



AUTOMOTIVE AFTERMARKET: HOW TECHNOLOGY TRENDS WILL RESHAPE THE BUSINESS

Abstract

The US automotive aftermarket, a critical sector providing products and services after the sale of vehicles, has undergone a transformation after Covid-19. The pandemic accelerated digitalization and brought about shifts in consumer behavior, which altered the landscape of the aftermarket industry.

The automotive aftermarket is rebounding from the pandemic's impact as customers prioritize online shopping, opt for contactless service, and prefer do-it-yourself (DIY) solutions.

The automotive market is expanding due to several factors. Industry surveys project growth underpinned by customer awareness about repair and maintenance. Information available online and on social media about auto parts and accessories is also a factor in the expansion of the automotive aftermarket.

Pre-pandemic

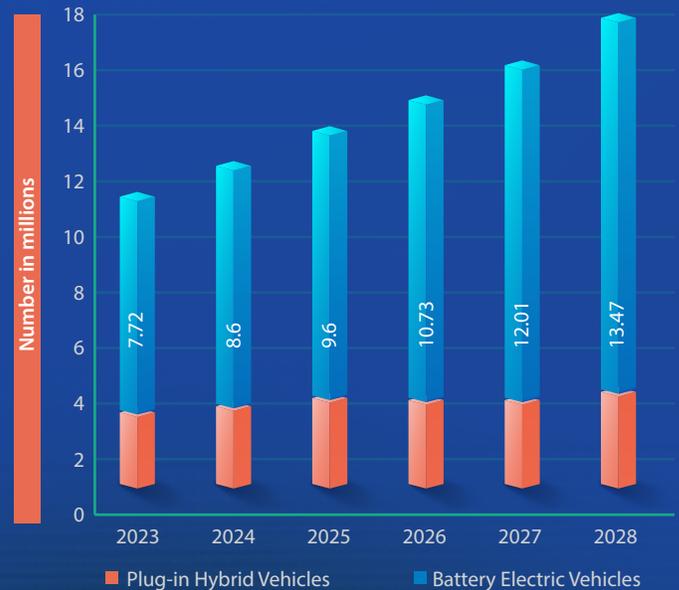
The US automotive aftermarket is linked to the demand for new vehicles. Approximately 70% of the US automotive parts market is OEM parts and the remaining 30% is repair and specialty equipment. Miles driven is a crucial factor in determining the state of the aftermarket industry. More miles driven affect the wear and tear of vehicle parts. In 2017, it increased demand for tire and wheel products. At the same time, gas prices touched a historical high, compelling customers to trade highly priced synthetic oil with cheaper conventional oil alternatives. The accelerated shift to e-commerce was another macro trend impacting the industry. The automotive aftermarket witnessed steady adoption of online channels from 2017 to 2019.

The demand for electric vehicles is set to grow steadily, as depicted in the infographic.

Size of US Automotive Aftermarket

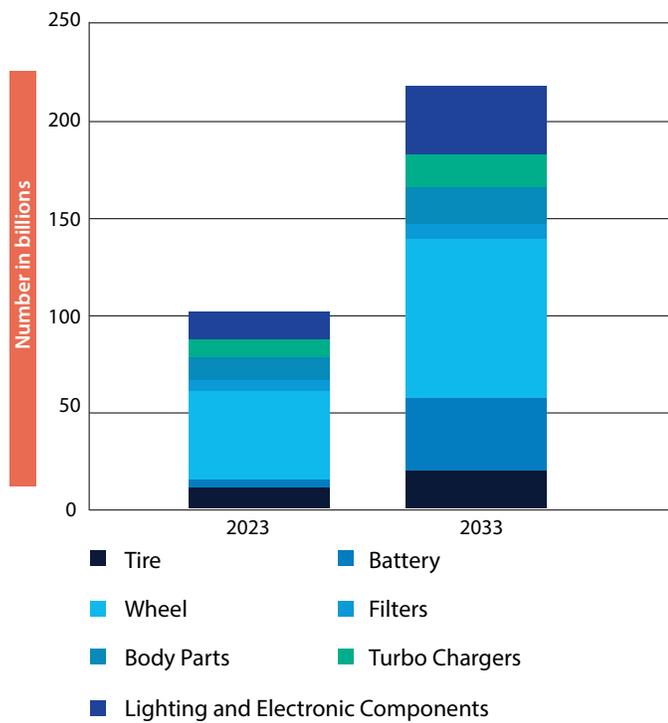


Electric Vehicles Sales Forecast

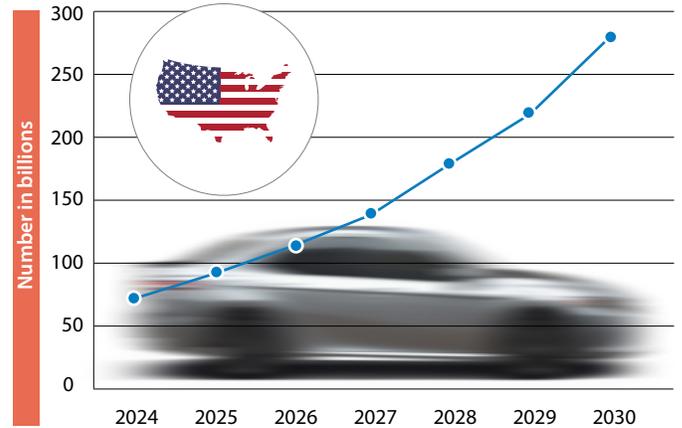


The aftermarket parts in the EV sector consists of several segments, as shown in the graph. The EV battery market is projected to grow in the future.

