Motor Monitoring - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Motor Monitoring Market size is estimated at USD 2.95 billion in 2025, and is expected to reach USD 4.85 billion by 2030, at a CAGR of 10.46% during the forecast period (2025-2030).

All rotating machines experience vibration. Motors have different faults that vibration screening can identify. The adoption of condition monitoring with wireless IoT sensors and cloud-based software empowers industry professionals to get ahead of equipment problems and avoid downtime by accessing current, vibration, and temperature data from anywhere in a plant at any given time. This follows an ongoing trend driving the growth of the market.

Key Highlights
- Growing awareness of predictive maintenance and augmenting it with analytics drive the market. The importance of electric motor monitoring is connected to the damages deriving from the failure of even a single motor. It has been estimated that for each downtime hour, the cost of the missed production is around EUR 1000 in the pasta production sector. Further implementing predictive maintenance and training the internal maintenance staff to make them autonomous in the shortest possible time is one of the low-cost solutions.
- Rule-based predictive maintenance relies on sensors to continuously collect data about assets and sends alerts according to predefined rules, including when a specified threshold has been reached. With rule-based analytics, product teams work alongside engineering and customer service departments to establish causes or contributing factors to their motor failing. Hence these industrial IoT technologies drive the market.
- The growing adoption of wireless systems for motor monitoring drives the market. Electrical motors and drives consume about 45% of the power generation. However, if the electrical machines are not maintained properly, it consumes about 5% to 10 % of excess power, which affects productivity and revenue. Wireless monitoring of the motor is capable of capturing the machine

parameters more accurately with automatic detection of abnormal conditions and reporting to the server within a few microseconds. The advantage of wireless technology is that it is very reliable and operates even at very slow network speeds,and handles multiple devices at once. The designed system is easy to install and scale up to large industrial setups as it does not involve a complex mechanism and uses a lightweight MQTT protocol.
- However, lacking customization with the high initial investment restraints the growth of the market. Due to the integration of new technologies, industrial systems are becoming more complex. At the same time, it makes maintenance and monitoring activities more expensive and complicated to get reliable data on time. The more sensors are wareintegrated into the system, the more data will be generated that should be handled. But processing this growing number of data through database technologies will be challenging. This problem is directly related to the concept of Big Data. There has also been an impact of the Russia-Ukraine war on the overall packaging ecosystem.
- However, the COVID-19 pandemic affected production in manufacturing plants such as the automotive, mining sector, etc. But the digital transformation is offering significant features to manufacturers, such as real-time visibility into the equipment which have deployed the cloud solution and provides them with the ability to analyze the condition of their motor. Further software solutions equipped by the manufacturing plant can also be monitored by their central system.
- Moreover, COVID-19 forced quicker adoption of a new predictive maintenance service model on motor-driven systems as there is a restriction in traveling to perform asset health analysis. Various service providers performed an analysis through these critical portable monitoring devices, such as Fluke's 810 Vibration Tester or Megger's Baker EXP4000. Smart sensors are a readily available tool providing a remote view into client assets, which in turn eliminates the immediate need to travel to a facility. Remote monitoring and diagnosis will be a key acceptance and further help to drive the market in this situation.

Motor Monitoring Market Trends

Oil and Gas Segment is Anticipated to Witness Significant Growth

- Oil and gas plants are running some of the most complex systems in industrial production today. In addition to this complexity, if a sudden failure occurs in the form of misalignment, looseness, imbalance, and bearing wear, the financial and environmental consequences could be extremely serious. In the oil and gas industry induction motors are a core piece of machinery as they are versatile and rugged. Within an oil or gas refinery, induction motors supply rotational mechanical power to numerous systems, large and small, and are therefore important to monitor their working condition.
- Further, the oil & gas industry has long been a leader in the deployment of predictive maintenance technologies in pursuit of improved asset performance. A player such as Artesis's predictive maintenance system aims to provide all the benefits of traditional condition monitoring systems at a fraction of the complication and cost. Artesis MCM (motor condition monitor) uses an intelligent, model-based approach to provide complete monitoring and diagnostic capabilities for most electric motor-driven equipment.
- Furthermore, as the global oil and gas industry increases investments in digital technologies, the demand for motor monitoring solutions is analyzed to witness significant growth in the oil & gas sector over the forecast period. Motor monitoring solutions are gaining considerable traction in upstream, midstream, and downstream operations to constantly improve productivity and efficiency while meeting the most comprehensive industry specifications.
- Morover, in Canada, with increasing crude oil production in Western and Eastern Canada during the forecasted period, the demand for motor monitoring will increase, providing growth in the market. Moreover, the exploitation of shale reserves has led to increasing demand for EPC (Engineering, Procurement, and Construction) services. For instance, according to the data from CAPP, total curde oil production in Canada is expected to reach 6.67 million barrels per day.

Asia Pacific Accounts to Hold Significant Market Growth

- Asia-Pacific is expected to account for significant market growth with the increase in industrial growth in countries such as China and India. The Indian manufacturing sector is one of the prominent growth sectors, which registers a 7.9% year-on-year growth. The government's Make in India initiates the plans to make India equally strong for domestic and foreign players and give recognition to the Indian economy at a global level.
- China is one of the global hubs for manufacturing and has the largest population worldwide, boosting investments in power as well as in the infrastructure sector. The Chinese government, in the past, announced investments worth USD 78 billion for developing 110 nuclear power plants, which are planned to start operations by 2030. Such initiative developments are expected to widen the scope of the adoption of modern technologies, including vibration monitoring solutions, to assist condition-based monitoring for the motor.
- Further, despite lowering hydrocarbon energy prices, the continued focus on oil & gas exploration activities to achieve energy self-sufficiency by NOCs, such as CNPC in China, is highly recommended. These activities are anticipated to create a robust demand for monitoring solutions to monitor and facilitate the maintenance of oil & gas equipment and infrastructures. It has been observed that China has the most significant shale oil & reserves worldwide and is focusing on tapping the same through joint ventures with oil & gas companies.
- Moreover, the emergence of Industry 4.0 in countries like Japan, China, South Korea and India is further analyzed to proliferate the market growth in Asia Pacific region over the forecast period, as monitoring of motors essential for successfully running an industrial plant. Further, with Industry 4.0, the role of IoT in online condition monitoring of electrical machines is expected to gain considerable significance, thus positively impacting the market's growth.

Motor Monitoring Industry Overview

The motor monitoring market is fragmented and consists of several major players. With innovative solution offerings and predictive analytics integration, many of the market players are increasing their market worth by product and service differentiation. Key players are ABB Group, Siemens AG, etc.

In February 2023, OMRON announced to release of the K7DD-PQ Series of advanced motor condition monitoring devices starting in March 2023 in Japan and globally in April 2023. The K7DD-PQ numerically tracks trends in the deterioration and wear of servomotors, machine tools, and other equipment to reduce inspection efforts and prevent unexpected failure.

Additional Benefits:

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

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