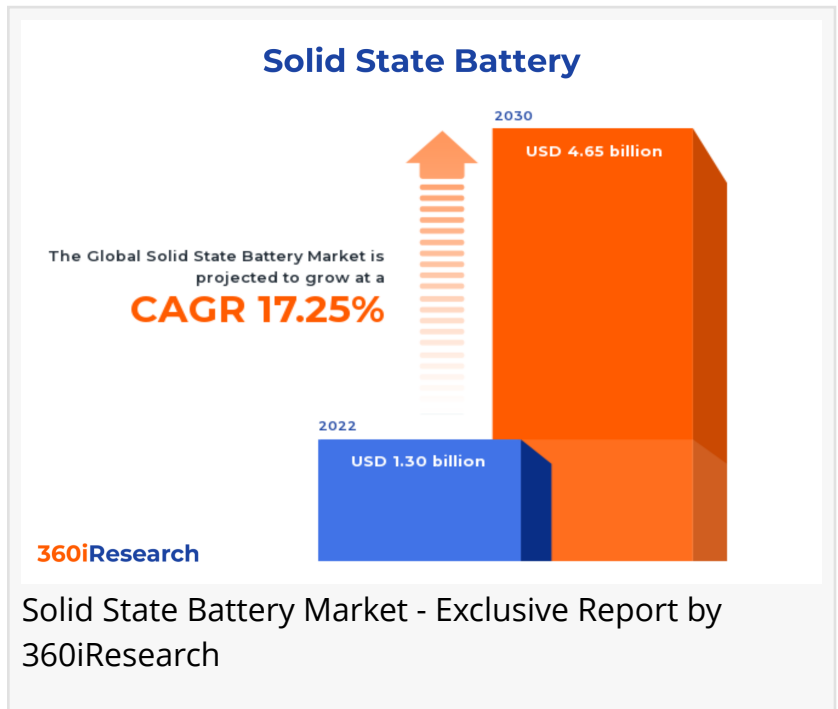


Solid State Battery Market worth \$4.65 billion by 2030, growing at a CAGR of 17.25% - Exclusive Report by 360iResearch

The Global Solid State Battery Market to grow from USD 1.30 billion in 2022 to USD 4.65 billion by 2030, at a CAGR of 17.25%.

PUNE, MAHARASHTRA, INDIA,
November 9, 2023 /EINPresswire.com/
-- The "[Solid State Battery Market](#) by Type (Bulk, Thin-film), Electrolyte Material Type (Oxide Solid Electrolyte, Polymer Solid Electrolyte, Sulfide Solid Electrolyte), Capacity, Application - Global Forecast 2023-2030" report has been added to 360iResearch.com's offering.



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The solid state battery market is a rapidly emerging sector within the energy storage industry, characterized by using solid electrolytes instead of liquid or gel-based electrolytes found in conventional lithium-ion batteries. Due to their non-flammable nature, these innovative batteries offer improved energy density, longer cycle life, and enhanced safety features. The market encompasses various solid state battery types such as ceramic, polymer, glass, and composite electrolyte materials. The increasing demand for efficient and long-lasting power sources in these sectors serves as a key driver for the growth of this market. Major factors driving the growth of the market include the global shift toward sustainable transportation leading to increased EV production and adoption, persistent demand for high-capacity portable power sources in consumer electronics, suitability of solid-state batteries under extreme operating conditions in aerospace & defense applications, and rising integration of renewable

energy resources necessitating efficient storage solutions. However, high manufacturing costs for solid state batteries compared to traditional lithium-ion options may impede widespread adoption. Material compatibility issues between electrodes and electrolyte types pose performance optimization difficulties. Moreover, businesses need to concentrate on innovations to ensure sustained growth in the solid state battery market and overcome its limitations. These innovations include novel material development for creating efficient solid electrolytes with enhanced attributes and advanced manufacturing techniques offering scalable processes to accelerate innovation and reduce costs while expanding the market potential for solid state batteries.

Capacity: Increasing demand for batteries with 20 mAh to 500 mAh capacity in the wearable and medical devices

Solid state batteries cater to a wide range of applications with varying capacities. The 500 mAh and above batteries are essential for high energy density requirements in electric vehicles (EVs), consumer electronics, and grid storage. The 20 mAh to 500 mAh capacity segment targets smaller electronic devices such as wearables, IoT devices, medical implants, and sensors. These batteries offer stable performance under extreme temperatures and improved safety profiles. In the less than 20 mAh category, solid state batteries are used for ultra-compact electronics like smart cards and RFID tags. These batteries provide increased operational lifetimes and higher power densities while reducing the environmental impact compared to conventional alternatives. Manufacturers constantly innovate to meet industry demands while improving performance capabilities and safety features, ensuring a bright future for solid state battery technology adoption across multiple market verticals.

