Global Sensors Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The sensors market is expected to register a CAGR of 7.59% during the forecast period. The emergence of automation may augment the demand for sensors as they play a vital part in detecting, analyzing, measuring, and processing several transformations, like alteration in position, length, height, exterior, and dislocation in industrial manufacturing sites.

Key Highlights
Increasing sensor compatibility with the Internet of Things (IoT) platform is gradually becoming a prerequisite for facilitating remote monitoring and control. The IoT-connected devices have opened massive opportunities for sensors in several applications like industrial, medical, consumer electronics, automotive, etc. According to Cisco's Annual Internet Report, by 2023, there are expected to be nearly 30 billion network-connected devices and connections, up from 18.4 billion in 2018. By 2023, IoT devices are expected to make up 50% (14.7 billion) of all networked devices, up from 33% (6.1 billion) in 2018. Such an increase in IoT devices would drive the growth of the studied market.
Furthermore, the adoption of sensors depends on the penetration of robotics across end-user industries. The robotics market has been experiencing a significant transformation, with robotics increasing beyond the workhorses of the industrial shop floors and beginning to adopt the roles of personal assistants, surgical assistants, autonomous vehicles, delivery vehicles, exoskeletons, and crewless aerial vehicles, among multiple other uses. Such applications widen the scope of operation for sensors.?
Technological advancement in sensor technology has enabled automated devices to intelligently interpret images, sound, and other data without potent processing. Furthermore, the increasing demand for IoT and connected devices propel the demand for sensors.
Although the integration of sensors increases the industrial automation level, it incurs an additional cost, which limits the use in cost-sensitive applications. In addition, the high development costs involved in the R&D activities to manufacture new products are a critical challenge, mainly for the cash-deficient small and medium-sized sensor manufacturers.

The government instructions, like social distancing and lockdowns during the COVID-19 pandemic, pushed industries to adopt robots to continue the production flow by following government instructions. For instance, according to the World Robotics 2021 report by IFR, the electrical and electronic industry witnessed the largest installation of industrial robots, 109,000 in 2020, increasing significantly after its decline from 89,000 in the previous years.

Sensors Market Trends

Emergence of Automation and Industry 4.0 to Drive the Market Growth

Reliability, accuracy, and longevity are the key features provided by sensors to support the smart industry. For Industry 4.0, sensors may be applied in early-failure-detection and predictive-maintenance systems where vibration, temperature, pressure, sound, and acoustics analyses are needed, thus, driving its usage in automation and Industry 4.0 applications.
Due to Industry 4.0 and the acceptance of IoT, massive shifts in manufacturing require enterprises to adopt agile, more intelligent, and innovative ways to advance production with technologies that complement and augment human labor with automation and reduce industrial accidents caused due to process failure. With the high adoption rate of connected devices and sensors and the enabling of M2M communication, there has been an increase in the data points generated in the manufacturing industry.
The market is also getting increasingly competitive, with various established and new players developing and launching more unique products in the automation market. For instance, in July 2022, Universal Robots unveiled a new 20kg payload cobot to help machines in heavy lifting. The launch of these more potent, faster, and more capable cobots aims at accelerating the company's expansion in high-growth segments, including healthcare, consumer goods, electronics, food and beverage, logistics, etc., meeting the rising demand for automation across numerous industries.
The developed infrastructure for automation in the united states is also attracting players to invest in smart factory solutions. For instance, in December 2021, Deloitte announced Siemens Digital Industries Software had signed on as a founding sponsor of The Smart Factory At Wichita, the firm's new Industry 4.0 immersive experience center. The Smart Factory Wichita is a 60,000-square-foot sustainable space on the Innovation Campus of Wichita State University. The Smart Factory features a fully functional production line and hands-on labs for creating and testing smart factory capabilities.

Asia-Pacific to Account for a Significant Share in the Market

With the advancements of Advanced Driver Assistance Systems (ADAS) in the automotive markets, the automotive sensor demand has been growing similarly to provide accurate and precise detection of vehicles' surroundings by combining data from multiple sensors, such as radar, cameras, and LiDAR (Light Detection and Ranging). The growing demand for ADAS systems in vehicles is expected to promote the adoption of sensors.
Similarly, the increase in the demand and production of automobiles in the Asian-Pacific region is expected to promote growth in the need for sensors in the market. For instance, as per the International Organization of Motor Vehicle Manufacturers (OCIA), the total production of automotive (including cars and commercial vehicles) in India increased to 30%, total production of automotive (including cars and commercial vehicles) in China increased to 3%. Indonesia's total automotive output (including cars and commercial vehicles) increased to 63%. Various companies have expanded their presence in Asia-Pacific in response to such growth potential.
In August 2022, Renesas Electronics Corporation, a premier supplier of advanced semiconductor solutions, agreed to acquire Steradian Semiconductors Private Limited. This fabless semiconductor company provides 4D imaging radar solutions based in Bengaluru, India. The acquisition of Steradian's radar technology would enable Renesas to extend its market presence in the radar market and boost its industrial and automotive sensing solution offerings.

Moreover, with this acquisition, the company aims to expand its leadership in the automotive segment. Renesas may also leverage Steradian's technology for industrial applications to support its long-term and mid-term business growth in the industrial and automotive sensing industries.

Sensors Market Competitor Analysis

The increasing presence of prominent manufacturers in the sensor industry is expected to intensify competitive rivalry during the forecast period. Market incumbents, such as Texas Instruments Incorporated, TE Connectivity Inc., Omega Engineering Inc, etc., considerably influence the overall market. ?

August 2022 - Sick AG and Aeva, a lidar, sensing, and perception systems developer, agreed to a multi-year collaboration to integrate Aeva's FMCW (frequency-modulated continuous wave) 4D lidar into a variety of industrial sensing applications, beginning with Aeries II. This collaboration is a significant step forward in advancing high-performance and dependable FMCW-based sensing across various industrial applications.
February 2022 - BOSCH introduced the BMP384, a robust barometric pressure sensor that provides market-leading accuracy in a compact package. In conjunction with the required integration concept, the new sensor's innovative package design employs a special gel to protect it against the ingress of primary water and other liquids and dust. OEMs may easily integrate a barometric sensor into products that require high robustness.

Additional Benefits:

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

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