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Global Solid-Liquid Hybrid Power Battery Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

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Abstracts

According to our (Global Info Research) latest study, the global Solid-Liquid Hybrid Power Battery market size was valued at US$ 103 million in 2025 and is forecast to a readjusted size of US$ 15041 million by 2032 with a CAGR of 83.3% during review period.

Solid-Liquid Hybrid Power Battery refers to an automotive traction battery used in new energy vehicles, plug-in hybrid vehicles and extended-range electric vehicles. Its core feature is the combination of liquid electrolyte and solid electrolyte materials within the battery cell, so that the battery can retain part of the mature manufacturing compatibility of conventional lithium-ion power batteries while improving safety, thermal stability, energy density and high-temperature resistance. In automotive applications, this product is mainly designed to support vehicle driving power, energy storage, acceleration performance, cruising range and fast-charging capability. It is generally used as a core energy component in electric passenger cars and electric commercial vehicles, and must meet automotive requirements for safety, cycle life, vibration resistance, temperature adaptability and long-term reliability.

The main raw materials include cathode materials such as ternary materials, lithium iron phosphate, high-nickel cathode materials and lithium-rich manganese-based materials; anode materials such as graphite, silicon-carbon and lithium metal; electrolyte materials such as liquid electrolyte, oxide solid electrolyte, sulfide solid electrolyte, polymer electrolyte, halide electrolyte and composite solid electrolyte; as well as separators, aluminum foil, copper foil, binders, conductive additives, battery housing materials, insulation materials and thermal management materials. The upstream suppliers include lithium resource companies, cathode and anode material manufacturers,

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electrolyte suppliers, solid electrolyte material companies, separator suppliers and battery equipment manufacturers. The downstream customers are limited to the automotive industry, mainly including new energy passenger car OEMs, electric commercial vehicle manufacturers, automotive battery pack suppliers and vehicle platform integrators.

In 2025, global Solid-Liquid Hybrid Power Battery production reached approximately 2.3 GWh, with an average market price of around US$43.4 per kWh.

The Solid-Liquid Hybrid Power Battery market is developing along with the electrification and intelligentization of the automotive industry. As automakers continue to pursue longer driving range, higher safety standards, faster charging and better low-temperature performance, battery suppliers are accelerating the development of hybrid electrolyte power battery systems. Compared with conventional liquid lithium-ion power batteries, this technology route can improve thermal stability and reduce safety risks while maintaining relatively practical manufacturing feasibility for automotive mass production.

In terms of technology trends, the market is moving toward higher energy density, lower liquid electrolyte content, stronger solid-liquid interface stability and better fast-charging performance. Material systems are becoming more diversified, including high-nickel cathode with silicon-carbon anode, lithium iron phosphate with composite solid electrolyte, and lithium metal anode with hybrid electrolyte design. Battery companies are also improving coating, lamination, electrolyte infiltration, interface modification, formation, testing and battery pack integration processes to meet automotive-grade consistency and safety requirements.

From a regional perspective, China is one of the most active markets because of its large new energy vehicle base, complete power battery supply chain and strong demand from domestic automakers. Japan and South Korea have strong capabilities in battery materials, precision manufacturing and vehicle-grade reliability control. Europe and North America are also promoting this technology through vehicle electrification strategies, local battery supply chain construction and cooperation between automakers and next-generation battery companies.

The major growth drivers include the continuous expansion of electric vehicle production, increasing demand for long-range vehicles, stricter vehicle battery safety requirements, growth of high-end electric vehicles and stronger competition among automakers. In addition, consumers are paying more attention to cruising range,

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charging speed, winter performance and battery safety, which pushes OEMs to adopt higher-performance battery systems. The progress of silicon-carbon anodes, high-nickel cathodes, composite solid electrolytes, battery manufacturing equipment and thermal management technologies also supports market growth. However, the industry still faces challenges such as high material cost, complex process control, long vehicle validation cycles, interface stability and mass production yield improvement.

