



Make in India, Make for the World

This editorial is based on “[Making in India for the world](#)” which was published in The Hindu on 17/02/2025. The article highlights India's transformation from post-colonial scarcity to a global manufacturing hub, driven by policy reforms, a skilled workforce, and technological advancements.

For Prelims: [Make in India](#), [Production-Linked Incentive \(PLI\) scheme](#), [India-UAE CEPA](#), [Gati Shakti National Master Plan](#), [PM MITRA Mega Textile Parks](#), [Dedicated Freight Corridors](#), [National Green Hydrogen Mission](#), [Faster Adoption and Manufacturing of Electric Vehicles](#), [China+1 strategy](#), [Economic Survey 2022-23](#), [Red Sea Crisis](#).

For Mains: Key Factors Driving India as a Global Manufacturing Hub, Key Challenges Hindering India's Emergence as a Global Manufacturing Hub.

India's journey from post-colonial scarcity to a [global manufacturing hub](#) reflects its [economic resilience](#) and [policy-driven growth](#). With a skilled workforce, technological advancements, and pro-business reforms, the country offers a thriving ecosystem for industries. Initiatives like the **National Manufacturing Mission** are boosting infrastructure, workforce development, and MSME growth. As India strengthens its manufacturing base, it is poised to **serve both domestic and global markets efficiently**. [Make in India](#), [Make for the World!](#)

What are the Key Factors Driving India as a Global Manufacturing Hub?

- **Policy Reforms and Ease of Doing Business:** The Indian government has introduced several policy reforms to enhance manufacturing competitiveness.
 - The [Production-Linked Incentive \(PLI\) scheme](#) across 14 sectors, reduction in **corporate tax rates (15% for new manufacturing units.)**, and streamlined regulatory processes have created a business-friendly environment.
 - Additionally, India's proactive approach in trade agreements, such as [India-UAE CEPA](#) and [India-Australia ECTA](#), has improved market access.
 - As a result India jumped to **63rd in [Ease of Doing Business](#) (World Bank's 2020 report)**.
- **Infrastructure Development and Logistics Advancements:** India is aggressively upgrading its infrastructure to support industrial expansion and supply chain efficiency.
 - The [Gati Shakti National Master Plan](#) aims to integrate **road, rail, air, and port connectivity** to enhance logistics.
 - Initiatives like the [PM MITRA Mega Textile Parks](#) and the [Dedicated Freight Corridors \(DFC\)](#) are strengthening industrial clusters.

- The [Budget 2025-26](#), aligned with the **Viksit Bharat @ 2047 vision**, allocates **₹11.21 lakh crore to the infrastructure sector**.
- **Technological Adoption and Industry 4.0:** India is embracing automation, **AI, IoT, and robotics** to modernize manufacturing and improve global competitiveness.
 - The [National Quantum Mission](#) and investment in semiconductor fabrication (e.g., **semiconductor plant in Dholera**) signal a shift towards high-tech manufacturing.
 - The **PLI scheme for IT hardware and electronics** is also bolstering the electronics and semiconductor industry, attracting global players like Foxconn and Micron.
 - India is projected to become a **\$300 billion electronics manufacturing hub by 2026** and the Semicon India Program has earmarked **₹76,000 crore (\$9 billion)** to develop chip manufacturing.
- **Growth of Green and Sustainable Manufacturing:** With increasing global demand for sustainable production, India is positioning itself as a green manufacturing hub.
 - The [National Green Hydrogen Mission](#) and incentives for renewable energy industries are attracting investments.
 - Policies like [Faster Adoption and Manufacturing of Electric Vehicles \(FAME II\)](#) and the **solar PLI scheme** promote clean energy adoption in industries
 - India targets **50% of energy from non-fossil fuels by 2030** and aims to produce **5 MMT of green hydrogen annually by 2030**, making it an attractive exporter.
- **Geopolitical Realignment and China+1 Strategy:** The global supply chain restructuring, driven by the **U.S.-China tensions** and **Covid-19 disruptions**, has led to increased investments in India.
 - Companies are diversifying their manufacturing bases, and India is benefiting from the [China+1 strategy](#).
 - Major firms like **Apple, Tesla, and Samsung** are expanding Indian production facilities to reduce dependence on China.
 - Apple's iPhone exports from India surged nearly four times on year to cross **\$5 billion (more than Rs 40,000 crore) in FY23**
 - **India's CEA V. Anantha Nageswaran** suggests that India can boost manufacturing by **strategically replacing certain imports with Chinese investments**, aligning with the **China Plus One strategy** to integrate into global supply chains.

What are the Key Challenges Hindering India's Emergence as a Global Manufacturing Hub?

