

Automotive Industry Trends

September 2024



Key Automotive Trends [1]: Electric Vehicles (EVs) Adoption Increasing Worldwide

Stricter emission standards and advances in battery technology are propelling the rise of EVs, offering long-term savings and accelerating global adoption



Global EV Market size reached **USD 255 Bn** in 2023.



USD 2,108 Bn expected market size by 2033, growing at a CAGR of **23.4%**

Global emission standards are becoming increasingly stringent, pushing automotive manufacturers to develop and promote EVs.

This shift is fueled by **advancements in battery technology**, which are lowering costs and improving efficiency, making EVs more accessible to consumers. The **expanding infrastructure for charging EVs** enhances their convenience, accelerating their adoption rates globally.

Industry Developments



Hyundai Motor Group: Committed to selling **1.87 million EVs** annually by 2030



LG Energy Solution: Partnered with **Hyundai**, to provide advanced lithium-ion battery solutions. In Feb 2024, the company announced plans to build a **USD 4.3 billion** battery factory in North America



Tesla: In January 2024, Tesla CEO confirmed on a post-earnings call that the company expects to start production of its next-generation EV at its Texas factory in the second half of 2025



General Motors: Between 2020 and 2025, GM will invest **USD 35 billion** in EV and Autonomous Vehicle (AV) product development spending, exceeding its gas and diesel investment globally



Volkswagen Group: Aims for **80%** EV sales in Europe and **55%** in North America by 2030

Trend Drivers



Strict environmental regulations and government incentives support



Decrease in Lithium-Ion Battery Cost



Technology advancements - Vehicle-to-Grid (V2G) Integration

Product Segments



Hybrid Electric Vehicles (HEVs)



Battery Electric Vehicles (BEVs)



Fuel Cell Electric Vehicles (FCEVs)

Key Automotive Trends [2]: Connected Cars – Unlocking Opportunities through IoT Integration

IoT revolutionizes road safety and efficiency by enabling smart vehicle communication and predictive diagnostics, driven by cutting-edge sensor technology



IoT in the Global Automotive market

2023: USD 131 Bn
2028 (projected): USD 322 Bn
CAGR (2023-28): 19.7%



80-90% of the cars globally in 2040 are expected to be connected through IoT

37% of customers in 2020 were ready to switch car brands to achieve improvements in autonomous driving, connectivity, electrification, and shared mobility (ACES)



IoT facilitates secure communication between vehicles and infrastructure, enhancing road safety, alleviating traffic congestion, and curbing pollution & energy consumption through optimized fleet management.

Trend Drivers



Advancements in communication technology, such as 5G and Vehicle-to-Everything (V2X) Communication



Enhanced safety features, such as collision warnings, lane departure alerts, & emergency assistance



Consumer demand for in-car connectivity, such as infotainment * integration with smart devices

Industry Developments



- **Tesla** produces cars with software available for Autopilot and Full Self-driving capabilities. Tesla's Autopilot feature is an Advanced Driver Assistance System (ADAS). It reduces the tasks of a driver and improves safety and convenience
- The latest Tesla cars are equipped with **8 external cameras**, **12 ultrasonic sensors**, and a robust onboard computer



- In August 2023, **Hyundai Mobis Co.**, a South Korea-based car parts company, partnered with **Autotalks Ltd.**, an Israel-based chipset maker company
- With this partnership, they aim to develop innovative 5G network-based vehicle-to-everything (V2X) integrated control technology to bolster the safety of autonomous vehicles. 5G V2X is vital for self-driving, enabling unmanned vehicles to perceive their surroundings and control motion



- In 2023, **Harman International**, a US-based company focused on connected devices for automotive in customer and enterprise markets, unveiled Harman Ready on Demand.
- It is a software platform for delivering branded audio value, feature enhancement, upgrades, and monetization opportunities in an easy-to-use app

Key Automotive Trends [3]: Sustainable Practices Transforming Automotive Industry

Shifting Consumer Preferences and Government Incentives Drive Adoption of Sustainable Automotive Solutions



The Global vehicle recycling market size reached **~USD 83 Bn** in 2023 and is projected to reach **~USD 243 Bn** by 2032, at a CAGR of **12.8%**



The Global Automotive Biofuel market size reached **~USD 40 Bn** in 2023 and is projected to reach **~USD 66 Bn** by 2029, at a CAGR of **8.7%**



The Global Commercial Hydrogen Vehicle market size is expected to reach **~USD 5 Bn** in 2024 and is projected to reach **~USD 53.2 Bn** by 2034, at a CAGR of **26.9%**

Consumers are increasingly aligning their purchasing preferences with **sustainability** and **environmental responsibility** in the automotive industry. This shift is evident in:



The rising demand for eco-friendly products, such as EVs, hybrid vehicles, and hydrogen fuel cell cars.



