By 2020, the electronics market in India is expected to increase with a CAGR of 66.1 per cent to USD400 billion from USD31.6 billion in 2015.

By 2020, the LED market in India is expected to expand to USD35 billion from USD0.1 billion in 2012.

By 2018, the number of DTH subscribers in India is expected to rise to 200 million from 73.06 million in 2015.

Source: Department of Electronics & Information Technology; TRAI
Notes: DTH - Direct-to-Home (satellite television broadcasting); CAGR - Compound Annual Growth Rate, LED - Light Emitting Diode
<table>
<thead>
<tr>
<th>Industry</th>
<th>Current</th>
<th>Forecast</th>
<th>CAGR 2015-20</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semiconductor Design</td>
<td>USD14.5 billion</td>
<td>USD52.58 billion</td>
<td>29.4%</td>
<td>By 2020, the semiconductor design market in India is expected to increase with a CAGR of 29.4 per cent to USD52.58 billion from USD14.5 billion in 2015.</td>
</tr>
<tr>
<td>Television Industry</td>
<td>USD10.1 billion</td>
<td>USD29.6 billion</td>
<td>24.1%</td>
<td>By 2018, the television industry in India is expected to expand to USD29.6 billion from USD10.1 billion in 2015.</td>
</tr>
<tr>
<td>Telecom Equipment</td>
<td>USD16 billion</td>
<td>USD34 billion</td>
<td>16.3%</td>
<td>By 2020, demand for telecom equipment in India is expected to rise to USD34 billion from USD16 billion in 2014–15.</td>
</tr>
</tbody>
</table>

Source: Department of Electronics & Information Technology; Indian Semiconductor Association; TechSci Research Notes: CAGR – Compound Annual Growth Rate
ADVANTAGE INDIA

AUGUST 2015
Growing demand

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

Attractive opportunities

- The electronics market is expected to expand at a CAGR of 66.1 per cent during 2015–20
- Intended reduction in government’s import bill is likely to boost domestic electronics manufacturers

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
- Planned investment of USD0.74 million has been approved for M – SIPS scheme

Policy support

- 100 per cent FDI allowed in the electronics hardware manufacturing sector under the automatic route
- Initiatives like Modified Special Incentive Package Scheme (M-SIPS) will provide a capex subsidy of 20 – 25 per cent
- As per Make in India Initiative, Electronic Development Fund Policy has been approved which would rationalise an inverted duty structure

Source: Corporate Catalyst India; Department of Information Technology; Make in India, TechSci Research
Notes: FDI – Foreign Direct Investment; FY – Indian Financial Year (April–March); USD – US dollar, CAGR – Compound Annual Growth Rate, E - Estimated
THE INDIAN ELECTRONICS SECTOR IS SPLIT INTO SIX PRODUCT SEGMENTS

- **Consumer electronics**: Mobile phones, TVs, Music systems
- **Industrial electronics**: UPS systems, SCADA, PLC, AC drive systems
- **Computers**: Notebooks, Desktops, Servers
- **Communication and broadcasting equipment**: Direct-To-Home (DTH), Set Top Box (STB)
- **Strategic electronics**: Radars, Satellite based communication, Internal security system, Disaster management system
- **Electronic components**: Semiconductor devices, Cathode ray tubes, Capacitors, Picture tubes

**Source**: Department of Information Technology Annual Report; Corporate Catalyst India; TechSci Research

Notes: SCADA – Supervisory Control and Data Acquisition; PLC – Programmable Logic Controller
**EVOLUTION OF THE INDIAN ELECTRONICS SECTOR**

**Introductory stage**
- Closed market
- Development in transistor radios, black and white TVs, calculators etc

**1965 to early 1980s**

**1984-1990**
- Continuous and rapid industry growth
- Developments in colour TVs
- Advent of computers and telephone exchanges in 1985, followed by digital exchanges in 1988

**Golden period**
- Sharp decline in custom tariffs
- Signing of WTO-FTA agreement in 1997, wherein India committed to complete elimination of all custom duties on IT

**1991-2005**

**Liberalisation era**
- Increasing investments by foreign players in India
- Increasing penetration of high-end electronics products such as High Definition TVs (HDTVs), LCDs, LEDs, and tablet
- Approval of National Policy on Electronics (2012) and setting up of National Electronics Mission
- Proposed Mandatory digitisation of cable TVs by 2014
- Public-Private partnership for Electronic System and Design and Manufacturing (ESDM) ecosystem in aerospace and defence, 2014

**Late 2000s**

**Growth era**

**For updated information, please visit** [www.ibef.org](http://www.ibef.org)
ELECTRONICS PRODUCTION IN INDIA HAS BEEN GROWING AT A RAPID PACE

- Total production of electronics hardware goods in India is to reach USD31.6 billion in FY15 and USD104 billion by 2020.
- Production expanded at a CAGR of 10.1 per cent during FY07–15.
- High production is majorly contributed by accelerating demand for advanced TVs, Mobile phones, Computers and defence related electronic equipments during FY07 to FY15.

