

ELECTRONICS

December 2008

Indian Electronics Industry - Highlights

- Industry size –
 - Hardware – US\$ 20 billion
 - Software – US\$ 52 billion
- Growing at over 20 per cent CAGR
- Low penetration levels

The industry is one of the fastest growing in India, driven by growth in key sectors such as IT, Consumer Electronics and Telecom

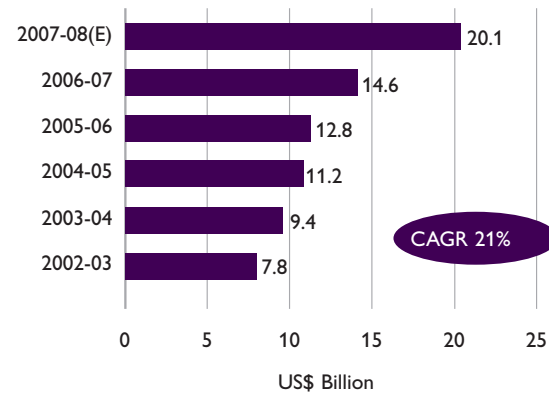
Sources: 2007-08 estimate - Ministry of Electronics and IT, GoI, www.mit.nic.in

Low penetration levels of user industries indicate potential for continued growth in the sector

The demand for electronics is expected to be fuelled by the growth of

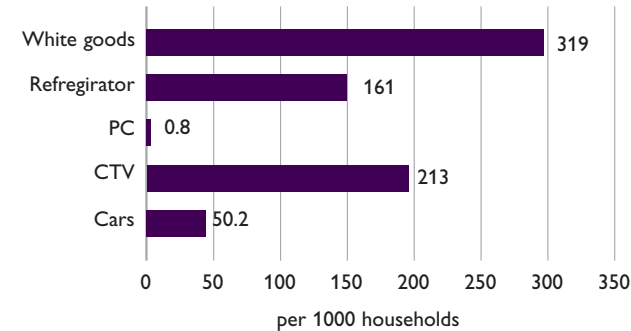
- High end CTVs (over 100 per cent growth in 2007-08)
- Telecommunications (270 million subscribers as of December 2007)
- PCs and notebooks (Over 7 million units in 2007-08)
- Broadband connectivity reaching rural areas

Steady and Sustained growth



Source: www.mit.gov.in

Low penetration across segments and user industries

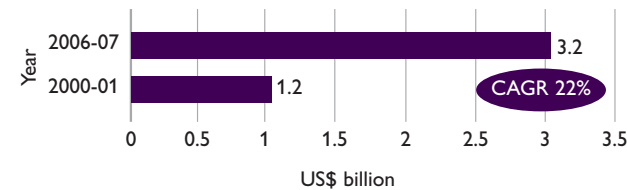


Source: NCAER

Exports have also been posting strong growth across segments

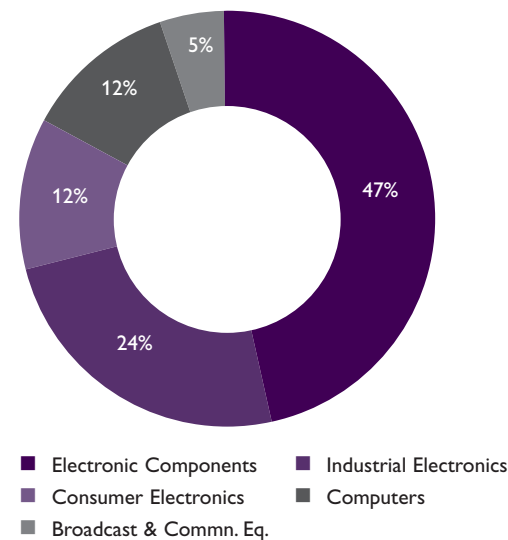
- Electronic exports have seen a healthy CAGR of 22 per cent over the period 2002-03 to 2007-08
- Electronic components contributed the major share to exports at nearly 40 per cent
- A key factor driving exports has been the increasing trend of contract manufacturing

Electronics Hardware Exports



Source: www.elcina.com

Share of Exports (2007-08)



Source: *Electronics and Computer Software Exports Promotion Council; www.escindia.in*

Several MNCs have been looking at setting up contract manufacturing facilities in India

Jabil

- 175,000-square-foot facility located in Ranjangaon, near Pune, in the state of Maharashtra
- Printed circuit board, enclosure integration and distribution and repair services with in-region design services support
- To serve the consumer, instrumentation, networking, peripherals and telecommunications industries

Several MNCs have been looking at setting up contract manufacturing facilities in India

Flextronics

- Acquired three design-centric companies Hughes Software Systems, DeccaNet and FutureSoft and consolidated the software companies into a new subsidiary based in India
- Higher-value, higher-margin design services for cell phone and telecom/networking software
- Nokia and Alcatel are among the existing customers
- Also maintains an ongoing investment in Celetronix, one of the largest electronics equipment manufacturers in India

