IICCI – Short Market Overviews

The Electronics Industry in India

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1. The Electronics Industry in India – An Overview

The global electronics industry is growing rapidly. From an estimated size of US$ 950 billion in 2005, it is estimated to grow to nearly US$ 2.1 trillion by 2010. The market is dominated by Asian countries, such as China, Taiwan, Singapore and South Korea. The industry is characterized by rapid innovation and speed to market, short product life cycle, highly automated manufacturing and high volume production resulting in consistent quality at low cost and profit accrual through volumes. In the global context, India is ranked 26th worldwide in terms of sales and 29th in terms of production. India’s electronics industry may appear nascent by global standards. But growth in this sector has been consistent in recent years. The Indian Electronics Industry can be categorised into six sub-sectors, namely consumer electronics, industrial electronics, computers, strategic electronics, communication and broadcasting equipment and electronic components. The total size of the industry during 2006-07 was US$ 25 billion. The market is growing at 25 per cent CAGR and is expected to reach US$ 70 billion by 2010 and US$ 158 billion by 2015. Some of the indicators of this phenomenal growth potential are as follows:

- India is adding 2 million mobile phone users every month. With telecom penetration at 10 per cent this growth is expected to continue over the decade;
- Penetration for other electronic products like computer/IT products, auto electronics, consumer electronics etc is at 20 per cent;
- Electronics exports have also seen a CAGR of 15% over the period 2000-06.

Key Segments

The consumer electronics sector dominates the industry with 33% share and has been growing strongly drive increasing income levels and spending propensity among Indian consumers. Industrial electronics, with 17% and communication and broadcasting, with 15 per cent are the other significant segments.

Consumer Electronics

Consumer electronics consists of products that are directly consumed by end-users, such as televisions, VCD/MP3 players, microwave ovens, etc. This segment has a large manufacturing base, and is quite competitive, with presence of several global players in India. The market has seen a CAGR of 18% over the period 2001-2007. The actual production of consumer electronics was US$ 2.7 billion in 2001-02 and grew up to an estimated US$ 4.4 billion in 2006-07.

Colour Televisions Drive Consumer Durables growth

The growth has been primarily powered by colour televisions (CTV), which grew from 7.5 million units in 2002-03 to nearly 12 million in 2006-07. Growth in the CTV demand has been driven not only by increasing income levels and affordability, but also by increasing...
penetration and breadth of cable television, proliferation of regional and national channels and live telecasts of popular events such as the cricket World Cup. Other growth segments in consumer electronics include DVD/VCD players, set-top boxes (STBs) and other high end products such as home theatre systems. These trends are a reflection on increasing consumption and aspiration levels among Indian consumers, driven by demographic and lifestyle changes. These trends augur positively for the growth of the consumer electronics segment in the country.

**Industrial Electronics**

Industrial electronics includes products that are used by other industries, such as process control instrumentation, automation systems, Test and Measuring (T&M) instruments and medical instruments. The market for computer hardware has grown at a CAGR of 20% during 2001-02 to 2006-07. The production of industrial electronics stood at US$ 0.9 billion in 2001-02 and increased to US$ 2.3 billion in 2006-07. One of the issues facing the segment is the lack of interoperability of subsystems when integrating, as these are available as independent packages by different suppliers and there are no uniform standards. There is still a dependence on imports for hardware and software. The Government of India is trying to address this issue through a national collaborative development initiative. Growth in industrial production and focus by industry on better controls, processes and systems are expected to drive growth in this segment in future as well.

