

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

Market Report | 2023-01-23 | 100 pages | Mordor Intelligence

AVAILABLE LICENSES:

- Single User License \$4750.00
- Team License (1-7 Users) \$5250.00
- Site License \$6500.00
- Corporate License \$8750.00

Report description:

The vibration monitoring market is expected to register a CAGR of 5.4% over the forecast period. Maintenance processes have become more streamlined than production processes, and have ample scope for optimization, thus propelling the growth of the machine maintenance industry. Increased productivity and minimal downtime due to superior monitoring, such as predictive maintenance, are the most recognized benefits that can also prolong maintenance intervals beyond preventive maintenance schedules.

Key Highlights

Vibration monitoring is a crucial component of predictive maintenance, driving the growth of the vibration monitoring market. It is primarily found in rotating equipment like steam and gas turbines, pumps, motors, compressors, paper machines, rolling mills, machine tools, and gearboxes. It is used to assess the equipment's operational and mechanical condition. Vibration analysis can detect developing problems before they become too severe and cause unscheduled downtime, which can be accomplished by monitoring machine vibrations continuously or at predetermined intervals.

Vibration condition monitoring equipment measures the vibration levels from rotating and reciprocating machinery. It is performed by sensors that collect information regarding frequency and amplitude for measuring the vibration patterns of machinery.

Vibration monitoring is critical for tracking and analyzing the changes in the condition of machinery parts, such as gears and bearings, and predicting a part or equipment failure.

The introduction of advanced technologies and services associated with IoT is revolutionizing most industrial applications. The initiatives (such as those in factories regarding automation and industrial predictive maintenance) and efforts to build more innovative working environments are creating opportunities for the new entrants and traditional players to offer innovative solutions that change business models.

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Predictive maintenance relies on condition monitoring through measuring and analyzing physical characteristics, such as visual inspection, sound, temperature, or vibration.

This significance has pushed various verticals to make extra efforts to protect their machinery. The main benefit of fault identification using condition monitoring is to allow personnel to take remedial action to avoid or reduce repair costs and increase machinery safety, thus increasing human safety.

Due to the COVID-19 outbreak, the demand for remote operations increased significantly. The first quarter of 2020 witnessed a significant drop in revenue growth for many industrial communication enterprises worldwide. The market is gaining traction with the economy's steady recovery and the rising need for remote operations, leading to the adoption of highly automated systems requiring no or less human supervision.

Vibration Monitoring Market Trends

Oil and Gas to Hold Significant Market Share

Oil and gas operations, such as offshore drills and petrochemical refineries, function in extreme operating environments. In case of any mechanical failure, there are severe financial and environmental consequences. Thus, the detection and prevention of unexpected oil and gas machinery and component problems are mandated in many parts of the world.

The volatile oil price environment results in increased adoption of predictive maintenance technologies, as these help companies cut operational expenditures by optimizing maintenance scheduling and driving productivity.

The oil and gas industry is expected to dominate the expanding market. The energy and power industry includes several segments, such as coal, minerals, nuclear power, and clean fuels. The increased spending from the government and the private sector on alternative energy and power sources in developed and developing countries is resulting in the installation of more energy and power plants, thus fueling the demand for vibration monitoring systems.

Vibration monitoring solutions are critical in the oil and gas industry as they ensure that the production machinery is operational and downtime is minimized, lowering operating costs and increasing productivity and monetary gains. A vibration monitoring system aids in the reduction of unplanned outages and the optimization of machine performance, thus reducing maintenance and repair costs.

The demand for downhole vibration monitoring and control systems is expected to increase significantly in the coming years to increase profitability and reduce downtime in upstream operations. In 2021, the United Arab Emirates produced around 3.7 million barrels of oil daily. The application of the downhole vibration monitoring control system is expected to grow further with upcoming exploration and drilling projects in countries such as the United States, Saudi Arabia, and the United Arab Emirates.

The rising natural gas exploration is driving demand, particularly from shale formations. On the other hand, the high volatility of crude oil prices, combined with the negative impact of the COVID-19 outbreak, decreased the number of drilling activities. Thus, the growth of the market is likely to be hampered in the future.

