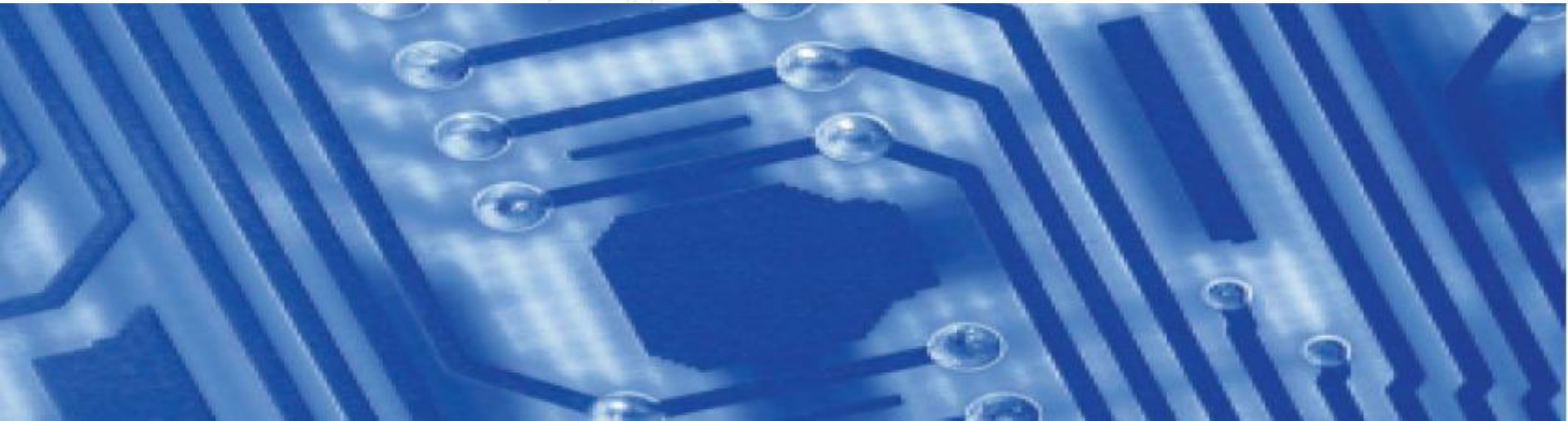


Electronics

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Advantage India

Growing demand

- Growth in electronics will accelerate as government and corporate spending increases
- Higher disposable incomes and adoption of plastic credit could boost the demand for consumer electronic goods

Opportunities

- Increasing penetration into a consumer base, which itself is expanding at a CAGR of 22 percent
- intended reduction in government's import bill likely to boost domestic electronics manufacturers

Advantage India

Higher investments

- Sector has attracted strong investments in the form of M&As and other FDI inflows
- Companies to augment investments in production, distribution and R&D in the next few years

Policy support

- 100 per cent FDI allowed in the electronics hardware manufacturing sector under the automatic route
- Duty relaxation and schemes such as EPCG, EHTP and SEZs to provide tax sops

2020E

Market size-
USD400
billion

2009

Market size-
USD45 billion

Source: Corporate Catalyst India, 2020E - estimate for calendar year 2020 by Department of Information Technology

Notes: FDI – Foreign direct investment, FY- Indian financial year (April – May), USD- US Dollar, EPCG- Export Promotion Capital Goods Scheme, EHTP- Electronic Hardware Technology Park, SEZ – Special Economic Zone

