



सत्यमेव जयते

EMBASSY OF INDIA  
BERLIN

# MIIM

MAKE IN INDIA MITTELSTAND!

## Strategic Circuits:

India's Semiconductor & Electronics  
Manufacturing Ecosystem

Rödl & Partner



## ***Electronics and Semiconductors Sector in India***

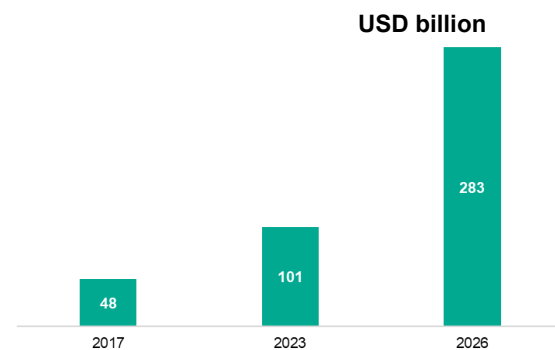
The Indian economy has been exhibiting a constant and healthy growth in Gross Domestic Product (GDP) over the last 9 years barring 2020-21 due to pandemic. India's year on year GDP growth has been in the range of 6.5% to 9.7%. India continues to be the world's fastest-growing major economy, led by sharp acceleration of manufacturing output, robust domestic demand, strong investment activity, government's push for investment in infrastructure and resilient private consumption.

One of the significant contributors in the growth and investments has been electronics and semiconductor sector in India.

### **Electronics Production in India**

In Financial Year (FY) 2017, India's electronics production stood at USD 48 billion which increased to USD 101 billion by FY 2023. The growth momentum is projected to be continued, enabling the value of the annual production of electronics to reach USD 283 billion by FY 2026.

Rising domestic demand has been one of the most important drivers for the growth. India's growing middle class, increased urbanization, and digitization have led to a higher demand for consumer electronics, including smartphones, smart TVs, and wearables as well as automobiles. India has been gradually taking steps towards developing a domestic semiconductor ecosystem. Some of the initial projects include Tata Semiconductor Fab and Vedanta-Foxconn's chip manufacturing plant.



Growth in demand and investments in production facilities in the electronics sector are projected to create 12 million jobs by 2027-28. This will create further demand for skilled talents including engineers, ITI-certified professionals, and specialists in AI, ML, and data science.

These growth enablers make India a preferred investment destination as well as top contender for diversification strategy of many multinational companies.

Increasing local value addition, especially in component manufacturing, has been the priority for industry as well as the Government over the last few years. The Government of India has introduced several initiatives including Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPMESC), Production Linked Incentive Schemes as well as initiatives for strengthening Small and Medium Enterprises (SMEs) and startups in electronics sector. These schemes have been introduced to encourage local production of electronics and its components, particularly targeting critical items like printed circuit boards (PCBs). This move aims to enhance domestic value addition and reduce dependency on imports. On the other hand, the industry needs to invest in the research and development (R&D) and infrastructure, in order to strengthen its position in global markets.

### **Key Growth Drivers Shaping Future of the Electronics Sector:**



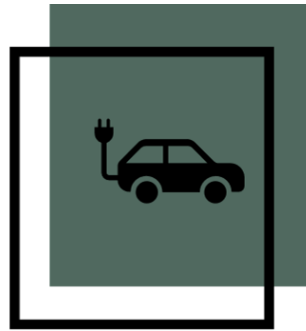
#### **Government Initiatives**

The Indian government's PLI scheme for large-scale electronics manufacturing has attracted significant foreign direct investment (FDI) and boosted domestic production. Programs such as Make in India and Digital India continue to drive growth.



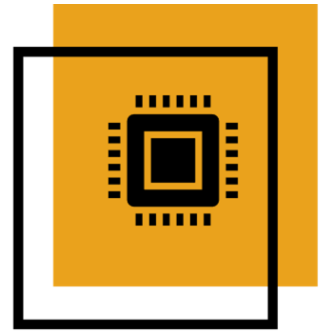
#### **Rising Domestic Demand**

India's growing middle class, increased urbanization, and digitization have led to a higher demand for consumer electronics, including smartphones, smart TVs, and wearables.



