

Automotive Battery Management Systems - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2029)

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Abstracts

The Automotive Battery Management Systems Market size in terms of Equal-17.10 is expected to grow from USD 5.74 billion in 2024 to USD 13.93 billion by 2029, at a CAGR of 17.10% during the forecast period (2024-2029).

The demand for battery management systems from the automotive industry has been growing significantly, and it is expected to continue to grow during the forecast report. Regional government policies regarding EV adoption have primarily driven the business dynamics. Companies are focusing on entering international deals and are heavily investing in R&D projects.

The anticipated increase in demand for electric vehicles may primarily drive the market during the forecast period, as most electric vehicles worldwide utilize lithium-ion batteries. The battery management system is essential for the safe and optimal performance of lithium-ion batteries.

Battery management systems in electric cars regularly record data during braking, acceleration, deceleration, and charging.

Automakers are initiating several plans to launch a greater number of electric vehicles. They are also entering partnerships and making investments to have a competitive edge in the markets.

Key Highlights

For instance, in January 2023, Texas Instruments introduced new battery cell and

battery pack management tools, which claim to increase the range of an electric vehicle by 20%.

These factors are expected to have a positive impact on the market.

Automotive Battery Management Systems Market Trends

Passenger Cars Holds Highest Share

Passenger cars have gained immense popularity among drivers over the past few years due to features such as stylish design, compact size, and economic value. Passenger cars are the most common mode of transportation in numerous advanced countries. The improving lifestyles, increasing power purchase parity disposable income, raising brand awareness, and growing economy are leading to changes in customer preferences globally, resulting in high sales of passenger cars.

According to the Society of Indian Automobile Manufacturers, sales of passenger cars increased from 14,67,039 to 17,47,376 units in 2022-23.

The increase in demand for electric vehicles in Asia-Pacific also resulted in the market's growth. Electric car sales in India in the first quarter of 2023 doubled compared to the same period in 2022.

The rise in the demand for sports utility vehicles (SUVs) creates profitable opportunities for the market players and acts as a major driving factor for the market's growth. According to our analysis, the share of SUVs in the overall passenger vehicle (PV) sales increased from 18% in 2016 to 41% in 2023,

Features like start/stop, electric power steering, and electronic braking systems have increased the battery's power load. Therefore, prioritizing all these electrical loads on a scale from comfort to safety level has been a significant issue in a vehicle's electrical system. Intelligent battery management systems (IBMSs) have been gaining attention among automakers and are being widely adopted across all regions. IBMS consists of advanced electronics, such as battery sensors that measure the state of charge (SOC), state of health (SOH), and temperature across a cell, connected in series and parallel arrays in a vehicle battery pack.

All three measurements by IBMS have been taken simultaneously to ensure accurate measurements, even during rapidly changing vehicle conditions. The usage of IBMS

aids in shutting down these electric vehicle systems in a logical order and warns the drivers about the impending battery problem to keep them safe from battery explosions. The prominent suppliers of intelligent battery sensors include Continental AG, Hella, and Bosch, which are heavily investing in developing advanced technologies and focusing on advancing their products.

Asia-Pacific Holds the Highest Share

During the forecast period, Asia-Pacific is expected to hold a major share of the global passenger vehicle market. The growth in the region is mainly driven by the top-producing automotive countries like India, China, and Japan. The growing demand for passenger vehicles in these markets is owing to the increasing disposable income of the population, the rising automotive industry, the growing availability of loans and funding to purchase new vehicles, etc.

Apart from conventional IC engine vehicles, the demand for electric vehicles is anticipated to boost the growth of the battery management system market. With stringent emission regulations across every region, the demand for electric vehicles is likely to increase during the forecast period. According to the International Energy Agency, in 2022, the share of electric cars in total domestic car sales reached 29% in China, up from 16% in 2021 and under 6% between 2018 and 2020.

The battery is the primary source of power for electric vehicles, driving the demand for efficient and advanced battery management systems.

In May 2023, Sensata Technologies launched a new compact battery management system with advanced software features for industrial applications and low-voltage electric vehicles.

Automotive Battery Management Systems Industry Overview

The automotive battery management system market is consolidated and led by globally and regionally established players. The companies adopt strategies such as new product launches, collaborations, and mergers to sustain their market positions.

For instance, in July 2022, Neutron Controls and Infineon Technologies partnered for an advanced automotive battery management platform. Neutron Controls announced its ECU8 system platform, which enables accelerated development of BMS based on Infineon chipsets.

Some of the major players in the market include Infineon Technologies AG, Eaton Technologies, Texas Instruments, ABB Ltd, and Panasonic Corporation.

Additional Benefits:

The market estimate (ME) sheet in Excel format

3 months of analyst support

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