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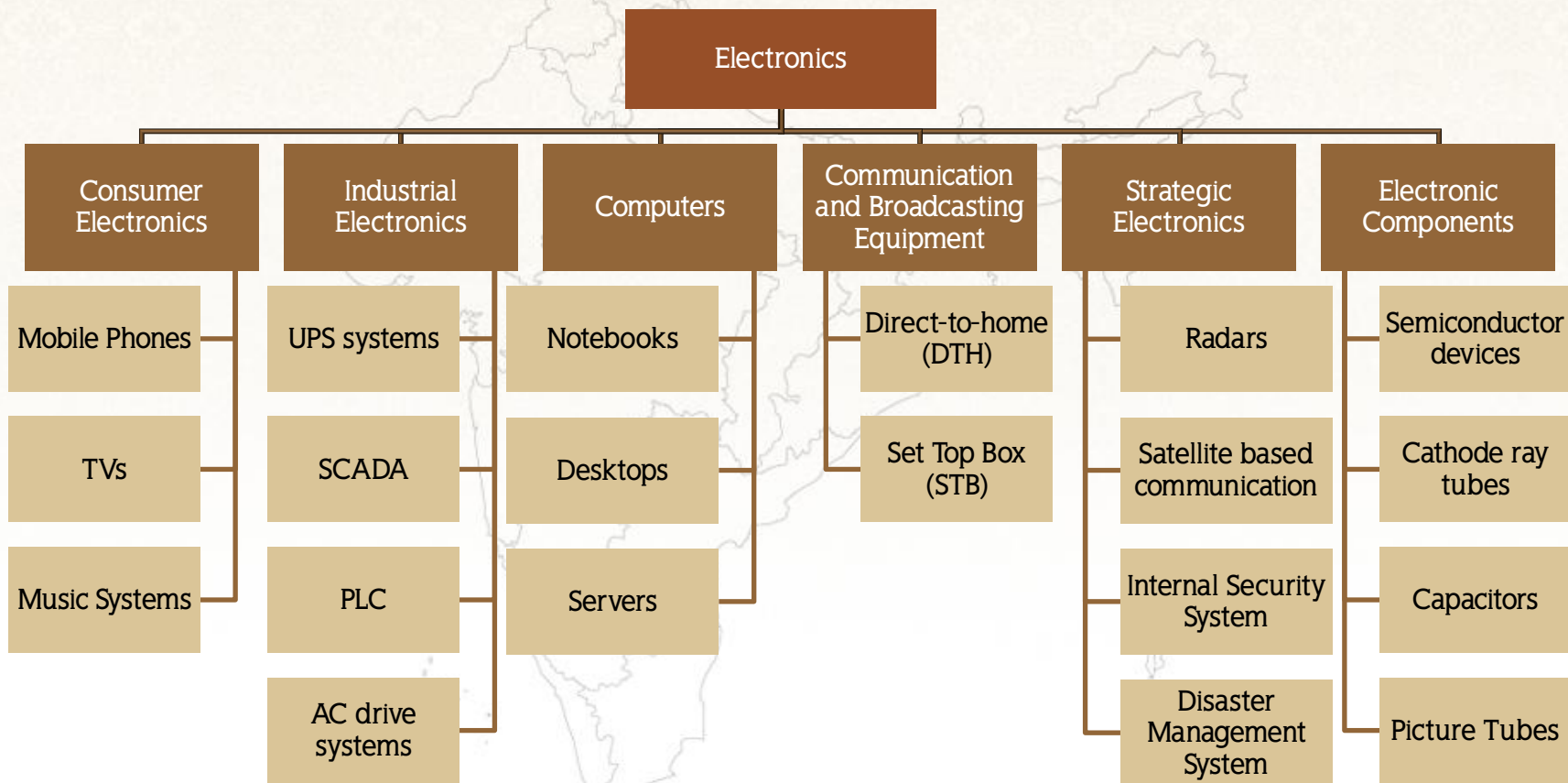
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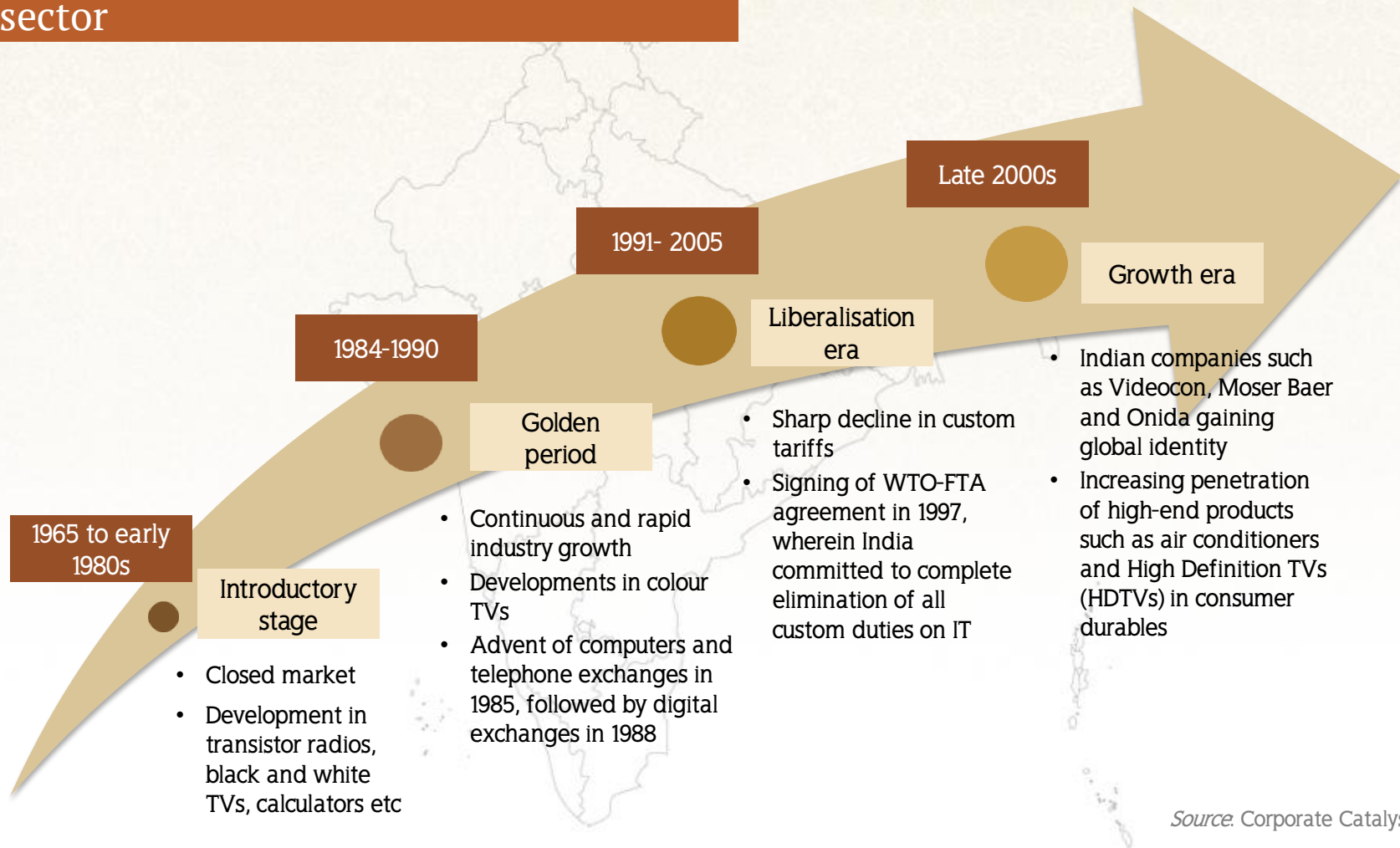
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The Indian electronics sector is split into six product segments



Source: Department of Information Technology, 2010-11 annual report, Corporate Catalyst India
Notes: SCADA- Supervisory Control and Data Acquisition, PLC- Programmable Logic Controller

Evolution of the Indian electronics sector

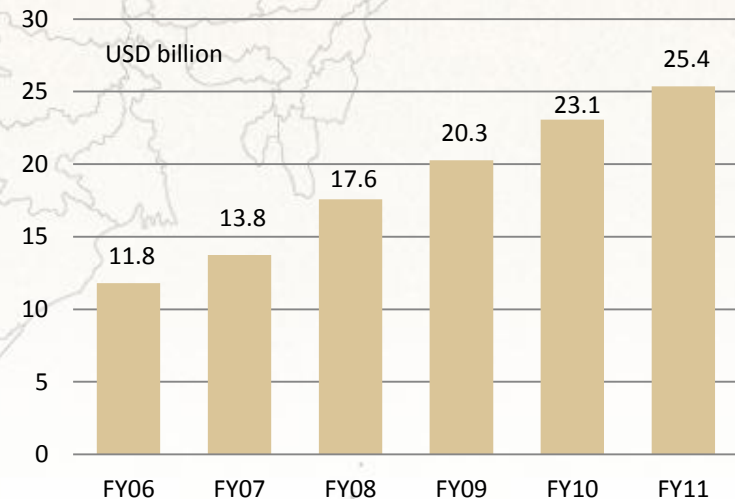


Source: Corporate Catalyst India

Electronics production in India growing rapidly ... (1/2)

