

Condition Monitoring Equipment Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The Condition Monitoring Equipment Market is expected to register a growth of 5.5% over the next five years. Furthermore, the condition monitoring system is a low-cost predictive maintenance system that provides real-time data and cooperation. The expansion of intelligent factories has created a demand for automation, which is expected to boost the growth of condition-monitoring equipment to meet the need for predictive maintenance to safeguard expensive machinery from damage.

Key Highlights

The rise in smart factories has created the need for automation, which is estimated to support the growth of condition monitoring equipment to fulfill the predictive maintenance requirement to protect expensive machinery against damage. The integral function of condition monitoring within the IIoT ecosystem is to provide data that can ultimately be used for various intelligent factory applications, including Digital Twins. Technologies used in smart factories, i.e., machine learning, AI, big data, IIoT, etc., can all be used for quality improvement.

Further, in September 2022, Datametrex AI Ltd. announced the launch of Smart Factory AI technology based on AI, big data, and server automation operating system technologies. Moreover, the company announced that it has already received purchase orders for around CAD 200,000 from several multinational companies, including Lotte Data Communication Co. Ltd, Kolon Benit, and Woongjin Co. Ltd.

The growing demand in the energy production, oil and gas, and automotive industries in recent years and the increasing investments in such end-user sectors are considered significant market drivers.

According to IBEF, in May 2022, ONGC announced plans to invest USD 4 billion from FY22-25 to increase its exploration efforts in India. Furthermore, in April 2022, Indian Oil Corporation Limited, Larsen & Toubro, and Goldman Sachs-backed renewable energy producer ReNew Power formed a joint venture by signing a term sheet. This JV will develop green hydrogen projects, helping India reduce its carbon emissions.

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Furthermore, using predictive maintenance techniques in factories is expected to reduce downtime by up to 50% and save between 10 to 40% on equipment maintenance expenses. Predictive Maintenance relies on condition monitoring through the measurement and analysis of physical characteristics, such as visual inspection, sound, temperature, or vibration. Thus, the increased penetration of digital technology coupled with the preference for higher relevance of predictive maintenance for their business is expected to fuel the market across regions.

However, the major restraint is the up-gradation of outdated equipment. Up-gradation of the old machinery results in a change in configurations and settings of the upgraded, installed machines, which is highly costly depending on fixed or portable systems.

Condition Monitoring Equipment Market Trends

Increasing Adoption of Renewable Energy

The increased focus on renewable energy due to the energy crisis has raised a demand for condition monitoring equipment across wind energy plants. Wind turbines are remotely managed and are exposed to harsh and variable weather conditions. Due to this, wind turbines require maintenance to provide reliable, cost-effective, and safe power output with long equipment life.

According to IBEF, in the Union Budget 2022-23, the government allocated INR 19,500 crores (USD 2.57 billion) for a PLI scheme to expand the manufacturing of high-efficiency solar modules. Furthermore, as of July 2022, the installed renewable energy capacity (including hydro) stood at 161.28 gigawatts in India, representing 39.91% of the overall installed power capacity. Such developments in renewable energy will further drive the market growth for condition monitoring equipment.

According to the US Department of Energy, the electric power sector in the United States had the most increased renewable energy consumption in the last few years. It consumed over 13.42 quadrillion British thermal units of renewable energy in 2022. Furthermore, in August 2022, Norfund, who controls the Norwegian Climate Investment Fund, and KLP, Norway's largest pension company, agreed to purchase a 49% share of a 420-megawatt solar power plant in India for INR 2.8 billion (USD 35.05 million). Therefore, with the growing adoption of renewable energy, it can be inferred that the condition monitoring equipment market will also flourish over the forecasted period.

Asia-Pacific to Grow at a Significant Rate

Asia-Pacific is anticipated to be a significant revenue-generating region for the market over the forecast period. The mature industries and the availability of technically skilled experts to run the technological innovations in the country are the major factors for its enormous market hold. India maintained its spot as the third-largest consumer of oil globally. In March 2022, the Board of Oil India approved an investment of INR 6,555 crores (USD 839.49 million) for the Numaligarh petrochemical project. Furthermore, China is a global manufacturing hub with the largest population globally, boosting investments in the power and infrastructure sectors. The Chinese government, in the past, declared assets worth USD 78 billion to generate 110 nuclear power plants, planned to commence operations by 2030. Such developments are anticipated to widen the scope of the adoption of modern technologies, including vibration monitoring solutions to assist condition-based monitoring.

Despite the falling hydrocarbon energy prices, there is a continued focus on oil and gas exploration activities to achieve energy self-sufficiency by NOCs, such as CNPC in China. These activities are anticipated to create a robust demand for vibration-monitoring solutions, to monitor and facilitate the maintenance of oil and gas equipment and infrastructures.

Further, the market's growth in India is complemented by the adoption of industrial control systems with various companies offering different solutions and is characterized by recent developments. For instance, Delta Electronics provides a wide range of automation products and solutions, including human-machine interfaces, sensors, and robot solutions. ABB India recently announced that it had reached the cumulative 5-gigawatt mark to provide PLC-based solar plant automation in India. Such

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developments may further drive market growth in the future.

Furthermore, growing awareness of predictive maintenance and vibration monitoring technologies in the oil and gas, power, chemical and petrochemical, cement, and automotive industries coupled with government initiatives, such as 'Made in China 2025', are poised to create sustained demand for the studied market in the Asia-Pacific, during the forecast period.

Condition Monitoring Equipment Market Competitor Analysis

The condition monitoring equipment market is fragmented. Players are investing in unique technology catering to the intense rivalry. Some key players are Emerson Electric Co., Rockwell Automation Inc., Schneider Electric SE, etc.

September 2022: ABB and Samotics, a provider of ESA technology based in the Netherlands, entered a long-term strategic partnership to provide enhanced condition monitoring services. The approach will leverage each company's capabilities to better predict machine health and energy efficiency. As a first step, ABB will integrate Samotics' plug-and-play monitoring solution into its digital portfolio.

April 2022: OMRON launched the latest K7TM condition monitor for heater equipment used mainly in the automotive and FMCG industries. The K7TM visualizes deterioration tendencies to enable predictive maintenance and contributes to creating a carbon-free society.

Additional Benefits:

The market estimate (ME) sheet in Excel format

3 months of analyst support

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