

Electric Two-Wheeler Lithium-Ion Battery Management System Market is slated to increase at a CAGR of 20.3% by 2031

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WILMINGTON, NEW CASTLE, DELAWARE, UNITED STATES, September 2, 2024 /EINPresswire.com/ -- The global <u>Electric Two-Wheeler</u> <u>Lithium-Ion Battery Management</u> <u>System Market</u> size was valued at \$0.90 billion in 2021, and is projected to reach \$5.6 billion by 2031, growing at a CAGR of 20.3% from 2022 to 2031. A battery management system (BMS) is an electronic system that controls and



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maintains the battery pack of an electric two-wheeler. Electric two-wheelers are powered by lithium-ion batteries. The battery management system (BMS) continuously monitors a variety of battery parameters, including voltage, current flow, temperature, and charge state. The BMS actively balances the various cells in the battery pack to ensure that they are uniformly charged and discharged. This balancing process helps to improve the battery pack capacity and lifespan. The BMS also provides essential information to the vehicle's control system, allowing for accurate range estimation and efficient management of the electric powertrain.

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Centralized battery management system is one of the most compact and straight forward topologies available in the market. Centralized battery management system has lower design cost, as all necessary components of battery management system, such as pack management unit, and module management unit are coupled on printed circuit board, which, in turn, drives the growth of centralized segment. In addition, replacement and troubleshooting in this topology is significantly easy as compared to other types of topologies.

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The global electric twowheeler lithium-ion battery management system market growth is attributed to the increase in the adoption of electric vehicles (EVs) and hybrid electric vehicles (HEVs)" *Allied Market Research*

The global <u>electric two-wheeler lithium-ion battery</u> <u>management system market growth</u> is attributed to the increase in the adoption of electric vehicles (EVs) and hybrid electric vehicles (HEVs), a rise in industry preference for the use of lithium-ion batteries, and growth in the

adoption of rechargeable batteries across multiple end-use industries. However, the rise in the overall price of products with the addition of the battery management system hinders the growth of the market. Moreover, an increase in the adoption of cloud-connected battery management systems, growth in demand for renewable energy, and rise in demand for e-bikes and e-scooters provide remarkable growth opportunities for players operating in the market.

Based on topology, the modular segment held the highest market share in 2021, accounting for nearly half of the global electric two-wheeler lithium-ion battery management system market revenue, and is estimated to maintain its leadership status during the forecast period. Owing to advantages, such as scalability based on requirement, lower maintenance cost, and noise immunity. However, the distributed segment is expected to register the highest CAGR of 21.7% from 2022 to 2031. Distributed battery management system provides improved precision, owing to the presence of dedicated microcontrollers for each cell and are cheaper.

The Chinese government in 2019 implemented strict emission control rules to boost electric vehicles on roads, which, in turn, is expected to surge the two-wheeler lithium-ion battery management system market. At the policy level, the National Technical Committee of Auto Standardization under China Automotive Technology & Research Center, with the aim to increase safety of new energy vehicles, is developing national BMS standards that contribute to more stringent standards. In addition, as the penetration rate for ternary lithium batteries in the automotive industry rises in China, higher requirements are posed on battery safety management. In February 2022, Exide collaborated with China-based SVOLT to produce lithium-ion cells in India. Exide intends to establish a wholly-owned subsidiary to handle Li-ion cell manufacturing. SVOLT will also provide the necessary assistance in establishing a cutting-edge green field manufacturing plant.

There has been greater adoption of electric scooters & motorcycles in the U.S. owing to rise in urbanization and increase in traffic congestion. Furthermore, various initiatives by government for adoption of e-bikes is expected to create opportunities for key players in U.S. market. For instance, in October 2020, the U.S. Department for Interior statement announced the new rules governing electric bike use in the U.S. The new regulations allow public land managers to provide e-bike access to bike trails. The regulations have been agreed upon and applied by the Bureau of Land Management, National Park Service, Fish and Wildlife Service, and Bureau of Reclamation. The rise in popularity of pedelecs, electric scooters, and electric motorcycles in the country support the growth of the electric two-wheeler lithium-ion battery management system market.

Asia-Pacific is expected to dominate the global <u>electric two-wheeler lithium-ion battery</u> <u>management system market share</u>. The presence of rapidly emerging countries in the region is expected to significantly impact the market. Furthermore, huge demand has been witnessed in this region for electric two-wheeler lithium-ion battery to eliminate the emission by gasoline fuel. The Chinese government in 2019 implemented strict emission control rules to boost electric vehicles on roads, which, in turn, is expected to surge the two-wheeler lithium-ion battery management system market. The National Technical Committee of Auto Standardization under China Automotive Technology & Research Center, with the aim to increase safety of new energy vehicles, is developing national BMS standards that contribute to more stringent standards on BMS.

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