- **High Logistics and Supply Chain Costs:** India's logistics costs remain significantly higher than global benchmarks, **reducing export competitiveness**.
 - The [Economic Survey 2022-23](#) pointed out that logistics costs in India have been in the range of **14-18% of GDP** against the global benchmark of **8%**
 - Inefficiencies in **transport networks, port congestion, and last-mile connectivity** delays increase operational costs for manufacturers.
 - Without streamlined logistics, **India struggles to match China and Vietnam** in cost-effectiveness for large-scale manufacturing.
- **Rigid Labor Laws and Skill Gaps:** Despite **labor code reforms**, bureaucratic hurdles and compliance burdens persist, discouraging large-scale labor-intensive industries.
 - Additionally, **skill gaps in advanced manufacturing, AI-driven production, and semiconductor fabrication** limit India's ability to compete in high-tech industries.
 - India will need **30 million digitally skilled professionals by 2026**, and **50% of the current workforce** will need to re-skill themselves
 - The shift from India's predominantly unorganized workforce (**90%**) to a globally competitive labor pool remains slow.
- **Weak MSME Ecosystem and Credit Constraints:** **MSMEs**, which form the backbone of Indian manufacturing, face severe credit shortages and limited access to technology.
 - Delays in **availing loans, high-interest rates, and collateral requirements** restrict their growth potential.
 - According to **CRISIL estimates, only 20% of India's MSMEs have access to formal credit**.

- While the increase in CGTMSE guarantees has provided some relief, **only 2.5 crore out of 6.3 crore MSMEs** have availed formal credit, underscoring a significant gap.
- **Infrastructure Gaps and Power Reliability Issues:** Despite improvements, **inconsistent power supply, inadequate industrial land, and poor urban planning hinder manufacturing expansion.**
 - Frequent electricity disruptions in industrial zones increase production costs and deter foreign investors.
 - The overall impact on the GDP due to power shortage is expected to be a fall of about **1-1.9%**.
 - Additionally, **delays in land acquisition and complex regulatory approvals** slow down the setup of new manufacturing units, particularly in high-growth sectors like semiconductors and EVs.
 - The lack of a **plug-and-play industrial ecosystem** remains a critical bottleneck.
- **Dependence on China for Critical Components and Raw Materials:** Despite India's push for self-reliance, **its heavy dependence on China for raw materials, electronics, and critical inputs** weakens its supply chain resilience.
 - Key industries like **pharmaceuticals (70% of Active Pharmaceutical Indicators), electronics, and renewable energy (semiconductor wafers)** rely on Chinese imports, making India vulnerable to geopolitical disruptions.
 - While initiatives like the PLI scheme aim to localize production, the transition to domestic sourcing remains slow and costly.
 - **India imports 70% of its API (Active Pharmaceutical Ingredients)** from China. After India removed curbs on using imported solar modules in 2023, imports of Chinese solar components rose **400% in less than a year.**
- **Slow Adoption of High-Tech Manufacturing and R&D Weakness:** India lags in **advanced manufacturing capabilities**, particularly in AI, robotics, and semiconductor fabrication.
 - While the **Semicon India Program** aims to establish chip manufacturing plants, execution delays and lack of a robust R&D ecosystem pose challenges.
 - India spends only **0.65% of GDP on R&D**, compared to **2.4% in China and 4.8% in South Korea.**
- **Global Trade Uncertainties and Geopolitical Risks:** India's trade competitiveness faces challenges due to **global economic uncertainties, protectionist policies, and geopolitical tensions.**
 - India is **yet to finalize crucial trade agreements with the EU, UK, and Canada**, which limits its export potential.
 - Additionally, the **US-China trade war** and disruptions in global supply chains (like the **Red Sea Crisis**) affect India's raw material sourcing and export markets.
 - Without stronger trade alliances, India risks missing opportunities in global value chains.
 - India's exports declined by 2.38% to \$36.43 billion in January 2025 due to low demand while imports surged by 10.28% to \$59.42 billion.

What Measures can India Adopt to Advance Towards Make in India, Make for the World?

- **Enhancing Logistics and Supply Chain Efficiency:** India must lower logistics costs by fast-tracking the **Gati Shakti National Master Plan**, optimizing **multi-modal transport networks, and integrating Dedicated Freight Corridors (DFC)** with industrial clusters.
 - Strengthening port modernization, warehousing infrastructure, and inland waterways will reduce transit delays and improve global trade competitiveness.
 - **Streamlining customs clearance, single-window approvals, and leveraging blockchain** for supply chain transparency will enhance efficiency.
 - A focus on regional trade hubs and free trade zones can further position India as a global manufacturing hub.
- **Labor Law Reforms and Workforce Skilling:** Full implementation of the four labor codes is crucial for easing compliance and promoting labor-intensive industries.
 - Introducing **flexible hiring policies, gig economy integration, and sector-specific wage policies** will enhance employment generation.