Value of electronics hardware production in India (USD billion)

Source: Department of Information Technology Annual Reports; TechSci Research
CONSUMER ELECTRONICS HAVE THE HIGHEST SHARE IN PRODUCTION

- According to government estimates, Consumer Electronics has the highest share (29.7 per cent) in the total production of electronic goods in India. The growth in consumer electronics over the years has been accompanied by an increase in imports in respect of certain items like LCD/LED TVs.

- The Electronic Components had witnessed a growth of about 23.74 per cent from the previous year which was supported by the rapid growth in domestic manufacturing of electronic components.

- Industrial electronics contributed 20.9 per cent of the total output of electronics goods industry in FY15. Industrial electronics is expected to grow at a considerable pace with the new plans and schemes by govt.

- Communication and broadcasting equipment constitutes 10 per cent of total production of electronic goods in India in FY15.

- Not surprisingly, computers are a key component of total electronics output in India (9.9 per cent in FY15); 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 (FY15)**

- Consumer Electronics: 29.7%
- Components: 21.1%
- Industrial Electronics: 20.9%
- C & B equipment: 10.0%
- Computers: 9.9%
- Strategic Equipment: 8.3%

**Source:** Department of Information Technology (2014–15 Annual Report); TechSci Research

Notes: C&B – Communication and Broadcasting.
Production (by value) of C&B equipment in India has expanded at a CAGR of 5.1 per cent over FY07–15.

Consumer Electronics have grown over the years which has been accompanied by increase in LCD/LED TV imports and accordingly this segment has registered about 16 per cent growth in 2014 - 15.

Growth in the hardware segment is expected to far outpace the overall growth of electronics goods production in the country (CAGR of 10.1 per cent over the same period).

The total computer hardware to reach USD31.6 billion in FY15 from USD29.9 billion in FY14.
Production value of all other segments in the electronics sector (other than Consumer Electronics) grew at a rate of 10.9 per cent over FY07-15

With growth in Consumer Electronics far outpacing those in other segments till FY15, the former’s share in total electronics production has doubled over FY07–12 to 8.4 per cent.

Source: Department of Information Technology Annual Report, TechSci Research
Notes: C&B – Communication and Broadcasting
Electronic exports from India reach USD 6.1 billion in FY15, over FY07-15, exports from the sector (CAGR: 10.3 per cent)

Consumer Electronics have shown a positive growth over the years with the growth in the production of LCD/LED TVs rising to almost 40 per cent in 2013 – 14 as compared to a mere 11 per cent in 2012 - 13

Technological improvements and competitively cost effectiveness are main drivers for demand of Indian electronics products abroad

**Electronics exports from India (USD billion)**

<table>
<thead>
<tr>
<th>FY07</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.8</td>
<td>3.3</td>
<td>5.5</td>
<td>6.8</td>
<td>8.9</td>
<td>9.1</td>
<td>8.1</td>
<td>7.7</td>
<td>6.1</td>
</tr>
</tbody>
</table>

**Source:** Department of Information Technology Annual Report; Electronics and Computer Software Export Promotion Council; TechSci Research

**Notes:** C&B – Communication and Broadcasting
**KEY PLAYERS IN THE ELECTRONICS SECTOR ... (1/2)**

<table>
<thead>
<tr>
<th>Company</th>
<th>Business description</th>
</tr>
</thead>
</table>
| **Bharat Electronics** | • Established to meet specialised needs of Indian defence services  
• Focuses on contract manufacturing, design and manufacturing services, software development and quality assurance, has got plans to venture into solar energy |
| **Videocon**    | • Third largest consumer durables manufacturer in India after LG and Samsung, holds one fourth of the consumer durables market in India  
• Manufactures and markets TVs, DVD players, microwave ovens, refrigerators, washing machines, ACs and power backup solutions |
| **LG**          | • Second largest leader in consumer durables after Samsung  
• Manufactures TVs, audio-visual solutions, computers, mobile phones, refrigerators, washing machines, microwave ovens, vacuum cleaners and Ac’s |
| **Samsung**     | • Largest player in the consumer durables market, provides employment to around 8000 people  
• Manufactures TVs, home theatre systems, DVD players, mobile phones, digital cameras and camcorders, refrigerators, ACs, washing machines, microwave ovens and computers, leads smart phone segment |
| **HCL**         | • Leading IT hardware and software provider, extensive global offshore infrastructure and offices in 31 countries  
• Manufactures and markets PCs, PC servers, storage solutions, display products and other electronic products |