Application: Increasing adoption of solid state batteries in electric vehicles

Solid state batteries are gaining importance in various application segments owing to their superior performance, safety, and longevity compared to traditional lithium-ion batteries. Key sectors include consumer electronics, electric vehicles (EVs), energy harvesting systems, and wearable and medical devices. The growing EV market requires advanced battery technologies that offer higher energy density and faster charging capabilities. Energy harvesting systems benefit from solid state batteries' efficient energy storage capabilities for intermittent power generation from renewable sources. In addition, researchers are developing hybrid battery systems combining solid-state technology with supercapacitors for improved efficiency. Wearable and medical devices benefit from solid state batteries' compact size, lighter weight, high charge retention capacities, and enhanced safety features. Research & development efforts aimed at advancing solid state battery technology continue to grow as manufacturers seek high-performance solutions across various industries.

Electrolyte Material Type: Wider adoption of polymer solid electrolytes in solid state battery due to its flexible and lightweight feature

The oxide solid electrolyte is a solid-state battery material with metal oxides as its primary component. This electrolyte exhibits high ionic conductivity and excellent thermal stability, making it an attractive choice for electric vehicle (EV) applications. Polymer solid electrolytes

comprise polymer-based materials that enable ion transport between electrodes. These materials are known for their flexibility and lightweight nature, which makes them suitable for wearable devices and portable electronic applications. Sulfide solid electrolytes comprise lithium- or phosphorus-based sulfides, offering high ionic conductivity and low interfacial resistance. Oxide solid electrolytes exhibit excellent thermal stability and extended cycle life, making them suitable for high-temperature operating conditions such as electric vehicles (EVs). Polymer solid electrolytes are flexible and lightweight, catering to wearable devices and portable electronics. Sulfide solid electrolytes offer high-energy densities and low interfacial resistance, fitting well with advanced energy storage systems for EVs and renewables.

Type: Higher penetration of bulk solid state battery into the EV industry and consumer electronics sector

Bulk solid state batteries are a type of next-generation energy storage solution that features a solid, non-flammable electrolyte component instead of the liquid electrolyte found in traditional lithium-ion batteries. Bulk type batteries are primarily used in electric vehicles and application areas that require higher energy saving capability. These batteries offer several advantages over conventional batteries, including increased energy density, improved safety, and longer cycle life. Thin-film solid state batteries are another type of solid state battery that utilizes thin layers of materials to create an extremely compact energy storage solution. These batteries have lower energy densities than their bulk counterparts but make up for their flexibility, lightweight nature, and ability to conform to various shapes. The choice between bulk or thin-film solid state batteries largely depends on the specific needs and requirements of the intended application. Bulk solid state batteries offer higher energy densities, making them more suitable for electric vehicles and grid-scale energy storage systems where longer driving range or large-scale power backup is crucial. On the other hand, thin-film solid-state batteries are ideal for use in wearable electronics, medical devices, and microelectronic systems due to their lightweight nature, flexibility, and ability to conform to various shapes.

Regional Insights:

The solid state battery market in the Americas is expected to experience significant growth owing to the rising demand for high-performance and safe energy storage solutions, technological advancements, and government initiatives promoting clean energy production. However, North America holds a substantial share of the global solid state battery market, driven by investments from government agencies and private firms aiming to develop advanced energy storage systems. In Europe, countries such as Germany, the UK, France, and Italy actively contribute to the growth of the global solid state battery market. The Asia-Pacific region is projected to be a key growth driver, fueled by rapid urbanization and the rising demand for consumer electronics that require advanced energy storage solutions. Latin America, the Middle East, and Africa are embracing solid-state batteries as their economies grow and renewable energy becomes crucial for long-term energy goals. Collaborations between the industry and governments worldwide are expected to shape the future of the solid state battery landscape in the upcoming period.

FPNV Positioning Matrix:

The FPNV Positioning Matrix is essential for assessing the Solid State Battery Market. It provides a comprehensive evaluation of vendors by examining key metrics within Business Strategy and Product Satisfaction, allowing users to make informed decisions based on their specific needs. This advanced analysis then organizes these vendors into four distinct quadrants, which represent varying levels of success: Forefront (F), Pathfinder (P), Niche (N), or Vital(V).

Market Share Analysis:

The Market Share Analysis offers an insightful look at the current state of vendors in the Solid State Battery Market. By comparing vendor contributions to overall revenue, customer base, and other key metrics, we can give companies a greater understanding of their performance and what they are up against when competing for market share. The analysis also sheds light on just how competitive any given sector is about accumulation, fragmentation dominance, and amalgamation traits over the base year period studied.

