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# Scaling global competitiveness and self-reliance

The path ahead for India's automotive components industry

September 2024

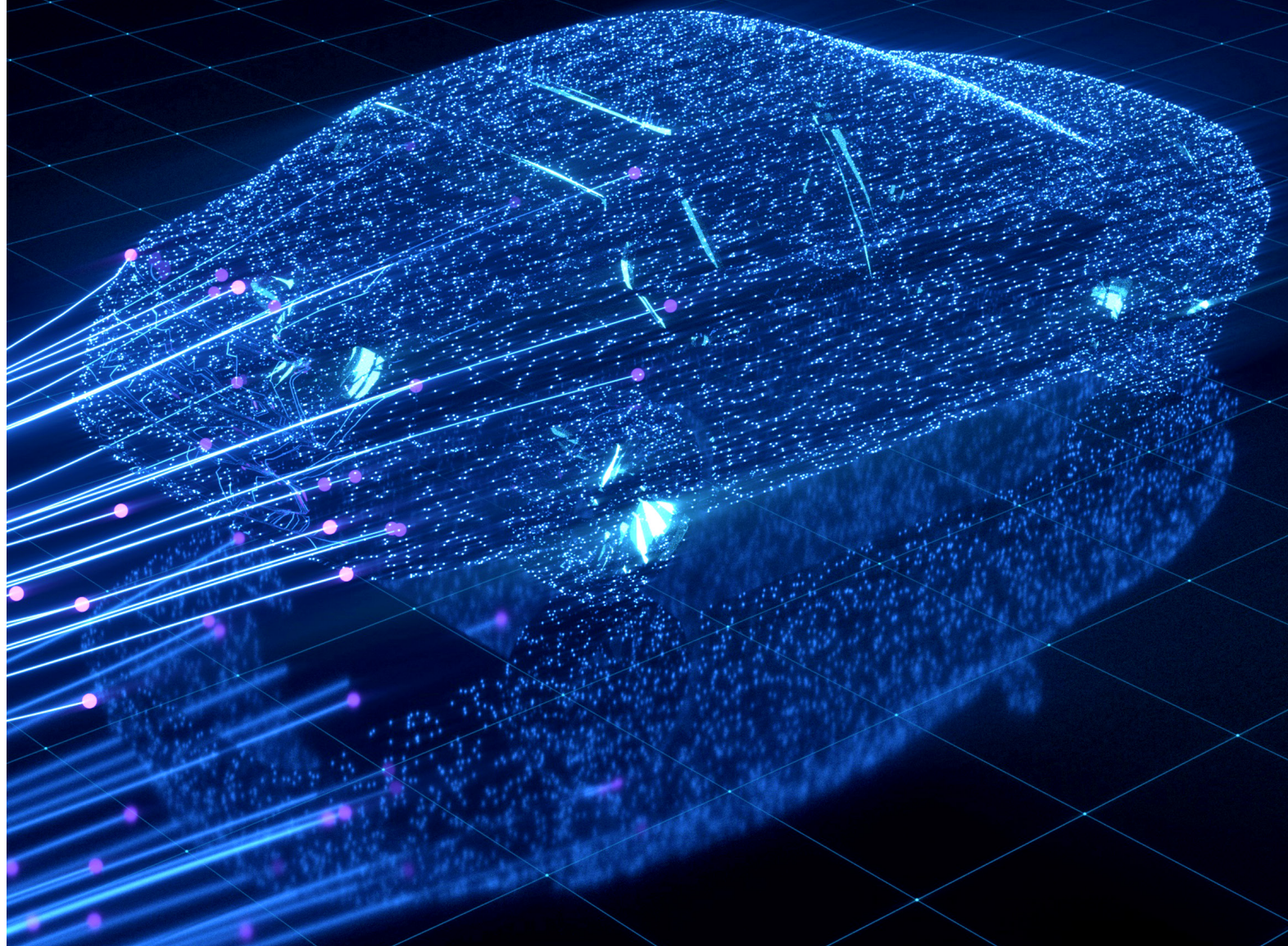


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# Scaling global competitiveness and self-reliance

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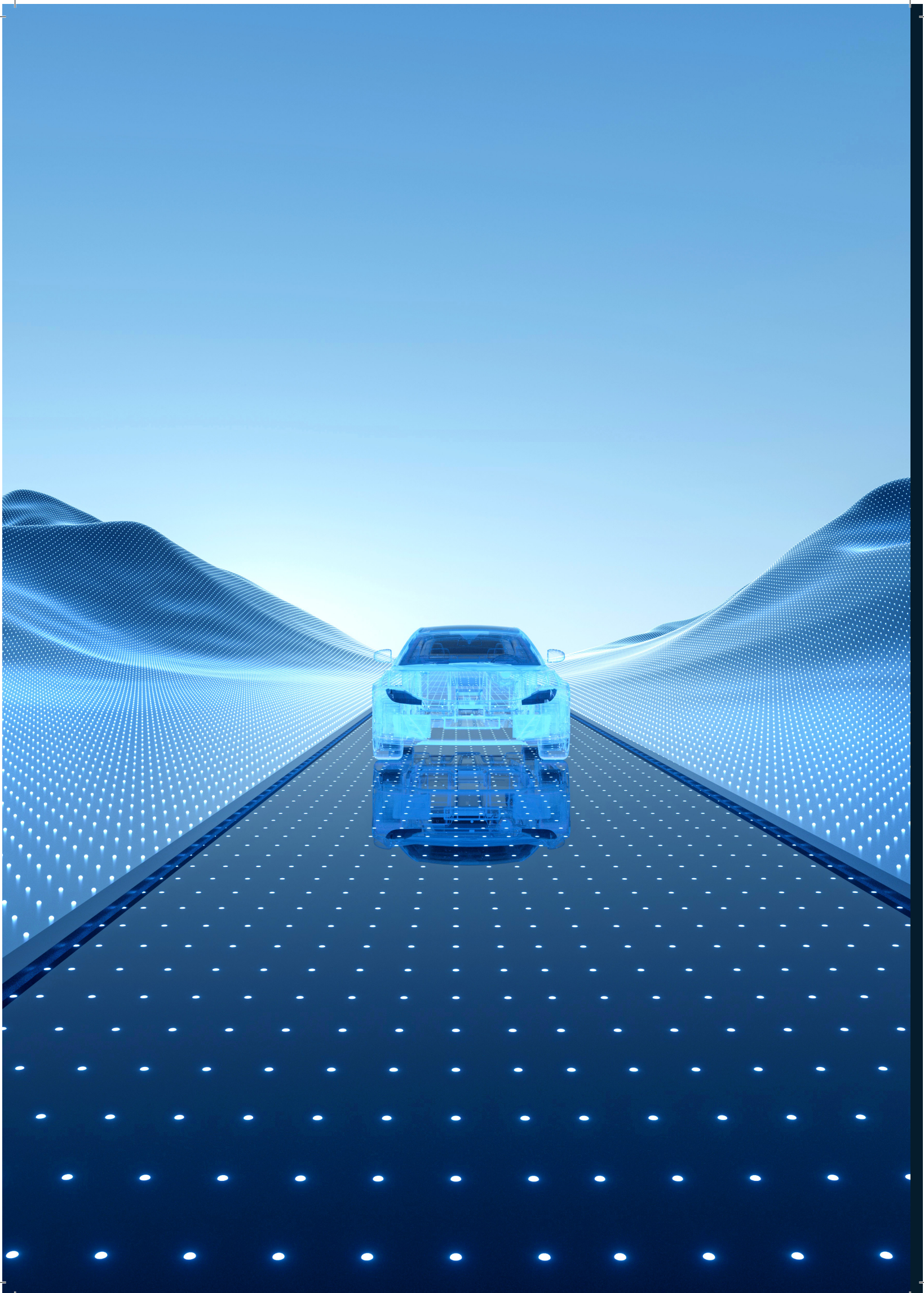
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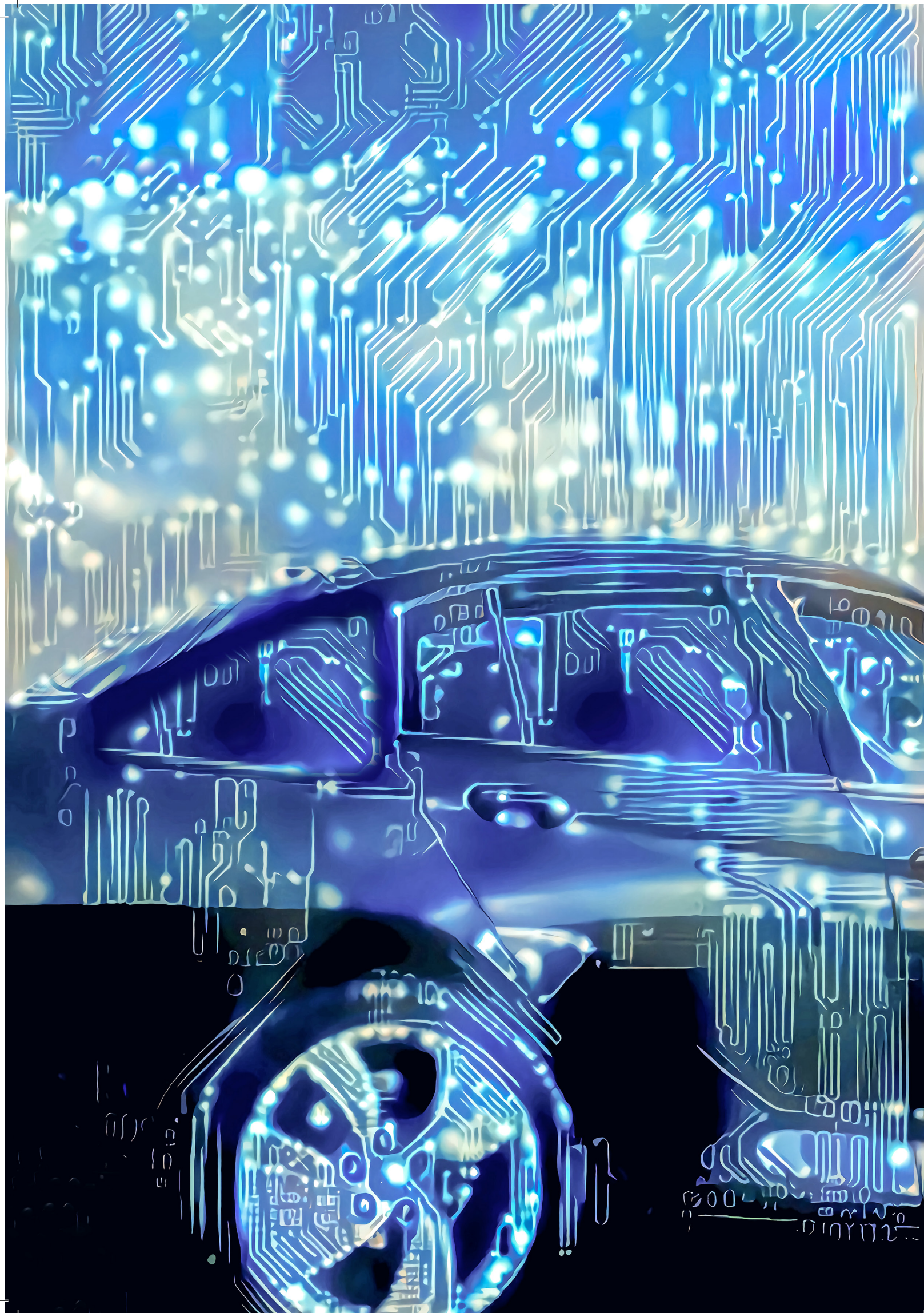
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# Executive summary

