

Energy Management Systems - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Energy Management Systems Market size is estimated at USD 55.03 billion in 2024, and is expected to reach USD 113.85 billion by 2029, growing at a CAGR of 15.65% during the forecast period (2024-2029).

Due to the growing demand for multiple Smart Meter applications by end users, as well as investments in intelligent electric and building technologies, the market is expanding. In September 2022, the US (DOE) invested USD 10.5 billion to strengthen the country's energy grid through smart grids and other upgrades. The financing was consolidated into the Grid Resilience and Innovation Partnership program, divided into USD 2.5 billion for grid resilience, USD 3 billion for smart grids, and USD 5 billion for grid innovation.

Key Highlights

- Technological developments, like network communications, are rapidly improving. Bidirectional communication mediums, smart grids, information infrastructures, power conservation methodologies, and various strategies, home area networks are experiencing a revolutionary change in multiple areas of power consumption domains, like electricity usage patterns and energy conservation at consumption premises. In February 2023, Enphase Energy, Inc., a global energy technology company and the world's largest manufacturer of microinverter solar arrays and batteries, announced that it began supplying IQ Batteries to Austrian customers in order to extend their availability throughout Europe.
- According to Exxon Mobile, energy demand is anticipated to increase across the industrial sector by 2040, accounting for 123 quadrillion British thermal units, pushing the need for EMS solutions. Energy efficiency has increasingly evolved as the primary focus of private companies and government authorities worldwide. The increasing economic activities have led to high energy consumption rates and have pushed the international electricity grids to their limits.
- Due to government regulations, cost savings, and energy consumption optimization, homes, industries, and enterprises have

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increasingly adopted energy management solutions. Costs are reduced by the primary component of EMS measurement, communication, and software applications. Building wastes at least 30% of their energy, according to a study done by MIT, which could be avoided through EMS. Further, in January 2023, the French government launched a unique support scheme for R&D projects centered on advanced 5G, 6G, and future generations of networks. Specifically, it is focused on solutions linked to virtualization, open interfaces on access networks, security, edge computing, and the integration of AI and ML. Such initiatives further expand the scope of the market.

-Significant vendors continuously invest in the studied market growth, including Schneider Electric, Honeywell International Inc., Panasonic Corporation, and Green Energy Options Limited. For instance, in November 2022, Schneider Electric company also confirmed that, in addition to its complete range of energy management products for the home, Wiser Gateways and Smart Plugs are some of the earliest products that have been certified by Matter.

-Energy management systems have advanced with technological developments by incorporating smart meters, smart sensors, and other devices. Installing the entire system is expensive, as it integrates various technologies to maintain energy efficiency. This poses a challenge to the market's growth.

-Moreover, COVID-19 and scarcity owing to the Russia and Ukraine war and high energy prices propelled Germany to take sustainable action. Nord Stream 1, Russia's largest gas pipeline to Europe, was closed indefinitely after discovering several leaks and a parallel pipeline, Nord Stream 2. Europe, particularly Germany, has increasingly relied on Russian gas to meet its energy needs. Over the past year, Russia has cut its gas supplies to EU states by 88%. Such factors may further hamper the growth of the studied market.

Energy Management System Market Trends

Rising Investments in Energy Efficiency to Drive the Market

- Global investments toward having a more energy-efficient infrastructure have been growing steadily, with governments investing in various initiatives, such as renewable energy, adopting solutions that enhance the power grid's efficiency, and sanctions on the use of technologies that are not efficient. In addition, the Bureau of Energy Efficiency (BEE) estimated that the demand for energy generation from renewable sources and fossil fuels would rise from 600 TWh to over 700 TWh by 2030 in Germany, primarily driven by the expansion of electric mobility.

- Furthermore, various vendors have been operating in the energy efficiency space that enables governments to adopt such solutions, and such enterprises have been seeing growth in their investments. Under the Biden administration, the United States is expected to be carbon neutral by 2050 with investments from the federal government.

- According to OPEC, primary energy consumption is forecast to reach roughly 303.4 million barrels of oil equivalent per day by 2025. The source expects oil and gas to continue being the most significant contributing energy sources, at 96.1 and 69.9 million barrels, respectively.

- Several vendors in the energy efficiency space help governments adopt such solutions, and such businesses are seeing an increase in investment. For example, Italgas, the Italian gas DSO, plans to invest EUR 8.6 billion (USD 8.8 billion) in smart gas meters and other technologies and activities by 2028. The second pillar of energy efficiency aims to position Italgas among as the major player in the sector, which is expected to have a market value of approximately EUR 8.0 billion by 2028, up from EUR 6.0 billion this year, according to the company.

- The Turkish Ministry of Natural Resources and Energy says that over 10 billion USD worth of investments in the area of energy efficiency are planned within the next decade by both public and private sectors. The investment is expected to generate USD 30 billion in savings until 2033; such developments have further augmented the demand for EMS in this space.

