

# **Condition Monitoring Equipment Market Forecasts to 2032 – Global Analysis By Equipment Type (Vibration Monitoring Systems, Corrosion Monitoring Instruments, Thermography Devices, Lubricant Analysis Tools, and Ultrasound Emission Detectors), Monitoring Process, Technology, Application, End User and By Geography**

<https://marketpublishers.com/r/CC9979E7FE27EN.html>

Date: September 2025

Pages: 200

Price: US\$ 4,150.00 (Single User License)

ID: CC9979E7FE27EN

## **Abstracts**

According to Statistics MRC, the Global Condition Monitoring Equipment Market is accounted for \$2.79 billion in 2025 and is expected to reach \$4.85 billion by 2032 growing at a CAGR of 8.2% during the forecast period. Condition monitoring equipment consists of instruments and technologies designed to continuously assess the operational state of machines. These devices monitor factors like vibration, heat, pressure, and lubrication to identify irregularities or early signs of deterioration. By providing predictive insights, they enable industries to prevent unexpected breakdowns, improve efficiency, and schedule timely maintenance. This proactive approach enhances safety, minimizes repair costs, prolongs equipment life, and ensures seamless performance across diverse sectors such as manufacturing, energy, and transportation.

According to Cisco, by the end of 2022, machine-to-machine (M2M) connections supporting IoT applications accounted for more than half of the world's 28.5 billion connected devices.

Market Dynamics:

Driver:

## Increasing adoption of Industry 4.0 and IoT technologies

As industrial automation gains momentum, companies are increasingly integrating smart sensors and IoT platforms into their maintenance workflows. These technologies enable real-time data collection, predictive analytics, and remote diagnostics, enhancing operational efficiency. Industry 4.0 initiatives are driving demand for condition monitoring systems that support machine learning and cloud connectivity.

Manufacturers are prioritizing digital transformation to reduce downtime and optimize asset performance. The shift toward intelligent factories is accelerating the deployment of advanced monitoring tools across sectors like manufacturing, energy, and transportation. As a result, IoT-enabled condition monitoring is becoming a cornerstone of modern industrial strategy.

### Restraint:

#### Lack of skilled workforce

The complexity of modern monitoring systems requires specialized training in software platforms, signal processing, and equipment diagnostics. This talent gap slows implementation and limits the full potential of condition monitoring technologies. Smaller firms, in particular, face challenges in recruiting and retaining skilled personnel, which can hinder scalability. To overcome this, companies must invest in workforce development and cross-functional training programs. Without a robust talent pipeline, adoption of advanced monitoring solutions may remain uneven across industries.

### Opportunity:

#### Advancements in wireless and cloud-based monitoring

Recent innovations in wireless sensor networks and cloud computing are transforming how equipment health is tracked and managed. These systems eliminate the need for complex wiring, enabling flexible deployment in remote or hazardous environments. Cloud platforms offer scalable data storage and analytics, supporting centralized monitoring across multiple facilities. Integration with AI and machine learning allows for predictive insights and automated alerts, reducing maintenance costs. Enhanced connectivity also facilitates mobile access and real-time collaboration among maintenance teams. These developments open new avenues for condition monitoring in sectors like oil & gas, mining, and smart infrastructure.

Threat:

### Rapid technological obsolescence

The fast pace of innovation in sensor design, analytics software, and connectivity standards can render existing systems outdated within a few years. Companies may face high upgrade costs or compatibility issues when newer technologies emerge. Frequent changes in protocols and hardware specifications can disrupt long-term planning and procurement strategies. Smaller vendors may struggle to keep pace, leading to market consolidation and reduced diversity. Additionally, legacy systems may lack support for newer features, limiting integration with modern platforms. This constant evolution poses risks for buyers seeking stable, future-proof solutions.

### Covid-19 Impact

The pandemic disrupted manufacturing operations and supply chains, delaying installations and maintenance schedules for condition monitoring systems. Travel restrictions and workforce shortages impacted field service availability and slowed new deployments. However, the crisis highlighted the value of remote diagnostics and predictive maintenance, especially in critical infrastructure. Demand for contactless monitoring and cloud-based platforms surged as companies adapted to remote work environments. Sectors like healthcare, utilities, and logistics accelerated investment in smart maintenance tools to ensure operational continuity. Post-pandemic recovery is expected to further boost adoption, with resilience and automation becoming top priorities.