Asia-Pacific to Witness Significant Growth

China is a global manufacturing hub and has the largest population worldwide, boosting investments in the power and infrastructure sectors. In the past, the Chinese government announced investments worth USD 78 billion to develop 110 nuclear power plants, which are planned to commence operations by 2030. Such developments are expected 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

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

vibration-monitoring solutions to monitor and facilitate the maintenance of oil and gas equipment and infrastructures. China has the most significant shale oil and gas reserve worldwide and is focusing on tapping the same through joint ventures with oil and gas companies.

Vibration monitoring is an integral part of a predictive maintenance program. Regularly inspecting and monitoring the condition of oil and gas pumps can help identify and address potential problems before they cause failure, thus saving time and money by avoiding unplanned outages and unnecessary repairs.

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', may create sustained demand for vibration monitoring in Asia-Pacific during the forecast period.

Vibration Monitoring Market Competitor Analysis

The vibration monitoring market is significantly competitive in nature. Some of the significant players in the market are Rockwell Automation Inc., National Instruments Corporation, General Electric Corporation, Emerson Electric Company, Honeywell International Inc., and Bruel & Kjaer Sound & Vibration Measurement. The companies are increasing their market share by forming multiple partnerships and introducing new products to earn a competitive edge.

August 2022 - Rockwell Automation Inc. partnered with Bravo Motor Company, a California-based business offering applied innovation around decarbonization, focusing on producing batteries, vehicles, and energy-storage systems. Automotive manufacturers depend on noise, vibration monitoring, and harshness (NVH) testing to optimize vehicle performance and maintain a standard of comfort across their vehicle catalog.

Additional Benefits:

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

Table of Contents:

1 INTRODUCTION

1.1 Study Assumptions and Market Definition

1.2 Scope of the Study

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

4 MARKET INSIGHTS

4.1 Market Overview

4.2 Industry Attractiveness - Porter's Five Forces Analysis

4.2.1 Bargaining Power of Suppliers

4.2.2 Bargaining Power of Consumers

4.2.3 Threat of New Entrants

4.2.4 Threat of Substitutes

4.2.5 Intensity of Competitive Rivalry

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

4.3 Impact of COVID-19 on the Market

5 MARKET DYNAMICS

5.1 Market Drivers

5.1.1 Growing Awareness About Predictive Maintenance and Augmenting it with Analytics

5.1.2 Increasing Use of Wireless Systems for Vibration Monitoring

5.2 Market Challenges

5.2.1 Lack of Customization and High Initial Investment

6 MARKET SEGMENTATION

6.1 By Type

6.1.1 Hardware

6.1.1.1 Accelerometer

6.1.1.2 Velocity

6.1.1.3 Displacement

6.1.1.4 Other Hardware

6.1.2 Software

6.1.3 Services

6.2 By End-user Industry

6.2.1 Automotive

6.2.2 Oil and Gas

6.2.3 Energy and Power

6.2.4 Mining

6.2.5 Food and Beverage

6.2.6 Chemicals

6.2.7 Other End-user Industries

6.3 By Geography

6.3.1 North America

6.3.2 Europe

6.3.3 Asia-Pacific

6.3.4 Latin America

6.3.5 Middle-East

7 COMPETITIVE LANDSCAPE

7.1 Company Profiles

7.1.1 Rockwell Automation Inc.

7.1.2 National Instruments Corporation

7.1.3 General Electric Corporation

7.1.4 Emerson Electric Company

7.1.5 Honeywell International Inc.

7.1.6 Bruel & Kjaer Sound & Vibration Measurement

7.1.7 Meggit PLC

7.1.8 Analog Devices Inc.

7.1.9 SPM Instrument AB

7.1.10 Schaeffler AG

7.1.11 STMicroelectronics

7.1.12 PCB Piezotronics Inc.

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 7.1.13 Banner Engineering
- 7.1.14 SKF
- 7.1.15 Azima DLI Corporation
- 7.1.16 Data Physics Corporation

8 INVESTMENT ANALYSIS

9 FUTURE OF THE MARKET

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

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

Market Report | 2023-01-23 | 100 pages | Mordor Intelligence

To place an Order with Scotts International:

- Print this form
- Complete the relevant blank fields and sign
- Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	\$4750.00
	Team License (1-7 Users)	\$5250.00
	Site License	\$6500.00
	Corporate License	\$8750.00
		VAT
		Total

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>
Zip Code*	<input type="text"/>	Country*	<input type="text"/>
		Date	<input type="text" value="2026-03-08"/>
		Signature	

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