**Computers**

This segment includes personal computers, servers, workstations, supercomputers, data processing equipment and peripherals such as monitors, keyboards, disk drives, printers, plotters, digitizers, SMPS, modems, networking products and add-on cards. This has been one of the fastest growing segments in the Electronics sector, with a CAGR of nearly 31 per cent during 2001-02 to 2006-07. The actual production of computers was US$ 0.7 billion in 2001-02 and went up to US$ 2.8 billion in 2006-07. The industry in the area of PCBs, connectors, diskettes and CDs experienced a positive growth. High corporate consumption and buoyancy in small towns is driving sales of personal computers. Within PCs, sale of notebooks is estimated to have grown by nearly 180 per cent, although from a low base while desktop computers registered 8% growth in 2006-07. The sustained growth in India’s IT & ITES sectors and increased use of IT by businesses in other service sectors as well as manufacturing have driven growth in demand for computers. As these drivers are expected to remain strong in India, the growth in this segment would continue to remain strong.

**Strategic Electronics**

The strategic electronics segment covers the area of satellite based communications, navigation and surveillance, underwater electronics and infrared-based detection, disaster management and GPS based Vehicle tracking systems. The segment has a number of manufacturing units, both in the public and private sectors. The market size of this
The electronics industry in India has shown a CAGR of almost 21 per cent during 2001-02 to 2006-07. The production of strategic electronics, which was US$ 0.4 billion in 2001-02, increased to an estimated US$ 1 billion in 2006-07. In many cases, technology for strategic electronics sector is not available off the shelf and needs to be developed indigenously. With the opening of strategic electronics to the private sector, there has been emphasis on attracting private sector organisations for indigenisation of a variety of products and technologies. This is expected to fuel growth in this segment.

**Communication and Broadcasting Equipment**

The communication and broadcasting equipment segment includes digital exchanges (EPABX, RAX, TAX and MAX), transmission equipment such as HF / VHF / microwave trans-receivers, satellite communication terminals, optical fibre communication equipment, troposcatter equipment, two-way radio communication equipment, etc. The market in this segment witnessed a CAGR of 17% during 2001-02 - 2006-07. Production of communication and broadcasting equipment stood at US$ 0.9 billion in 2001-02, which increased to nearly US$ 2.1 billion in 2006-07. Growth in this sector is being driven by rapid expansion in India’s telecom sector. India had a gross telephone subscriber base of 190 million in the end of 2006, of which nearly 150 million accounted for mobile users. The number of broadband users was about 2.1 million. The estimated teledensity approximated 17.16%. There has been a transformation in media broadcasting in recent times, with increasing penetration of Direct-To-Home (DTH) transmissions by both the national broadcaster and private players. Given the current and expected growth in the telecom sector, nearly 250 million subscribers can be expected by end 2007 with the number of broadband users increasing to 20 million by 2010.

**Electronic Components**

The electronics components segment caters to the requirements of consumer electronics, telecom, defense and information technology sectors. The components in production in India at present include TV picture tubes (Black & White and Color), monitor tubes, diodes and transistors, power devices, ICs, hybrid microcircuits, resistors, capacitors (plastic film, electrolytic, tantalum, ceramic), connectors, switches, relays, magnetic heads, DC micro motors and tape deck mechanism, PCBs, crystals, loudspeakers and hard and soft ferrites. The consumer electronics segment, communication and IT sectors are driving growth in the electronic components segment. The electronic components market grew at a CAGR of 10% between 2001-02 and 2006-07. The key product groups that have driven growth in components include CTV picture tubes, optical discs, PCBs, connectors, ferrites, etc. Growth in this segment has been primarily driven by growth in the user segments, viz, CTVs, PCs, etc. The outlook for the sector looks positive.
**Policies and Regulations**

**Exports and Imports**
Exports of electronics products from India have been increased at a rate of 16% CAGR over the period 2001-02 to 2005-06. The key segments, which contributed to exports, have been consumer electronics, industrial electronics and components. The value of exports of hardware in 2005-06 was US$ 2.1 billion and for 2006-07, it is estimated to be nearly US$ 2.5 billion. The exports of software have been growing at over 30 per cent, and stood at US$ 31.3 billion in 2006-07. India imports a major part of its requirements of electronics materials, components and finished goods. The imports during 2005 stood at US$ 12 billion.

