	
Products	Software publisher, data processing consulting services, computer software training services	Annual Sales: US\$11.5 billion
Company	Ca Inc	CA is one of the world's largest IT management software providers. Their software and expertise unify and simplify complex IT environments in a secure way across the enterprise for greater business results.
Chief Executive Officer	Michael J Christenson	
Address	1 Ca Plz Central Islip NY 11749	
Tel Fax	(1-631) 342 6000 (1-631) 342 5737	
Website	www.cai.com	

Products	Business & professional software publishers; management consulting services; patent buying, licensing & leasing	Annual Sales: US\$3.5 billion
Company	Hewlett-Packard Co	HP is a technology company that operates in more than 170 countries around the world. They explore how technology and services can help people and companies address their problems and challenges, and realize their possibilities, aspirations and dreams.
Chief Executive Officer	Mark V Hurd VV	
Address	3000 Hanover St Palo Alto, CA 943041112	
Tel Fax	(1-650) 857 1501 (1-650) 857 5518	
Website	www.hp.com	
Products	Personal computers, all types of still & motion picture cameras, computer storage devices	Annual Sales: US\$86.6 billion
Company	Symantec Corp	Symantec is focused on helping customers protect their infrastructures, their information, and their interactions. Headquartered in Cupertino, Calif., Symantec has operations in 40 countries.
Chief Executive Officer	John W Thompson	
Address	20330 Stevens Creek Blvd Cupertino, CA 95014-2268	
Tel Fax	(1-408) 517 8000 (1-408) 253 3446	
Website	www.symantec.com	
Products	Antivirus software	Annual Sales: US\$2 billion (2004)
Company	Adobe Systems Inc	The company's award-winning technologies and software have redefined business, entertainment and personal communications by selling new standards for producing and delivering content that engages people anywhere at anytime.
Chief Executive Officer	Bruce R Chizen	
Address	345 Park Ave San Jose, CA 95110-2704	
Tel Fax	(1-408) 536 6000 (1-408) 537 6000	
Website	www.adobe.com	
Products	Application software publishing, copyright buying & licensing	Annual Sales: US\$1.9 billion
Company	Dell Inc	Dell Inc. listens to customers and delivers innovative technology and services they trust and value. Uniquely enabled by its direct business model, Dell sells more systems globally than any computer company, placing it at number 25 on the Fortune 500.
Chief Executive Officer	Kevin B Rollins	
Address	1 Dell Way Round Rock, TX 78682-7000	
Tel Fax	(1-512) 338 4400 (1-512) 283 6161	
Website	www.dell.com	
Products	Computers, computer terminals, monitors & components, application software publishing, computer system consulting services.	Annual Sales: US\$55.9 billion
Company	SYCHIP	SyChip designs, develops and markets Radio Frequency Chip Scale Modules for the mobile market. The company focuses on developing RF modules that are
Chief Executive Officer	George Barber	

Address	2805 N. Dallas Pkwy. Ste. Plano, TX 400 75093	differentiated due to proprietary integration, modular architectures, and low loss silicon technologies.
Tel Fax	(1-972) 836 0031 (1-972) 633 2537	
Website	www.sychip.com	
Products	Radio frequency integrated circuits	Annual Sales: US\$10-20 million
Company	<i>New Market Technology, Inc.</i>	NewMarket is concentrated on evolving corporate high-tech research and development. Coming out of some of the technology providers such as Microsoft, Cisco and Sun, NewMarket provides systems integration services.
Chief Executive Officer	Philip Verges	
Address	14860 Montfort Dr. Dallas, TX 75254	
Tel Fax	(1-972) 386 3372 (1-214) 853 5929	
Website	www.newmarkettechnology.com	
Products	Communications networking	Annual Sales: US\$25 million
Company	<i>HR Smart</i>	HRsmart provides companies worldwide with talent management technology solutions-such as applicant tracking, performance appraisal, learning management, career development and succession planning.
Chief Executive Officer	Mark Hamdan	
Address	2929 N. Central Expy. Richardson, TX 75080	
Tel Fax	(1-214) 432 3456 (1-214) 853 5319	
Website	www.hrsmart.com	
Products	Software	Annual Sales: US\$10-20 million
Company	<i>Goodman Networks, Inc.</i>	Goodman Networks is a leading provider of turnkey services solutions for all phases of the telecommunications equipment lifecycle in Wireless, Wireline and OSP industries. Goodman provides complete lifecycle and spectrum support for both carriers and OEMs.
Chief Executive Officer	John Goodman	
Address	13835 Senlac Dr. Farmers Branch, TX 75234	
Tel Fax	(1-972) 406 9692 (1-972) 243 3931	
Website	www.goodmannetworks.com	
Products	Communications/networking	Annual Sales: US\$100-500 million
Company	<i>Advanced Neuromodulation Systems, Inc.</i>	At Advanced Neuro modulation Systems, their goal is to improve the quality of life for the millions of people around the world who suffer with disabling pain or nervous system disorders.
Chief Executive Officer	Christopher Chavez	
Address	6901 Preston Rd. Plano, TX 75024	
Tel Fax	(1-972) 309 8000 (1-972) 309 8150	
Website	www.ans-medical.com	
Products	Medical equipment and supplies	Annual Sales: US\$121 million
Company	<i>Plexon, Inc.</i>	Plexon designs, develops and markets advanced hardware and software that are used to acquire, process, record and analyze action potential signals (spikes) from individual brain cells (neurons).
Chief Executive Officer	Harvey Wiggins, Jr.	
Address	6500 Greenville Ave., Ste. 730 Dallas, TX 75206	

Tel	(1-214) 369 4957	
Fax	972-369-1775	
Website	www.plexoninc.com	
Products	Scientific/technical instrumentation	Annual Sales: US\$20-\$50 million
Company	<i>Efore, Inc.</i>	
Chief Executive Officer	Vesa Vihavanien	Efore's global headquarters are located in Espoo, Finland, with manufacturing operations in Saarijärvi, Finland; Irving, USA; Suzhou, China; and Pärnu, Estonia.
Address	6029 Campus Circle Dr. West, Irving, TX 70563	
Tel	(1-972) 570 4480	
Fax	(1-214) 764 2389	
Website	www.eforeusa.com	
Products	Communications/networking	Annual Sales: US\$10-\$20 million
Company	<i>Freescale Semiconductors Inc.</i>	
Chief Executive Officer	Michael Meyer	This company provides semiconductor solutions for cars, mobile phones, networks and many different applications.
Address	6501 W. William Cannon Dr., Austin, TX 78735	
Tel	(1-512) 895 2000	
Website	www.freescale.com	
Products	Semiconductors	
		Annual Sales: Over US\$1 billion
Company	<i>International Sematech</i>	
Chief Executive Officer	Mike Polcari	SEMATECH (Semiconductor Manufacturing Technology), was formed in 1987, when 14 U.S.-based semiconductor manufacturers and the U.S. government came together to solve common manufacturing problems by leveraging resources and sharing risks.
Address	2706 Montopolis Dr. Austin, TX 78741	
Tel	(1-512) 356 3500	
Website	www.sematech.org	
Products	Voice integrated circuits	
		Annual Sales: US\$100-500 million
Company	<i>Legerity Inc.</i>	
Chief Executive Officer	Hank Perret	Legerity is the world's most trusted name in voice integrated circuits (ICs). It has a world class factory and field engineering support with a "high touch" customer philosophy, and the consistent, reliable, high volume supply of premium quality IC components.
Address	4509 Friedrich Ln 200, Austin, TX 78744	
Tel	(1-512) 228 5400	
Website	www.legerity.com	
Products	Voice integrated circuits	
		Annual Sales: US\$100-500 million
Company	<i>Sabre Holdings Corp.</i>	
Chief Executive Officer	Michael S. Gilliland	As a world leader in the travel marketplace, Sabre Holdings merchandises and retails travel products and provides distribution and technology solutions for the travel industry through its three companies: Travelocity, Sabre Travel Network, Sabre Airline Solutions.
Address	3150 Sabre Dr. Southlake, TS 76092	
Tel	(1-682) 605 1000	
Website	www.sabre-holdings.com	
Products	E-travel software development and technologies for airline operations	
		Annual Sales: US\$2.5 billion
Company	<i>Perot Systems Corp.</i>	
Chief Executive Officer	Peter Altabef	Since 1988, Perot Systems Corporation has delivered technology-based business solutions to help organizations worldwide control costs and cultivate growth.

