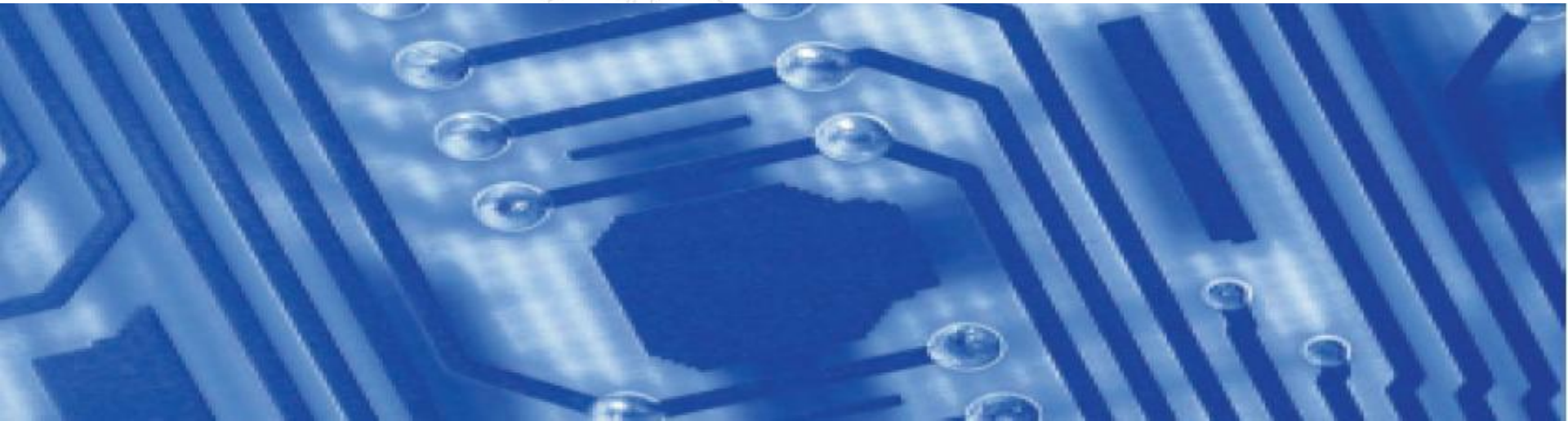


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Advantage India

Growing demand

- Demand from households is set to accelerate given rising disposable incomes, changing lifestyles, and easier access to credit (including credit cards)
- Government and corporate spending will also contribute to growth in demand

Opportunities

- The Electronics market is expected to grow at CAGR of 22.0 per cent during 2009-2012
- Intended reduction in government's import bill is 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 are set 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, Aranca Research
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, CAGR - Compound Annual Growth Rate

