Research Unit
Press Information Bureau
Government of India

Automotive Industry: Powering India's Participation in Global Value Chains (GVCs)

(NITI Aayog)

13th April, 2025

Key Takeaways

- *India contributes 7.1% to global GDP through its automotive sector and ranks 4th in global vehicle production.*
- *Despite a strong manufacturing base, India holds only 3% share in global traded auto components,* highlighting a vast scope for expansion.
- *The Vision 2030 roadmap aims to scale production to $145bn, exports to $60bn, and generate 2–2.5 million jobs.*
- *Government schemes like FAME, PM E-Drive, and PLI have mobilized ₹66,000+ crore to support EVs and localization.*
- *With targeted reforms and GVC integration, India can raise its global component trade share from 3% to 8% by 2030.*

On 11th April 2024, NITI Aayog released a report titled ***'Automotive Industry: Powering India's Participation in Global Value Chains',*** launched by Vice Chairman Shri Suman Bery, senior members, and the CEO of NITI Aayog. The report outlines India's Global Value Chain (GVC) potential in the automotive sector and highlights strategic pathways for global leadership.

India's automotive industry is a cornerstone of the nation's manufacturing and economic growth, contributing **7.1% to India's Gross Domestic Product (GDP)** and **49% to manufacturing GDP**. As the **fourth-largest automobile producer globally**, India possesses the scale and strategic depth to emerge as a global leader in the automotive value chain. The sector spans a vast ecosystem, from vehicle assembly and auto component manufacturing to deep interlinkages with critical industries such as steel, electronics, rubber, IT, and logistics. In recent years, India has seen exponential growth in vehicle production, with over **28 million units manufactured in 2023–24** alone. The industry's contribution goes beyond industrial output, and it supports millions of direct and indirect jobs, spurs innovation, and is central to India's green mobility transition, industrial ambitions, and trade strategy.

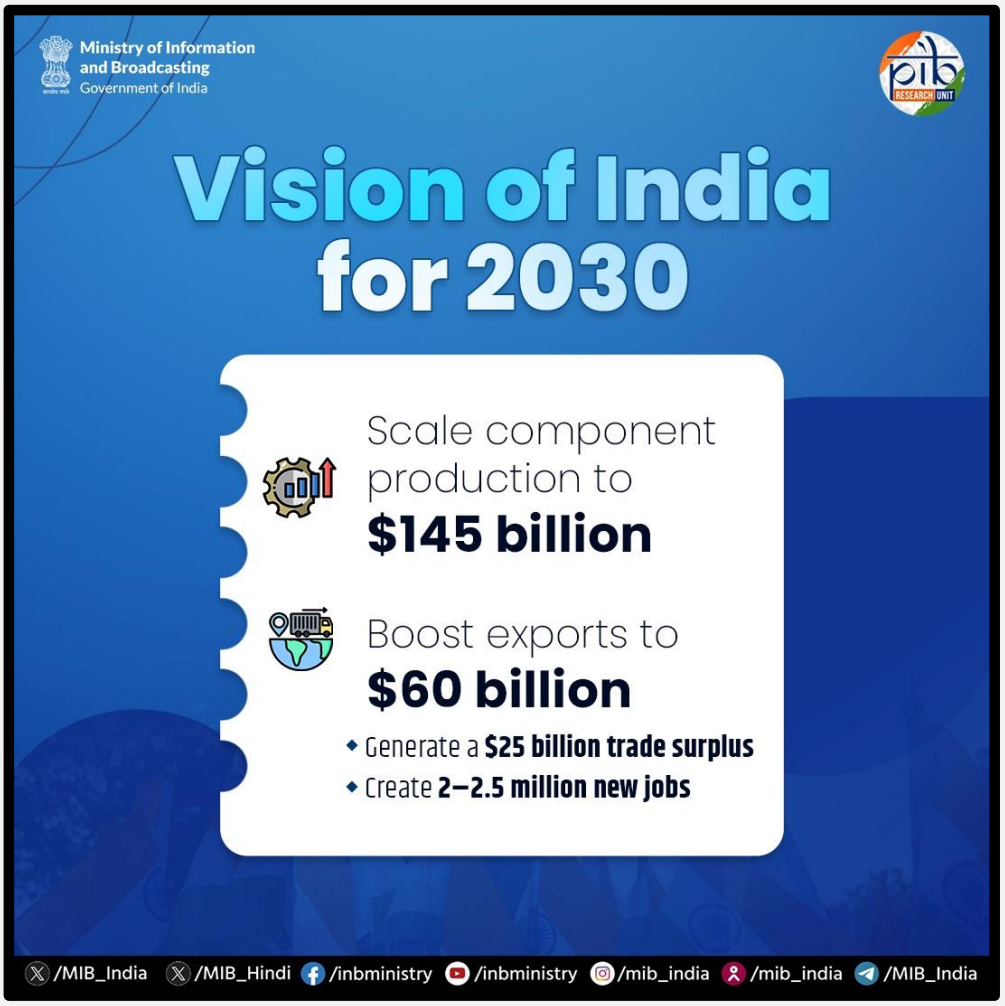
The global **automotive component market was valued at $2 trillion in 2022**, with **$700 billion** traded across borders. Despite India's strong manufacturing base, its share in the globally traded auto component market remains at just **3% (~$20 billion)**, highlighting a vast scope for expansion. India's **trade ratio in auto components is near-neutral (~0.99)**, with exports and imports nearly balancing each other. This also underlines the domestic sector's limited penetration in high-value, high-precision segments such as engine and engine components, along with drive transmission and steering systems,