Global Market Size of Aftermarket as Per Segmentation



Battery Market Size in the US

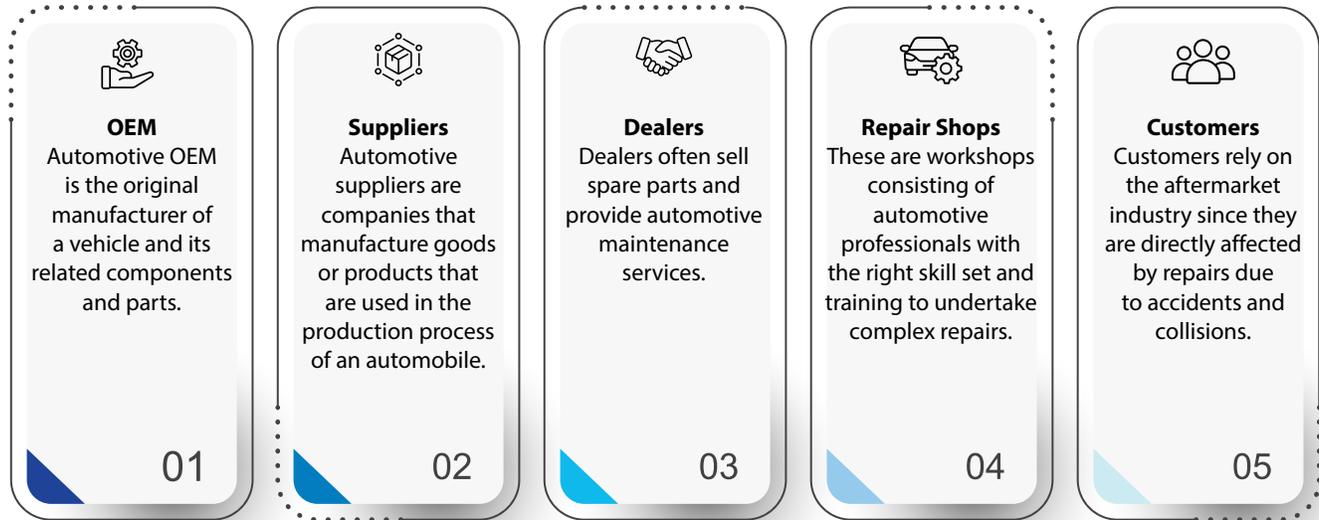


The shift to Electric Vehicles tilts toward battery usage in the future. OEMs and third-party manufacturers need to be prepared for EV battery manufacturing expansion, which is set to increase fourfold. In the US, with favorable EV policies, sales of electric cars and vans are expected to accelerate till the end of this decade reaching the government target of 50% in 2030.

Challenges in the Automotive Aftermarket



Roles in the Automotive Aftermarket



Evolution of Automotive Aftermarket before, during, and after the Pandemic

The table below articulates the role of factors before, during, and after the pandemic, and discusses key factors in the aftermarket business.

Role of Constituents	Focus Areas	Pre-pandemic	During the Pandemic	Post-pandemic
 OEM	Tapping new markets	OEMs invested significantly in research	Production ceased resulting in OEMs exploring new technologies	OEMs are exploring new strategies to capture market share
	EV revolution	EVs registered high growth rate	Customer focus shifted to hybrids and EVs	EV market is growing exponentially compelling OEMs to adopt digital technology
 Suppliers	Digital transformation	Suppliers lacked online presence	Several suppliers shut down, thereby affecting the ecosystem	Online presence is becoming mandatory for suppliers
	Supply chain fulfillment challenges	Pre-existing supply chain issues	Dealers faced challenges in receiving automotive parts due to logistical constraints	Increase in the number of fulfillment centers to streamline the supply chain
 Dealers	Maintenance and service	Routine vehicle maintenance	Zero vehicle maintenance due to minimum usage of vehicles	More usage of private vehicles instead of public transport
	Pre-owned auto sales	Steady increase in 2:1 ratio	Due to economic slowdown, customers opted to purchase used cars	Market is moving towards electric vehicles
 Repair Shops	Collision repairs	90% of collision repairs undertaken in repair shops	Shortage of technicians delayed the turnaround time of the repairs	Digital claims are gaining more importance
	E-commerce aftermarket	Direct purchase from dealers	Online purchase gathered momentum during the pandemic	Do-it-for-me (DIFM) service providers and do-it-yourself (DIY) customers rely on e-commerce
 Customers				

How Technology Trends Impact Key Focus Areas

Virtual reality, machine learning, blockchain, augmented reality, and the Internet of Things are business catalysts across the ecosystem.



