US Wireless 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 Wireless Sensors Market is expected to register a CAGR of 16.4% during the forecast period.

Key Highlights
- Wireless sensors offer several advantages, such as accuracy and reliability, with the help of various innovative technologies, such as RFID and Bluetooth, in addition to the potential to make electronic devices easy to integrate. As a result, they gained significant traction in the past few years.
- These sensors are primarily used in factory settings for data monitoring of production flow. These also find applications in defense, building automation, and other industries, like materials handling and food and beverage, due to the increasing quest for new energy sources, government regulations, renewable energy development, and rapid technological advancements.
- Due to the increased government regulation in the region for the increased use of the sensor for safety, the demand for wireless sensors is growing. For instance, the areas with challenging environmental conditions, such as extreme high pressure, high temperature, etc. With the help of wireless sensors, it becomes easy to control and monitor the facility from a safe distance continually. They help to acquire the data from locations, which are difficult to access.
- Industry 4.0 revolution, in which machines are becoming more intelligent and intuitive, is increasing the need for the industrial applications of wireless sensors. The new machines are to be designed to be more efficient, safe, and flexible, with the ability to monitor their performance, usage, and failure autonomously. Therefore, these applications spur the demand for highly sensitive sensors.
- The rising adoption of IoT (Internet-of-Things) in the United States is another major factor driving the market's growth. This growth in IoT-connected devices is projected to fuel the demand for wireless sensors.
- Further, transforming the development of smart homes and buildings, smart cities, and smart factories demand the use of wireless sensors, owing to the small form factor, high precision, low power consumption, and ability to control and monitor

ambient parameters (such as humidity, pressure, and air quality) in smart homes with the help of wireless technologies.

US Wireless Sensors Market Trends

Position and proximity sensor is Expected to Hold Significant Market Share

- Position sensors can detect an object's movement or calculate its relative position relative to a known reference point. Sensors of this type can also be used to detect the presence or absence of an object. Many sensor types perform comparable functions to position sensors that are worth mentioning. Motion sensors detect an object's movement and can be utilized to initiate an action. Proximity sensors can also identify when an object enters the sensor's range. As a result, both sensors could be classified as specialized position sensors.
- Wireless position sensors are used in automobiles to determine the steering wheel's position, pedals, seats, and other valves, knobs, and actuators. Position sensors are divided into three categories: angular, rotational, and linear. Wiper-arm potentiometers, optical reflection or imaging, and Hall-effect sensors are among the technologies used to sense position in these sensors.
- To meet industry requirements, the manufacturing business necessitates a high level of precision. To make high-quality products, manufacturers concentrate on two key parameters: measurement precision and thorough inspection. A position sensor monitors several essential properties, including profiling, width, height, step, gap, V-gap, edge, angle, bend, groove, and surface.
- HVAC systems, transportation systems, industrial equipment, mobile hydraulics, smart buildings, heavy-duty gear, and construction equipment can all benefit from these sensors, which detect, measure, and assess the profiles on various object surfaces. When the position sensor is connected with the analytics software, many measurement jobs become more accessible. As a result, the wireless position sensor is ideal for automating, testing, or monitoring operations where displacement, distance, length, or position parameters need to be detected.
- Further, position sensors are made/assembled with various components from several vendors, including position magnets, sensing rods, electronics housing fixtures, diagnostic light-emitting diodes (LEDs), and connectors. Profitability is primarily determined by the availability and cost of raw materials and components, as well as the length of time it takes to bring the finished product to market. The main challenge for enterprises in this area is expanding their manufacturing capabilities, producing higher-quality products, and lowering overall production costs.

Automotive Accounts For the Largest Market Share

- Automotive vehicles have undergone various changes over the last few decades. Previously, cars used to work with basic electrical systems that offered power for headlights and spark plugs. As technology progressed, cars were fitted with the latest gadgets, such as radios, alarms, and wipers. Various technological advancements have also been made for vehicles' safety, such as airbag deployment. The increase in these sensor-dependent features has driven engineers to develop more accurate sensors with automotive applications in mind.
- The automotive sector embraces wireless sensors as they are smaller in size, easy to install, reliable, and self-configuring. They also help to improve performance, reduce cost, and enhance reliability. Companies, such as Premo, a Spain-based company engaged in developing, manufacturing, and selling electronic components, use wireless devices embedded in new generation automobiles by offering a full range of wireless sensors for all types of non-critical systems inside vehicles.
- Further, with the growing demand for such sensors in the United States, companies like Phoenix Sensors, one of the suppliers of wireless sensors in the automotive sector, offer these sensors that help match the demand for wireless technology used in automobiles.

- IRN8WS4 is the only sensor available to perform wireless infrared (IR) tire temperature measurements, and it transmits data to a generic master receiver in 868, 902, or 920-MHz frequencies. It uses a reliable, proven wireless technology, standard in most industrial, scientific, and medical systems, and a miniaturization process that results in compact, lightweight sensors. The sensor allows technicians to measure tire temperatures internally in motorsport as well as automotive R&D labs.
- Moreover, with the increasing use of electric vehicles, technology pioneers like Qualcomm have developed efficient wireless charging technology for cars. This wireless charging technology offers convenience for users to charge their vehicles at wireless charging stations, parking lots, or at home efficiently. The company has also achieved transfer efficiency of more than 90% with a single primary base pad. The company believes that the technology can be further improved for better efficiency and more straightforward implementation in the future.

US Wireless Sensors Industry Overview

The United States wireless sensor is highly competitive owing to multiple vendors providing wireless sensors to the domestic and international markets. The market appears to be moderately fragmented, and the major players with a prominent share in the market are focusing on expanding their customer base across international countries. Additionally, these companies are continuously innovating their products to increase their market share and increase their profitability. Some of the recent developments in the market are:

- August 2021 - A team of researchers from UMass Lowell and Northeastern University developed a wireless sensor network to detect coronavirus in the air, wastewater in real-time. The project is called "DiSenDa," which stands for Disease Surveillance with Multi-Modal Sensor Network and Data Analytics. The probes attached to the sensors have been specifically designed to detect the presence of biomarkers for SARS-CoV-2 in the air and wastewater samples.
- March 2021 - Monnit announced the availability of its ALTA Soil Moisture Sensor to meet the AgriTech market's demands. The innovative Soil Moisture Sensor assists farmers, commercial growers, and greenhouse managers in easily connecting their precision irrigation operations to the Internet of Things (IoT).

Additional Benefits:

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

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