



ELECTRONICS

BASIC INDUSTRY INFORMATION

The Philippine electronics industry began in the mid-seventies when industrialized nations relocated their production facilities to third world countries in order to control the escalating cost of production. Other factors included the country's geographical location (being at the crossroads of international trade), and attractive government incentives.

The conditions that encouraged foreign electronics companies to turn to the Philippines have remained and have been further enhanced by the country's political transition to popular democracy in 1986. Since then, the industry has grown rapidly and overtook agriculture as the leading export earning industry in 1996.

GOAL

To remain competitive by moving the industry toward higher value activities, developing and strengthening the local supply chain, and producing and retaining the right talent to support higher value activities.

INDUSTRY COVERAGE

- Semiconductors/Components and Devices (Pentium III, DSPs, Integrated Circuits, Transistors, Diodes, Resistors, Coils, Capacitors, Transformers, Lead Frames, PCB)
- Electronic Data Processing (EDP) Equipment (computers, peripheral storage and input/output devices with products such as laptops, desktop PCs, printers, computer monitors, drives: hard disk, optical, ZIP, CD-ROM)
- Office Equipment (photocopiers, fax machines, and electronic calculators);
- Telecommunication Equipment (telephone sets, modems, copper communication cables, and fiber optic cables)
- Communications and Radar (cellular phones, pagers, closed circuit television (CCTV), CB transceivers, radar detectors, marine and land mobile radios)
- Control and Instrumentation (test and measuring instruments such as oscilloscopes, signal generators, ammeters, voltmeters, ohmmeters, cross talk meters, etc.)
- Medical and Industrial (X-ray and other medical applications, railway signaling, security and fire alarms)
- Automotive Electronics (car stereos, anti-skid brake systems (ABS), and car body electronics); and
- Consumer Electronics (TV sets, VCD players, electronic games, radio cassette players and karaoke machines)

INDUSTRY ASSOCIATION/S

- Semiconductor and Electronics Industry of the Philippines, Inc.
- Electronics Industry Association of the Philippines, Inc.
- Philippine Electronics and Semiconductor Suppliers' Association
- Philippine Appliance Industries Association

Linkages

- Upstream: Copper, Tool & Die, Metalcasting, Chemicals, Plastics
- Downstream: Automotive, Appliances/Devices/Equipment, Shipbuilding, Aerospace, Power, Telecommunication, etc.

Major Players

Semiconductor (Components/Devices)	Texas Instruments, ON Semiconductor, Amkor, Analog Devices, NXP
Computer Related Products / EDPs	Western Digital Company (HGST), Toshiba and Samsung
Office Equipment	Funai (Lexmark), Canon, Brother and Epson
Consumer Electronics	Bag Electronics, Ionics
Telecommunications	Cirtek, ATEC
Communication/Radar	Murata Manufacturing Co., Ltd.
Control & Instrumentation	Maxim
Medical / Industrial Instrumentation	Microsemi, Integrated Microelectronics, Inc., Sonion
Automotive Electronics	Continental Temic, Fujitsu Ten, STMicroelectronics, IMI
IC Design	Analog Devices, ROHM, Kyocera and Xinyx Design

PERFORMANCE

		2017	2016
% Share in Mfg GVA		10.29	16.24
Trade	Exports	USD 32.71 Billion	USD 28.87 Billion
	Imports	USD 23.33 Billion	USD 21.87 Billion
Employment		3.2 M (Direct and Indirect)	2.8 M (Direct & Indirect)

Sources: Philippine Statistics Authority (PSA) for import and export data

BREAKDOWN OF ELECTRONICS EXPORT (2017)

<u>Product</u>	<u>Amount (USD)</u>
Semiconductor	23,735,095,207
Electronic Data Processing	5,799,874,885
Office Equipment	653,585,151
Consumer Electronics	324,817,593
Telecommunication	495,167,447
Communication/Radar	725,478,694
Control and Instrumentation	805,203,879
Medical/ Industrial Instrumentation	70,531,968
Automotive Electronics	94,742,280