where India holds just **2–4% of the global trade share**. Bridging this gap requires structural reforms, strategic investments, and a coordinated industrial policy approach. With the right enabling conditions, India can triple exports to **$60 billion**, generate a **$25 billion trade surplus**, and create **over 2-2.5 million direct jobs** by **2030**, propelling it toward becoming a globally competitive, innovation-driven manufacturing hub.

Strategic Importance of the Automotive Sector

- Contributes **7.1% to India's GDP** and **49% to manufacturing GDP**.
- Employs millions and supports critical linkages across steel, electronics, and IT sectors.
- India's current share in globally traded auto components is **approximately 3%** or **20 billion**.

India's Vision for Automotive Industry



This vision aligns with India's aspirations to become a global manufacturing hub under the Make in India and *Atmanirbhar Bharat* initiatives.

Global Trends Shaping the Sector

1. Rise of Electric Vehicles (EVs):

- EVs are reshaping manufacturing priorities, with China producing over **8 million EVs in 2023**.
- The EU and the US are accelerating EV adoption through regulatory mandates and subsidies.

- EVs are increasing the demand for batteries, semiconductors, and advanced materials.

2. Digital and Advanced Manufacturing:

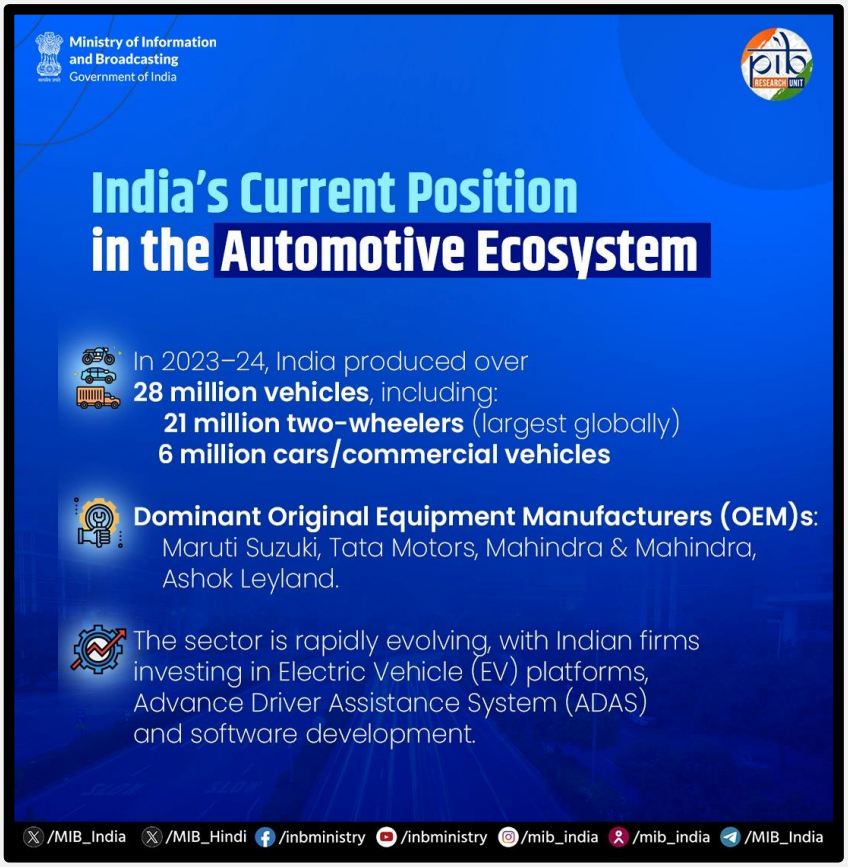
- Integration of **AI, robotics, digital twins, Internet of Things (IoT)**, and **3D printing** is driving efficiency.
- Many global automakers are investing heavily in creating smart factories, where AI, IoT, and robotics are integrated into every aspect of the production process. Countries like Germany and South Korea are leading in smart factory adoption.

