

Electric Vehicle Powertrain Market Size & Share Analysis - Growth Trends and Forecast (2026 - 2031)

> **Industry:** Electric Vehicles & Clean Mobility (Automotive & Transportation)

> **Source:** <https://www.mordorintelligence.com/industry-reports/electric-vehicle-powertrain-market>

> **Scraped Date:** 2026-09-17

Executive Market Summary

Market Metric	Details
Base Market Size	USD 259.92 billion
Projected Forecast (2031)	USD 259.92 billion
Growth Rate (CAGR)	21.48 %
Largest Market Region	N/A
Fastest-Growing Region	N/A

Market Visualizations & Infographics

! [Major players in Electric Vehicle Powertrain industry] (images/chart_2.png)

! [Electric Vehicle Powertrain Market (2026 - 2031)] (images/chart_3.png)

! [Electric Vehicle Powertrain Market: Market Share by Component] (images/chart_4.png)

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Comprehensive Research Analysis

Overview Points List Flex 49 Share Feature End

Market Overview	Study Period	2019 - 2031
Market Size (2026)		USD 259.92 Billion
Market Size (2031)		USD 687.64 Billion
Growth Rate (2026 - 2031)		21.48 %
Fastest Growing Market		Asia Pacific
Largest Market		Asia Pacific

Market Concentration | Medium |

Major Players*Disclaimer: Major Players sorted in no particular order

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Market Overview

Electric Vehicle Powertrain Market Analysis by Mordor IntelligenceThe electric vehicle powertrain market size was valued at USD 217.81 billion in 2025 and estimated to grow from USD 259.92 billion in 2026 to reach USD 687.64 billion by 2031, at a CAGR of 21.48% during the forecast period (2026-2031). Demand momentum is anchored in tightening zero-emission mandates, battery cost compression, and the shift to 800-volt vehicle platforms that promise lighter cabling and sub-20-minute fast-charging capability. Battery packs remained the largest component category, but power-electronics spending is accelerating as silicon-carbide inverters and integrated DC-DC converters become mainstream. Commercial-fleet economics are reshaping segment growth because last-mile delivery operators can amortize higher upfront costs over intensive duty cycles. The Asia-Pacific region dominates volumes due to its vertically integrated supply chains, while localization incentives in North America and Europe are reshaping plant footprints to meet content rules and subsidy thresholds.

Key Report Takeaways* By component, battery packs held 38.32% revenue share in 2025, while power electronics is expanding at a 29.42% CAGR through 2031.

* By propulsion type, battery electric vehicles (BEVs) led with 71.24% of the electric vehicle powertrain market share in 2025 and are advancing at a 24.80% CAGR through 2031.

* By vehicle class, passenger cars accounted for 63.46% of the market size in 2025, whereas light commercial vehicles are set to grow at a 26.22% CAGR through 2031.

* By voltage architecture, ≤400 V systems commanded 88.10% of the market in 2025, yet 800 V platforms are growing at a 38.75% CAGR through 2031.

* By sales channel, OEM-fitted powertrains controlled 92.37% of 2025 revenue, while aftermarket retrofit kits are projected to climb at a 27.12% CAGR through 2031.

* By geography, Asia-Pacific captured 57.66% of revenue in 2025 and is set to post the fastest growth at a 26.64% CAGR through 2031.

Key Market Trends

Market Trends and InsightsDrivers Impact Analysis of Electric Vehicle Powertrain Market*Driver | (~) % Impact on CAGR Forecast | Geographic Relevance | Impact Timeline |

Surging Global Electric Vehicle Sales | +5.2% | Global, with Asia-Pacific core and spill-over to Europe and North America | Medium term (2-4 years) |

Stringent Zero-Emission Vehicle and Tailpipe Rules | +4.8% | Europe, North America, China | Long term (≥4 years) |

Rapid Cost Drop in High-Nickel Batteries | +3.9% | Global, led by Asia-Pacific manufacturing hubs | Short term (≤2 years) |

OEM Shift to 800V Architectures | +3.1% | North America, Europe, premium segments in Asia-Pacific | Medium term (2-4 years) |

Localization Incentives for E-Drive Manufacturing | +2.7% | North America (IRA), Europe (IPCEI), India (PLI), Southeast Asia | Medium term (2-4 years) |

Tier-1 Vertical Integration of E-Axles | +2.2% | Global, concentrated in Germany, Japan, United States | Long term (≥4 years) |

Source: Mordor Intelligence |

Competitive Landscape

Competitive Landscape

The electric vehicle powertrain market is moderately concentrated, with the leading suppliers capturing a significant share of component revenue, though no single firm dominates. Traditional Tier-1 suppliers, such as Bosch, Magna, and BorgWarner, are acquiring semiconductor and software assets to counter vertically integrated OEMs like Tesla and BYD, which benefit from substantial gross margins in powertrain. The industry is shifting toward software-defined powertrains that enable over-the-air torque and thermal updates, creating opportunities for recurring subscription income with high margins.