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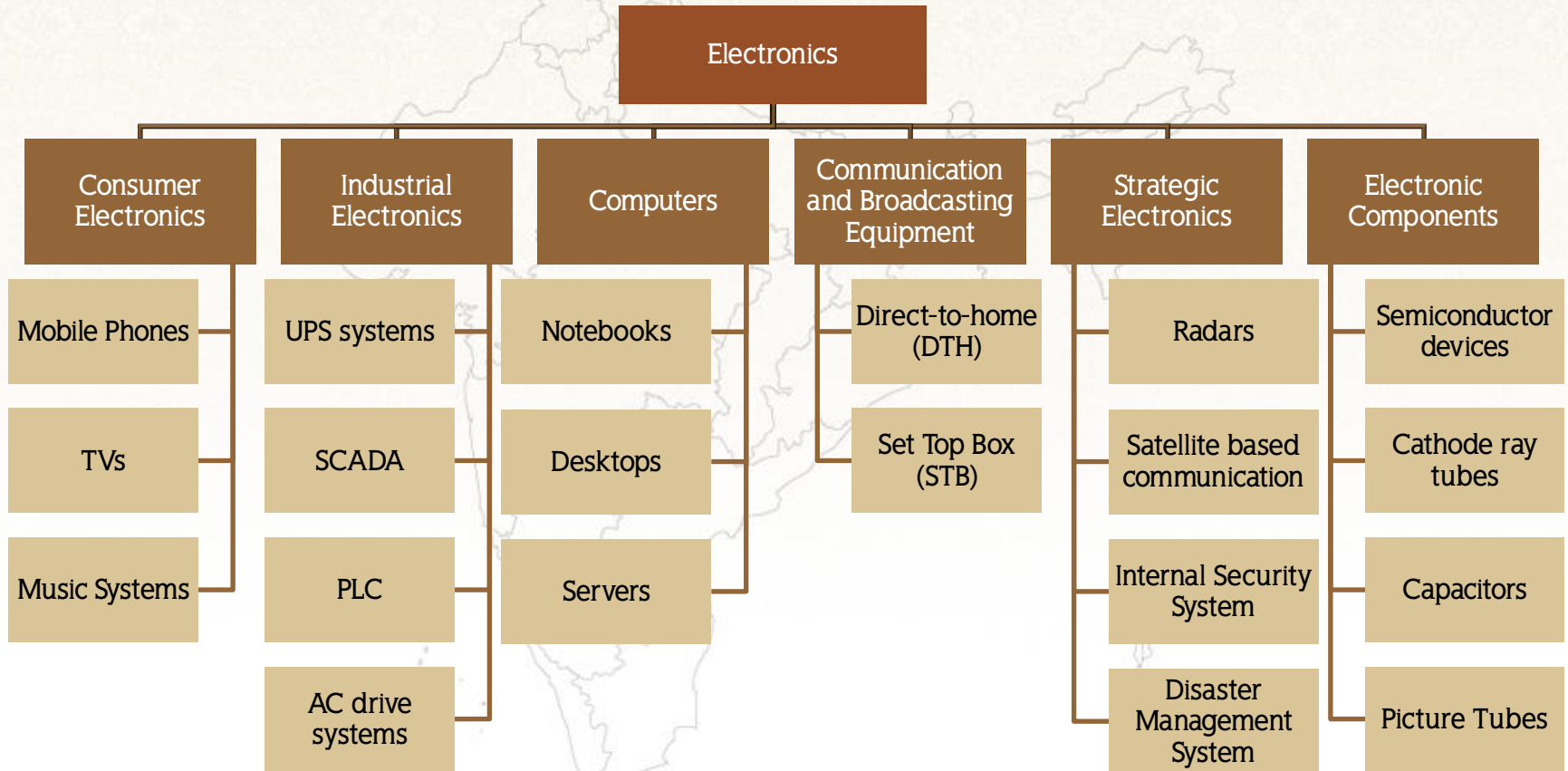
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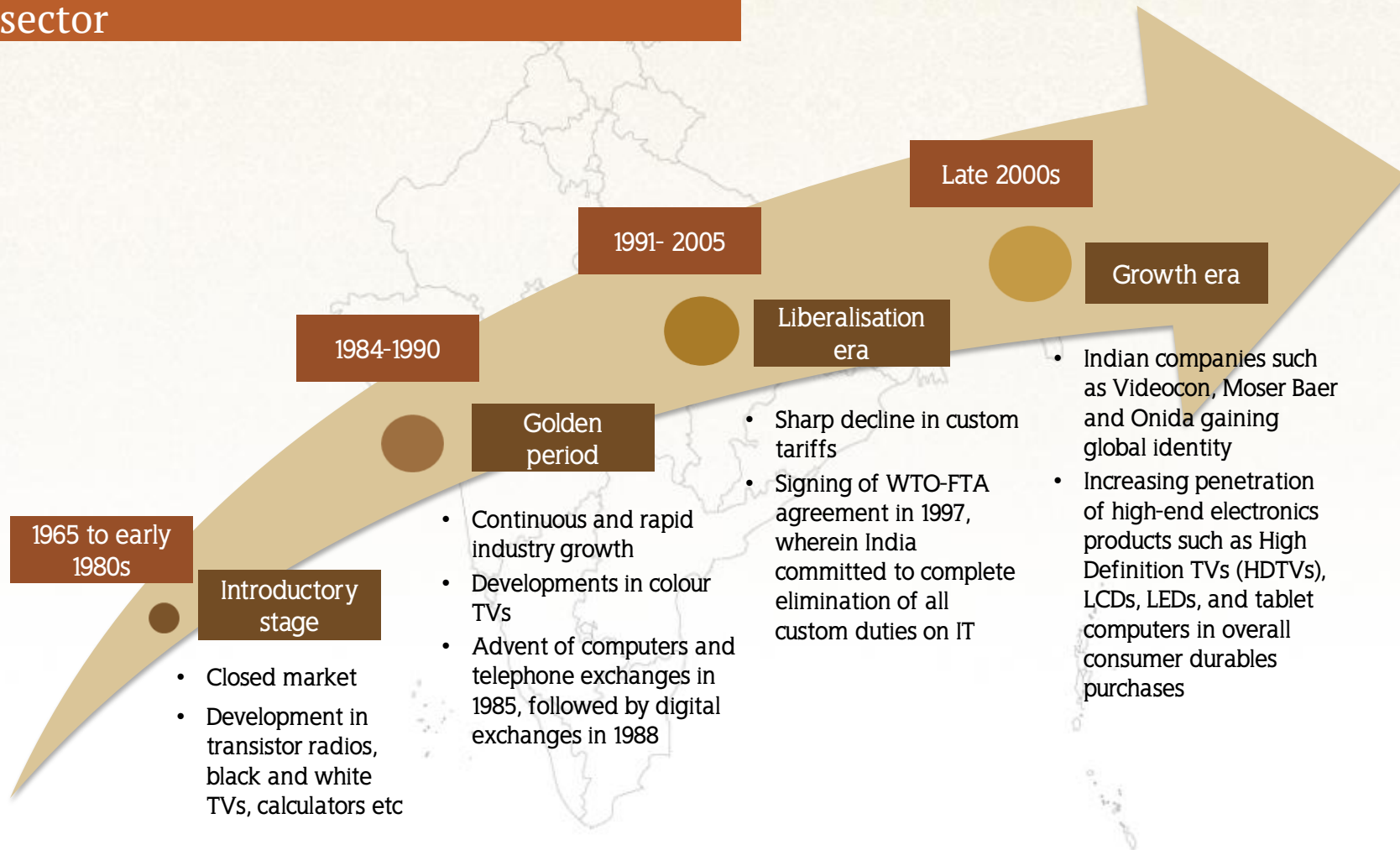
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The Indian electronics sector is split into six product segments



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

Evolution of the Indian electronics sector

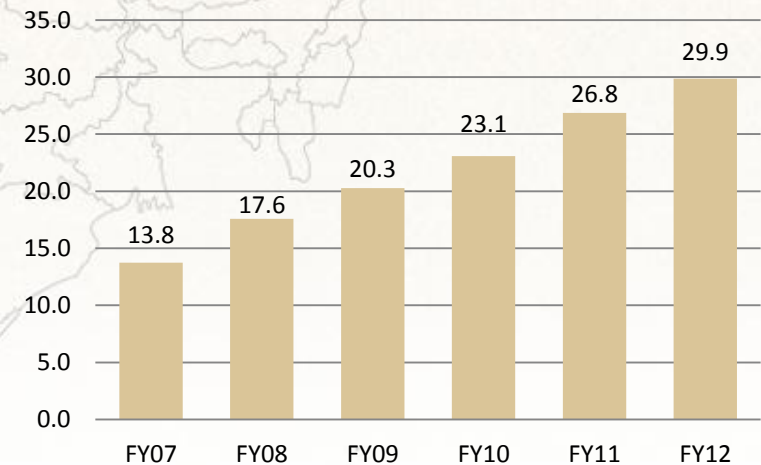


Source: Corporate Catalyst India, Aranca Research

Electronics production in India has been growing at a rapid pace

- Total production of electronics goods in India was valued at USD29.9 billion in FY12
- Production expanded at a CAGR of 16.8 per cent during FY07-12