Address	2300 Plano Pkwy. Plano, TX 75075	
Tel	(1-972) 577 0000	
Fax	(1-972) 577 4484	
Website	www.perotsystems.com	
Products	Telecommunication and data processing services	Annual Sales: US\$2.5 billion
Company	<i>Pegasus Solutions</i>	
Chief Executive Officer	John F. Davis III	Pegasus is a global force, with 17 offices in 12 countries providing a level of local support. Pegasus' solutions portfolio consists of reservation, distribution, financial, and representation services.
Address	8350 N. Central Expy., Ste. 1900 Dallas, TX 75206	
Tel	(1-214) 234 4400	
Fax	(1-214) 234 4040	
Website	www.pegs.com	
Products	Computer software, marketing programs and services.	Annual Sales: US\$190 million
Company	<i>Carreker Corp.</i>	
Chief Executive Officer	John E. Carreker, Jr.	Founded 26 years ago, Carreker is a US\$119 million company that provides products and services to more than 250 global clients.
Address	4055 Valley View Ln. Suite 1000 Dallas, TX 75244	
Tel	(1-800) 486 1981	
Fax	(1-972) 701 0758	
Website	www.carreker.com	
Products	Data processing, business management consultants.	Annual Sales: US\$117.5 million
Company	<i>SSA global</i>	
Chief Executive Officer	Warren Fletcher	The new, combined company offers unparalleled application breadth, market experience, open technology, and global reach.
Address	8777 Stemmons Frwy. Dallas, TX 75247	
Tel	(1-214) 775 6000	
Fax	(1-214) 775 0900	
Website	www.ssaglobal.com	
Products	ERP Solutions for manufacturing, services and public organizations worldwide	Annual Sales: US\$637.8 million
Company	<i>Meta Solv Software Inc.</i>	
Chief Executive Officer	T. Curtis Holmes	Founded in 1992, MetaSolv Software has a successful history of enabling communications service providers to deliver next-generation services in the dynamic and hyper-competitive telecommunications market.
Address	5556 Tennyson Pkwy. Plano, TX 75024	
Tel	(1-972) 403 8300	
Fax	(1-972) 403 8333	
Website	www.metasolv.com	
Products	Computer software, telephone equipment and systems services	Annual Sales: US\$92 million

VI. The Vision of the Private Sector

The Electronic and Information Technology Industries Survey in APEC
Company: Perot Systems Corporation
Name and title of the executive: Enrique Cortes-Rello, Advisor to the CEO
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>We are a very focused IT services company. We offer a focused set of service offerings (application services, BPO and infrastructure services) to a narrow set of markets (healthcare, government and commercial clients). The way we deal with the business environment is by being trusted advisors in the industries where we focus, and by providing excellent execution.</p>
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>We do not manufacture products. We provide services. In general, we rarely source services from others (sub-contacting), although we may do it every now and then. More often than not, we own the facilities and we employ the people that provide services. We do not believe that arrangements such as joint ventures are good for us. We have a global services delivery strategy with offshore (India) and near shore "nodes". We of course provide services in the countries where our delivery "nodes" reside.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this opportunity to SMEs?</p> <p>This question does not apply to our services.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Free trade agreements are very useful for our plans. Although (again) we provide services and do not manufacture products. What is important for us is the speedy and economical importation of IT equipment, and the "smooth" movement of people from one country to another. TN NAFTA visas are extremely important for us.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>Incentives are a very important factor in new investment decisions. In IT services, Mexico competes with countries that offer very attractive incentives, such as India and the Philippines. If Mexico was not to offer any incentives to investors, I doubt that investors would consider Mexico seriously (in the IT services industry). At the moment, the incentives offered between the Federal and State governments for IT investors seem to be globally competitive (PROSOFT) etc.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>In the IT services industry, global delivery models will be more and more common. What this means is that organizations will seamlessly move workloads from one "node" (delivery center) to another on a 7x24 basis (BPO, infrastructure management and applications). Mexico has the great advantage of NAFTA and being very close to the biggest consumer of IT services in the world (the USA). Mexico is the ideal platform for a near shore services model. We believe that</p>

Mexico could compete globally in the (remote) infrastructure services area and in BPO. One big disadvantage for Mexico is language – there are not enough qualified English speakers in the country to massively participate in the BPO global market. A minor disadvantage (that is compensated by other advantages) is cost of labor, which is high compared with competitor countries in IT services (India, Philippines).
Other comments:
Date: 25 August 2006

The Electronic and Information Technology Industries Survey in APEC
Company: TechBA
Name and title of the executive: Luis Medina, CEO Technology Business Accelerator
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges? By getting the best info and the best people.
2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers? Some of our companies offer outsourcing services in Mexico.
3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this opportunity to SMEs? Yes and we are taking advantage of the opportunity.
4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans? Yes but we need people who really understand how to take advantage of the agreements.
5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions? The target market is the main focus but incentives also help the decision.
6. Can you provide your views or suggestions about the future of the electronic and the information technology industries? Outsourcing is here to stay with many variations in level (design, implementation, manufacturing – all could be because of minimizing cost or best quality of service) and location (local, near shore or remote).
Date: 16 August 2006.

The Electronic and Information Technology Industries Survey in APEC
Company: MW Consulting
Name and title of the executive: Requested not to disclose
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges? Through three main strategies of new software technology research & training; solid methodology for project delivery; and partnerships with main software technology vendors.

<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>Yes, through near-shore software development.</p>
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this opportunity to SMEs?</p> <p>We are not hardware manufacturers. We specialize on software only.</p>
<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Yes.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>Yes.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>Right now, technology is having a major role on the capitalization and guidance/channeling of knowledge inside and outside organizations. The big opportunity is to have ways of driving technology and culture altogether inside the enterprise to achieve goals.</p>
<p>Other comments:</p>
<p>Date: 14 August 2006.</p>

The Electronic and Information Technology Industries Survey	
Company: ACP Consulting	
Name and title of the executive: Vincent Chapa, President	
<p>1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges?</p> <p>We have diversified our product offering to include short and long term projects that provide better visibility as to our future.</p>	
<p>2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers?</p> <p>Our business strategy is regional and takes advantage of the many sources of available resources to conduct our services. We are a services organization so our sourcing is only applicable to our resources to deliver our service.</p>	
<p>3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs?</p> <p>We do consider SMEs to provide resources for areas where we do not have the skill sets.</p>	

<p>4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans?</p> <p>Free trade agreements are very useful in providing an environment of cooperation. They do not insure the successful execution of worthwhile business. There needs to be a more proactive approach to match companies for alliance opportunities.</p>
<p>5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important role in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions?</p> <p>Incentives are a crucial component of deciding where to invest so that the cost to penetrate a new market is made more affordable and reduces the return on those investments.</p>
<p>6. Can you provide your views or suggestions about the future of the electronic and the information technology industries?</p> <p>With the threat of additional terrorist activity around the globe new markets are being considered to provide services that in the past were conducted elsewhere. This also is in line with the need to have more accessibility to technical resources no matter where they are located. Mexico can play a very important role if the fragmented market of the IT industry can be put together to create a critical mass. This critical mass can then be marketed in the US more effectively and position Mexico as an IT services provider to the US.</p>
Other comments:
Date: 23 August 2006.