#### **Focus on automotive electronics**

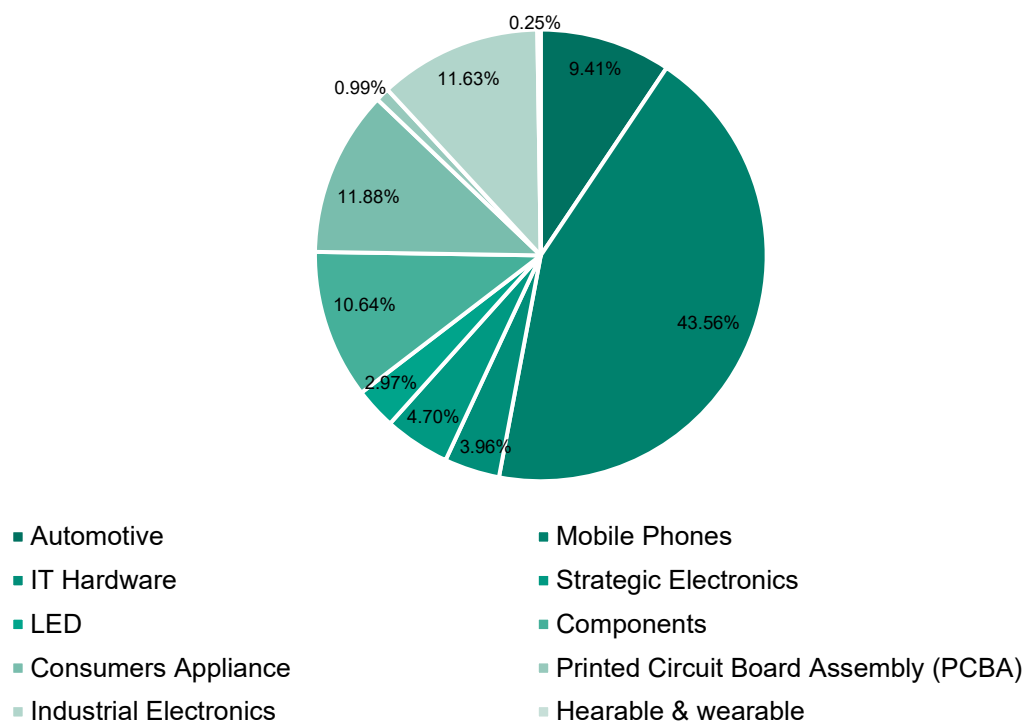
The automotive electronics market is currently valued at USD 10.6 billion for 2023-24 and is set to soar to USD 74 billion by 2031-32. This robust growth is driven by the inevitable rise of electric vehicles (EVs) and the integration of advanced automotive systems. Expect the electronic content in vehicles to significantly increase from 20% to a commanding 40-50% over the next decade.



#### **Semiconductor and Chip Manufacturing**

India has taken steps toward developing a domestic semiconductor ecosystem, with projects such as the Tata Semiconductor Fab and Vedanta-Foxconn's chip manufacturing plant.

### **Specialized Domains under Electronics (FY 2023)**



1. **Mobile Phones:** Mobile phone remains the largest segment in India's electronics production, accounting for USD 44 billion in FY 2023. This growth has been driven by the Production-Linked Incentive (PLI) schemes launched by the Government, and investments in local manufacturing units by foreign as well as Indian companies.
2. **Automotive:** With the rise of electric vehicles (EVs) and advanced automotive technologies, the automotive electronics production grew to USD 9.5 billion. Key components in this segment include infotainment systems, battery management units, and advanced driver-assistance systems (ADAS).
3. **IT Hardware:** Production of IT hardware including laptops, desktops, and networking devices, contributed USD 4 billion in FY 2023, supported by digitalization, remote work trends, and government efforts to promote local manufacturing through incentives.
4. **Strategic Electronics:** Production of strategic electronics, which includes defense and aerospace applications, contributed USD 4.75 billion. India's push for indigenous defense manufacturing, alongside private sector participation in aerospace and satellite technology, has bolstered growth in this segment.
5. **LED Electronics:** India's LED production, covering lighting solutions and display technologies, stood at USD 3 billion in FY 2023. Government policies supporting energy-efficient lighting, alongside the growing adoption of LED products in homes, industries, and public infrastructure, have fueled this growth.
6. **Components:** Electronic components play a crucial role in supporting India's manufacturing ecosystem. This segment, valued at USD 10.75 billion, includes semiconductors, Printed Circuit Boards (PCBs), sensors, and other essential parts required for electronic device production.

7. **Consumer Appliances:** Production of consumer appliances was valued at USD 12 billion in FY 2023. Growing urbanization, rising disposable incomes, and demand for smart devices have propelled this sector forward.
8. **Printed Circuit Board Assembly (PCBA):** The PCBA industry, a critical component in electronic manufacturing, was valued at USD 1 billion in FY 2023. With the rise of local manufacturing and increasing assembly operations in India, production of this segment is expected to grow significantly in the coming years.
9. **Industrial Electronics:** Industrial electronics including automation and control systems, contributed USD 11.75 billion to the overall electronics production in FY 2023. The increasing adoption of smart manufacturing and Industry 4.0 practices in India's industrial sector have been some of the important drivers for this segment's expansion.
10. **Hearable & Wearable Devices:** The hearable and wearable electronics segment, including smartwatches, fitness trackers, and wireless earbuds, contributed USD 0.25 billion.

### **Challenges Faced by the Sector**

Despite being supported by Government initiatives and demand drivers, the sector needs to overcome certain challenges. The sector has been highly dependent on the imported components resulting in higher costs for manufacturers due to high tariff rates. Further, the local units have been primarily focused on assembly rather than design and component manufacturing. Alongside growth in domestic production and exports, there is a need to enhance local value addition in component manufacturing. Some of the sub-segments of electronics such as mobile phones have achieved significantly higher local content than the other sub-segments. Manufacturers in other sub-segments of electronics have also been working towards higher local content in the products and development of component eco-system. The government plans to introduce schemes to foster component manufacturing, focusing on components like printed circuit boards (PCBs), displays, and capacitors.

Furthermore, Research and Development are critical for any technology-driven sector to maintain a competitive edge. India's electronics companies need to invest in R&D to offer cutting-edge solutions in the global market.

### **Foreign Direct Investment (FDI) in Electronics Sector**

The Government allows 100% FDI in the Electronics System Design and Manufacturing (ESDM) sector through the automatic route, encouraging investments from Original Equipment Manufacturers (OEMs) and Integrated Device Manufacturers (IDMs).

In the defense electronics sector, FDI up to 49% is permitted under the automatic route, while investments exceeding this limit require government approval.

The total FDI equity inflow in the electronics industry was pegged at USD 4.83 billion for the period of April 2000 and March 2024.

