



# Indian Auto Component Manufacturing Industry

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# Indian Auto Component Manufacturing Industry

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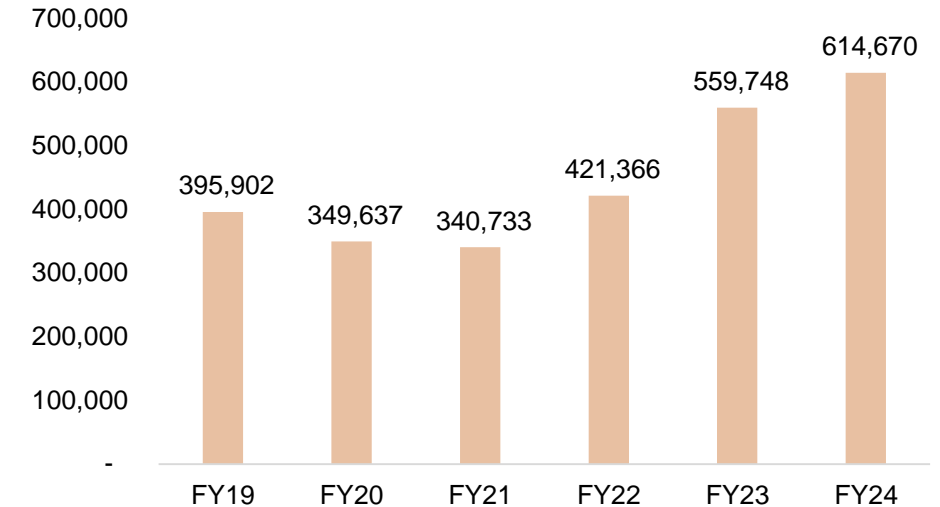


# Overview of the Auto Component Manufacturing Industry in India

- The Indian auto component manufacturing industry, valued at \$57 billion (bn) in 2023, is expected to grow to \$85 bn by 2026, contributing significantly to employment and GDP
- The industry comprises both organized and unorganized sectors, with around 400 major players in the organized sector accounting for 80% of the market share
- The Indian auto component manufacturing industry contributes 2.3% to the national GDP and providing direct employment to 1.5 million people.
- India's auto component industry, contributing to GDP and employment, experienced a 9.8% growth rate in fiscal 2023-24, with a turnover of around \$73.1 billion. This growth is driven by steady vehicle production, a thriving aftermarket, and increased exports
- The automotive component industry experienced its fastest turnover growth in FY23, with turnover reaching Rs 5.59 trillion in FY23, up 33% year-on-year (y-o-y) driven by pent-up demand, improved raw material supply, and increased sales of SUVs.
- Auto component sales to OEMs in India increased by 8.9% year-on-year to Rs. 5.18 lakh crore (\$62.4 bn) in FY23-24 driven by increased value-added components, localization, and market preference for larger vehicles
- Auto component exports increased by 5.5% to \$21.2 bn in FY23-24 with North America, Europe, and Asia contributing the most, with Europe experiencing a 12% growth
- Component imports increased by 3.0% year-on-year in 2023-24 to \$20.9 bn, with Asia accounting for 66%, followed by Europe and North America at 26% and 8% respectively
- The aftermarket experienced a surge in turnover in FY 2023-24, reaching Rs. 93,886 crore, driven by increased vehicle movement and demand for used vehicles, particularly in the hinterland
- The sector currently contributes 2.3% to India's GDP and is expected to significantly enhance this figure in the coming years

## Auto Components Industry Performance

### Auto Component Industry Turnover (Rs. Crore)

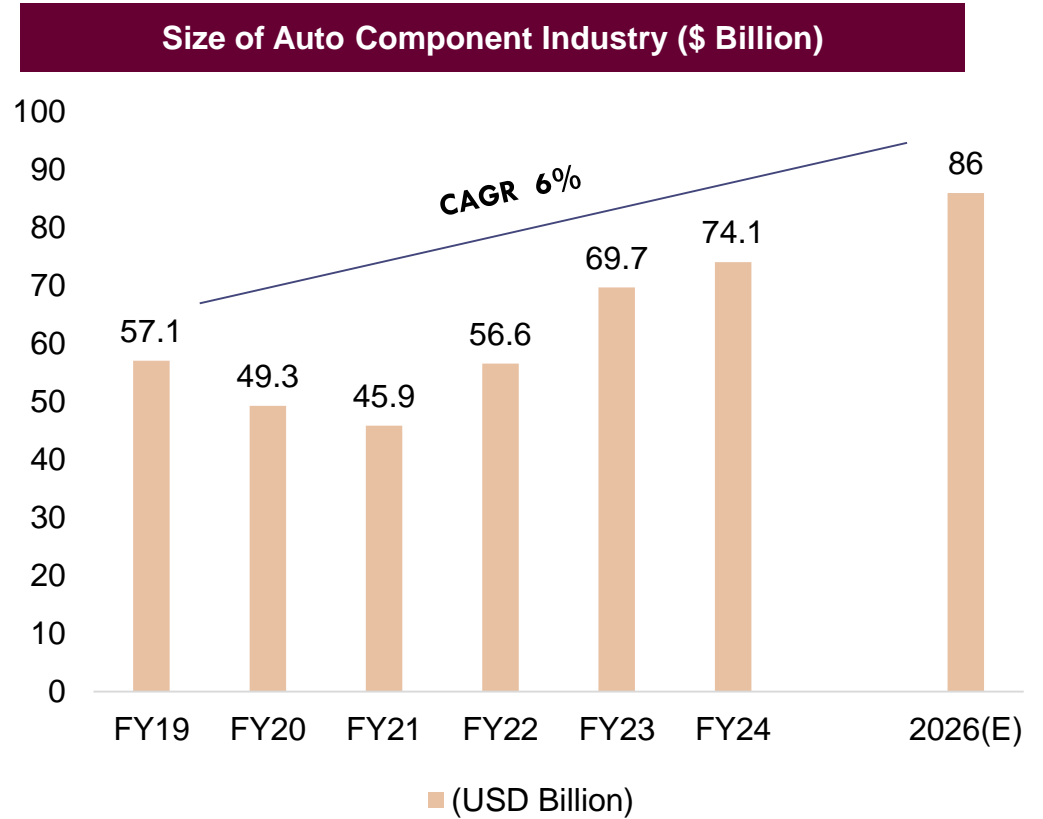


Source: ACMA

- The Auto Component Industry has experienced significant growth in the past decade, primarily due to strong domestic vehicle sales, a robust aftermarket, and increasing exports
- The auto-components industry experienced a 10% growth in FY24, primarily due to a 9% increase in vehicle production and sales

# Overview of the Auto Component Manufacturing Industry in India

- India's auto components industry has grown significantly due to rising demand for automobiles driven by the expanding middle class, growing global exports
- **Economic Impact:** The automotive industry, comprising vehicles and components, has surpassed the Rs 20 lakh crore (\$240 billion) mark and contributes 14-15% to India's total GST collections
- The auto components sector not only supports 1.5 million direct jobs but also generates significant indirect employment within the broader automotive ecosystem
- The growing electric vehicle (EV) sector, accounting for 6% of total component production, signifies a shift towards advanced automotive technologies
- The auto component industry significantly contributes to India's economy and supports the broader automotive market and employment landscape
- India's auto component manufacturing ecosystem is robust, fueled by skilled labor, government incentives, and strategic investments from domestic and international firms across these states
- Electric vehicle adoption in India is driving industry changes, necessitating specialized parts and government support for growth. Traditional manufacturers must adapt quickly to stay competitive
- The auto industry in India contributed 14-15% of the total Goods and Services Tax (GST) collected in FY24, exceeding the Rs 20 lakh crore mark



Source: ACMA

# Executive Summary

## Employment Generation

- The auto component sector is vital for employment generation, providing direct and indirect jobs. Its evolution is expected to increase opportunities, especially through localization and reduced import dependence

## Contribution to GDP

- The auto component industry significantly contributes to India's GDP through direct economic impact, employment, and technological development, as well as tax contributions
- The Indian automobile industry**, which includes the auto component industry, with a turnover of Rs 20 lakh crore, contributes about 6.8% to India's GDP and accounts for 40% of the manufacturing sector, highlighting its importance as a driver of macroeconomic growth and technological advancement in the country

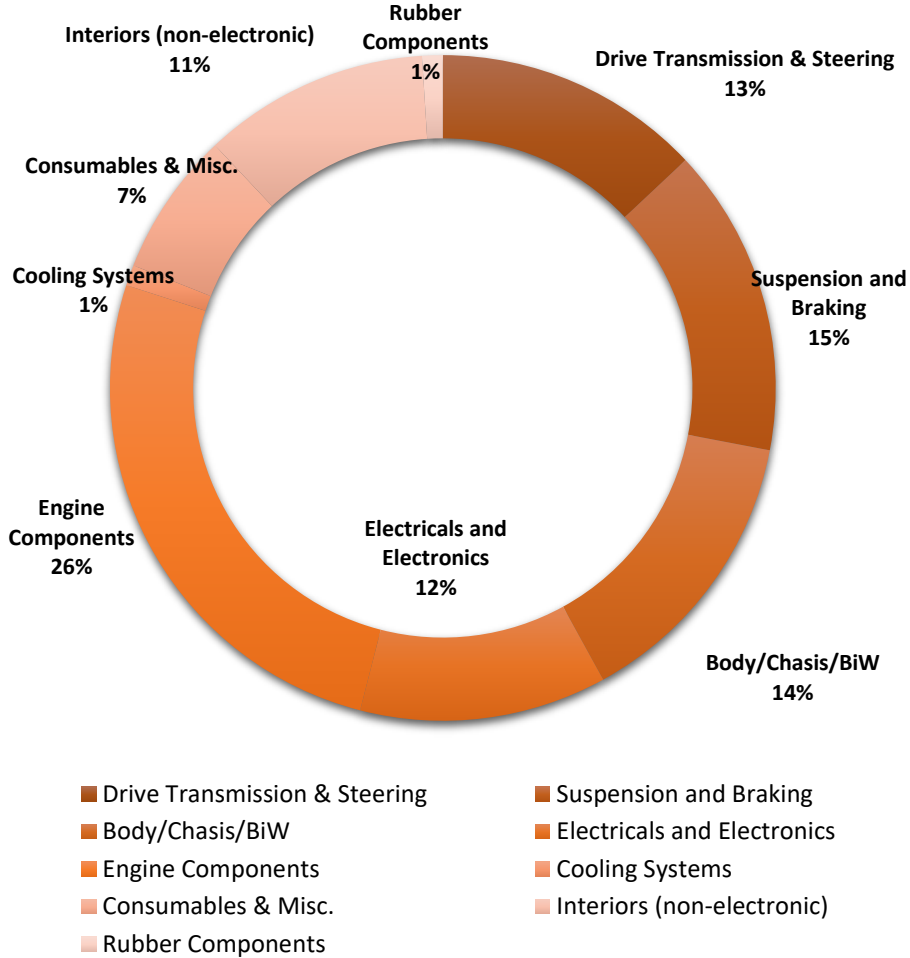
## Collaborations and Investments

- The auto component industry has seen increased collaboration between domestic firms and global OEMs, leading to a surge in domestic sales to Rs 5.18 trillion in FY 2023-24, driven by rising demand for value-added components
- Tamil Nadu has secured investment proposals worth around \$2.2 bn, showcasing its leadership in electric vehicle production

## Foreign Direct Investment (FDI)

- From April 2000 to June 2024, the Indian automotive industry attracted \$36.65 billion in foreign direct investment, indicating global confidence in India's manufacturing potential

Overall Auto Component Sales in India by Category (FY 24)