VII. Government and Private Organizations

Organization	<i>Software and Information Industry Association</i>	The SIIA is the principal trade association for the software and digital content industry. It provides global services in government relations, business development, corporate education and intellectual property protection to the leading companies.
Chairman / Secretary General	Ken Wasch	
Members	750	
Address	1090 Vermont Ave NW Sixth Floor Washington DC 20005-4095	
Tel	(1-202) 289 7442	
Fax	(1-202) 289 7097	
Website	www.siiia.net	
E mail	Not available	
Organization	<i>Telecommunications Industry Association</i>	TIA is the leading association for the information & communications technology sector. As owner and producer of GLOBALCOMM, TIA serves ICT suppliers to global markets through its leadership in standards development, domestic and international policy advocacy.
Chairman / Secretary General	E. Van Cullens	
Members	650	
Address	2500 Wilson Blvd., Suite 300 Arlington, VA 22201-3834	
Tel	(1-703) 907 7700	
Fax	(1-703) 907 7727	
Website	www.tiaonline.org	
E mail	tia@tiaonline.org	

Organization	Cellular Telecommunications and Internet Association	CTIA is an international organization representing all sectors of wireless communications – cellular, personal communication services and enhanced specialized mobile radio.
Chairman / Secretary General	Steve Largent	
Members	250	
Address	1400 16th Street, NW Suite 600 Washington, DC 20036	
Tel Fax	(1-202) 785 0081 (1-202) 785 0721	
Website	www.ctia.org	
E mail	kdunbar@ctia.org	
Organization	American Electronics Association	AeA is a nationwide non-profit trade association that represents all segments of the technology industry and is dedicated solely to helping our members' top line and bottom line
Chairman / Secretary General	TomEdman	
Members	2300	
Address	5201 Great America Parkway #400 Santa Clara, CA 95054	
Tel Fax	(1-408) 987 4200 (1-408) 987 4298	
Website	www.aeanet.org	
E mail	stephanie_thorn@aeenet.org	
Organization	Electronic Representatives Association	ERA's assertive leadership role in promoting and protecting the function has led to the identification of manufacturers' representatives as equal partners in the marketing process.
Chairman / Secretary General	Mike Kunz	
Members	Not available	
Address	444 N. Michigan Avenue, Suite 1960 Chicago, Illinois 60611	
Tel Fax	(1-312) 527 3050 (1-312) 527 3783	
Website	www.era.org	
E mail	info@era.org	
Organization	AeA Texas Council - Dallas	AeA (formerly the American Electronics Association), founded in 1943, is a nationwide non-profit trade association that represents all segments of the technology industry.
Chairman / Secretary General	Clare Emerson	
Members	2500	
Address	14901 Quorum Drive, Suite 595 Dallas, TX 75254	
Tel Fax	(1-972) 386 6540 (1-972) 386 6029	
Website	www.sematech.org	
E mail	Clare_emerson@aeenet.org	
Organization	Information Technology Laboratory (NITL)	The NITL conducts research in a wide variety of physical and engineering sciences. The labs respond to industry needs for measurement methods, tools, data, and technology.
Chairman / Secretary General	Mary Brunner	
Members	Not available	

Address	100 Bureau Drive, Stop 8900, Gaithersburg, MD 20899-89000	
Tel Fax	(1-301) 975 8295 (1-303) 497 5507	
Website	www.nist.gov	
E mail	mary.brunner@nist.gov	
Organization	<i>Technology Business Council (Dallas-Fort Worth)</i>	
Chairman / Secretary General	Meredith Dowling	This organization aims to assemble and engage key parties linked to the region's technology resources and infrastructure, and also to lead a national/international marketing campaign to promote the technology center.
Members	Not available	
Address	700 N. Pearl Street, suite 1200 Dallas, TX 75201	
Tel	(1-214) 712 1935	
Website	www.dallaschamber.org	
E mail	mdowling@dallaschamber.org	
Organization	<i>Information Technology Industry Council (ITIC)</i>	
Chairman / Secretary General	Marcie Ridgway	Information Technology Industry Council (ITI) is an elite group of the nation's top high-tech companies, and is the most effective lobbying organization.
Members	Not available	
Address	1250 Eye street NW. suite 200 Washington, DC 20005	
Tel Fax	(1-202) 737 8888 (1-202) 638 4922	
Website	www.itic.org	
E mail	mridgway@itic.org	
Organization	<i>Technology Administration (TA) US Department of Commerce</i>	
Chairman / Secretary General	Robert C. Cresanti Under Secretary of Commerce for Technology	TA is the only Federal agency working to maximize technology's contribution to America's economic growth.
Members	Not available	
Address	1401 Constitution Avenue, N.W. Washington, D.C. 20230	
Tel Fax	(1-202) 482 1575 (1-202) 482 5687	
Website	www.technology.gov	
E mail	Public_affairs@technology.gov	
Organization	<i>Advanced Technology Program National Institute of Standards and Technology</i>	
Director	Marc Standley	ATP accelerates the development of innovative technologies for broad national benefit through partnerships with the private sector
Members	Not available	
Address	100 Bureau Drive, Stop 1070 Gaithersburg, MD 20899-1070	
Tel	(1-301) 975 6478	
Website	www.atp.nist.gov	
E mail	inquiries@nist.gov	

Bibliography:

- US Census Bureau: www.census.gov
- US Department of Commerce: www.commerce.gov
- Bureau of Economic Analysis (BEA), US Department of Commerce: www.bea.gov
- Office of the US Trade, World Trade Atlas, 2006 Edition
- Office of the US Trade Representative: www.ustr.gov
- Internal Revenue Service: www.irs.com
- International Trade Administration (USDOC): www.ita.doc.gov
- American Electronic Association: www.aeanet.org
- Most Active Investors in Texas (2205), Greater Dallas Chamber of Commerce, Austin Ventures
- Larta Institute, Los Angeles, California: www.larta.org
- National Institute of Standard and Technology: www.nist.gov
- Computers: Software Industry Survey, 27 April 2006, Standard & Poor's
- Semiconductors Industry Survey, 1 September 2005, Standard & Poor's
- Communications Equipment Industry Survey, 2 February 2006, Standard & Poor's

[Back to Index](#)

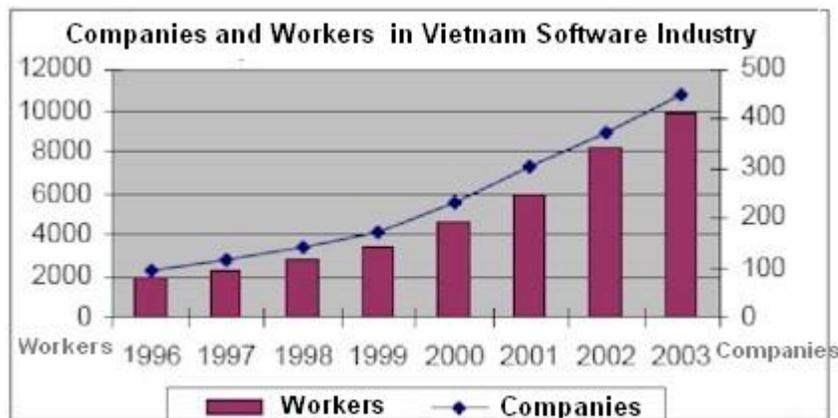
The Electronic and Information Technology Industries Survey in APEC Viet Nam

I. Overview of the Industry

With a population of over 84 million, Viet Nam has strong potential in both market supply and demand. Although the software industry's (SI) revenue in 2005 of US\$200 million was far from expectations, the steady growth rate of 25 percent in the last five years, which is forecasted to continue through 2010, certainly unveils the Vietnamese government's ambition and aspiration for technology advancement in this heavily government supported industry.