### **Some of the Key investors in the Electronics Sector**

- In May 2022, The Ministry of Electronics and Information Technology (MeitY) approved 314 applications under the Modified Special Incentive Package Scheme (M-SIPS), with proposed investments totaling INR 86,824 crore (USD 10.51 billion). Amongst these, Bosch Automotive Electronics secured approval for an investment of INR 596 crore (USD 72.2 million).
- Taiwan's Foxconn has signed an agreement with Tamil Nadu State Government to invest USD 194 million in setting up a new electronic component manufacturing facility.
- Mitsubishi Electric India plans to invest INR 1,891 crore (USD 230.9 million) in building an air conditioner and compressor factory in Tamil Nadu.
- Voltas has announced an investment of INR 400 crore (USD 50.10 million) under the Production Linked Incentive (PLI) scheme to manufacture components for white goods.
- Tata Consultancy Services (TCS), in alliance with Tata Electronics Pvt Ltd, has announced an investment of INR 8,803 crore (USD 1.06 billion) for the production of electronic components and semiconductors.



### **Brief on India's Semiconductor Landscape**

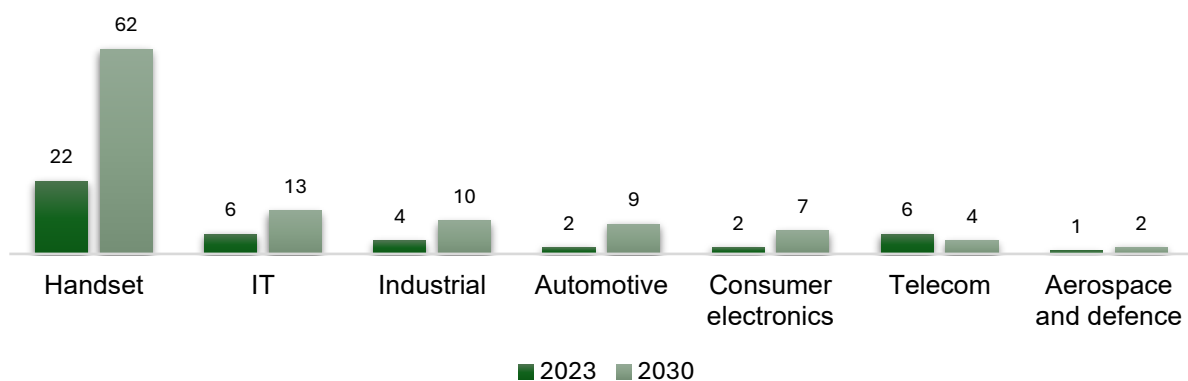
The overall demand for semiconductors in India was valued at USD 44 billion in 2023 and is projected to reach USD 110 billion by year 2030.

The growth is largely driven by demand from varied sectors such as consumer electronics, automotive, telecommunications and industrial automation.

India's semiconductor industry has been historically dependent on imports, but this scenario is changing with the advent of favorable government policies and private sector investments.

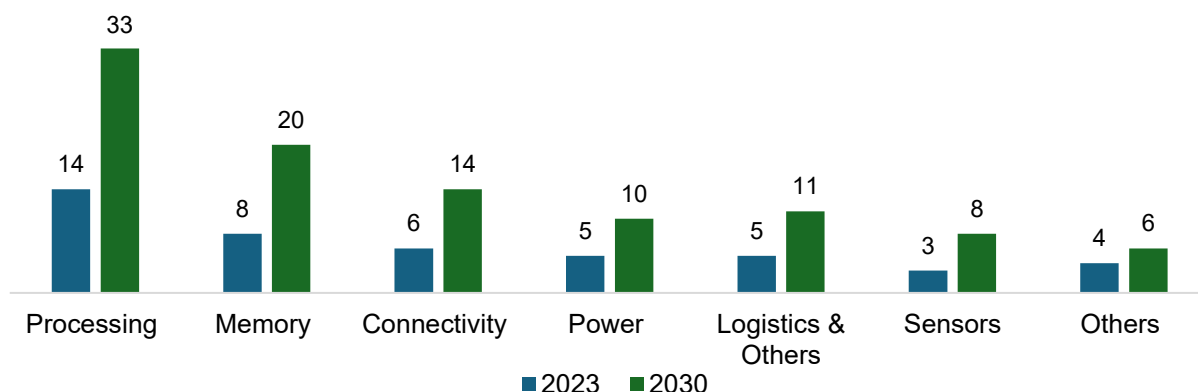
The Government has been extending fiscal support in the form of subsidies and duty exemptions for Semiconductor fabs and designing centers, as well as Display Fabs.

### **Demand Composition by Application Sectors (USD Billion)**



- The handset sector contributed a major portion of semiconductor demand, valued at USD 22 billion in 2023. It is projected to reach to USD 62 billion by 2030, primarily driven by rising smartphone demand, 5G advancements, and devices with advanced technology.
- Second largest contributor- IT sector, is expected to grow from USD 6 billion in 2023, to USD 13 billion by 2030 mainly on account of digital transformation, cloud computing, and data centers.
- Contribution of industrial sector is anticipated to more than double from USD 4 billion to USD 10 billion. The demand is driven by automation, robotics, and smart manufacturing processes.
- Other significant contributors to semiconductor demand are automotive, consumer electronics, telecom and aerospace sectors. The growth is expected to be mainly driven by technological advancements and evolving market needs.