Source: ACMA

# Key Components of the Industry

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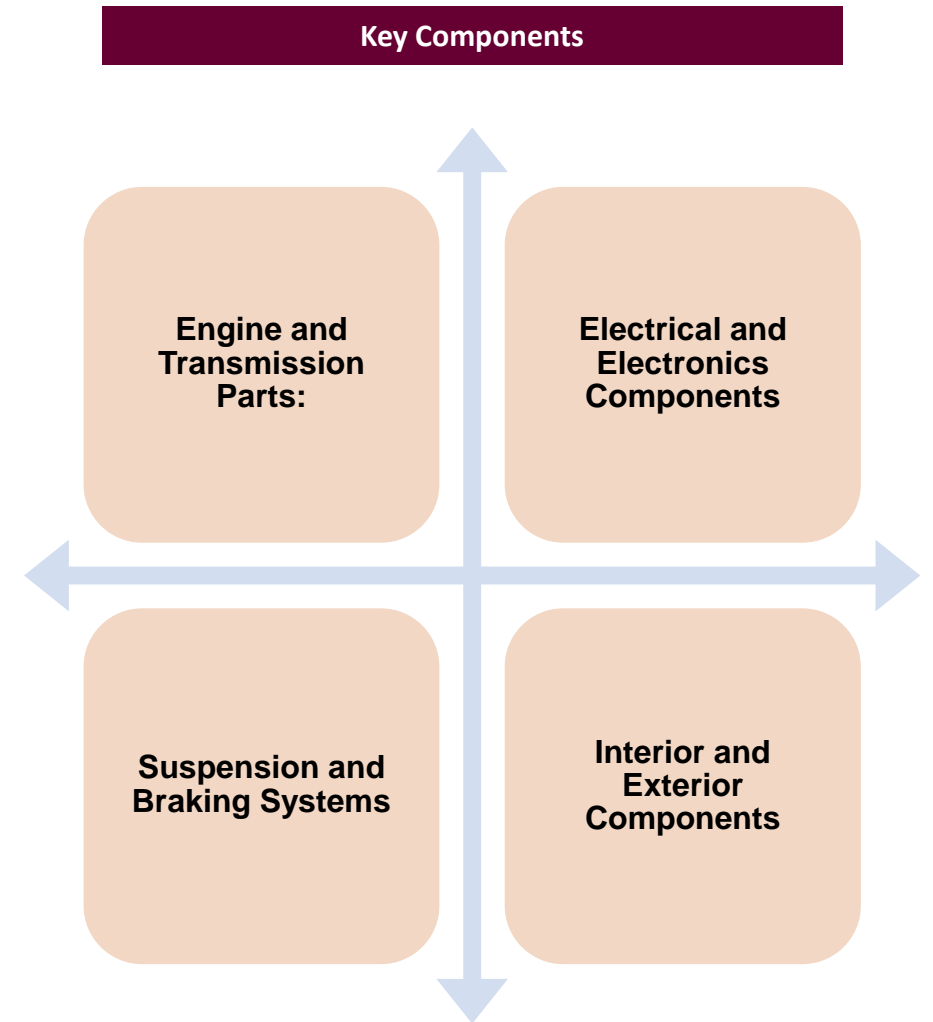
The auto component manufacturing industry in India is diverse and can be categorized into several components:

- **Engine and Transmission Parts:** This segment constitutes approximately 35% of the market and comprises essential components for vehicle propulsion and performance.
- **Electrical and Electronics Components:** This category constituting about 30% of the market, encompasses wiring, sensors, and electronic control units essential for modern vehicles
- **Suspension and Braking Systems:** Making up around 20% and these are crucial components for smooth handling and vehicle safety.
- **Interior and Exterior Components:** This segment, comprising dashboards, seats and body panels, accounts for roughly 15%

## Sub-sectors Breakdown

The industry can be further segmented into organized and unorganized sectors:

- **Organized Sector:** The Organized Sector comprises around 400 major players, accounting for 80% of the market, primarily supplying high-value components to Original Equipment Manufacturers (OEMs)
- **Unorganized Sector:** The Unorganized Sector comprises approximately 5,000 small-scale industries (SSIs) that primarily serve the aftermarket with low-value items



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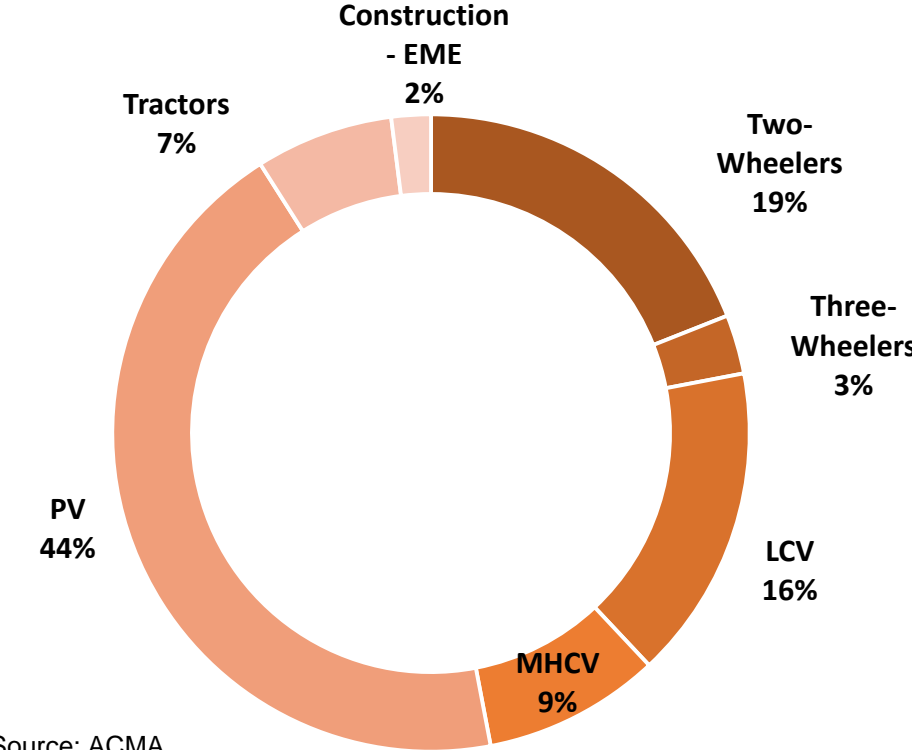
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**Component Supply to OEM Segment-Automobile Category-Wise (FY2023-24)**



Source: ACMA

- Two-Wheelers
- Three-Wheelers
- LCV
- MHCV
- PV
- Tractors
- Construction- EME

Source: ACMA

# Organized vs. Unorganized Sector in India's Auto Component Industry

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The Indian auto component industry is divided into organized and unorganized sectors with distinct characteristics and roles

## Organized Sector

- The organized sector comprises larger manufacturers that directly supply components to Original Equipment Manufacturers (OEMs) and produce high-value precision instruments
- The sector comprises around 400 major players and 700 tier-1 and tier-2 suppliers, accounting for 85% of the total industry revenues
- Organized manufacturers, through collaborations with foreign firms or OEMs, can access advanced technology, enabling them to produce high-quality components that meet industry standards

### Market Role

- The organized sector primarily serves the OE market, accounting for 80% of total component demand and controlling 65% of the aftermarket
- These firms generate substantial employment, with direct employment figures reaching around 250,000 in medium and large companies alone

## Unorganized Sector

- The unorganized sector is dominated by over 10,000 MSMEs, primarily small and micro enterprises, which primarily produce low-valued items
- The aftermarket sector primarily offers vehicle replacement parts and services post-sale, offering less sophisticated products compared to organized sectors

### Market Role

- The unorganized sector significantly contributes to the aftermarket, accounting for 52% of total sales due to its lower-cost services compared to authorized OEM workshops
- The manufacturing sector, which has a larger number of units, contributes significantly less to overall industry revenue, estimated at around 15%

The organized sector in India's auto component industry drives technological advancements, while the unorganized sector provides cost-effective aftermarket solutions, promoting growth and sustainability in the automotive ecosystem

# Organized versus Unorganized Sector: Product & Service Differences

The organized and unorganized sectors in India's auto component industry exhibit significant differences in products, services, and operational structures

## Main Distinctions:

Category	Organized Sector		Unorganized Sector	
<b>Structure</b>	Formal Structure	The organized sector comprises registered companies that comply with government regulations, labor laws, and industry standards, including large manufacturers and multinational corporations	<b>Informal Structure</b>	The informal sector comprises small, family-run businesses without formal registration or regulatory compliance, such as local workshops and small part manufacturers
<b>Product Quality</b>	High-quality standards	Organized sector products typically meet higher quality standards due to stringent manufacturing processes, quality control measures, and investment in advanced technology and innovation	<b>Product Variability</b>	Unorganized sector products often lack standardization and undergo minimal quality checks, leading to significant variation in quality and reliability
<b>Range of Services</b>	Comprehensive Services	The organized sector provides a wide range of services, including warranty, after-sales support, and customer service, often incorporating employee training and development	<b>Limited Services</b>	The unorganized sector provides limited services, with rare warranty provisions and informal or nonexistent after-sales support
<b>Job Security &amp; Benefits</b>	Offers Job Security	This sector offers job security, fixed salaries, benefits like health insurance, retirement plans, and paid leave, with employees working under formal contracts with defined roles	<b>Job Insecurity</b>	Informal employment often lacks job security, benefits, or legal protections, and workers receive payment on a daily or piece-rate basis, rather than a fixed salary
<b>Market Access</b>	Access to Larger Markets	Organized firms have a stronger foothold in larger markets due to their established reputation and compliance with regulatory requirements	<b>Local Market Focus</b>	The unorganized sector primarily serves local markets with limited reach, often limited by resource availability and lack of access to larger distribution networks

# Segment Analysis: OEM versus Aftermarket

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The Indian auto component manufacturing industry is divided into OEMs and aftermarket segments. The organized sector dominates the OEM market due to high-value production and technological advancements, while the unorganized sector thrives in the aftermarket. As India becomes a global automotive hub, both segments are expected to drive industry growth

## OEM (Original Equipment Manufacturer) Segment

- **Market Share:** The organized sector, comprising 80% of the OEM market, is a key supplier of high-value components to major automobile manufacturers like GM, Ford, and BMW
- **OEM Market Growth:** The Indian automotive components industry is projected to experience moderate growth, with a 5.3% increase in value from \$59.3 bn in 2023 to \$62.4 bn in 2024, driven by increased vehicle production and sales. The supply to OEMs is expected to increase by 8.9%, indicating a steady demand for new vehicles and manufacturer parts
- **Growth Drivers:** The OEM segment experienced significant growth in FY 2023-24, with domestic sales of auto components reaching Rs 5.18 trillion, an 8.9% increase from the previous year due to increased vehicle production, localization initiatives, and a shift towards larger vehicles like SUVs
- **Technological Advancements:** Technological collaborations between organized manufacturers and foreign firms enhance their production capabilities and product quality

## Aftermarket Segment

The aftermarket segment is a crucial part of India's auto component industry, experiencing significant growth and increasing significance in the automotive sector. This segment encompasses the sale of vehicle parts and services post-sale, including repairs, maintenance, and replacement parts.

- **Market Characteristics:** The unorganized sector, primarily serving the aftermarket segment, is experiencing a growing demand for low-value items like spare parts and accessories for vehicle maintenance and improvement
- **Market Size:** The aftermarket is expected to reach \$14 bn by 2024. The aftermarket turnover in FY 2023-24 increased by 10% to Rs 938.86 bn (US\$11.1 billion), according to analyst
- **Market Growth:** The aftermarket is expected to experience a 6.7% growth rate, increasing from \$10.6 bn in 2023 to \$11.3 bn in 2024
- The aftermarket segment of India's auto component industry is expected to experience robust growth due to expanding vehicles on Indian roads, aging vehicles, and shifting consumer preferences towards organized service marketplaces and direct-to-consumer sales models

# Fast-Growing Segments in the Auto Component Industry in India

## Electric Vehicle Components

India's ambitious 2030 goal of 30% electric vehicle (EV) penetration is driving significant growth in the demand for lithium-ion batteries, battery management systems, and electric drivetrains. The advancement of battery-swapping technologies provides new opportunities for auto component manufacturers to produce and maintain battery packs

India's electric mobility push is boosting demand for battery technology, electric drivetrains, and charging infrastructure, affecting the auto component sector. The government's emphasis on incentives for electric vehicle manufacturing is accelerating this growth

## Original Equipment Manufacturer Components

The OEM segment is expected to experience the fastest CAGR in the auto components market due to increased vehicle production and the need for high-quality components. In FY2024, OEM supply to OEMs grew by 5.3% to reach Rs 62.4 bn.