The automotive and automotive component industries of India have shown significant growth over the past decade. The automotive industry is a vital engine of the Indian economy, employing over 5 million people and contributing 25 percent to manufacturing GDP.

The auto component industry, with a compound annual growth rate (CAGR) of 7–8 percent since 2014, showed resilience and achieved a market size of \$74 billion in 2024.<sup>1</sup> It is poised to sustain this momentum over the next few years.

## India's automotive components industry: A vision for 2030

By 2030, the auto components industry could reach a market size of \$200 billion,<sup>2</sup> fueled by rapid advancements in alternative powertrain technologies, rising demand for premium automotive features, and India's strategic position in the global supply chain. The industry could make this potential a reality by successfully riding these emerging trends, fostering innovation, and expanding manufacturing capabilities to meet domestic and international demand.

## Facets to achieve growth

To achieve this growth, the industry could consider focusing on three key areas:

### Domestic OEM sales

The auto component industry's sales to OEMs are projected to grow from \$62 billion in 2024 to \$89 billion by 2030. This is underpinned by strong growth in new vehicle sales as rising consumer incomes and urbanization boost demand for passenger vehicles (PVs) and light commercial vehicles (LCVs).<sup>3</sup> The emergence of alternative powertrains such as electric vehicles (EVs) will further stimulate demand for specialized components. Additionally, advancements in automotive software and electronics will play a crucial role in enhancing vehicle functionality, with a significant shift anticipated towards zonal electrical/electronic (E/E) architectures.

### Domestic aftermarket sales

The domestic auto-component market is set to grow substantially, driven by an expanding vehicle parc and increasing vehicle age. By 2030, the aftermarket is expected to reach \$16 billion, with significant contributions from the PV, CV, and two-wheeler segments.<sup>4</sup> Greater premiumization and the proliferation of digital sales channels could also fuel demand for high-quality, personalized automotive accessories and replacement parts. The shift towards organized service marketplaces and the rise of direct-to-consumer (D2C) sales models will further bolster the aftermarket sector.

### Exports

These represent the most significant growth opportunity for the Indian auto component industry. Export revenues could soar from \$21 billion in 2024 to \$100 billion by 2030, at a CAGR of 30 percent. This growth will be driven by India's ability to capitalize on global supply chain disruptions and position itself as a reliable supplier of automotive components. Key markets include North America, Europe, and Latin America, where Indian manufacturers are well-positioned to fill gaps in demand, particularly for non-powertrain components.

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<sup>1</sup> Automotive Component Manufacturers Association of India.

<sup>2</sup> Ibid.

<sup>3</sup> Automotive Component Manufacturers Association of India.

<sup>4</sup> Ibid.

## Key considerations for auto component manufacturers

To unlock the full growth potential of the Indian auto component industry, manufacturers, government bodies, and industry organizations could collaborate on four steps:

1. **Leveraging export tailwinds:** Indian manufacturers could capture additional market share by leveraging developments like the transition to new powertrains or the increased diversification of supply chains from the region. Possible measures include moving closer to key export markets, building scale through collaboration, or leading the sustainability transition.
2. **Building indigenous R&D and innovation muscle:** Investment in research and development is essential to keep pace with global automotive trends. Establishing a dedicated infrastructure for R&D could facilitate innovation, supported by measures such as an accelerated tech push as well as the promotion of the “Made in India” and “Designed in India” brands.
3. **Moving towards quality maturity:** Digital tools and increased connectivity could help Indian OEMs improve operational efficiency and product quality. Technologies like the Internet of Things (IoT) and predictive analytics could be key to quality maturity.
4. **Pursuing innovations in aftermarket accessibility:** The growth of the domestic aftermarket offers opportunities for manufacturers to explore direct-to-consumer channels. Developing targeted strategies to engage with consumers through digital platforms could help capture this market.





# 1. India's automotive components industry: A vision for 2030

The past decade has been an impactful one for the automotive and auto component industries, both in India and globally. Despite a brief dip during the pandemic in 2020, the industry has grown significantly in the last few years and is poised to advance further in coming years.

