

## Advanced Driver Assistance Systems Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

Market Report | 2023-11-02 | 145 pages | IMARC Group

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#### Report description:

The global advanced driver assistance systems market size reached US\$ 25.8 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 46.2 Billion by 2028, exhibiting a growth rate (CAGR) of 10.2% during 2022-2028. The implementation of stringent safety regulations, increasing incidences of road accidents, rapid technological advancements, and growing demand for enhanced driving comfort and safety features are some of the major factors propelling the market.

Advanced driver assistance systems (ADAS) refer to technologically sophisticated solutions employed in vehicles to enhance safety and driving comfort. It includes lane departure warning, automatic emergency braking, adaptive cruise control, and parking assistance. These systems are comprised of cameras, sensors, artificial intelligence (AI) algorithms, and other components to gather, interpret, and respond to real-time data from the vehicle and its surroundings. ADAS is widely used for collision avoidance, pedestrian detection, traffic sign recognition, blind-spot detection, and drowsy driver detection. It aids in reducing road fatalities, improving traffic flow, lowering fuel consumption, and decreasing carbon dioxide emissions.

The increasing demand for enhanced driving comfort and safety features, owing to the escalating awareness among vehicle owners regarding safety standards, is catalyzing the market growth. Furthermore, the progression towards autonomous vehicles is positively influencing the market growth. ADAS is considered an important intermediate step towards fully autonomous driving, leading to increased investment in this technology by key players in the automobile industry. Moreover, the implementation of favorable policies by insurance companies to provide discounted deals for vehicles equipped with ADAS is stimulating the market growth. Apart from this, the emerging trends of urbanization and smart cities, which emphasize intelligent transport systems, are facilitating the adoption of ADAS, as these technologies align with the concept of smart mobility. Other factors, including rising vehicle electrifications, increasing investment in the development of advanced ADAS, and rapid infrastructural improvement activities, are anticipated to drive the market growth.

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Advanced Driver Assistance Systems Market Trends/Drivers:

The implementation of stringent safety regulations

The imposition of stringent safety regulations by governmental bodies and international regulatory organizations around the world is a pivotal factor in propelling the market growth. Authorities across the globe have mandated or highly recommended the use of certain ADAS technologies due to their proven ability to reduce road accidents. These mandates include requirements for systems such as electronic stability control, lane departure warning, pedestrian detection, collision detection, and automatic emergency braking. The increased emphasis on safety standards pushes automobile manufacturers to incorporate more ADAS features in their vehicles. Furthermore, the move toward the standardization of ADAS technologies also encourages their adoption, as it helps to overcome compatibility and interoperability challenges. As regulations continue to evolve, the demand for ADAS is expected to increase, shaping the future of the automotive industry.

The increasing incidences of road accidents

The surge in road accidents globally due to distracted driving, speeding, weather conditions, alcohol consumption, and human error is a significant driving force behind the expanding market. ADAS technologies, such as lane departure warning, collision warning, and blind-spot detection, are specifically designed to counteract common driving errors and improve overall road safety. These systems work by providing real-time feedback and alerts to the driver and taking corrective actions when dangerous situations arise. Furthermore, the rising awareness about the role of ADAS in preventing accidents has led to increased consumer demand for such features in vehicles. This, in turn, encourages automotive manufacturers to invest more in ADAS technology development and integration, consequently expanding the market.

Rapid technological advancements

Recent advancements in technology, including artificial intelligence (AI), machine learning (ML), sensor technology, and data analytics, are playing a crucial role in enhancing ADAS functionality and reliability. Modern ADAS relies on advanced sensors, such as radio detection and ranging (RADAR), light detection and ranging (LIDAR), ultrasonic, and camera systems, to collect data about the vehicle's environment. Advanced artificial intelligence (AI) algorithms interpret this data, enabling the system to respond appropriately to a wide variety of driving situations. Furthermore, the introduction of advanced communication technologies such as Vehicle-to-Vehicle (V2V) and Vehicle-to-Infrastructure (V2I) also contribute to the effectiveness of ADAS, offering real-time traffic and environmental information, which further improves the safety and efficiency of these systems. As technology continues to evolve, the ADAS will become more advanced and widespread, effectively propelling the growth of the ADAS market.

Advanced Driver Assistance Systems Industry Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the global advanced driver assistance systems market report, along with forecasts at the global, regional and country levels from 2023-2028. Our report has categorized the market based on solution type, component type and vehicle type.

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Breakup by Solution Type:

Adaptive Cruise Control
Blind Spot Detection System
Park Assistance
Lane Departure Warning System
Tire Pressure Monitoring System
Autonomous Emergency Braking

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Adaptive Front Lights
Others

Tire pressure monitoring system dominates the market

The report has provided a detailed breakup and analysis of the market based on the solution type. This includes adaptive cruise control, blind spot detection system, park assistance, lane departure warning system, tire pressure monitoring system, autonomous emergency braking, adaptive front lights, and others. According to the report, the tire pressure monitoring system represented the largest market segment.

The tire pressure monitoring system (TPMS) is dominating the market owing to the enhanced safety regulations and standards worldwide, which mandate the installation of TPMS in new vehicles to ensure safety and reduce accidents caused by improperly inflated tires. Furthermore, a well-maintained TPMS significantly enhances fuel efficiency and extends tire life. It also alerts drivers when the tire pressure is too low, enabling prompt corrective action, which can save fuel and decrease tire wear. Apart from this, the technology behind TPMS is mature and cost-effective compared to some other ADAS technologies. This ease of integration and affordability make TPMS an attractive feature for automotive manufacturers aiming to enhance the safety profile of their vehicles without significantly increasing costs.