Several MNCs have been looking at setting up contract manufacturing facilities in India

Elcoteq

- Manufactures 4 to 6 million handsets per year, fast measuring up to its client Nokia's plant in China that manufactures 35 million handsets per year

Indian players such as TVS Electronics and D-Link are also established in this domain

The Government has played a supporting role in enabling the industry to realise the potential

Key policy initiatives include:

- Customs duty on ITA-1 items (217 items) has been abolished from March 2005
- Excise duty on computers has been removed. Microprocessors, Hard Disc Drives, Floppy Disc Drives and CD ROM Drives exempt from excise duty
- 100 per cent foreign equity participation is permissible
- Robust IP act to facilitate innovation, growth as well as development in the sector




As a result of market forces and policy support, all segments of the industry have been growing

Overall, the sector presents attractive opportunities for investment and growth

Threat of New Entrants



- Many MNCs are already present and well established
- Requires investment in localisation, distribution reach
- High growth potential could attract new entrants

| | |
|--------|---|
| HIGH |  |
| MEDIUM |  |
| LOW |  |




Overall, the sector presents attractive opportunities for investment and growth

Supplier Power

- Adequate supplier base
- Most suppliers are small in scale and size as compared to manufacturers

Competitive Rivalry

- Well established, strong players
- Brand, cost and distribution are key differentiators
- Ample opportunities for growth

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The sector is competitive and investors need to have the right approach and focus to succeed

Customer Power




- Wide choice of products
- Well informed, increasingly demanding customers
- Low penetration levels, large untapped market



Threat of Substitutes

- No substitutes currently for products in the sector



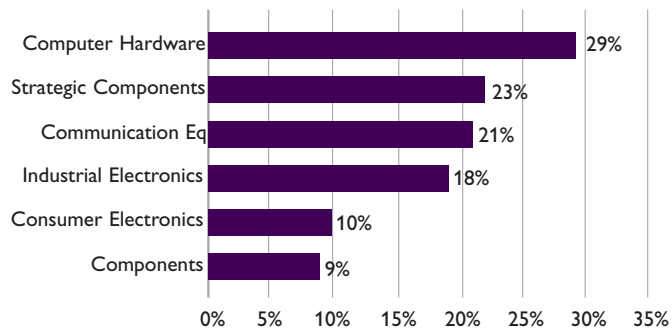
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Source: KPMG Research

Consumer Electronics sector is the key segment driving growth

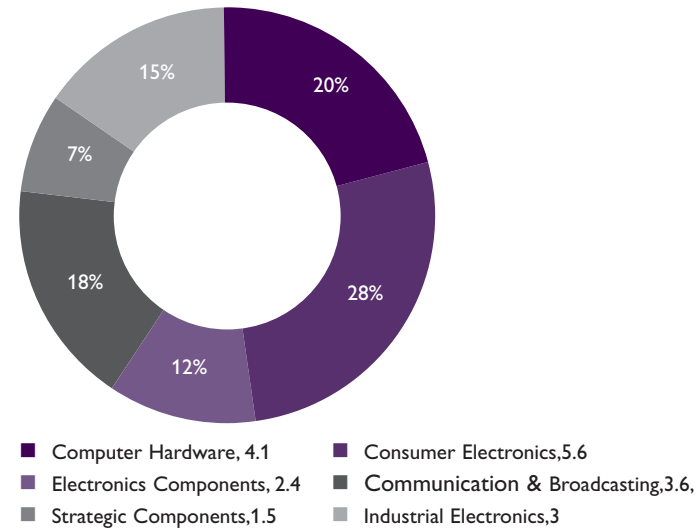
- Consumer Electronics, Components and Computer Hardware appear the most attractive segments for investment, in terms of size and growth

CAGR: 2001-02 to 2007-08



Source: www.elcina.com, Indian Electronics industry – overview.

Size - 2007-08, US\$ Billion



Source: www.elcina.com, Indian Electronics industry – overview.

Attractive States for Investments

- Andhra Pradesh and Punjab appear attractive locations for the sector, based on the following factors

| Key Parameters | Andhra Pradesh | Punjab | Orissa | Chattisgarh | West Bengal |
|---|----------------|-------------|-----------------|-----------------|-----------------|
| Attractiveness of factor conditions (labour, materials) | High | High | Moderate | Moderate | High |
| Attractiveness of support infrastructure | High | High | High | High | Moderate |
| Specific Government Incentives | High | High | High | Moderate | Moderate |
| Overall Attractiveness | High | High | Moderate | Moderate | Moderate |

Source: KPMG Research

Brief Case Studies of Successful MNC's – LG Electronics

Established in 1997, LG Electronics India (LGEI) is a wholly-owned subsidiary of LG Electronics, South Korea. It is one of the leading companies in consumer electronics, home appliances and computer peripherals in India