The vibration monitoring systems segment is expected to be the largest during the forecast period

The vibration monitoring systems segment is expected to account for the largest market share during the forecast period, due to its widespread use in rotating machinery and critical assets. These systems offer early detection of mechanical faults such as imbalance, misalignment, and bearing wear. Their reliability and cost-effectiveness make them a preferred choice across industries like manufacturing, power generation, and oil & gas. Continuous improvements in sensor accuracy and data analytics are enhancing diagnostic capabilities. Integration with wireless and cloud platforms is expanding their applicability in remote and harsh environments. As predictive maintenance becomes mainstream, vibration monitoring remains a foundational

technology.

The IoT-enabled monitoring platforms segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the IoT-enabled monitoring platforms segment is predicted to witness the highest growth rate, driven by their ability to deliver real-time insights and remote accessibility. These systems leverage cloud computing, edge analytics, and AI to optimize equipment performance and reduce downtime. Their scalability and interoperability make them ideal for multi-site operations and complex asset networks. Rising demand for smart factories and digital twins is fueling adoption across sectors like automotive, aerospace, and utilities. Enhanced cybersecurity and data integration features are addressing concerns around digital transformation. As industries embrace predictive intelligence, IoT platforms are becoming central to next-gen maintenance strategies.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share due to rapid industrialization, infrastructure expansion, and strong manufacturing activity. Countries like China, India, and Japan are investing heavily in smart factory initiatives and automation. The region's growing energy and transportation sectors are driving demand for reliable condition monitoring solutions. Government policies promoting digitalization and equipment safety are further supporting market growth. Local manufacturers are increasingly adopting predictive maintenance to improve productivity and reduce operational costs.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR, fuelled by early adoption of advanced technologies and strong R&D capabilities. The region's focus on asset reliability and operational efficiency is driving investment in predictive maintenance tools. Key industries such as aerospace, oil & gas, and utilities are embracing IoT and AI-powered monitoring platforms. Regulatory standards around workplace safety and equipment performance are encouraging proactive maintenance strategies. Collaborations between tech firms and industrial players are accelerating innovation in sensor design and analytics.

Key players in the market

Some of the key players profiled in the Condition Monitoring Equipment Market include SKF Group, Azima DLI, Emerson Electric Co., Schaeffler Group, Honeywell International Inc., Meggitt PLC, General Electric (GE), Bruel & Kjaer Vibro, Siemens AG, FLIR Systems Inc., ABB Ltd., AMETEK Inc., Rockwell Automation Inc., Parker Hannifin Corp., and National Instruments Corp.

#### Key Developments:

In July 2025, Emerson announced a strategic partnership with product engineering and digital services leader Tata Technologies to innovate integrated testing and validation solutions for global OEMs in the automotive, aerospace and commercial vehicle sectors.

In May 2025, SKF announced a partnership with wave energy technology development company Carnegie Clean Energy Limited to deliver Carnegie's CETO's Power Take-Off (PTO) system. CETO is a unique, fully submerged, point absorber type wave energy technology where a submerged buoy sits a few metres below the surface of the ocean and moves with the ocean's waves.

#### Equipment Types Covered:

Vibration Monitoring Systems

Corrosion Monitoring Instruments

Thermography Devices

Lubricant Analysis Tools

Ultrasound Emission Detectors

#### Monitoring Processes Covered:

Online Continuous Monitoring

Remote Monitoring Systems

## Portable/Offline Monitoring

### Technologies Covered:

Wireless Condition Monitoring

Cloud-Based Monitoring Solutions

IoT-Enabled Monitoring Platforms

Edge Computing Integration

AI-Based Predictive Analytics

### Applications Covered:

Rotating Equipment

Electrical Systems

HVAC Systems

Heavy-Duty Industrial Assets

Production Line Machinery

Other Applications

### End Users Covered:

Oil & Gas

Power Generation

Manufacturing

Automotive & Transportation

Marine

Aerospace & Defense

Mining & Metals

Other End Users

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032

- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

### **Free Customization Offerings:**

All the customers of this report will be entitled to receive one of the following free customization options:

#### Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

#### Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

#### Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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