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

Market Report | 2023-01-23 | 90 pages | Mordor Intelligence

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Report description:

The automotive sensors market was valued at USD 27.51 billion in 2021 and is expected to register a value of USD 59.12 billion in 2027 and is expected to record a CAGR of 13.60% during the forecast period (2022-2027).

The outbreak and the wide spread of the pandemic negatively affected the automotive sensors market, resulting in decreased demand for automotive sensors. Major manufacturers shut down their manufacturing plants, which disrupted the supply chain, likely affecting the market growth.

Automotive sensors are an integral part of a vehicle, which are designed to detect, transmit, analyze, record, and display vehicle performance information of the internal and external environment of the vehicle. With the increasing popularity of vehicle automation and the growing demand for connected cars across the world, the demand for automotive sensors is expected to grow significantly during the forecast period.

The major trends driving the global automotive sensors market are miniaturization and improved communication capabilities, which enable their integration into vehicles without interfering with the basic functionalities of the vehicle. The increasing demand for safety and security in automobiles is the main factor driving the market's growth.

Automotive Sensors Market Trends

Increasing Demand for Pressure Sensors

Pressure sensors are becoming an integral part of engine and safety. Within the engine, the sensors monitor the oil and coolant

pressure and regulate the power that the engine delivers to achieve the required speed, whenever the accelerator or brake pedals are applied.

Rising adoption of ADAS and autonmous driving systems is the major reason for the elevated demand for automotive sensors which in turn is likely to increase the demand for pressure sensor. Rise in demand for comfort and safety features in vehicle is likely to increase the penetration of pressure sensors in vehicle.

Additionally, in the case of safety features, pressure sensors constitute an essential part of the anti-lock braking system (ABS). This system adapts to the road terrain and ensures that, in case of braking at high speeds, tires do not lock, and the vehicle does not skid.

Pressure sensors in the ABS, inform the processor of the road conditions, as well as, the speed with which the vehicle is moving.

Furthermore, airbag systems also use pressure sensors to activate airbags, and to ensure the safety of the passengers and the driver, whenever a vehicle experiences a crash impact.

Pressure sensors are being extensively used in onboard vehicle diagnostics and test equipment by OEMs and race teams. Pressure sensors are digitally reinforced to gauge the absolute pressure ranges, depending on the application.

With the rapid increase in the integration of safety systems in vehicles, especially in North America and Europe, the demand for and the usage of these sensors will increase significantly during the forecast period.

Asia-Pacific Dominates the market

Asia-Pacific held a major market share in terms of revenue during the forecast period. A rise in vehicle sales across the region is likely to increase the demand for sensors in the vehicle. The rise in demand for electric vehicles across the region is also propelling the growth of the market. The major presence of manufacturing industries across China, India, and Japan is creating market growth opportunities.

Due to increasing urbanization and stable economic conditions, automotive production in developing economies is growing faster than in developed economies. With an increase in the safety concerns among the consumers in the developing economies of India and the ASEAN countries, automobile manufacturers are incorporating more sensors in low-cost vehicles. It is expected to drive the demand for automotive sensors in the foreseeable future.

The Indian government's move to make the installation of some automotive sensors mandatory will aid the increased usage and demand for automotive sensors in all of the vehicle segments in the Indian automotive market. For instance, the Union Road Transport Ministry approved that all the cars manufactured after 1st July 2019 will have to be equipped with airbags, seat-belt reminders, alert systems for speed beyond 80 kph, reverse parking sensors, and a manual override over the central locking system for emergencies.

There is the rapid integration of high-value sensing modules, like RADAR, imaging, and LIDAR in automotive systems. The advent of electric vehicles will significantly change the amount and the distribution of pressure and magnetic sensors within the car in the long term. More electric cars will mean fewer pressure sensors and a surge in magnetic sensors for battery monitoring and various positioning and detection of moving pieces.

Automotive Sensors Market Competitor Analysis

The leading automotive technology manufacturers are increasingly investing in R&D projects and making deals with other leading technology manufacturers.

For instance, Panasonic, a leading automotive technology provider, has developed the latest drowsiness-detection technology. This technology analyzes a person's level of drowsiness by accurately calculating the driver's state without any physical contact. An in-vehicle camera will capture the blinking features and facial expressions, and these signals will be processed using artificial intelligence. The technology also contains a thermal sensation monitoring function, allowing the driver to stay awake while driving.

Additional Benefits:

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

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