## Aftermarket Components

The aftermarket segment experienced a 10% growth in FY2024 due to increased vehicle usage and the formalization of repair services, indicating a growing trend towards vehicle maintenance. The segment with a turnover of approximately \$11.3 bn in FY2024, is a vital contributor to the industry's growth

## Engine and Transmission Parts

Indian auto component market dominates engine components, accounting for 35% of the Indian auto component market, focusing on efficiency and emissions reduction due to regulatory pressures and consumer demand for greener technologies

## Electrical and Electronics Components

The growth of advanced vehicle technologies, such as autonomous driving and infotainment systems, is significantly impacting the growth of electrical and electronics components. The segment, comprising 30% of the market, is crucial for integrating new technologies into vehicles

## Suspension and Braking Systems

Manufacturers are investing in research and development to improve vehicle safety and performance, leading to growth in the suspension and braking systems segment

# India's Leading Auto Component Manufacturing Hubs

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India's auto component manufacturing sector is primarily concentrated in key states, with leading hubs including Delhi, Mumbai, and Ahmedabad contributing significantly to industry growth

Manufacturing Hubs	Contribution
<b>Tamil Nadu</b>	<ul style="list-style-type: none"><li>• <b>Contribution:</b> Tamil Nadu, with major cities like Chennai and Coimbatore at its core, accounts for 35% of India's auto component production</li><li>• <b>Industry Presence:</b> Chennai, known as the "Detroit of India," is home to around 100 major auto component manufacturers, including global giants Visteon and Delphi</li><li>• <b>Key Players:</b> Bharat Forge and Motherson Sumi Systems are major companies that have established a strong manufacturing ecosystem in the region</li><li>• <b>Investment:</b> The state secured \$2.209 bn in investment proposals in 2022-23, leveraging its automotive industry legacy to expand into electric vehicle production</li></ul>
<b>Maharashtra</b>	<ul style="list-style-type: none"><li>• <b>Contribution:</b> Maharashtra, particularly the Pune region, holds a significant market share of 33%</li><li>• <b>Industry Presence:</b> The region is home to major manufacturers like Tata Motors and Mahindra &amp; Mahindra, along with numerous component suppliers</li><li>• <b>Key Companies:</b> Tata AutoComp and Endurance Technologies are prominent firms in the region, significantly contributing to the production and export of auto components</li></ul>
<b>Haryana</b>	<ul style="list-style-type: none"><li>• <b>Contribution:</b> This state contributes approximately 30% to the auto component sector</li><li>• <b>Significance:</b> Haryana, strategically located near the National Capital Region, has become a vital auto component manufacturing centre, home to numerous major automotive manufacturers<ul style="list-style-type: none"><li>• The state is a major automotive hub due to its diverse suppliers that serve both domestic and international markets</li></ul></li><li>• <b>Industry Presence:</b> The National Capital Region (NCR) comprises significant industrial areas like Gurgaon and Manesar, home to major companies like Maruti Suzuki</li></ul>

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# India's Leading Auto Component Manufacturing Hubs

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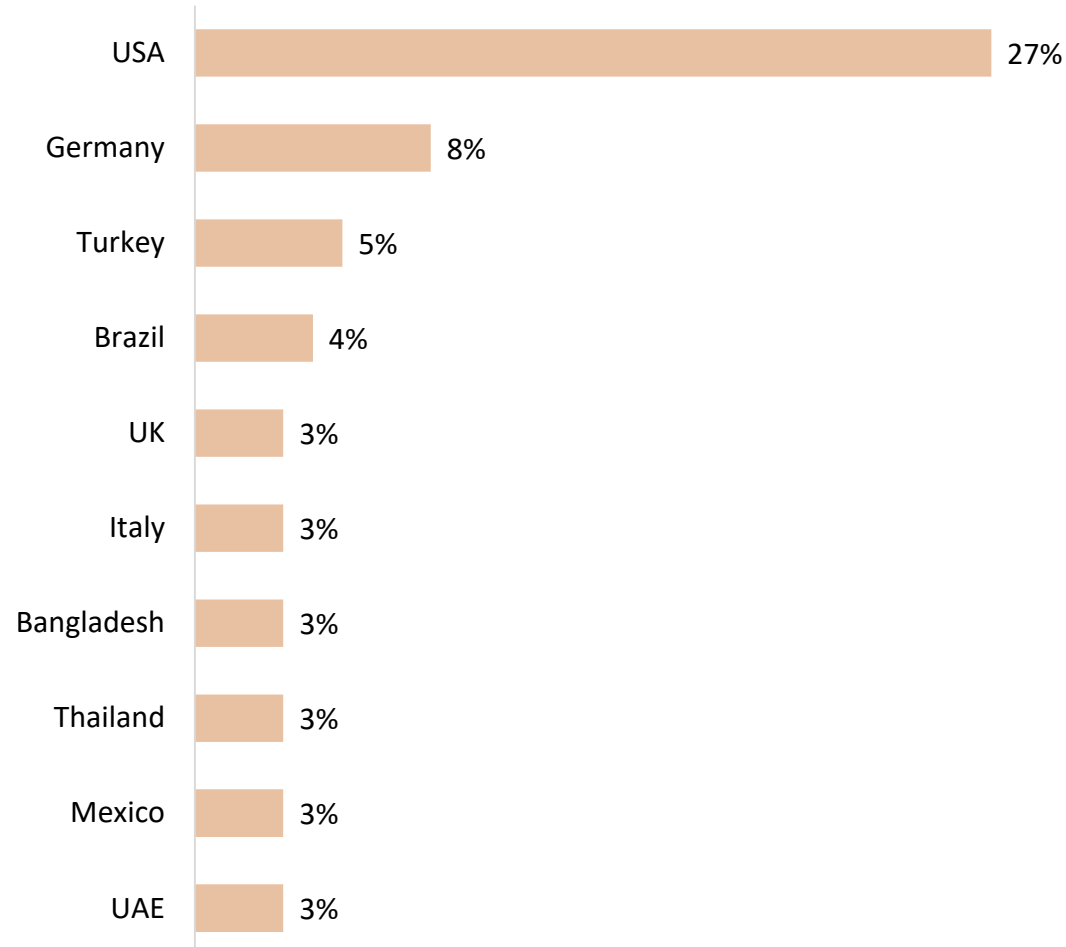
Manufacturing Hubs	Contribution
Gujarat	<b>Emerging Hub:</b> Gujarat is gaining prominence in the auto component sector, attracting significant investments from MG Motors and Ford, and its favourable business environment is attracting suppliers
Karnataka	<b>Diverse Manufacturing:</b> Karnataka, renowned for its two-wheeler and commercial vehicle production, is home to major manufacturers like Toyota and TVS Motor, playing a vital role in the automotive supply chain
Telangana	<b>Growing Sector:</b> Telangana is emerging as a significant hub for auto components, with companies like Hyundai establishing significant operations in the region
Other Notable States	<ul style="list-style-type: none"><li>• <b>Andhra Pradesh:</b> It is home to renowned manufacturers such as Kia and Isuzu</li><li>• <b>Madhya Pradesh:</b> The state is gaining popularity as a manufacturing hub due to its advanced infrastructure and supportive automotive industry policies. It features companies such as Eicher Motors and Hindustan Motors</li><li>• <b>Uttarakhand</b> is renowned for its incentives, which have attracted manufacturers like Bajaj Auto</li></ul>

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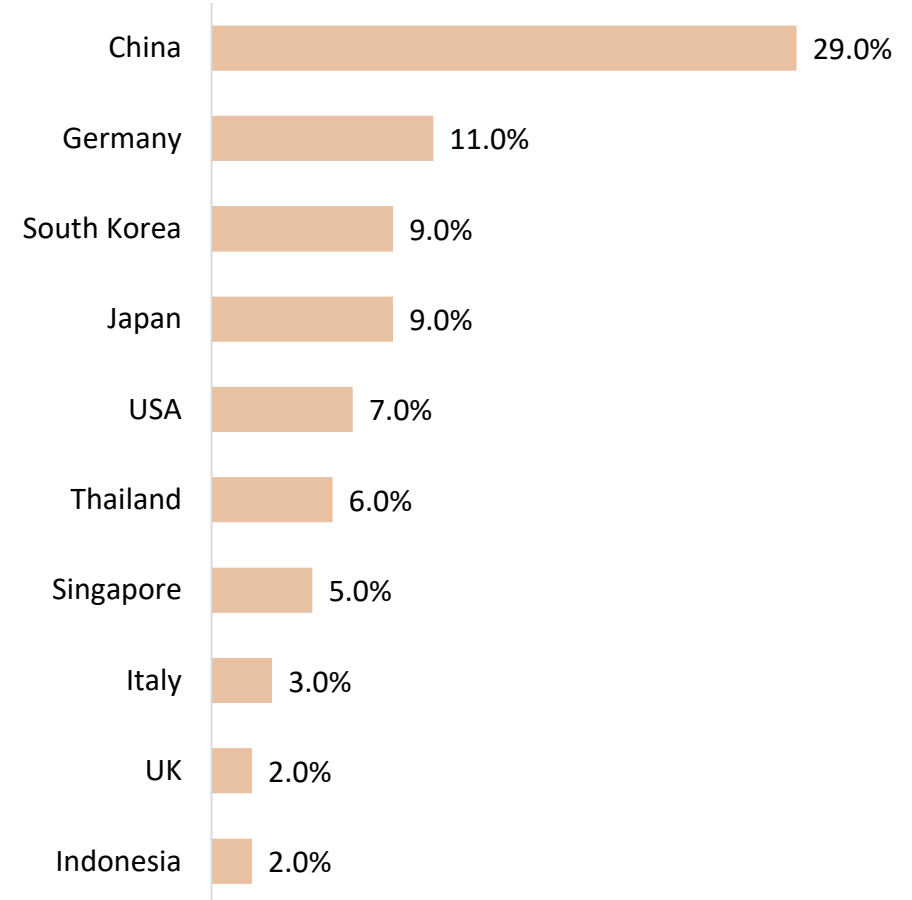
# Top 10 Country wise: Imports and Exports of Indian Auto Components

USA was a major export destination, while China was a significant import source in FY 2024

