

Battery Management System Market : Battery Type, Topology, Application with Growth Rate CAGR of 19.1% By 2032

Battery Management System Market by Battery Type, by Topology, by Application : Global Opportunity Analysis and Industry Forecast, 2023-2032

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EINPresswire.com/ -- Allied Market Research published a report, titled, "[Battery Management System Market](#) by Battery Type (Lithium-Ion based, Lead-Acid based, Nickel based, and Others), Topology (Centralized, Distributed, and Modular), and

Application (Automotive, Telecommunication, Consumer Electronics, Industrial, and Others): Global Opportunity Analysis and Industry Forecast, 2023-2032". According to the report, the [global battery management system market](#) generated \$7.48 billion in 2022 and is anticipated to generate \$40.96 billion by 2032, witnessing a CAGR of 19.1% from 2023 to 2032.



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Prime determinants of growth

Increase in the adoption of electric vehicles (EVs) and hybrid electric vehicles (HEVs) and surge in industry preference toward the utilization of lithium-ion batteries, and surge in industry preference toward the utilization of lithium-ion batteries and rise in the use of rechargeable batteries across a variety of end-use industries and increase in long-range and fast charging technology in electric vehicles drive the growth of the battery management system market. However, an increase in the overall cost of the product with the addition of a battery management system and complex component design and difficulties in battery thermal management systems are the factors expected to hamper the growth of the battery management system market. In addition, the evolution of an AI-based cloud-connected electric vehicle battery management system, and increase in government spending to develop electric

vehicle infrastructure, and increase in demand for renewable energy, and the development of a wireless battery management system create market opportunities for the key players operating in the [battery management system market industry](#).

Covid-19 Scenario

The COVID-19 epidemic had an impact on a variety of factors, including lockdowns, travel restrictions, and quarantines, which caused a significant slowdown in the automotive industry and manufacturing of automotive components globally.

Moreover, the pandemic brought attention to the necessity of energy storage and battery management technologies in order to support vital industries including healthcare, remote working, and telecommunications. The need for battery management systems in these industries expanded along with the necessity for dependable power supply and backup solutions.

Amid supply chain delays and the ongoing Covid-19 pandemic, electric car sales set a new high in 2021. Sales almost doubled to 6.6 million (a sales share of approximately 9%) in comparison to 2020, increasing the total number of electric vehicles on the road to 16.5 million.

The lithium-ion based segment to maintain its lead position during the forecast period.

Based on battery Type, lithium-ion based segment held the highest market share in 2022, accounting for nearly half of the global battery management system market, and is estimated to maintain its leadership status throughout the forecast period. Lithium-ion batteries are being used in electric vehicles to improve performance. A lot of battery manufacturers established lithium-ion battery and BMS manufacturing facilities. Furthermore, lithium battery manufacturers provided BMS with their batteries. This leads to the growth of the segment in the global market. However, the others segment is projected to manifest the highest CAGR of 20.0% from 2023 to 2032. This category includes batteries such as flow batteries and ultracapacitors, among others. The increased adoption of rechargeable batteries across a variety of end-use sectors such as automotive and industrial is expected to drive growth in the battery management system market for this category.

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The modular segment to maintain its leadership status throughout the forecast period.

By topology, the modular segment accounted for the largest share in 2022, contributing to more than two-thirds of the global battery management system market revenue. The BMS testing system's flexibility enables it to be used for a wide range of applications, including electromobility and energy storage systems, to develop and validate the development and validation of battery systems. Thus, the modular topology segment is expected to rise rapidly throughout the projected period, owing to benefits such as scalability based on demand, cheaper maintenance costs, and noise immunity. However, the centralized segment is expected

to portray the largest CAGR of 20.9% from 2023 to 2032. Centralized battery management systems have lower design costs since all relevant battery management system components, such as the pack management unit and module management unit, are connected on a printed circuit board, thereby boosting the BMS market in the centralized topology segment.

The automotive segment to maintain its leadership status throughout the forecast period.

Based on application, the automotive segment held the highest market share in 2022, accounting for more than two-fifths of the global battery management system market revenue, and is estimated to maintain its leadership status throughout the forecast period. A surge in electric vehicle (EV) adoption, developments in battery technology, stringent emissions laws, and increased emphasis on safety and dependability are important factors that drive demand for battery management systems in the automotive segment. However, the consumer electronics segment is projected to manifest the highest CAGR of 21.0% from 2022 to 2032. Consumer demand for portable devices, developments in battery technology, smart feature integration, energy efficiency, safety compliance, and wireless charging integration drive the consumer electronics battery management system market.

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Asia-Pacific to maintain its dominance by 2032.

Based on region, Asia-Pacific held the highest market share in terms of revenue in 2022, accounting for nearly half of the global battery management system market revenue, and is estimated to maintain its leadership status throughout the forecast period. The Asia-Pacific region presents a diverse and promising market for the battery management system industry, driven by the massive EV market and government support in China, technological advancements in Japan, and growing EV adoption fueled by government initiatives and private investments in India. However, the LAMEA region is expected to witness the second-highest CAGR of 20.1% from 2022 to 2032. Owing to increased environmental awareness and government efforts to promote clean energy, the LAMEA region is experiencing an increasing uptake of rechargeable batteries. The battery management systems market in LAMEA is expected to thrive in the forecast period, given the vital role of BMS in optimizing the performance of high-capacity batteries utilized in various industries.

Leading Market Players: -

Sensata Technologies, Inc.
NXP Semiconductors
Renesas Electronics Corporation.
Analog Devices, Inc.
Texas Instruments Incorporated
STMicroelectronics

Leclanché SA
Nuvation Energy
Elithion Inc.
Eberspächer
Infineon Technologies AG
Exponential Power.

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