- With the growing investments in energy efficiency, Europe has been leading the global numbers in such investments. Further, most UK citizens keep warm using gas central heating during winter. A 2022 survey by the UK Department for Business Energy & Industrial Strategy (BEIS) found that 78% of respondents used this heating method. In line with the changing regulations in the

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region, the players have been establishing new and innovative products in the Market. For instance, in February 2022, a unique core for a heat pumps new system was developed by Cedric Francois in France.

- Further, in June 2022, SICK, the FTMg system with a monitoring app, was launched, which is an Industry 4.0 solution to enable them to see the information that they need in order to decrease their energy consumption as a consequence of Bettercompressed Air Control. In order to reduce leaks, enhance operational efficiency, and lower costs, SICK FTMg with Monitoring App allows continuous monitoring of compressed air by the production and maintenance teams.

Europe to Hold Significant Market Share

- The UK, supported by favorable energy policy and legislation to reduce the country's carbon footprint through the deployment of Smart Meters, Energy Efficient Buildings, or systems such as that, continues to be one of the leaders in adopting this approach. In addition, the UK's community energy projects have driven the domestic energy management market. According to Community Energy England (CEE), the country already has over 200 community-led energy organizations, which operate over 180 MW of energy-generating capacity together. Further, consumers are turning towards these energy management solutions with rising energy prices due to government initiatives.

- Furthermore, the UK government mandates that energy suppliers install smart meters in 26 million homes. The accelerating smart meter rollout and increasing awareness of the energy crisis, coupled with the European directive to reduce 80% of carbon emissions by 2050, have been recognized as the significant factors influencing the nation's home energy management system's growth.

- Additionally, the country has invested in smart building solutions, primarily to reduce the building sector's carbon footprint and energy consumption. The country is home to a large number of smart cities. Moreover, through Innovate UK, an innovation agency, the UK government has implemented programs that directly fund municipalities for investing in smart initiatives. As per a report by the European Parliament, the United Kingdom is one of only three European countries with more than 31 cities with at least one smart initiative.

- The German government is on course to become one of the world's most energy-efficient and environmentally friendly countries through the National Action Plan Energy Efficiency Plan, which manages funding schemes for energy efficiency standards and audits. According to the Ministry for Economic Affairs, the government plans to reduce primary energy consumption by 30% by 2030.

- Also, the country is facing increasing energy prices currently and is looking for alternative ways to produce energy. The European Commission has given the green light under EU State Aid rules to revise Germany's support scheme for renewable energy production. Further, the program considers recent amendments to Germany's Renewable Energy Act. With a total budget of EUR 28 billion (USD 29.69 billion), the EEG 2023 assistance program seeks to achieve climate neutrality by 2045 by producing 80% of power from renewable sources by 2030.

- Various companies are reluctant to invest in energy efficiency owing to economic uncertainty and seeking short payback times., which are expected to hinder market growth in this country. In December 2022, Cimlogic, specialists in digital manufacturing solutions, announced the launch of a new energy management solution, an additional module to their comprehensive MES (Manufacturing Execution System) solutions. Cimlogic's energy solution monitors energy usage (water, air, gas, electricity, and steam) in real-time to help global manufacturers improve operational efficiency, reduce waste, strengthen corporate social responsibility status, and achieve sustainable manufacturing.

- Furthermore, the Green Deal and Energy Companies Obligation (ECO) aimed to reduce UK energy consumption. This is expected to make utilities actively consider lowering energy consumption via the industrial adoption of smart EMS solutions. In December 2022, the UK announced plans to accelerate study on 5G and 6G technology as part of a GBP 110 million telecoms R&D package. As a part of the package, three top UK universities, the University of York, the University of Bristol, and the University of Surrey, would receive a share of GBP 28 million to team up with major telecoms companies, including Ericsson, Nokia, and Samsung to design and make networks of the future such as 6G. The increasing deployment of advanced wireless technologies is expected to

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further aid the adoption of Industry 4.0, creating a positive growth outlook for the market.

Energy Management System Industry Overview

The market studied is very competitive. Some significant players in the market are IBM Corporation, Rockwell Automation Inc., General Electric, Schneider Electric, Eaton, ABB, Oracle Corporation, and many more. The companies are expected to increase the market share by forming multiple partnerships and investing in introducing new solutions to earn a competitive edge during the forecast period.

In September 2022, IBM announced the next generation of its LinuxONE server, a favorably scalable Linux and Kubernetes-based platform designed to provide scalability to sustain thousands of workloads in the footprint of a single strategy. IBM LinuxONE Emperor 4 was a planned scale-out-on-scale-up approach that allowed clients to run workloads at increased density and increased capability by turning on unused cores without raising their energy consumption and associated greenhouse gas emissions.

In July 2022, an integrated electric vehicle charging infrastructure was developed and presented by Eaton with the Flow consortium, which received support from the European Union. Based on the experience gained in the development of its buildings as a grid approach, merging the power needs of buildings and EVs with on-site renewable power generation, Eaton's role in the consortium was to apply further developing EV charging technologies and establishing electric vehicle charging solutions.

Additional Benefits:

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

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