Key Success Factors

- Innovative marketing - LG was the first brand to enter cricket in a big way, by sponsoring the 1999 World Cup and followed it up in 2003 as well.
- Local and efficient manufacturing to reduce cost
 - To overcome high import duties, LG manufactures PC monitors and refrigerators in India at its manufacturing facility at Noida, Delhi.
 - Commissioned contract manufacturing at Mohali, Kolkata and Bhopal for CTVs

Brief Case Studies of Successful MNC's – LG Electronics

- Product localisation - Product localisation is a key strategy used by LG. It came out with Hindi and regional language menus on its TV.
- Regional distribution model - This has resulted in quicker rotation of stocks and better penetration into the B, C and D class markets.
- Leveraging India's IT advantage - LG Electronics has awarded a contract to develop IT solutions to LG Soft India (LGSi). The project involves development and support for ERP, SCM, CRM and IT-enabled services for LG

Brief Case Studies of Successful MNC's – Phillips

Philips India has grown to over 4,500 employees in 2003 with a turnover of over US\$ 333 million. Philips India is a leader in lighting, semiconductors, consumer electronics, medical systems, domestic appliances and personal care

Key Success Factors

- **Effective Localisation of Global products -** Recognising different cultural and lifestyle needs and customising products and technologies for the people who buy them. For example, when the audio equipment worldwide shifted to CD systems, Philips India developed a combined tape recorder and CD player since both media were prevalent in the country.

Brief Case Studies of Successful MNC's – Phillips

- **Global technology support** - Brought latest technologies such as integrated wireless FM Radio sets, digital widescreen TVs, high-definition rear projection TVs with DVD, amongst several others to the Indian consumer.
- **Tapping rural India** - Has specially designed products specifically targeted at the semi-urban and rural consumer in India. For example, as power supply in rural India is erratic, Philips has customised its televisions to work on a voltage range of 90 volts to 270 volts
- **Enhancing distribution** - High penetration levels in the rural and semi urban areas

Key take-aways for potential investors

- India's Electronics sector presents several attractive options for growth
- Consumer electronics, Components and Computer Hardware are attractive segments offering both size and growth potential
- Contract Manufacturing is an emerging option, especially for exports out of India
- In terms of location, Andhra Pradesh and Punjab could be attractive options
- Addressing the Indian market would require:
 - The right technology and cost
 - Good understanding of local markets and product customisation to suit local needs
 - Distribution and reach

Appendix – Profiles of key players

Philips

- Philips India Limited (PIL) is a leader in lighting, consumer electronics, semiconductors, domestic appliances and personal care with an unmatched range of products backed by superior design and technology. PIL also has an excellent distribution and after-sales service network. Philips has a plant each in Thane, Pune, Loni-Kalbhori, Mohali, Baroda and three plants in Kolkata.

Appendix – Profiles of key players

Videocon International Ltd.

- In 1985, through a technical tie-up with Toshiba Corporation of Japan, Videocon International Limited launched India's first world class Color Television. Today, Videocon International Ltd., the flagship company of the Videocon Group, is India's leading manufacturer of Consumer electronic products.
- Videocon is now a global player, the first Indian company to win the prestigious CE approval for exporting its Color TV to Europe. Videocon is now entering world market with its operations in the Middle East, Europe, Indonesia and South Africa.

Appendix – Profiles of key players

MIRC Electronics

- MIRC makes and markets the Onida brand of products. Today, apart from being a leading player in the CTV market, it also manufactures other household appliances including air-conditioners, washing machines, DVDs, plasma television and home theatre systems. For office use, Onida has also introduced state-of-the-art multi-media presentation products

Appendix – Profiles of key players

HCL Infosystems Ltd.

- HCL Infosystems manufactures and markets personal computers, PC servers and RISC/UNIX servers. It offers IT consulting, technology integration services, turnkey software development and functional consulting and implementation services for Enterprise Resource Planning. The company made a net profit of US\$ 70 million with revenues of US\$ 2628 million in 2005.

Appendix – Profiles of key players

Samsung

- Samsung India Electronics Ltd., a subsidiary of the US\$ 56 billion Samsung Electronics Co. Ltd., has been operating in India since 1995. It is a leading provider of high tech consumer electronics, home appliance, IT and telecom products in the country. Samsung India has set up manufacturing facilities for color televisions, microwave ovens, washing machines, airconditioners, color monitors and more recently, refrigerators in the country. It has a plant in Noida. The revenue for 2005 was US\$ 1086 million.

Appendix – Profiles of key players

Solectron

- Solectron Centum Electronics Limited is the leading Indian company offering state of art solutions for Frequency Control Products (FCP), Electronic Manufacturing Service (EMS) and Hybrid Micro Circuits (HMC). Solectron has a manufacturing unit and design center in Bangalore and a post manufacturing center in Mumbai. The EMS operation focuses primarily on the domestic market. For the year 2006 the revenue was US\$ 19 million

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