This report is a detailed and comprehensive analysis for global Solid-Liquid Hybrid Power Battery market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Type and by Application. As the market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

Key Features:

Global Solid-Liquid Hybrid Power Battery market size and forecasts, in consumption value ($ Million), sales quantity (KWh), and average selling prices (US$/KWh), 2021-2032

Global Solid-Liquid Hybrid Power Battery market size and forecasts by region and country, in consumption value ($ Million), sales quantity (KWh), and average selling prices (US$/KWh), 2021-2032

Global Solid-Liquid Hybrid Power Battery market size and forecasts, by Type and by Application, in consumption value ($ Million), sales quantity (KWh), and average selling prices (US$/KWh), 2021-2032

Global Solid-Liquid Hybrid Power Battery market shares of main players, shipments in revenue ($ Million), sales quantity (KWh), and ASP (US$/KWh), 2021-2026

The Primary Objectives in This Report Are:

To determine the size of the total market opportunity of global and key countries

To assess the growth potential for Solid-Liquid Hybrid Power Battery

To forecast future growth in each product and end-use market

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To assess competitive factors affecting the marketplace

This report profiles key players in the global Solid-Liquid Hybrid Power Battery market based on the following parameters - company overview, sales quantity, revenue, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include CATL, WeLion New Energy, QingTao Energy, Ganfeng LiEnergy, Farasis Energy, SVOLT Energy Technology, CALB Group, Gotion High-tech, Sunwoda, Great Power, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Market Segmentation

Solid-Liquid Hybrid Power Battery market is split by Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Type, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Type

Oxide-based Solid-Liquid Hybrid Power Battery

Sulfide-based Solid-Liquid Hybrid Power Battery

Polymer-based Solid-Liquid Hybrid Power Battery

Others

Market segment by Anode Material System

Graphite Anode Solid-Liquid Hybrid Power Battery

Silicon-Carbon Anode Solid-Liquid Hybrid Power Battery

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Lithium Metal Anode Solid-Liquid Hybrid Power Battery

Market segment by Application

Passenger Car

Commercial Vehicle

Major players covered

CATL

WeLion New Energy

QingTao Energy

Ganfeng LiEnergy

Farasis Energy

SVOLT Energy Technology

CALB Group

Gotion High-tech

Sunwoda

Great Power

Talent New Energy

Narada Power

SES AI

Factorial Energy

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ProLogium Technology

Blue Solutions

24M Technologies

Market segment by region, regional analysis covers

North America (United States, Canada, and Mexico)

Europe (Germany, France, United Kingdom, Russia, Italy, and Rest of Europe)

Asia-Pacific (China, Japan, Korea, India, Southeast Asia, and Australia)

South America (Brazil, Argentina, Colombia, and Rest of South America)

Middle East & Africa (Saudi Arabia, UAE, Egypt, South Africa, and Rest of Middle East & Africa)

The content of the study subjects, includes a total of 15 chapters:

Chapter 1, to describe Solid-Liquid Hybrid Power Battery product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of Solid-Liquid Hybrid Power Battery, with price, sales quantity, revenue, and global market share of Solid-Liquid Hybrid Power Battery from 2021 to 2026.

Chapter 3, the Solid-Liquid Hybrid Power Battery competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the Solid-Liquid Hybrid Power Battery breakdown data are shown at the regional level, to show the sales quantity, consumption value, and growth by regions, from 2021 to 2032.

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Chapter 5 and 6, to segment the sales by Type and by Application, with sales market share and growth rate by Type, by Application, from 2021 to 2032.

Chapter 7, 8, 9, 10 and 11, to break the sales data at the country level, with sales quantity, consumption value, and market share for key countries in the world, from 2021 to 2026.and Solid-Liquid Hybrid Power Battery market forecast, by regions, by Type, and by Application, with sales and revenue, from 2027 to 2032.

Chapter 12, market dynamics, drivers, restraints, trends, and Porters Five Forces analysis.

Chapter 13, the key raw materials and key suppliers, and industry chain of Solid-Liquid Hybrid Power Battery.

Chapter 14 and 15, to describe Solid-Liquid Hybrid Power Battery sales channel, distributors, customers, research findings and conclusion.

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