

# India's Electronics Manufacturing Sector

GS III | Economy, Infrastructure & Technology

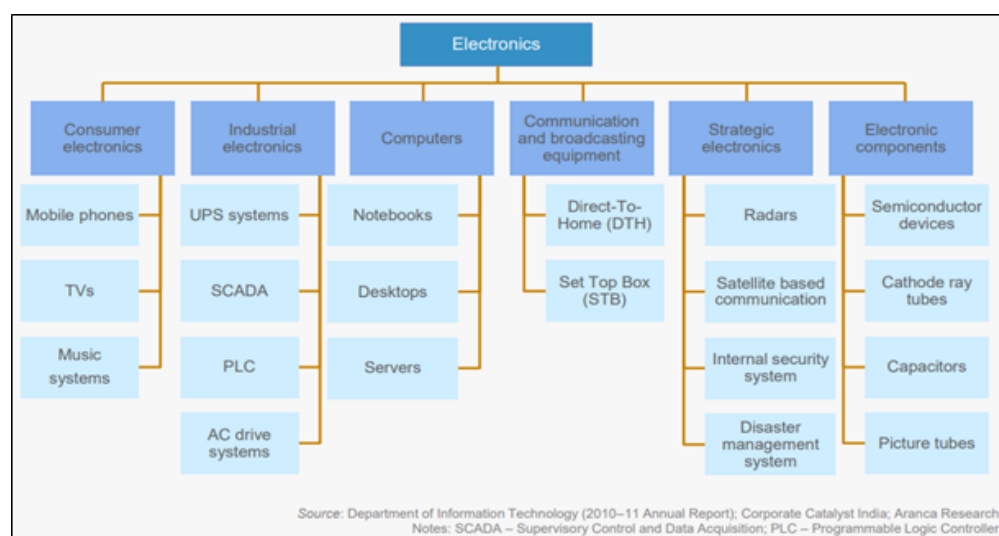
GS II | Government policies & Initiatives for development of various sectors

## Why in the news?

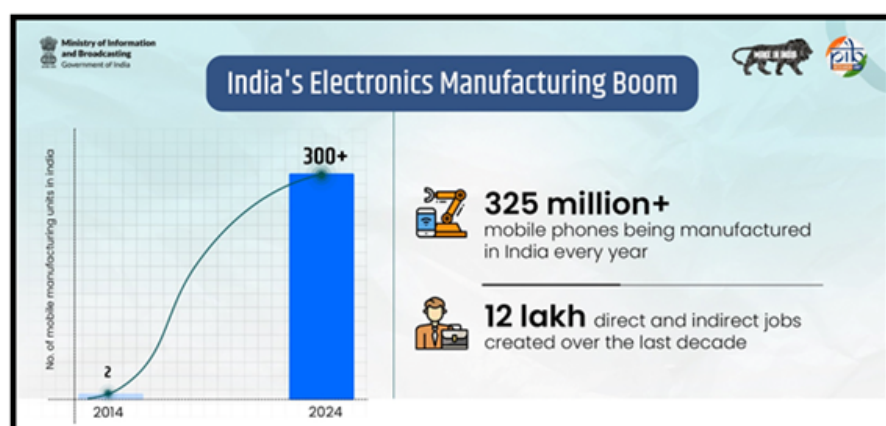
In recent times, India is building its own electronics industry, attracting big investments and boosting local production with initiatives like Make in India.

## What is the status of electronics sector in India?

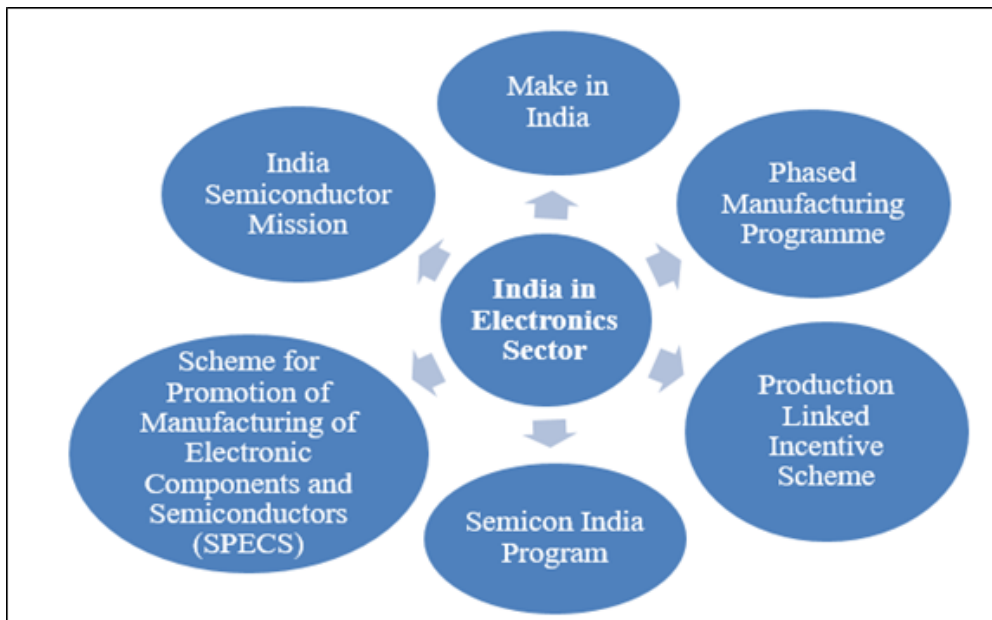
- It is a rapidly expanding sector.
- **Sector** - It is wide and includes the areas of semiconductor, mobile phones, electronics - consumers, industry and communications equipment.



- **Domestic production** - It has nearly doubled from FY17 level to USD 101 billion in FY23, driven largely by mobile phones, which account for 43% of production.