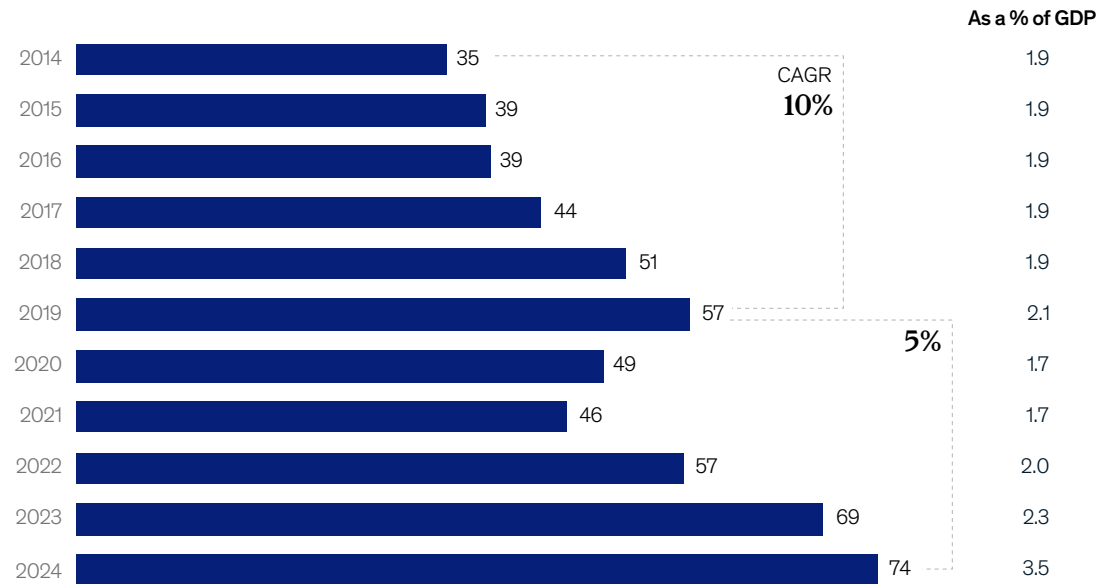
The Indian auto component industry, in particular, has maintained a consistent compound annual growth rate (CAGR) of 7–8 percent since 2014 and was most recently valued at \$74 billion in 2024, surpassing its earlier peak of \$69 billion in 2023 (Exhibit 1).<sup>5</sup> While recovery in certain segments such as domestic two-wheeler (2W) sales remains challenging, the auto component sector has been recovering at a steady pace thanks to growth in both component exports and vehicle parc, with the latter also benefitting the components aftermarket.

<sup>5</sup> Automotive Component Manufacturers Association of India.

Exhibit 1

## A resilient aftermarket and exports expansion have supported healthy growth of India's auto component industry.

India market size, \$ billion



Source: Automotive Component Manufacturers Association of India

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At present, the automotive industry helps employ over 5 million people in the country.<sup>6</sup> This accounts for a significant share of domestic manufacturing employment, raising the overall value creation of the automotive industry in general, and the auto components industry in particular.

The Indian auto components industry makes up about 3.5 percent of the global auto components market.<sup>7</sup> On a national level, auto components account for about 25 percent of the manufacturing GDP.<sup>8</sup> Notably, currency inflows for auto components between 2019 and 2024 were estimated to be roughly \$88 billion while the trade surplus in 2024 was \$300 million.<sup>9</sup>

## Challenges and opportunities

The Indian automotive industry as a whole is on the cusp of substantial growth and advancements, with numerous new trends promising an exciting path for the future of automobiles. These new trends or disruptions can be challenging as well as transformative, if leveraged optimally.

While internal combustion engine (ICE) powertrains are the convention today, nine different alternative powertrains emerging in the market could shape the components industry. These new powertrains will increase demand for specialized auto components, especially as EVs and other new powertrain technologies get standardized. Premiumization trends are also affecting the components industry, particularly for 2Ws and passenger vehicles (PVs) as customers increasingly demand software-first features and regulatory bodies push for advanced safety features. This emphasis on software could intensify as the industry transitions to zonal electrical/electronic (E/E) architectures to derive enhanced vehicle functionality. Finally, the Indian auto industry could emerge as a global automotive giant if it can leverage disrupted global supply chains and capture high-demand markets.

These disruptions could also present opportunities for the auto components industry. Tracking emerging technological trends in the auto industry could help the domestic auto components sector adapt faster and position India as the leader of next-generation mobility solutions. Improving and strengthening local auto component supply chains could help India establish its position as an emerging leader in the automotive industry as well as help the country attain self-reliance. This would help the auto components industry capitalize on changing trade dynamics by increasing exports to developed markets.

It will be impossible to capture these opportunities without increased innovation and expanded manufacturing capacity. Research and development (R&D) in the auto component sector could potentially double the employment opportunities provided by the sector.<sup>10</sup>

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<sup>6</sup> Society of Indian Automobile Manufacturers.

<sup>7</sup> Automotive Component Manufacturers Association of India.

<sup>8</sup> Ibid.

<sup>9</sup> Automotive Component Manufacturers Association of India.

<sup>10</sup> Expert interviews.

## Industry potential

Though the domestic market will continue to grow and be a major contributor to India's auto component industry in the coming decade, exports are expected to be the key growth driver. The industry is estimated to nearly triple its value to \$200 billion by growing at a CAGR of 16 percent till 2030. While domestic OEM sales and aftermarket sales are expected to grow at a CAGR of 6 percent, exports are expected to grow by 30 percent. This growth could make component exports the largest segment by 2030. OEM sales are expected to reach \$89 billion while exports would likely reach \$100 billion.<sup>11</sup>

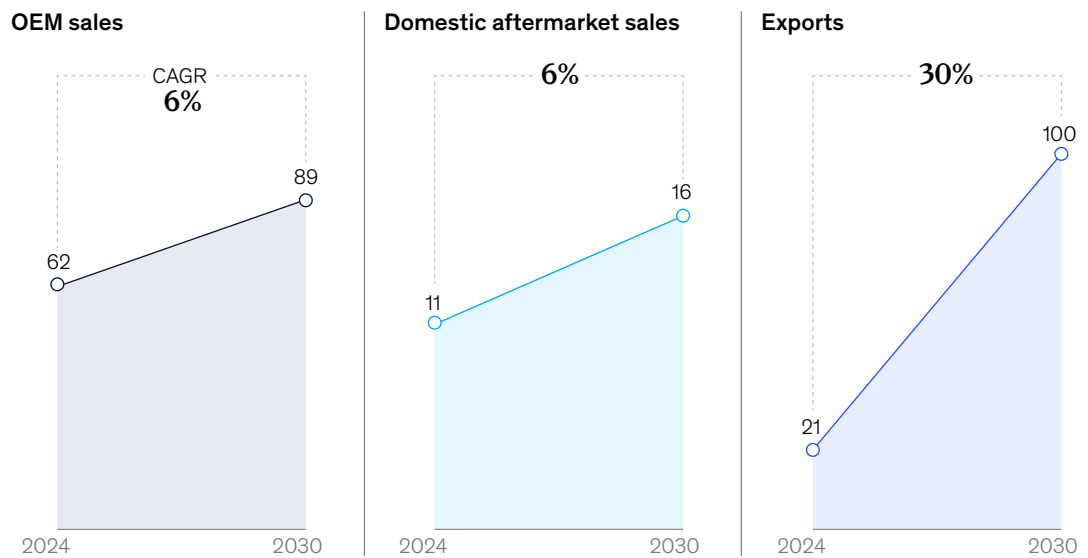
This growth will help the industry meet key aspirations such as becoming a top automotive components exporter that is self-reliant, and a global hub for future mobility solutions like automotive software development, zonal E/E architectures, and hydrogen tanks.

<sup>11</sup> Automotive Component Manufacturers Association of India.

Exhibit 2

### India's auto component market could reach \$200 billion driven by favorable disruptions in the industry.

\$ billion



Source: Automotive Component Manufacturers Association of India

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## 2. Facets to achieve growth

The auto component sector in India is set to mirror the growth of the entire automotive industry in India with the potential to triple its current valuation of \$74 billion by 2030. Strong tailwinds like rising consumer income levels and new types of technology and software are expected to help the sector grow at a CAGR of 18 percent to reach an annual turnover of over \$200 billion.<sup>12</sup> Component manufacturers could capitalize on disrupted global supply chains to meet increasing demand for components in foreign and domestic markets. The three segments of the auto-component industry—domestic OEM sales, aftermarket sales, and exports—are expected to provide unique opportunities for the industry participants.

### Domestic OEM sales

Rising consumer demand, the emergence of alternative powertrains and advancements in automotive software are a few of the major shifts affecting the domestic automotive sector and consequently domestic OEMs. Suppliers for these OEMs will need to adapt to these trends by innovating across segments and diversifying their portfolios to create new opportunities.