BREAKDOWN OF ELECTRONICS IMPORTS (2017)

<u>Product</u>	<u>Amount (USD)</u>
Semiconductor	16,035,469,732
Electronic Data Processing	2,959,164,329
Office Equipment	159,590,553
Consumer Electronics	971,764,375
Telecommunication	1,154,030,808
Communication/Radar	1,276,971,111
Control and Instrumentation	530,591,070
Medical/ Industrial Instrumentation	209,060,516
Automotive Electronics	34,272,720

INDUSTRY ROADMAP

Targets

- Scenario A: Status Quo (Long Term - 2030)
 - Investments : US\$ 5 Billion
 - Exports: US\$ 52 Billion
 - Employment: 14 Million Workers
- Scenario B: Optimum Business Condition (2030)
 - Investments: US\$ 10 Billion
 - Exports: US\$ 112 Billion
 - Employment: 24 Million Workers

Major Roadmap Strategies

- **Drive Up the Semiconductors and Electronics Manufacturing (DoSEMI)**
 - Identify customer's needs
 - Understand suppliers' baseline
 - Develop the capabilities, particularly of the SMEs
 - Periodic assessment of the local players' capabilities
- **Foster Academic Linkage**
 - Immerse students in the electronics firms and allow them to be familiar with the electronics industry
 - Enable graduating students to work in electronics firms (either through on-the-job training or residency)
 - Update curriculum of Science and Technology courses to address industry needs
 - Partner with TESDA in formulating training regulations for electronics skills and include it as part of the K-12 program
 - Immerse the academe into the industry's operations
 - Create Regional Centers of Excellence
 - Distance Learning
 - Participate in transnational inter-school partnerships
- **Develop Research and Development Capabilities**
 - Create more incubation labs
 - Graduate more MS/PhDs

- **Create Conducive Business Environment**

- Improve Infrastructure
- Improve the peace and order situation
- Minimize labor disruptions
- Provide incentives for investments
- Competitive exchange rate
- Availability of local suppliers

- **Reduce Costs of Operation**

- Encourage investments in new or upgraded power plants
- Promote true open competition in power generation, transmission, and distribution
- Allow aggregation of power demand from PEZA companies
- Encourage development of renewable energy
- Eliminate hidden costs

GOVERNMENT SUPPORT TO INDUSTRY

- Fiscal Incentives and Non-Fiscal Incentives
- Establishment of development, prototyping and test/certification facilities for Semiconductor, Electronics and IC Design
- Funding support for various Research and Development programs /activities of the industry
- Human resources development of the industry

CHARACTERISTICS OF THE INDUSTRY

- **Export-Oriented**

Majority of the output of the electronic firms is sold to their parent companies. Thus, majority of the sales of electronic firms represent export sales.

- **Engaged in assembly and test manufacturing activities**

The Philippine electronics industry's expertise has been widely accepted to be in backend semiconductor operations and assembly & test. However, there are several firms that are also into Electronics Manufacturing Services (EMS) and a few Filipino SMEs into Original Design Manufacturing (ODM).

- **High Quality and Productivity**

Emphasis on high quality products and services and the drive towards higher productivity among workers and production facilities is very important in the industry as more and more of these firms adapt the best-known methods in manufacturing such as JIT, TQM, 5S, etc. In addition, most Philippine electronics firms are ISO-certified and have in-house training capabilities making it more attractive to foreign investors to expand or relocate their businesses here.

- **Growing Base of Component Supplier**

It can be said that the industry is highly competitive as multiple players are found in each sub-sector. The presence of a growing base of components supplier boost the country's image as ideal relocation site as there will be a lesser need to look for component parts outside the country. This complements the industry as it offers a wide variety of products and services ranging from IC Packaging, PCB assembly and full product assembly.