Electronic and information technology (IT) represented only 3.07 percent of the gross domestic product (GDP). The Viet Nam government is expecting that in the following years his figure will grow to 7 – 7.5 percent.

For the first time in three decades, this economy will have its first electronic strategy until 2010 to help the local electronics industry compete with foreign companies. It is very timely since it will become a member of the World Trade Organization, expected by the end of 2006.



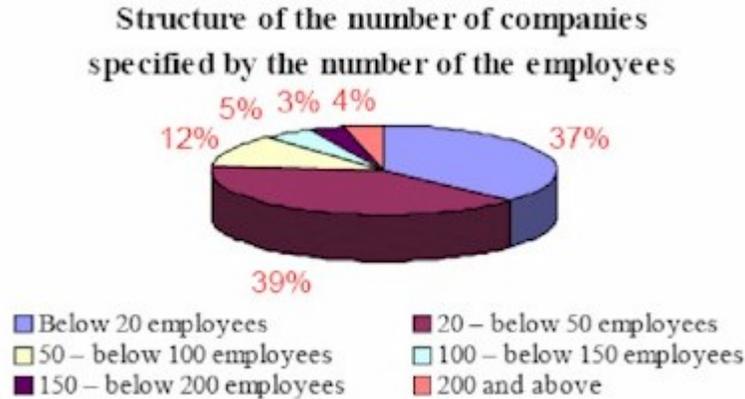
Source: IT Industry Department, Ministry of Posts and Telematics of Viet Nam

The software industry in Viet Nam is still in an early stage of development but the potential is already apparent. Furthermore, government support for this sector and well thought out policies like the recent tie-up of the National University of Ho Chi Minh City in respect to improving IT education at the University programs and advanced degree level, all promise well for the future. This industry is therefore one that bears continued attention for future investments.

Although the software industry is a young sector whose turnover does not appear impressive, the software industry might make other industries in Viet Nam envy them for the level of attention it receives from the government. For at least a decade, Vietnamese officials have expressed a strong belief in information technology as a key to successful economic development, and thus, have acted accordingly.

Currently, most software companies in Vietnam are small-sized, with the exception of a few mid-sized enterprises. Despite this, Vietnam has been quite successful in attracting numerous major big corporate and government names to outsource software projects to Vietnam. Among them are Anheuser Busch, Bayer, BMG, BP, Cisco, Critical Path, Daiwa, Fuji, IBM, Merrill Lynch, Nortel Networks, NTT, the State of Oklahoma and Sony. All have outsourced software projects to Vietnam either directly or through third-party subcontracts.

According to many sources, India, Israel and Ireland are in the top tier for software outsourcing, while Viet Nam is classified as being in tier four. Tier one economies have numerous firms – in clusters of hundreds or thousands – actively producing software for exports, valued over US\$1 billion, and with at least 15 years experience in the industry. By contrast, companies of tier four economies, have only been exporting for five years or less and have annual revenues of less than US\$25 million.



Currently, most software companies in Viet Nam are small-sized, with the exception of a few mid-sized enterprises (see the above graph). Despite this, it has been quite successful in attracting numerous major big corporate and government organizations to outsource software projects.

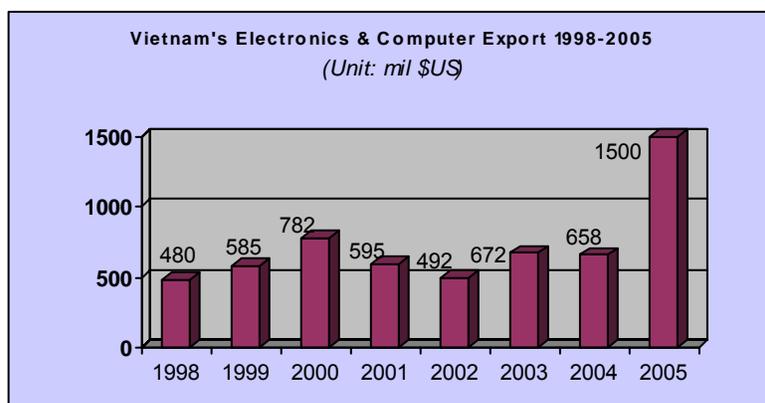
The electronics industry employs around 250,000 employees, mainly producing electronic consumer products, health products, broadcasting and automation, as well as PCs and training equipment for the domestic market. The electronic exporters and manufacturers are mainly foreign companies. There are also other important manufacturing activities, like chip assembly and testing from Intel, the world’s largest semiconductor maker, which received a license to invest up to US\$605 million last February and expects to increase this amount up to US\$1 billion.

Telecommunications

Both foreign investors and local companies in the information and communication technology (ICT) field are closely observing the Vietnamese government’s moves after it promised to open the door to the market prior to joining WTO. While already established foreign groups, such as Siemens, Alcatel and SK Telecom, are anxious in shedding their business cooperation contract status to participate with full force, other foreign investors are more than eager to take a share in this lucrative ICT market.

II. Recent Developments in the Exports and Imports

Viet Nam Electronic Industries Association conducted an assessment of the real situation of Vietnam’s electronic industry. This assessment included 108 electronics producers, including foreign-invested and joint stock entities as well as some industrial zones. The draft version of the Ministry of Post and Telematics aims to earn US\$6 billion from the sector by 2010 including US\$5 billion from export revenue.



Source: Viet Nam Embassy in Washington

The electronics industry is still very young and receiving high priority in the government's development strategy. The industry is the latest of Vietnam's successes in manufactured export development. With no exports until the mid 1990s, exports of electronics reached nearly US\$1.5 billion in 2005, up 34 percent from the previous year.

The main products are transformers, printers, computer and mobile telephone parts, and circuit boards. The industry is dominated by foreign investments with some of the leading Japanese and Korean enterprises involved. It is forecasted, in a report produced by the Japan Industrial Cooperation Agency (JICA), that Viet Nam's export of electronics may reach US\$70 billion by 2020.

Viet Nam's total imports from this sector amounted to US\$1.7 billion in 2005. Japan took 28 percent of this share; Singapore 25 percent; China 9 percent; Hong Kong, China 7 percent; and Malaysia 7 percent. The main products included computer parts and components, telecommunications apparatus, integrated circuits and electronic parts.

Main Suppliers of Electronics to Viet Nam
(US\$ million)

Economy of Origin	Value
Japan	484.9
Singapore	431.2
China	155.4
Hong Kong, China	126.3
Malaysia	123.1

Source: Viet Trade

III. Trade Negotiations Related to the Industries

Viet Nam has not signed any bilateral free trade agreements. However, they are actively participating in the Association of Southeast Asian Nations (ASEAN). In addition, they are currently working towards their adhesion to the World Trade Organization (WTO), expected to formalize at the end of 2006.