Source: Company websites; Dataquest; Corporate Catalyst India; TechSci Research  
Notes: DVD – Digital Video Disc; AC – Air Conditioner; TV – Television; PC – Personal Computer

For updated information, please visit [www.ibef.org](http://www.ibef.org)
### KEY PLAYERS IN THE ELECTRONICS SECTOR ... (2/2)

<table>
<thead>
<tr>
<th>Company</th>
<th>Business description</th>
</tr>
</thead>
</table>
| **moserbaer** | • 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 is the largest home entertainment company |
| **FLEXTRONICS** | • Offers high-value, high-margin design services for mobile phones and telecom/networking software  
• Manufactures TV tuners, set top boxes, energy meters, networking cards, drug delivery devices, diagnostic equipment |
| **Centum** | • Offers state-of-the-art solutions for Frequency Control Products (FCP), Electronic Manufacturing Service (EMS) and Hybrid Micro Circuits (HMC), also has presence in Defence & Aerospace, Space industry |
| **JABIL** | • 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 |
| **SAMTEL** | • 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; TechSci 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
- Government has stopped duty free import as baggage and imposed a 36.5% duty on the same in 2013 – 14

Industrial electronics
- Application of state-of-the-art systems such as Decision Analysis, 3-D coordinate systems, smart image processing, Nanotechnology, Nanoscale assemblies, DCS, etc., across various sections of the industry
- Introduction of robotics to manage process and equipments for sensitive industries like Chemical Industry, Nuclear Power Generation etc.
- Integration of production and business operations
- Artificial Intelligence has been made available which would help the sector to improve its quality control thereby making it more efficient

Computers
- One of the fastest-growing IT systems and hardware market in Asia Pacific
- Notebooks segment have recorded a growth rate of 17 per cent in FY15; tablet ownership registered a growth of 27 per cent in 2014 – 15 from the previous year
- Total exports were USD441 million in FY13
- Expansion of server market into smaller cities, and small and medium businesses

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

Source: Department of Information Technology Annual Report; Corporate Catalyst India; TechSci Research.
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. India defence industry has grown at an average rate of 13.4 per cent per year during XIth five year plan.

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.

Growing broadband subscriber base.

As on 30th April 2015, the total gross telephone subscribers in the country was 999.71 million covering total wireless subscribers of 973.35 million and wireline subscribers of 26.36 million respectively.

Increasing Adoption of Electronic Waste Management Scheme supported by the regulatory framework has improved the electronics sector to a large extent.

Major segments such as Consumer Electronics, Telecom Equipment, and IT Hardware can be major contributors to employment.

Increasing PFCE on Recreational and Educational services, and Home appliances are expected to contribute to the rise in consumption and production of Electronics and IT Hardware.

Growth of 17 per cent is expected with major contributors being Consumer Electronics, Telecom and computers.

Source: Department of Information Technology Annual Report; Corporate Catalyst India; TechSci Research, TRAI
Notes: C&B – Communication and Broadcasting; DTH – Direct-to-Home (Satellite Television Broadcasting)
### Competitive Rivalry
- Competitive rivalry is quite high in this sector, as players use innovation and product differentiation to beat peers.
- Each player adopts different strategies to capture market share; for example, one player innovates while another diversifies, thus intensifying the rivalry in the sector.

### Threat of New Entrants
- Threat is low due to capital-intensive nature of the industry.
- Evolving technology, brand loyalty block entry.

### Substitute Products
- Threat is low because there is no substitute for electronics.
- Threat is present within the industry due to product innovation by peers.

### Bargaining Power of Suppliers
- Low bargaining power of suppliers, as product differentiation is less.
- Low switching costs for customers.

### Bargaining Power of Customers
- High as buyers possess considerable product information these days, which helps in comparison.
- Availability of similar options.