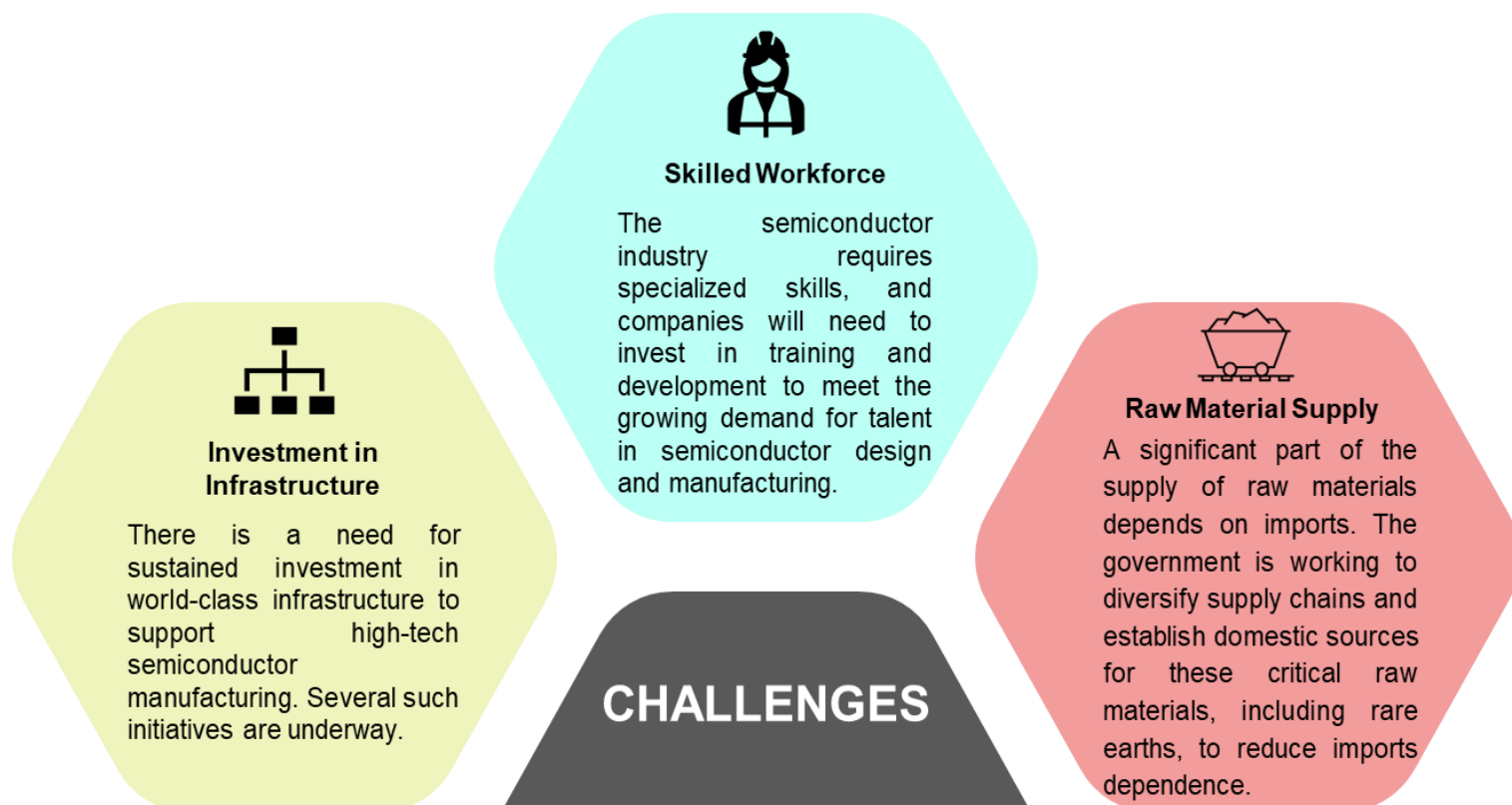
### Component-wise Composition of the Demand (USD Billion)



- Processing and memory segment of semiconductors contributed close 48% of the demand in 2023.
- Other major contributing segments were connectivity, power, logistics, sensors amongst others.

### Challenges






While India's semiconductor sector is poised for growth, certain challenges must be addressed to fully realize its potential.