The integration of sustainable materials, such as recycled plastics and plant-based vegan leather in car manufacturing

Governments around the globe are actively promoting sustainable automotive options by offering incentives such as:



United States: Tax credits up to \$7,500 for new EVs; incentives for EV manufacturing and infrastructure expansion



China: Subsidies for EV purchases and dual credit policy mandating fuel consumption targets or NEV production



European Union: CO₂ emission targets and subsidies/tax benefits for EVs and charging infrastructure



India: Production-Linked Incentive (PLI) scheme for local EV production; reduced customs duties on specific EV imports

Industry Developments

V O L V O

Circular economy 2030 ambitions

99% of all waste either reused or recycled

50% average per-car reduction in water use in own operations

35% recycled content in new car models



BMW utilizes lightweight materials such as carbon fiber in key components of sports cars like the i3 and i8 to improve performance and reduce energy consumption



Toyota offers hybrid and plug-in hybrid options across various models, like the Prius and RAV4 Prime, focusing on fuel efficiency and reduced emissions

Key Automotive Trends [4]: Increasing Adoption of Autonomous Vehicles (AVs)

AI and advanced sensing technologies drive AV development, but robust safety measures are vital for public trust and widespread adoption



The Global Autonomous Vehicle market is valued at **USD 158 Bn** in 2023 and is expected to reach **USD 2,753 Bn** by 2033 at a CAGR of **33.1%**



33 Mn cars worldwide are expected to be AVs by 2040.

Core Enablers



Artificial Intelligence (AI)



Machine Learning (ML)



Deep Neural Networks (DNN)

- AI, ML, and DNNs are critical for enhancing AVs' capabilities in perception, decision-making, and navigation
- Addressing AV risks is crucial, requiring strong safety measures and regulations to ensure public trust and facilitate widespread adoption
- Recent advancements have enabled AVs to effectively navigate complex traffic situations autonomously, without human intervention



- New cars sold in 2024 will have **level 2 automation**, which allows drivers to take their hands off the wheel
- By 2030, **95%** of all new vehicles on the market will offer Level 4 or 5 automation



AVs leverage **RADAR** and **LiDAR technology**, coupled with AI, to detect nearby vehicles and build real-time 3D maps of their environment. However, as AVs approach widespread adoption, ensuring their safety and establishing comprehensive regulations are critical priorities.

Industry Developments

cruise

GM Cruise: The company entered the fully driverless service arena in 2023 by offering autonomous rides in San Francisco, becoming a notable player in the autonomous vehicle market



Tesla: In April 2024, the company announced to launch full autonomous vehicle 'Tesla Robotaxi' which would operate without controls for a human to use in 2024



In 2023, **VinFast** and **NXP Semiconductors** announced their collaboration on VinFast's next-generation of Automotive applications



Innoviz Technologies and **Aeva:** Companies are developing solid-state LiDAR systems, which offer longer range, smaller size, and lower cost compared to traditional mechanical LiDAR systems

Key Automotive Trends [5]: Shared Mobility is Driving Innovation and Sustainability in the Automotive Industry

Digitalization is driving the shift to shared mobility, offering affordable and eco-friendly alternatives to vehicle ownership through innovative mobility-as-a-service platforms



The Global Shared Mobility market is valued at **USD 278 Bn** in 2024, and is expected to reach **USD 815 Bn** by 2032, at a CAGR of **14.4%**



56% of consumers were willing to replace trips taken in private vehicles with shared autonomous vehicles in 2023



By 2030, shared mobility could generate up to **USD 1 Tn** in consumer spending

Key Drivers



Digitalization is driving a shift from private to shared urban mobility, enabling "mobility as a service" through digital platforms for vehicle and bicycle sharing



Increasing Urban Population and changing consumer preferences towards **tech-savvy solutions**



The **rise of mobile apps and digital platforms** has made shared mobility services more accessible and efficient



Shared mobility, particularly when combined with electric vehicles (EVs), contributes to a **reduction in carbon emissions**

Industry Developments

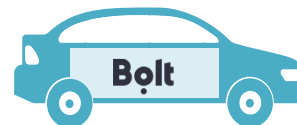
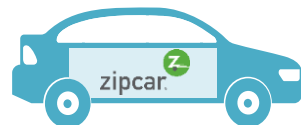
- US-based startup **Parkway Autonomous** offers advanced transportation solutions, integrating autonomous driving, V2V communications, smart infrastructure, and power optimization. The company's CAV way platform unifies these technologies to provide high-speed, right-sized, 24/7 operational transit vehicles
- Apps, like, **Bolt**, **Zipcar**, **Share Now**, and **Zity** provide shared mobility services with large fleets of cars mostly comprising EVs

“ 1 out of 10 cars sold in 2030 will be a shared vehicle and will lead to a subsequent rise in the market for fit-for-purpose mobility solutions.

- McKinsey ”

“ The e-hailing market accounts for more than 90% of consumer spending in shared mobility globally.

- McKinsey ”



Key Players

About STATXO

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Our approach, driven by domain expertise + data science + AI/ ML/ Gen AI has successfully enabled various businesses to mitigate challenges, leverage their growth potential, outperform competitors, and significantly reduce costs.

We support a range of corporate & professional services companies – from Fortune 500 to high-potential start-ups across various industry verticals, such as, Energy, Retail, Healthcare, Cosmetics, Automotive, Professional Services, Industrial Goods, Travel, Chemicals, and others.

We are helping Clients to do the Right Thing, at the Right Time.



Make Smart Decisions Faster



Drive Efficiency & Reduce Cost



Gain Competitive Edge



Achieve Tangible Results

