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

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

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Report description:

The Machine Condition Monitoring Market size is estimated at USD 1.37 billion in 2025, and is expected to reach USD 2.17 billion by 2030, at a CAGR of 9.65% during the forecast period (2025-2030).

Increasing adoption of industry 4.0, increasing demand for reducing human involvement in predictive maintenance, and rising awareness regarding the benefits of installing machine condition monitoring solutions are expected to drive the machine condition monitoring market over the forecast period.

Key Highlights
- Industry 4.0 relies on automation and computer learning, including real-time information processing, to modernize industrial plant operations. This has expanded computerized production technology to enhance operating efficiencies, including digital analytics, automation, and commercial IoT. Furthermore, implementing predictive management in Industry 4.0 provides substantial prospects for numerous industries. Analyzing equipment data to identify and plan maintenance and decrease outage is part of the machine condition management process. Such progress enables the analysis of equipment functioning and the prediction of breakdown scenarios. As a result, rising knowledge of machine status tracking is projected to open up new business prospects.
- Product developments by key players operating in the market are expected to contribute to market growth. For instance, in November 2022, Doble Engineering Company, which provides equipment health inspections for the electric sector via diagnostic tests and services, including software, introduced a new solution, Calisto cable condition monitoring, for moderate and higher voltage cable systems. The innovative Calisto cable provides safe and reliable cable operation, cutting the chance of failure, decreasing the overall cost of operations and solutions, and providing near-real-time information on cable health.
- Post COVID-19 requirement for fully autonomous systems with minimum human administration is propelling the market, which is

expanding in line with the gradual recovery of the economies worldwide and the growth in demand for distant operations. Furthermore, the growing adoption of Industry 4.0 due to the increased need for real-time machine monitoring is likely to generate attractive market development prospects.
- However, short-term investment is required, and the equipment for condition monitoring is costly. Moreover, the condition monitoring sensors may not survive depending on the environment, and the machine exhibits unpredictable maintenance periods-such a factor challenges market growth.

Machine Condition Monitoring Market Trends

Automotive Transportation to Witness Significant Growth

- Globally, the automotive sector is one of the significant segments of the manufacturing industry. With rapid advances in technology, automobiles are becoming more complex. This increased complexity is leading to possible production errors, which in turn is increasing the need for continuous machine condition monitoring solutions.
- The automobile industry's market players are driven to streamline and upgrade their manufacturing processes. The various motors placed on the production lines need periodic monitoring. The motor voltage pattern analysis approach helps to reduce machine breakdowns and boost machine lifespan. The number of units manufactured in the vehicle industry is rapidly growing, which in turn is expected to contribute to market growth. For instance, Tesla Inc.'s 3rd quarter 2022 car manufacturing output was 365,900 units. Tesla's production level climbed by more than 41.5% quarter on quarter and reached nearly 53.9 % yearly in the third period of 2022. The technology on the car assembly facility's plant floor must be adequately serviced to provide an enhanced manufacturing cycle and output.
- Air-handling systems and pumps are the most common uses of condition monitoring in the automobile sector. Other critical areas wherein condition monitoring is employed include motor and transmission part endurance testing, wind tunnels, electrical breakdowns for reliability testing, automotive test benches (artificial roadways), and others.
- Increasing demand for condition monitoring in the automotive sector has led to increasing product development by key players. For instance, in April 2022, OMRON launched the innovative K7TM condition monitoring for heating equipment, which is utilized mainly in the automotive and FMCG sectors.

Europe to Grow Considerably Over The Forecast Period

- The machine condition monitoring market in Europe is anticipated to grow significantly over the next five years due to the presence of strong end-use industries such as automobile and aerospace. Furthermore, the presence of significant manufacturers across the region, including ABB, SKF AB, and Meggitt PLC, among others, will further contribute to market growth.
- Since portable monitoring processes are challenging to utilize in remote manufacturing plants, the need for online condition monitoring has increased. Furthermore, technological advancements and the need for real-time alerts and metrics have increased the adoption of online condition monitoring processes across numerous end-use sectors. This has led to increasing product developments by key players. For instance, in June 2021, ABB introduced a novel digital condition monitoring service designed specifically for conveyor system predictive maintenance. Such developments are expected to boost the Machine Condition Monitoring Market growth over the forecast period.
- The country homes 43 automobile assemblies and production plants, with more than 1/3rd of Europe's automobile production capacity. More than 3/4th of the cars produced in this country are destined for international markets. Thus, high automobile manufacturing will propel the need for condition-monitoring solutions in the automotive sector, boosting the market for machine condition monitoring over the forecast period. For instance, in April 2022, according to ACEA, around 9.9 million passenger

vehicles were made in the European Union in 2021.
- Developing smart manufacturing begins with automated machine monitoring. Equipment in an intelligent factory is linked via IoT-enabled, web-based monitors that allow for real-time machine extracting data. The linked machine system provides useful information about equipment performance, improves current output, and compares estimated to real output ratios. According to ETNO, by 2027, there will be 223 million active Internet of Things (IoT) links in the automotive sector and 19 million businesses throughout Europe. Thus, increasing smart manufacturing deployment across the automobile industry is expected to boost regional market expansion over the forecast period.

Machine Condition Monitoring Industry Overview

The Machine Condition Monitoring Market is moderately competitive, with several players. Some of the players operating in the market include Rockwell Automation, Inc., Meggitt PLC, GE Bently Nevada, Emerson Electric Co., and SKF Group, among others. These players are adopting several strategies, such as product launches, partnerships, and joint ventures, among others, to increase their customer base and expand their product portfolios.

- November 2022 - Advantech and Actility have announced a novel combined AI-based solution to assist machine operation teams in implementing machine prognostics and condition monitoring. It enables users to check the status of several devices at the same time.
- September 2022 - ABB and Samotics, a high-growth scaleup business in the Netherlands and a prominent vendor of ESA technology have formed a long-term strategic cooperation to deliver better condition monitoring services. The method will use each company's strengths to provide more insights into equipment health and power efficiency.

Additional Benefits:

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

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