Value of electronics goods production in India (USD billion)

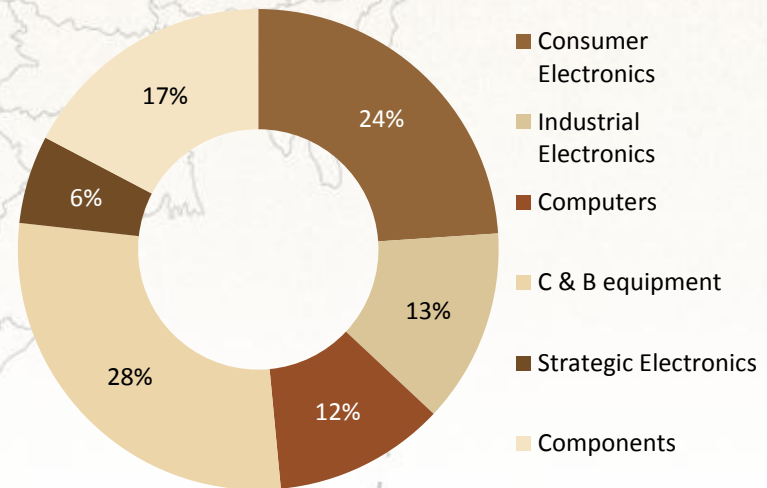


Source: Department of Information Technology (2011-12 Annual Report),
Aranca Research

C&B equipment and consumer electronics have the highest share in production

- Communication and broadcasting equipment made up 28 per cent (the highest share) of total production of electronic goods in India in FY12; consumer electronics had the next highest share at 24 per cent
- Not surprisingly, computers are a key component of total electronics output in India (12 per cent in FY12); the segment's share is likely to go up over this decade given greater policy focus on encouraging computer hardware manufacturing

Shares in total production of electronic goods (FY12)

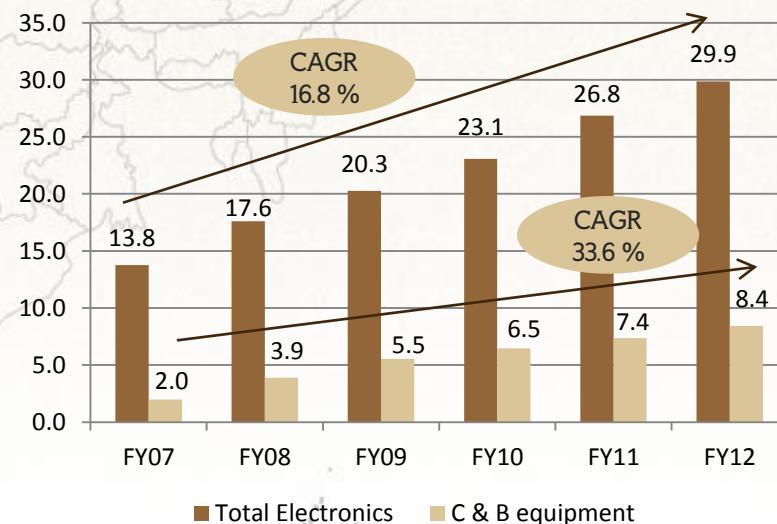


Source: Department of Information Technology (2011-12 Annual Report),
Aranca Research,
Notes: C&B- Communication and Broadcasting

C&B equipment has been the key driver of the electronics sector in India ... (1/2)

- Production (by value) of C&B equipment in India expanded at a CAGR of 33.6 per cent over FY07-12 (production in the segment was valued at USD8.4 billion in FY12)
- Growth in the segment far outpaced overall growth of electronics goods production in the country (CAGR of 16.8 per cent over the same period); given C&B equipment's large share in the electronics sector, it emerged as the key growth driver of the overall sector

Comparison in production trends of C&B equipment and the overall electronics sector in India (USD billion)

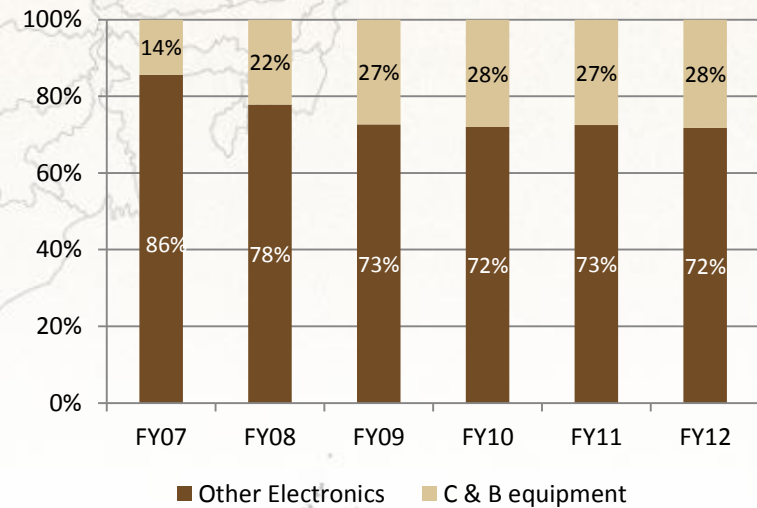


Source: Department of Information Technology (2011-12 Annual Report),
Aranca Research
Notes: C&B- Communication and Broadcasting