### Rising income levels

The number of households in India with an annual income of more than \$25,000 is expected to triple by 2030.<sup>13</sup> The consequent rise in the spending power of consumers will affect automotive demand across various demographics. With urbanization expected to increase to roughly 40 percent by this time, demand for PVs and light commercial vehicles (LCVs) is expected to rise.<sup>14</sup> Meanwhile, rural incomes are expected to grow by as much as 25 percent, helping drive 2W sales, particularly for entry-level ICE vehicles.<sup>15</sup> Rising consumer demand across industries will also increase the volume of cargo transport, creating a pull for commercial vehicles and their components.

Experts predict vehicle sales in the country could grow at a CAGR of 10–11 percent between 2023 and 2030, increasing from roughly \$99 billion in 2023 to around \$195 billion by 2030. This is expected to translate to growth in domestic OEM component sales which are projected to rise from around \$59.3 billion in 2023 to roughly \$89 billion in 2030 (Exhibit 3).

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<sup>12</sup> Automotive Component Manufacturers Association of India.

<sup>13</sup> McKinsey analysis of S&P Global Economics data.

<sup>14</sup> 'Economic Survey of Rural-Urban Population', Press Information Bureau, Government of India, August 7, 2024.

<sup>15</sup> 'India's Modi, chasing reform legacy, shifts income goals for struggling farmers', Reuters, May 8, 2024.

Exhibit 3

## Rising incomes and infrastructure upgrades can boost new vehicle demand and OE component sales.

Indian automotive market sales by vehicle segment, %



Source: S&P Global Automotive; Society of Indian Automotive Manufacturers; McKinsey Center for Future Mobility analysis

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### The emergence of alternative powertrains

Sustainability imperatives are one of the biggest driving forces in the automotive industry right now. Regulators across the world are attempting to reduce emissions through policies like the Corporate Average Fuel Economy (CAFE) standards in the US.<sup>16</sup> India has achieved parity with most developed markets in its emission standards and is expected to continue that trajectory with the upcoming Bharat Stage 7 (BS 7) norms.<sup>17</sup> Alternative powertrains offer advantages over conventional internal combustion powertrains, especially their lower emissions and greater sustainability. They are also more accessible for consumers due to improved ownership costs and the availability of greater variety.

Categorized by energy source, nine kinds of major powertrains have the potential to reduce emissions for the automotive industry globally:

- **Gas-based ICE powertrains:** These can be powered by:
  - Compressed natural gas (CNG)
  - Liquefied petroleum gas (LPG)
  - Hydrogen
- **Flex-fuel vehicles (FFVs):** These include ICE powertrains that can rely on the following types of fuels:
  - Ethanol-gasoline blends
  - Biofuels
- **Electric vehicles (EVs):** These can further be separated into two types depending on whether they still incorporate ICE powertrains:
  - **Hybrid EVs (HEVs):** These primarily rely on ICE powertrains and are supplemented by electric powertrains that typically use smaller lithium-ion (Li-ion) batteries that are charged by the vehicle's motion and braking. Another category of hybrid vehicles are plug-in hybrid EVs (PHEVs) that use electric and ICE powertrains that incorporate larger batteries that primarily draw power from plug-in chargers.
  - **Zero-emission vehicles:** These may be powered either by Li-ion batteries in the case of battery EVs (BEVs) or hydrogen fuel cells in the case of fuel cell EVs (FCEVs).

<sup>16</sup> Corporate Average Fuel Economy', *National Highway Traffic Safety Administration*, US Department of Transportation.

<sup>17</sup> Nitin Gadkari urges carmakers to start preparation for BS7 vehicles, keep up with EU norms', *The Times of India*, May 18, 2023.

These alternative powertrains are a radical departure from conventional ICE powertrains, so their emergence has a significant impact on component demand. India's pursuit of self-reliance in alternative powertrains hinges on nine critical component technologies: Li-ion batteries, e-Drives, electrolyzers, fuel cell stacks, hydrogen engine systems and storage tanks, automatic transmission systems, and finally, exhaust and emission systems. We focus on four of these technologies in this report:

### 1. Lithium-ion batteries

EVs are one of the alternative powertrains showing the most promising growth, especially BEVs and PHEVs. Domestic EV demand is expected to be dominated by 2Ws with the electrification level crossing 50 percent by 2030. Consequently, electric 2Ws will account for around 55 percent of total Li-ion EV battery demand. Additionally, four-wheelers will likely see up to 15 percent electrification in their overall sales by 2030, and are expected to have the second-largest share of the Li-ion battery market as they require batteries with higher energy capacity compared to 2Ws and three-wheelers (3Ws).

The cumulative EV Li-ion battery demand in India is estimated to reach roughly 100 gigawatt hours (GWh) by 2030 (Exhibit 4).<sup>18</sup> The rising demand for EV batteries has unlocked opportunities across the five stages of the Li-ion battery value chain: raw material refining, active material and cell components, cell production, battery packing and integration, and, finally, recycling. To unlock these opportunities, India could potentially tap domestic lithium reserves in Jammu & Kashmir<sup>19</sup> as well as develop import partnerships with countries that have large lithium reserves like Australia, Chile, and the Democratic Republic of Congo.<sup>20</sup>

India's rising EV Li-ion battery demand could be satisfied by building upstream capabilities in the Li-ion battery value chain through technology partnerships, governmental support through public-private partnerships (PPPs) and production linked incentives (PLIs) like the PLI Scheme for Advanced Battery Chemistries as well as end-of-life (EOL) recycling for batteries.

<sup>18</sup> Ibid.

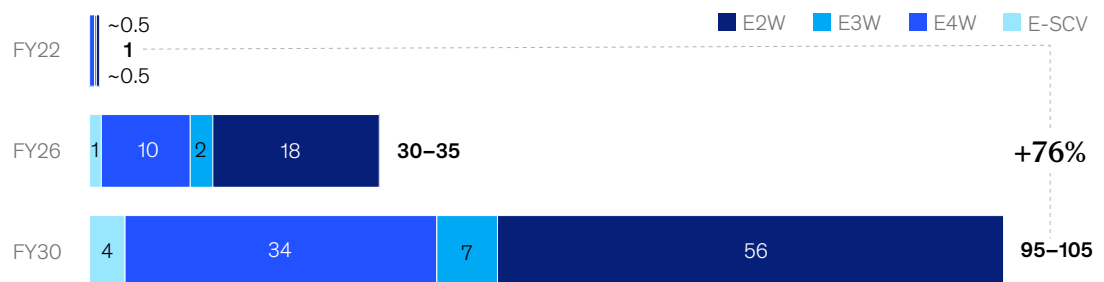
<sup>19</sup> 'Why discovery of Lithium reserves in Jammu and Kashmir is a big deal', Mint, February 10, 2023.

<sup>20</sup> 'Need for Advanced Chemistry Cell Energy Storage in India – Part III of III', NITI Aayog, RMI and RMI India, September 2022.

Exhibit 4

## Strong EV growth could drive India's Li-ion battery demand.

India Li-ion battery demand for transportation<sup>1</sup>, GWh



<sup>1</sup>For new vehicles sold. Does not include demand for replacement batteries. Average battery sizes in FY30: E2W: 4-5 kWh, E3W: 10 kWh, E4W: 50 kWh, E-SCV: 30 kWh.  
Source: McKinsey Center for Future Mobility

McKinsey & Company

## 2. Electronic components

As they are needed in all powertrains, including conventional ICE powertrains, electronic components form a major part in growing the domestic OEM market. While components such as sensors, cameras, and other electronics are increasingly locally made, India still imports semiconductors and printed circuit boards (PCBs).<sup>21</sup> Imports of PCB parts rose year-on-year by 74 percent in 2022.<sup>22</sup> However, there are encouraging signs for localization for electronic components in India. For example, firms manufacturing sensors and electronic control units (ECUs) are increasing their domestic presence.<sup>23</sup>

## 3. Hydrogen engine systems

Hydrogen engine systems or H2-ICE systems are greener powertrains that use hydrogen fuel. H2-ICE is a segment that the Indian auto component industry could focus on developing in the next few years. While the process of making H2-ICE powertrains from diesel engines is relatively straightforward in theory, many technical challenges can hamper execution. A key challenge is adapting ICE engines for hydrogen combustion as it requires modifications to turbocharging, fuel injection, tank, valve, and aftertreatment systems, as well as cylinder liners.<sup>24</sup> Other challenges include injector responsiveness, hydrogen pre-/glow-ignition, hydrogen diffusion, and optimizing the aftertreatment process. These challenges are offset somewhat by the similarities between H2-ICE and ICE powertrains: both use port-injection or direct-injection as well as four-stroke cylinders.<sup>25</sup>

## 4. Software

A growing demand for modern automobiles will accompany rising income levels. This could prompt premiumization trends for automobiles that are highly personalized and feature fast connectivity. As a result, software will be a major area of focus for the automotive industry as a whole in the coming decade. Developing advanced software will help bring a zonal architecture for electric/electronic (E/E) components. Experts believe that by 2032, more than 30 percent of all produced vehicles will have a zonal E/E architecture (Exhibit 5).<sup>26</sup>

Software-defined vehicles will create numerous opportunities for the auto component sector to expand its roles and functioning. Apart from designing and manufacturing component parts like chassis, powertrains, cockpits, and more, auto component manufacturers will also be involved in developing the software systems and application software for the parts they produce. This will also scale up the mass production bandwidths for the auto component industry.