---

**Source:** TechSci Research
ELECTRONICS

STRATEGIES ADOPTED

AUGUST 2015
STRATEGIES ADOPTED

**Innovation**
- Companies increasingly spending on R&D and stepping up innovation
- Customers frequently change to new-generation products due to low switching costs; thus, companies with newer technologies gain significant market share
- With HD TVs entering the market, TVs working on CRT (Cathode Ray Tube) lost their market share

**Diversification**
- Most companies are now diversifying into other profitable segments; for example, Samsung is focussing heavily on mobile phone manufacturing, while earlier it focussed more on consumer electronics
- Videocon is also foraying into other segments such as TV Network and mobile phone manufacturing

**Marketing strategy**
- Most electronics companies, especially consumer electronics, are shifting towards popular ad campaigns to boost their sales
- Most companies in India are embracing aggressive social strategies (e.g., by going online) to target young audience and build brand loyalty among them

**JVs & partnerships**
- Most companies are forming strategic alliances and JVs for mutual benefits
- LG and Sun Microsystems are jointly developing Java platforms to enable LG phones and TVs
- LG and Siemens have collaborated to develop standard solutions for air conditioners

**Outsourcing of technology**
- Manufacturing technologies are exchanged with other countries for better knowledge of innovations
- Being competitive on global platform is key to sustainability and growth for the sector

*Source: A report by Corporate Catalyst India (CCI) on ‘Electronics Industry in India’; TechSci Research*
STRONG DEMAND AND POLICY SUPPORT ARE DRIVING INVESTMENTS

Growing demand
- Higher real disposable incomes, easy consumer credit
- Falling prices, increasing penetration
- Growing consumer and industrial base

Policy support
- Setting up of EHTPs, SEZs, favourable FDI climate
- Increasing liberalisation, tariff relaxation
- National Policy on Electronics and National Electronics Mission

Innovation
- Expanding production and distribution facilities in India
- Increased R&D activity
- Providing support to global projects from India

Increasing investments
- Inflow of FDI in sector
- Increasing domestic investment
- Expansion by existing big companies in the sector

Source: TechSci 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
- Increasing demand for defence equipments has boosted the production of electronics goods up to a considerable level
- Electronic Manufacturing Services and R&D based exports also drives the market. The increased value – addition would further increase the demand for sales, production, after – sales support and services. This would trigger the demand for skilled human resources in the country
- Rapid urbanization have unravelled new markets for consumer goods; easy financing options have made consumer goods affordable
### Encouragement to FDI, SEZs

- 100% FDI is allowed under the automatic route in the Electronics Systems Design & Manufacturing sector and is subject to all applicable regulations and laws.
- In case of electronics items for defence, FDI up to 49% is allowed under the government approval route, whereas anything above 49% is allowed through the approval of the cabinet committee on security.

### Customs duty relaxation

- No customs duty on 217 tariff lines covered under the Information Technology Agreement (ITA-1) of the WTO
- Peak rate for basic customs duty is 10 per cent

### Reduced central excise

- Mean rate of excise duty (CENVAT) is 12.5 per cent
- Microprocessors, hard disc drives, CD ROM drives, DVD drives/DVD writers, flash memory sticks, and combo-drives are exempt from excise duty payment and SAD
- Components and accessories of mobile handsets are exempt from excise duty and SAD

### Electronic Development Fund Policy

- Approved by Cabinet in December 2014
- Supports R & D by participating in venture funds, Innovation and IP Generation in Electronics, Information Technology and Nano Electronics

### Inverted Duty

- Inverted Duty has been rationalized for various electronics products including tablets, mobile phones, LED lights, LCD/LED TVs, telecom equipment etc.
### 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

### 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

### MSIPS

- The Union Cabinet gave its green signal to the Modified Special Incentive Package Scheme (MSIPS) under which the central government will be offering up to USD1.7 billion in benefits to the electronics sector in the upcoming five years

### Electronic Manufacturing Cluster (EMC) Scheme

- The Scheme attracts investments for the Electronics Systems Design and Manufacturing (ESDM) Sector by supporting the creation of world-class infrastructure
- The scheme provides support for setting up Greenfield and Brownfield EMCs in the form of grant-in-aid only
- Investment of USD13.96 million for 2 EMCs have been approved
- The number of EMCs approved in the last 1 year have become 21; 16 for Greenfield EMCs, 3 for Brownfield EMCs in 7 states

*Source: Department of Commerce, Government of India; Department of Information Technology Annual Report; TechSci Research*  
*Notes: EPCG – Export Promotion Capital Goods Scheme; EHTP – Electronic Hardware Technology Park Scheme; IPR – Intellectual Property Rights; GOI – Government of India*
For updated information, please visit www.ibef.org