- Electronics production in India was valued at USD25.4 billion in FY11
- Production expanded at a CAGR of 16.6 per cent since FY06

Electronics production profile

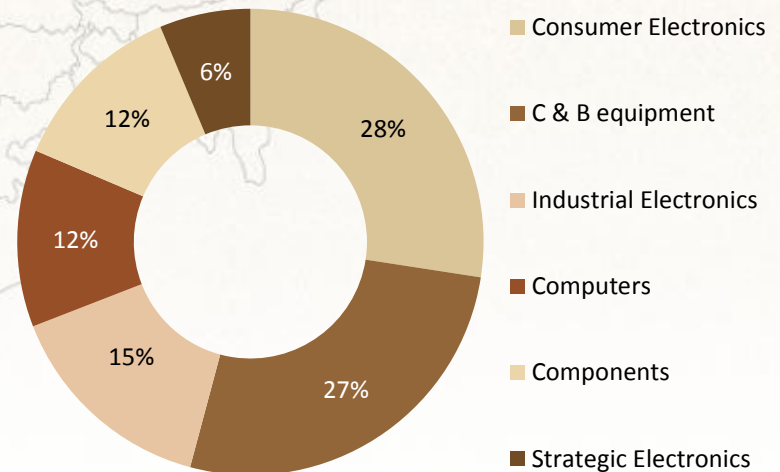


Source: Department of Information Technology,
2010-11 annual report

Electronics production in India growing rapidly ... (2/2)

→ Consumer electronics , and communication and broadcasting equipment comprise 55.0 per cent of the total electronic hardware production

Segmental composition of production (FY11)

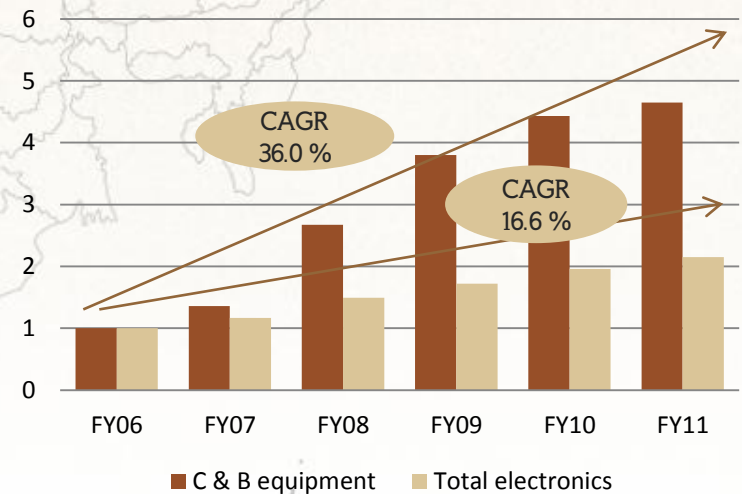


Source: Department of Information Technology,
2010-11 annual report
Notes: C&B- Communication and Broadcasting

C & B equipment driving the growth in production ... (1/2)

- Production value of C&B equipment in India expanded at a CAGR of 36.0 percent from USD1.5 billion in FY06 to USD6.8 billion in FY11
- The growth rate outpaced the rate of expansion of the total electronics industry (CAGR of 16.6 per cent) during this period

Relative growth comparison- C&B equipment and total



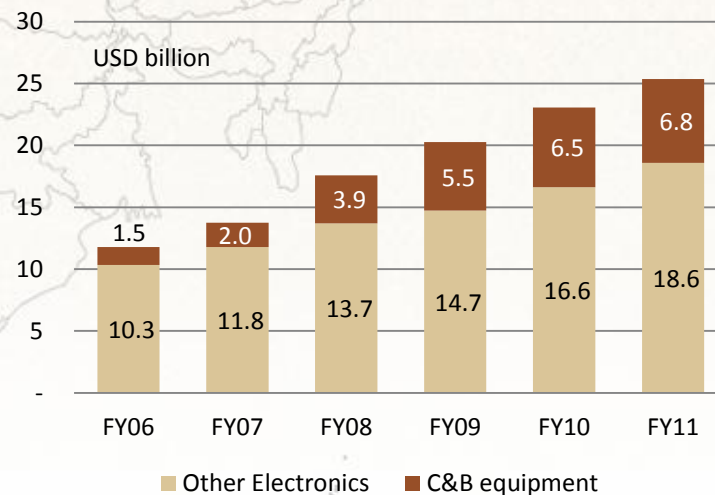
Source: Department of Information Technology, 2010-11 annual report

Notes: C&B- Communication and Broadcasting

C & B equipment driving the growth in production ... (2/2)

- C&B equipment's share in total electronics production increased from 12.4 per cent in FY06 to 26.7 per cent in FY11
- Production value of other electronics grew at a rate of 12 per cent from USD10.3 billion in FY06 to USD18.6 billion in FY11

Share of C&B equipment in electronics production

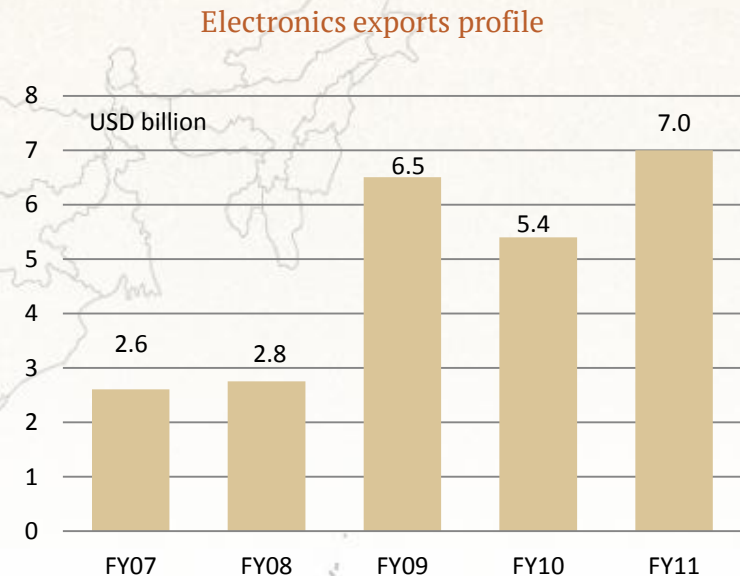


Source: Department of Information Technology, 2010-11 annual report

Notes: C&B- Communication and Broadcasting

Electronics exports are witnessing accelerated growth ... (1/2)