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<sup>21</sup> 'Report on the Localization Assessment for Indian Automotive Sector Phase II', SIAM, ACMA and Ernst & Young, April 20, 2023.

<sup>22</sup> Ibid.

<sup>23</sup> 'Valeo expands ultrasonic sensor production in India', EVreporter.com, July 28, 2023.

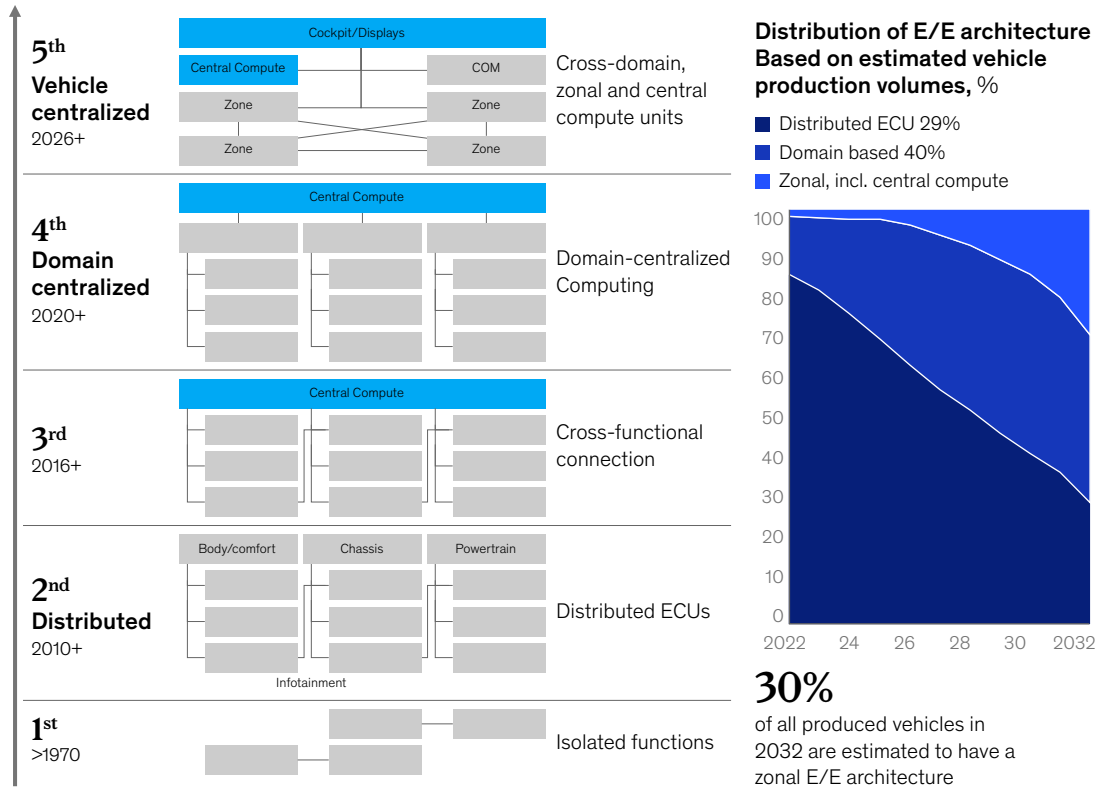
<sup>24</sup> Expert interviews.

<sup>25</sup> Ibid.

<sup>26</sup> McKinsey Center for Future Mobility.

Exhibit 5

## The next generation of automotive E/E architecture will be zonal and heavily software focused.



Source: McKinsey Center for Future Mobility

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## Domestic aftermarket

The growth of the domestic aftermarket could play a key role in the growth of the auto component industry in the coming decade. With the vehicle parc set to increase by 4–5 percent per year and continuing to age, the component aftermarket would witness a significant rise in demand and growth in opportunities.<sup>27</sup> Moreover, the rising number of new sales channels offering smarter, more personalized solutions and new service aggregators will bolster the creation and development of organized service marketplaces, which will in turn boost sales of genuine auto parts.

Another important factor that could aid the expansion of the Indian aftermarket is the rise in premiumization of vehicles. Consumers are already demanding more personalized and smart accessories for vehicles such as heads-up displays (HUDs) in passenger vehicles and smart helmets for two-wheelers.<sup>28</sup> The industry will also see an increase in direct-to-customer sales (D2C sales) with the growing popularity of autonomous maintenance of vehicles among the customer base.<sup>29</sup>

<sup>27</sup> McKinsey analysis of S&P Global Automotive data.

<sup>28</sup> Expert interviews.

<sup>29</sup> Ibid.

The Indian auto component aftermarket is expected to grow to \$16 billion by 2030.<sup>30</sup> Each vehicle segment could witness 8–10 percent growth. The PV and CV segments, which were both valued at \$3 billion each in 2023, could reach \$5 billion each, growing at a CAGR of 8 percent. The 2W and 3W segment is estimated to have a relatively lower CAGR of 4 percent and reach \$4 billion by 2023. The tractor segment is expected to see the greatest growth with a CAGR of 10 percent as it doubles from \$1 billion in 2023 to \$2 billion by 2030.<sup>31</sup>

This potential growth will be driven by a few factors, of which a key factor is an increasing vehicle parc. Parc growth will see new opportunities in the auto component aftermarket in the form of personalized, DIY auto parts like tyres and batteries. The vehicle parc is also expected to increase in average age with expectations that more Indians will opt for used vehicles. This will have a positive knock-on effect on the components aftermarket by increasing demand for maintenance parts. As of 2024, India's total vehicle parc across segments stands at roughly 333 million units and is expected to reach 430–435 million units at a CAGR of 4 to 5 percent by 2030.<sup>32</sup>

Organization and standardization will be integral to the growth of the domestic component aftermarket. These deter the production and sale of counterfeit parts, which is detrimental for consumers and genuine aftermarket suppliers alike. There is an encouraging rise in new service aggregators and personalized maintenance providers that could help address these counterfeit and knock-off products.<sup>33</sup> Another encouraging trend that needs to be optimized is the emergence of new direct-to-consumer online auto component marketplaces, which are clocking increasing auto sales every year.<sup>34</sup>

## Exports

The third and most important facet that will propel the Indian auto component industry to the top of the global list is exports. India could capitalize on disrupted global chains by positioning itself as a leader in auto component manufacturing, emerging as the next hotspot for component sourcing for major international markets such as the US, Europe, and Latin America.

The Indian auto component sector could increase exports to these markets through two different approaches.

- 1. Leveraging tailwinds arising from OEMs and other customers diversifying their supply chains:** India can accelerate exports of parts where it already has a strategic advantage and high potential for growth such as bearings, rubber components, and suspension systems.<sup>35</sup> Indian component players could also build a competitive advantage in high-value component export categories like exhaust, cabin, and load body parts.<sup>36</sup>
- 2. Leveraging the rebalancing of the global automotive manufacturing landscape due to adoption of alternative powertrains:** With rapid electrification expected in developed markets in the coming years, multiple ICE component segments will see reduced demand, causing local suppliers to lose economies of scale. These component markets will therefore become low volume and high variety markets creating opportunities for Indian suppliers, especially small and medium enterprises (SMEs). These suppliers can leverage the country's favorable labor costs to build the scale and resources needed to become globally competitive through measures like partnerships.<sup>37</sup>

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<sup>30</sup> "Global Automotive Aftermarket Research Report", ACMA and Ernst & Young, January 29, 2024.

