

# Wireless Vibration Sensor Market Forecasts to 2032 – Global Analysis By Sensor Type (Accelerometers, Velocity Sensors, Displacement Sensors and MEMS Sensors), Application and By Geography

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## Abstracts

According to Statistics MRC, the Global Wireless Vibration Sensor Market is accounted for \$1.59 billion in 2025 and is expected to reach \$2.58 billion by 2032 growing at a CAGR of 7.2% during the forecast period. Wireless vibration sensors are compact, battery-powered devices used to monitor the vibration levels of machinery and equipment without the need for physical wiring. These sensors are essential to predictive maintenance because they can identify abnormalities like imbalance, misalignment, or bearing failures before them result in expensive downtime. Moreover, real-time data is sent to cloud-based platforms or central monitoring systems for analysis through the use of wireless communication protocols such as Bluetooth, Zigbee, or Wi-Fi. In sectors like manufacturing, oil and gas, energy, and transportation, where continuous monitoring of rotating or moving components is crucial for operational efficiency and safety, their simplicity of installation, adaptability, and scalability make them perfect for use.

According to the U.S. Department of Energy (DOE), predictive maintenance technologies, including wireless vibration sensors, can reduce maintenance costs by 8-12% and decrease unplanned downtime by 30-50%.

Market Dynamics:

Driver:

Growing interest in predictive maintenance

Industries are implementing predictive maintenance techniques to identify wear and malfunction early on as operational efficiency becomes more and more important. This is made possible in large part by wireless vibration sensors, which continuously check the state of rotating machinery like compressors, pumps, and motors. To anticipate possible failures before they happen, these sensors record vibration data, which is subsequently processed using algorithms. Additionally, predictive maintenance is a key market driver since it lowers unscheduled downtime, prolongs equipment life, and saves money on expensive emergency repairs.

#### Restraint:

##### Restricted battery life and upkeep needs

Wireless vibration sensors still have a limited battery life, despite advances in battery technology. Replacing or charging batteries can be expensive, time-consuming, and labor-intensive in many industrial settings where round-the-clock monitoring is necessary, particularly for sensors positioned in hazardous or difficult-to-reach areas. Furthermore, long-term deployments are restricted by this problem, which also raises questions regarding sensor reliability in crucial applications where uninterrupted uptime is crucial.

#### Opportunity:

##### Growth in hazardous area and remote monitoring

Industries like mining, offshore wind, oil and gas and energy are increasingly working in remote or dangerous areas where manual inspections are expensive, risky, or difficult. In these locations, wireless vibration sensors offer a secure and effective means of keeping an eye on rotating equipment and important assets. Moreover, they enhance safety and operational continuity by reducing the need for on-site staff and enabling continuous, remote condition monitoring through their long-distance data transmission capabilities without the need for physical wiring.

#### Threat:

##### High levels of price pressure and market competition

The market for wireless vibration sensors is getting oversaturated with both well-

established companies and up-and-coming startups providing comparable products. Due to increased price competition, businesses are forced to reduce their margins in order to remain competitive. To preserve market share, businesses must therefore make significant investments in marketing, support services, and innovation. Additionally, this competitive environment may limit long-term viability and profitability for small or new entrants, particularly if they are unable to differentiate themselves through performance, features, or integration capabilities.

#### Covid-19 Impact:

The COVID-19 pandemic affected the wireless vibration sensor market in a variety of ways. Sensor production and deployment in a number of industries were initially slowed by supply chain interruptions, labour shortages, and the temporary closure of manufacturing facilities. But as businesses looked to reduce on-site staff and ensure business continuity during lockdowns, the pandemic also hastened the adoption of remote monitoring technologies. Furthermore, this change demonstrated the usefulness of wireless vibration sensors in facilitating automated predictive maintenance. As businesses adjusted to the new normal, demand increased, particularly in industries where continuous operations were essential, such as energy, pharmaceuticals, and food processing.