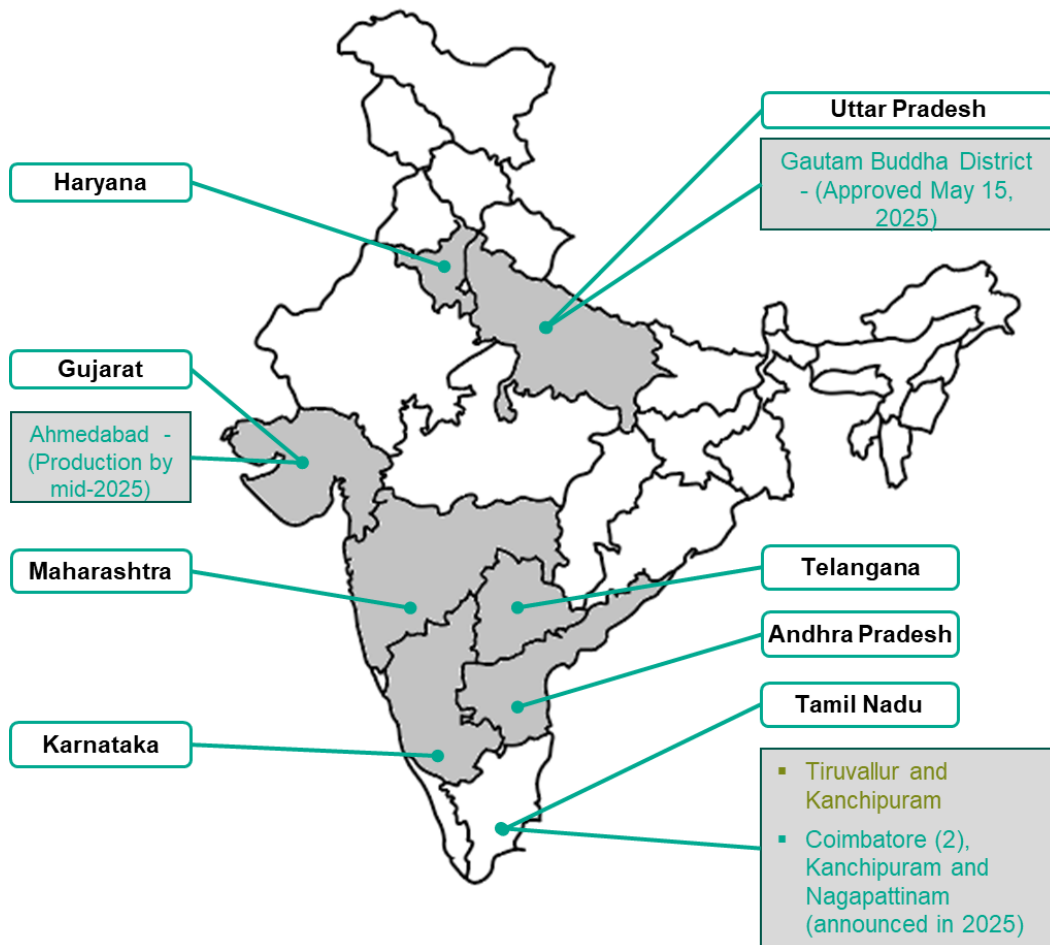


### **Major Investments in Semiconductor Segment**

Companies are increasingly investing in India's semiconductor ecosystem. Leading multinationals are building or planning to build facilities for chip production, testing, and R&D. Here are some key players and initiatives:

				
<p>Tata Electronics, a subsidiary of the Tata Group, is one of the most significant players in India's semiconductor landscape. The company is setting up India's first semiconductor assembly and testing facility in Assam, with an investment of USD 3.6 billion. The facility aims to generate 27,000 jobs.</p>	<p>NXP, a leading global semiconductor manufacturer, is significantly increasing its R&amp;D efforts in India. The company plans to invest over USD 1 billion into its India operations, aiming to generate 8-10% of its revenue from India by 2030.</p>	<p>Micron, a leader in memory and storage solutions, is making substantial investments in India to establish memory chip production facilities.</p> <p>Micron is believed to have an investment plan of USD 2.75 billion for India.</p>	<p>Analog Devices, in collaboration with the Tata Group, is exploring semiconductor manufacturing opportunities in India, particularly in mixed-signal and analog chips for industrial and automotive markets.</p>	<p>Samsung is considering India as a key location for expanding its semiconductor research and production capabilities.</p>

## **Dedicated Industrial Parks for Electronics and Semiconductors**



### **States with Semiconductor Manufacturing Clusters**

- Upcoming Semiconductor & Electronics Manufacturing Parks
- Existing Semiconductor & Electronics Manufacturing Parks

### **Key Government Initiatives for Electronics and Semiconductor**

The National Policy on Electronics (NPE) was launched in 2019 by the Ministry of Electronics and Information Technology (MeitY), Government of India to boost the domestic electronics manufacturing sector and position India as a global hub for Electronics System Design and Manufacturing (ESDM).

#### **Key Objectives of NPE**

- Promote Domestic Manufacturing & Exports
- Encourage Innovation & R&D
- Boost Employment in the Electronics Sector
- Develop a Robust Component Manufacturing Ecosystem
- Strengthen India's Presence in Strategic Electronics

#### **Some of the key initiatives under NPE**

To make India a preferred destination for electronics manufacturing, the Government has introduced various schemes under NPE.

**Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS)**

1

### Eligibility



Applicable to Investments in New Units as well as Expansion of Existing Units

2

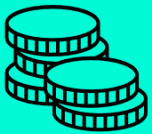
### Objective



SPECS offers financial incentives to strengthen domestic production and encourage significant investments in the electronics value chain, including electronic components and semiconductors.

3

### Financial Incentive



25% financial incentive for capital expenditure on selected electronic products in the downstream value chain. This includes components, semiconductor and display fabrication units, ATMP units, specialized sub-assemblies, and capital goods, all contributing to high-value manufacturing.

4

### Tenure of the Scheme



The tenure of the scheme has been extended for a period of 31st March 2024 to 31st March 2029.

## Modified Electronics Manufacturing Clusters (EMC 2.0) Scheme

1

### Objective



To develop robust infrastructure for electronics manufacturers and enhance the competitiveness of India in electronics hardware.

3

### Expected Infrastructure



Electronic manufacturing clusters with basic infrastructure, amenities and other common facilities for electronics manufacturers

2

### Financial Assistance



- 50% of project cost, subject to a ceiling of ₹700 million per 100 acres for EMC Project
- For Common Facility Centers, financial assistance will be restricted to 75% of the project cost subject to a ceiling of INR 750 million
- Applicable for both Greenfield (new) and Brownfield (existing) clusters.