- Electronic exports expanded at a CAGR of 28 percent from USD2 billion in FY06 to USD7 billion in FY10
- The growth was driven by exports of C&B equipment and components

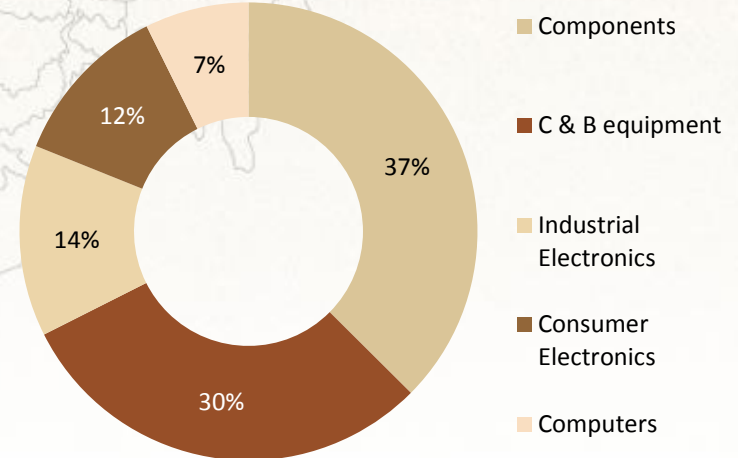


Source: Department of Information Technology, 2010-11 annual report, Electronics and Computer Software Export Promotion Council, Aranca Research

Electronics exports are witnessing accelerated growth ... (2/2)

- Exports of C&B equipment and components together made up two-thirds of total electronics exports in FY10
- Main items of export were display technologies, entertainment electronics, optical storage devices, passive components, electromechanical components, telecom equipment, and transmission and signalling equipment

Composition of electronics exports (FY10)



Source: Department of Information Technology, 2010-11 annual report, Aranca Research
Notes: C&B- Communication and Broadcasting






Key players in the electronics sector ... (1/2)

Company	Business description
 <p>भारत इलेक्ट्रॉनिक्स BHARAT ELECTRONICS</p>	<ul style="list-style-type: none"> Established to meet specialised needs of Indian defence services Focuses on contract manufacturing, design and manufacturing services, software development and quality assurance
 <p>VIDEOCON</p>	<ul style="list-style-type: none"> Leading manufacturer in the consumer electronics segment Manufactures and markets TVs, DVD players, microwave ovens, refrigerators, washing machines, ACs and power backup solutions
 <p>LG</p>	<ul style="list-style-type: none"> Market leader in consumer durables Manufactures TVs, audio-visual solutions, computers, mobile phones, refrigerators, washing machines, microwave ovens, vacuum cleaners and ACs
 <p>SAMSUNG</p>	<ul style="list-style-type: none"> Second largest player in the consumer durables market after LG Manufactures TVs, home theatre systems, DVD players, mobile phones, digital cameras and camcorders, refrigerators, ACs, washing machines, microwave ovens and computers
 <p>HCL</p>	<ul style="list-style-type: none"> Second largest IT hardware and software provider Manufactures and markets PCs, PC servers, storage solutions, display products and other electronic products

*This list is indicative.

Source: Company Websites, Dataquest, Corporate Catalyst India, Aranca Research

Key players in the electronics sector ... (2/2)

Company	Business description
	<ul style="list-style-type: none"> • World's second-largest company in the optical storage media segment • Supplies products to a number of branded players such as Sony, Verbatim, TDK, Maxell, Imation and Samsung • Also has a presence in the photovoltaic and home entertainment segments
	<ul style="list-style-type: none"> • Offers high-value, high-margin design services for mobile phones and telecom/networking software • Manufactures TV tuners, set top boxes, energy meters, networking cards among others
	<ul style="list-style-type: none"> • Offers state-of-the-art solutions for Frequency Control Products (FCP), Electronic Manufacturing Service (EMS) and Hybrid Micro Circuits (HMC)
	<ul style="list-style-type: none"> • Acquired Celetronix, one of the largest electronic equipment manufacturers in India, in 2006 • Offers printed circuit boards, enclosure integration, and distribution and repair services with in-region design services support
	<ul style="list-style-type: none"> • Largest Indian integrated manufacturer of a wide range of display devices such as TV picture tubes, CRT guns, heaters and cathodes, and deflection yokes • Operates a facility in Germany to manufacture high-tech, high-resolution CRTs for demanding applications such as aircraft avionics and medical monitors

Source: Company Websites, Dataquest, Corporate Catalyst India, Aranca Research
Notes: CRT- Cathode Ray Tube
*This list is indicative.

