

# **Solid-state Battery Market by Type (Thin Film Batteries, Bulk Batteries, and Other Batteries), Capacity (Less than 20mAh, 21mAh to 500mAh, and Above 500mAh), Application, and Geography - Global Forecasts to 2029**

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## **Abstracts**

Solid-State Battery Market by Type (Thin Film Batteries, Bulk Batteries, and Other Batteries), Capacity (Less than 20mAh, 21mAh to 500mAh, and Above 500mAh), Application, and Geography - Global Forecasts to 2029

The research report titled, 'Solid-State Battery Market by Type (Thin Film Batteries, Bulk Batteries, and Other Batteries), Capacity (Less than 20mAh, 21mAh to 500mAh, and Above 500mAh), Application, and Geography — Global Forecasts to 2029', provides an in-depth analysis of the global solid-state battery market across five major geographies and emphasizes on the current market trends, market size, market shares, recent developments, and forecasts till 2029.

The Global Solid-State Battery Market is expected to reach \$3.81 billion by 2029, at a CAGR of 58% during the forecast period 2022–2029. By volume, this market is expected to grow at a CAGR of 71% from 2022 to reach 7.3 GWh by 2029.

The growth of this market is backed by factors, such as the high energy density of solid-state batteries, faster-charging rate compared to Li-ion batteries, and a safer alternative to Li-ion batteries. Moreover, Increasing R&D for the application of solid-state batteries in EVs and the increase in R&D investments to develop solid-state batteries for consumer electronics devices provide significant growth opportunities for the global solid-state battery market.

The study offers a comprehensive analysis of the global solid-state battery market based on type (thin film batteries, bulk batteries, and other batteries), capacity (less than 20mAh, 21mAh to 500mAh, and above 500mAh), application (medical devices, automotive, consumer electronics, aerospace, battery energy storage systems, and industrial equipment), and geography (Asia-Pacific, Europe, North America, Latin America, and the Middle East & Africa). The study also evaluates industry competitors and analyzes the market at the country level.

Based on type, the global solid-state battery market is segmented into thin film batteries, bulk batteries, and other batteries. In 2022, the thin film batteries segment is expected to account for the largest share of the global solid-state battery market. Major factors attributed to the large share of this segment are their smaller size, higher average output voltage, lighter weight, higher flexibility, higher energy density, lower chances of electrolyte leakage, tighter packing, and longer life cycle than bulky solid-state batteries. Thin film solid-state batteries can be used in numerous devices, including renewable energy storage devices, smart cards, radio frequency identification (RFID) tags, portable electronics, defibrillators, neural stimulators, pacemakers, and wireless sensors. For instance, in November 2021, Dutch startup LionVolt BV secured \$4.5 million (€4 million) to develop its 3D solid-state thin-film battery technology, which it expects to apply initially in wearables and electric cars.

Based on capacity, the 21mAh to 500mAh segment is expected to account for the largest share of the global solid-state battery market in 2022. The large share of this segment is mainly attributed to the rising demand for small energy storage sources and wearable electronics. Solid-state batteries are widely preferred for consumer electronics as they are safer and more stable than liquid li-ion batteries in which the electrolyte is volatile and flammable at high temperatures.

Based on application, the global solid-state battery market is segmented into medical devices, automotive, consumer electronics, aerospace, battery energy storage systems, and industrial equipment. The medical devices segment is expected to grow at the highest CAGR during the forecast period. The high growth of this segment is mainly attributed to technological advancements and the penetration of IoT in the medical field. Several battery manufacturers are designing and offering solid-state batteries to power medical devices, such as neural stimulators, pacemakers, and defibrillators. For instance, in April 2019, Ilika, a U.S. company, launched its new Stereax M50, a miniaturized solid-state lithium-ion cell designed for the needs of the medical device industry.

Based on geography, the market is segmented into five major regions: North America, Europe, Asia-Pacific, Latin America, and the Middle East & Africa. North America is expected to account for the largest share of the global solid-state battery market in 2022. The large market share is mainly attributed to the growing application and uptake of solid-state batteries in consumer electronics, electric vehicles, and energy harvesting, and the research & development activities focused on the commercialization of solid-state batteries for electric vehicles. For instance, in September 2020, The Volkswagen Group invested around \$300 million in the U.S.-based solid-state battery startup QuantumScape.

Additionally, a US-based battery company, Solid Power, announced its plans to begin pilot production of solid-state batteries suitable for use in electric vehicles by early 2022, after receiving an additional \$130 million in funding from existing investors, including Ford, BMW, and Volta Energy Technologies. These initiatives help boost the demand for solid-state batteries during the forecast period. These initiatives are expected to boost the demand for solid-state batteries during the forecast period.

Some of the key players operating in the Solid-State Battery market are QuantumScape Corporation (U.S.), Ilika plc (U.K.), Solid Power, Inc. (U.S.), BrightVolt, Inc., (U.S.), Cymbet Corporation (U.S.), Prieto Battery Inc. (U.S.), Sion Power Corporation (U.S.), Hitachi Zosen Corporation (Japan), ProLogium Technology CO., Ltd. (Taiwan), Johnson Energy Storage, Inc. (U.S.), PJP Eye LTD. (Japan), Factorial Inc. (Spain), Volkswagen AG (Germany), Front Edge Technology, Inc. (U.S.), and I-TEN S.A. (Italy).

#### Key Questions Answered in the Report-

Which are the high-growth market segments in terms of type, capacity, application, and geography?

What is the historical market size for the global solid-state battery market?

What are the market forecasts and estimates for the period of 2022–2029?

What are the major drivers, restraints, opportunities, and challenges in the global solid-state battery market?

Who are the major players in the market, and what shares of the market do they hold?

How is the competitive landscape for the global solid-state battery market?

What are the recent developments in the global solid-state battery market?

What are the different strategies adopted by the major players in the market?

What are the key geographic trends, and which are the high-growth countries?

Who are the local emerging players in the global solid-state battery market, and how do they compete with the other players?

## Scope of the Report

### Global Solid-State Battery Market, by Type

Thin Film Batteries

Bulk Batteries

Other Batteries

### Global Solid-State Battery Market, by Capacity

Less than 20mAh

21mAh to 500mAh

Above 500mAh

### Global Solid-State Battery Market, by Application

Medical Devices

Automotive

Consumer Electronics

Aerospace

Battery Energy storage systems

Industrial Equipment

## Global Solid-State Battery Market, by Geography

Asia-Pacific (APAC)

China

Japan

South Korea

India

Rest of Asia-Pacific

Europe

Germany

U.K.

France

Italy

Spain

Rest of Europe (RoE)

North America

U.S.

Canada

Latin America

Middle East & Africa

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