

Ministry of Commerce &amp; Industry



# Make in India and the Capital Goods Revolution

## Catalyzing Domestic Production and Technological Innovation

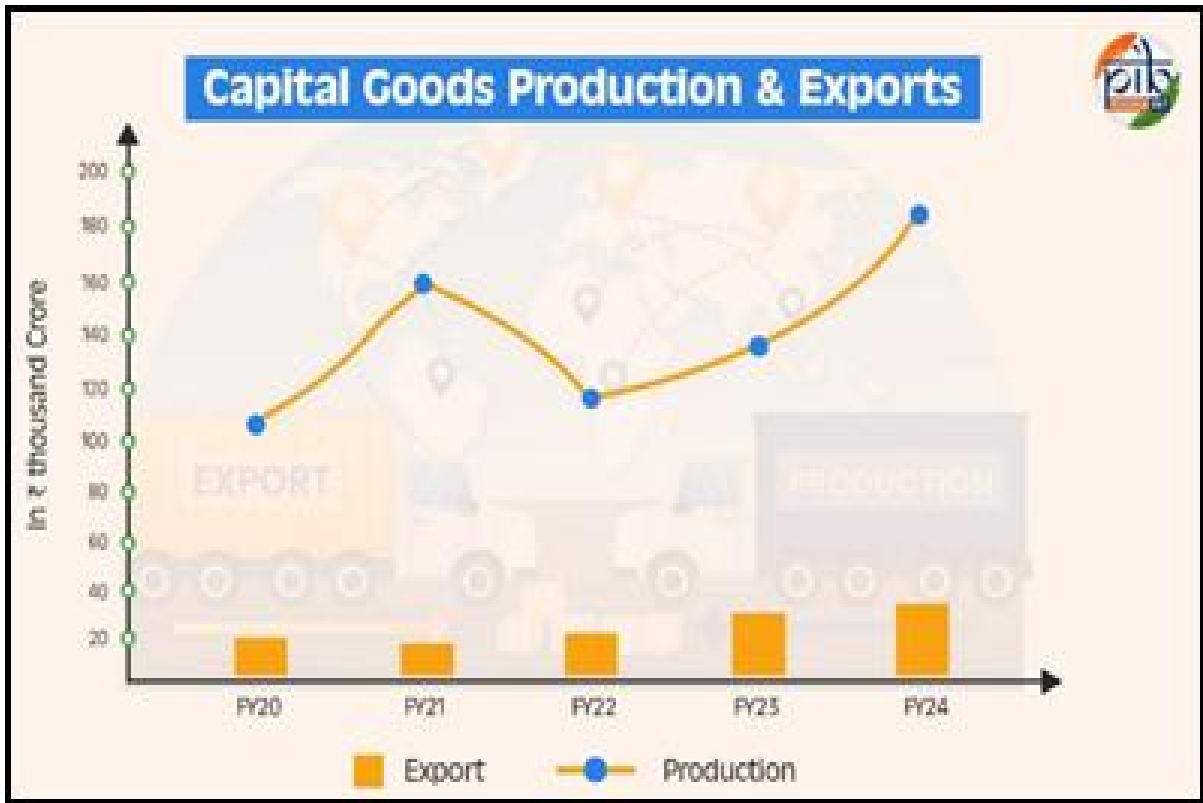
Posted On: 02 APR 2025 6:52PM by PIB Delhi

### Introduction

According to the **Ministry of Heavy Industries**, heavy engineering and machine tools sector comprises of **capital goods industry**. India's capital goods sector is experiencing significant attention due to its **critical role** in driving **industrial growth** and **economic development**. This sector encompasses industries such as **electrical equipment**, **machinery**, and **construction**, which are essential for the country's infrastructure development. According to the Indian Electrical and Electronics Manufacturers' Association (IEEMA), the electrical equipment industry witnessed consistent **double-digit growth** in **power equipment**, particularly **transmission equipment** and **transformers**, driven by domestic demand and international market expansion.

**India is the third-largest market for construction equipment. Government initiatives** have been instrumental in bolstering the capital goods sector. **The Ministry of Heavy Industries** has launched several policies to boost domestic production and reduce reliance on imports. These initiatives are part of the broader **Make in India campaign** (launched in **2014**), which seeks to increase the **manufacturing sector's contribution to GDP**, **generate employment**, and **improve technological capabilities**. The capital goods sector is **crucial to India's economic strategy**, supporting large-scale manufacturing and infrastructure projects. With rapid urbanization, extensive infrastructure development, and strong government support, the sector is poised to drive sustainable industrial growth and elevate India's position in the global market.