Association of Southeast Asian Nations (ASEAN)

The Association of Southeast Asian Nations was established in Bangkok on 8 August 1967 by the five original Member economies, namely, Indonesia, Malaysia, the Philippines, Singapore and Thailand. Brunei Darussalam joined on 8 January 1984, Viet Nam on 28 July 1995, Lao PDR and Myanmar on 23 July 1997, and Cambodia on 30 April 1999.

The ASEAN region has a population of about 500 million, a total area of 4.5 million square kilometers, a combined gross domestic product of almost US\$700 billion, and a total trade of about US\$850 billion.

Objectives of ASEAN

The ASEAN Declaration states that the aims and purposes of the association are to: (1) accelerate economic growth, social progress and cultural development in the region and (2) promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries in the region and adherence to the principles of the United Nations Charter.

In addition, the ASEAN Vision 2020, adopted by the ASEAN Leaders on the 30th Anniversary of ASEAN, agreed on a shared vision of ASEAN as a concert of Southeast Asian nations, outward looking, living in peace, stability and prosperity, bonded together in partnership in dynamic development and in a community of caring societies.

In 2003, the ASEAN Leaders resolved that an ASEAN Community should be established comprising of three pillars, namely, the ASEAN Security Community, the ASEAN Economic Community and the ASEAN Socio-Cultural Community.

As far as the ASEAN Economic Community is concerned, it has the end-goal of economic integration measures as outlined in the ASEAN Vision 2020. Its goal is to create a stable, prosperous and highly competitive ASEAN economic region in which there is a free flow of goods, services, investment and a freer flow of capital, equitable economic development and reduced poverty and socio-economic disparities in year 2020.

The ASEAN Economic Community shall establish ASEAN as a single market and production base, turning the diversity that characterizes the region into opportunities for business complementation and making the ASEAN a more dynamic and stronger segment of the global supply chain. Its strategy shall consist of the integration of ASEAN and enhancing the groups' economic competitiveness.

In moving towards the ASEAN Economic Community, ASEAN has agreed on the following:

- Institute new mechanisms and measures to strengthen the implementation of its existing economic initiatives including the ASEAN Free Trade Area (AFTA), ASEAN Framework Agreement on Services (AFAS) and ASEAN Investment Area (AIA);
- Accelerate regional integration in the following priority sectors by 2010: air travel, agro-based products, automotives, e-commerce, electronics, fisheries, healthcare, rubber-based products, textiles and apparels, tourism, and wood-based products.
- Facilitate movement of business persons, skilled labor and talents; and
- Strengthen the institutional mechanisms of ASEAN, including the improvement of the existing ASEAN Dispute Settlement Mechanism to ensure expeditious and legally binding resolution of any economic disputes.

Launched in 1992, the ASEAN Free Trade Area (AFTA) aims to promote the region's competitive advantage as a single production unit. The elimination of tariff and non-tariff barriers among Member Countries is expected to promote greater economic efficiency, productivity, and competitiveness.

As of 1 January 2005, tariffs on almost 99 percent of the products in the Inclusion List of the ASEAN-6 (Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore, and Thailand) have been reduced to no more than 5 percent. More than 60 percent of these products have zero tariffs. The average tariff for ASEAN-6 has been brought down from more than 12 percent when AFTA started to 2 percent today. For the newer Member economies, namely, Cambodia, Lao PDR, Myanmar, and Viet Nam (CLMV), tariffs on about 81 percent of their Inclusion List have been brought down to within the 0-5 percent ranges.

This agreement has been established a “Roadmap for Integration of Electronics Sector”. The terms of the agreement are as follows.

Objectives

The objectives of integrating the electronics sector are to:

- Develop, strengthen and enhance the competitiveness of the ASEAN electronics sector and promote ASEAN as an integrated platform to do business with regarding electronics;;
- Strengthen regional integration efforts through liberalization, facilitation and promotion measures to ensure full integration of the electronics sector by 2010.
- Promote private sector participation.

Measures

This roadmap includes specific measures that are of direct relevance to the electronics sector, as well as common measures that cut across all priority integration sectors. The integration approaches are premised on:

- Combining the economic strengths of ASEAN member countries for regional advantage;
- Facilitating and promoting intra-ASEAN investments;
- Improving the condition to attract and retain manufacturing and other economic activities within the region; and
- Promoting the outsourcing program within ASEAN.

Coverage

The scope of products include electronic data processing (EDP) equipment, electrical and electronic home appliances, medical and industrial equipment, telecommunication equipment, communications and radar equipment, automotive electronics, instrumentation and controls, and mechanical equipment.

More information can be obtained at www.aseansec.org/16656.htm

IV. The Programs and Special Incentives to the Industry

In Viet Nam, enterprises with foreign owned capital and foreign business co-operation parties are required to pay business income tax at the rate of 25 percent of their profit earned, except in the cases provided in article 46 of The Foreign Investment Decree of 2000 (FID 2000).

The cases where preferential treatment of business income tax (BIT) rates is applied are as follows:

- *Industrial zones (IZ) enterprises operating in the service sector.*

A twenty percent rate shall apply to investment projects that satisfy the following criteria:

Manufacturing projects not on the list of encouraged projects stated in article 45 of the FID 2000 and clause 2 and 3 of this article.

- *A fifteen percent rate shall apply to investment projects, which satisfy one of the following criteria:*
 - a. Investment projects, which are on the list of encouraged projects.
 - b. Investing in regions with difficult socio-economic conditions.
 - c. Export processing enterprises operating in the service sector.

- d. Investment zone enterprises exporting more than 50 percent of products.
 - e. Enterprises subject to be transferred to the Vietnamese government without compensation upon termination of operations.
- *A ten percent rate shall apply to investment projects that satisfy one of the following criteria:*
- a. Meeting two criteria set out in clause 2 of this article.
 - b. Being on the list of especially encouraged investment projects.
 - c. Investment projects in regions with difficult socio-economic conditions that are on the list of encouraged regions.
 - d. Enterprises developing infrastructure facilities of Industrial Zones, Export Processing Zones (EPZ) and, export processing enterprises.
 - e. Enterprises investing in medical care, education and training, scientific research.
- *Regulations on periods entitled to the incentive BIT rates:*
- a. Incentive rates stated in this article shall be carried out for the whole duration of the project as long as projects meet one of the following criteria:
 - being on the list of specially encouraged projects;
 - being on the list of regions where socio-economic conditions are especially difficult and investments are encouraged
 - infra-structure development projects in IZ, and EPZ
 - projects in IZ and EPZ,
 - project in the fields of medical care, education and training, scientific research.
 - b. Ten percent of the BIT rate shall apply for 15 years from the day of commercial operation, except for projects mentioned in paragraph a.
 - c. Fifteen percent of BIT rate shall apply for 12 years from the day of commercial operation, except for projects mentioned in paragraph a.
 - d. Twenty percent of BIT rate shall apply for 10 years from the day of commercial operation, except for projects mentioned in paragraph a.
 - e. After a period of enjoying BIT incentive rates as stated in paragraph b, c and d, a 25 percent standard rate will apply to projects.
 - f. Overseas Vietnamese who invest in Viet Nam in accordance with the provisions of the Foreign Investment Law in Viet Nam shall be entitled to a 20 percent reduction of the BIT rate, except for cases where they are entitled to a tax rate of 10 percent.

Profit Remittance Tax Incentives

There are also tax incentives available through the profit remittal tax system. The usual rate of profit remittal tax is 7 percent but if the investment is more than US\$10 million, then the tax rate will be just 3 percent, while if it is between US\$5 million and US\$10 million, the tax rate will be just 5 percent.