C&B equipment has been the key driver of the electronics sector in India ... (2/2)

- Production value of all other segments in the electronics sector (other than C&B equipment) grew at a rate of 12.7 per cent over FY07-12
- With growth in C&B equipment far outpacing that of other segments, it is not surprising that the former's share in total electronics production almost doubled over FY07-12 to 28.3 per cent

Share of C&B equipment in electronics production over FY07-12

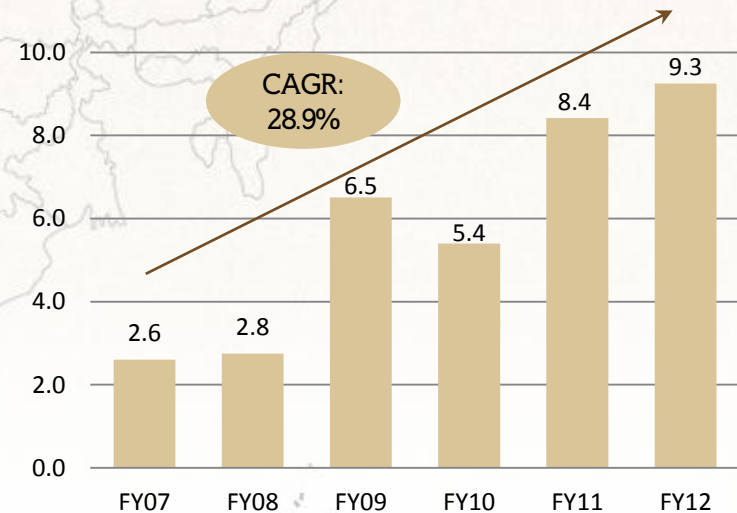


Source: Department of Information Technology (2011-12 Annual Report),
Aranca Research
Notes: C&B- Communication and Broadcasting

Electronics exports from India have outpaced total production in the sector

- Electronic exports from India touched USD9.3 billion in FY12, up from USD8.4 billion in the previous fiscal year; over FY07-12 exports from the sector (CAGR: 28.9 per cent) have outpaced total production (CAGR: 16.8 per cent)
- Yet again, as in total production, growth in exports was led by C&B equipment; electronic components was the other key sub-segment

Electronics exports from India (USD billion)

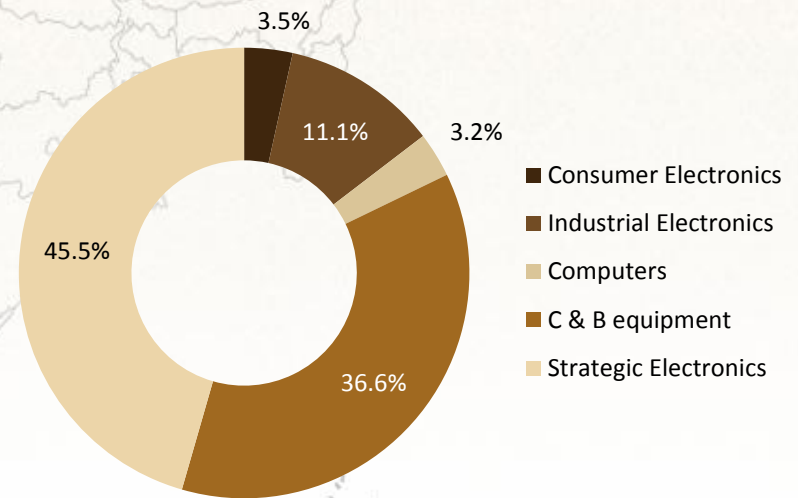


Source: Department of Information Technology (2011-12 Annual Report), Electronics and Computer Software Export Promotion Council, Aranca Research
Notes: C&B- Communication and Broadcasting

Large shares for C&B equipment and components in total electronics exports






- Exports of C&B equipment and components together account for over 80 per cent of total electronics exports in FY11
- Exports for C&B equipment has increased at a CAGR of 86.8 per cent during FY07-11 (Highest among all segments) followed by Strategic electronic components with a CAGR of 25.8 per cent during same period

Shares in electronics exports from India (FY11)








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"> Third largest consumer durables manufacturer in India after LG and Samsung 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"> Leading IT hardware and software provider Manufactures and markets PCs, PC servers, storage solutions, display products and other electronic products

Source: Company Websites, Dataquest, Corporate Catalyst India, Aranca Research
Notes: DVD- Digital Video Disc, AC- Air Conditioner ,TV – Television, PC-Personal computers.