### Overview of the Heavy Industries and Engineering Sector



As per the present estimates, the **Capital Goods industry** contributes about **1.9%** of **GDP**. The Heavy Engineering and Machine Tool sector (capital goods industry) consists of the following major **sub-sectors**: Dies, Moulds and Press Tools; Plastic Machinery; Earthmoving and Mining Machinery; Metallurgical Machinery; Textile Machinery; Process Plant Equipment; Printing Machinery; and Food Processing Machinery. Due to catalytic effect of Ministry of Heavy Industries intervention, the **production of capital goods sector has increased** from Rs 2,29,533 crore in 2014-15 to **Rs.4,29,001 crore in 2023-24. Production (in crores)** by the sub-sectors of capital goods industry since 2019-20 are presented in the table below:

S.No	Sub-Sector of capital Goods	2019-20	2020-21	2021-22	2022-23	2023-24
1	Machine Tools	6152	6602	9307	11956	13571
2	Dies, Moulds and Press Tools	13682	12294	13128	13915	15600
3	Textile Machinery	5355	5093	11658	14033	14639
4	Printing Machinery	12678	10058	13215	16107	23479
5	Earthmoving and Mining Machinery	31020	29021	28674	37551	73000
6	Plastic Processing Machinery	2350	3710	3850	3912	4310
7	Food Processing Machinery	7547	10250	12210	13203	13863
8	Process Plant Equipment	29250	21938	24000	23415	27396

**Exports (in crores)** by the sub-sectors of capital goods industry since 2019-20 are presented in the table below:

S.No	Sub-Sector of Capital Goods	2019-20	2020-21	2021-22	2022-23	2023-24
1	Machine Tools	768	531	913	1463	1659
2	Dies, Moulds and Press Tools	1138	973	1150	1247	1900
3	Textile Machinery	2556	3307	4970	5836	4451
4	Printing Machinery	1230	1012	1312	1597	2369
5	Earthmoving and Mining Machinery	3583	1816	2792	2963	5800
6	Plastic Processing Machinery	335	1348	1800	1935	2154
7	Food Processing Machinery	2737	4555	6918	4018	4148
8	Process Plant Equipment	8330	6248	6600	7812	9140

The **policy environment** for the capital goods sector includes:

- No industrial license is required for the sector.
- FDI up to 100% permitted on automatic route (through RBI) except from the countries having land borders with India.
- Quantum of payment for technology transfer, design and drawing, royalty, etc. to the foreign collaborator is not restricted.
- There is no restriction on imports and exports.

The **Union Budget 2025-26** proposes to **add 35 additional capital goods** for EV battery manufacturing, and **28 additional capital goods** for mobile phone battery manufacturing to the list of **exempted capital goods**. This will boost domestic manufacture of lithium-ion battery, both for mobile phones and electric vehicles.

### **National Capital Goods Policy (2016)**

The **National Capital Goods Policy**, formulated by the Ministry of Heavy Industries & Public Enterprises, is a **comprehensive framework** aims at **boosting the capital goods sector** in India. policy envisions increasing the sector's contribution to manufacturing activity from **12% (2016) to 20% by 2025**. It seeks to make India one of the top capital goods producing nations, aiming to more than **double production** and **increase exports** to at least **40%** of the total production. Furthermore, the policy aims to **enhance the technology depth** within the sector, moving from basic and intermediate levels to **advanced levels**.



**Strengthening  
New India's  
Capital Goods  
Manufacturing**

**Objectives of National  
Capital Goods Policy 2016**

- Promote technology, skills, exports, industrial infrastructure & common facility centres
- Increase industrial production of capital goods sector to **INR 7.5 Lakh Cr**
- Bolster manufacturing to take forward 'Make in India' initiative

The **major salient features** of the policy are:

- i. To **increase budgetary allocation** and **scope** of the Scheme on Enhancement of Competitiveness in the Capital Goods Sector adding components i.e. skills, capacity building, advanced manufacturing and cluster development.
- ii. To **launch a Technology Development Fund** under PPP model to fund technology acquisition/ transfer, purchase of IPRs/ designs and drawings/ commercialization.
- iii. To set up **regional State-of-the-Art Greenfield Centre of Excellence** for skill development.
- iv. To **modernize existing CG manufacturing units**, especially SMEs by replacing with the modern, computer controlled and energy efficient machineries across capital goods sub-sectors.
- v. To **upgrade/ develop, testing and certification infrastructure**.