Three strategic archetypes are shaping the market. Full-system integrators are combining motors, inverters, and gearboxes into simplified e-axes, prioritizing ease of use over customization. Component specialists are focusing on cost efficiency and rapid delivery to meet the high-volume demand for traction motors. Vertically integrated OEMs are managing everything from cells to inverters internally, while also licensing excess capacity to smaller brands. Patent activity highlights these strategies: BorgWarner is advancing silicon-carbide inverter technology, while Valeo is concentrating on bidirectional on-board chargers that support vehicle-to-grid monetization.

Technological leadership now depends on expertise in silicon-carbide modules, which enhance inverter efficiency, extend vehicle range, and justify premium pricing. Suppliers without proficiency in wide-bandgap technologies risk losing margins as OEMs increasingly adopt advanced architectures. At the same time, software capabilities are becoming the critical factor in securing new powertrain contracts, surpassing the importance of traditional mechanical expertise.

Electric Vehicle Powertrain Industry Leaders* Tesla, Inc.

- * Magna International Inc.

- * BorgWarner Inc.

- * Bosch Mobility (Robert Bosch GmbH)

- * BYD Co. Ltd.

- * *Disclaimer: Major Players sorted in no particular order

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Scope Methodology P Space

Our study defines the electric-vehicle powertrain market as revenue generated by factory-installed systems that convert stored electrical energy into propulsion in on-road passenger and commercial vehicles. Assemblies covered are battery packs, electric drive motors, inverters, e-axes, high-voltage cabling, and thermal-management modules.

Scope exclusion: retrofit kits for existing combustion cars and stationary battery units are omitted.

Segmentation Container

- * By Component* Electric Motors* Permanent-Magnet Synchronous

- * Induction

- * Switched-Reluctance

- * Transmission / e-Axle Systems* Single-Speed

- * Multi-Speed

- * Power Electronics* Inverters

- * DC-DC Converters

- * On-Board Chargers
- * Battery Pack
- * Thermal Management Systems
- * High-Voltage Cabling & Controllers
- * By Propulsion Type* Battery Electric Vehicle (BEV)
- * Plug-in Hybrid Electric Vehicle (PHEV)
- * Fuel-Cell Electric Vehicle (FCEV)
- * By Vehicle Class* Passenger Cars
- * Light Commercial Vehicles
- * Heavy Commercial Vehicles
- * Two and Three-Wheelers
- * Off-Highway Vehicles
- * By Voltage Architecture* Less than equal to 400 V Systems
- * 800 V Systems
- * Above 800 V Systems
- * By Sales Channel* OEM-Fitted Powertrains
- * Aftermarket Retrofit Kits
- * By Geography* North America* United States
- * Canada
- * Rest of North America
- * South America* Brazil
- * Argentina
- * Rest of South America
- * Europe* Germany
- * United Kingdom
- * France
- * Italy
- * Spain
- * Netherlands
- * Rest of Europe
- * Asia-Pacific* China
- * Japan
- * India
- * South Korea
- * Thailand
- * Vietnam
- * Rest of Asia-Pacific
- * Middle East and Africa* Saudi Arabia
- * United Arab Emirates
- * Turkey
- * South Africa
- * Egypt
- * Rest of Middle East and Africa

Frequently Asked Questions

How large is the Electric Vehicle Powertrain market today?

The market size reached USD 259.92 billion in 2026 and is projected to reach USD 687.64 billion by 2031.

Which component segment is growing the fastest?

Power electronics is forecast to deliver a 29.42% CAGR through 2031, outpacing batteries, motors, and transmissions.

Which region will lead future demand?

Asia-Pacific already commands 57.66% share and is tracking a 26.64% CAGR thanks to integrated supply chains and policy incentives.

How are fleet retrofits affecting the market?

Aftermarket kits, though only 7.63% of 2025 revenue, are climbing at a 27.12% CAGR through 2031 as commercial operators electrify existing diesel assets.

What is the main supply-chain risk for manufacturers?

Volatility in lithium, nickel, and cobalt prices can shift battery pack costs by several hundred dollars per vehicle within a single year.