Notable trends in the electronics sector ... (1/2)

Consumer Electronics

- Increased presence of organised retail
- Expansion into new segments such as HDTVs and Smartphones
- Increased affordability due to technological advancement and higher competition

Industrial Electronics

- Application of state-of-the-art systems such as SCADA, PLC and AC drive systems across various sections of the industry
- Expertise in conceptualising such systems and their erection and commissioning
- Acquisition of export orders through international competitive bidding

Computers

- One of the fastest growing IT systems and hardware market in Asia Pacific
- High growth rate of 40.0 per cent recorded in the sales of notebooks in FY 11
- Expansion of server market into smaller cities, and small and medium businesses

Source: Department of Information Technology, 2010-11 annual report, Corporate Catalyst India

Notable trends in the electronics sector ... (2/2)

Strategic Electronics

- India's defence sector is poised for substantial growth; the country is expected to be one of the top five markets for defence equipment by 2015
- Economic growth and low costs are likely to provide impetus to aerospace market
- Nuclear power to play a large role in India's energy security needs

Electronic Components

- Semiconductors leading segmental growth
- High growth in key determinants for electronic components, namely consumer electronics, telecom, defence and IT verticals

Communication and Broadcasting Equipments

- Increasing telephone penetration due to falling tariffs in the world's second most populous country
- Growing broadband subscriber base
- India set to overtake US as the largest DTH market in the world by 2012

Source: Department of Information Technology, 2010-11 Annual Report, Corporate Catalyst India

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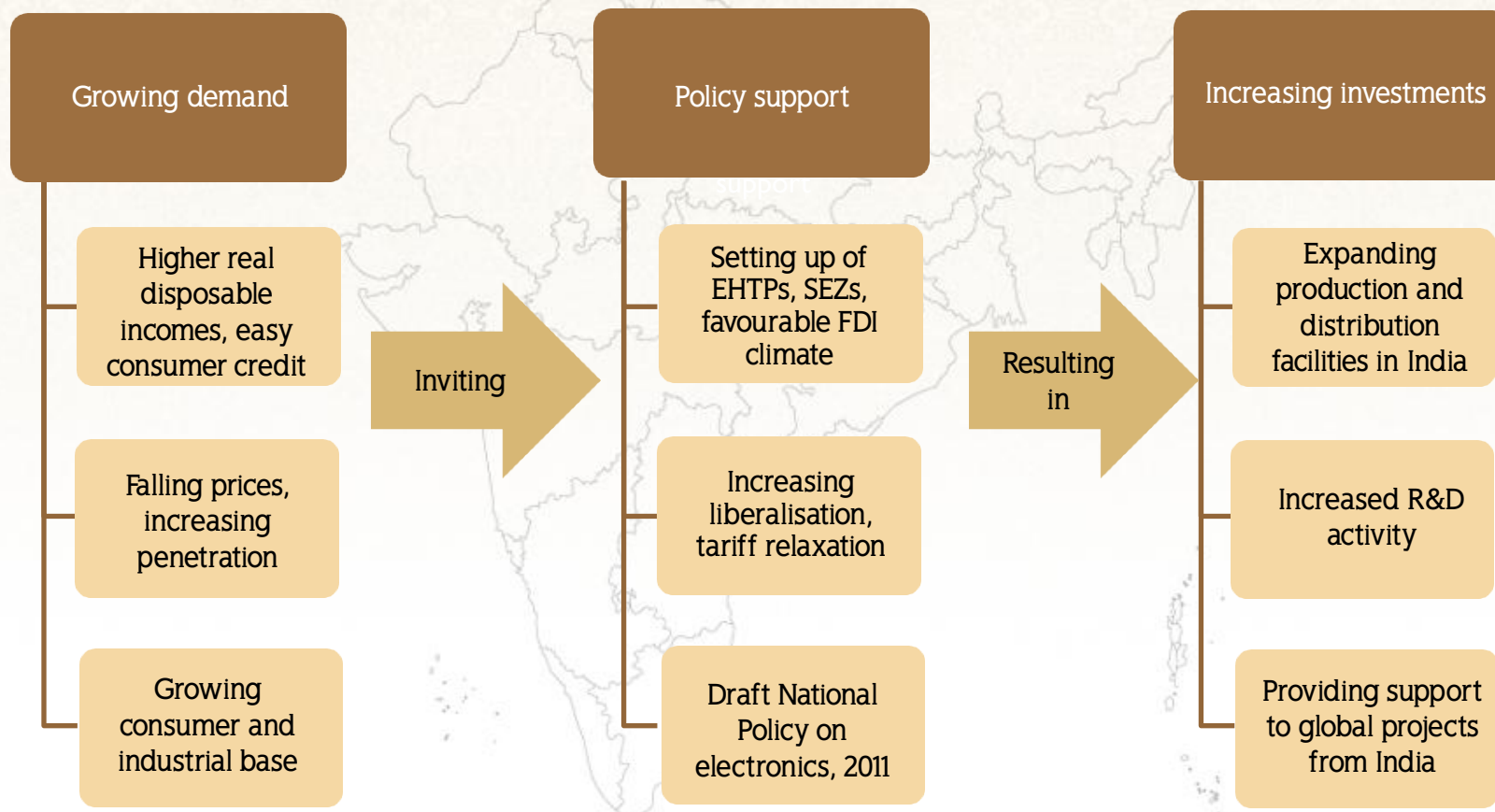
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Strong demand and policy support driving investments

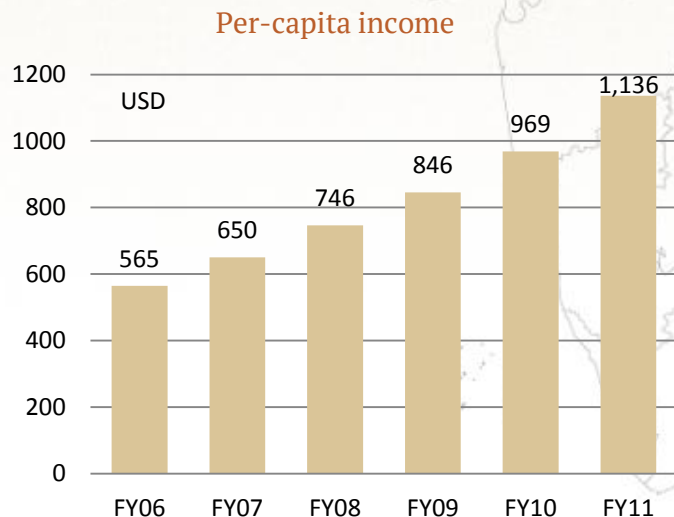


Notes: EHTP- Electronic Hardware Technology Park, SEZ- Special Economic Zone, FDI- Foreign Direct Investment, R&D- Research and Development

