

Sensor Fusion: Global Market Outlook

Market Research Report | 2023-02-09 | 65 pages | BCC Research

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Report description:

Description

Report Scope:

This report has segmented the market based on sensor type, technology type, industry and geography. The report provides an overview of the global Market for Sensor Fusion and analyzes market trends. Using 2021 as the base year, the report provides estimated market data for the forecast period from 2022 to 2027. Revenue forecasts for this period are segmented by sensor type, technology type, industry and geography. Market values have been estimated based on the total revenue of sensor fusion solution providers.

The report covers the market for sensor fusion regarding the user base across different regions. It also highlights major trends and challenges that affect the market and the vendor landscape. The report estimates the global market for sensor fusion in 2021 and provides projections for the expected market size through 2027.

Report Includes:

- A comprehensive overview of the global market outlook for sensor fusion (SF) process
- Analyses of the global market trends, with historic market revenue for 2021 and 2022, estimates for 2023, and projections of compound annual growth rates (CAGRs) through 2027
- Highlights of the upcoming market potential for sensor fusion, industry growth drivers, and areas of focus to forecast this market into various segments and subsegments
- Estimation of the actual market size and revenue forecast for sensor fusion market in USD million values, and its corresponding market share analysis based on the technology, sensor type, end-user industry, and region
- Discussion of the current and future market potential for sensor fusion, along with a detailed analysis of the competitive

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environment, industry trends, opportunities and gaps estimating the demand, penetration of technologies within the industry
- Identification of the major stakeholders and analysis of the company competitive landscape based on their recent developments, financial performance, and segmental revenues

Executive Summary

Summary:

Sensors are currently employed in practically every industry, including consumer electronic devices, large-scale industrial facilities and automotive. A single sensor may produce useful data on its own, but consider the data that could be gathered by integrating the output from several sensors at once. If the whole is bigger than the sum of its component parts, this would provide users with a much better representation of the world around us. This feat can be achieved through a mechanism called "sensor fusion." This is the technique of combining data from various sensors to produce a more precise depiction of the desired object or scene.

The concept behind sensor fusion is that each individual sensor has both advantages and disadvantages; the objective is to benefit from each sensor's advantages and minimize any uncertainty to provide an accurate model of the environment being researched. The hardware and software industries both need to progress for sensor fusion to function well. Hardware-wise, sensor technology keeps improving in terms of technology advancements and miniaturization. Higher performance in sensor fusion models is naturally supported by more precise, widely accessible data. On the software side, digital signal processing offers important benefits by swiftly combining enormous amounts of data. Processing power also expands quickly, but data storage alternatives (e.g., the cloud) are essential to the development of sensor fusion approaches.

The use of sensor fusion is crucial in the industry of autonomous vehicles. By comprehending a vehicle's exact location, rate of movement and direction, fusion algorithms assist in shifting objects out of the way. Thus, sensor fusion maximizes the safety of autonomous vehicles. The most obvious use of sensor fusion may be in autonomous vehicles, but it has applications in any field in which it is necessary to combine data from numerous sources. Businesses are also taking into account its potential application in brand-new fields, including public safety, wearable technology, industrial automation and wastewater management.

The global market for sensor fusion was estimated to be worth \$REDACTED in 2021. The market is projected to grow at a compound annual growth rate (CAGR) of REDACTED%, and it is forecast to reach \$REDACTED by 2027. Increasing government initiatives to create more autonomous vehicles and companies focusing on investing in research and development are some of the major factors driving the sensor fusion demand. Growth in the adoption of connected technologies in consumer electronics industries is also fueling the growth for the sensor industry.

Based on sensor type, the market has been segmented into inertial combo sensors; light detecting and ranging (LiDAR) + radar + image sensors; inertial measurement unit (IMU) + global positioning system (GPS); temperature and pressure sensor; and others. Based on the technology type, the Market for Sensor Fusion has been segmented into microelectromechanical systems (MEMS) and non-MEMS. Based on the industry, the market has been segmented into automotive, consumer electronics, healthcare, industrial and others.

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