Technology Trends



Machine Learning (ML)

ML supports parts and vehicle manufacturers along with their logistics partners in improving efficiency and profitability.



Augmented Reality (AR)

AR serves as a valuable tool to improve the vehicle repair and maintenance process.



Blockchain

Blockchain creates secure and transparent systems to track the lifecycle of a vehicle.



Internet of Things (IoT)

IoT monitors the fleet management and manages logistics.



Virtual Reality (VR)

VR simulates the car driving experience and helps design, develop, and test vehicles.

The infographic explains how OEMs, dealers, and suppliers can use technology to keep pace with the growth of the automotive aftermarket business.

		 ML	 AR	 Blockchain	 IoT	 VR
 OEM	Focus Area 1: Tapping new markets	Analyze market	Standardize and streamline complex manual process	Navigate a competitive market for new products	Field data influences OEM's decision for new product development	Reduce time-to-market
		Demand forecast	Produce quality products	Tokenization of assets	Catalyst in opening new revenue streams	Assess components or modifications
 Suppliers	Focus Area 1: Digital transformation	Digital inventory management	Respond to change quickly	Authentication and anti-counterfeiting	Smart tracking of products defects	Remote access to data engineering documents
		Image recognition and anomaly detection	Product design and prototyping	Automate and secure transactions	Anticipate parts failure	Ability to manage and organize stock
 Dealers	Focus Area 1: Supply chain fulfillment challenges	Availability of parts	Streamline warehouse operations	Supply chain transparency	Real-time visibility into warehouses	Virtual inspections of large inventories
		Optimizing routes	Increased accuracy and efficiency	Secure and decentralized storage of data	Improve overall supply chain efficiency	Ability to identify operational needs
	Focus Area 2: Maintenance and service	Predictive maintenance	Standardized training	Vehicle history and maintenance records	Remote monitoring and diagnostics	Simulate complex maintenance scenarios
		Predictive analysis	Optimize a process or product variation	High speed of operations	Optimizing maintenance schedules	Virtual repair instructions
 Repair Shops	Focus Area 1: Collision repairs	Analyze real-time data from vehicles	Light Guide AR software	Live car tracking mechanisms	Real-time data transmission	Virtual training experience
		Remote monitoring and diagnostics	Real-time guidance and support	Cost reduction in repairs	Proactive maintenance measures	Accelerating safety system testing
 Customers	Focus Area 1: E-commerce aftermarket	Personalized recommendations for spare parts	Visualize aftermarket products in a physical showroom	Automated warranty management for aftermarket products	Customized recommendations for aftermarket products	Virtual reality showrooms
		Automated customer support for order tracking	Enhanced online shopping	Reduce fraud in purchase	In-vehicle assistance	Interactive mode of customer engagement

After the pandemic, the automotive aftermarket is undergoing a seismic shift underpinned by technology. Enterprises that strategically adopt digital solutions, leverage data insights, and embrace sustainability practices will thrive. Success in the automotive aftermarket will be determined by the ability of enterprises to adapt, innovate, and address the needs of millennials and environmentally conscious customers. The automotive aftermarket ecosystem is set to be transformed by new and emerging technologies, which will alter the dynamics of how aftermarket businesses operate and engage with customers.

Success Stories



E-commerce Portal for Automotive OEM

A leading automotive manufacturer wanted an online presence to market original parts via a dealer. Infosys developed a web storefront of original OEM parts for B2C and B2B customers. The e-commerce portal incorporated fraud detection and prevention capabilities, data analytics, and user surveys. The web solution resulted in a 20% reduction in cart abandonment, 85% drop in online fraud, and a superior site accessibility rating.



Global Automotive Manufacturer Implements Spare Parts Planning and Logistics Solution

Infosys developed a solution which incorporated parts classification algorithms based on order frequency and demand patterns to improve forecast accuracy. The system tracks strategic planning parameters such as Economic Order Quantity (EOQ) and safety stock. The OEM rolled out the system for global after-sales processes. It helped improve planning for global demand, inventory, and procurement processes through tools and techniques.



European Automotive OEM Deploys Next-generation Workshop System for Workshop Maintenance

Infosys developed a system with intelligent fault tracing through business intelligence on FMEA ranking and Wi-Fi-enabled diagnostics. The solution helped the OEM enhance the customer experience, workshop capacity utilization, and reduce customer waiting time.

Infosys has rich experience in developing solutions for OEMs, specifically in the automotive aftermarket. Infosys has implemented solutions for OEMs to enable auto parts commerce and manage inventory for dealers. Our solutions increase online and in-store sales while creating an ecosystem to maximize workshop efficiency.

References:

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- [Overcoming supply chain issues: Automotive OEMs and suppliers must work together](#)
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- [2024 Global automotive consumer study](#)
- [Prospects for EV deployment](#)
- [Automotive aftermarket trends, growth](#)
- [EV market size](#)
- [EVs market forecast](#)

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