IoT Sensor Market Report and Forecast 2025-2034

Market Report | 2025-08-11 | 170 pages | EMR Inc.

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Report description:

The global IoT sensor market size reached approximately USD 14.84 Billion in 2024. The market is projected to grow at a CAGR of 25.30% between 2025 and 2034, reaching a value of around USD 141.56 Billion by 2034.

IoT sensors are devices that help detect external information and replace it with signals that can be understood and distinguished by humans and machines. Sensors can measure physical phenomena such as pressure or temperature and transform them into electric signals. These are used in a variety of devices such as thermometers, pressure sensors, motion sensors, and gas sensors, among others.

The rapid digitalisation and the rising demand for IoT sensors across industrial sectors, owing to their multifaceted application potential, are projected to augment the global IoT sensor market growth in the forecast period. For instance, the use of IoT sensors in industrial machinery and connected automobiles is witnessing a surge. In addition, IoT sensors also find increased usage in home security and smart devices such as wireless security networks and smart speakers.

Moreover, the increased demand for wearable devices that help monitor physical health, such as heart rate, oxygen levels, and calorie consumption, among others, fuelled by rising disposable incomes and growing health consciousness, is anticipated to aid the market growth in the forecast period. Furthermore, rapid technological advancements are also predicted to positively impact the IoT sensor market development in the coming years.

Key Trends and Developments

Smart cities and infrastructure; advancements in sensor technology; and increased focus on security and privacy are the major trends impacting the IoT sensor market expansion

January, 2024

MeitY Secretary S. Krishnan inaugurated a Centre of Excellence (CoE) focused on Intelligent Internet of Things (IIoT) Sensors, for the development of sensors, in Kerala, India.

November, 2023

Sensry, based in Germany, and LEGIC Identsystems, based in Switzerland, have partnered to develop the NextGenXDK multi-sensor device which enables the quick deployment of a variety of IoT applications.

November, 2023

Worldsensing introduced its latest wireless sensor, the Vibration Meter, which employs a tri-axial accelerometer for vibration measurement and offers an extended battery life and broader communication range.

July, 2023

Weathernews and OMRON collaborated to create a cutting-edge weather IoT sensor called "Soratena Pro," designed to monitor heavy rainfall and strong winds on a minute-by-minute basis.

Smart Cities and infrastructure

The smart city sensors facilitate a wide range of functions, from traffic management to environmental monitoring, improving urban efficiency and sustainability.

Advancements in sensor technology

Innovations like miniaturisation and better power management technologies are making sensors more deployable in various environments.

Increased focus on security and privacy

There is a growing focus on developing secure sensors and networks to protect sensitive data from cyber threats.

Integration with AI and machine learning (MI)

IoT sensors are increasingly being integrated with AI technologies to analyse the massive amounts of data they collect.

IoT Sensor Market Trends

Smart city sensors play a crucial role in transforming urban environments into more efficient, sustainable, and livable spaces. For instance, sensors embedded in roads, traffic lights, and on vehicles collect data on traffic density, speed, and flow patterns. This information is used to optimise traffic light timing and routing to reduce congestion and improve traffic flow.

Key players in the IoT sensor market are launching state-of-the-art IoT sensors for several end-use sectors. Weathernews, a leading weather forecasting company, and OMRON, a renowned technology firm, joined forces in July 2023 to develop a state-of-the-art weather IoT sensor named "Soratena Pro" which is expected to enhance the accuracy and timeliness of weather data.

Market Segmentation

"IoT Sensor Market Report and Forecast 2025-2034" offers a detailed analysis of the market based on the following segments:

Market Breakup by Type

- Temperature
- Flow
- Pressure
- Others

Market Breakup by Application

- Industrial
- Automotive
- Building Automation
- Healthcare
- Security
- Retail and Logistics
- Agriculture
- Others

Market Breakup by Region

- North America
- Europe
- Asia Pacific
- Latin America
- Middle East and Africa

Temperature sensors account for a major IoT sensor market share due to their growing usage in a wide array of end-use sectors

Temperature sensors are crucial in a vast array of industries, including manufacturing, automotive, healthcare, and consumer electronics. They are used for process control, environmental monitoring, and safety measures across these sectors. Their wide range of applications from simple home uses in smart thermostats to complex industrial processes makes them incredibly versatile and in high demand. Temperature sensors are fundamental in smart home systems, particularly in HVAC systems, which contribute to energy efficiency and comfort.

Pressure sensors are critical in industrial sectors such as automotive, aerospace, oil and gas, and water management as they are used to monitor and control fluid/gas pressure, which is essential for operational safety and efficiency.

The automotive sector maintains its dominance in the market as sensors are increasingly used for enhancing vehicle performance and regulating its safety

Based on application, the automotive segment is anticipated to possess a considerable market share in the IoT sensor market. This can be attributed to the rising consumer demand for automobiles and the growing technological advancements. In addition, the increased demand for connected vehicle solutions to provide improved connectivity with compatible smart devices for

in-vehicle infotainment is also anticipated to aid the segment's growth.

Moreover, the growing demand for improved safety mechanisms is also leading to the increased adoption of IoT sensor-based systems. For instance, advanced driver assistance systems (ADAS) offer ease of parking and notify the driver of any oncoming obstacles, especially in blind spots. These factors are predicted to aid market growth in the forecast period.

The industrial sector is anticipated to gain sizeable growth in the IoT sensors market as it makes extensive use of IoT sensors for a variety of applications including machine monitoring, predictive maintenance, and process optimisation.

IoT Sensor Market Analysis by Region

North America is projected to possess a healthy share of the IoT sensor sector in the forecast period. This growth can be attributed to the presence of the leading market players in the region. The increased adoption of IoT sensors across industrial sectors in the region is also projected to contribute to market growth. Furthermore, increased adoption of wearable devices by consumers, such as smartwatches, is anticipated to add to the market growth in the forecast period.

The demand for IoT sensor market in the Asia Pacific region is also experiencing robust growth. Many countries in Asia, such as China, India, and South Korea, are aggressively investing in smart city projects and these projects require a vast array of IoT sensors for traffic management, waste management, energy conservation, and public safety.

Competitive Landscape

The market players are increasing their collaboration and research and development activities to gain a competitive edge in the IoT sensor market

ABB Ltd

ABB Ltd is a global leader in electrical engineering, primarily known for its robotics, power, heavy electrical equipment, and automation technology areas.

Texas Instruments Incorporated

Texas Instruments Incorporated, designs and fabricates analogue ICs and embedded processors, which are integral to electronic devices in use today.

TE Connectivity

TE Connectivity is a technology company that designs and manufactures connectivity and sensor products for harsh environments.

Schneider Electric SE

Schneider Electric SE is a multinational company that specialises in electrical power products, systems, and solutions.

Market players like Omron Corporation, among other are focused on expanding their presence across various end-use sectors to enhance their overall market share.

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