

Solid-State Micro Batteries Market Poised for 23.3% CAGR Expansion, Valued at USD 2.8 Billion by 2034

Increasing consumer electronics sales will drive demand for solid-state micro batteries in the market.

WILMINGTON, DE, UNITED STATES, December 17, 2024 /EINPresswire.com/ -- The [solid-state micro batteries market](#) was valued at US\$ 171.1 million in 2022. Between 2023 and 2031, it is expected to expand at a CAGR of 23.3%, reaching US\$ 2.8 billion by 2031. Solid-state micro battery producers and researchers are constantly trying to increase the energy density of their products. In addition to providing long-lasting power, these batteries are also more compact and energy-dense, allowing them to be applied to a wider range of applications, from medical implants to wearable technology.



Solid-state Micro Batteries Market

New materials for solid-state micro-batteries will probably be found through ongoing materials science research. Performance, dependability, and safety improvements depend heavily on developments in solid electrolytes and electrode materials. Higher conductivity and stability materials will help solid-state batteries operate more effectively and economically.

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The solid-state micro battery market will likely see an increase in the use of these batteries. The growing demand from consumers for lighter, smaller, and more powerful gadgets will push manufacturers to incorporate solid-state micro batteries to meet these demands.

Solid-state micro batteries have a lot of promise, especially for use in electric vehicles (EVs). The benefits of these batteries include increased safety, quicker charging times, and higher energy density. Solid-state micro batteries could play a significant role in the automobile industry's

continued transition to electric and hybrid vehicles.

Key Findings of the Market Report

- Solid-state micro batteries market share increases with the demand for smaller, lighter electronic devices
- Glass products made from inorganic materials dominate the market.
- In terms of global markets, Asia Pacific is the most dominant region for the solid-state micro batteries market.
- Solid-state micro batteries are produced in North America and Europe in large numbers, and the market is growing rapidly in these regions.

Global Solid-state Micro Batteries Market: Key Players

Solid-state micro batteries market analysis shows that medium-sized and large manufacturers competing for market share dominate the market. Research & Development activities have been heavily invested in by several businesses, resulting in new products and technologies being developed.

- Sila Nanotechnologies
- Maxell Europe Ltd.
- ITEN
- Ilika Technologies
- Ensurge Micropower ASA
- Imprint Energy
- Others

Key Developments

- In November 2023, Maxell, Ltd announced plans for the development of an all-solid-state cylindrical battery. In June 2023, this battery was put into mass production in large quantities, with a capacity of 200mAh, 25 times that of existing ceramic-packaged solid-state batteries. An electrolyte based on sulfide is used in the battery. As a result of its newly designed cylindrical outer body, the battery possesses higher capacity and reliability while retaining the same heat resistance and long-term durability.
- In January 2023, Ensurge Micropower received two additional patent allowance notices. These patents are expected to be officially issued by March. Ensurge's patent applications for solid state microbattery fabrication and packaging on stainless steel substrates were filed in 2020 and cover core technologies of battery stacking and engineered electrolytes.

Global Solid-state Micro Batteries Market: Growth Drivers

- A growing need for small, high-performance energy storage solutions drives the development of a wide range of electronic devices, including wearables, IoT devices, and medical implants.
- Solid-state micro batteries are superior to conventional batteries because they have a higher energy density, a longer lifespan, and enhanced safety. Therefore, these batteries are best suited for powering compact, handheld electronics.
- Technological and material developments are key factors driving the industry. As a result of ongoing materials science and nanotechnology research and development, novel materials for solid-state micro batteries have been found and put into use.
- These developments meet the expanding requirements of contemporary electronic applications by improving performance, decreasing size, and increasing energy density.
- The market for solid-state micro-batteries is influenced by the focus on sustainability and environmental issues. Solid-state micro batteries are becoming increasingly popular because they are environmentally favourable as the globe moves towards cleaner and more energy-efficient technologies.
- In line with the global movement for cleaner energy alternatives, these batteries are more readily recyclable than conventional batteries and frequently contain non-toxic materials.

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Global Solid-state Micro Batteries Market: Segmentation

By Capacity

- Up to 1 mAh
- >1 mAh to 20.0 mAh
- >20.0 mAh to 40.0 mAh
- >40.0 mAh to 60.0 mAh
- >60.0 mAh

By Electrolyte Type

- Inorganic Glass
- Crystalline
- Polymer
- Others

By Application

- Wireless Micro Sensors
- Integrated Circuits
- Radio-frequency Identification (RFID) Tags
- Medical Devices (Drug Delivery Systems, Implantable Medical Devices, etc.)
- Memory Backup Power
- Solar Cell Storage Devices
- Fitness and Sports Accessories
- Low-power Wireless Remote Controls
- Others

By End Use

- Consumer Electronics
- Medical
- Solar
- Sports
- Others

By Region

- North America
- Latin America
- Europe
- Asia Pacific
- Middle East & Africa

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