

Collision Avoidance Sensors Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Technology (Radar, LiDAR, Ultrasound, Others), By Application (Adaptive Cruise Control, Blind Spot Detection, Forward Collision Warning System, Lane Departure Warning System, Parking Assistance, Others), By Industry Vertical (Marine, Aerospace and Defense, Automotive, Others), By Region, By Competition, 2020-2030F

Market Report | 2025-11-24 | 185 pages | TechSci Research

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Report description:

Market Overview

The Global Collision Avoidance Sensors Market, valued at USD 10.48 Billion in 2024, is projected to experience a CAGR of 14.27% to reach USD 23.33 Billion by 2030. Collision avoidance sensors are technological systems employing radar, LiDAR, cameras, and ultrasonic sensors to detect obstacles and avert potential collisions in vehicles and other machinery. The market's expansion is fundamentally driven by increasingly stringent global automotive safety regulations that mandate advanced safety features.

Key Market Drivers

The increasing stringency of vehicle safety regulations and mandates globally significantly propels the collision avoidance sensors market. Governments and regulatory bodies continually update safety standards, making advanced safety features compulsory to reduce road fatalities and injuries. For instance, according to the European Union, new safety features are required in all new car types from July 2024, including advanced emergency braking detecting cars, pedestrians, and bicycles, as part of the General Safety Regulation. Such mandates directly necessitate the integration of various sensors, including radar, lidar, and cameras, into new vehicles to meet performance requirements for systems like automatic emergency braking and lane keeping assistance, thereby fostering consistent demand.

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Key Market Challenges

A significant impediment to the growth of the Global Collision Avoidance Sensors Market is the susceptibility of these sensors to environmental factors. Adverse weather conditions such as heavy rain, snow, or fog can cause a substantial degradation in the performance of radar, LiDAR, camera, and ultrasonic sensors. This diminished operational capability directly compromises detection accuracy and overall system reliability, leading to inconsistent safety feature performance in varying real-world driving environments.

This inconsistency directly hampers market expansion by undermining consumer confidence in Advanced Driver-Assistance Systems (ADAS) and limiting the widespread adoption of collision avoidance technologies. Automotive manufacturers encounter a technical barrier in ensuring the consistent functionality of these systems across diverse climatic regions, which affects their integration into new vehicle models.

Key Market Trends

Advanced Multi-Sensor Fusion for Superior Perception is a pivotal trend, improving the accuracy and reliability of environmental awareness by combining data from diverse sensor types such as radar, LiDAR, and cameras. This integrated approach mitigates the individual limitations of sensors, offering a more robust and comprehensive understanding of dynamic environments crucial for collision avoidance. For example, a 2023 IEEE Sensors Journal paper highlighted adaptive multi-sensor fusion for intelligent vehicle localization, demonstrating enhanced robustness and accuracy by identifying useful information from various sensor measurements. According to the European Automobile Manufacturers Association, approximately 82% of passenger cars produced in Europe in 2024 were equipped with Level 1 or Level 2 autonomous driving capabilities, which rely heavily on sensor fusion technologies.

Key Market Players

- Continental AG
- Robert Bosch GmbH
- Aptiv PLC
- Luminar Technologies Inc
- Aeva Inc.
- Mobileye Global Inc.
- NXP Semiconductors N.V.
- Infineon Technologies AG
- STMicroelectronics International N.V.
- Denso Corporation

Report Scope:

In this report, the Global Collision Avoidance Sensors Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

-□ Collision Avoidance Sensors Market, By Technology:

- o Radar
- o LiDAR
- o Ultrasound
- o Others

-□ Collision Avoidance Sensors Market, By Application:

- o Adaptive Cruise Control
- o Blind Spot Detection
- o Forward Collision Warning System
- o Lane Departure Warning System
- o Parking Assistance
- o Others

-□ Collision Avoidance Sensors Market, By Industry Vertical:

- o Marine

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- o Aerospace and Defense
- o Automotive
- o Others

-□ Collision Avoidance Sensors Market, By Region:

- o North America
 - United States
 - Canada
 - Mexico
- o Europe
 - France
 - United Kingdom
 - Italy
 - Germany
 - Spain
- o Asia Pacific
 - China
 - India
 - Japan
 - Australia
 - South Korea
- o South America
 - Brazil
 - Argentina
 - Colombia
- o Middle East & Africa
 - South Africa
 - Saudi Arabia
 - UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies presents in the Global Collision Avoidance Sensors Market.

Available Customizations:

Global Collision Avoidance Sensors Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

-□ Detailed analysis and profiling of additional market players (up to five).

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