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
	<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 and affordability due to technological advancement
- Expansion into new segments such as HDTVs, tablets and smart phones
- Colour TV is the largest contributor with total production of 14 million units

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
- Notebooks recorded a growth rate of 40 per cent in FY11; tablet ownership increased from 8 per cent in 2010 to 12 per cent in 2011
- Expansion of server market into smaller cities, and small and medium businesses

Source: Department of Information Technology (2011-12 Annual Report), Corporate Catalyst India, Accenture EHT Research, Aranca Research

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

C&B Equipments

- Increasing telephone penetration due to falling tariffs in the world's second most populous country
- Growing broadband subscriber base
- DTH subscription is likely to touch 42 million by end-2012, up from 23 million in 2010; this will make India the world's largest DTH market

Source: Department of Information Technology (2011-12 Annual Report),
Corporate Catalyst India, Aranca Research

Notes: C&B – Communication and Broadcasting,
DTH – Direct-to-Home (satellite television broadcasting)

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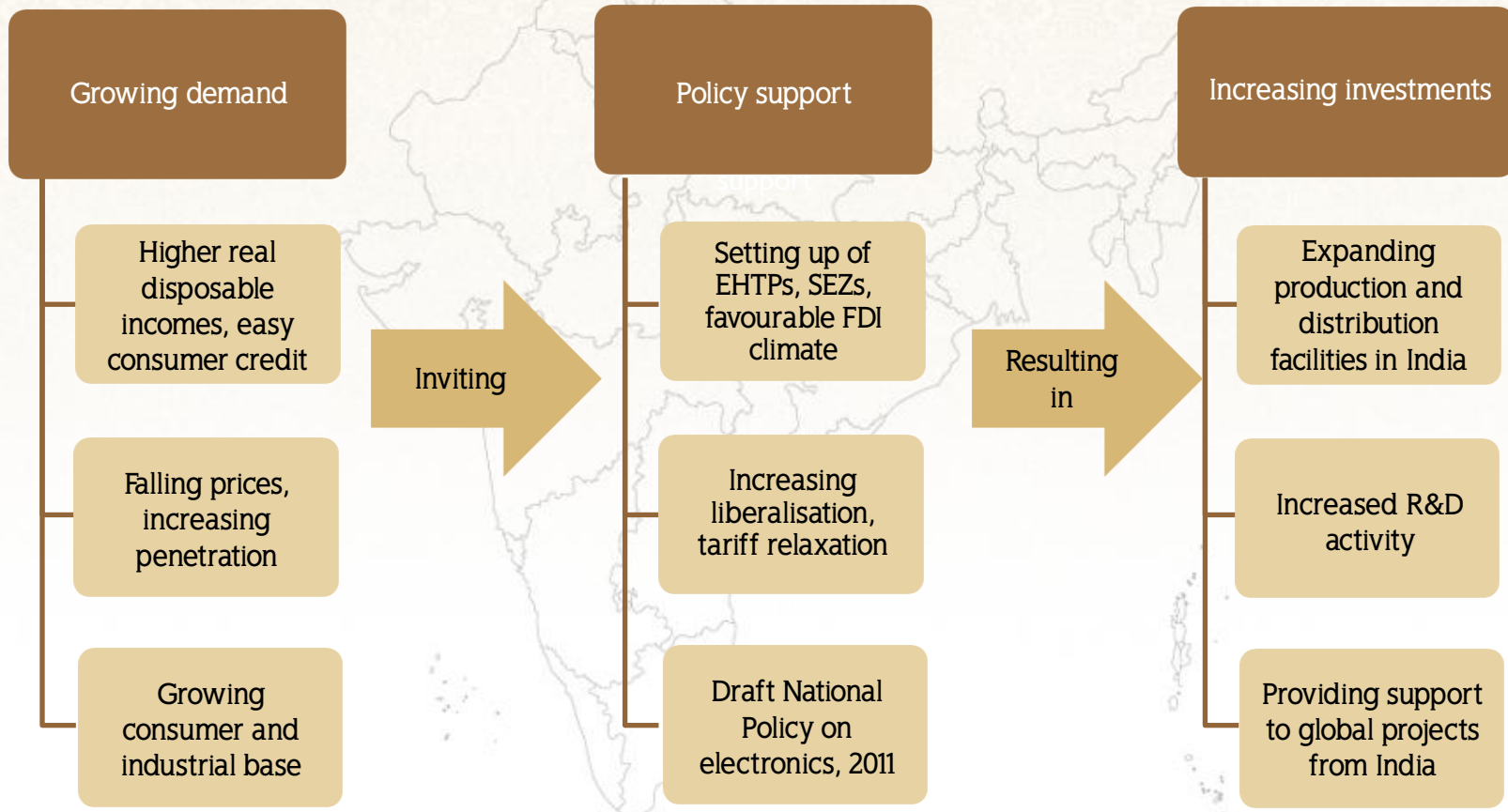
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Strong demand and policy support driving investments



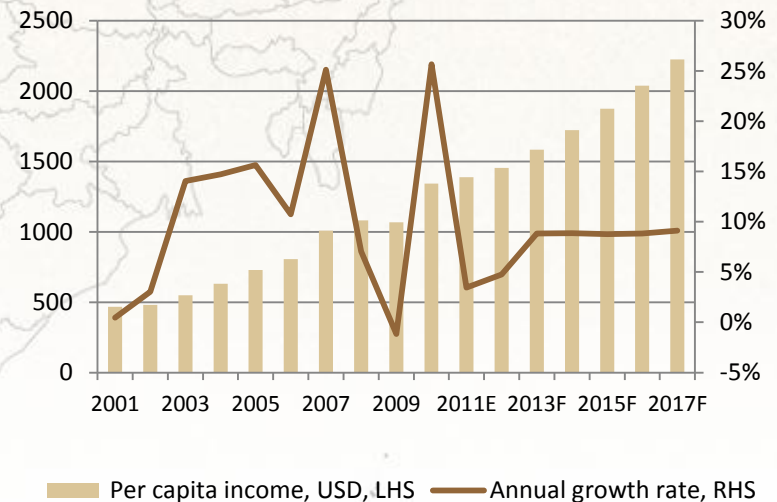
Source : Aranca Research

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

Key growth drivers are rising incomes, credit availability and government spending

- 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; this is not surprising given that 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

