

# India's Electronics Sector: Pathway to Global Value Chain Integration

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## INDIA'S ELECTRONICS SECTOR: PATHWAY TO GLOBAL VALUE CHAIN INTEGRATION

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Electronics manufacturing plays an essential role in the global supply chain, fuelling everything from electric cars on the road to smartphones in our pockets. According to a NITI Aayog report, the value of the global electronics market in 2022 is estimated at US\$ 4.3 trillion with India's contribution valued at US\$ 155 billion in that year. India intends to be an important contributor to the global electronics industry. The country's electronics industry has grown significantly in recent years with production value increasing more than 2x between FY17 and FY23. Mobile phone customers, which presently make up 43% of the entire nation's electronics production, have been an important factor contributing to this development. The 'Make in India' campaign and production-linked incentives (PLIs), which stimulate domestic manufacturing, are the key measures that the Indian government currently has in place to foster that expansion.

In the last five years, India has attempted to enhance its domestic production so that it can service its expanding market effectively. While the exports are still small, research suggests that there is scope for policies that would enable the country to reach 4-5% of the global electronics exports by 2030.

The sector is wide and includes the areas of semiconductor, mobile phones, electronics – consumers, industry and communications equipment. It is important for the economy, making a significant contribution to jobs, exports and manufacturing output.

### Global Value Chains (GVCs) and their importance

GVC refers to the full range of activities that firms engage in to bring a product from conception to market, including design, production, marketing, and distribution across international borders. Its importance lies in enhancing efficiency, reducing costs, and enabling firms to leverage global resources and capabilities, ultimately driving competitiveness in the global market.

Economic liberalisation has played a crucial role in India's integration into GVCs. The 1991 Economic Reforms provided the groundwork for India's participation in GVCs by encouraging market openness, reducing trade barriers, and fostering competition. The introduction of GST (Goods and Services Tax) in 2017 helped simplify the tax structure, reducing costs and enhancing supply chain efficiencies for manufacturers.

Furthermore, Free Trade Agreements (FTAs) with regional neighbours, such as the ASEAN-India FTA, have provided Indian manufacturers with preferential access to critical markets, encouraging more foreign companies to establish production facilities in India. This has also helped India align itself with the global trade system.

### Increase in electronic sector production

India's domestic electronics production has nearly doubled from US\$ 48 billion in FY17 to US\$ 101 billion in FY23, driven largely by mobile phones, which account for 43% of production. This growth has been facilitated by government initiatives such as 'Make in India' and PLIs. However, production primarily focuses on final assembly, while component manufacturing and design ecosystems are still in the developing phase. As of 2023, the mobile phone market contributed to over 43% of the nation's total electronics production with an annual cost of about US\$ 17 billion.

### India's presence across the electronics value chain

Indian firms have expanded their presence across newer segments of the mobile phone value chain in the past five years, as per the analysis done by PwC. It includes Research and Development (R&D), design, manufacturing, assembly, marketing and sales and distribution.

### India has witnessed the establishment of several new electronics units, showcasing the country's progression towards becoming a key player in the global electronics value chain.

- ✔ Taiwan's Foxconn technology group and India's HCL Group to establish a semiconductor Outsourced Assembly and Testing (OSAT) unit. This initiative underscores India's increasing participation in high-tech manufacturing processes within the electronics industry.
- ✔ Havells India Ltd, a manufacturer of consumer electrical goods, announced to invest (US\$ 57.68 million) Rs. 480 crore in establishing a refrigerator manufacturing facility in Ghiloth, Rajasthan. The new plant is projected to have an annual production capacity of 1.4 million units. This investment is expected to be operational by the second quarter of FY27.
- ✔ Consumer electronics company Ekka Electronics announced its plan to invest (US\$ 120.16 million) Rs. 1,000 crore to establish a manufacturing facility in Noida, Uttar Pradesh, marking its entry into the production of electronic products. Out of the total investment, (US\$ 48.07 million) Rs. 400 crore will be allocated specifically for the Noida plant.

These developments highlight India's efforts to enhance its capabilities in electronic manufacturing and technology integration, contributing to the country's growing influence in the sector.

### Government initiatives

India's government has been proactive in developing policies to promote electronics manufacturing and GVC integration. Key initiatives include:

- ✔ **Make in India initiative:** The effort draws in international investment and promotes native production. Its goal is to promote home production in several industries, including electronics.
- ✔ **PLI schemes:** These initiatives provide incentives to Indian electronic manufacturing enterprises. The PLI programmes seek to increase domestic manufacturing and exports, especially in industries such as automotive gadgets, IT hardware and mobile phones. For various components of the electronics ecosystem, there are distinct PLI schemes, including:
  - Scheme for Promotion of Manufacturing of Electronic Components & Semiconductors (SPECES)
  - Large Scale Electronics Manufacturing
  - Automobile and Automotive Components
  - IT Hardware and Telecom
- ✔ **Phased manufacturing programme:** The objective of this programme is to encourage semiconductor and electronic component production.
- ✔ **India semiconductor mission:** The entire electronics manufacturing ecosystem in India is to be expanded as part of this goal. Attracting multinational semiconductor industry players to invest in the country is the primary objective.
- ✔ **Electronics manufacturing clusters Scheme:** This programme promotes the building of common areas, tool rooms and testing facilities as well as additional infrastructure for the electronics manufacturing sector. The EMC plan aims to set up local hubs of electronics manufacturing.
- ✔ **Electronics development fund:** The goal of this initiative is to contribute to the development and infrastructure of the electronic system design and manufacturing sector.

### Initiatives taken by government towards electronics production ambition

India's electronics production ambition for 2030 is to reach US\$ 500 billion, a significant increase from the US\$ 101 billion in FY23. This ambition is supported by a targeted approach that includes specific policy initiatives, financial benefits, and strategic interventions.

Mobile phones, IT hardware, automotive electronics and telecom are important growth industries that are bolstered by trade and export promotion policies, R&D investments, and fiscal and non-fiscal initiatives. With a US\$ 10 billion government programme for capital-intensive components, the strategy calls for increasing production of high-value components including semiconductors (Category A), technology-intensive components (Category B) and current manufacturing capabilities (Category C). It is anticipated that this approach, when supported by strong policy support and strategic steps, will generate employment between 5.5 to 6 million jobs by 2030.