**Union Budget 2015 - 16**

**Mobile Handsets**
- Excise Duty has been changed from 6 per cent with CENVAT credit or 1 per cent without CENVAT credit to 12.5 per cent with CENVAT credit or 1 per cent without CENVAT credit

**Tablets Computers**
- Excise Duty for Tablets have been set to 12.5 per cent with CENVAT credit or 2 per cent without CENVAT credit
- Parts, Components and Accessories for the manufacture of tablets and its sub – parts for the purpose of manufacturing parts, components and accessories has been fully exempted from BCD, CVD and SAD

**Televisions**
- Basic Custom Duty on Back Light Unit Module for the manufacturing of LCD/LED TV panels have decreased from 10 per cent to Nil and that of Organic LED TV panels have also decreased from 10 per cent to Nil

**ITA Products**
- SAD has been decreased from 4 per cent to Nil where BCD is Nil

**LED Lights**
- SAD and excise duty on inputs used in the manufacturing of LED drivers and MCPCB for LED lamps, fixtures and LED lights have been decreased from 4 per cent to Nil and from 12 per cent to 6 per cent respectively

**Optical Fibre cables**
- HDPE for use in the manufacture of telecommunication grade optical fibre cables has reduced from 7.5 per cent to Nil

**Source:** Department of Electronics and Information Technology; TechSci Research

**Notes:** BCD – Basic Custom Duty, CVD – Counter veiling Duty, SAD – Special Additional Duty, CENVAT – Central Value Added Tax
Medical Electronic Products
- BCD, CVD and SAD have been fully exempted on raw materials used in the manufacturing of pacemakers
- BCD on certain specified inputs has been decreased from 5 per cent to 2.5 per cent used in the manufacture of flexible medical video endoscopes

Solar Photovoltaic Cells
- Excise Duty on tin alloys and round copper wire used in the manufacture of Solar PV cells has been brought down to Nil

Integrated Circuit(IC) Modules for Smart Cards
- Excise Duty on Wafers used for the manufacturing of IC modules for smart cards has declined from 12 per cent to 6 per cent

Microwave Ovens
- Basic Custom Duty on Magnetron ranging upto a level of 1 KW used in manufacturing microwave ovens has decreased to Nil

Digital Still Image Video Cameras
- BCD has been exempted on Digital cameras which are capable of recording videos with minimum resolution of 800 x 600 pixels, at minimum 23 frames per second, for at least 30 minutes in a single sequence, using the maximum storage capacity
- Customs Duty has been exempted on parts and components of such Digital Still Image Video Cameras

Source: Department of Electronics and Information Technology; TechSci Research
Notes: BCD – Basic Custom Duty, CVD – Counter veiling Duty, SAD – Special Additional Duty
ELECTRONICS

NATIONAL ELECTRONICS POLICY 2012 – KEY OBJECTIVES … (1/2)

| Favourable business conditions | • To create an ecosystem for a globally competitive electronic system design & manufacturing sector and to achieve a turnover of about USD400 billion by 2020, including investments of about USD100 billion, as well as to provide employment to around 28 million people at various levels |
| Focus on new technologies | • To build on the emerging chip design and embedded software industry for achieving global leadership in Very Large Scale Integration (VLSI), chip design, and other frontier technical areas, and to achieve a turnover of USD55 billion by 2020, also focus on handling e-waste in an environment friendly policies |
| Promote exports | • To increase export in the electronic system design & manufacturing sector from USD5.5 billion to USD80 billion by 2020 |
| Improving supply chain | • To build a strong supply chain of raw materials, parts, and electronic components for raising the indigenous availability of these inputs from the current 20–25 per cent to over 60 per cent by 2020 |
| Building competencies | • To develop core competencies in strategic and core infrastructure sectors such as telecommunications, automotive, avionics, industrial, medical, solar, information and broadcasting, and railways |
| Electronic Manufacturing Clusters (EMCs) | • Provide incentives for setting up of 200 Electronic Manufacturing Clusters (EMCs) - setting up of greenfield EMCs and up graduation of brownfield EMCs |

Source: Department of Information Technology; TechSci Research
Incentives provided by government to attract investors

- To provide subsidy of up to USD10 million per 100 acres of project in electronics manufacturing clusters
- Reimbursement of excise duties for capital equipment in non-SEZ units
- No central taxes and duties for 10 years in high-tech facilities such as semiconductor fabricating units
- Preferential market access to domestically manufactured electronic products
- Various export incentives such as 2–5 per cent of duty credit on exports of different products
- Create a completely secure cyber ecosystem in the country
- Implementation of e-waste (Management and Handling) Rules, 2011
- Moreover, the government proposed an Electronics Development Fund worth USD2 billion to promote innovation, R&D, product commercialisation, and nano–electronics

