

EV Assembly Market by Manufacturing Strategy (Gigacasting, Smart Factory), Platform Type (Dedicated, Modular, Integrated), EV Component, Integration Type (In-house, Outsourced, Contract Manufacturing), OEM Analysis, and Region – Global Forecast to 2035

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Abstracts

The EV assembly market is projected to grow from USD 190.11 billion in 2026 to USD 291.39 billion by 2035, at a CAGR of 4.9%.

Automakers are increasingly adopting gigacasting to simplify vehicle structures and reduce assembly complexity by consolidating multiple stamped and welded components into single large cast parts. Tesla's gigacasting process at Gigafactory Texas replaced 70 individual components with a single rear body casting and reduced casting cycle times from about 120 minutes to 80–90 seconds, enabling production rates of 40–45 castings per hour. Similarly, Volvo plans to replace about 100 stamped components with a single megacast structure for the EX60's rear chassis section, while achieving a 15–20% weight reduction and approximately 95% material utilization through in-house recycling of casting scrap. These advancements reduce part counts, shorten production cycles, minimize material waste, and lower tooling and assembly requirements, improving manufacturing efficiency and supporting cost-effective, high-volume EV production.

The commercial vehicle segment is projected to hold a significant share of the EV assembly market during the forecast period.

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EV assembly market. The electrification of logistics fleets, public transportation networks, and last-mile delivery operations is driving large-volume procurement contracts for commercial vehicles, enabling OEMs to improve production utilization and establish dedicated assembly lines. Similarly, manufacturers are investing in purpose-built commercial EV platforms, creating new opportunities for tooling, platform development, and assembly operations. Commercial vehicle manufacturers are increasingly adopting dedicated EV platforms, such as Yutong's YEA architecture and Daimler Truck's eActros platform, enabling component standardization across multiple vehicle models. This platform-based approach improves manufacturing efficiency, reduces development costs, and supports large-scale production of electric buses and trucks, further strengthening the commercial vehicle segment's contribution to the EV assembly market. Government initiatives promoting local production of electric buses and trucks are further encouraging investments in regional manufacturing facilities and supply chains. The integration of advanced telematics, fleet management systems, high-voltage architectures, and connected vehicle technologies also increases the overall assembly value of commercial EVs. In addition, leading manufacturers such as Daimler Truck, Volvo Trucks, BYD, Yutong, Scania, and Tata Motors continue to expand dedicated commercial EV production capacity, supporting the segment's strong contribution to the growth of the EV assembly market.

Plug-in hybrid electric vehicles (PHEVs) are expected to account for a significant share of the EV assembly market during the forecast period.

The plug-in hybrid electric vehicle (PHEV) segment is estimated to hold a significant share of the EV assembly market because of its higher manufacturing content and assembly value compared with conventional vehicles. By integrating both an internal combustion engine and an electric powertrain, PHEVs require additional components such as battery packs, electric motors, inverters, fuel systems, and advanced control units. This dual-powertrain architecture increases assembly complexity, component count, and manufacturing value per vehicle. Many automakers use flexible multi-energy platforms such as Volkswagen's MQB, BMW's CLAR, and Geely's CMA, enabling ICE, HEV, PHEV, and BEV models to be produced on the same assembly lines, improving plant utilization and production efficiency. Strong demand for PHEVs and extended-range electric vehicles (EREVs) in China, led by manufacturers such as BYD, Li Auto, Geely, and Changan, along with continued adoption across Europe, supports high production volumes and assembly activity. PHEVs also enable OEMs to leverage existing engine plants, supply chains, and manufacturing facilities while gradually expanding electrified vehicle production. For instance, Volkswagen's MQB platform supports more than 40 vehicle models across multiple powertrain configurations,

allowing manufacturers to use common production assets and reduce the need for dedicated assembly infrastructure. This approach helps lower transition risks and capital investment requirements while supporting flexible production planning. Manufacturers are also investing in dedicated hybrid technologies such as BYD's DM-i, Geely's Thor Hybrid, and Changan's Blue Core Hybrid systems, which require specialized assembly processes and component integration.

“Europe is expected to have a significant market share in the EV assembly market during the forecast period.”

