US Vibration Sensors - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

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Report description:

The US Vibration Sensors Market is expected to register a CAGR of 6.9% during the forecast period.

Key Highlights
- There is an increased use of electric vehicles in the United States, with an estimated 1% of automotive sales in the US market. This is set to significantly augment the demand for MEMS sensors designed for automotive applications.
- Moreover, companies in the region are also growing due to high demand from the oil and gas sector within and outside the United States. The largest global producers of oil are the United States, Russia, and Saudi Arabia. The leading companies in the market focus on providing an overall solution to these high-growth markets such as these. According to Baker Hughes, the number of oil and gas wells to be drilled in the United States is expected to reach a count of 22,600 by 2022.
- According to Environment Impact Assessment, most US oil and natural gas production comes from wells that provide between 100 barrels of oil equivalent per day (BOE/d) and 3,200 BOE/d. This will have an impact on oil prices. Therefore the industry is leveraging technology to automate processes and for optimal maintenance of heavy machinery. This is further expected to enhance the growth prospects for vibration sensors.
- However, The spread of COVID-19 has disrupted global financial and commodity markets and the US oil and gas industry, now showing a decrease in energy demand. In an industry used to the highs and lows of economic and commodity price cycles, the year 2020 poses great challenges to oil and gas companies, and there might be a financial cut in terms of investments in technology and thus vibration sensors.
- In order to cater to the rapidly increasing demand, the major players are trying to maintain their dominance through strategic partnerships, mergers, acquisitions, and product innovations.
- For instance, in June 2020, Apple Inc. previewed watchOS 7, delivering enhanced customization tools and robust health and fitness features to one of the most advanced smartwatches. By detecting micro-movements from the device's accelerometer, that

signals respiration during sleep. The watch intelligently captures when the user is sleeping and the sleeping time for every night. The user will see a visualization of their previous night's sleep, including periods of wake and sleep in the morning. It will also show a chart of their weekly sleep trend.

US Vibration Sensors Market Trends

Aerospace & Defense End User to Hold Significant Share

- The harsh and complex operating environment characterizes the aerospace industry. An accelerometer is one of the most common inertial sensors used in this sector as they are dynamic and are capable of sensing a vast range.?
- The defense application is expected to create a significant demand for accelerometers, owing to the increasing adoption of high-end accelerometers in small-diameter missiles, underwater navigators, and unmanned aerial vehicles, also increasing beneficiaries of high-end MEMS sensors in military applications.?
- Moreover, accelerometers are commonly used for aerospace and aviation applications to measure and understand performance criteria. Further, these are used to ensure that the operational specifications are satisfied.?
- Most of the accelerometers are Micro-Electro-Mechanical Sensors (MEMS technology) based. The MEMS provides low-power, ultra-low mass components that may be included in a variety of aerospace systems. Compared to others, aerospace-specific MEMS are limited by the relatively small size of the aerospace vehicle market. The MEMS devices or systems can control, actuate, and sense on the micro-scale and produce effects on the macro scale. ?
- These sensors can be deployed in military camps, public buildings, airports, and other strategic locations. Moreover, for military applications, miniaturized MEMS sensors demand is increasing. ?
- For instance, Honeywell provides Q-FLEX accelerometers for aerospace inertial navigation, guidance, and control, which feature a patented Q-Flex etched-quartz-flexure seismic system, and their amorphous quartz proof-mass structure provides excellent bias, scale factor, and axis alignment stability. The company's Q-FLEX QA3000, QA2000, QA750, and QA650 series are used extensively in avionics.?

Consumer Electronics to Show Significant Growth

- The rise in preference toward using smart electronic devices, growing middle-class, rising disposable income of consumers, and changing lifestyle preferences are some of the major factors driving the demand for consumer electronics, which has an indirect impact on the growth of vibration sensors.
- These sensors are used in consumer electronics for vibration detection to reduce noise and maintenance. When a PC Notebook falls, vibration and shock sensors are used to protect the data of HDDs.
- The sensors are used to detect changes in orientation and screen rotation and detect motion in three directions. The application of vibration sensors in consumer electronics is increasing as the sensors are used to calibrate the position, motion, and acceleration, with which the orientation of the phone and the changes in the screen rotation, images, and various features can be known for user purposes.
- For instance, in June 2021, Fluke Reliability, an operating company of Fluke Corporation, is proud to announce its newest product, the Fluke 3563 Analysis Vibration Sensor system. Vibration monitoring helps maintenance teams reduce unplanned downtime and prevent potentially catastrophic failures from occurring, but it has been difficult or cost-prohibitive to monitor every tier of an asset.

US Vibration Sensors Industry Overview

The United States Vibration sensor market is highly competitive. In terms of market share, few of the major players currently dominate the market. However, with innovative and sustainable packaging, many of the companies are increasing their market presence by securing new contracts and by tapping new markets.

- Mar 2020: TE Connectivity Ltd has completed its public takeover of First Sensor AG. TE now holds 71.87% shares of First Sensor. In combination with First Sensor and TE portfolios, TE will be able to offer a broader product base, including innovative sensors, connectors, and systems, that supports the growth strategy of TE's sensors business and TE Connectivity as a whole.
- Aug 2020: Hansford Sensors Ltd launched a premium intrinsically safe triaxial range is the HS-173I Accelerometers, with PUR cable and conduit. The cable and conduit combination offers impressive compression, impact, and tensile strength. The HS-173I PUR Cable and Conduit is also available with round top design, available to order as HS-173IR. These Intrinsically Safe Triaxials are both certified for use in hazardous environments with European, the United States, and Australian approval. Sealed to IP68 and are available with a choice of options, including a range of operating sensitivities from 10mV/g to 500 mV/g and different mounting threads.

Additional Benefits:

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

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