

EV Battery Market by Battery Type (Lead-acid, Li-ion, Na-ion, NiMH, SSB), Propulsion (BEV, PHEV, ECEV, HEV), Battery Form, Vehicle Type, Material Type, Battery Capacity, Method, Li-ion Battery Component and Region - Global Forecast to 2033

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Abstracts

The global EV battery market is projected to grow from USD 132.6 Billion in 2023 to USD 508.8 Billion by 2033, registering a CAGR of 14.1%. As concerns about climate change and air pollution mount, people are increasingly turning to EVs as a cleaner and more sustainable alternative to gasoline-powered vehicles. This surge in demand for EVs is naturally driving up the demand for EV batteries. Further, Battery technology is constantly evolving, with researchers making significant strides in improving range, lifespan, and charging times. These advancements are making EVs more practical and appealing to consumers, further fueling the market for EV batteries.

“Prismatic form to hold largest market share during the forecast period.”

Prismatic cells represent a more compact form of cylindrical cells, with the internal layers of the anode, cathode, and separators being folded into a cubic or flattened spiral form. This gives it a more compact structure. The battery contents are held together by a casing made of aluminum or plastic. Although prismatic cells have relatively less energy density (20–50% less than cylindrical cells), prismatic cells offer better space utilization. Prismatic cells can be costlier to manufacture than cylindrical cells despite being jelly-rolled due to large surface areas and a more complicated process of rolling inside layers. CATL, BYD, and Samsung SDI are major manufacturers of prismatic cells. For instance, in October 2023, Samsung SDI announced the company had clinched a supply deal for electric vehicle batteries with Hyundai Motor Company for the first time. Samsung SDI will supply prismatic batteries for Hyundai Motor’s EVs,

targeting the European market for seven years from 2026 through 2032. This development will increase the demand for urban transit trains during the forecast period.

“By material lithium segment is expected to lead the market during the forecast period.”

Lithium is a necessary component in the cathodes of lithium-ion batteries. Continuous advancements in battery technology, aiming for improved energy density and efficiency, frequently entail the use of more lithium or the development of variations such as lithium iron phosphate (LFP) batteries. Moreover, A global effort is underway to invest in lithium production and processing capacity. South America (especially Chile, Argentina, and Bolivia), Australia, and parts of North America are all heavily involved in lithium mining and extraction. In 2022, companies based in China nearly doubled their investment in minerals. This higher energy density, which improves the vehicle range, is a critical factor in their widespread adoption. The demand for lithium will be primarily driven by the high demand for lithium-ion batteries that are used in BEVs. In November 2023, Exxon Mobil Corporation announced plans to become a leading producer of lithium, a key component of EV batteries. The company has started the first phase of North American lithium production in southwest Arkansas, an area known to hold significant lithium deposits. The product offer will be branded as Mobil™ Lithium, building on the rich history of deep technical partnership between Mobil and the automotive sector. Thus, with the rising demand for EVs, increasing mining activities for lithium, and significant investments by OEMs and battery manufacturers, the demand for lithium is likely to grow significantly.

“Europe to be the fastest growing market for EV battery during the forecast period.”

OMEs in Europe are investing heavily in domestic battery production. The goal is to achieve self-sufficiency and reduce reliance on Asian battery giants. Several gigafactories are being planned and constructed across the continent, creating thousands of jobs and boosting the European economy. Major automakers, tech companies, and private investors are pouring billions of euros into the European EV battery market, recognizing its immense potential. This influx of capital is accelerating innovation and production, further propelling the market's growth. Moreover, Electric vehicle demand in Europe is constantly increasing. Consumers are becoming more ecologically concerned, and they are looking for environmentally friendly transportation solutions. Automobile manufacturers have responded by extending their electric car portfolios, resulting in increased demand for EV batteries.

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 – 57%, Tier I – 29%, Tier II– 14%,

By Designation: CXOs – 54%, Directors– 32%, Others– 14%

By Region: North America– 29%, Europe – 38%, Asia Pacific– 33%

The EV battery market is dominated by established players such as CATL (China), LG Energy Solution Ltd. (South Korea), BYD Company Ltd. (China), Panasonic Holdings Corporation (Japan), and SK Innovation Co., Ltd. (South Korea). These companies manufacture battery and develop new technologies. These companies have set up R&D facilities and offer best-in-class products to their customers.

Research Coverage:

The Market Study Covers the EV Battery Market By Battery Type (Lead-Acid, Lithium-Ion, Solid-State, Nickel-Metal Hydride, Sodium-Ion, and Others), By Lithium-Ion Battery Component (Positive Electrode, Negative Electrode, Electrolyte, and Separator), By Propulsion (Battery Electric Vehicle (BEV), Plug-Hybrid Electric Vehicle (PHEV), And Fuel Cell Electric Vehicle (FCEV) and Hybrid Electric Vehicle (HEV)), By Vehicle Type (Passenger Cars, Vans/Light Trucks, Medium & Heavy Trucks, Buses, And Off-Highway Vehicles), By Method (Wire Bonding, Laser Bonding, and Ultrasonic Metal Welding), By Battery Capacity (300 kWh), By Material Type (Cobalt, Lithium, Natural Graphite, Manganese, Iron, Phosphate, Nickel, and Others), By Battery Form (Prismatic, Pouch, and Cylindrical), and Region (North America, Europe, and Asia Pacific). It also covers the competitive landscape and company profiles of the major players in the EV battery market ecosystem.

Key Benefits of the Report

The study also includes an in-depth competitive analysis of the key players in the market, along with their company profiles, key observations related to product and business offerings, recent developments, and key market strategies.

The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall EV battery market

and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers:

Analysis of key drivers (Increasing sales of EVs, Improvements in battery technology, Targets to reduce vehicle emissions, Launch of new plug-in models by major EV manufacturers, Reducing prices of EV batteries), restraints (Procurement concerns related to raw materials, Low number of charging stations in emerging economies, Development in hydrogen and ethanol vehicles), opportunities (Introduction of battery-as-a-service (BaaS) models, Development in solid-state batteries, Increase in R&D efforts toward creating more advanced battery chemistries), and challenges (High initial investments and high cost of electricity, Low availability of lithium for use in EV batteries, Concerns over battery safety, High cost of EVs compared to ICE vehicles) influencing the growth of the EV battery market.

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product launches in the EV battery market

Market Development: Comprehensive information about lucrative markets – the report analyses the EV battery market across varied regions

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

Competitive Assessment: In-depth assessment of market shares, growth strategies and service offerings of leading players like CATL (China), LG Energy Solution Ltd. (South Korea), BYD Company Ltd. (China), Panasonic Holdings Corporation (Japan), and SK Innovation Co., Ltd. (South Korea) and among others in the EV battery market. The report also helps stakeholders understand the pulse of the EV market and provides them with information on key market drivers, restraints, challenges, and opportunities.

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