Rising per capita income in India



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 per cent

Reduced Central Excise

- Standard rate of excise duty (CENVAT) is 12 per cent
- Microprocessors, hard disc drives, CD ROM drives, DVD drives/DVD writers, flash memory sticks, and combo-drives have concessional excise duty of 6 per cent and are exempt from SAD
- Components and accessories of mobile handsets are exempt from excise duty and SAD

Source: Department of Commerce, Government of India; Department of Information Technology (2010-11 Annual Report), Aranca Research
Notes: FDI - Foreign Direct Investment; SAD - Special Additional Duty of Customs

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 on Electronics (2011) with an ambitious target of USD400 billion by 2020
- It aims to set up 200 manufacturing hubs across the country with an investment of USD100 billion to meet demand expectations
- The policy also focuses on raising exports to USD80 billion by 2020

Intellectual Property Rights

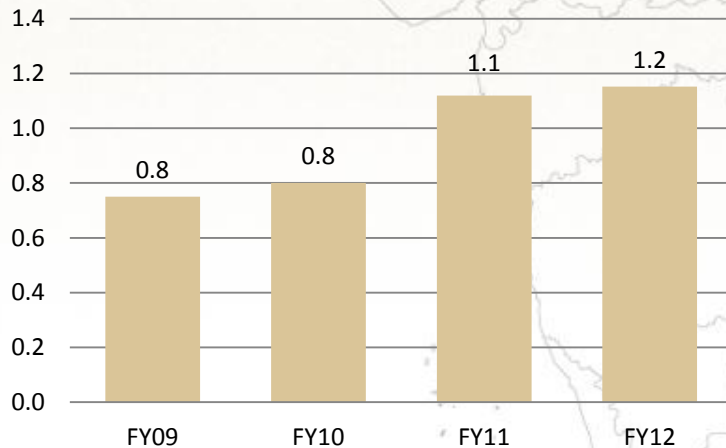
- Intellectual Property Rights (IPR) are a key determinant of progress in R&D and innovation in the electronics sector
- GOI has amended relevant IPR-related acts (like the Copyright Act, Trademark Act, New Designs Act) from time to time to help spruce up innovation and new technologies in the sector

Source: Department of Commerce, Government of India; Department of Information Technology (2010-11 Annual Report), Aranca Research
Notes: EPCG- Export Promotion Capital Goods scheme, EHTP- Electronic Hardware Technology Park Scheme
IPR- Intellectual Property Rights, GOI – Government of India

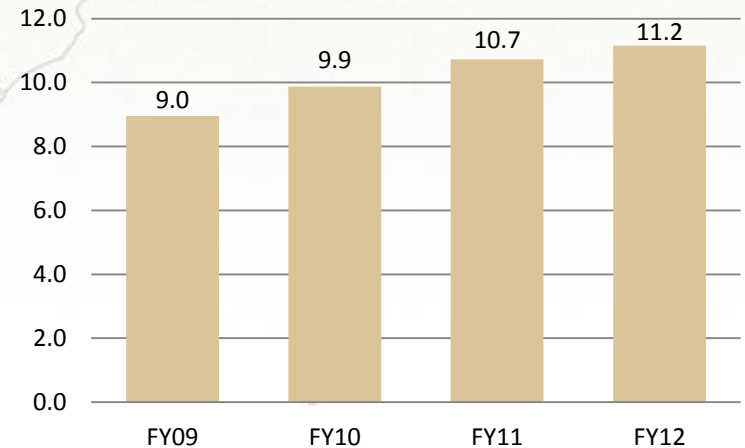
The electronics sector in India has attracted strong FDI inflows

- Cumulative FDI inflows into the Electronics, and computer hardware and software over Apr 2000 – Feb 2012 stood at USD1.2 billion
- Demand growth, supply advantages, and policy support have been instrumental in attracting FDI

Cumulative FDI inflows into the electronics sector (USD billion)



Cumulative FDI inflows into electronics and IT (combined)** (USD billion)



Source: Department of Industrial Policy and Promotion, (2010-11 Annual Report), Aranca Research

