

# **Solid-State Car Battery Market by Vehicle (Passenger Car and Commercial Vehicle), Battery Energy Density (>450 Wh/kg, >450 Wh/kg), Propulsion (BEV, PHEV), Component(Cathode, Anode, and Electrolyte), and Region - Global Forecast to 2030**

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## **Abstracts**

The global solid-state car battery market size is projected to grow from 27,070 units in 2025 to 661,724 units by 2030, at a CAGR of 89.5%. Factors such as increasing demand for electric vehicles around the world, higher battery capacity and EV range using solid-state car batteries and other features of SSB's like higher battery life, higher energy density and better safety features compared to presently used lithium ion batteries. The growing concern for larger distance commuting using EV's will also boost the market.

A major concern for EV users is the lower range of vehicle on a single charge. This issue has been a major factor reducing the growth of the EV market. Compared to EVs using conventional lithium ion batteries, those installed with solid-state batteries are expected to have a significantly higher range due to the high battery density. Solid-state batteries can theoretically store twice as much energy as that in lithium ion batteries. Thus, various top EV manufacturers are investing in this technology. An EV installed with a solid-state battery according to various industry experts can have an approximately 600+ mile electric range.

"Passenger Car Segment is expected to be the largest market in the vehicle type segment in the forecast."

Passenger cars and a small part of commercial vehicles are considered under vehicle types in the automotive solid-state battery market due to the growing demand for

premium electric cars. The demand for other electric cars and commercial vehicles using solid-state batteries will increase in the coming years once solid-state batteries are commercialized to be used in automobiles. Asia Pacific is expected to be the market for passenger cars, followed by Europe and North America. This is due to the strong government support for the adoption of electric passenger vehicles in the region. North America to be the fastest-growing region with a fast-growing demand for premium electric vehicles which will use solid-state batteries in the coming years. The market in Europe is expected to grow in the coming years. This is due to strong emission regulations and a variety of subsidies, grants, and incentives for adopting EVs in countries such as Germany, France, Netherlands, Norway, Sweden, and the UK. The demand for solid-state batteries in electric vehicles will be growing with the increased demand for EVs and the mass production of automotive solid-state batteries.

“Asia is expected to be the largest market during the forecast period.”

The Asia Pacific solid-state car battery market will be led by countries such as China, Japan, and South Korea. The governments of these countries have supported the growth of EV demand through subsidies, favorable policies for EVs and discouraging the use of petrol. This will lead to a fast-growing demand for solid-state car batteries in the region once they come into the market. Premium EVs using solid-state batteries will be launched in China and Japan, followed by South Korea and India. Growth will be slower in the initial years but will speed up after 2026. India will be the fastest-growing market in the region due to current and upcoming EV policies. Japan will also be one of the fastest-growing markets in the region due to top OEMs such as Toyota, Nissan, and Mitsubishi and battery manufacturers working to develop solid-state batteries.

“North America to be the fastest-growing region during the forecast period”

The North American region is expected to achieve the highest growth for the solid-state car battery market. The market is expected to be led by sales of premium EVs in the US and Canada. Top OEMs such as GM and Ford are working with battery manufacturers to develop solid-state batteries for their EVs and plan to launch them in the coming years. It is expected that there will be a higher demand for BEVs in the two countries and a slower demand for PHEVs.

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: Tier I - 59%, Tier II - 7%, and OEMs - 34%

By Designation: C Level Executives - 26%, Directors - 43%, and Others - 31%

By Region: North America - 26%, Europe - 39% and Asia Pacific - 35%

The global solid-state car battery market is dominated by global players such as Toyota Motor Corporation (Japan), Solid Power (US), QuantumScape (US), Samsung SDI (South Korea), LG Chem (South Korea). These companies will develop new products, adopt expansion strategies, and undertake collaborations, partnerships, and mergers & acquisitions to gain traction in the high-growth solid-state car battery market.

#### Research Coverage:

The market study covers the Solid-state car battery market by Vehicle Type(Passenger Car and Commercial Vehicle), Battery Energy Density (>450 Wh/kg,

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