Exports (% of Total) in FY2024

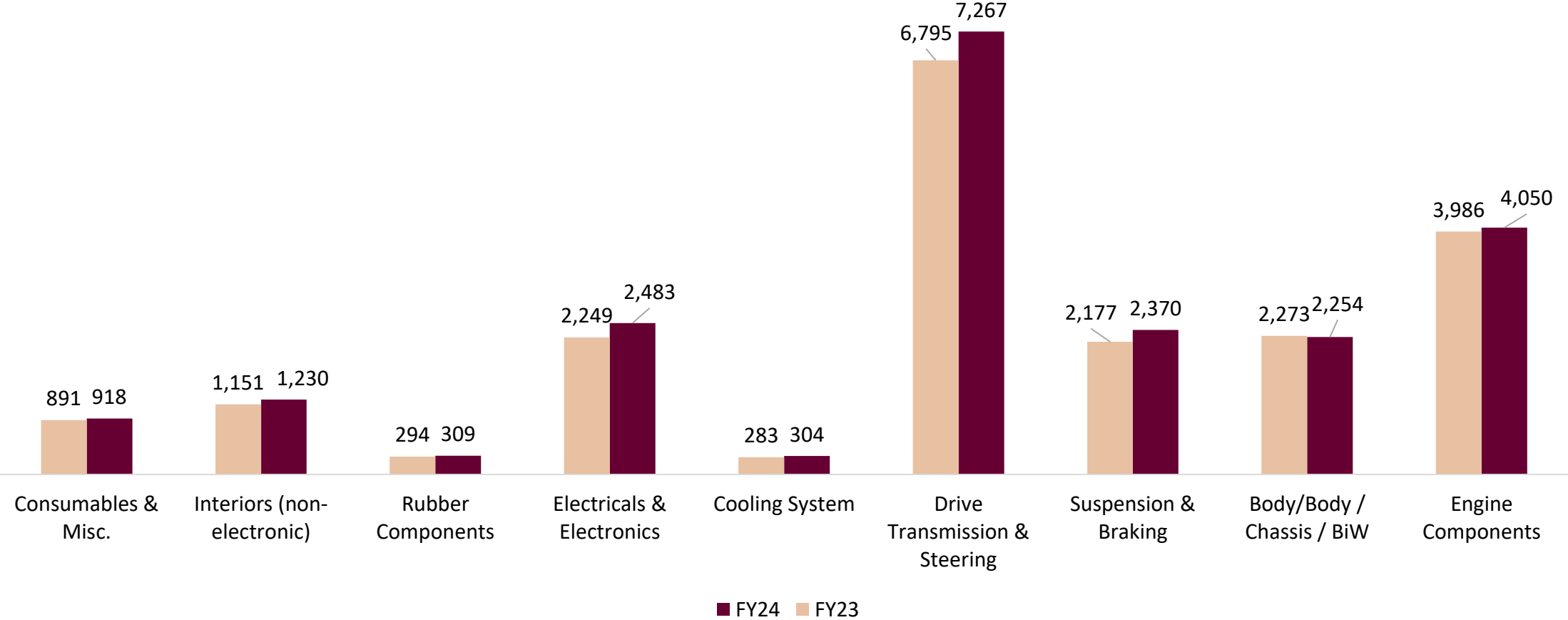


Imports (% of Total) in FY2024



# Exports Segmentation by Product Type

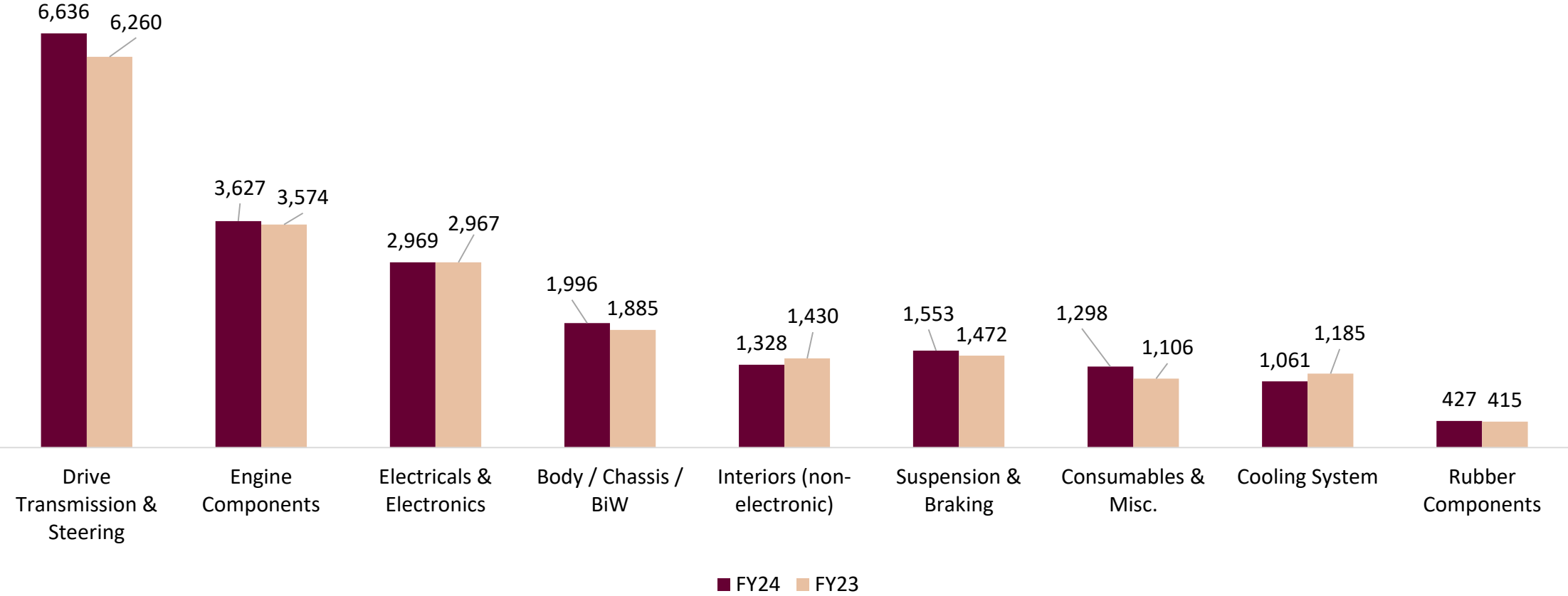
Exports Segmentation by Product Type (\$ Million)



Source: ACMA

# Imports Segmentation by Product Type

Imports Segmentation by Product Type (\$ Million)



Source: ACMA

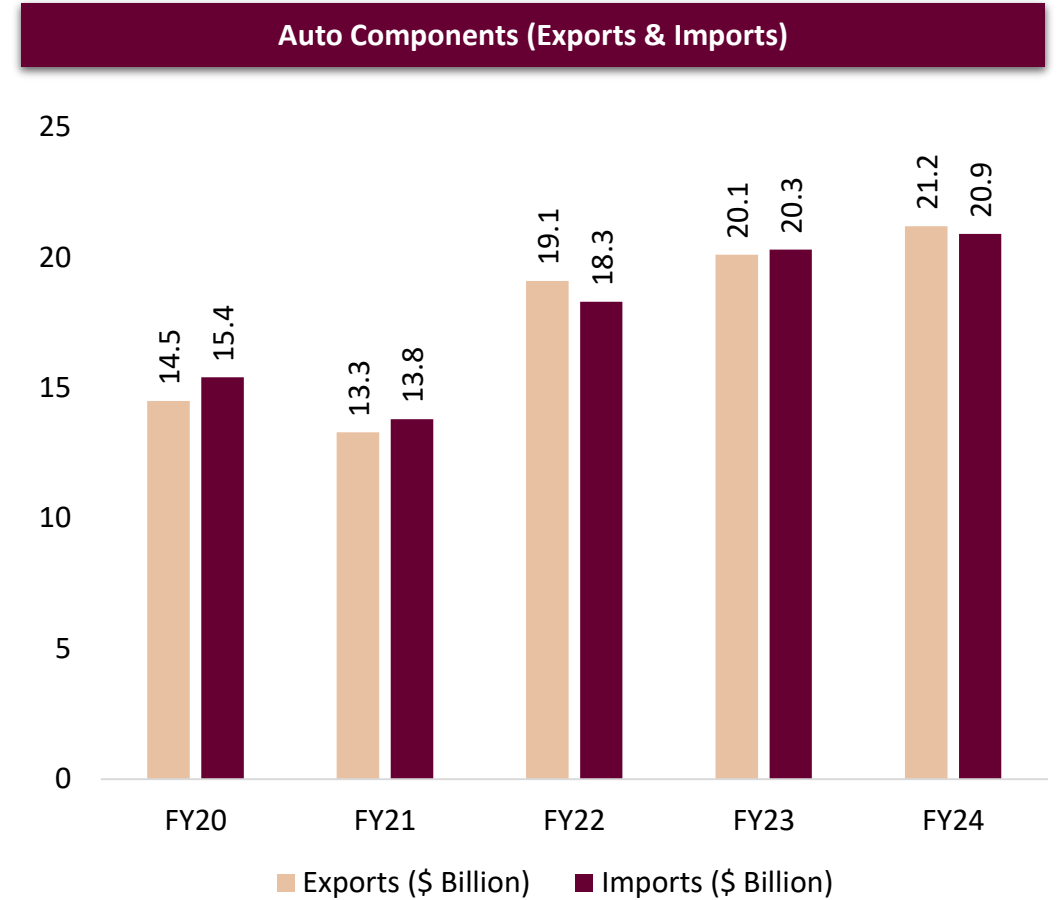
# India's Auto Components Trade Surplus: Strong demand for exports

## Exports

- In FY2024, auto component exports increased by 5% to \$21.2 bn, with a trade surplus of \$300 mn. The EU was the largest market, with a 33% share, followed by North America and Asia
- Major export destinations included the USA, Germany, Turkey, Brazil, and the UK. Asia experienced minimal growth, with a 24% share reduction. Latin America saw a 10% reduction in exports, while Africa experienced a 12% growth. The USA remains the largest export destination
- India's auto components exports reached \$21.2 bn in FY23-24, a 5.5% growth despite global challenges, driven by strong demand from North America and Europe, with Asia remaining significant with a 24% market share, but experiencing flat growth compared to the previous year

## Imports

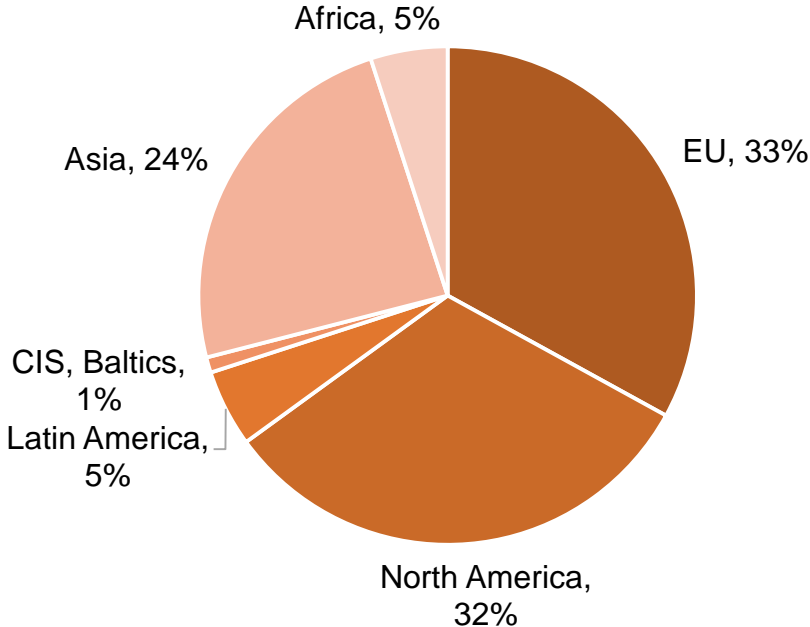
- Auto-component imports in FY24 increased by 3% to \$20.9 bn, with no growth from North America, 3% from Asia, and 4% from the EU
- India's auto-component imports are primarily from Asia, Europe, and North America, with China being the largest partner at 29%, followed by Germany, Japan, USA, Thailand, Singapore, Italy, and Indonesia



Source: ACMA

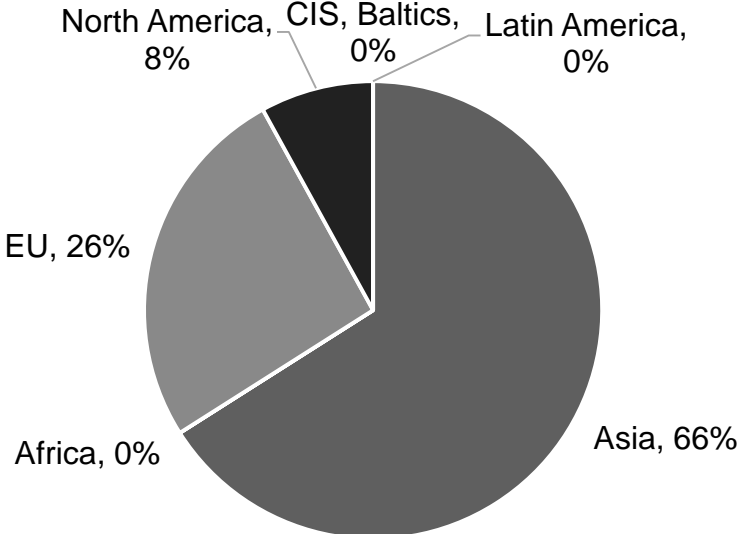
# Auto Components Exports and Imports, Region-wise (FY2024)

Auto Components Exports, Region-wise



■ EU ■ North America ■ Latin America ■ CIS/Baltics ■ Asia ■ Africa

Auto Components Imports, Region-wise



■ Asia ■ Africa ■ EU ■ North America ■ Latin America ■ CIS/ Baltics

Source: ACMA

# Factors Contributing to the Growth

The Indian auto component manufacturing industry, fuelled by domestic demand, exports, and technological advancements, saw a 9.8% growth in 2023-24, reaching a record turnover of approximately Rs 6.14 lakh crore (around \$74.1 bn), up from Rs 5.59 lakh crore in 2022-23

## Key Contributing Factors:

<b>Steady Vehicle Production</b>	The demand for vehicles has led to increased production, boosting the demand for auto components. The domestic component supply to OEMs increased by 8.9% to Rs 5.18 lakh crore in FY2023-24, accounting for 6% of the country's total component production
<b>Growth in the Aftermarket</b>	The aftermarket segment, which includes post-sale vehicle parts and services, experienced a 10% growth, contributing Rs 93,886 crore to the industry, due to increased vehicle ownership and maintenance needs
<b>Rising Exports</b>	The auto component sector experienced a 5.5% growth in exports, reaching \$21.2 bn despite a decline in overall merchandise exports from India, demonstrating its resilience and global competitiveness
<b>Emergence of Electric Vehicles (EVs)</b>	The EV market, accounting for 6% of total component production, signifies a shift towards advanced automotive technologies and the industry's adaptability to evolving market demands
<b>Localization Efforts</b>	The industry is reducing import dependence through government policies and domestic manufacturing initiatives, improving supply chain efficiency and contributing to a \$300 mn trade surplus
<b>Supportive Government Policies</b>	The Production-Linked Incentive (PLI) scheme, a government initiative, has provided financial incentives to advanced automotive component manufacturers, thereby boosting sector growth
<b>Global Supply Chain Dynamics</b>	India's emerging status as a hub for auto component sourcing is attracting foreign investment and enhancing its export potential due to the ongoing global supply chain shift

The Indian auto component industry is demonstrating resilience and growth potential, overcoming domestic and global challenges while seizing emerging opportunities

# India's Strategic Position Benefits Auto Component Exports

India's strategic positioning, particularly in 2024, significantly boosts its auto component exports due to various factors

## Geographic Advantage

- India's strategic location allows it to efficiently serve neighbouring Asian markets, expanding its market reach and fostering trade relationships

## Growth in Exports

- India's auto component exports surged by 5.5% in FY2023-24, reaching \$21.2 bn, with key markets including North America, Europe, and Asia, with a 12% growth in Europe
- India's auto component shipments have experienced significant growth due to strong demand from major markets like North America and Europe, which account for over 60% of the industry

## Localization Efforts

- The Indian government has implemented a localization roadmap to reduce import dependence on auto components, identifying 28 essential components for indigenization, supporting 'Make in India' and enhancing export potential

## Production-Linked Incentives (PLI)

- PLI schemes are boosting domestic manufacturing, incentivizing local high-value component production, and aiming to accelerate the auto component sector's growth and global leadership by 2030

## Emerging Technologies

- India's commitment to becoming a leading EV market by 2030 is expected to boost demand for auto components and export growth in this segment

## Skilled Workforce and Infrastructure

- India's skilled and cost-effective workforce and established automotive supply chains make it an attractive location for manufacturing operations, enhancing global market competitiveness