Reinvested Profits

If you decide to reinvest your profits in the encouraged sectors in Viet Nam, you may be entitled to a full or partial enterprise income tax refund. To get this you need to apply to the Ministry of Finance and meet the following conditions:

- Your re-investment must be in an encouraged field;
- It must be for a term of at least 3 years; and
- The Legal Capital stated in the Investment License must be fully paid up.

If you satisfy these requirements, the refund will be

- 100 percent with respect to projects that are entitled to a 10 percent tax rate;
- 75 percent with respect to projects entitled to a 15 percent tax rate; and
- 50 percent with respect to projects entitled to a 20 percent tax rate.

Loss Carry Forward

The Vietnamese government recognizes that not all ventures are going to make a profit from the very first day of operation. To assist them, the company is entitled to carry forward their losses for tax purposes for a period of 5 years, starting from the first year profit is made.

Capitalized Assets

Any assets that form part of the capitalization of the investment are exempt from import duties.

Land

In Viet Nam the people own all land. This does not limit the potential for long-term investment in real property development. Land use rights can be leased, transferred and mortgaged under the recently revised law on foreign investment.

Flexibility

Mergers, divisions, consolidations and other such corporate restructuring options are possible in Viet Nam, providing you flexibility in the way you set up the investment and in the way it evolves over time.

Intellectual & Industrial Property

Viet Nam has a well-organized national trademark registration and protection regime. It is important that investors register their trademarks to obtain protection. The National Office of Industrial Property (NOIP), which also administers other industrial property rights, administers the trademark regime. Viet Nam is also a party to the International Paris Convention for the Protection of Industrial Property and the Madrid Agreement Concerning the International Registration of Marks.

Viet Nam has provisions in its Civil Code that protect an investor's copyright, including copyrights in computer software. The Vietnamese government has also signed the Agreement on the Establishment of Copyright Relations with the government of the United States in 1998.

Guarantees

The Vietnamese Government guarantees that your enterprise will not be nationalized and that its assets will not be expropriated.

Foreign Exchange in General

The currency used in Viet Nam is the dong. While it is not freely convertible on world currency markets, the holder is entitled to purchase foreign exchange from banks in Viet Nam and to remit profits and capital back overseas. The general principle is that current account transactions are not restricted, while capital transactions require State Bank approval. You are also entitled to maintain offshore bank accounts connected with your investment, but these are subject to State Bank approval.

V. The Private Sector in the Industries

The following are some of the companies involved in the electronic and information technology industries.

Company	AZ SOLUTION J.S. CO.	
Chief Executive Officer	Phi Anh Tu-n	AZ Solution JS Co. is a young but fast growing company. It was established in 1998 and specializes in developing and providing total IT and business solutions to customers including hardware supply, software development, system integration and trimming
Address	346 Ben Van Don Street Dis 4 HCMC Viet Nam	
Tel	(84-8) 945 0701	
Fax	(84-8) 945 0704	
Website	www.azsolution.com.vn	
Products	Provides IT solutions	Annual Sales: US\$1 million
Company	COMPANY FOR TECHNOLOGY AND DEVELOPMENT	
Chief Executive Officer	Mai Phuong Linh	CFTD was established in 1994, specializing in trading high-tech equipment. It has a wide range of high tech products and services in terms of banking, security, traffic, chemical science, forensic, science, etc. CFTD is proud to be partner of world-class technology corporations including Securrency, Sicpa, G&D, KBA-Giori, IBM, etc.
Address	639 LA Thanah, Ba Dinh Hanoi, Viet Nam	
Tel	(84-4) 537 0888	
Fax	(84-4) 537 4414	
Website	www.cftd.com/en/index.html	
Products	R&D of high technology products Distribution of IT products, informatics services and solutions as well as outsourcing and cash handling solutions for banking services.	Annual sales: Not available
Company	GLOBAL CYBERSOFT	
Chief Executive Officer	Nguyen Thanh Vuong	Global CyberSoft Inc. was established in California, USA on 27 June 2000. On 24 August 2000, Global CyberSoft (Vietnam) Ltd., a wholly owned subsidiary of GCS was established in Ho Chi Minh City, Viet Nam.
Address	Saigon Software Park, Suite 305, 123 Truong Dinh St. District 3, Ho Chi Minh City, Viet Nam	
Tel	(84-8) 9321 077	
Fax	(84-8) 9321 073	
Website	www.globalcybersoft.com	
Products	IT solutions	Annual sales: Not Available
Company	HPT VIETNAM CORPORATION	
Chief Executive Officer	Hyunh Thi Cao Thi	Found in 1995, HPT Vietnam Corporation has established itself as one of leading IT companies. The company provides IT services to multiple clients, both home and overseas, including governmental agencies, state-owned enterprises, multi-international companies, and different plants and factories, which are all playing key roles in the economy of Viet Nam.
Address	60 Nguyen Van Troi St., Phu Nhuan Dist., Hochiminh City, Viet Nam	
Tel	(84-8) 845 8518	
Fax	(84-8) 845 8516	
Website	www.hptvietnam.com	
Products	Design and architect cutting-edge solutions based on leading technologies that bring superior business results. Document management software HPT – QLVB Repair management software HPT	Annual sales: Not Available

	- QLSC Web Development Service	
Company	QUANG TRUNG SOFTWARE DEVELOPMENT CORP.	Quang Trung Software City is expected to be the largest center specializing in software production in the south of Viet Nam. It will become an image of Ho Chi Minh City - a modern city in the 21st century. They provide high standard infrastructure and services to meet the current and upcoming requirements in software research, development, manufacture and export.
Chief Executive Officer	Chu Tien Dung	
Address	Hall 3, Quang Trung Software City, Tan Chanh Hiep Ward District 12, HCMC, Viet Nam	
Tel Fax	(84-8) 715 5055 (84-8) 715 5985	
Website	www.quangtrungsoft.com.vn	
Products	IT Products	
Company	TMA SOFTWARE OUTSOURCING	TMA is the largest software outsourcing company in Viet Nam with 650 engineers. With more than 8 years of experience in providing software services for many Fortune 500 companies like Nortel (Canada), Lucent Technologies (USA), NTT-Data (Japan), it has built a strong technical management team that can handle large and complex projects. Its mission is to be a reliable software-outsourcing partner for high quality and cost-effective solutions.
Chief Executive Officer	Ngoc Anh Bui	
Address	111 Nguyen Dinh Chinh Phu Nhuan District, Ho Chi Minh City Viet Nam	
Tel Fax	(84-8) 990-3848 (84-8) 990-3303	
Website	www.tmasolutions.com	
Products	Software services from quality assurance and maintenance to full application development: Full-cycle Development Implementation, Application Porting and Data Conversion, Localization Support Software Sustaining, Full Product Verification and Validation, Automation Test, Code Inspection	
		Annual sales: Not Available
Company	IACP ASIA	IACP Group is a French Company founded in 1989. In 1999, they opened a subsidiary in Viet Nam. They help corporate customers in the supervision and improvement of their information systems and has become a key partner for developing software on mainframe and new technologies for customers who want to improve their development and maintenance costs.
Chief Executive Officer	Vo Than C Ng	
Address	97-99-101 Nguyen Cong Tru Street District 1. HCMC Viet Nam	
Tel Fax	(84-8) 914 4368 (84-8) 821 0667	
Website	Not available	
Products	Software development under certification "Blue room" from IBM	
		Annual Sales: Not Available
Company	FPT SOFTWARE SOLUTIONS CO.	Since 1988, FPT Corporation has grown in size and reputation to become the largest Information Communication Technology (ICT) Company in Viet Nam. It was established on 13 September 1988 with the aim of being guided by technology, committed to its customers and concerned for the development of both its staff and the wider community. FPT has developed its core business activities and has thus grown over the past two decades.
Chief Executive Officer	Hyunh Thuy-Lihn	
Address	89 Lang Ha, Dong Da Viet Nam	
Tel Fax	(84-4) 856 0300 (84-4) 856 2765	
Website	www.fpt.com.vn	
Products	System Integration, software production (meeting domestic market and for export) IT products distribution Supplying solutions, telecommunication and Internet services. Training international programmers and multimedia art specialists/experts ERP services, computer installation,	
		Annual sales: US\$517 million

