

Global Battery Management Ic Market-Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The Battery Management IC Market is expected to grow at a CAGR of 8.78% over the forecast period (2022-2027). Battery management ICs are integrated circuits that control rechargeable batteries in electronic systems. These are small electronic components such as transistors and diodes on a semiconductor chip, among others. The battery management IC safeguards the battery from running outside of the SOA (Safe Operating Area) and monitors, authenticates, calculates, and reports data, among other things. Different types of battery management ICs exist, depending on their functionality and specifications.

□ Battery management integrated circuits (ICs) are used in any rechargeable battery chemistry, including Li-Ion, LiFePO4, lead acid, and nickel-based batteries for wired and wireless applications. Smart cities and IoT further drive the demand for smart batteries, thereby contributing to the demand for battery management ICs. An effective battery charger boosts capacity, improves battery life, and keeps track of the charging process.

□ Rapid technical advancements, increased urbanization, improved consumer purchasing, and rising living standards have increased consumer electronics device consumption, culminating in an ongoing demand for batteries, cells, and packaging solutions. Furthermore, the growing use of electric vehicles to reduce the world's pace with a fast carbon footprint has increased the demand for lithium-ion batteries.

□ Battery management integrated circuits use advanced technology. Its integration procedure is too intricate, necessitating the use of highly skilled experts in order to manufacture it. Assembling the entire circuit also requires a high level of expertise, slowing down the process, which is a challenge for the battery management ICs market.

□ Wearables, industrial IoT such as smart cards and electronic shelf labels, and portables have become progressively popular in

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recent years due to the proliferation of battery-powered electronic gadgets. To improve usability and convenience, these gadgets must be made smaller and thinner to improve design and functionality, and enable bigger battery capacity and lower power consumption. This has led to significant product innovations that are contributing to the market growth rate.

Battery Management IC Market Trends

Automotive Segment Is Analyzed To Grow At Highest Rate During The Forecast Period

□ Automotive is analyzed to grow at a significant rate during the forecast period, majorly attributed to the boon of electric vehicles. The battery management ICs play a crucial role in the charging management and so on. The growth in product innovations to meet the demand further bolstered the ICs market growth. For instance, Renesas has launched a 14-cell Li-ion Battery Management IC that extends the life and range of battery cells in hybrid and electric vehicles.

□ As the automotive industry prepares for the impending electric vehicle (EV) phase, many of the world's prominent automakers are attempting to develop batteries that are safer, charge faster, and have more energy than the lithium-ion batteries currently in use. To enhance the capacity of the modules and packs that hold them, which can weigh thousands of pounds and come in various sizes and configurations, every EV is packed with as many battery cells as possible. Every cell in the battery pack must be connected to a battery management IC, which monitors the voltage, current, and temperature of all the battery cells crowded into a module to prevent them from wasting energy.

□ The battery management IC market is growing due to factors such as the increased use of electric cars (EVs) and hybrid electric vehicles (HEVs) and an increase in industry preference for lithium-ion batteries. Furthermore, market growth is fueled by an increase in the adoption of rechargeable batteries across a variety of end-use sectors.

□ Moreover, IEA stated that in 2021, electric vehicles accounted for about 10% of global automotive sales, up from 4% in 2019. This increased the overall number of electric vehicles on the road to almost 16.5 million, more than tripling the number in 2018. Electric car sales have continued to rise in 2022, with 2 million sold in the first quarter, up 75% over the same period in 2021. This is analyzed to boost the market demand during the forecast period.

Asia-Pacific Region is Expected to Register the Fastest Growth Rate

□ Asia-Pacific is the fastest-growing region in the global battery management IC market due to the presence of a huge electronics and automotive manufacturing base. China, Japan, Taiwan, and South Korea are among a few countries that dominate the semiconductor manufacturing industry, thereby impacting the market. The region also has a significant market for smartphones and advanced technologies and an increase in manufacturing expenditures.

□ Due to the continued transfer of various electronic equipment to China, semiconductor consumption in Japan, South Korea, and China is fast increasing in comparison to other nations in the area. Furthermore, Asia is home to the world's top five consumer electronics sectors, presenting huge prospects for technological adoption across the region in the forecast period.

□ As stated by International Energy Agency, China accounted for half of the growth in EV sales in 2021. In 2021, China sold 3.3 million more vehicles than the rest of the world combined. Similar trends were seen in the first quarter of 2022, with sales in China more than doubling compared to the first quarter of 2021, accounting for the majority of global growth.

□ In November 2021, Hero Motor (HMC), the parent company of Hero Cycles, formed a joint venture with Yamaha, a Japanese two-wheeler manufacturer, to produce electric motors for e-bikes for the global market. In October 2021, Tata Motors stated that private equity firm TPG and Abu Dhabi's ADQ had agreed to spend USD 1 billion in its electric vehicle sector. These investments

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are analyzed to further boost the market growth rate in the region during the forecast period.

Battery Management IC Market Competitor Analysis

The global battery management IC market is moderately fragmented. The key players in the market include ST Microelectronics, Analog Devices Inc., Microchip Technology Inc., Texas Instruments Incorporated, and NXP Semiconductors, among others.

□ April 2022 - Infineon Technologies AG announced the launch of two new battery management ICs TLE9012DQU and TLE9015DQU. The ICs enable more efficient monitoring and balancing of battery cells. The new battery management ICs provide a competitive system-level solution for battery modules, cell-to-pack, and cell-to-car battery topologies, combining exceptional measurement performance with the highest application robustness.

Additional Benefits:

The market estimate (ME) sheet in Excel format

3 months of analyst support

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