4

### Tenure of the Scheme



The tenure of the scheme is 8 years (2020–2028)

### Design Linked Incentive (DLI) Scheme

The Design Linked Incentive (DLI) Scheme, launched by the Ministry of Electronics and Information Technology (MeitY) in December 2021, aims to strengthen India's semiconductor design ecosystem by providing financial incentives and design infrastructure support to domestic companies, startups, and academia engaged in integrated circuits (ICs), chipsets, system-on-chips (SoCs), and IP core design. It is a part of the ₹760 billion Semicon India Programme

Objective	Key Components	Beneficiaries	Eligibility Criteria
<ul style="list-style-type: none"><li>▪ Nurture domestic semiconductor design companies with the potential to achieve turnover of ₹15 billion+ in 5 years.</li><li>▪ Promote product-based R&amp;D and IP creation in semiconductors.</li><li>▪ Reduce import dependence and promote self-reliance in chip design.</li></ul>	<ul style="list-style-type: none"><li>▪ <b>Product Design Linked Incentive:</b> Incentive up to 50% of eligible R&amp;D expenditure, subject to a ceiling of ₹150 million per application.</li><li>▪ <b>Deployment Linked Incentive:</b> 4% to 6% incentive on net turnover for 5 years after product deployment.</li><li>▪ <b>Design Infrastructure Support:</b> Access to state-of-the-art design tools, cloud-based EDA tools, IP cores, and foundry access via the India Semiconductor Mission (ISM).</li></ul>	<ul style="list-style-type: none"><li>▪ The scheme targets 100 domestic companies, startups, and Small &amp; Medium Enterprises</li></ul>	<ul style="list-style-type: none"><li>▪ Applicants must meet threshold and ceiling limits for incentive disbursement and are encouraged to maintain domestic status (more than 50% ownership by resident Indian citizens or Indian companies) for three years after claiming incentives</li><li>▪ Amendment or new notification is awaited for acceptance of new applications.</li></ul>



## Production Linked Incentive Scheme (PLI) for IT Hardware Scheme 2

### Applicants

- Global Companies: Large multinational firms setting up or expanding IT hardware manufacturing in India.
- Hybrid Companies: A mix of global and Indian manufacturers.
- Domestic Companies: Indian-owned and controlled companies focusing on local production.

### Tenure

The PLI 2.0 Scheme will offer support for six years, starting from July 1, 2023. Applications will be accepted for an initial period of 45 days, with the possibility of an extension.

### Base Year

- The financial year 2022-23 will be considered the base year for calculating the net incremental sales of manufactured goods.

### Objective

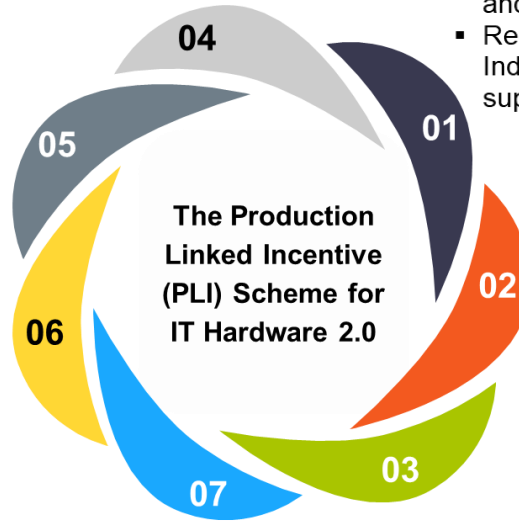
- Promote domestic manufacturing of laptops, tablets, all-in-one PCs, servers, and ultra-small form factor devices.
- Reduce import dependency and strengthen India's position in the global electronics supply chain.

### Quantum of Incentive

- The scheme offers performance-linked incentives of 5% to 9% on incremental sales of locally manufactured IT hardware.
- Incentives are provided for up to six years based on investment and production targets.

### Expected Impact

- ₹3350 billion worth of incremental production over the scheme's duration.
- Direct employment for 75,000 people
- ₹24 billion estimated tax collection
- Strengthened electronics manufacturing ecosystem



### Comparison with PLI 1.0

- Higher budget allocation: ₹170 billion vs. ₹73 billion
- Expanded scope to include additional IT hardware categories.
- More attractive incentives to encourage large-scale investments.

## Electronics Component Manufacturing Scheme



### Objective

- Build a strong & competitive electronics component ecosystem by attracting large domestic and global investment.
- Boost domestic value addition (DVA), reduce import dependency, and integrate India into Global Value Chains (GVCs)
- Support India's vision of growing electronics manufacturing from ~\$150 bn to \$500 bn by 2030, generating ~6 million jobs



### Target Segment & Nature of Incentives

#### A) Sub-assemblies

- Display module sub-assembly
- Camera module sub-assembly

Nature of Incentive: **Turnover linked incentive**

#### C) Selected bare components

- HDI / MSAP / Flexible PCB
- SMD passive components

Nature of Incentive: **Hybrid incentive**

#### D) Supply chain ecosystem and Capital equipment

- Supply chain of sub-assemblies (A) & bare components (B) & (C)
- Capital goods used in electronics manufacturing including their sub-assemblies and components

Nature of Incentive: **Capex incentive**

#### B) Bare components

- Non-SMD passive components
- Electro-mechanicals
- Multi-layer PCB
- Li-ion Cells for digital application (excluding storage and mobility)
- Enclosures for Mobile, IT Hardware products and related devices

Nature of Incentive: **Turnover linked incentive**

#### Note:

- a) Employment linkage implies 1% of turnover-incentive and 5% of capex-incentive is released only after meeting pre-set employment targets.
- b) Eligible capex includes land, building, plant & machinery, and certain approved technical infrastructure.