	Informatics and telecommunication equipment guarantee and maintenance. Mobile phone distribution.	
Company	GHP FAR EAST Co., Ltd	As a member of GHP Holding GmbH, the leader in integrated dialog marketing and customer management with more than 50 years experience in Europe, they have benefited from their know-how, technology and valuable experience, utilizing this vast knowledge for their own business and development. By enjoying the investment incentives and the labor advantages from the Vietnamese government, this company is developing and expanding into a reliable service provider to high-developed international markets.
Chief Executive Officer	Frank Schellenberg	
Address	Quang Trung Software City, district 12, HCMC, Viet Nam	
Tel Fax	(84-8) 7 155 359 (84-8) 7 155 391	
Website	www.ghp-fareast.com.vn	
Products	Provide full package document management solutions from consultancy to production and final output. It also provides digitization	Annual sales: Not Available
Company	HOANG TRUNG MEDICAL SOFTWARE DEVELOPMENT COMPANY LTD	Ht MEDSOFT Ltd Co specializes on producing software for hospitals and healthcare fields. All their products connect together into a unique system. Their medical informational system has been setup around the world.
Chief Executive Officer	Phan Xuan Trung	
Address	183H, Ton That Thuyet, District 4, HCMC, Viet Nam	
Tel	(84-8) 377 4437	
Website	www.htmedsoft.com	
Products	Software: Patient registration, billing, Doctor's office, telemedicine, teleradiography, medical websites and others.	Annual sales: Not Available
Company	PTT ACCOUNTING SOFTWARE CO. LTD.	This company was established in 2001 and produces software used by a number of companies operating in the fields of manufacturing, trade, services and construction.
Chief Executive Officer	Phung Thi Thanh Thuy	
Address	Lot 7 Quang Trung Software City, District 12, HCMC, Viet Nam	
Tel Fax	(84-8) 437 0053 (84-8) 821 2129	
Website	www.thuychung.com.vn	
Products	Producing and developing all kinds of accounting software	Annual sales: Not Available
Company	GOODLAND INFORMATICS CO. LTD	GoodLand is capable of offering practical and innovative IT enabled solutions to help its clients accommodate the changing business environment and provide them with competitive advantages in their fields of business. GoodLand's staffs and facilities are available to provide its diverse range of cost-effective services tailored to client's needs: They also develop advanced methodologies and tools.
Chief Executive Officer	Tran Anh Tuan	
Address	Suite 102, Duy Tan Plaza, No. 10, 3/2 Street, District 10, Ho Chi Minh City, Viet Nam	
Tel Fax	(84-8) 862 1114 (84-8) 862 5425	
Website	www.goodland.com.vn	
Products	Corporate Identity & Branding, <u>Software Application Development</u> , <u>Website & Web Portal Development</u> , <u>Multimedia Application Development</u> , <u>Offshore Software Outsourcing</u> , <u>Data Conversion</u>	Annual sales: Not Available

	& Integration.	
Company	IBM VIETNAM	IBM is proud to contribute to the development and progress of Viet Nam not only by providing unique business solutions but also through philanthropic projects to support its development education and cultural renovation. There are four main IBM philanthropic projects, which have been implemented in Viet Nam. These projects are the Professional Development Laboratory Project, KidSmart Early Learning Program, TryScience Program and the Cultural Kiosk Program.
Chief Executive Officer	<u>Nhat Quang Han</u>	
Address	Diamond Plaza, 5F 34 Le Duan Boulevard, District 1 Ho Chi Minh City, Viet Nam	
Tel Fax	(84-8) 824 2147 (84-8) 822 5432	
Website	www.ibm.com/vn/	
Products	Systems & Servers, Software Storage (SG) , Personal computing products from Lenovo, Printing systems (SG), Workstations, Point-of-sale and self-service offerings (US) and Semiconductors (US)	
Company	HONEYWELL VIETNAM	Honeywell has won a US\$17.5 million contract to supply control systems for Viet Nam's first oil refinery that is scheduled to open in early 2009. Technip Consortium, which will build the Dung Quat Oil Refinery for Petro Vietnam, hired Honeywell to provide its Experion Process Knowledge System. The system will integrate the refinery's subsystems to give operators a clear view of how its processes are functioning. The US company will design, test, install and commission Dung Quat's system. Honeywell will also supply safety managers for emergency shutdown along with fire and gas protection systems.
Chief Executive Officer	Chang Dong Lee	
Address	Unit 2011, Saigon Trade Center 37 Ton Duc Thang Street, District 1 Ho Chi Minh City, Viet Nam	
Tel Fax	(84-8) 910 6012 (84-8) 910 6015	
Website	www.honeywell.com	
Products	Aerospace products and services; automation and control technologies for buildings, homes and industry; automotive products; turbochargers; and specialty materials.	
Company	GENERAL ELECTRIC INTERNATIONAL, INC.	GE electrifies the world by providing reliable, efficient products and services for the energy industry. It works in all areas of the energy industry including coal, oil, natural gas and nuclear energy, as well as with renewable resources such as water and wind energy.
Chief Executive Officer	<u>Son Nguyen,</u>	
Address	Sun Wah Tower, Suite 1208 115 Nguyen Hue Boulevard, District 1 Ho Chi Minh City, Viet Nam	
Tel Fax	(84-8) 821 9402 (84-8) 821 9400	
Website	www.gepower.com	
Products	Supply and service of power products.	
Company	INTEL	Intel is the world's largest chipmaker and a leading manufacturer of computer, networking and communications products. Intel-based solutions serve the Vietnamese market through many leading multinationals, local OEMs and the Intel Genuine Intel Dealer (GID) Network, a nation-wide network of over 1000 local hardware system integrators, service providers, software developers, and resellers.
Chief Executive Officer	<u>Norman Denton,</u>	
Address	The Metropolitan, 5F 235 Dong Khoi Street, District 1 Ho Chi Minh City, Viet Nam	
Tel Fax	(84-8) 823 3372 (84-8) 823 3373	
Website	www.intel.com/apac/eng/index.htm	
Products	Assembly and test facilities to produce chips and computer parts.	
Company	TOAN THANG CO., LTD.	Toan Thang Ltd. represents foreign