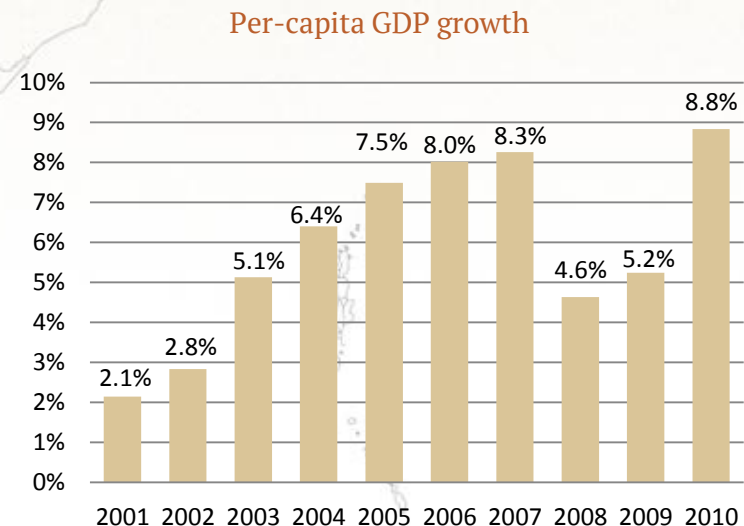
Multiple factors will drive growth in demand

- Multiple drivers are leading to growth in electronics sector
- Increase in discretionary income and credit availability has boosted demand for consumer durables
- The government is one of the biggest consumers of the sector and leads the corporate spend on electronics; electronics facilitates e-governance, developmental schemes and initiatives launched by the government
- Strong demand and favourable investment climate in the sector are attracting investments in R&D as well as manufacturing

Notes: Growth projections have been taken from the IMF



Source: IMF, Aranca Research



Source: IMF, Aranca Research

Policy support aiding growth in the sector ... (1/2)

Encouragement to FDI, SEZs

- 100 per cent FDI is permitted in the electronics hardware manufacturing sector under the automatic route
- 100 per cent income tax exemption to SEZ units on export profits for five years, 50 per cent for the next five years

Customs Duty Relaxation

- IT/Electronics sector is the first in India to be allowed complete customs exemption on certain items used for manufacturing electronic goods
- No customs duty on 217 tariff lines covered under the Information Technology Agreement (ITA-1) of the WTO
- Peak rate of basic customs duty is 10.0 per cent

Reduced Central Excise

- Mean rate of excise duty (CENVAT) is 10.0 per cent
- Microprocessors, hard disc drives, CD ROM drives, DVD drives/DVD writers, flash memory sticks and combo-drives are levied concessional excise duty of five percent
- Components and accessories of mobile handsets are exempt from excise

Source: Department of Commerce, Government of India; Department of Information Technology, 2010-11 annual report
Notes: FDI - Foreign Direct Investment

Policy support aiding growth in the sector ... (2/2)

EPCG, EHTP Schemes

- EPCG allows import of electronic capital goods without paying any customs duty
- EHTP provides benefits, such as duty waivers and tax incentives, to companies which replace certain imports with local manufacturing

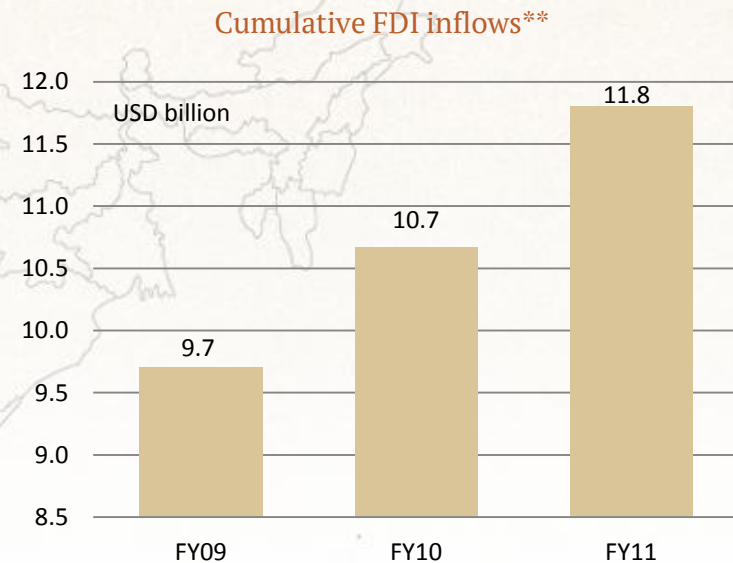
Draft National Policy on Electronics, 2011

- Government unveiled a draft national policy with an ambitious target of USD400 billion by 2020
- It aims to set up 200 manufacturing hubs across the country requiring an investment of USD100 billion to lessen the expected vast demand supply gap by 2020

Source: Department of Commerce, Government of India; Department of Information Technology, 2010-11 annual report
Notes: EPCG- Export Promotion Capital Goods scheme, EHTP- Electronic Hardware Technology Park Scheme

Increasing investments- FDI inflows and key deals ... (1/2)

- FDI inflows into the electronics sector between April 2000 and July 2011 stood at USD11.8 billion
- Demand growth, supply advantages, and policy support have been instrumental in attracting FDI



Source: Department of Industrial Policy and Promotion, Aranca Research

Notes: FDI - Foreign Direct Investment,
** includes IT software sector inflows, all figures from April 2000

Increasing investments- FDI inflows and key deals ... (2/2)

- The sector has witnessed a total of 11 M&A deals since 2010
- Of the M&A deals in the sector since 2010, Emerson Electric Company's acquisition of Fisher Sanmar Ltd was the highest in terms of value***