<sup>31</sup> Automotive Component Manufacturers Association of India.

<sup>32</sup> McKinsey analysis of S&P Global.

<sup>33</sup> Expert interviews.

<sup>34</sup> Ibid.

<sup>35</sup> Expert interviews.

<sup>36</sup> Ibid.

<sup>37</sup> Analysis of 127 HS Codes from UN ComTrade, Automotive Component Manufacturers Association of India.

Driven by growth in North American and European markets, component exports are expected to surge five times from the segment's current valuation of \$20 billion in 2023 to reach \$100 billion by 2030.<sup>38</sup> In 2023, Indian exports to North America stood at the \$6 billion mark and could rise to \$40 billion by 2030. Similarly, exports to Europe are expected to increase from \$6 billion in 2023 to \$35 billion in 2030. Exports to Latin America are expected to grow from \$2 billion in 2023 to \$13 billion in 2030.<sup>39</sup>

### North America

This market offers plenty of opportunities for the Indian automotive component industry to establish itself as a strong trade partner to the US. The increased risk of shocks to global supply chains is causing leading automotive OEMs to seek resiliency by turning to suppliers from more countries. The US government is prioritizing domestic EV production, leaving incentive gaps for powertrain-agnostic components like E/E and interior components. This is making it difficult for North American OEMs to locally source these components, creating gaps that Indian component exporters can fill (Exhibit 6).<sup>40</sup> There could be enough potential for Indian component exporters to quadruple export volumes to the US by focusing on non-powertrain components like electrical and electronic components.<sup>41</sup>

<sup>38</sup> Automotive Component Manufacturers Association of India.

<sup>39</sup> Analysis of 127 HS Codes from UN ComTrade, Automotive Component Manufacturers Association of India.

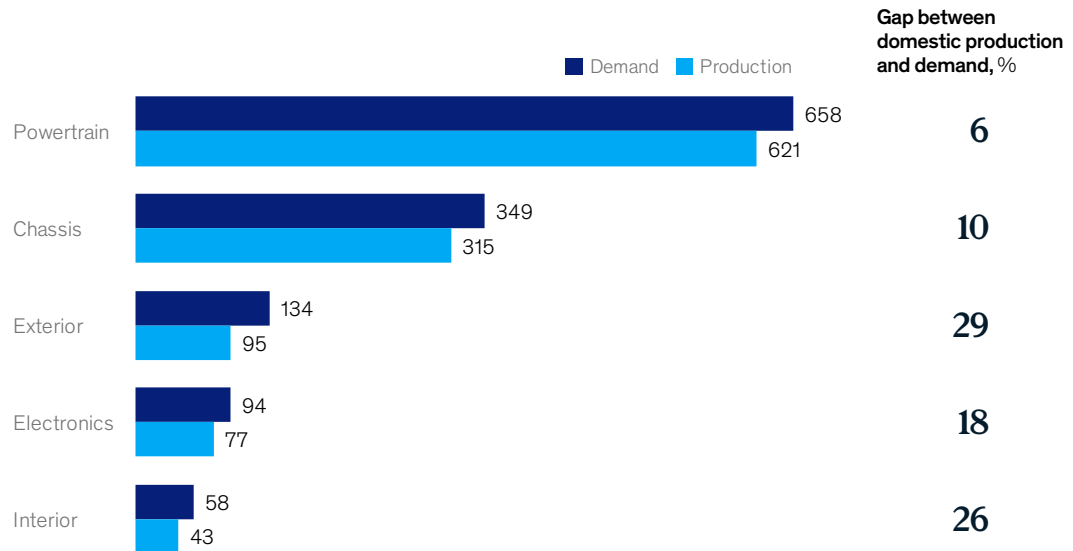
<sup>40</sup> Analysis of trade flow data from UN ComTrade and The Observatory of Economic Complexity.

<sup>41</sup> Expert interviews.

Exhibit 6

## India could plug gaps in North America's demand for interior and E/E components.

North American automotive system demand vs domestic production, 2021, \$ billion<sup>1</sup>



<sup>1</sup>Domestic demand estimated as production + imports from outside NA – exports outside of NA.

Source: Analysis of trade flow data from UN ComTrade and The Observatory of Economic Complexity

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## Europe

As one of the larger European automotive markets, Germany could be the primary target for Indian component exporters. They have the potential to double their share of the German market from 2 percent in 2023 to 4 percent by 2030 by capitalizing on local trends (Exhibit 7).<sup>42</sup> Changes to European mobility infrastructure in major markets like Germany are expected to cause new car sales to decline by roughly 20 percent between 2015 and 2035. At the same time, production costs are rising in the EU—43 percent of European component suppliers list high production cost structures as a major concern.<sup>43</sup> This creates an opportunity for Indian suppliers to leverage world-class facilities and more efficient cost structures to offer competitive prices.

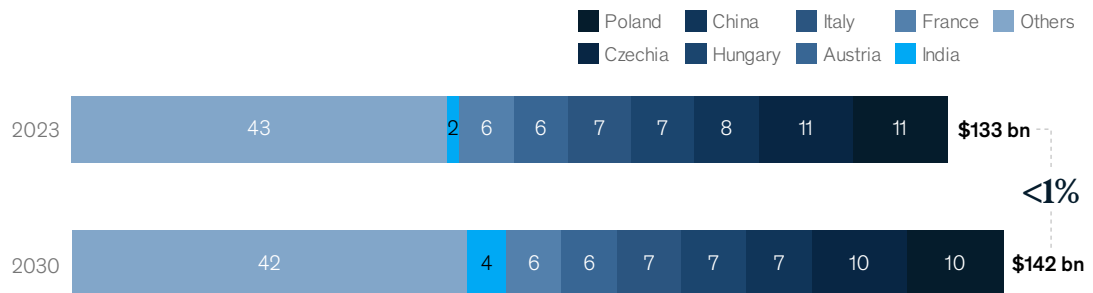
<sup>42</sup> Analysis of 127 HS Codes from UN ComTrade, Automotive Component Manufacturers Association of India.

<sup>43</sup> McKinsey CLEPA Pulse Check Survey 2023.

Exhibit 7

### Indian suppliers could target 2x share in German imports, driven by better cost and supply chain management.

#### Auto component imports in Germany, %



Source: UN Comtrade

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### Latin America

Brazil is one of the bigger markets in the Latin American region where Indian suppliers could double export volumes by 2030 (Exhibit 8).<sup>44</sup> Indian suppliers already have a strong presence in the market, particularly in 2Ws which comprise around 75 percent of Brazil's auto parc where a few major Indian OEMs already have local facilities. In addition to 2Ws, leading passenger vehicle OEMs in the region already rely on India as a manufacturing hub, potentially increasing prospects for Indian suppliers in the Brazilian aftermarket. These combined factors could present an opportunity to grow the share of Indian exports in the Brazilian automotive market from 4 percent in 2023 to 9 percent by 2030.<sup>45</sup>

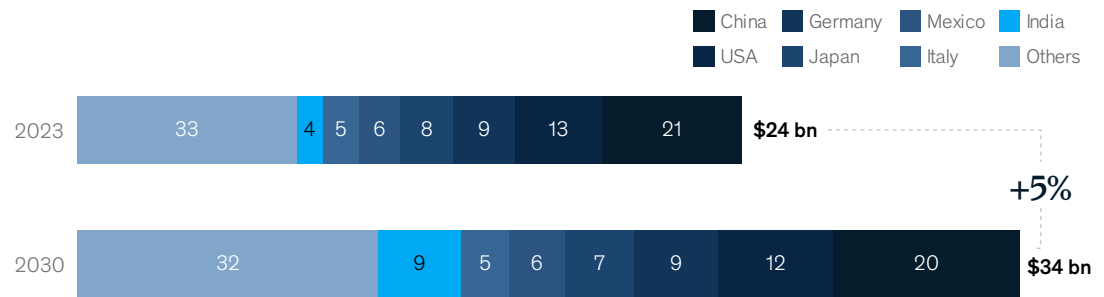
Thus, India's auto component industry could witness significant growth and opportunity in the next few years, if it focuses on localization and establishing itself as a leader on the global automotive stage.

<sup>44</sup> Analysis of 127 HS Codes from UN ComTrade, Automotive Component Manufacturers Association of India.  
<sup>45</sup> Expert interviews.