While the electronics sector in India is currently small, there are several advantages that India offers the sector that can be effectively leveraged to achieve quantum growth. These can be categorized under three heads:
- **Availability of skilled resources**
- **Favorable Demand conditions**
- **Policy and Regulatory Support**

**Availability of skilled manpower**
Large pool of young, trained personnel India’s population is predominantly young. As of 2001, nearly 54 per cent of the population was less than 25 years of age. By 2013, nearly 200 million more people are expected to join the nation’s productive age bracket representing a quantum growth in the consumption class. India contributes over 500 PhDs, 200,000 engineers, 300,000 non-engineering postgraduates and 2,100,000 other graduates each year. India has a well-developed technical and tertiary education infrastructure of over 250 universities, 1500 research institutions and over 10,000 higher education centers. These institutions not only ensure a steady supply of trained and qualified manpower to support the electronics sector, but also render support for research and analysis, testing and development.

India’s cost of skilled labor is among the most competitive in the world. For example, average labor rate per employee in the electronics sector is about $3,000 per year. On the other hand, labor cost as a percentage of value added is only 21% in India, as compared to 23% for China and 30% for Taiwan.

**Favorable demand conditions**
Consumer demographics have been responsible for strong growth in consumer products and durables in recent years, contributing to growth in the electronics sector, both directly and indirectly. Growth in demand for consumer durables such as CTVs, VCD / MP3 players and PCs directly benefits the sector. At the same time, demand for products such as automobiles, white goods, air-conditioners, textiles, etc, also enables growth in the electronics sector as these products comprise a significant number of electronic components.
components. A favorable consumer demand has both boosted the manufacturing sector in India and has had a positive impact on industrial electronics as well.

The domestic market in India remains quite attractive vis-à-vis the electronics sector, and current trends indicate assured growth potential in future, as well.

Some of the key trends that are positively impacting the sector can be listed as follows:

- Growing population in the consuming class (defined as people having annual income of US$ 980 or above) that has greater disposable income and propensity to spend. It has been estimated that this group will constitute over 80 per cent of the population of India by 2009-10;
- Lifestyle changes such as greater exposure to global trends and increasing affinity for convenience and lifestyle products, increasing urbanization, emergence of nuclear double income families;
- Low penetration levels of most consumer durables. For example, as of 2002, only 66% of middle-income households had a TV set, only 28% of the urban households possessed a refrigerator, while just a little over 15% owned an air cooler. Despite a population of more than 1 billion people, only 16 million computers were used in India as per data of March 2005. While these sectors have shown rapid growth and increased penetration in recent years, the untapped market in India still represents a huge opportunity for manufacturers;
- Increased government and private industry spending on sectors such as defense and aerospace. The Indian aviation sector, a key user of electronic components, for example, has plans to procure a growing number of aircraft.

Policy and regulatory support
- The Indian Government has implemented a series of policy initiatives to support the manufacturing sector;
- Foreign investment up to 100% is possible in the Indian electronics industry to set up units exclusively for exports. It is now possible to import duty-free, all components and raw materials, manufacture products and export these;
- EHTP (Electronic Hardware Technology Park) is an initiative directed to provide benefits to companies that are replacing certain imports with local manufacturing. EHTP benefits include export credits, no duties on imported components or capital equipment, business tax incentives, and an expedited import-export process. The Government, in an attempt to encourage manufacture of electronics in India has changed the tariff structure significantly.
  - Customs Duty on specified raw materials/inputs used for manufacture of electronic components or optical fibres/cables has been removed;
  - Customs duty on specified capital goods used for manufacture of electronic goods has been abolished;
  - Excise duty on computers has been removed. Microprocessors, Hard Disc Drives, Floppy Disc Drives and CD ROM Drives continue to be exempt from excise duty;
• Duty free imports are permitted for all types of goods including capital goods required by EHTP/STP units for their production provided they are not items in the negative list of imports of the EXIM Policy. Second-hand capital goods can also be imported by EHTP/STP units in accordance with the EXIM Policy.