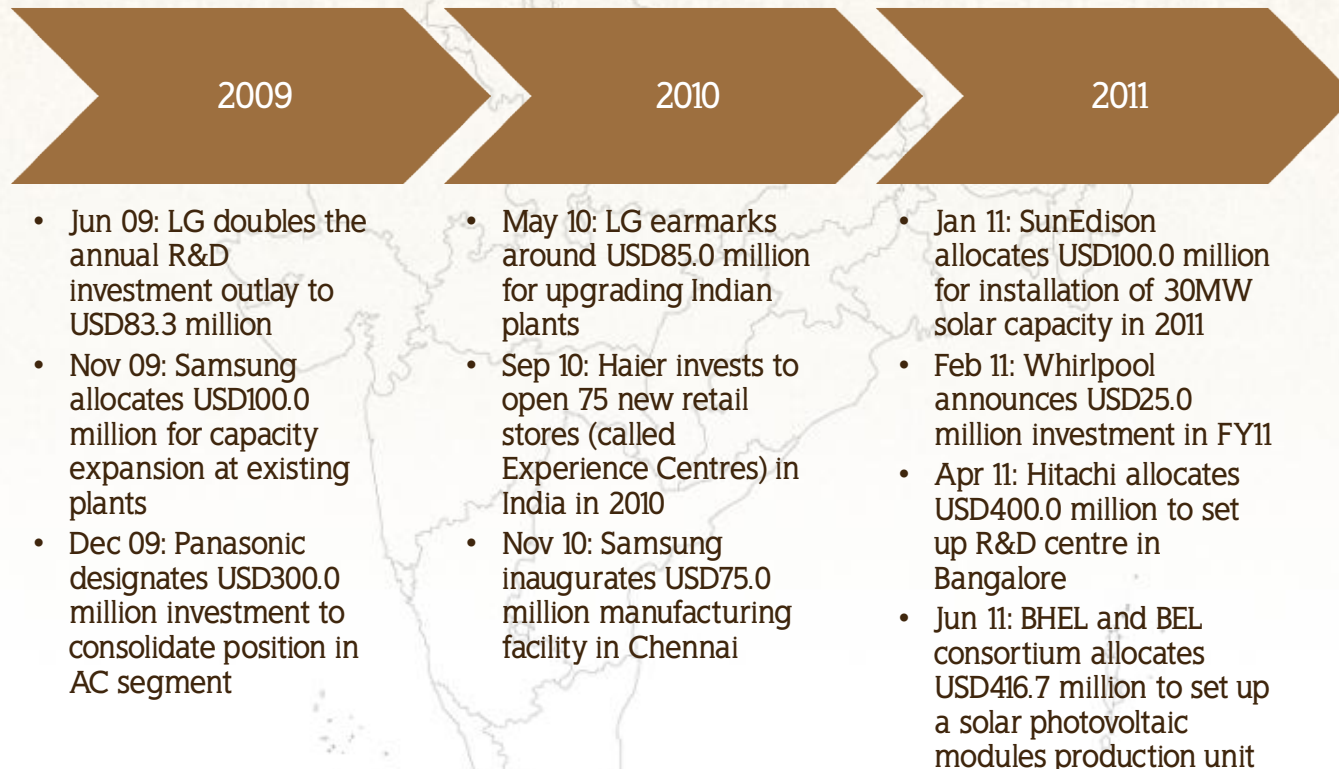
Notes: FDI - Foreign Direct Investment,
*** out of the deals whose transaction amount was available

Mergers and Acquisitions (M&A)

Acquirer	Target	Deal date	Deal value (USD million)
Vivekshil Dealers Pvt Ltd	Genus Power Infrastructures	05 th January 2010	4.5
Centum Electronics Ltd	Solectron EMS India Ltd	29 th July 2010	6.8
Shemaroo Entertainment Ltd	Vistaas Digital Media Ltd	30 th October 2010	5.1
Emerson Electric Co	Fisher Sanmar Ltd	31 st March 2011	135.0
Schneider Elec India Pvt Ltd	Smartlink Network Systems	13 th May 2011	113.0

Source: Thomson One Banker, Aranca Research

Recent Investments by key players



Source: India Electronic News, The Hindu, Economic Times, ApplianceMagazine.com, Business Standard
Notes: R&D- Research and Development

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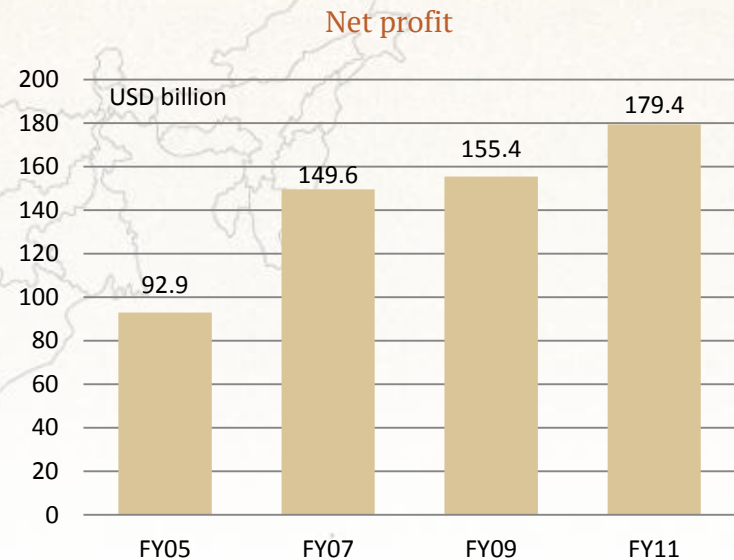
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Bharat Electronics (BEL): A public sector success ... (1/2)

Salient features

- Established in 1954 under the Ministry of Defence to meet specialised needs of the Indian defence services
- The company has a strong commitment to quality and innovation, with two dedicated central research laboratories
- The annual R&D expenditure is around 4.0-5.0 per cent of the sales turnover
- The company has nine manufacturing units; each unit has its own Development and Engineering (D&E) division



Source: BEL website, annual reports, Business Standard, Aranca Research

Bharat Electronics (BEL): A public sector success ... (2/2)

Key success factors

- Focus on innovation and R&D
- Key technological collaborations with leading European, American and Israeli companies
- Rising defence spending in India
- Governmental emphasis on indigenisation and reduction of import bill
- Diversification in the civilian and export market