Exhibit 8

### India could more than double component exports to Brazil.

#### Auto component imports in Brazil, %

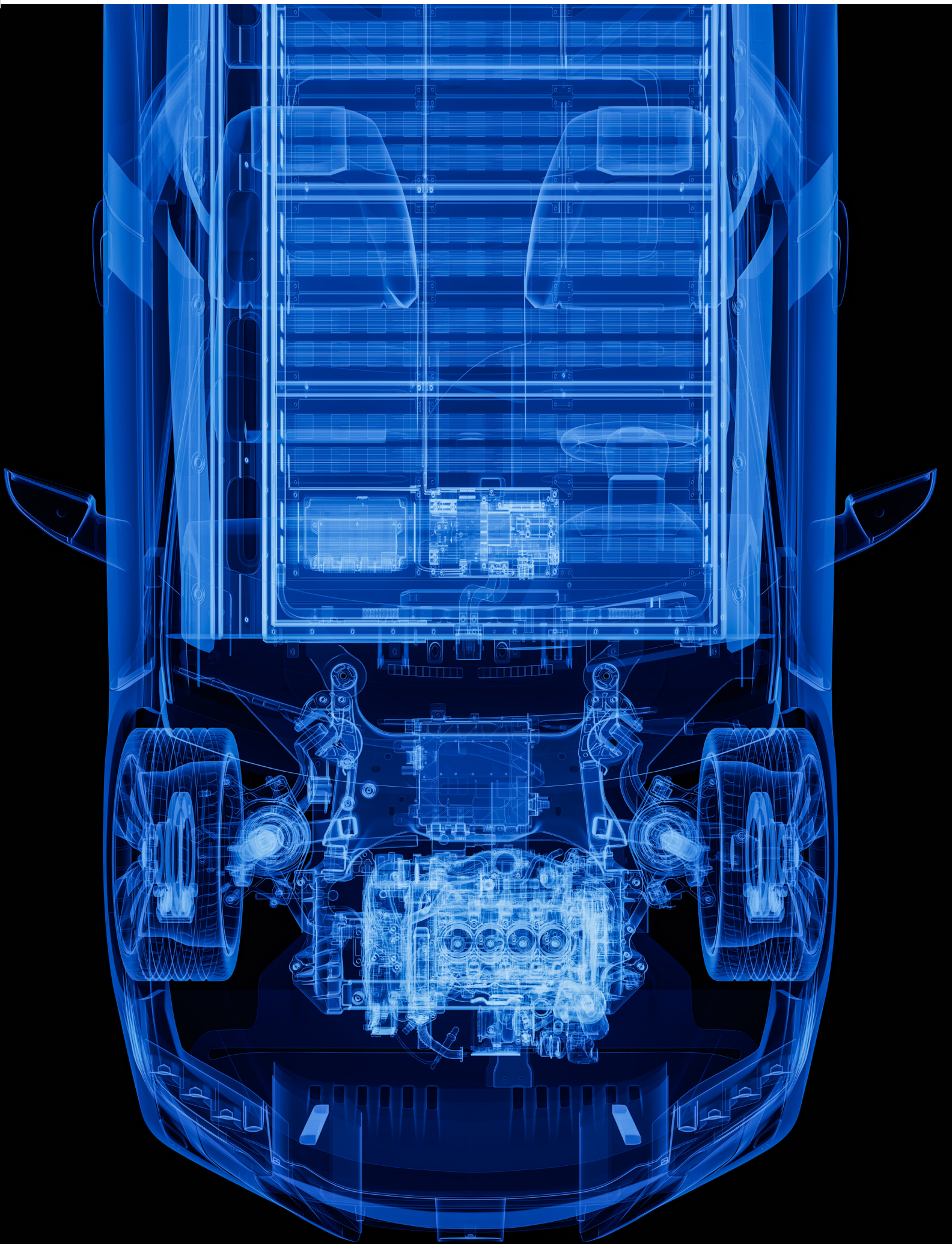


Source: UN Comtrade, McKinsey analysis

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Scaling global competitiveness and self-reliance



# 3. Key considerations for auto component manufacturers

The Indian automotive component industry could consider growth across three key areas: domestic OEM sales, domestic aftermarkets, and exports. Making this happen would require concerted efforts by the four major stakeholders in the auto components ecosystem: auto component manufacturers, automotive OEMs, the government, and industry bodies. The industry could consider the following four measures:

- Leverage **export tailwinds**
- Build indigenous **R&D and innovation muscle**
- Continue the **journey toward quality maturity** of the industry
- **Innovate in the aftermarket** through direct-to-customer channels

## Leverage tailwinds for exports

The Indian auto component industry could capitalize on multiple tailwinds in the global market to expand its export contributions. Disruptions in the automotive industry such as shifts in supply chains or the transition to new powertrain technologies provide an opportunity for auto component manufacturers to increase their share in the global export market. We categorize the efforts required by major stakeholders into three broad categories: building proximity to customers, scaling through collaborations, and leading the sustainability transition on the global stage.

### 1. Building proximity to customers

- **Enhance focus on large markets like North America:** This market could provide one of the bigger opportunities for Indian component manufacturers to deploy last-man standing strategies. There is already a paucity of local North American suppliers for non-powertrain components, which are areas where Indian components have strategic advantages like access to low-cost, high-quality labor.
- **Ensuring relevant go-to-market models are deployed:** Indian component manufacturers could achieve high growth by reimagining their go-to-market (GTM) approaches to different export regions. This will not be a one-size-fits-all approach. For example, nearshoring may be a more effective GTM model to penetrate the EU where OEMs are increasingly turning to regional suppliers over global ones. Conversely, a hub-and-spoke model may prove more effective in expanding export operations in Latin America and the Middle East. For instance, a country like Brazil may be ideal for Indian OEMs to set up a hub to serve Latin American (LATAM) markets as it is one of the bigger LATAM automotive markets and is ideally located to cater to countries across North, Central, and South America such as Mexico, Guatemala, and Chile. Similarly, a city like Dubai could serve as a base of operations to cater to demand in Africa and the Middle East.
- **Ramping up the frequency of outreach events:** Industry bodies are ideally situated to raise the profile of Indian component OEMs through events like roadshows and trade fairs. These would help disseminate information about the quality and potential of Indian component suppliers in high-priority international markets. The participation of major OEMs with a global presence can help increase the profile and credibility of such events, especially benefiting SME manufacturers that have a relatively smaller profile.

## 2. Build scale through collaborations

- **Diminish scale disadvantage through consortia:** Indian component manufacturers, especially SMEs, could unlock growth in export regions by establishing collaborative initiatives like consortia. This would enable like-minded suppliers to collectivize their efforts and share resources like logistics infrastructure to create more effective GTM strategies. These industry collaborations would help India service global demand for automotive components at scale.
- **Incentivize introduction of advanced manufacturing technology:** The government could consider supporting scale and quality enhancements in the auto component industry by promoting the use of state-of-the-art technologies (e.g., digital twins) for manufacturing and product development. Such measures can also help Indian auto component manufacturers improve their product development processes to match global standards and expectations. This could help encourage more localized R&D and innovation.
- **Create specific demand-side incentives for international procurement organizations:** Global OEMs are often trendsetters—their decisions to expand to certain technologies or territories often have knock-on effects through the industry. The government could consider leveraging this influence by incentivizing IPOs of major OEMs to increase component sourcing from India.

## 3. Leading the sustainability transition on a global stage

- **Prioritizing compliance with sustainability regulations:** Ensure full compliance with global sustainability standards like the EU's Carbon Border Adjustment Mechanism (CBAM) and local market regulations on clean energy and recyclable material usage. Auto component manufacturers can aim to achieve compliance before exporters from competing countries through joint product development with OEMs.
- **Establishing Centers of Excellence:** Sustainability innovation will be needed at an ecosystem level and could be facilitated through Centers of Excellence (CoEs). These CoEs could accelerate the development of sustainability measures like alternate materials by providing suppliers training and resources such as technical assistance, contacts, and best practices.
- **Specific incentives to increase sustainability:** Government policies such as subsidies, tariffs, and streamlined compliance mechanisms could help unlock sustainable solutions by making them more profitable and feasible. This could incentivize more auto component suppliers to pursue the manufacturing and export of green components like 'green steel' or material circularity.