Notes: FDI - Foreign Direct Investment,

** includes computer software & hardware sector inflows, all figures are from April 2000

Sector has witnessed a number of key M&A deals

- 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***

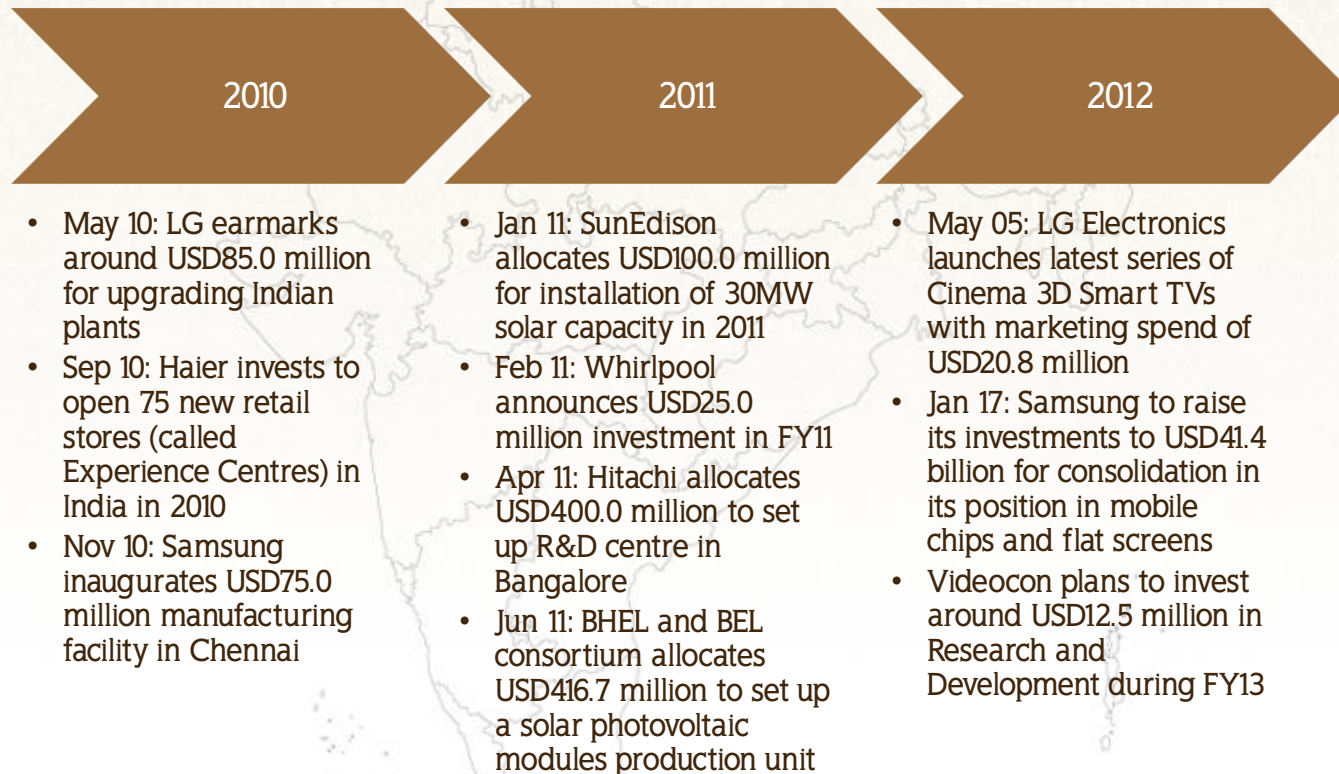
Notes: M&A – Mergers and Acquisitions
*** out of the deals whose transaction amount was available

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

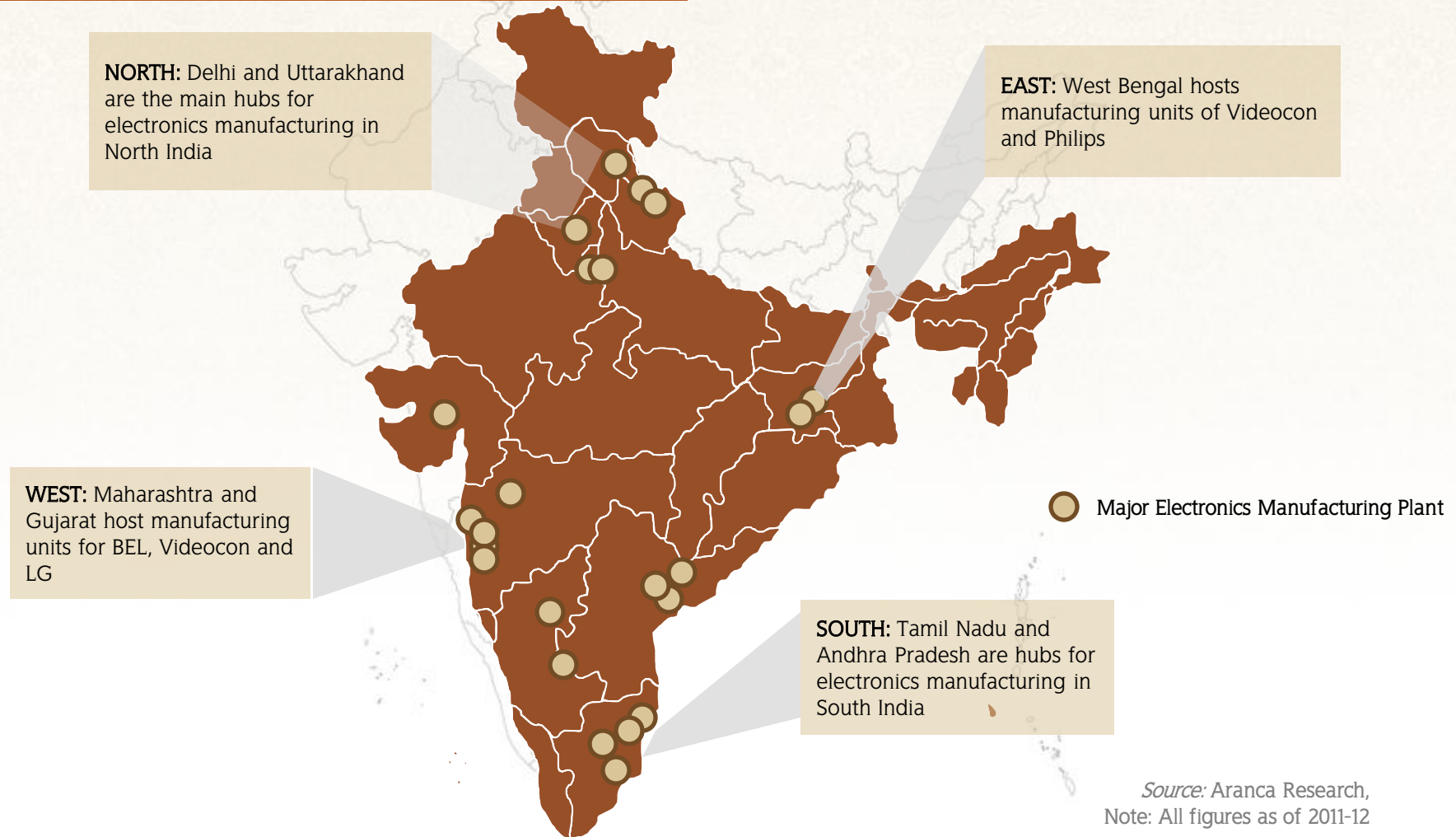
Source: Thomson One Banker, CMIE Business Beacon, Aranca Research