Source: Department of Information Technology; TechSci Research

For updated information, please visit www.ibef.org
THE ELECTRONICS SECTOR IN INDIA HAS ATTRACTED STRONG FDI INFLOWS

* Cumulative FDI inflows into the electronics, including computer hardware and software, has increased at a CAGR of 12.0 per cent from USD9.8 billion to USD17.29 billion over April 2000 to May 2015

* Demand growth, supply advantages, and policy support have been instrumental in attracting FDI

Cumulative FDI inflows to the electronics sector (USD billion) (FY15)

<table>
<thead>
<tr>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8</td>
<td>0.89</td>
<td>1.16</td>
<td>1.19</td>
<td>1.34</td>
<td>1.49</td>
</tr>
</tbody>
</table>

Cumulative FDI inflows to electronics sector (combined)** (USD billion) (FY15)

<table>
<thead>
<tr>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.8</td>
<td>10.7</td>
<td>11.2</td>
<td>11.69</td>
<td>12.82</td>
<td>17.29</td>
</tr>
</tbody>
</table>

Source: Department of Industrial Policy and Promotion; TechSci Research

Notes: FDI – Foreign Direct Investment; ** – Includes computer software & hardware sector inflows, All figures are from April 2000
The sector has witnessed a number of key M&A deals

* Of the M&A deals in the sector since 2010, acquisition of Crompton Greaves by Singapore state run investment company Temasek Holdings Private Limited and private equity firm Advent International was the highest in terms of value*

**Source:** Thomson One Banker; Grant Thornton; CMIE Business Beacon; TechSci Research

*Out of the deals whose transaction amount was available

**Notes:** M&A – Mergers and Acquisitions

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### Key Mergers and Acquisitions (M&A)

<table>
<thead>
<tr>
<th>Acquirer</th>
<th>Target</th>
<th>Deal date</th>
<th>Deal value (USD million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shemaroo Entertainment Ltd</td>
<td>Vistaas Digital Media Ltd</td>
<td>30th October 2010</td>
<td>5.1</td>
</tr>
<tr>
<td>Emerson Electric Co</td>
<td>Fisher Sanmar Ltd</td>
<td>31st March 2011</td>
<td>135.0</td>
</tr>
<tr>
<td>Schneider Elec India Pvt Ltd</td>
<td>Smartlink Network Systems</td>
<td>13th May 2011</td>
<td>113.0</td>
</tr>
<tr>
<td>Mitsubishi Electric Corp</td>
<td>Messung Group</td>
<td>23rd Jan 2012</td>
<td>NA</td>
</tr>
<tr>
<td>Crompton Greaves Ltd</td>
<td>ZIV Group</td>
<td>27th July 2012</td>
<td>192.0</td>
</tr>
<tr>
<td>Toshiba Mitsubishi-Electric</td>
<td>AEG Power Solutions India</td>
<td>28th April 2014</td>
<td>12.4</td>
</tr>
<tr>
<td>MSR Telecom Pvt Ltd</td>
<td>Bloom Mobiles Pvt Ltd</td>
<td>19th May 2014</td>
<td>NA</td>
</tr>
<tr>
<td>Silver Eagle Acquisition Corp(SEAC)</td>
<td>Videocon D2H</td>
<td>6th Jan 2015</td>
<td>300</td>
</tr>
<tr>
<td>Advent International and Temasek Holdings(Pvt.) Ltd</td>
<td>Crompton Greaves</td>
<td>3rd August 2015</td>
<td>331.8</td>
</tr>
</tbody>
</table>
RECENT INVESTMENTS BY KEY PLAYERS

2011
- Jan 11: SunEdison allocates USD100.0 million for installation of 30MW solar capacity in 2011
- Feb 11: Whirlpool announces USD25.0 million investment in FY11
- Apr 11: Hitachi allocates USD400.0 million to set up R&D centre in Bangalore
- Jun 11: BHEL and BEL consortium allocates USD416.7 million to set up a solar photovoltaic modules production unit

2012
- May 05: LG Electronics launches latest series of Cinema 3D Smart TVs with marketing spend of USD20.8 million
- Jan 17: Samsung to raise its investments to USD41.4 billion for consolidation in its position in mobile chips and flat screens
- Videocon plans to invest around USD12.5 million in Research and Development during FY13
- Oct 31: Sony to invest USD100 million in expansion and marketing

