

Machine Condition Monitoring System Market Will See Strong Expansion Through 2032

Machine Condition Monitoring System Market Expected to Reach \$5.4 Billion by 2032 — Allied Market Research

WILMINGTON, DELAWARE, UNITED STATES, July 26, 2024 /EINPresswire.com/ -- Machine condition monitoring systems provide remote monitoring and management of plant operations using real-time data obtained from many IoT sensors. It is projected that new machine condition monitoring systems will be



Machine Condition Monitoring System Market

implemented more frequently across several sectors, contributing to the machine condition monitoring systems market growth in the upcoming years. Allied Market Research, titled, "<u>Machine Condition Monitoring System Market</u>," The machine condition monitoring system market size was valued at \$2.6 billion in 2022, and is estimated to reach \$5.4 billion by 2032,

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Industry 4.0 and IIoT are boosting MCMS adoption for data-driven decisions and remote monitoring, with growth driven by demand for secure cloud solutions, wireless tech, and predictive maintenance." *Allied Market Research* growing at a CAGR of 7.9% from 2023 to 2032.

Machine Condition Monitoring Systems (MCMS) utilize sensors and data analysis to assess machinery conditions in real time. By detecting glitches and irregularities, MCMS enables predictive maintenance, minimizing downtime and preventing equipment failures. These systems enhance operational efficiency and reliability across industries by

providing early fault detection and actionable insights.

Rising adoption of Industry 4.0, the increasing need for minimizing human involvement in predictive maintenance, and rising knowledge about the advantages of installing machine condition monitoring systems are projected to drive the machine condition monitoring system

market growth during the forecast period. Industry 4.0 depends on automation and computer learning, including real-time information processing, to upgrade industrial plant operations. This has led to an increase in computerized manufacturing technologies to improve operational efficiencies, including digital analytics, automation, and commercial IoT. Furthermore, applying predictive management in Industry 4.0 offers significant opportunities for a wide range of companies. Analyzing equipment data to identify & plan maintenance and reduce outages is part of the machine condition management process. This advancement allows for the examination of equipment operation and the prediction of failure possibilities. All these factors are predicted to drive the machine condition monitoring market growth during the forecast period.

However, the widespread adoption of machine condition monitoring systems faces challenges. Initial implementation costs, including sensor installation and software integration, can be substantial. In addition, integrating machine condition monitoring systems into existing processes requires training and change management. The complex nature of data interpretation and the need for skilled analysts pose further hurdles. Furthermore, small businesses with limited resources may find these constraints to be significant barriers that hinder their capacity to fully leverage the potential of machine condition monitoring systems (MCMS) technology.

The expansion of digitalization across the globe due to increasing population and rising demand has affected the growth of the market. There is significant growth seen in the development of oil & gas, manufacturing, food & beverages, automotive, medical, aerospace & defense, and marine industries which has boosted the growth of the market. Machine monitoring is done in each hardware and software component to avoid the upcoming future problems in the machine. There are several developed technologies in this digitalized world. Rising usage of cloud computing and the Internet of Things is also projected to create growth opportunities in the market. In addition, Industry 4.0 supports connected devices, creating the way for improved interaction, real-time optimization, and new manufacturing processes. Factors such as increased production efficiency and productivity, real-time asset implementation, and decreased downtime are projected to accelerate Industry 4.0 adoption, generating multiple opportunities for Machine Condition Monitoring market players.

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The machine condition monitoring systems market share is segmented based on component, deployment mode, monitoring technique, end user, and region. By component, the market is divided into hardware and software. By deployment mode, the market is classified into on-premises and cloud. By monitoring technique, the market is classified into vibration monitoring, thermography, corrosion monitoring, oil analysis, ultrasound emission, and motor current analysis. By end user, the market is classified into automotive, oil & gas, power generation, chemicals, metals & mining, aerospace & defense, food & beverages, and others. By region, the market is analyzed across North America, Europe, Asia-Pacific, and LAMEA.

The report offers a comprehensive analysis of the global machine condition monitoring system market trends by thoroughly studying different aspects of the market including major segments, market statistics, market dynamics, regional market outlook, investment opportunities, and top players working towards the growth of the market. The report also highlights the present scenario and upcoming trends & developments that are contributing toward the growth of the market. Moreover, restraints and challenges that hold power to obstruct the market growth are also profiled in the report along with Porter's five forces analysis of the market to elucidate factors such as competitive landscape, bargaining power of buyers and suppliers, threats of new players, and emergence of substitutes in the market.

- The COVID-19 pandemic had a significant impact on the machine condition monitoring system market share. While certain industries reduced capital expenditure due to economic uncertainties, others increased their reliance on predictive maintenance enabled by machine condition monitoring systems.

- The pandemic impacted supply chains leading to delays in production and delivery of MCMS components. As industries gradually recover, the emphasis on operational efficiency and cost optimization is expected to sustain the demand for these systems.

- Post post-post-COVID-19 requirement for fully autonomous systems with minimum human administration is driving 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 increase in the need for real-time machine monitoring is likely to generate attractive market development prospects in the upcoming years.

Based on components, the hardware sub-segment emerged as the global leader in 2022, and the software sub-segment is anticipated to be the fastest growing during the forecast period.
Based on deployment type, the on-premises sub-segment emerged as the global leader in 2022 and the cloud sub-segment is predicted to show the fastest growth in the upcoming years.
Based on monitoring technique, the vibration monitoring sub-segment emerged as the global leader in 2022 and the tomography sub-segment is predicted to show the fastest growth in the upcoming years.

- Based on end users, the power generation sub-segment emerged as the global leader in 2022

and the automotive sub-segment is predicted to show the fastest growth in the upcoming years - Based on region, North America registered the highest market share in 2022 and Asia-Pacific is predicted to show the fastest growth in the upcoming years.

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