

ELECTRONICS INDUSTRY IN INDIA

It is difficult to separate information about Information Technology from Electronics as traditionally data has been maintained together. In fact the nodal ministry for IT (information technology), ITES (information technology enabled services) and Electronics is the Ministry of Communications and Information Technology, Government of India.

Market of the Electronics Industry in India: 2006-07

Domestic demand: USD 35 billion
Production: USD 15 billion
Exports: USD 3.1 billion

(In contrast: software for the Indian domestic market is valued at US\$ 9 billion for the domestic market and US\$ 35 billion for the export market).

Employment

Direct: 0.75 million
Indirect: 1.5 million

The electronic industry in India constitutes just 0.7 % of the global electronic industry, but is expected to grow to 5% by 2015. However the demand in the Indian market is growing rapidly and investments are flowing in to augment manufacturing capacity. India remains a major importer of electronic materials, components and finished equipment, amounting to over US\$12 Billion in 2005.

Investments and Potential in India

Sizeable presence of multinational companies: Intel, IBM, Cisco, HP, Siemens, Tyco Electronics.

The world's top five mobile handset makers – Nokia, Motorola, Samsung, Sony-Ericsson and LG have started their manufacturing in India.

The average sales of mobile handsets are about 75 million per annum with an installed base of 256 million. The huge demand is expected to sustain for a long period because of the great Indian middle class, which has already crossed the USA population.

Presence of Global EMS Majors like Flextronics, Jabil, Elcoteq, is creating potential for a quantum jump in Hardware Manufacturing in India and should have a downstream effect by greater demand for components and assemblies.

Companies like Flextronics, Nokia and Jabil Circuit have committed investment to the tune of \$ 100-150 mill over the next 2-3 years, which will largely cater to domestic demand for communication and IT products.

In defence electronics; huge investments have been made by Indian companies- Bharat Electronics Limited (BEL), Hindustan Aeronautics Limited (HAL), Electronics Corporation of India Limited (ECIL).

With the Semiconductor policy in place, huge potential is seen in this industry along with the solar energy industry.

According to IT advisory firm Gartner, the total electronic equipment production in India will reach USD 32 billion in 2011, compared with USD 14 billion in 2006,. Semiconductor consumption in India will more than double from USD 2.8 billion in 2006 to USD 7.2 billion in 2011.

Top Items of Electronic Components Export

CD Recordable is the top item of export during the year 2006-07. Picture tubes has emerged as the 2nd top items of export during the 2006-07. There has been a very high growth of export of Solar cells during the year 2006-07. Export of Solar Cells increased from Rs. 710 million (US\$ 16 million) estimated in the year 2005-06 to Rs. 5320 million (US\$ 123 million) in the year 2006-07. Export of Ferrites and CD re-writable also registered high growth in export during the year 2006-07. The other major items of export under electronic components during the year 2006-07 are connectors, PCBs, picture tubes, transformers, other Semi conductor devices and EMS (electronic manufacturing services).

Government of India Promotional Schemes:

Electronic Hardware Technology Park (EHTP) Scheme

The EHTP Scheme is a 100% Export Oriented Scheme for undertaking manufacturing of electronic hardware equipment/components and other items in India. This scheme is unique in its nature as it focuses on one product/sector, i.e. Electronic Hardware. Several such parks have been set up in different Indian cities.

Special Incentive Package Scheme (SIPS)- was introduced in the month of March 2007 to encourage investment in putting up semiconductor fabrication and other micro/ nano technologies industries in India. It considers an equity (maximum 26 %) and / or capital subsidy in the form of a grant for those units which could be

1. Semiconductor wafer production with minimum investment of Rs 25000 million or
2. Eco systems production which includes LCD, PDP, LED, photovoltaic with minimum investment of Rs. 10000 million. The investment is reckoned over a 10 year period from base year.

Information Technology Investment Regions- A policy resolution on setting up these types of regions has been accepted this year in May 2008. It provides setting up of IT, ITES, EHM (electronic hardware manufacturing) facilities in a 40 sqkm area with processing, residential and allied facilities physically close to each other. Initiative in this case has been left to the states to pursue facilities from the Govt of India.