2013–14
- Mar 13: Reliance and Videocon are in talks to invest USD5.2 billion to set up a chip manufacturing plant
- Jul 13: Panasonic plans to invest USD250 million over the next three years to launch a range of smart phones in India
- Sep 13: Mitsubishi Electric plans to invest about USD55 million in India by 2016 for setting up manufacturing elevators and making air conditioning equipment
- Apr 14: Toshiba Mitsubishi Electric acquired complete share capital of AEG Power Solutions

2014 - 15
- Feb 15: Tejas Networks, Tessolve Semiconductor and Bosch are in talks for investing around USD431 million in the manufacturing of electronic projects over the next few years
- Jun 15: Hero Group are set to invest USD82.9 million for the formation of its new subsidiary Hero Electronix in the coming years

Source: India Electronic News; Assorted News articles; TechSci Research
Note: R&D – Research and Development

For updated information, please visit www.ibef.org
MULTIPLE FACTORS FAVOUR INVESTMENT IN ELECTRONICS

Growing customer base: Market for electronics is expected to expand at a CAGR of 66.1 per cent during 2015–20. The demand for electronics hardware in India is projected to increase to USD94.2 billion by 2015.

Incentives and concessions under schemes: Export Oriented Unit (EOU) Scheme, Electronics Hardware Technology Park (EHTP) Scheme, Software Technology Park (STP) Scheme and EOU/EHTP/STP Schemes.

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 per cent 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. In Union Budget 2015 - 16, parts, components, and accessories for tablet computer’s manufacture purpose and their sub – parts are fully exempted from Basic Customs Duty(BCD), Counter Veiling Duty(CVD) and Special Additional Duty(SAD).

Source: Department of Information Technology Annual Reports; A Report by Corporate Catalyst India (CCI) on ‘Electronics Industry in India’; Dataquest India; Electronics Industries Association of India, TechSci Research
ERA OF DIGITISATION OPENS NEW OPPORTUNITIES … (1/2)

Households with TVs in India

- 169 million television sets (as of March 2014)
- 99 million cable TV subscribers (as of March 2014)
- 800 channels with 245 pay channels (as on March 2015)

DTH subscribers (million units)

- 191 million televisions in 2017
- 200 million DTH subscribers by 2018

* The government announced the digitisation of cable television in India in four phases, which would be completed by the end of 2014

* Digitisation will lead to complete switchover from analogue cable to Digital Addressable Systems in a phased manner

* The number of DTH subscribers in India is expected to increase from 73.06 million in 2015 to 200 million by 2018

Source: Department of Information Technology; TechSci Research, TRAI

For updated information, please visit www.ibef.org
The digitisation of cable television has led to increased demand for set-top boxes, dish, cables, and other electronic component; this has resulted in many opportunities for local and foreign players to enter the market.

Digitisation will lead to increased broadband penetration in India and open up new avenues for companies offering value-added services such as online gaming, HD television Internet, music, and radio.

**Dish TV revenues (USD million)**

<table>
<thead>
<tr>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
</tr>
</thead>
<tbody>
<tr>
<td>102.5</td>
<td>159.9</td>
<td>228.4</td>
<td>314.9</td>
<td>417.6</td>
<td>399.0</td>
<td>414.6</td>
<td>460.1</td>
</tr>
</tbody>
</table>

**Sun TV revenues (USD million)**

<table>
<thead>
<tr>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
</tr>
</thead>
<tbody>
<tr>
<td>213.8</td>
<td>218.5</td>
<td>294.2</td>
<td>421.7</td>
<td>374.9</td>
<td>334.7</td>
<td>347.8</td>
<td>372.2</td>
</tr>
</tbody>
</table>

*Source: Department of Information Technology; Company Websites, TechSci Research*
BHARAT ELECTRONICS (BEL): A PUBLIC SECTOR ICON … (1/2)

Salient features

• An Indian state-owned aerospace and defence company

• Established in 1954 under the Ministry of Defence to meet specialised electronic needs of the Indian defence services

• The company has a strong commitment to quality and innovation, with two dedicated central research laboratories

• During FY15, R&D expenditure was 8.0 per cent of total turnover

• The company has nine manufacturing units; each unit has its own Development and Engineering (D&E) division

• Joint Venture with General Electric Medical System and Multitone, UK

Revenues (USD million)

Source: BEL website; Annual Reports; Business Standard; TechSci Research
Note: * - Fallen due to negative translation effect
### 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