## Investment and Infrastructure Development

- India is boosting foreign investment attractiveness by approving 100% FDI in automotive parts and developing 20 industrial smart cities for manufacturing and export promotion. The auto component industry is projected to reach an export target of \$100 bn by 2030 due to significant investments in these initiatives

India's strong export growth, localization efforts, and government support for infrastructure and investment enhance its competitiveness in the global automotive supply chain. The country's continued investment in infrastructure and technology positions it to become a major player by 2024 and beyond

# Key Technological Advancements in the Indian Auto Component Industry

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The Indian auto component manufacturing industry has made significant technological advancements, establishing itself as a key player in the global automotive supply chain

## 1. Electric Vehicle (EV) Adoption and Infrastructure

- The shift towards electric vehicles has significantly accelerated innovation. The advancement of lithium-ion battery-swapping technology is crucial in addressing range anxiety among electric vehicle (EV) consumers and offers opportunities for auto component manufacturers. The FAME India scheme offers subsidies to improve EV infrastructure, thereby boosting the sector's growth

## 2. Advanced Automotive Technology (AAT)

- The Production Linked Incentive Scheme aims to boost the manufacturing of Advanced Automotive Technology products including components for hybrid and electric vehicles, notably Zero Emission Vehicles. The initiative aims to foster localization and establish robust domestic and global supply chains for AAT products

## 3. Research and Development (R&D) Enhancements

- The establishment of the National Automotive Testing and R&D Infrastructure Project (NATRIP) in India has enhanced testing and R&D capabilities, ensuring Indian manufacturers meet global standards, and the government has allocated significant funding to enhance R&D across industry

## 4. Localization Efforts

- The industry is prioritizing localization of critical components like automatic transmissions and sensors to reduce import reliance and enhance domestic manufacturing, with joint ventures with international companies being pursued

## 5. Integration of Digital Technologies

- Digital technologies like data analytics, AI, and automation are revolutionizing manufacturing processes, improving efficiency, safety, and user experience, while 5G networks and blockchain enhance supply chain transparency

## 6. Compliance with Emission Norms

- Manufacturers are investing in innovative solutions to promote cleaner transportation options in response to stringent emission standards like Bharat Stage VI

## 7. Innovations in Manufacturing Processes

- The integration of advanced technologies like 3D printing, AI, and IoT is revolutionizing manufacturing processes, enabling more efficient and cost-effective production of complex, lightweight vehicle parts, such as rapid prototyping, which accelerates design and testing phases

# Industry Collaboration and Strategic Partnerships

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Indian auto component manufacturers are forming strategic partnerships with foreign firms for R&D, joint ventures, EV technology, and skill development, aiming to integrate global technologies and improve local production, positioning them as a key player in the global automotive supply chain

## Strategic Partnerships and Alliances

### 1. Research and Development Collaborations

- The ACMA Mobility Foundation has partnered with Fraunhofer-Gesellschaft to enhance R&D efforts for the Indian market, focusing on localized innovation and creating products specifically designed for Indian consumers, a significant shift from global models
- Indian automotive Global Capability Centers (GCCs) are transitioning from cost-arbitrage entities to innovation hubs, developing technologies across product lifecycle, reflecting India's strategic partnership with global automotive players

### 2. Joint Ventures and Mergers

- Indian companies are acquiring UK-based firms to expand globally, enhancing technological capabilities and facilitating knowledge transfer in renewable technology and EV manufacturing

### 3. BMW and Indian Auto Component Suppliers

- BMW has partnered with Indian auto component suppliers, including Force Motors, ZF Hero Chassis, and Valeo India, to increase localization of production in Chennai. Key components sourced include engines, gearboxes, axles, and interior elements, as part of BMW's strategy to improve quality and reduce costs

### 4. India-UK Collaborations

- Indian and UK automotive leaders are discussing collaborations in lightweight materials, battery technology, and engineering services, focusing on advancing electric vehicle technology and establishing a robust supply chain for Zero Emission Vehicles. The collaboration aims to leverage India's electronics manufacturing capabilities

# Industry Collaboration and Strategic Partnerships

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## 5. General Trends in Collaborations

- Indian auto component manufacturers are forming partnerships with global tech suppliers to transition towards electric vehicles and smart manufacturing technologies, including predictive maintenance, rapid prototyping, and digitization of manufacturing processes

## 6. Focus on Electric Vehicles and Sustainability

- India is collaborating with foreign companies to advance electric vehicle technologies, focusing on battery technology, lightweight materials, and advanced manufacturing processes to achieve significant EV adoption by 2030
- Indian firms and international partners are collaborating to develop sustainable manufacturing practices, enhancing India's position in the global automotive supply chain

## 7. Skill Development and Localization

- Collaborations often focus on skill development to equip the workforce with advanced manufacturing technologies, ensuring competitiveness in a rapidly evolving industry
- The establishment of Global Centres of Excellence (GCCs) has enhanced India's appeal as a foreign investment destination by fostering a skilled talent pool for advanced automotive technologies

# Impact of Global Competition on India's Auto Component Sector

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- The Indian auto component sector is significantly influenced by global competition, which drives technological adaptation and innovation through various key factors.

## 1. Increased Quality Standards and Technological Capabilities

- Global competition has necessitated Indian auto component manufacturers to improve their quality and technical capabilities to meet the rigorous standards of international Original Equipment Manufacturers (OEMs)
- Indian exports are increasingly being marketed to OEM markets in developed countries, indicating a shift from the replacement market to quality-focused production
- India's component exports are primarily directed towards Europe and North America, indicating a growing alignment with global standards. India's export-led growth is largely driven by its strategic global supply chain position and the increasing demand for high-quality automotive components in developed markets

## 2. Outsourcing and Cost Competitiveness

- India's cost competitiveness in labor and raw materials attracts global OEMs for outsourcing production, encouraging local manufacturers to innovate and invest in technology for improved efficiency and product quality
- Global players' pressure to reduce costs while maintaining high standards has prompted increased investments in R&D within the sector

## 3. Establishment of Global Capability Centres (GCCs)

- Indian automotive companies are establishing Global Capability Centres to focus on core innovation, developing advanced technologies like AI, ML, and analytics to enhance product design and manufacturing processes. The shift towards digitalization is vital for maintaining market competitiveness in a rapidly changing landscape

## 4. Government Initiatives and Infrastructure Development

- The Indian government has initiated initiatives like the National Automotive Testing and R&D Infrastructure Project (NATRIP) to enhance the automotive sector's capabilities and position India as a global manufacturing hub for vehicles and components through significant infrastructure investment. The government's support is crucial in creating an environment that encourages innovation.

## 5. Strategic Collaborations

Strategic alliances with global leaders are essential for accessing advanced technologies, such as EV technology and autonomous systems. These partnerships enhance product competitiveness and accelerate technological adaptation within the industry.

Global competition encourages technology adaptation, but also presents cybersecurity risks, data privacy concerns, and job displacement. Industry must navigate these challenges for sustainable growth.

# Impact of Automation on Production Efficiency in the Auto Component Sector

The integration of automation in the auto component sector is transforming the sector by significantly improving production efficiency by integrating robotics, AI, and advanced manufacturing technologies

## Enhanced Efficiency and Productivity

Automation in automotive manufacturing enhances efficiency by streamlining operations, enabling continuous operation without fatigue, leading to faster production cycles and increased output, as robots perform thousands of tasks daily with precision

For example, automated welding systems can perform numerous welds daily, significantly reducing cycle times and increasing throughput

## Improved Quality and Consistency

Automation enhances product quality and consistency by executing tasks with precision, minimizing variability in production processes, resulting in reduced waste and improved overall product quality

Advanced robotic systems with sensors enhance quality control by identifying defects at microscopic levels before products move to the next stage

## Cost Reduction and Sustainability

Automation reduces production costs and promotes sustainability by optimizing resource usage, reducing energy consumption, and waste generation, allowing companies to allocate human resources more strategically

## Addressing Labor Shortages

Automation in the Indian auto component sector addresses labor shortages and skill gaps by reducing physically demanding tasks, allowing human workers to focus on complex roles

The shift in workforce utilization is enhanced by implementing targeted training programs in automation technologies to prepare employees for future demands

## Innovations and Customization

Automation enables manufacturers to swiftly adapt production lines to market changes, allowing for easy reconfiguration of various vehicle models without significant downtime or retooling costs, promoting continuous improvement and innovation

The transition to automation faces challenges, including limited adoption and concerns about skilled labor availability, which could hinder efficiency and sector growth if not addressed through adequate training initiatives for advanced automated systems

# Electrified Vehicles' Role in India's Auto Component Industry Growth

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The increasing adoption of electric vehicles (EVs) in India is significantly transforming the auto component industry, reshaping demand and supply dynamics

## Impact on Demand for Components

- **Rising Demand for Specialised Components:** India's demand for lithium batteries is expected to rise from 4 GWh in 2023 to 139 GWh by 2035, primarily due to the shift towards electric vehicles
  - The transition to electric vehicles (EVs) is reducing the need for traditional engine-related components and increasing the demand for EV-specific parts like battery packs and electric motors

**Market Growth:** The auto components market in FY24 grew by 12%, reaching \$102 bn, with the EV components market valued at \$4 bn, a 38% increase from the previous year

- By FY30, electric vehicles (EVs) are predicted to dominate over 22% of the auto components market, valued at \$206 bn

## Government Policies and Support

### Incentives and Schemes:

- The government is implementing initiatives like the FAME and PLI schemes to boost domestic EV manufacturing. In the 2024-25 budget, Rs. 2,671.33 crore was allocated to FAME-III, while Rs. 3,500 crore was allocated to PLI
- Customs duty exemptions on critical minerals used in EV batteries are being implemented to increase affordability and promote local manufacturing efforts

## Challenges and Opportunities

- **Supply Chain Adjustments:** Transitioning from internal combustion engine (ICE) to EVs necessitates significant changes in supply chains and manufacturing processes, posing challenges for traditional component manufacturers to adapt to digitalization and smart vehicle features
- Importing components like semiconductors and battery cells poses risks that could disrupt supply chains unless localization efforts are intensified

# Electrified Vehicles' Role in India's Auto Component Industry Growth

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## Emerging Market Dynamics

- As the market matures, manufacturers are increasingly focusing on lightweight materials and advanced manufacturing techniques, such as carbon-fiber-reinforced plastic (CFRP), to improve vehicle performance
- As electric vehicles (EVs) age and batteries need replacement, a growing aftermarket for battery replacements is anticipated, providing additional opportunities within the sector

The rise of electric vehicles in India is transforming the auto component industry, requiring specialized parts and attracting government support, presenting both challenges and opportunities. The sector's continuous growth is crucial for India's domestic needs and global automotive competitiveness

# Impact of EV Sector Growth on Indian Auto Component Industry

The Indian electric vehicle (EV) sector is transforming the auto component industry, presenting both opportunities and challenges.

## Increased Demand for New Components

The expanding EV market is driving increased demand for electric vehicle components like battery packs and motors, necessitating a shift in manufacturing capabilities within the auto component sector

The Indian government is promoting localization in EV component production to reduce import dependency, particularly from China. Initiatives like subsidy programs are being implemented to encourage domestic production, promoting a sustainable supply chain

## Localisation Efforts

## Investment and Innovation

The shift to electric vehicles (EVs) is driving significant R&D investment in auto component manufacturing, with an estimated \$180 bn needed by 2030 to support vehicle production and charging infrastructure

India's auto component sector is expected to experience significant growth with annual sales of up to 10 mn electric vehicles (EVs) by 2030, with the EV battery market reaching \$30 bn

## Market Growth Projections

## Shifts in Component Composition

The auto component industry is shifting from engine and transmission parts to electronics and battery systems, with EVs likely to further dominate the market

Established manufacturers face challenges in adapting to EVs, investing in new technologies, retraining workforce, and facing intensifying competition from new EV component specialized companies

## Challenges for Traditional Manufacturers

## Government Support and Policies

The Indian Government's Phased Manufacturing Program (PMP) aims to boost local production by imposing tariffs on imported components and incentivizing domestic manufacturing, thereby enhancing Indian manufacturers' competitiveness

# Challenges Indian auto component manufacturers face in adopting new technologies

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Indian auto component manufacturers face challenges in adopting new technologies, especially as the industry transitions towards Industry 4.0 and electric vehicles (EVs)

## 1. Outdated Infrastructure and Machinery

- Manufacturers often rely on outdated technology, which hinders productivity and increases maintenance costs, hindering the integration of advanced technologies, leading to inefficiencies in production processes

## 2. High Initial Costs:

- Manufacturers face significant financial burdens in adopting new technologies, particularly in Industry 4.0 solutions and transitioning to electric mobility, due to unclear short-term returns

## 3. Lack of Strategy and Standards

- The industry lacks standardized processes and strategic frameworks, causing a lack of coherence and complexity in collaboration between stakeholders like OEMs and suppliers

## 4. Skill Gaps

- The workforce is facing a significant skill gap, especially in advanced technologies like electric vehicles and automation, despite a large labor pool. Manufacturers need to invest in reskilling initiatives to fill the skills gap and attract specialized talent

## 5. Limited R&D Investments

- Auto component manufacturers face limited R&D investments, hindering innovation. Lack of dedicated units and academic partnerships restricts access to cutting-edge technologies. Companies should build innovation ecosystems for technological enhancement

## 6. Supply Chain Issues

- The complexity of supply chains can hinder the adoption of new technologies, necessitating robust supply chain management for effective innovation implementation without supplier disruptions.