- a) **Turnover linked incentive:** Incentive on incremental sales beyond base year (~3–5% of incremental turnover/ New sales)
- b) **Capex incentive:** Capex-linked only (~5% reimbursement of investment.)
- c) **Hybrid incentive [ i.e. combination of both (a) and (b)]:** Turnover + Capex incentives



### Financial Layout

- **Total outlay:** INR 22,919 crore
- **Investment expected:** INR 59,350 crore; **production value:** INR 456,500 crore
- **Employment impact:** ~91,600 direct jobs + substantial indirect jobs
- **Budget fungibility:** Funds are flexible across segments, disbursed per demand



### Eligibility

- Both Greenfield (New) and Brownfield (Existing) investments are eligible.
- Separate applications must be submitted for each product segment, with only one application allowed per product.
- Selection is based on global ESDM revenue, manufacturing experience, and financial/technical capability.



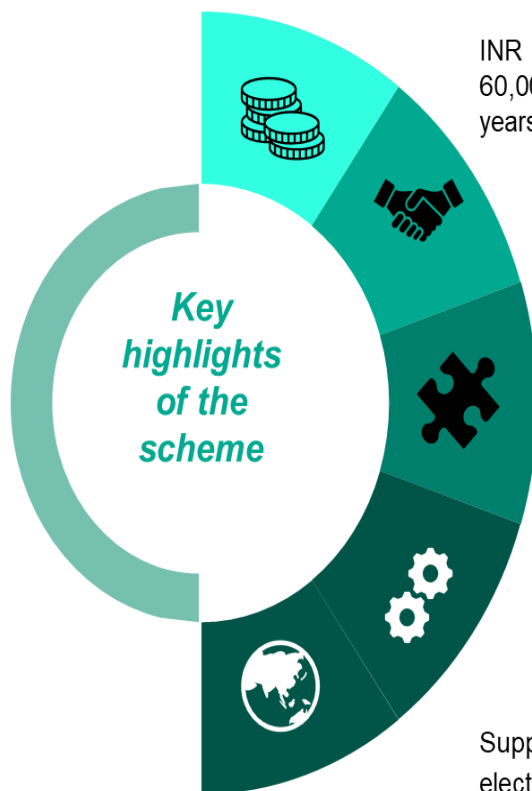
### Tenure

- **Overall Scheme:** 6 years with optional 1-year gestation for turnover-linked categories
- **Turnover-linked & Hybrid (A, B, C):** 6 years + 1 year gestation.
  - Base year = FY 2024-25; first year of incentive either FY 2025-26 or FY 2026-27
- **Capex-linked (D):** 5 years from date of application acknowledgment. Application window open for 2 years (from May 1, 2025)
- **Application Windows:**
  - Categories A/B/C: initial 3-month window from May 1, 2025 (extendable)
  - Category D: 2-year window, with 5 years allowed for actual investment

**State Specific Incentives regarding the Electronics Component Manufacturing Scheme:**

***Tamil Nadu's Electronics Components Manufacturing Scheme***

On 30th April 2025 – Tamil Nadu Chief Minister M.K. Stalin announced the state's pioneering Electronics Components Manufacturing Scheme to strengthen local manufacturing and attract major investments in the electronics sector.



INR 30,000 crore investment target with 60,000 jobs projected over the next 3–5 years.

India's first state-level matching subsidy model, complementing central government incentives.

Focus on 11 priority component segments including lithium-ion cells, FPCBs, HDI/MSAP PCBs, display and camera modules, and passive components.

Aligned with Tamil Nadu's Semiconductor & Advanced Electronics Policy 2024 to boost domestic production capacity.

Supports Tamil Nadu's goal to scale electronics exports from USD 14.65 billion to USD 100 billion in the coming years.

Gujarat Electronics Component Manufacturing Policy – 2025 (GECMP-2025)

In a major move to deepen India's self-reliance in electronics manufacturing, the Government of Gujarat has unveiled the Electronics Component Manufacturing Policy – 2025. Aligned with the central government's ECMS scheme, the policy offers 100% matching state incentives, streamlined approvals, and robust infrastructure support - making Gujarat a go-to destination for global electronics players.

Objective	Key Features at a Glance	Focus Area
<p>To transform Gujarat into a national hub for electronics component manufacturing by:</p> <ul style="list-style-type: none"><li>Localizing critical ESDM supply chains.</li><li>Attracting mega-investments.</li><li>Creating high-value jobs.</li><li>Supporting India's "Atmanirbhar Bharat" mission.</li></ul>	<ul style="list-style-type: none"><li><b>Matching Incentives:</b> State offers equal financial support to what companies receive under India's ECMS.</li><li><b>Disbursement Timeline:</b> Within 30 working days of central subsidy release.</li><li><b>Policy Validity:</b> From June 2025 to March 31, 2028.</li><li><b>Application Deadline:</b> July 31, 2025.</li></ul>	<ul style="list-style-type: none"><li>PCBs (Printed Circuit Boards)</li><li>Lithium-ion battery cells</li><li>SMD passive components</li><li>Camera and display modules</li><li>Electromechanical parts</li><li>Semiconductor machinery and materials</li></ul>
Investment & Employment Goals	Other Factors	
<ul style="list-style-type: none"><li>Target Investment: INR 35,000 crore+</li><li>Job Creation: Thousands of high-skilled jobs in ESDM sector.</li></ul>	<ul style="list-style-type: none"><li>R&amp;D Incentives: Up to INR 12.5 crore per institute for Centers of Excellence, Finishing Schools, Labs.</li><li>Infrastructure Grant: Additional support for shared facilities/logistics in clusters.</li></ul>	
Tenure		
<ul style="list-style-type: none"><li><b>Effective Date:</b> June 22, 2025 (Date of official launch).</li><li><b>Valid Until:</b> March 31, 2028, aligning with the central ECMS (Electronics Component Manufacturing Scheme) tenure.</li><li><b>Application Window:</b> Open for project proposals until July 31, 2025.</li></ul>		