## Building indigenous R&D and innovation muscle

R&D and innovation could play a key role in the extent to which Indian component manufacturers can capitalize on disruptions to the global automotive sector—they could capture markets for new technologies and alternative powertrains by offering world-class, state-of-the-art components. Three measures could help to enhance indigenous R&D and innovation: dedicated R&D infrastructure for auto components, accelerated innovation through a push on technology and startup collaboration, and promotion of “Designed in India” and “Made in India” products.

### 1. A dedicated R&D infrastructure for auto components

- **Establishing design and skilling centers:** Attracting quality talent is a major goal of most component manufacturers. Establishing design and skilling centers in close proximity to major academic institutions and hubs could help attract talent for niche areas like automotive software or E/E architectures.
- **Forming strategic alliances:** Indian component manufacturers could benefit from aligning on strategic collaborations. This would enable them to pool R&D resources to achieve economies of scale that would hasten innovation.
- **Incentives for hiring of R&D talent:** The government could encourage the hiring of qualified talent for R&D activities, possibly through offering tax incentives and subsidies.

## 2. Accelerating innovation through a tech push

- **Building innovation accelerators/incubators that prioritize localization:** Many components are built using imported designs and materials. Transitioning to more localized solutions typically requires considerable innovation that may not be immediately profitable. Industry bodies and OEMs can help promote the innovation of more indigenous components through the establishment of innovation centers.
- **Increasing collaborations with domestic startups:** Startups often play a key role in the innovation ecosystem of any industry and it is no different with auto components. Collaborations between OEMs/at-scale suppliers (especially larger, Tier 1 players) can result in more experimental solutions to hasten the pace of innovation and commercialization of new technologies.
- **Increasing investment in testing and validation:** A more robust ecosystem of testing and validation would help improve the scale and cost of manufacturing components like E/E architectures and automotive software. This would help Indian suppliers become competitive with their global counterparts by facilitating the faster commercialization of innovative or novel component designs.
- **Implementing subsidies for raw materials:** These measures could be complemented by policies encouraging localized innovation such as tax incentives or lower import duties for critical raw materials and components required for development.

## 3. Promote “Designed in India” and “Made in India”

- **Facilitating the integration of Indian suppliers into global innovation ecosystems:** Industry bodies could support capable auto component manufacturers in India to integrate into the global product development value chain of major OEMs. This would enable these manufacturers to stay at the forefront of innovation by keeping abreast of industry developments at a global scale.
- **Encourage innovation in domains where India has structural advantages:** To strengthen India’s brand, the government could encourage global OEMs to collaborate with local component manufacturers on crucial components like forgings and in areas where India has endowments, e.g., automotive software. This local presence of global OEMs would also likely have downstream effects that help build out the R&D ecosystem at large like easier talent recruitment at universities.
- **Publicizing success stories:** Publishing case studies of the successful integration of Indian components on global vehicle platforms would help increase the profile of the Indian auto component industry as a whole.

## Continue the journey toward quality maturity

Digital solutions can help transform operations by leveraging internet-of-things (IoT) technologies to access, capture, and analyze the operational data of component manufacturers. These can be used to generate insights through machine learning models and predictive analytics to automate processes, improve product lifecycle management and increase operational efficiency.

## “Innovate in aftermarket” through direct-to-customer channels

The auto component industry has traditionally been a B2B industry, but this could change with advancements in new-age channels for aftermarket parts and accessory sales. The typical awareness levels of consumers for components like tyres and batteries have increased enough to make D2C or B2C models feasible for components like replaceable, DIY parts.

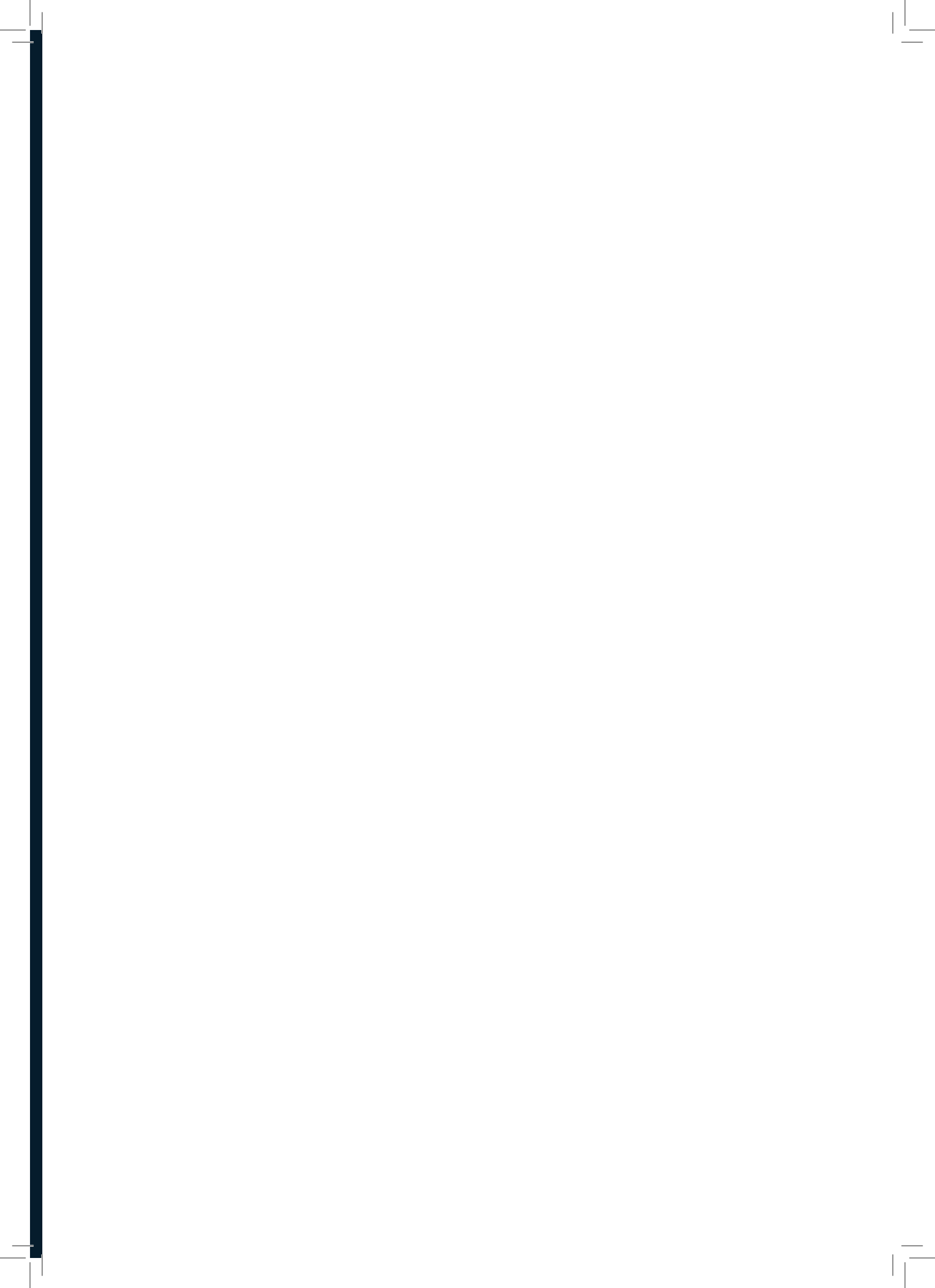
These consumers could be reached through channel-specific marketing and branding approaches to establish credibility and attract interest. For example, automotive component manufacturers could consider engaging with influencers or adopting targeted marketing communication avenues to engage with end users.

# Conclusion

The Indian auto component industry is at a crossroads, with multiple tailwinds driving growth for the automotive industry in general, and the Indian auto components industry in particular. With sustainability imperatives affecting governments and OEMs across the world, alternative powertrains are increasing in prominence. Rising income levels domestically could have the potential to triple the industry's current valuation of \$74 billion to \$200 billion by 2030, driven mostly by the exports market.

Achieving this potential is likely to require collaborative efforts by stakeholders across the auto component ecosystem. Integrating with global supply chains could help increase exports while increased investment in R&D will help OEMs stay at the forefront of automotive innovation, especially to embed sustainability across all aspects of manufacturing operations.

If these tailwinds and measures align, the auto components industry could achieve its ambitions of becoming a global automotive manufacturing hub by 2030.



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