## 7. Regulatory Uncertainty

- The evolving regulatory landscape, particularly regarding emissions standards like BS VI and future BS VII norms, creates uncertainty for manufacturers, hindering innovation and potentially stifling new technology adoption.

Indian auto component manufacturers can improve their position in a technology-driven market by investing in infrastructure upgrades, strategic planning, enhanced training programs, and improved industry collaboration.

# Industry Trends

The Indian auto component industry is expected to experience substantial growth in 2024, largely due to increased domestic demand, robust export potential, and favourable government policies, presenting both challenges and opportunities influenced by various market dynamics

## Growth Projections

### Record Turnover:

- The Indian auto component industry experienced its highest-ever turnover of \$74.1 bn, with 10% growth in FY 2023-24

### Increased Vehicle Production:

- The growth in vehicle production and sales, driven by a 9% increase, resulted in a 5.3% increase in domestic Original Equipment Manufacturer (OEM) sales to \$62.4 bn

### Aftermarket Expansion:

- The aftermarket segment experienced growth, reaching a turnover of \$11.3 billion, up from the previous year's \$10.6 bn

## Export Potential

### Significant Export Growth:

- Exports from India are projected to reach \$100 billion by 2030, up from \$21 bn in 2024, at a 30% compound annual growth rate

### Target Markets:

- Indian manufacturers are aiming to capitalize on the increasing demand for non-powertrain components in key export markets such as North America, Europe, and Latin America

## Government Initiatives and Policies

### Production-Linked Incentive Scheme:

- The government has introduced the PLI scheme, estimated to cost around \$3.5 bn, to boost domestic manufacturing and attract investments in advanced automotive technologies

### 100% FDI allowed:

- The auto components sector, under the automatic route, is attracting 100% Foreign Direct Investment (FDI), enhancing its global investor appeal

## Market Dynamics

### Rising Demand for Electric Vehicles (EVs):

- The shift towards EVs is notable, with the aim to manufacture 500,000 EV three-wheelers, at least 55,000 EV four-wheelers, and 7,000 EV buses by 2024, aiming to create new opportunities in battery production and software development

### Focus on R&D and Innovation:

- The industry is prioritizing research and development to create intellectual property and enhance product quality, crucial for global market competitiveness

## Moderation in Growth

- The industry is predicted to experience a moderated growth of 5-7% in revenue in FY2025, primarily due to slower domestic OEM segment growth and subdued export demand
- The automotive industry, which experienced a 32.8% growth rate in FY24, is predicted to slow down to 5-7% in FY25 due to a decline in domestic OEM growth and subdued export demand due to global economic conditions and geopolitical tensions

# Key Growth Drivers

## Rising Demand

- The growing middle class and urbanization are driving a surge in automobile demand, thereby boosting the demand for auto components and driving industry growth.
- The middle class's growth in India is driving increased vehicle ownership, driven by rising incomes, better education, and employment opportunities, which boost disposable income and encourage personal transportation spending

## Government Initiatives

- The Indian government has implemented policies like the Production-Linked Incentive (PLI) scheme to boost domestic manufacturing and attract foreign investment
- The Indian government supports the sector through policies like 100% FDI and PLI, promoting advanced technology production, and recent funding initiatives like Rs. 1,500 crore for EV infrastructure

## Export Opportunities

- The industry is projected to export over 25% of its production, with exports potentially reaching \$30 billion by FY26
- India's "China Plus One" trend is driving international companies to diversify their supply chains by sourcing auto components, boosting export potential

## Technological Advancements

- India is increasing investment in advanced manufacturing infrastructure, driven by increased foreign direct investment and a focus on localization of advanced components to reduce import dependency

## Infrastructure Developments

- Improved logistics and infrastructure, including highways, railways, and ports, enhance transportation efficiency, lower costs, and enhance industry competitiveness

## Growing Electric Vehicle (EV) Market

- The auto components sector is experiencing new opportunities due to the growing demand for specialized components, with EVs accounting for 6% of total production in FY24
- India plans to significantly produce EVs by 2024, indicating a growing market for EV-related components, presenting new opportunities for auto component manufacturers

# Key Growth Drivers

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## Increasing Vehicle Production

- Increase in domestic vehicle production boosts auto components sector, causing 9.8% turnover increase in FY24, reaching \$74.1 bn. Higher sales and production levels, particularly SUVs, fuel growth

## Localization Efforts

- The industry prioritizes localization, encouraging manufacturers to produce domestic components to reduce import reliance, supported by government initiatives like the Production-Linked Incentive scheme

## Strong Aftermarket Demand

- The aftermarket segment, valued at \$11.1 bn in FY24, experienced significant growth due to increased vehicle ownership and the need for maintenance and upgrades

## Changing Consumer Preferences

- Urban consumers are increasingly seeking vehicles that not only functional but also reflect their individual tastes and values, leading to a diversification of vehicle types to cater to different lifestyle segments

## Global Supply Chain Integration

- India's global supply chain integration strengthens its automotive manufacturing position, fostering technology transfer and skill development among local workforce through international OEMs

## Skilled Workforce

- India's abundant skilled labour, available at competitive prices, makes it an attractive manufacturing hub, enabling both domestic and export production

## Aging Vehicle Population

- The rise in older vehicles leads to a steady demand for replacement parts, generating revenue for aftermarket manufacturers

# Steps Taken by Indian Government to Attract Investments in the Sector

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The Indian government has implemented strategic measures to boost the auto component industry's investment appeal, including financial incentives, policy reforms, infrastructure development, and innovation promotion as well as enhancing manufacturing capabilities and positioning the country as a global automotive market player

## 1. Production Linked Incentive (PLI) Scheme

The government's PLI Scheme for the automobile and auto components industry, launched with a \$3.5 bn budget, provides up to 18% financial incentives on incremental sales of advanced automotive technology products. The objectives include:

- **Boosting Domestic Manufacturing:** The initiative aims to boost domestic manufacturing by encouraging companies to enhance their production capabilities within India
- **Attracting Foreign Direct Investment (FDI):** The scheme facilitates 100% FDI, facilitating international companies' investment in the sector
- **Creating Employment:** The initiative is anticipated to generate substantial job opportunities within the industry

## 2. Electric Vehicle (EV) Policy

- India's new EV Policy, approved in March 2024, requires foreign automakers to invest \$500 mn within three years to establish local manufacturing facilities
- The policy aims to boost domestic production, enhance technological innovation, and establish India as a global manufacturing hub for electric vehicles

### Key Features of the Policy:

- **Investment and Local Manufacturing:** Automakers in India are required to achieve a minimum of 25% domestic value addition within three years and 50% within five years
- **Import Duty Reductions:** The policy permits manufacturers to import up to 8,000 EVs annually at a 15% reduced import duty, fostering a more competitive environment for new entrants
- **Bank Guarantees for Compliance:** Bank guarantees are used to ensure companies comply with DVA regulations, preventing non-compliance and providing additional security for the government

# Steps Taken continued.....

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- **Impacts on Foreign Investment:** The new EV policy is designed to attract global automakers like Tesla and VinFast by offering incentives for local investment and production
- **Competitive Landscape:** However, the policy, while allowing foreign companies to enter the market, raises concerns among domestic manufacturers about increased competition, particularly in the premium segment
- **Localization Challenges:** The focus on DVA necessitates collaboration with local suppliers, posing challenges due to current importation of components, especially from China, necessitating time and investment in local supply chains
- India's new EV Policy aims to boost foreign investment in its auto component industry by promoting local manufacturing and technological advancement, but faces challenges like competition and localization

## 3. National Automotive Testing and R&D Infrastructure Project (NATRIP)

- The government has prioritized investment in infrastructure to support the auto component industry
- The government has invested \$388 million in NATRIP, a program aimed at improving testing and R&D capabilities for auto component manufacturers to enhance global market competitiveness

## 4. Infrastructure Development

- The government has prioritized investment in infrastructure to support the auto component industry
  - **Improving Connectivity:** The focus is on enhancing connectivity by upgrading infrastructure such as highways, railways, ports, and airports to improve logistics and reduce transportation costs
  - **Creating an Industrial Land Bank Portal:** The Industrial Land Bank Portal is a GIS-based platform that simplifies the process of finding suitable locations for business operations

## 5. Automotive Plan 2026

- India's Automotive Plan 2026 aims to become a global manufacturing hub for vehicles and components, with \$10 billion allocated for skill enhancement and research

## 6. FAME II Scheme

- The government has allocated \$1.4 bn under the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) II scheme to support electric mobility infrastructure and benefit auto component manufacturers

# India's Edge on the Auto Component Manufacturing Industry in India

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01

## Attractive Opportunities

- India's automotive component manufacturing industry is rapidly evolving and gaining a significant global market edge due to increasing electric vehicle production and strong government support for domestic manufacturing
- India's domestic automotive market is significant, ranking fourth in global production.

02

## Government Initiatives and Policy Support

- The Production Linked Incentive Scheme, with a \$3.13 bn budget, aims to boost local manufacturing of advanced automotive technologies and encourage investment in the sector

03

## Emerging as a Global Sourcing Hub

- India is being considered a potential global automotive supply chain alternative under the "China+1" strategy, which promotes companies to diversify their manufacturing bases beyond China
- India's automotive industry is gaining importance in global supply chains due to strategic localization, economic growth, resilience, and strategic investments in infrastructure and technological advancements

04

## Technological Advancements

- **Adaptation to Electric Vehicles (EVs):** India's auto component industry is rapidly transitioning to electric vehicles, with EV components accounting for 6% of total production in FY234. The country aims for 30% EV penetration by 2030
- **Innovation and R&D:** India is leveraging advanced technologies like robotics, automation, and Industry 4.0 to boost productivity and meet international quality standards, positioning it as a competitive player.

# Objectives of the PLI Scheme for the Auto Component Industry

The Production Linked Incentive (PLI) Scheme in India aims to boost domestic manufacturing and stimulate sector growth in the auto component industry. It also aims to establish India as a global automotive market leader and promote a self-reliant manufacturing ecosystem in line with the "Atmanirbhar Bharat" initiative

## Main Objectives:

### Boost Domestic Manufacturing

- The primary objective is to boost India's production of Advanced Automotive Technology (AAT) products, thereby reducing import reliance and enhancing local manufacturing

### Overcome Cost Disabilities

- The scheme aims to improve India's global market competitiveness by addressing production costs and supply chain inefficiencies, thereby mitigating cost disadvantages

### Create Economies of Scale

- The PLI scheme aims to boost manufacturing by incentivizing higher production volumes, thereby enabling manufacturers to achieve economies of scale, thereby reducing per-unit costs and enhancing profitability

### Build a Robust Supply Chain

- The initiative aims to establish a robust and efficient supply chain for AAT products, enhancing domestic supplier integration into the global supply network

### Generate Employment

- The scheme is anticipated to generate substantial employment opportunities across the entire automotive value chain, thereby fostering economic growth and development

### Facilitate Transition to Higher Value-Added Products

- The policy encourages the auto industry to elevate its value chain by producing more advanced and high-value components and vehicles, thus enhancing its technological capabilities

### Attract Investments

- The PLI scheme aims to attract both domestic and foreign investments into the automotive sector, promoting innovation and technological advancement

### Support Electric Vehicle Development

- The scheme supports the development of zero-emission electric vehicles (EVs) and their components, promoting their manufacturing in line with global sustainability trends

# Key Challenges Faced by the Auto Component Industry in India

## Government Regulations and Compliance

The auto component industry faces uncertainty and increased production costs due to constantly changing government policies and regulations, as manufacturers adapt to new emissions and safety standards

The industry faces infrastructure constraints, such as inadequate road networks and logistics issues, which hinder efficient transportation of goods and components, affecting overall productivity

## Infrastructure Limitations

The auto components sector faces geopolitical and economic disruptions, necessitating localization of critical components to reduce import dependency, especially from China

## Supply Chain Disruptions

**Logistics Challenges:** The industry is struggling with logistics challenges such as container shortages and port congestion, worsened by geopolitical tensions, making transportation more expensive and complicated.

**Dependence on Imports:** The sector is vulnerable to global supply chain disruptions and currency fluctuations due to high reliance on imported advanced components.