Breakup by Component Type:
Processor
Sensors
Radar
Ultrasonic
LiDAR

Sensors dominate the market

Others Software Others

The report has provided a detailed breakup and analysis of the market based on the component type. This includes processor, sensors (radar, ultrasonic, lidar, and others), software, and others. According to the report, sensors represented the largest market segment.

Sensors play a pivotal role in advanced driver assistance systems (ADAS) due to their crucial function in collecting real-time data from the vehicle's environment. This data is fundamental to the functioning of ADAS as it enables these systems to identify potential hazards, navigate the road, and make informed decisions. Different types of sensors, such as RADAR, LIDAR, ultrasonic, and camera sensors, each with their unique capabilities, allow ADAS to monitor various aspects of the vehicle's surroundings. Furthermore, the increasing trend towards higher-level automation in vehicles necessitates the use of more advanced and diversified sensor systems, which is driving the demand for sensors in ADAS. Moreover, the rapid evolution of sensor technology, which includes advancements in sensor fusion where data from different sensors are combined for more accurate and reliable perception, further contributes to their dominance in the market.

Breakup by Vehicle Type:

**Passenger Cars** 

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#### Commercial Vehicles

#### Passenger cars dominate the market

The report has provided a detailed breakup and analysis of the market based on vehicle type. This includes passenger cars and commercial vehicles. According to the report, passenger cars represented the largest market segment.

Passenger cars are dominating the market as they make up the largest segment of the automotive market globally. This prevalence inherently results in a higher demand for ADAS in passenger cars compared to other vehicle types. Furthermore, consumer demand for safety and comfort in personal transportation is driving manufacturers to integrate more ADAS features in passenger cars. Features such as parking assistance, automatic emergency braking, and blind-spot detection are becoming increasingly standard in new models, even in non-luxury passenger cars. Additionally, the implementation of stringent safety regulations and standards mandating the inclusion of certain ADAS features in passenger cars is boosting the market growth. Moreover, insurance companies are increasingly offering lower premiums for passenger cars equipped with ADAS, providing a financial incentive for consumers to opt for these systems.

#### Breakup by Region:

North America

**United States** 

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

Asia Pacific exhibits a clear dominance in the market, accounting for the largest advanced driver assistance systems market share

The report has also provided a comprehensive analysis of all the major regional markets, which includes North America (the United States and Canada); Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Europe (Germany,

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France, the United Kingdom, Italy, Spain, Russia, and others); Latin America (Brazil, Mexico, and others); and the Middle East and Africa. According to the report, Asia Pacific represented the largest market segment.

The Asia Pacific region is dominating the market due to the presence of a large automotive industry. The region boasts a robust presence of key automotive manufacturers and suppliers, creating a conducive environment for the growth and adoption of ADAS. In addition, local manufacturers are increasingly integrating ADAS in vehicles, owing to the rising consumer demand for safety and advanced features. Moreover, regional governments are implementing stricter safety regulations and promoting the adoption of ADAS to reduce road fatalities, which, in turn, pushes automakers to equip their vehicles with these systems. Besides this, the region is also witnessing rapid urbanization, which is driving the demand for smarter and safer transportation systems. Along with this, the Asia Pacific region is experiencing significant advancements in infrastructure, such as 5G networks and improved road systems, which enhance the effectiveness of ADAS, further propelling its adoption.

#### Competitive Landscape:

The leading players in the market are heavily investing in research and development (R&D) to introduce cutting-edge technologies, enhance system efficiency, and reduce costs. They are focusing on innovations in areas such as artificial intelligence (AI), machine learning (ML), and sensor fusion to advance ADAS capabilities. Furthermore, companies are forming strategic partnerships and collaborations with automakers and other industry stakeholders to share expertise and accelerate the development of ADAS. Besides this, the leading companies are bolstering their manufacturing and supply chain to meet the growing demand for ADAS. This includes scaling production, optimizing processes, and strengthening relationships with suppliers. Moreover, key market players are working closely with regulatory bodies to ensure their systems meet evolving safety standards. They are actively involved in discussions and consultations related to future regulations and standards for ADAS and autonomous vehicles.

The report has provided a comprehensive analysis of the competitive landscape in the global advanced driver assistance systems market. Detailed profiles of all major companies have also been provided. Some of the key players in the market include:

Autoliv Inc.
Continental AG
Denso Corporation
Hyundai Mobis Co. Ltd (Hyundai Motor Group)
Magna International Inc.
Mobileye (Intel Corporation)
Robert Bosch GmbH
Texas Instruments Incorporated
Valeo
ZF Friedrichshafen AG

#### **Recent Developments:**

In Jan 2023, Continental AG announced a partnership with Ambarella Inc. to develop end-to-end hardware and software solutions for ADAS systems.

In April 2021, Denso Corporation announced that it had delivered ADAS products for the new Lexus LS and Toyota Mirai advanced drive system.

In November 2021, Hyundai Mobis Co. Ltd (Hyundai Motor Group) announced that it had developed the world?s first urban ADAS called Mobis Parking System (MPS).

Key Questions Answered in This Report

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- 1. What was the size of the global advanced driver assistance systems market in 2022?
- 2. What is the expected growth rate of the global advanced driver assistance systems market during 2023-2028?
- 3. What are the key factors driving the global advanced driver assistance systems market?
- 4. What has been the impact of COVID-19 on the global advanced driver assistance systems market?
- 5. What is the breakup of the global advanced driver assistance systems market based on the solution type?
- 6. What is the breakup of the global advanced driver assistance systems market based on the component type?
- 7. What is the breakup of the global advanced driver assistance systems market based on the vehicle type?
- 8. What are the key regions in the global advanced driver assistance systems market?
- 9. Who are the key players/companies in the global advanced driver assistance systems market?

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