- As of 1 April 2014, BEL’s order book was around USD3.8 billion
- During FY08–15, BEL’s revenue rose at a CAGR of 1.3 per cent from USD1008.3 million in FY08 to USD1107.4 million
- During the same period, BEL’s net profits decreased at a CAGR of -0.5 per cent from USD205.29 million to USD198.6 million

Source: BEL website; Annual Reports; TechSci Research
Third largest consumer durables company in India and one of the largest Colour Picture Tube (CPT) manufacturers globally

17 manufacturing sites in India and plants in Mainland China, Poland, Italy and Mexico

Holds about one-fourth market share in the consumer durables market

Leads the market in colour TV, refrigerator, washing machine, and microwave oven segments

Acquired Colour Picture Tube (CPT) businesses from Thomson S.A through a wholly owned offshore subsidiary. The company has manufacturing facilities in Poland, Italy, Mexico and China along with support research and development facilities

Market share in consumer durables (FY15)

Source: Company website; TechSci Research
During FY07–14, Videocon’s revenues increased at a CAGR of 3.3 per cent

During the 3 months ended March 15, the company’s revenues reached USD512.6 million
Primary focus on consumer electronics products

1985–95

Foray into manufacturing compressors and motors and crude oil business

1995–05

Aggressive growth via acquisitions and entry in telecom, DTH, and mobile handset manufacturing

2005–14

For updated information, please visit www.ibef.org

Source: Videocon website; TechSci Research
Note: DTH – Direct to Home
Micromax started out as an IT software company in 2000

Micromax began manufacturing mobile phones in 2010; besides sourcing from China, and became one of the largest Indian domestic mobile handsets company operating in low cost feature phone segments by 2010

Micromax had a 9.7 per cent market share in Indian tablet market during Q2 2013 and is ranked second in smart phones market with 24.3 per cent share

With presence across 14 countries, the company manufactures mobile handsets, tablets, and LED televisions

During FY09–14, Micromax’s revenues increased at a CAGR of 73.3 per cent to USD1184.7 million in FY14

The company’s share in the mobile handset market in India increased from 5 per cent in 2011 to 8.7 per cent in 2013

In November 2014, Micromax partnered with Cyanogen Inc to provide Cyanogen-based smartphones in India, under the brand name Yu
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Fax: 91 11 26923440
E-mail: elcina@vsnl.com
Website: www.elcina.com/

Telecom Equipment Manufacturers Association (TEMA)
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Fax: 91 11 26859620
E-mail: tema@del2.vsnl.net.in
Website: http://www.tfci.com/cni/tema.htm
Manufacturers Association for Information Technology (MAIT)
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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
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
Wherever applicable, numbers have been rounded off to the nearest whole number
# Exchange Rates

## Exchange rates (Fiscal Year)

<table>
<thead>
<tr>
<th>Year</th>
<th>INR equivalent of one USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004–05</td>
<td>44.81</td>
</tr>
<tr>
<td>2005–06</td>
<td>44.14</td>
</tr>
<tr>
<td>2006–07</td>
<td>45.14</td>
</tr>
<tr>
<td>2007–08</td>
<td>40.27</td>
</tr>
<tr>
<td>2008–09</td>
<td>46.14</td>
</tr>
<tr>
<td>2009–10</td>
<td>47.42</td>
</tr>
<tr>
<td>2010–11</td>
<td>45.62</td>
</tr>
<tr>
<td>2011–12</td>
<td>46.88</td>
</tr>
<tr>
<td>2012–13</td>
<td>54.31</td>
</tr>
<tr>
<td>2013–14</td>
<td>60.28</td>
</tr>
<tr>
<td>2014–15(Expected)</td>
<td>60.28</td>
</tr>
</tbody>
</table>

## Exchange rates (Calendar Year)

<table>
<thead>
<tr>
<th>Year</th>
<th>INR equivalent of one USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>43.98</td>
</tr>
<tr>
<td>2006</td>
<td>45.18</td>
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<tr>
<td>2007</td>
<td>41.34</td>
</tr>
<tr>
<td>2008</td>
<td>43.62</td>
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<tr>
<td>2009</td>
<td>48.42</td>
</tr>
<tr>
<td>2010</td>
<td>45.72</td>
</tr>
<tr>
<td>2011</td>
<td>46.85</td>
</tr>
<tr>
<td>2012</td>
<td>53.46</td>
</tr>
<tr>
<td>2013</td>
<td>58.44</td>
</tr>
<tr>
<td>2014</td>
<td>61.03</td>
</tr>
<tr>
<td>2015(Expected)</td>
<td>61.03</td>
</tr>
</tbody>
</table>

Average for the year

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