The growing electric vehicle market presents both opportunities and challenges, necessitating employee upskilling to adapt to new skill sets and technologies without significant job losses

## Transition to Electric Vehicles (EVs)

## Increased Competition

Indian manufacturers face increasing competition from domestic and international players, necessitating innovation and product enhancement to maintain market share in the increasingly competitive global market

# Key Challenges Faced by the Auto Component Industry in India

## Rising Costs

- The rising logistics costs and high GST rates on auto components are posing financial strains on profitability, potentially limiting investment in innovation and sector expansion

- The auto component industry is facing challenges in production planning and inventory management due to fluctuating demand due to economic conditions and consumer preference for larger vehicles

## Demand Fluctuations

## Regulatory and Taxation Issues

**High GST Rates:** The GST on auto components is perceived as a burden, affecting pricing and competitiveness

**Policy Support:** The effectiveness of government initiatives like Production Linked Incentives (PLI) in addressing immediate challenges is still under scrutiny

**Skill Gaps:** The transition to electric vehicles (EVs) necessitates the development of new skills that may not be readily available in the current workforce

**Infrastructure Development:** The growth of the electric vehicle (EV) segment is largely dependent on the advancement of charging infrastructure and government incentives

## Transition to Electric Vehicles (EVs)

## Market Fluctuations

**Slower Vehicle Sales:** The first quarter of FY 2024-25 experienced a significant decrease in vehicle sales, primarily in passenger and commercial vehicles, due to climatic and political factors

**Competitive Pressures:** India's global hub status for auto component manufacturing necessitates domestic players to maintain competitiveness in pricing and quality to stay ahead

# Main Challenges in the Supply Chain for Auto Components in India

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In 2024, India's auto component supply chain faces significant challenges due to localization, import dependency, and technological advancements

## Localization and Import Dependency

- **High Import Levels:** The Indian auto components industry, heavily reliant on imports, grew by 3% in FY 2023-24 to \$20.9 bn, a dependency the government aims to reduce through localization efforts
- **Government Initiatives:** The Indian government is advocating for localization to boost self-sufficiency and reduce import reliance, but achieving significant localization in critical sectors like automatic transmissions remains a challenge
- **Sector Specific Challenges:** The automotive sector faces vulnerability due to reliance on advanced technologies and imported specialized components, with localization for small cars exceeding 85%, and growing demand for mid and high-segment vehicles

## Technological Advancements and Workforce Issues

- **Need for Specialized Talent:** The industry is transitioning towards advanced technologies, necessitating a skilled workforce for new manufacturing processes, particularly in electronics, which is crucial for achieving localization goals
- **Digital Transformation:** The automotive supply chain is undergoing digital transformation, utilizing AI, IoT, and blockchain for efficiency, but this requires significant investment and training, particularly for smaller companies

## Economic and Market Dynamics:

- **Rising Costs:** Global economic conditions have increased logistics costs and supply chain disruptions, affecting auto components manufacturing in India, posing challenges for profitability and production capacity expansion
- **Shifting Consumer Preferences:** The shift towards higher-end vehicles with advanced features is increasing demand for sophisticated components, necessitating strategic partnerships with global suppliers or domestic production investments
- **Policy Support and Investment Needs:** Government policies like PLI schemes aim to boost local manufacturing, but more robust investment in Research & Development (R&D) and infrastructure is needed for advanced component manufacturing growth

# Semiconductor Shortage Impacting India's Auto Component Industry

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The semiconductor shortage in India has significantly impacted the auto component industry, leading to production disruptions, reduced sales, and a customer backlog. However, recent supply improvements and government measures suggest recovery. A domestic semiconductor industry is crucial for India's potential.

## Production Disruptions

- **Major Automakers Affected:** The semiconductor crisis has caused significant production losses in India's automotive sector, with chip shortages affecting around 300,000 passenger vehicles in fiscal year 2023. Major manufacturers like Maruti Suzuki and Tata Motors struggled to meet demand, with uncertainties in electronic component supplies potentially impacting production in FY24
- **Production Cuts:** Indian car manufacturers, including Mahindra & Mahindra and Tata Motors, have reduced production due to semiconductor chip unavailability, with Mahindra delaying key model launches due to supply chain constraints
- **Increased Costs:** The shortage of automotive electronics is causing production costs to rise, potentially increasing by 10% by 2030, potentially affecting vehicle pricing and potentially reducing consumer demand
- **No Production Days:** Mahindra & Mahindra plans 'No Production Days' to manage semiconductor shortages, impacting automotive but not tractor and three-wheeler divisions
- **Supply chain Vulnerabilities:** Indian automakers' reliance on semiconductor imports has exposed supply chain vulnerabilities, prompting discussions on increasing domestic manufacturing capabilities for semiconductors

## Sales Declines

- **Impact on Sales Figures:** The two-wheeler market is facing supply constraints, causing decreased sales across various segments, including Hero MotoCorp and Honda 2Wheelers, which are struggling to meet retail demand

## Strategies for coping

- **Adjusting Production plans:** Automakers are adjusting production schedules based on chip availability, potentially temporarily reducing vehicle features to cope with shortages
- **Long-term Investments:** The Indian government is promoting domestic semiconductor manufacturing through incentives, including the "Programme for Development of Semiconductors and Display Manufacturing Ecosystem," to attract global chip manufacturers

# Semiconductor Shortage Impacting India's Auto Component Industry

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- **Sourcing Strategies:** Automakers are re-evaluating sourcing strategies, considering longer-term contracts and diversifying sources to mitigate supply chain disruption risks, and placing larger orders to buffer against future shortages

## Future Outlook

- **Easing Supply Issues:** The semiconductor supply situation is expected to improve in the coming months, with availability reaching 85-90% of total requirements and production losses decreasing from 300,000 to under 200,000 by September 2023
- **Long-term Strategies:** The Indian government is investing \$10 bn in a domestic semiconductor ecosystem to reduce import reliance and boost local manufacturing, aligning with self-reliance goals and supporting electric vehicle demand

The semiconductor shortage in India is causing disruptions in the auto component industry, but strategic investments in domestic manufacturing could help mitigate these issues

Indian automakers must invest in local semiconductor manufacturing and strategic sourcing to ensure long-term resilience against future disruptions. Proactive measures and government support could lead to a more stable supply chain and manufacturing environment

# Indian Automakers' Strategies to mitigate Semiconductor Shortage

Indian automakers are implementing strategies to address the global semiconductor shortage, which has significantly impacted the automotive industry

## Domestic Semiconductor Production

- **Investment in Local Manufacturing:** Indian automakers are boosting domestic semiconductor production to reduce import reliance. The government's Production-Linked Incentive scheme aims to attract over \$10 billion in investments and establish new manufacturing plants, enhancing local capacity and reducing supply chain vulnerabilities
- **Collaboration with Global Firms:** Indian companies are partnering with global semiconductor manufacturers to develop specialized automotive semiconductors for electric vehicles and autonomous driving systems, leveraging advanced technologies and expertise

## Strategic Supply Chain Management

- **Diversification of Supply Sources:** Indian automakers are diversifying their semiconductor supply sources to reduce risks from global supply chain disruptions and explore alternative materials like SiC and GaN for enhanced performance and cost reduction

## Innovation and Technology Development

- **Focus on Specialized Semiconductors:** Indian automotive manufacturers are targeting semiconductor niche markets like battery management and advanced driver-assistance systems to gain a competitive edge in modern vehicle technology
- **Public-Private Partnerships:** Collaborations between government, private companies, and academic institutions are crucial for a sustainable semiconductor ecosystem, promoting knowledge transfer, skill development, and innovation in semiconductor design and manufacturing

## Long-term Resilience Strategies

- **Skill Development Initiatives:** The domestic semiconductor industry is fostering growth by fostering a skilled workforce through training programs for engineers and technicians in advanced manufacturing facilities
- **Standardization and Modularization:** Automakers are exploring standardizing vehicle platforms and modularizing electronic components to simplify designs, reduce chip variety, and improve supply chain efficiency

Indian automakers are implementing strategies to address the semiconductor shortage and compete in the global automotive market by transitioning towards electrified and connected vehicle technologies

# Opportunities for India's Auto Component Industry

## Increased Investment

India's auto industry is set to invest \$7 billion over five years to localize advanced components like electric motors and automatic transmissions, aiming to reduce import dependence, particularly from China, by 5.8%

## Localization

The Automotive Component Manufacturers Association (ACMA) reports that over 500 localization projects are currently underway across key component categories, such as drive transmissions and electrical systems. The objective is to decrease imports by 15-20%, resulting in a reduction of approximately Rs 34,400 crore over five years

## Emerging Opportunities

India's large domestic market, competitive labor costs, and political stability make it a key player in global supply chains, with exports predicted to nearly double by 2030

India's auto component industry can benefit from the 'China-plus-one' strategy, boosting investment, localization, and export potential, but must also adapt and innovate to effectively utilize this strategic shift



## Reduction of Chinese Imports

India's automotive imports share is expected to decrease from 32% to 30% between FY20 and FY2026, reflecting a growing trend among Indian manufacturers to explore alternatives and improve local production capabilities

## Strategic Partnerships and Technology Development

India is encouraged to collaborate with automakers to develop clean powertrain technologies, positioning it as a key player in the global automotive value chain. The PLI scheme has been expanded to cover critical sectors, thereby boosting foreign investment in India's manufacturing capabilities

## Growth in Exports

India's auto parts exports have grown by nearly one-third over two years due to shifting manufacturing bases, making the country a significant player in global trade, with exports expected to reach \$835 billion by 2030. India's growth is fueled by a growing domestic market, competitive labor costs, and government incentives like the Production-Linked Incentive (PLI) scheme

## Government Support

The Indian government's Production-Linked Incentive (PLI) scheme has significantly attracted investments by encouraging local manufacturing, thereby fostering growth in the auto components sector

# China-plus-one Strategy Impact on India's Auto Component Industry

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- The China-Plus-One strategy is a business strategy adopted by multinational corporations to diversify their manufacturing and supply chain operations, addressing rising costs, geopolitical uncertainties, and risks associated with overreliance on a single production base. Companies are focusing on establishing alternative manufacturing locations to improve supply chain resilience and decrease their reliance on Chinese manufacturing.
- **For India, this shift presents both opportunities and challenges, especially in the auto component manufacturing industry.**

## Impact on India's Auto Component Manufacturing Industry

The China-Plus-One strategy presents significant opportunities for India's auto component manufacturing industry.

- **Increased Foreign Direct Investment:** India is attracting significant FDI into sectors like automotive components due to its large consumer market, competitive labor costs, and favorable government policies. The Indian auto industry plans to invest around \$7 bn over the next five years to improve localization and production capabilities
- **Localization of Supply Chains:** Indian manufacturers are implementing over 500 localization projects to reduce imports of auto components from China, with the Automotive Component Manufacturers Association aiming to achieve 15-20% reduction over five years. This effort is anticipated to enhance India's domestic production capabilities and enhance its global supply chain position
- **Job Creation and Economic Growth:** India's manufacturing operations are expected to boost job opportunities in labor-intensive sectors like automotive production, contributing to overall economic growth
- **Technological Advancements:** The auto component industry must prioritize innovation and technology development, investing in advanced technologies like electric vehicle components and clean powertrains to stay competitive and align with global sustainability trends. The technological shift will not only improve product offerings but also enhance industry efficiency
- **Strengthened Global Trade Relations:** India's rise in global auto component market is expected to boost trade relations with other countries through China-Plus-One strategy, involving active negotiation of free trade agreements

Despite these opportunities, India faces challenges in fully leveraging China-Plus-One strategy due to fierce competition and need for reforms to improve business environment and infrastructure for foreign investment

# China-plus-one Strategy Impact on India's Auto Component Industry

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## Challenges:

- India faces several challenges in its auto component sector, including infrastructure limitations, complex regulatory environment, competition from other countries like Vietnam, Thailand, and Mexico, and a skill gap. India's infrastructure lags behind that of China, posing challenges for logistics and supply chain efficiency
- Streamlining regulations and improving ease of doing business are crucial for attracting companies looking to implement the China-plus-one strategy. Addressing the skill gap through education and vocational training programs is also necessary for sustaining growth.

India's auto component manufacturing industry can capitalize on the China-plus-one strategy to expand in 2024 and beyond, leveraging its advantages and addressing challenges.