- **Growing exports** - From the status of net importer of electronics, now India electronic exports are growing rapidly, even *surpassing some traditional sectors like textiles*.
- **Global hub for manufacturing** - With strong government support and expanding factories, India is well on its way to become a global hub.
  - Projections indicate that India's electronics production will *reach USD 300 billion by 2026*.
- **Government schemes for Electronic boom**



## What is the status of mobile phones and semiconductor sectors in Indian electronics industry?

### India's Mobile Phones Manufacturing

- **Global position** - India is the *2<sup>nd</sup> largest mobile phone producer* in the World.
- **Domestic production** - In 2014-15, 26% of mobile phones sold in India were locally made, rising to *99.2% by end of 2024*.
- **Rising manufacturing units** - In 2014, India had just 2 mobile manufacturing units; today, it has *over 300*.
- **Export growth** - India's mobile phone exports surged from Rs. 1,566 crore in 2014-15 to Rs. 1.2 lakh crore in 2023-24, *marking a 77-fold increase*.

### Semiconductor Ecosystem in India

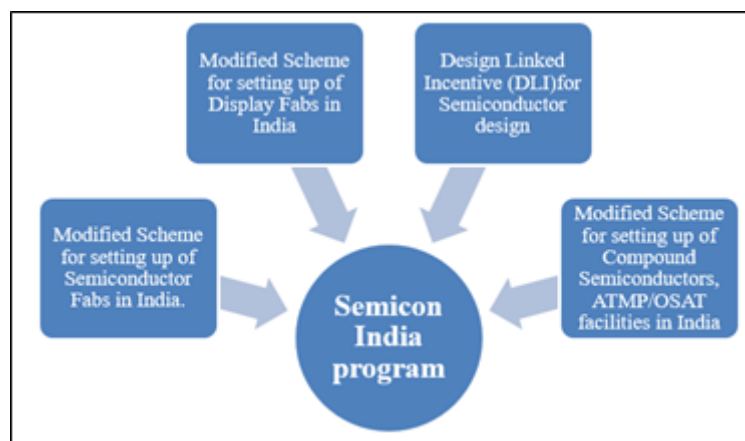
- **Semiconductor market** - It is projected *to grow at 13%*, reaching Rs 8.9 lakh crore 2030.
- **Investments** - Recently 5 landmark semiconductor projects have been approved, with an investment of *Rs 1.52 lakh crore*.
- **India's 1st indigenous semiconductor chip** - It will be ready for production *by 2025*.
- **Target** - India to become a global hub for semiconductor manufacturing by 2030.
- **Significance** - It supports domestic manufacturing of electronics and reduces import dependency.

## What are the government measures to promote electronics manufacturing in India?

- **Make in India** - It was launched *in 2014*, designed to transform India into a *global*

*hub for design and manufacturing.*

- Its core objectives were to facilitate investment, encourage innovation, and develop world-class infrastructure.
- **Phased Manufacturing Programme (PMP)** - It was launched in 2017 to *promote domestic value addition* in mobile phones and their parts.
- It resulted in shifting from the state of Semi Knocked Down (SKD) to Completely Knocked Down (CKD).
  - **Semi Knocked Down (SKD)** - Product is partially assembled before shipping
  - **Completely Knocked Down (CKD)** - Product is shipped as individual components for final assembly at the destination.
- **Production Linked Incentive (PLI) Scheme** - PLI for Large Scale Electronics Manufacturing was *notified in 2020*.
- It aims to boost domestic manufacturing and attract investment *in mobile phones* value chain including electronic components and semiconductor packaging.
- Its primary goal is to attract substantial investments, incorporate advanced technology, and ensure operational efficiency.
- It *offers 3% to 6% incentives* on incremental sales for mobile phones and electronic components for 5 years.
- **Semicon India program** - It was *launched in 2021* to promote the domestic semiconductor industry *through incentives and strategic partnerships*.



**ATMP** Refers to Assembly, Testing, Marking and Packaging. **OSAT** stands for Outsourced Semiconductor Assembly and Test.

- **SPECS** - Scheme for Promotion of *Manufacturing of Electronic Components and Semiconductors*.
- It helps to mitigate the challenges of domestic manufacturing of electronic components and semiconductors to strengthen the electronics manufacturing ecosystem.
- It provides a *25% financial incentive on capital expenditure* for electronic components and semiconductor manufacturing.
- **India semiconductor mission** - It was *launched in 2021* to *build a semiconductor and display ecosystem*, positioning India as a global hub for electronics manufacturing and design.

- Under this mission Tata Electronics Private Limited (TEPL) have signed a Fiscal Support Agreement (FSA) for India's 1<sup>st</sup> commercial semiconductor fab in Dholera, Gujarat.

### What Lies Ahead?

- Reducing import dependency on electronics raw material procurement which raises in cost of final product.
- Attracting more global investments in electronics and semiconductor manufacturing.
- Strengthening the domestic supply chain for electronic components.
- Developing component manufacturing and design ecosystems to advanced levels.
- Enhancing R&D for advanced technologies like 5G and IoT devices and expanding electronics manufacturing clusters in tier-2 and tier-3 cities.

### Quick Facts

#### Semiconductor

- **Semiconductor** - It is a material usually comprised of silicon, which conducts electricity more than an insulator, such as glass, but less than a pure conductor, such as copper or aluminum.
- It is a small electronic chip that plays a crucial role in electronics.
- It consists of millions (sometimes billions) of tiny parts called transistors that acts as a tiny switch that allow or stop the flow of electrical signals.
- **Uses** - They can store, process and transfer information.
- They help devices perform tasks such as calling, storing data and even sensing signals.

### Reference

[PIB | India's Electronics Manufacturing Boom](#)

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