## **States Gear Up to Boost Electronics Manufacturing with New Component Policies**

As India intensifies its push to become a global electronics hub, several states are preparing targeted policies to attract investment in electronics component manufacturing. Two states - Uttar Pradesh and Andhra Pradesh - are taking concrete steps to align with the Centre's Electronics Component Manufacturing Scheme (ECMS) while offering their own incentives to draw in manufacturers and investors.

### **1. Uttar Pradesh: INR 10,000 Crore Scheme Expected by Mid-2025**

Uttar Pradesh is set to launch an INR 10,000 crore (USD 1.2 billion) incentive scheme focused on boosting domestic production of electronic components. The policy is aimed at augmenting the Centre's ECMS and creating a conducive ecosystem through:

- Fiscal incentives
- Affordable land for factories and assembly units
- Infrastructure development in electronics manufacturing zones like Noida, Greater Noida, and Yamuna Expressway Industrial Development Authority (YEIDA) areas

According to top state officials, the detailed policy framework is in its final stages and is expected to be announced by Q3 2025 (likely August–September). The goal is to attract over INR 25,000 crore in investment and generate large-scale employment in the supply chain.

### **2. Andhra Pradesh: Draft Policy Released; Final Version Due Late 2025**

The Government of Andhra Pradesh has unveiled the draft version of its Electronics Component Manufacturing Policy 4.0 (ECMP 4.0). The policy was presented during a national roadshow organized by MeitY and the India Cellular and Electronics Association (ICEA), signaling Andhra's intent to become a key player in India's component ecosystem. Key proposed features include:

- 50% capital expenditure support for eligible units
- Turnover-based incentives that may exceed Central ECMS offerings
- Early-bird incentives for first movers
- Development of common infrastructure, skill centers, and plug-and-play facilities

The draft is currently under stakeholder consultation, and the final policy is expected to be notified between October and December 2025.

## **Opportunities for International Companies in India**

Driven by rising domestic demand, need for localization to reduce import dependency and control costs, India's geo-political position, and skilled talent pool, the electronics and semiconductor sector offers a gamut of opportunities for international companies. Some of these potential investment areas are highlighted:

### **1. Semiconductor Manufacturing (Fabs and Assembly)**

The establishment of semiconductor fabrication plants (fabs) is one of the most significant investment opportunities:

- **Semiconductor Fabs:** Setting up manufacturing plants for chips, particularly in areas like logic chips, memory chips, and analog semiconductors.
- **Packaging and Testing:** Semiconductor packaging and testing are critical to the supply chain, and India is expected to witness demand for these services.

### **2. Research and Development (R&D) and Design Services**

India has a large pool of engineers, making it an ideal location for semiconductor design and development. Some of the significant opportunities include:

- **Chip Design:** Companies involved in the design of integrated circuits (ICs) and other semiconductor components.
- **R&D Centers:** Companies are increasingly setting up R&D centers in India to tap into the country's skilled workforce, focusing on different aspects of semiconductor ecosystem.

### **3. Electric Vehicles and Automotive Semiconductor Solutions**

Key opportunities for semiconductors in automotive applications include:

- **Power Management Chips**
- **Safety and Connectivity:** Demand for chips that support autonomous driving, vehicle safety, and connectivity is expected to grow significantly.

### **4. Consumer Electronics**

India's booming consumer class has created an opportunity for producing different consumer electronics including home appliances, smartphones, laptops, wearables and IOT devices.

### **5. Component Manufacturing for Electronics:**

With focus on localization and shift towards self-reliant industry, demand for locally manufactured components present an attractive opportunity.

India is emerging as one of the top contenders for research, design, assembly and manufacturing of electronics and semi-conductors. It offers lucrative opportunities for foreign companies to not only serve domestic demand but also tap export opportunities from India by setting up research and development and/or a manufacturing setup in India.





EMBASSY OF INDIA  
BERLIN



MAKE IN INDIA MITTELSTAND!

**MIIM Email & Hotline:**

**Email :** [miim@indianembassy.de](mailto:miim@indianembassy.de)

**Telefon :** +49-30-25795514

**MIIM Online:**

[www.makeinindiamittelstand.de](http://www.makeinindiamittelstand.de)

[www.linkedin.com/in/miim-make-in-india-mittelstand](http://www.linkedin.com/in/miim-make-in-india-mittelstand)

# Rödl & Partner

## Rödl & Partner Contact Details

**Mr. Rahul Oza**  
**Partner, Head of Practice of**  
**West and South India**

**Email:** [rahul.oza@roedl.com](mailto:rahul.oza@roedl.com)

**Telephone:** +91 (20) 6625 - 7100

**Website:** [www.roedl.com/india](http://www.roedl.com/india)

## Rödl & Partner Contact Details

**Ms. Dipali Joshi**  
**Manager, Team Lead Strategy**  
**Advisory**

**Email:** [dipali.joshi@roedl.com](mailto:dipali.joshi@roedl.com)

**Telephone:** +91 (20) 6625 - 7100

**Website:** [www.roedl.com/india](http://www.roedl.com/india)