It is possible to segment the electronics Industry into around 10 main sectors. We would discuss one or two main players in each sector.

| Segment | Examples |
|---|---|
| Display devices | Filament lamp, CRT, LCD, LED Neon display, PDP (plasma display panel) TV picture devices |
| Passive components | professional grade transformers, fuses resistors, capacitors, relays, switches |
| Active components | Diodes, Transistors, IC s |
| Connectors & Terminals | Terminals, Sockets, terminal blocks, Headers |
| Cords | Power cords, Data cables, Patch card |
| Entertainment electronics | Tape deck, CD mechanisms MP3,CD Players, DVD Players Digital cameras, PDA s, Set up boxes |
| Optical storage devices | LD (laser disc),CD,VCD,DVD etc |
| EMS (Electronic manufacturing services)/ Semiconductor services | |
| Telecom Equipment manufacturers | Telecom exchange, Satellite communication, SIM cards equipment, smart cards etc |
| Electronic test& Signalling Equipment | multimeters, Oscilloscopes, signal generators pulse generators, test probes |

1. LED lamps/ displays

Instapower Ltd is a Delhi based company that is a leading player. It has around 9 patent applications pending with at least 4 pertaining to the light sector. Of the 9 patents 2 have already been awarded.

Southern Optoelectronic Devices Ltd, Bangalore is an ISO 9001 certified company with a capacity to produce 25 million led lamps and 3 million displays annually.

www.southernopto.com

The Samtel group is the largest Indian manufacturer of a wide range of display devices like Colour and B&W TV picture tubes, tubes for avionics, medical and industrial applications, CRT glass, electron guns, heaters and cathodes, deflection yokes etc. Samtel has registered many patents for developments in video display technology. Samtel has also acquired a facility in Germany to manufacture CRTs for a variety of applications. The company has a turnover of Rs. 12 billion per annum. <http://www.samtelgroup.com>

There are virtually no LCD or Plasma panel manufacturers in India.

2. Passive components

CII Guardian international Ltd is a Cochin based JV with M/S Communication Instruments Inc, USA which produces hermetically sealed relays in transistor case enclosures as also in full or half size crystal can packages. Low signals up to 10 amps being covered.

www.ciiguardian.net

J.V.Electronics Pvt Ltd a sister company of Continental Devices India Ltd manufactures capacitors while Continental makes relays, switches as well as semiconductor devices. The facility is spread over 2 units at Delhi and Chandigarh with total work area of 30000 sqm and 60 % of the production being exported.

In sectors such as transformers there are several manufacturers. Hical Technologies Pvt Ltd, Bangalore is a prominent manufacturer and is also a 100 % EOU from 1997.

www.hical.com

3. Active Components

Both Southern Optoelectronic Devices Ltd, Bangalore & Continental Devices India Ltd makes active components. www.cdil.com

4. Connectors & Terminals

Tyco Electronics, Bangalore <http://Raychem.tycoelectronics.com>

5. Data Cables

Reliance Overseas Inc, Delhi is one of the well known producers of high bandwidth cables and wires for the telecommunication industry. It is an ISO 9001 company which also produces power cables.

Several companies like TEI Technologies Pvt. Ltd , Universal Spares (I) Pvt. Ltd produce which has a ISO 9001 approval produce power cords and cables.

6. Entertainment electronics has players both in the multinational sector as also small home grown Indian players. LG, Samsung and Videocon belong to the former category while Elin Electronics ltd turnover Rs. 1.5 billion is a well known producer of tape deck mechanisms and AC/DC micro motors or ATR Electronics which manufactures VCD and DVD players belong to the home grown sector. www.elinindia.com

7. Optical storage devices-

Moser Baer India Ltd established 1983 is the world's second largest manufacturer of Optical Storage media like CDs and DVDs. The company also markets the next-generation of storage formats like Blu-ray Discs and HD DVD. Recently, the company has transformed into a multi-technology organization, diversifying into new areas of Solar Energy, IT Peripherals & Consumer Electronics. <http://www.moserbaer.in>

8. EMS (Electronic manufacturing services)-

Semiconductor embedded circuit design, VLSI and services currently estimated at \$ 3.5 billion in India is expected to quadruple by the year 2010. Recognising this quite a number of foreign outfits as well as Indian companies has set up design/ development centres in India. The big players like Solectron Centrum Electronics Ltd, Celestica Electronics Pvt Ltd, Flextronics, Deltronic Electronic Manufacturing Services have facilities in India.