Recent investments by key players



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

Key electronic goods manufacturing plants across India



Source: Aranca Research,
Note: All figures as of 2011-12

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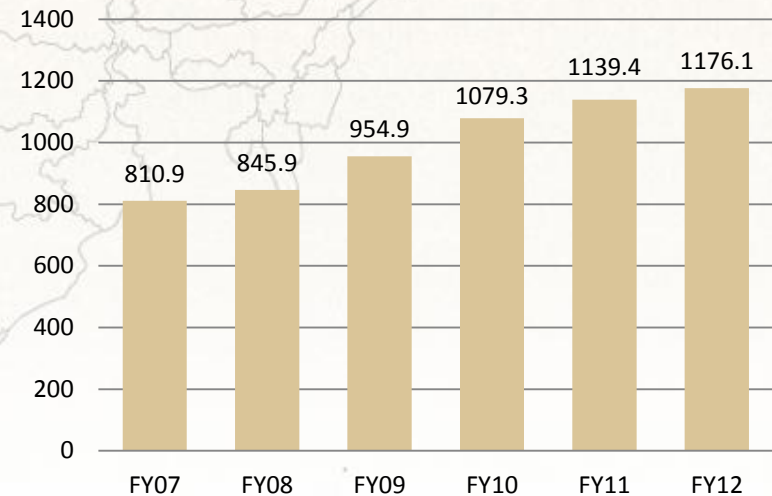
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Bharat Electronics (BEL): A public sector icon ... (1/2)

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
- During FY11, R&D expenditure was 5.0-6.0 per cent of total turnover
- The company has nine manufacturing units; each unit has its own Development and Engineering (D&E) division.

Revenues (USD millions)



Source: BEL website, Annual Reports, Business Standard, Aranca Research

Bharat Electronics (BEL): A public sector icon ... (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

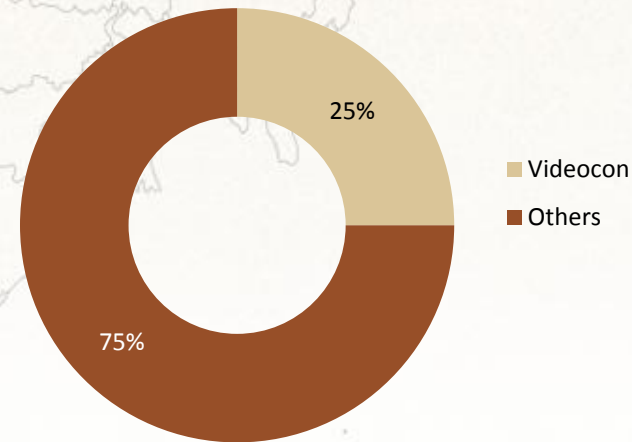
- During FY07-12, BEL's revenue increased at a CAGR of 7.7 per cent (from USD810.9 million) to nearly USD1.2 billion
- During same period, BEL's net profits increased at a CAGR of 17.7 per cent (from USD69.9 million) to USD157.6 million

Source: BEL website, Annual Reports, Aranca Research

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

- Third largest consumer durables company in India and one of the largest colour picture tube (CPT) manufacturers globally
- 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)

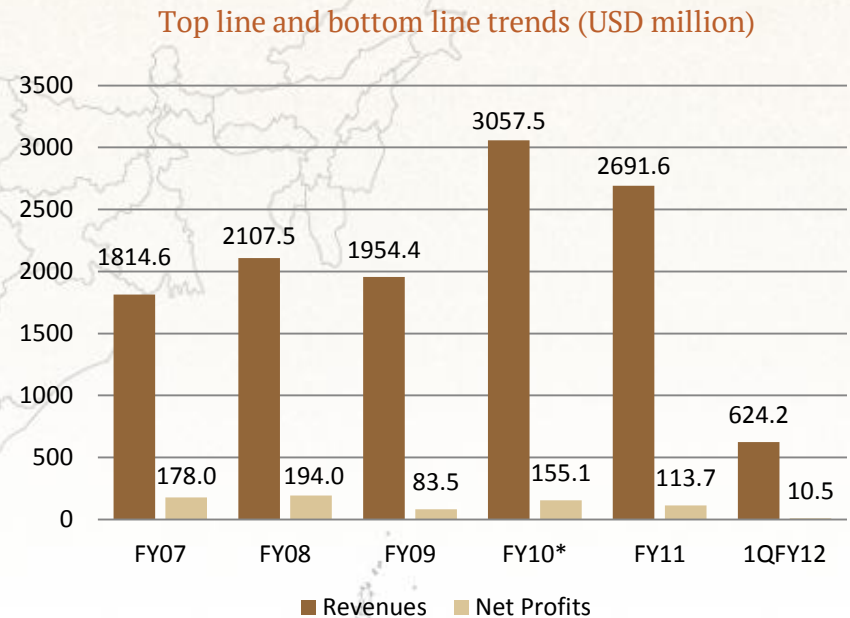


Source: Company website, ISM Capital, Aranca Research

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

- During FY07–11, Videocon’s revenues increased at a CAGR of 11.1 per cent.
- By 1QFY12, the company's revenues had reached 23.2 per cent of total revenues in FY11

Notes: FY- Financial Year, CAGR- Compound Annual Growth Rate
During 2007-09, the financial year was October-September; however from 2010 the financial year was changed to January-December



Source : Company website, ISM Capital, Aranca Research
*FY10- Data for 15 months

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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, in order to reduce the 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 compliment 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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