3. Sustainability and Circular Economy:

- Automakers are moving toward **carbon neutrality**, material recycling, and energy efficiency.
- Examples: BMW's EV battery recycling and Volkswagen's renewable energy sourcing.

4. Sectoral Interdependence:

- Auto industry is a major consumer of **steel, electronics, rubber, glass, textiles**, and **IT services**.
- Increasing reliance on **semiconductors** and **AI-driven software** for innovative mobility solutions.



Major Government Interventions

1. Make in India: Launched in 2014, the Make in India initiative has provided a significant boost to the country's manufacturing sector, particularly in automobiles. This policy promotes domestic manufacturing, reduces reliance on imports, and encourages foreign direct investment.

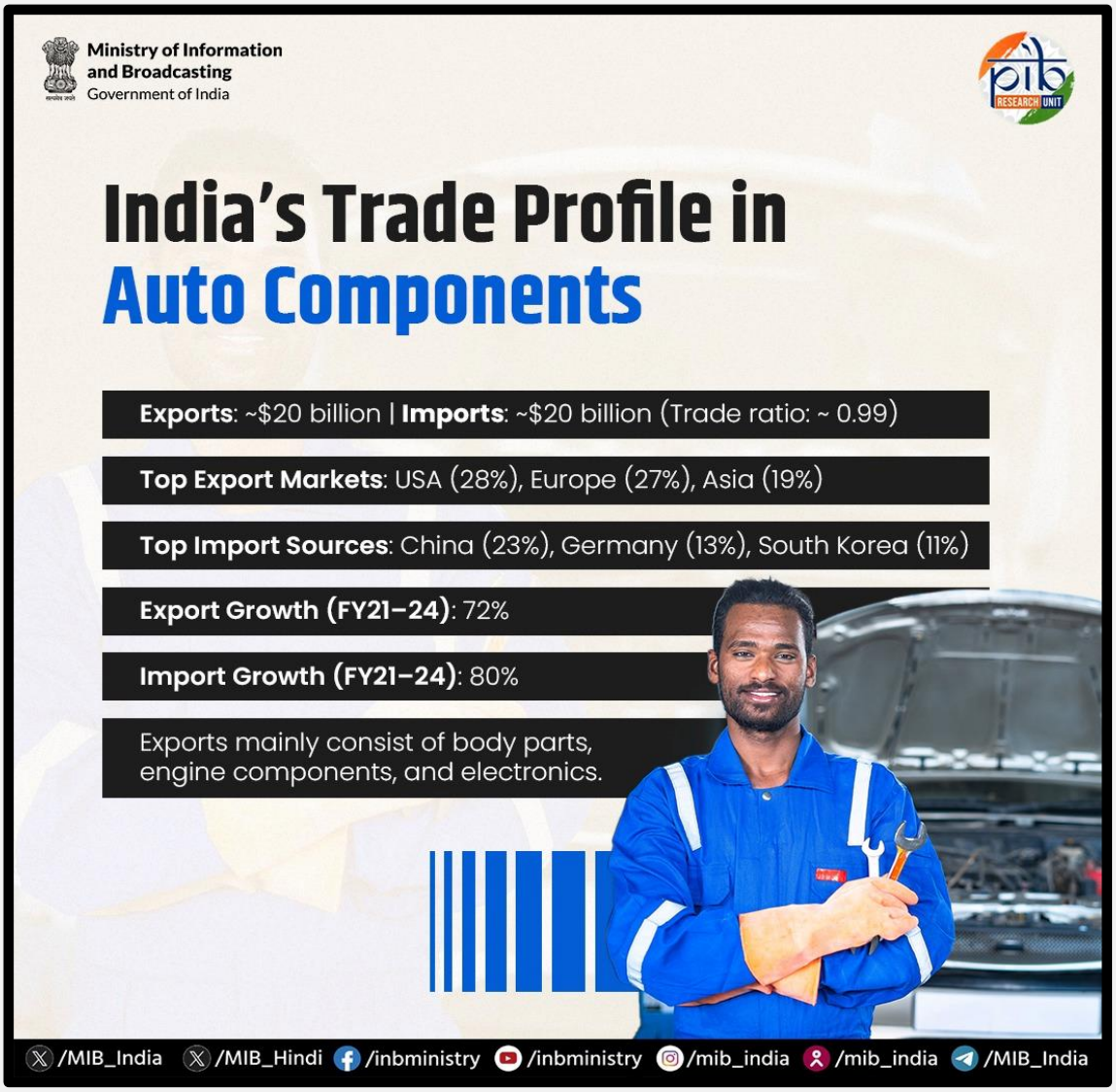
2.**Atmanirbhar Bharat:** The Atmanirbhar Bharat initiative aims to foster self-sufficiency in manufacturing and reduce the country's dependence on foreign components. In the automotive sector, this has resulted in increased domestic production of critical components such as engines, transmissions, and EV batteries. The government has also extended support to start-ups and small and medium enterprises (SMEs) in the automotive space, helping them integrate into global supply chains.