The National Capital Goods Policy, 2016, inter alia, **recommended increasing the budgetary allocation and scope** of the **Scheme on Enhancement of Competitiveness of Capital Goods** which included setting up of Centers of Excellence, Common Engineering Facility Centers, Integrated Industrial Infrastructure Park and Technology Acquisition Fund Programme. These recommendations were incorporated in the **Phase II** of the scheme.

### **Scheme for Enhancement of Competitiveness in the Indian Capital Goods Sector Phase I**

In order to address the **skill gaps, infrastructure development** and **technology needs** for the capital goods sector, **Phase I** of the capital goods scheme was rolled out in **November 2014** which had the total outlay of **Rs 995.96 crores**. Phase I of the scheme **fostered partnerships** between **academia** and **industry** for **engendering technology development** with government support. The outcome of the Scheme has proved the **efficacy** of the strategies deployed for technology and industrial infrastructure development.

- **Centre of Excellence (CoE): 8 CoEs** have been established wherein **30 niche indigenous technologies** have been successfully developed in the fields of machine tools, additive manufacturing, textile machinery, welding robots and alloys design, earth moving machinery, and sensor technologies at national research institutes of eminence such as **Indian Institute of Technology (IITs), Indian Institute of Sciences (IISc), Central Manufacturing Technology Institute (CMTI)** etc.
- **Common Engineering Facility Centres (CEFC) - 15 CEFCs** including **four Industry 4.0 SAMARTH** centres and **six Web-Based Technology Innovation Platforms (TIPs)** have been setup. Industry 4.0 SAMARTH centres are at **Indian Institute of Sciences at Bengaluru, Centre for Industry 4.0 (C4i4) lab at Pune, Central Manufacturing Technology Institute (CMTI) at Bengaluru** and **Indian Institute of Technology (IIT) Delhi**.
- The **six web-based open manufacturing technology innovation platforms** are helping in bringing all India's technical resources and the concerned Industry on to one platform to kick start and facilitate identification of technology problems faced by Indian Industry and crowd source solutions for the same in a systematic manner so as to facilitate start-ups and angel funding of India innovations.
- Over **76,000** students, experts, institutes, industries and labs have already registered on these platforms so far.
- **Technology Acquisition Fund Programme (TAFP)** – Following **5 technologies** have been acquired from abroad under TAFP:
  - i. Development & Commercialization of Titanium Casting with Ceramic Shelling Technology;
  - ii. Manufacturing of Heavy-Duty High Reliability Electrical Specialized Power Cables;
  - iii. Development of Turn Mill Centre;
  - iv. Development of Four Guideway CNC Lathe;
  - v. Cutting Edge Robotic Laser Cladding Technology.
- **Integrated Machine Tools Park, Tumakuru:** An **exclusive industrial park** for machine tool industry has been developed across **530 acres** at **Tumkuru, Karnataka**. So far, **out of 336 acres** of allottable land, **145 acres** of land has been allotted to the **machine tool manufacturers**.

Under Phase- I of the Scheme for Enhancement of Competitiveness in the Indian Capital Goods Sector, **33 projects** with budgetary support of **Rs. 583.312 crore** were **sanctioned**. After launching of the Capital Goods Scheme **Phase II, The Phase I** of the Capital Goods Scheme has **been merged with Phase II** of the Scheme.

### **Scheme for Enhancement of Competitiveness in the Indian Capital Goods Sector Phase II**

Ministry of Heavy Industries notified the **Phase 2** of the Scheme on **January 25, 2022**, with an objective to **expand** and **enlarge** the **impact created by Phase I** of the capital goods scheme, thereby providing **greater impetus** through creation of a **strong** and **globally competitive** capital goods sector. The scheme has a financial outlay of **Rs. 1207 crores** with budgetary support of Rs. 975 crore and industry contribution of Rs. 232 crores. Under the Phase II, a total of **33 projects** with project

cost of **Rs 1366.94 crores** (due to higher contribution by Industry) and government contribution of Rs 963.19 crore have been sanctioned by August 2024. There are **six components** under the Phase II and the details of the projects sanctioned so far are:

- **Setting up of New Advanced Centres of Excellence and augmentation of Existing Centres of Excellence:** To expedite R&D by utilizing academia of repute and private industry which is involved in research and development activities. A total of **9 projects** with the budget of **Rs. 478.87** have been sanctioned so far.
- **Setting up of Common Engineering Facility Centres (CEFCs) and augmentation of existing CEFCs:** For creating demonstration & training, consultancy, hand holding and R & D services and awareness programmes to industrial units. A total of **5 projects** with the budget of **Rs. 357.07** have been sanctioned so far.
- **Promotion of skilling in Capital Goods Sector:** Creation of Qualification packages for skill levels 6 and above- in association with Skill Councils for skills level 6 and above. A total of **3 projects** with the budget of **Rs. 7.59** have been sanctioned so far.
- **Augmentation of Existing Testing and Certification Centres:** To address the needs of Capital Goods Sector & Auto sector for testing of machinery in terms of various properties relating to mechanical, electrical, chemical, structural, metallurgical, electronics aspects etc. A total of **7 projects** with the budget of **Rs. 195.99** have been sanctioned so far.
- **Setting up of Industry Accelerators for Technology Development:** Aimed at development of targeted indigenous technologies, scaled to meet the requirements of selected industry segment, which till now has been dependent on imports. Selected Academic Institute/ Industry Body will act as an Accelerator for fostering the development of such technologies. A total of **8 projects** with the budget of **Rs. 325.32** have been sanctioned so far.
- **Identification of Technologies through Technology Innovation Portals:** Six Web-based open manufacturing technology innovation platforms have been developed under CG Scheme Phase-I. These are being supported under CG Scheme Phase-II.

The details of the **funds allocated** and **its utilization** under the Scheme for Enhancement of Competitiveness in the Indian Capital Goods Sector Phase- I and II is as given in the table below:



(Amount in Rs Crores)

Financial Year	Allocation at RE stage	Funds released
2014-15	24.00	2.80
2015-16	23.00	22.87
2016-17	60.50	59.97
2017-18	110.00	109.72
2018-19	110.50	110.4483
2019-20	102.30	102.16184
2020-21	55.52	54.2197
2021- 22	29.00	28.933925
2022-23	199.60	199.24
2023-24	187.20	83.3431
2024-25	120.00/184.00 *	(As on 03.02.2025) 134.55

\* Current allocation

### Recent Achievements of the Capital Goods Scheme

1. **Sitarc, Coimbatore** has indigenously developed a **6-inch BLDC submersible pump** with a **motor efficiency of 88%** and a **pump efficiency of 78%** under the Capital Goods Scheme. This initiative promotes "**Aatmanirbharta**" by reducing the import of such pumps by 80%. This innovation was recognized as the **best product in the pumps category** by **United Nations Industrial Development Organization (UNIDO)**.
2. **CMTI** has developed a **high-speed rapier loom machine** capable of weaving yarns upto 450 RPM. This machine was launched at **ITMA 2023 in Milan, Italy**.
3. Under the **SAMARTH centre** at **CMTI**, **Industrial Internet of Things (IIOT) technology** has been implemented in Toyota Engine Manufacturing line controlling 64 machines for preventive maintenance.
4. A testing facilities for **battery and Battery Management System (BMS)** has been established at **ARAI, Pune** for the first time in India under the aegis of Ministry of Heavy Industries.
5. **6 Smart Technologies, 5 Smart Tools, 14 solutions** have been developed in digital twin, virtual reality, robotics, inspection, sustainability, additive manufacturing etc. by **I-4.0 India @ IISc, Bengaluru**;
6. Under Industry Accelerator at **ARAI-Advanced Mobility Transformation & Innovation Foundation (AMTIF)** a high-voltage motor controller developed, which enabled the industry partner Rapter Energy Private Limited to launch a high-voltage motorcycle with electric car DNA.
7. Under Industry Accelerator at **ARAI-Advanced Mobility Transformation & Innovation Foundation (AMTIF)** thermally stable sodium-ion batteries developed.

### Bharat Heavy Electricals Limited (BHEL)

BHEL is a major contributor towards **engineering and manufacturing capacity building** for the Country. The company is carrying out following initiatives with support from Ministry of Heavy industries under the **Capital Goods Scheme Phase II**:

- BHEL has established a “**Common Engineering Facility Centre (CEFC)**” for skill development in Welding Technology at WRI Trichy along with its extension centers at Varanasi, Ranipet, Bhopal, Jhansi and Haridwar units of BHEL.
- BHEL is establishing a **testing facility** comprising both Hardware in the Loop (HIL) and Software in the Loop (SIL) functionalities in the area of Industrial, Naval and Aircraft related processes at its Corporate R&D Unit at Hyderabad with support from Ministry of Heavy Industries.

## Conclusion

The ‘Make in India’ initiative has had a transformative impact on the heavy industries and engineering sector. By fostering technological advancements, increasing domestic production, enhancing competitiveness, and generating employment, the initiative has played a pivotal role in strengthening India’s industrial base. With sustained policy support and continued investment, the sector is poised for further growth in the coming years.

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**Santosh Kumar | Sheetal Angral | Rishita Aggarwal**

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