# Electric Vehicle Battery Management System - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

Market Report | 2024-02-17 | 150 pages | Mordor Intelligence

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**Report description:**

The Electric Vehicle Battery Management System Market size is estimated at USD 11.78 billion in 2024, and is expected to reach USD 50.44 billion by 2029, growing at a CAGR of 33.76% during the forecast period (2024-2029).

Despite the negative COVID-19 impact on the global automotive industry, electric vehicle sales for the year 2020 witnessed significant growth worldwide. This was primarily attributed to government subsidies, expanding electric vehicle charging infrastructure, and a rise in fuel prices. The same growth trend was witnessed for 2021 and will likely continue during the forecast period. The pandemic has disrupted global supply chains, causing delays and shortages in the production and delivery of BMS components and systems. On the other hand, the pandemic has also accelerated the adoption of electric vehicles, which has driven the demand for BMS technology. Overall, the long-term impact of the pandemic on the BMS industry is likely to be positive.

Over the medium term, rising demand for sustainable transportation and cleaner energy has engaged the demand for battery electric vehicles. Consumer constraints such as vehicle range, greater upfront prices, limited model availability, and lack of knowledge are being solved by promotional activities and government legislation. These variables will have an impact on the demand for electric vehicles, which will drive the battery management system market.

The demand for battery management systems (BMS) is expected to grow rapidly across the globe, driven by the increasing adoption of electric vehicles. However, Asia Pacific is expected to lead the market for BMS due to the rapid industrialization and urbanization in the region, as well as the increasing demand for electric vehicles in countries such as China and India. Other regions, such as North America and Europe, are also expected to experience significant growth in the BMS market.

The growing demand for electric vehicles will lead to technological advancements in battery chemistry and materials, which will

require more sophisticated and efficient BMS to ensure the safety and performance of batteries.

Battery Management System for Electric Vehicle Market Trends

Battery Electric Vehicle Segment Anticipated to Dominate the Market

Governments around the world have been proactive in enacting policies to encourage the adoption of electric vehicles. China, India, France, and the United Kingdom have announced plans to phase out petrol and diesel vehicles before 2040 completely. As the demand for EVs increases, the demand for battery management systems will also increase gradually.

Electric mobility is gradually growing around the world, owing to which the goods transportation companies are also converting their existing fleets into electric propulsion-based vehicles. OEM is redefining its roadmap for electric vehicles. This will positively impact the target market growth. For instance,

- In December 2022, Lordstown Motors Corp., which focuses on building electric light-duty pickup trucks for the commercial fleet market, announced that the Endurance full-size BEV pickup truck will be on display at CES in the West Hall Booth 5274 of the Mobility in Harmony (MIH) Consortium.
- In December 2022, Los Angeles World Airports (LAWA) announced the arrival of its first Nikola Tre heavy-duty battery-electric vehicle, a significant step forward in the airport's transition to a fully electric fleet.

The increase in the trend of electric vehicles is also expected to drive market growth in the future. Prominent companies such as BYD, Proterra, Tata, Volvo, and others are trying to localize their products across the regions they operate to reduce the dependence on other players and imports. For instance,

- In December 2022, Volvo Car Malaysia (VCM) unveiled the C40 Recharge, the company's second BEV model after the XC40 Recharge Pure Electric. The C40, as a locally assembled (CKD) model from Volvo's Shah Alam plant, will also benefit from the government's CKD EV incentives until December 31, 2025.
- In December 2022, Toyota Motor Europe (TMEs unveiled the Toyota bZ Compact SUV Concept, a full-battery-electric vehicle designed in Europe by Toyota European Design and Development (ED2) in France.

Regulatory bodies have laid down stringent regulations about bringing down fuel emissions and increasing road safety. Furthermore, Consumer inclination toward carbon emission and energy-sustainable transportation will provide potential opportunities for target market penetration over the forecast period.

Europe Expected to Hold Significant Share in the Market

In terms of pro-electric plans, Germany is now implementing strategies to meet stricter emission standards. The federal government's climate protection program, which aims to meet its 2030 climate targets primarily through transportation innovation, places a premium on electric mobility. To promote clean cars, the country is introducing incentives and investments such as a purchase grant, ownership tax, and company car tax.

Weight reduction is a top priority in the design of electric vehicles and products. Few companies are designing compact modules integrating two or more components to save weight. For example,

Hella's introduced the PowerPack 48 Volt in April 2021, which combines power electronics and battery management in one product and saves 5 to 6 grams of CO2 per kilometer driven. This solution, which HELLA is developing in collaboration with a Chinese cell manufacturer, is set to enter series production in Shanghai in 2024.

The government is also aiding the industry growth with more supportive policies: investment in infrastructure; broader measures to encourage uptake of the latest, low and zero-emission cars; and long-term purchase incentives to help the country grow its share in the EV market. This is expected to bolster the market prospects for battery management systems for EVs during the forecast period.

- In January 2023, BYD, a Chinese automaker, began selling vehicles in the United Kingdom this quarter, where electric vehicles are gaining market share. According to the automaker, backed by Warren Buffett's Berkshire Hathaway, it has appointed four UK dealer partners in Pendragon, Arnold Clark, Lookers, and LSH.BYD's first model will be the Atto 3 SUV, and more dealer partners and pricing will be announced in the coming weeks.
- In June 2021, STMicroelectronics announced its collaboration with Arrival to provide semiconductor technologies and products for Arrival's vehicles, including automotive microcontrollers and power and battery-management devices. Arrival has chosen ST as one of its key partners in bringing its connected Evs to market. Arrival has selected ST's secure automotive microcontrollers for their modular ECU platform, as well as other ST technologies, including smart-power and battery-management devices.

Although companies are developing new battery modules with a battery management system to reduce the weight of the vehicles. For instance,

In June 2021, Leclanche SA announced that it had developed a new generation of lithium-ion battery modules called M3; it is fitted with a functionally safe slave battery management system (BMS) unit which communicates with a functionally safe master battery management system unit.

Considering these factors demand for Electric Vehicle Battery Management Systems is anticipated to remain on the positive side of the graph during the forecast period.

Battery Management System for Electric Vehicle Industry Overview

The Electric Vehicle Battery Management System Market is dominated by several key players such as Renesas Electronics Corporation, NXP Semiconductors, Keihin Corporation, TE Connectivity, Analog Devices Inc., and others. Moreover, the market tends to be highly attractive for new players, and companies operating in the market have been focusing on launching advanced technologies to gain a competitive advantage. For instance,

- In May 2022, BorgWarner Inc. announced that the company had got a deal from an undisclosed international vehicle manufacturer to supply its Battery Management System (BMS). Model years beginning in the middle of 2023 will be the first to come with the new BorgWarner BMS technology, which improves the performance, security, and lifespan of battery packs.
- In January 2022, FPT Industrial announced presenting two e-axles and a battery pack with a Battery Management System customized to meet customer needs. It displayed an integrated e-Axle designed for the Nikola Tre. A dual-electric motor axle for GVW vehicles up to 44 tons guarantees high performance and efficiency with a maximum power of 420 kW and a maximum torque of 900 Nm for each motor.
- In October 2021, Ballard Power Systems and Forsee Power announced signing a memorandum of understanding (MOU) for a

strategic partnership to develop fully integrated fuel cell and battery solutions optimized for performance, cost, and installation for heavy-duty hydrogen mobility applications.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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