Key Company Profiles:

The report delves into recent significant developments in the Solid State Battery Market, highlighting leading vendors and their innovative profiles. These include Ampcera Inc., Basquevolt S.A.U., Beijing WeLion New Energy Technology Co., Ltd., Blue Solutions S.A.S. by Bolloré SE, Contemporary Amperex Technology Co., Limited, Coros Battery Co., Ltd., Enevate Corporation, Factorial Inc., Ganfeng Lithium Group Co., Ltd, Hitachi Zosen Corporation, Honda Motor Co., Ltd., Ilika PLC, Ion Storage Systems, Johnson Energy Storage, Inc., Johnson R&D, LG Energy Solution Co., Ltd., Maxell, Ltd., Murata Manufacturing Co., Ltd., Natrion Inc., Nissan Motor Co., Ltd., Niterra Co., Ltd., Panasonic Holdings Corporation, ProLogium Technology Co., Ltd., QuantumScape Corporation, Robert Bosch GmbH, Sakuu Corporation, Samsung SDI Co., Ltd., SK Inc., Solvay S.A., STMicroelectronics N.V., TDK Corporation, Theion GmbH, Toyota Motor Corporation, Volta Energy Technologies, and Yoshino Technology, Inc..

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Market Segmentation & Coverage:

This research report categorizes the Solid State Battery Market in order to forecast the revenues and analyze trends in each of following sub-markets:

Based on Type, market is studied across Bulk and Thin-film. The Bulk commanded largest market share of 76.77% in 2022, followed by Thin-film.

Based on Electrolyte Material Type, market is studied across Oxide Solid Electrolyte, Polymer Solid Electrolyte, and Sulfide Solid Electrolyte. The Polymer Solid Electrolyte commanded largest

market share of 39.23% in 2022, followed by Oxide Solid Electrolyte.

Based on Capacity, market is studied across 500 MAH & Above, Between 20 MAH & 500 MAH, and Less than 20 MAH. The Between 20 MAH & 500 MAH commanded largest market share of 43.23% in 2022, followed by 500 MAH & Above.

Based on Application, market is studied across Consumer & Portable Electronics, Electric Vehicle, Energy Harvesting, and Wearable & Medical Devices. The Consumer & Portable Electronics commanded largest market share of 39.12% in 2022, followed by Electric Vehicle.

Based on Region, market is studied across Americas, Asia-Pacific, and Europe, Middle East & Africa. The Americas is further studied across Argentina, Brazil, Canada, Mexico, and United States. The United States is further studied across California, Florida, Illinois, Massachusetts, Michigan, New York, Ohio, Oregon, Pennsylvania, and Texas. The Asia-Pacific is further studied across Australia, China, India, Indonesia, Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan, Thailand, and Vietnam. The Europe, Middle East & Africa is further studied across Denmark, Egypt, Finland, France, Germany, Israel, Italy, Netherlands, Nigeria, Norway, Poland, Qatar, Russia, Saudi Arabia, South Africa, Spain, Sweden, Switzerland, Turkey, United Arab Emirates, and United Kingdom. The Asia-Pacific commanded largest market share of 39.23% in 2022, followed by Europe, Middle East & Africa.

Key Topics Covered:

1. Preface
2. Research Methodology
3. Executive Summary
4. Market Overview
5. Market Insights
6. Solid State Battery Market, by Type
7. Solid State Battery Market, by Electrolyte Material Type
8. Solid State Battery Market, by Capacity
9. Solid State Battery Market, by Application
10. Americas Solid State Battery Market
11. Asia-Pacific Solid State Battery Market
12. Europe, Middle East & Africa Solid State Battery Market
13. Competitive Landscape
14. Competitive Portfolio
15. Appendix

The report provides insights on the following pointers:

1. Market Penetration: Provides comprehensive information on the market offered by the key players
2. Market Development: Provides in-depth information about lucrative emerging markets and

analyzes penetration across mature segments of the markets

3. Market Diversification: Provides detailed information about new product launches, untapped geographies, recent developments, and investments

4. Competitive Assessment & Intelligence: Provides an exhaustive assessment of market shares, strategies, products, certification, regulatory approvals, patent landscape, and manufacturing capabilities of the leading players

5. Product Development & Innovation: Provides intelligent insights on future technologies, R&D activities, and breakthrough product developments

The report answers questions such as:

1. What is the market size and forecast of the Solid State Battery Market?

2. Which are the products/segments/applications/areas to invest in over the forecast period in the Solid State Battery Market?

3. What is the competitive strategic window for opportunities in the Solid State Battery Market?

4. What are the technology trends and regulatory frameworks in the Solid State Battery Market?

5. What is the market share of the leading vendors in the Solid State Battery Market?

6. What modes and strategic moves are considered suitable for entering the Solid State Battery Market?

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Mr. Ketan Rohom

360iResearch

+1 530-264-8485

ketan@360iresearch.com

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