The accelerometers segment is expected to be the largest during the forecast period

The accelerometers segment is expected to account for the largest market share during the forecast period. These sensors' high accuracy and dependability in measuring vibrations make them popular in a variety of industries. Accelerometers are frequently incorporated into machinery and equipment condition monitoring systems to help identify problems early and avoid unscheduled downtime. They are perfect for evaluating mechanical movements in rotating machinery such as motors, pumps, and fans because they measure changes in velocity when vibrations occur. Moreover, their extensive use in sectors like manufacturing, energy, automotive, and aerospace can be attributed to their adaptability, affordability, and simplicity of integration into wireless networks.

The predictive maintenance segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the predictive maintenance segment is predicted to witness the highest growth rate. The growing need across industries to lower maintenance costs

and operational downtime has given this segment a lot of traction. Predictive maintenance systems rely heavily on wireless vibration sensors to monitor the health of machinery and equipment in real time. These sensors enable companies to plan maintenance before a failure happens, reducing unscheduled downtime and prolonging asset lifecycles by identifying early indicators of wear, misalignment, or imbalance. Additionally, this market is expanding quickly due to the increasing use of Industrial Internet of Things (IIoT) technologies, improvements in sensor accuracy, and the demand for affordable maintenance solutions.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, driven by robust demand from sectors like aerospace, automotive, energy, and manufacturing. Major industrial players are increasingly implementing wireless vibration sensors for asset management, machine condition monitoring, and predictive maintenance, demonstrating the region's status as a center for technological innovation. Key manufacturers' presence and large investments in IIoT technologies have contributed to the market's expansion. Furthermore, there is a significant need for advanced vibration monitoring solutions due to the high operational efficiency and decreased downtime requirements faced by North American industries.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR. Rapid industrialization and the uptake of cutting-edge technologies are occurring in the region, especially in nations like China, India, and Japan. Cost-effective and effective monitoring solutions are becoming more and more in demand as sectors like manufacturing, automotive, energy, and construction continue to expand. Predictive maintenance systems are increasingly incorporating wireless vibration sensors to lower maintenance expenses and operational downtime. Additionally, the market is expanding due to the increased focus on Industry 4.0 initiatives and smart factories.

Key players in the market

Some of the key players in Wireless Vibration Sensor Market include Baker Hughes Company, Omron Corporation, National Instruments Inc, Bosch Sensortec, Parker Hannifin, Honeywell International, NXP Semiconductors, Emerson Electric, SKF Group, Rockwell Automation, TE Connectivity, Siemens, PCB Piezotronics Inc, Yokogawa Electric Corporation and Wilcoxon Sensing Technologies.

### Key Developments:

In April 2025, Omron Corporation and Cognizant have signed a strategic partnership to integrate Information Technology (IT) and Operational Technology (OT) in the manufacturing industry. The collaboration includes Cognizant being chosen as the engineering partner for OMRON's Industrial Automation Business (IAB) products.

In March 2025, Baker Hughes announced a joint technology development program with Petrobras to provide a definitive solution for stress corrosion cracking due to CO<sub>2</sub> in flexible pipe systems. The pre-commercial agreement encompasses development and testing, as well as a purchase option of the resulting next-generation flexible pipes, which will have an extended service life of 30 years in high-CO<sub>2</sub> environments.

In July 2024, Parker Hannifin Corporation announced it has signed an agreement to divest its North America Composites and Fuel Containment (CFC) Division to private investment firm SK Capital Partners. With the completion of this transaction the company will have successfully divested businesses and product lines over the past three years that total nearly \$450 million in annual sales.

### Sensor Types Covered:

Accelerometers

Velocity Sensors

Displacement Sensors

MEMS Sensors

### Applications Covered:

Machine Condition Monitoring

Structural Health Monitoring

Automotive Testing

Aerospace & Defense Monitoring

Predictive Maintenance

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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