Success hinges on strategic infrastructure investments, regulatory reforms, and workforce development initiatives

# Leading Auto Component Manufacturers

Several companies dominate the Indian auto components landscape:

Companies	Business Overview	Product Portfolio
<p><b>Samvardhana Motherson International Limited</b></p>	<p>SMIL, formerly Motherson Sumi Systems Ltd, is an Indian multinational company specializing in automotive components manufacturing</p> <p>Headquartered in Noida, it produces wiring harnesses, plastic components, and rearview mirrors for passenger vehicles</p>	<ul style="list-style-type: none"> <li>• <b>Wiring Harnesses:</b> Critical for electrical distribution in vehicles.</li> <li>• <b>Rearview Mirrors:</b> A leading product area with significant market dominance.</li> <li>• <b>Plastic Components:</b> Includes interior and exterior parts such as bumpers and dashboards.</li> <li>• <b>Rubber Components:</b> Used in both automotive and industrial applications.</li> <li>• <b>High Precision Machined Metal Parts:</b> Essential for various automotive functions</li> </ul>
<p><b>Tata AutoComp Systems Limited</b></p>	<p>Tata AutoComp is a leading automotive company that specializes in designing, developing, manufacturing, and supplying a diverse range of automotive products and services</p> <p>It operates 61 manufacturing facilities in India, North America, Latin America, Europe, and China, with 18 business units and 9 joint ventures</p>	<ul style="list-style-type: none"> <li>• <b>Interior &amp; Exterior Plastics:</b> Components such as dashboards, trims, bumpers, and other plastic parts for vehicles.</li> <li>• <b>Composites</b></li> <li>• <b>Sheet Metal Stampings:</b> Fabricated metal parts including chassis components and body assemblies.</li> <li>• <b>Thermal Management Systems (e.g., radiators, oil coolers)</b></li> <li>• <b>Powertrain Components (e.g., engine cooling solutions)</b></li> <li>• <b>Seating Systems</b></li> <li>• <b>Electricals &amp; EV Components (e.g., battery packs, EV chargers)</b></li> </ul>
<p><b>Bharat Forge Limited</b></p>	<p>Bharat Forge Limited specializes in manufacturing forged and machined components for various sectors</p>	<p><b>Engine Components:</b></p> <ul style="list-style-type: none"> <li>• Crankshafts</li> <li>• Connecting rods</li> <li>• Fuel injection systems</li> <li>• Emission and after-treatment systems</li> </ul> <p><b>Chassis Components</b></p> <ul style="list-style-type: none"> <li>• Front axle beams</li> <li>• Steering knuckles</li> <li>• Control arms</li> <li>• Reinforcement brackets</li> </ul> <p><b>Transmission Parts</b></p> <ul style="list-style-type: none"> <li>• Main and counter shafts</li> <li>• Input and output shafts</li> <li>• Cylindrical gears</li> </ul> <p><b>Driveline Components:</b></p> <ul style="list-style-type: none"> <li>• Spindles</li> <li>• Tandem axle components</li> </ul>

# Leading Manufacturers

Companies	Business Overview	Product Portfolio
<p><b>TVS Motor Company Limited</b></p>	<p>TVS Group is a prominent manufacturer of automotive components, including brake systems, diesel fuel injection equipment, electrical components, and tires through various subsidiaries</p>	<p><b>Braking Systems</b></p> <ul style="list-style-type: none"> <li>• Anti-lock Braking Systems (ABS)</li> <li>• Master Cylinders</li> <li>• Clutch Cylinders</li> <li>• Heavy Duty Brakes</li> </ul> <p><b>Engine Components</b></p> <ul style="list-style-type: none"> <li>• Diesel Fuel Injection Systems</li> <li>• Engine Cam Covers</li> <li>• Cylinder Heads and Covers</li> <li>• Lubricant Oil Cooler Cover Assemblies</li> </ul> <p><b>Electrical Components</b></p> <ul style="list-style-type: none"> <li>• Engine Control Units (ECUs)</li> <li>• Ignition Coils</li> <li>• Regulators and Rectifiers</li> </ul> <p><b>Structural Components</b></p> <ul style="list-style-type: none"> <li>• Die Cast Components</li> <li>• Wheel Hubs</li> <li>• Turbocharger and Compressor Cover Assemblies</li> </ul> <p><b>Suspension and Steering Parts</b></p> <ul style="list-style-type: none"> <li>• Air Suspension Systems</li> <li>• Steering Knuckles</li> <li>• Electronic Controlled Air Suspension Components</li> </ul> <p><b>Other Components</b></p> <ul style="list-style-type: none"> <li>• HVAC Ducts and Air Intake Manifolds</li> <li>• Dashboard Panels and Instrument Panels</li> <li>• Battery Covers and Glove Box Assemblies</li> </ul>
<p><b>Varroc Engineering Limited</b></p>	<p>Varroc Engineering Limited, established in 1990, is an Indian multinational specializing in manufacturing and supplying automotive components for passenger cars and motorcycles, with 35 manufacturing facilities and 11 engineering centers worldwide</p>	<ul style="list-style-type: none"> <li>• <b>Lighting Systems:</b> Exterior lighting for passenger cars and motorcycles and advanced lighting solutions for various models</li> <li>• <b>Electrical Components:</b> AC generators, CDI systems, regulators, starter, wiper motors. Electronic Control Units (ECUs) and body part motors</li> <li>• <b>Polymer Products:</b> Injection and compression molding, Seat assemblies, rearview mirrors and Rubber-to-metal bonded parts</li> <li>• <b>Powertrain Components:</b> Engine valves, crank pins, cold/warm forged components</li> <li>• Sub-assemblies</li> <li>• <b>HVAC Systems:</b> Heating, ventilation, and air conditioning components for vehicles</li> </ul>
<p><b>Endurance Technologies Limited</b></p>	<p>Endurance Technologies Limited is a prominent Indian manufacturer specializing in automotive components, renowned for its aluminum die casting products.</p>	<ul style="list-style-type: none"> <li>• Aluminum Die Casting</li> <li>• Suspension Systems</li> <li>• Transmission Components</li> <li>• Braking Systems</li> <li>• Tyres for Two-Wheelers and Three-Wheelers</li> <li>• Raw/machined aluminum castings.</li> <li>• Alloy wheels</li> </ul>

# Leading Manufacturers

Companies	Business Overview	Product Portfolio
<b>Bosch Limited</b>	Bosch Limited, is a leading Indian manufacturer specializing in auto components and home appliances, offering technology and services across various sectors	Bosch Limited offers a comprehensive range of automotive products, including: <ul style="list-style-type: none"><li>• Gasoline Systems</li><li>• Diesel Systems</li><li>• Chassis Systems Controls</li><li>• Electrical Drives</li><li>• Starter Motors and Generators</li><li>• Automotive Electronics</li><li>• Aftermarket Products</li><li>• Steering Systems</li></ul>
<b>Uno Minda Limited</b>	Uno Minda Limited is an Indian manufacturer and supplier of automotive solutions and systems, primarily serving Original Equipment Manufacturers (OEMs) as a Tier-1 supplier	<ul style="list-style-type: none"><li>• Automotive Switching Systems</li><li>• Automotive Lighting Systems</li><li>• Automotive Acoustics Systems</li><li>• Automotive Seating Systems</li><li>• Alloy Wheels</li></ul>
<b>Jamna Auto Industries Limited</b>	Jamna Auto Industries Limited, founded in 1954, is a leading Indian manufacturer of automotive suspension systems, renowned for its tapered leaf springs and parabolic springs	<ul style="list-style-type: none"><li>• Tapered Leaf Springs</li><li>• Parabolic Springs</li><li>• Lift Axles</li><li>• Air Suspension Systems</li><li>• Trailer Suspensions</li></ul>
<b>JMB Group</b>	JBM Group, a prominent Indian conglomerate, specializes in manufacturing auto components, electric vehicles, and buses	Skin panels, BIW parts, axles, exhaust systems, and chassis components

# Key Financial Ratios: Automobiles Ancillaries Industry

Sl. No	Ratios	Unit	2018-19	2019-20	2020-21	2021-22	2022-23
1	Debt to equity ratio	Times	0.52	0.57	0.52	0.41	0.39
2	Interest Coverage ratio (ICR)	Times	5.81	3.31	3.90	5.41	6.19
3	Debt service coverage ratio (DSCR)	Times	0.95	0.63	0.70	0.84	1.02
4	Net Working Capital	Rs. million	245,644.90	122,116.60	289,188.70	436,710.90	572,812.60
5	Current Ratio	Times	1.16	1.08	1.16	1.24	1.29
6	PBDITA as % of total income	%	12.52	10.43	11.71	12.26	11.63
7	PAT as a % of total income	%	4.49	2.06	3.15	5.08	4.69
8	Debtors turnover	Times	6.74	6.26	5.94	6.40	6.93
9	Creditors turnover	Times	5.11	4.28	3.88	4.51	5.11
10	PAT as a % of capital employed	%	8.03	3.04	4.44	8.35	8.37
11	PAT as % of total assets	%	5.54	2.12	3.04	5.78	5.89

Source: B2K Analytics

Data as on 24 December 2024

# Automobiles Ancillaries Industry Financial Performance

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- The Indian auto component manufacturing industry has shown remarkable recovery since the pandemic, with significant growth rates observed in previous fiscal years. India's auto component industry saw a 9.8% growth in turnover in 2023-24, reaching Rs 6.14 trillion (approximately US\$73.1 billion), compared to the previous year.
- In FY 2022-23: The industry's turnover increased by 33%, reaching Rs 5.59 trillion, largely due to increased demand and enhanced supply chains. The previous fiscal year (FY2021-22) demonstrated positive trends, with a turnover of Rs 4.20 trillion, indicating a strong recovery from pandemic lows.
- The Indian auto component manufacturing industry has shown resilience and adaptability in recent years, experiencing strong growth due to domestic demand and export opportunities. The ongoing investments and government support will play crucial roles in shaping its future trajectory
- The Debt to Equity Ratio (D/E) ratio for the auto component sector has been stable, indicating prudent borrowing practices, suggests an improved equity position over time due to localization and reduced import dependence.
- The D/E ratio of the sector suggests a balanced financing approach, with companies utilizing a range of strategies. Over the past five years, key players have gradually shifted towards lower debt levels, aligning with broader economic conditions
- The auto component industry's ICR is favorable due to increased domestic and export revenues, indicating companies are likely to maintain or improve their EBIT levels, enhancing debt service. The Indian auto component industry is thriving, with healthy cash flows and profitability, despite a diverse landscape in interest coverage ratios.
- The auto component sector's DSCR is expected to be robust, bolstered by rising turnover and profitability, largely due to consistent growth in OEM supply and aftermarket segments.
- The Indian auto component manufacturing industry is thriving with stable Debt to Equity and Interest Coverage Ratios and a strong Debt Service Coverage Ratio, indicating a healthy balance between growth and operational efficiency. As the sector expands, these ratios are expected to improve further, promoting sustainable development

# Industry Players' Performance: Automobiles Ancillaries Industry

Sl. No	Company	Net Sales (Rs. Crore)	Net Profit (Rs. Crore)	EPS (Rs)	Total Debt/Equity (X)	Return on Assets (%)
1	Bosch	16,727.0	2,491.0	844		14.36
2	Bharat Forge	15,682.1	910.2	20.43	1.05	4.91
3	Uno Minda	14,030.9	924.7	15.36	0.32	8.88
4	Samvardhana Motherson International	97,779.4	3,019.6	4.01	0.66	3.19
5	Endurance Technologies	10,240.9	680.5	48.38	0.15	8.62
6	Motherson Sumi Wiring India	8,328.3	638.3	1.44	0.01	20.33
7	JBM Auto	5,009.4	193.7	15.12	1.80	3.67
8	Sona BLW Precision Forgings	3,184.8	517.8	8.83	0.09	13.38
9	Sansera Engineering	2,811.4	187.6	34.83	0.59	6.65
10	Subros	3,070.6	97.6	14.96	0.00	5.91

# Outlook

## Potential for sustained growth

India's auto component industry is poised for robust growth due to domestic demand, favourable government policies, technological advancements, and strategic global supply chain positioning, with projections of \$200 bn by 2026 and ongoing investments in technology and infrastructure

## Growth Drivers

The Indian auto component manufacturing industry, despite facing challenges, is thriving with steady growth rates and a positive outlook for future expansion, positioned for sustained long-term growth due to consumer preferences, particularly with the shift towards electric vehicles.

## Government Policies for Manufacturing Enhancement

The government's policies and initiatives aimed at improving manufacturing capabilities are expected to enhance the industry's contribution to India's economic landscape

## India's GDP Growth Predicts Auto Components Sector Growth

Industry leaders predict India's GDP growth of over 7% will continue to boost the auto components sector, with expectations of increased localization and reduced import dependency

## Rising demand for electric vehicles

The Indian auto component industry is poised to capitalize on the global shift towards electric mobility by increasing investment in EV technologies and components

## Positions India as a global hub for future mobility solutions

The sector is expected to benefit from initiatives like the Production-Linked Incentive Scheme, which aims to enhance domestic manufacturing capabilities through electric vehicles and technology investments and position India as a global mobility hub

## China-plus-one Strategy

India's auto component industry can benefit from the China-plus-one strategy, promoting localization and global competitiveness. With government support and quality improvement, India can become a key player in the global automotive supply chain

*\* Views are personal*

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