Europe is expected to account for a significant share of the EV assembly market, supported by its well-established automotive manufacturing ecosystem and ongoing transition to electrified vehicle production. The region is home to leading OEMs such as Volkswagen Group, Mercedes-Benz, BMW, Stellantis, Renault Group, and Volvo, which collectively operate extensive vehicle assembly plants, powertrain facilities, and battery manufacturing investments across Europe. European automakers are increasingly standardizing production on dedicated EV platforms, including Volkswagen's MEB and upcoming SSP architectures, BMW's Neue Klasse, Mercedes-Benz's MMA and MB.EA platforms, Stellantis' STLA architectures, Renault's AmpR platforms, and Volvo's SPA2 architecture. This platform-based approach enables multiple vehicle models to share common battery systems, electrical architectures, software stacks, and manufacturing processes, improving production efficiency and reducing development costs. Similarly, OEMs are investing heavily to convert conventional vehicle plants into EV-focused production facilities while expanding automation, smart factory technologies, and digital manufacturing capabilities. The region is also strengthening battery localization by establishing regional battery supply chains and integrating battery pack assembly closer to vehicle production sites, improving supply chain resilience and manufacturing efficiency. Taken together, these factors position Europe as a key hub for large-scale EV assembly, supported by advanced manufacturing capabilities and platform standardization.

In-depth interviews were conducted with CEOs, marketing directors, other innovation and technology directors, and executives from various key organizations operating in this market.

By Company Type: OEMs – 38%, Tier I – 42%, Tier II & III – 20%

By Designation: Directors – 35%, Managers – 45%, and Others – 20%

By Region: North America – 25%, Europe – 30%, and Asia Pacific - 45%

The EV assembly market is dominated by major players, including Tesla (US), BYD Company Ltd. (China), VOLKSWAGEN AG (Germany), Geely Auto (China), and Hyundai Motor Company (South Korea). These companies leverage scalable EV platforms, advanced manufacturing technologies, vertically integrated supply chains, and highly automated production facilities to improve assembly efficiency, reduce manufacturing costs, and accelerate the commercialization of electric vehicles in global markets.

Research Coverage:

The report covers the EV assembly market, by vehicle type (PC, CV), propulsion (BEV, PHEV), and region.

The report provides a comprehensive analysis of the EV assembly market's competitive landscape and profiles leading vehicle manufacturers and contract assembly providers. It includes an in-depth assessment of key market participants, highlighting their manufacturing capabilities, assembly facilities, EV platform strategies, production footprints, partnerships, investments, and business strategies shaping the global EV assembly ecosystem.

Key Benefits of Buying the Report:

The report provides reliable estimates of the global EV assembly market size and its key segments, helping market participants assess current and future revenue opportunities.

The report enables OEMs, contract manufacturers, component suppliers, investors, and other stakeholders to understand the competitive landscape and develop effective growth and market-entry strategies.

The report offers detailed insights into the EV assembly ecosystem, including key market drivers, restraints, challenges, opportunities, manufacturing trends, and regional production dynamics.

The report helps stakeholders evaluate current and future developments in EV manufacturing technologies, assembly processes, platform strategies,

production capacities, and localization initiatives across major automotive markets.

The report provides benchmarking of leading EV manufacturers based on production footprint, assembly capabilities, platform adoption, strategic partnerships, and expansion plans.

The report provides insight into the following pointers:

Analysis of key drivers (OEM transition to dedicated EV platforms and software-defined vehicle architectures, Localization of EV supply chains and battery manufacturing ecosystems), restraints (Battery and power electronics localization bottlenecks, High capital investment and EV capacity utilization risks), opportunities (Expansion of battery recycling and closed-loop manufacturing, Rise of AI-enabled smart factories and digital manufacturing technologies, Growing adoption of EV platform-based contract manufacturing), and challenges (Balancing manufacturing flexibility across diverse EV platforms and vehicle segments).

Platform Development/Innovation: Detailed insights on upcoming technologies and research & development activities in the EV assembly market

Market Development: Comprehensive information about lucrative markets - the report analyzes the EV assembly market across varied regions

Market Diversification: Exhaustive information about untapped geographies, recent developments, and investments in the EV assembly market

Competitive Assessment: In-depth assessment of market share, EV manufacturing strategies, and platform offerings of leading players such as Tesla (US), BYD Company Ltd. (China), Volkswagen AG (Germany), Geely Auto (China), and Hyundai Motor Company (South Korea)

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