3.FAME India Scheme (Phases I & II): The Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) scheme has been pivotal in promoting clean mobility in India. Phase II, with an outlay of ₹11,500 crore, focuses on demand incentives for electric two-wheelers, three-wheelers, buses, and the development of public charging infrastructure. It also aims to promote technology platforms for EVs and create a robust domestic EV ecosystem.

4. PM E-Drive Scheme (2024–26): Launched to accelerate EV adoption and reduce urban pollution, this scheme has a budget of ₹10,900 crore and targets large-scale procurement of electric vehicles:

- **24.79 lakh** electric two-wheelers
- **3.2 lakh** electric three-wheelers
- Procurement of **14,028** electric buses by State Transport Undertakings (STUs)/public transport agencies
- **₹2,000 crore** earmarked for national-level charging infrastructure expansion.

5. Production Linked Incentive (PLI) Scheme for Auto and ACC Batteries: With a total allocation of ₹44,038 crore (PLI scheme- INR 25,938 crore, PLI scheme for ACC Battery Storage- INR 18,100 crores), this flagship initiative aims to boost the domestic manufacturing of advanced automotive technologies, including EVs, hydrogen fuel cell vehicles, and advanced battery storage solutions. It provides financial incentives to OEMs and component manufacturers for investing in cutting-edge technologies, achieving economies of scale, and integrating into global supply chains. The scheme also prioritises domestic value addition, export readiness, and job creation through technology-driven innovation.



Key Challenges Hindering the Global Value Chain's Integration

- **10%** cost disadvantage for India versus China due to:
  - Higher raw material and machinery costs
  - 100% depreciation rate vs 50% in China (~3.4% cost burden)
  - High logistics, financing, and energy costs

- **Underperformance in high-precision segments**:

  - India's global share: Only 2–4% in engine and engine components, along with drive transmission and steering systems

- **Inadequate R&D ecosystem** and **limited IP ownership**

Proposed Interventions for GVC Integration

Fiscal Measures:

1. **Operational Expenditure (Opex) Support**: To scale up manufacturing capabilities, with a focus on capital expenditure (Capex) for tooling, dies, and infrastructure.
2. **Skill Development**: Initiatives to build a talent pipeline critical for sustaining growth.

3. **R&D, Government facilitated IP transfer and Branding**: Providing incentives for research, development, international branding to improve product differentiation and empowering MSMEs through IP transfers.
4. **Cluster Development**: Fostering collaboration between firms through common facilities such as R&D and testing centers to strengthen the supply chain.

Non-Fiscal Reforms:

1. **Industry 4.0 Adoption:** Encouraging the integration of digital technologies and enhanced manufacturing standards to improve efficiency.
2. **International Collaboration:** Promoting joint ventures (JVs), foreign collaborations, and free trade agreements (FTAs) to expand global market access.
3. **Ease of Doing Business:** Simplifying regulatory processes, worker hour flexibility, supplier discovery & development and improving business conditions for automotive firms.

Conclusion

India's automotive sector stands at a decisive inflection point, where focused reforms, policy clarity, and industry alignment can elevate it into the league of global leaders in automotive manufacturing. With the world shifting rapidly towards clean, smart, and connected mobility, India must accelerate its integration into global value chains by building competitiveness in high-precision components, fostering innovation, and deepening its export footprint. Over the next five years, the effective execution of planned interventions—ranging from skilling and infrastructure to R&D and global partnerships- will determine whether India becomes a hub for high-value auto components or remains a low-cost player in traditional segments. With the right mix of ambition and action, India can become a globally recognised supplier of next-generation mobility solutions.

References

- **REPORT - Automotive Industry: Powering India's participation in Global Value Chains** -https://www.niti.gov.in/sites/default/files/2025-04/Automotive-Industry-Powering-India-participation-in-GVC_Non-Confidential.pdf
- https://www.pib.gov.in/PressReleasePage.aspx?PRID=2120977

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