

# **Sensor Market for Automated Vehicles by Component (Hardware, Software), Offering, Software, Level of Autonomy (L2+, L3, L4), Propulsion (ICE, Electric), Vehicle Type, Sensor Platform Approach, Sensor Fusion Process and Region - Global Forecast to 2030**

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## **Abstracts**

The Sensor Market for automated vehicles is projected to grow from USD 0.4 Billion in 2022 to USD 19.1 Billion by 2030, registering a CAGR of 62.6%. The growing demand of safer, efficient and fuel efficient vehicles have accelerated the growth of sensor market for automated vehicles. With the rapid setup of connected vehicle infrastructure worldwide, demand for automated vehicles such as passenger cars and commercial vehicles is also expected to increase. Technological breakthroughs in ADAS components and other automated driving technologies have made it possible to have safer and more convenient mode of transportation. The sensor market for automated vehicles is dominated by established players such as Robert Bosch GmbH (Germany), Continental AG (Germany), ZF Friedrichshafen AG (Germany), DENSO (Japan), and NXP Semiconductors (Netherlands), among others. These players have worked on providing hardware and software components for autonomous vehicle ecosystem. They have initiated partnerships to develop their technology and provide best-in-class products to their customers.

“Passenger Cars to be the largest segment in market during the forecast period”

The passenger cars segment is estimated to lead the market during the forecast period due to the higher profitability of using L3 and L4 technology in luxury-segment passenger vehicles in the initial years of autonomous vehicle technology development. The demand for autonomy in commercial vehicles is also expected to grow rapidly in the coming years, with an increasing demand for road safety and regulations by

countries to prevent accidents from commercial vehicles. Autonomy in the commercial vehicle segment can be seen post-2024, mainly in Europe and North America. Companies such as Stellantis are planning to launch autonomous vans in 2024. Bus manufacturers are already working on autonomous shuttles across Europe.

However, trucks are expected to skip L3 and go straight for L4 autonomous driving, as mentioned by leading players such as Daimler and Volvo. Several automakers, such as Nissan, Tesla, BMW, Mercedes-Benz, Hyundai, and Audi, have already started the development of advanced autonomous applications for their passenger cars. For instance, in December 2021, Mercedes-Benz started offering automated driving technology called DRIVE PILOT in its EQS models in the first half of 2022 and on its S Class Model in select countries. The OEM claimed that these cars can commute at a speed of 60 kmph in heavy traffic or congested situations or stretches. Similarly, Hyundai Group announced its plan to launch two passenger car models with L3 autonomy level. Hyundai Motor's Genesis G90 sedan and Kia's EV9 will be launched with an L3 autonomy level in 2023.

“Mid-level Fusion to lead demand for sensor market for automated vehicles during the forecast period”

Mid-level fusion segment is expected to grow at the highest rate during the forecast period. The rise in traffic congestion, the development of roadway infrastructure, and the increasing government regulations for vehicle safety have resulted in the increased installation of sensors and sensing fusion platforms in vehicles by OEMs. In addition, the increasing focus by urban municipal authorities to develop intelligent transportation systems where vehicles are more connected will be a major boost in the development of real-time safety features. Mid-level sensor fusion in autonomous vehicles refers to the integration of multiple sensors and algorithms that aim to provide a comprehensive and accurate understanding of the vehicle's surroundings. This includes data from cameras, LiDAR, radars, GPS, and other sensors, which are then processed and combined to produce a high-fidelity representation of the environment.

The mid-level sensor fusion platform acts as an intermediary between the low-level sensor data and high-level decision-making systems in autonomous vehicles. Mid-level sensor fusion systems enable AVs to better detect and track objects, such as other vehicles, pedestrians, and road signs, thereby improving the overall safety of the autonomous system. By fusing data from multiple sensors, mid-level sensor fusion also provides a more complete picture of the environment, allowing AVs to make better decisions and improve situational awareness. They also reduce the potential for errors

and improve the reliability of the autonomous system, making them less likely to fail in challenging situations. By processing sensor data in real time, mid-level sensor fusion also reduces the latency between detecting an object and responding to it, allowing AVs to react more quickly to changing road conditions. Companies such as AEye, AutonomouStuff, Continental AG, and DENSO offer mid-level fusion technologies for autonomous vehicle applications.

In-depth interviews were conducted with CEOs, marketing directors, other innovation and technology directors, and executives from various key organizations operating in this market.

By Respondent Type: Tier I – 67%, Tier II and Tier III – 9%, and OEMs – 24%

By Designation: CXOs – 33%, Managers – 52%, Executives – 15%

By Region: North America – 26%, Europe – 30%, Asia Pacific – 35%, Rest of the World – 9%

The sensor market for automated vehicles is dominated by established players such as Robert Bosch GmbH (Germany), Continental AG (Germany), ZF Friedrichshafen AG (Germany), DENSO (Japan), and NXP Semiconductors (Netherlands), among others. They have worked on providing offerings for the sensor market for automated vehicles ecosystem. They have initiated partnerships to develop their automated driving technologies and offer best-in-class products to their customers.

#### Research Coverage:

The report covers the sensor market for automated vehicles based on component, offering, software, propulsion, level of autonomy, vehicle type, sensor platform approach, sensor fusion process, and region (North America, Europe, Asia-Pacific and Rest of the World). It covers the competitive landscape and company profiles of the major players in the sensor market for automated vehicles ecosystem.

The study also includes an in-depth competitive analysis of the key market players, their company profiles, key observations related to product and business offerings, recent developments, and key market strategies.

#### Key Benefits of Buying the Report:

*Sensor Market for Automated Vehicles by Component (Hardware, Software), Offering, Software, Level of Autonomy...*

This report will help market leaders/new entrants in this market with information on the closest approximations of revenue numbers for the overall sensor market for automated vehicles ecosystem and its subsegments.

This report will help stakeholders understand the competitive landscape and gain more insights to better position their businesses and plan suitable go-to-market strategies.

This report will also help stakeholders understand the market's pulse and provide information on key market drivers, restraints, challenges, and opportunities.

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