Chief Executive Officer	Mr. Dinh Hoe Truong	corporations in Viet Nam. It assists the sales and marketing efforts of companies as well as providing after market support for their products. It specializes in the Oil & Gas and Power fields. Among its customers, there are five American companies.
Address	220 Bis Dien Bien Phu Street, Ward 22 Binh Thanh District Ho Chi Minh city, Viet Nam	
Tel/Fax	(84-8) 512 8879 (84-8) 512 6884	
Website	www.toanthang.com	
Products	High engineered equipments/ systems for Oil & Gas, Power Generation, Water Supply, Petro-Chemical (Fertilizer Plants, etc.) industries and General industries (Cement plants, Sugar mills, Steel mills and others)	Annual sales: Not Available
Company	TRG INTERNATIONAL	TRG International is a business solutions provider that delivers products and services that range from consulting to software implementation.
Chief Executive Officer	Rick Yvanovich,	
Address	The Metropolitan, 2F 235 Dong Khoi Street, District 1 Ho Chi Minh City, Viet Nam	
Tel/Fax	(84-8) 823 6900 (84-8) 823 6899	
Website	www.trginternational.com	Annual sales: Not Available
Products	Solutions provided include full range of ERP including Accounting, Procurement and CRM, Hospitality and POS for Hotels, Spas and Restaurants. All our solutions are delivered with a structured methodology to ensure the investment is delivered on time and on budget.	
Company	INFORMATICS SERVICES PROVIDER INC. (ISP)	
Chief Executive Officer	Nguyen Duc Quang	
Address	116 Bui Thi Xuan Street, District 1 Ho Chi Minh City, Viet Nam	This is an IT company that is continuously growing and evolving. ISP has grown to be one of the top professional accumulative companies in Viet Nam. It has achieved the financial aims in both turnover & expenditures, and has improved the quality of service by adopting the system of quality management system according to ISO 9001-2000. In early 2004 the company successfully changed from a limited company to a corporation and received the Silver Partner Certification in Indochina from its strategic partner - Cisco Systems.
Tel/Fax	(84-8) 833 0066 (84-8) 833 0444	
Website	www.isp.vn	
Products	Consultancy and System design. Supplier of hardware and software application, setting up and accumulating LAN, WAN, MAN and maintaining networks	
Company	COMNET CO.	Comnet is dedicated to provide services to resolve IT problems facing businesses today. Partnering with major hardware and software manufacturers, Comnet offers solutions through consulting, network design, implementation and technical support for scheduled activities and emergency situations. Their commitment to customers is based upon providing the highest level of support services possible through an organization of highly trained technical professionals.
Chief Executive Officer	Nguy N Hyu Tai	
Address	169 Nguyen Van Thu St., Dist.1, Ho Chi Minh City, Viet Nam	
Tel Fax	(84-8) 8 221 222 (84-8) 8 228 068	
Website	www.comnet.com.vn	Annual sales: Not Available
Products	Network value-added products and Network system integration, Helpdesk & maintenance, equipment & supplies,	

	software development, electricity & anti-lightning	
--	--	--

VI. The Vision of the Private Sector

The Electronic and Information Technology Industries Survey in APEC
Company: Comnet Co.
Name and title of the executive: Mrs. Trvoc, Vice Director
1. The present day business environment is extremely challenging. How is your company prepared to encounter these challenges? Improve our services and keep a high quality of them in order to maintain our customers and the good relationship with them.
2. Does your company have a strategy that contemplates regional manufacturing platforms and thus might consider to source products and services from suppliers? We can cooperate with them in other economies.
3. These industries have business models where the OEM, ODM and OSM are increasing their participation. Would you consider this an opportunity to SMEs? Yes.
4. The economies and trading partners are moving to create strategic alliances through bilateral or trade negotiations. Are free trade agreements useful to your business plans? Maybe.
5. The interest from major developing economies to attract new foreign investments generates a list of incentives or supports that play an important roll in new decisions. Is this definitive in your case or market target influence mostly a new investment decisions? Market is more important.
6. Can you provide your views or suggestions about the future of the electronic and the information technology industries? Gross market is huge and that provides good opportunities to develop joint ventures. In Viet Nam are many SMEs.
Other comments:
Date: 13 December 2006

VII. Government and Private Organizations

Organization	Viet Nam Post and Telecommunications Group (VNPT)	Viet Nam Posts and Telecommunications Group (VNPT) was established by the Prime Minister's decision. VNPT is an important state-owned corporation operating on the nationwide scope with main activities promoting and supporting companies.
Chairman	Vu Tuan Hung	
Members	Not available	
Address	10 th floor, Ocean Park Building, 1 Dao Duy Anh Street, Dong Da District, Ha Noi, Viet Nam	
Tel	(84-4) 577 5104	
Fax	(84-4) 577 5851	
Website	www.vnpt.com.vn	
E mail	vnpt_website@vnpt.com.vn	
Organization	Ministry of Planning and Investment (MPI)	The MPI is a government agency, which is charged with the role of state management over the domain of planning and investment, that consists of: providing comprehensive advice on the country-level; and developing socio-economic development strategies, programs and plans. It is also responsible for economic management mechanisms and policies for both the national economy and specific sectors, and for domestic and foreign investments.
Director	Vo Hong Phuc	
Members	Not available	
Address	2 Hoang Van Thu Str., Ha Noi, Viet Nam	
Tel	(84-4) 845 5298	
Fax	(84-4) 823 4453	
Website	www.mpi.gov.vn	
E mail	Not available	
Organization	Viet Nam Trade Promotion Agency (VIETRADE)	The Viet Nam Trade Promotion Agency is a governmental organization responsible for state management, coordination and implementation of trade and trade related investment promotion activities.
President & CEO	Ngo Van Thuan	
Members	Not available	
Address	20 Ly Thuong Kiet st., Ha Noi , Viet Nam	
Tel	(84-4) 934 7628 / 934 8145	
Fax	(84-4) 934 4260 / 934 8142	
Website	www.vietrade.gov.vn	
E mail	vietrade@vietrade.gov.vn	
Organization	Viet Nam Electronic Industries Association (VEIA)	The Viet Nam Electronic Industries Association (VEIA) was established in June 2000 by a group of electronic manufacturers to meet the growing demand of industrial activities and promote the cooperation and the development of electronic industry.
President	Bui Quang Do	
Members	100	
Address	11B Phan Huy Chu Str, HoanKiem Dist., HaNoi, Viet Nam	
Tel	(84-4) 933 2845	
Fax	(84-4) 933 2846	
Website	www.veia.org.vn	
E mail	veia-vn@hn.vnn.vn	
Organization	Viet Nam Chamber of Commerce and Industry (VCCI)	The Viet Nam Chamber of Commerce and Industry is a national organization, which assembles and represents the business community, employers and business associations of all economic sectors.
Minister	Vu Tien Loc	

Members	N/A	
Address	4th Floor, 9 Dao Duy Anh Str, Hanoi.	
Tel	(84-4) 574 3985	
Fax	(84-4) 574 3063	
Website	www.vibforum.vcci.com.vn	
E mail	vbfn@hn.vnn.vn	

Bibliography:

- Viet Nam Post and Telecommunications Ministry: www.vnpt.com.vn
- Ministry of Planning and Investment: www.mpi.gov.vn
- Viet Nam Trade Promotion Agency: www.vietrade.gov.vn
- Viet Nam Electric Industries Association: www.veia.org.vn

[Back to Index](#)

Prepared By

Banco Nacional de Comercio Exterior, S.N.C.
(Bancomext)
The Mexican Bank for Foreign Trade
Periférico Sur No. 4333, 14210, México, D.F.
Tel (52 55) 5449 9332 Fax (52 55) 5449 9086
Email: jrivash@bancomext.gob.mx
www.bancomext.com

FOR THE ASIA-PACIFIC ECONOMIC COOPERATION
SECRETARIAT
35 Heng Mui Keng Terrace Singapore 119616
Tel (65) 6775-6012 Fax (65) 6775-6013
Email: info@apec.org
Website: www.apec.org

2007 APEC Secretariat
APEC publication number: APEC#207-TP-03.1