Below we profile a few other companies also:

SPEL Semiconductor Ltd, Chennai is a well known semiconductor IC Assembly and test facility. Set up in 1988 it features besides others a wafer sort assembly facility, test drop shipment services and reliability testing at a 2100 sq m facility. www.spel.com

Conexant India Inc – Designs, develops and sells solutions that connect access products like set up boxes, gateways etc to processing services over broadband / dial up connexions. Have design centres at 3 Indian locations with around 800 employees. www.conexant.com

Genesis Microchip Inc- produces Image processors in flat panel TV & LCD monitor and has a Development centre at Bangalore. www.gnss.com

Sankalp Semiconductor P Ltd – tackles complex design / layout challenges in largely mixed signal circuit design www.sankalpsemi.com

9. Telecom Equipment Manufacturers

ITI, Alcatel Lucent, HFCL are well known players in this segment. Besides we also have companies like BPL Telecom Pvt Ltd , Blue Star Infotech Ltd, Applied Electromagnetics Pvt Ltd etc manufacturing EPABX systems, C-DOT manufacturing the rural automatic exchange, Punjab Communications Ltd, CCS Technologies manufacturing radio broadcasting equipment plus few companies manufacturing set up boxes, SIM cards etc

LEADING ASSOCIATIONS IN INDIA

ELCINA Electronic Industries Association of India, Delhi

ELCINA Electronic Industries Association of India (Formerly Electronic Component Industries Association) was established in 1967 when India's Electronic industry was still in its infancy.

Since then, ELCINA has been well known as an interactive forum for electronics and IT manufacturers. ELCINA has remained committed to the promotion of electronics manufacturing culture in the country focusing on components the building blocks of electronics industry.

www.elcina.com

Electronics and Computer Software Export Promotion Council (ESC), Delhi

ESC is India's largest electronics and IT trade facilitation organization sponsored by Government of India. ESC has over 2300 member companies. As a representative organ of Corporate India, ESC - the principal voice of Indian ICT industry both with the policy makers and the international business community, articulates the genuine, legitimate needs and interests of its member ICT exporters. Electronics and Computer Software Export Promotion Council (ESC), sponsored by the Government of India is India's apex institution to promote export of:

- Electronics Hardware & Telecom
- Information Technology, Computer Software and Services
- ITeS / BPO

www.escindia.in

India Semiconductor Association (ISA), Bangalore

The primary objective of ISA is to act as a catalyst for the growth of the semiconductor industry in India and make India the preferred global hub. Other objectives include:

Create global awareness for Indian semiconductor industry outside of the generic "IT" umbrella. And make India the preferred global hub.

Create a win-win interaction amongst semiconductor product and services companies, Government, academia, venture capitalists and industry bodies.

Identification of investment opportunities, drive technology vision for the semiconductor industry and promote of trade and industry.

www.isaonline.org

Telecom Equipment Manufacturers Association of India (TEMA), Delhi

Established in 1990. TEMA today covers more than 90 per cent of telecom equipment manufacturers as well as components and cables manufacturers. In addition, many cellular and paging service operators and a large number of public and private sector units as well as multinational companies are also members of TEMA. TEMA is affiliated to leading international telecom industry associations.

Manufacturer's Association for Information Technology (MAIT), Delhi

Set up in 1982 for purposes of scientific, educational and IT Industry promotion. MAIT represents Hardware, Training, R&D & Hardware Design and other associated service segments of the Indian IT Industry and aims to develop a global competitive Indian IT Industry, promote the usage of IT in India, strengthen the role of IT in national economic development, and promote business through international alliances. www.mait.com