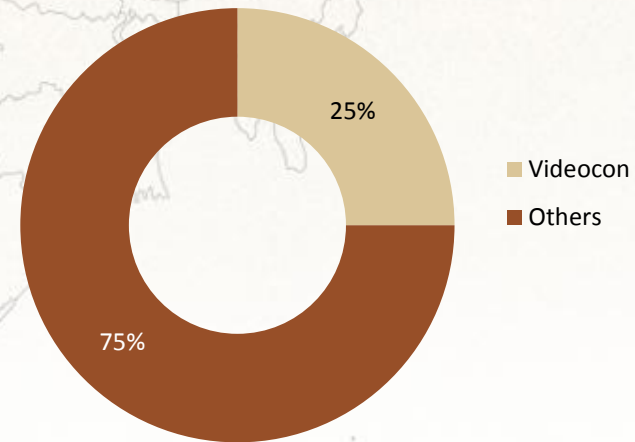
Financial highlights

- During FY05-11, BEL's profits increased at a CAGR of 11.6 per cent from USD92.9 million to USD179.4 million, while revenues registered a CAGR of 9.4 per cent
- As of February 2011, the company had an order book size of USD3.3 billion, which provides it revenue viability

Videocon: A private sector giant ... (1/2)

- Third largest consumer durables company in India
- Holds about one-fourth market share in the consumer durables market
- Leads the market in colour TV, refrigerator, washing machine, and microwave oven segments

Market share in consumer durables (FY10)

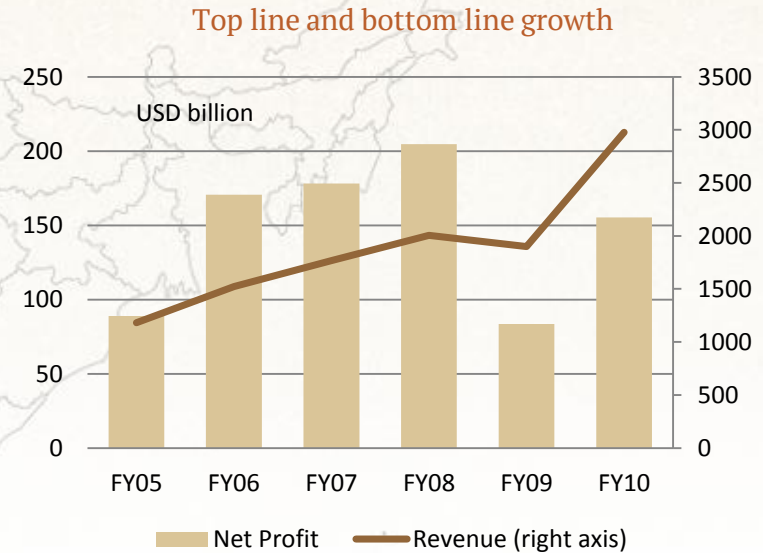


Source: Company website, ISM Capital, Aranca Research

Videocon: A private sector giant ... (2/2)

- One of the largest colour picture tube (CPT) manufacturers globally
- During FY05–10, Videocon’s revenues increased at a CAGR of 20.3 per cent, while profits registered a CAGR of 11.8 per cent

Notes: FY- Financial Year, FY05-FY09 – Financial year is October to September; In FY10- Changes to Jan – Dec. CAGR- Compound Annual Growth Rate



Source : Company website, ISM Capital, Aranca Research

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Multiple factors favour investment in electronics

Growing customer base: Market for electronics is expected to grow at a CAGR of 22.0 per cent during the period 2009–2020. The demand for electronics hardware in India is projected to increase from an estimated USD68 billion in 2011 to USD125 billion by 2014 and USD400 billion by 2020

Targeted reduction in import bill: Domestic electronic production accounts for around 45.0 per cent of the total market demand. Therefore, to reduce import bill, the government plans to boost the domestic manufacturing capabilities and is considering a proposal to give preference to Indian electronic products in its purchases

Increasing penetration in the consumer durables segment: Consumer durables market in India is characterised by low penetration in various product segments, viz. 1.0 percent in microwaves, 3.0 per cent in ACs, 16.0 per cent in washing machines, 18.0 per cent in refrigerators, etc. Higher disposable incomes are leading to realisation of penetration potential in various product segments, especially in rural areas

Policy and investment support: To complement the targeted reduction in import bill, the government has proposed a minimum investment of USD555.0 million for semiconductor manufacturing plants and USD222.0 million for ecosystem units. This is considered a major step toward attracting foreign companies to set up manufacturing facilities in India

Growth in
Electronics

Source: Department of Information Technology, FY10, FY11 annual reports, Dataquest India, Aranca Research

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Industry associations ... (1/2)

Electronics Industries Association of India (ELCINA)

ELCINA House, 422 Okhla Industrial Estate,
New Delhi – 110 020, India
Phone: 91 11 26924597,26928053
Fax: 91 11 26923440
E-mail: elcina@vsnl.com
Website: www.elcina.com/

Telecom Equipment Manufacturers Association (TEMA)

4th Floor, PHD House, Opp. Asian Village,
New Delhi – 110 016, India
Tel: 91 11 26859621
Fax: 91 11 26859620
E-mail: tema@del2.vsnl.net.in
Website: <http://www.tfci.com/cni/tema.htm>

Industry associations ... (2/2)

Manufacturers Association for Information Technology (MAIT)

4th Floor, PHD House, Opp. Asian Games Village,
New Delhi 110 016, India
Tel: 91 11 26855487
Fax: 91 11 26851321
E-mail: contact@mait.com
Website: www.mait.com

Consumer Electronics and Appliances Manufacturers Association (CEAMA)

5th Floor, PHD House
4/2, Siri Institutional Area, August Kranti Marg
New Delhi-110 016
Telefax: 91- 11- 46070335, 46070336
e-mail: ceama@airtelmail.in
Website: www.ceama.in

Glossary

- **C&B:** Communication and Broadcasting
- **CAGR:** Compound Annual Growth Rate
- **Capex:** Capital Expenditure
- **CENVAT:** Central Value Added Tax
- **EHTP:** Electronic Hardware Technology Park
- **EPCG:** Export Promotion Capital Goods Scheme
- **FDI:** Foreign Direct Investment
- **FY:** Indian Financial Year (April – March); for example FY10 means April 2009 – March 2010
- **PLC:** Programmable Logic Controller
- **R&D:** Research and Development
- **SCADA:** Supervisory Control and Data Acquisition
- **USD:** US Dollar
 - Conversion rate used: USD1= INR 48
- Wherever applicable, numbers have been rounded off to the nearest whole number

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