- Expanding Skill India, PMKVY, and apprenticeship programs **aligned with Industry 4.0, AI, robotics, and semiconductors** will create a future-ready workforce.
- Strengthening **industry-academia linkages, vocational education, and STEM learning** will drive innovation.
 - Encouraging women's workforce participation through **workplace safety measures** and incentives can boost productivity.
- **Strengthening MSME Ecosystem and Credit Access:** Streamlining credit disbursement through digital platforms, **increasing ECLGS (Emergency Credit Line Guarantee Scheme) coverage**, and lowering collateral requirements will enhance MSME growth.
 - Expanding **Mudra loans, SIDBI assistance, and factoring mechanisms** will improve liquidity for small manufacturers.
 - Encouraging MSME participation in global supply chains through **cluster-based development, technology adoption, and export incentives** will enhance competitiveness.
 - Supporting local component manufacturing under the **Atma Nirbhar Bharat initiative and One District One Product Initiative** will reduce import dependency.
- **Infrastructure Modernization and Industrial Corridors:** Accelerating industrial corridor projects such as **DMIC (Delhi-Mumbai Industrial Corridor), CBIC (Chennai-Bengaluru Industrial Corridor), and AKIC (Amritsar-Kolkata Industrial Corridor)** will boost manufacturing hubs.
 - Expanding plug-and-play industrial zones with ready infrastructure, uninterrupted power supply, and low-cost land acquisition policies will attract investments.
 - Strengthening **smart cities, urban logistics hubs, and green energy grids will ensure sustainable industrialization.**
 - Leveraging public-private partnerships (PPPs) in infrastructure financing will ease fiscal constraints.
 - **Integrating high-speed rail freight systems with major industrial zones** will improve supply chain resilience.
- **Reducing Import Dependence and Strengthening Domestic Manufacturing:** India must accelerate indigenization in critical sectors such as **semiconductors, electronics, pharmaceuticals, and defense manufacturing.**
 - **Expanding PLI (Production Linked Incentive) schemes and integrating R&D incentives** for high-value manufacturing will reduce foreign reliance.
 - Developing **special economic zones (SEZs) for electronic components and auto parts** can enhance import substitution.
 - Encouraging joint ventures, technology transfers, and domestic value chain integration will enhance self-reliance.
- **Boosting High-Tech Manufacturing and R&D Ecosystem:** India must scale up high-value manufacturing in **semiconductors, aerospace, electric vehicles (EVs), biotech, and deep-tech sectors** through targeted R&D funding.
 - Expanding **National Quantum Mission, AI innovation hubs, and startup incubation programs** will create a globally competitive tech-driven manufacturing ecosystem.
 - Strengthening **patent protection, technology transfer policies, and university research grants** will drive innovation.
 - Promoting **public-private partnerships (PPPs) in R&D** will enable faster commercialization of indigenous technologies.
- **Strengthening Global Trade Partnerships and Export Competitiveness:** India must aggressively **finalize pending FTAs with the EU, UK, and Canada** to expand market access for manufacturers.
 - Strengthening **participation in global value chains (GVCs) by integrating domestic industries with multinational supply networks** will drive exports.
 - Enhancing export credit facilities, **cross-border e-commerce integration, and global marketing support** will improve trade competitiveness.
 - Strengthening bilateral trade agreements in emerging markets (like **Africa**) will diversify export destinations.
- **Transitioning to Sustainable and Green Manufacturing:** Promoting **carbon-neutral industrial zones**, expanding Green Hydrogen Mission, and incentivizing solar and wind energy adoption will make India a leader in sustainable manufacturing.

- Encouraging **circular economy practices, eco-friendly packaging, and zero-waste production models** will align industries with global ESG standards.
- Imposing **green regulations while offering tax incentives for sustainability investments** will drive eco-conscious manufacturing.
- Establishing **certification frameworks for carbon credits, green bonds, and renewable energy adoption** will attract global investors.

Conclusion

India's manufacturing growth hinges on **policy reforms, infrastructure upgrades, and technological advancements** to enhance global competitiveness. By strengthening logistics, MSME support, high-tech R&D, and sustainable practices, the nation can solidify its position as a global manufacturing powerhouse. Embracing '**Vocal for Local, Local to Global**' will be key to making India a hub for world-class manufacturing.

Drishhti Mains Question:

Discuss the significance of the 'Make in India, Make for the World' initiative in positioning India as a global manufacturing hub. What challenges hinder its success, and what strategic measures are needed to enhance its effectiveness?

UPSC Civil Services Examination Previous Year Questions (PYQs)

Prelims

Q. What is/are the recent policy initiative(s) of Government of India to promote the growth of the manufacturing sector? (2012)

1. Setting up of National Investment and Manufacturing Zones
2. Providing the benefit of 'single window clearance'
3. Establishing the Technology Acquisition and Development Fund

Select the correct answer using the codes given below:

- (a) 1 only
 (b) 2 and 3 only
 (c) 1 and 3 only
 (d) 1, 2 and 3

Ans: (d)

Mains

Q. "Success of 'Make in India' program depends on the success of 'Skill India' programme and radical labour reforms." Discuss with logical arguments. (2019)

