

# **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**

<https://marketpublishers.com/r/SBE800BEC569EN.html>

Date: March 2023

Pages: 288

Price: US\$ 4,950.00 (Single User License)

ID: SBE800BEC569EN

## **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.

## Contents

### 1 INTRODUCTION

#### 1.1 STUDY OBJECTIVES

#### 1.2 MARKET DEFINITION

TABLE 1 MARKET DEFINITION: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY COMPONENT

TABLE 2 MARKET DEFINITION: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY OFFERING

TABLE 3 MARKET DEFINITION: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY SOFTWARE

TABLE 4 MARKET DEFINITION: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY

TABLE 5 MARKET DEFINITION: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY PROPULSION

TABLE 6 MARKET DEFINITION: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY VEHICLE TYPE

TABLE 7 MARKET DEFINITION: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY SENSOR PLATFORM APPROACH

TABLE 8 MARKET DEFINITION: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY SENSOR FUSION PROCESS

##### 1.2.1 INCLUSIONS AND EXCLUSIONS

TABLE 9 INCLUSIONS AND EXCLUSIONS

#### 1.3 MARKET SCOPE

FIGURE 1 MARKETS COVERED

##### 1.3.1 REGIONS COVERED

##### 1.3.2 YEARS CONSIDERED

#### 1.4 CURRENCY CONSIDERED

TABLE 10 CURRENCY EXCHANGE RATES

#### 1.5 STAKEHOLDERS

### 2 RESEARCH METHODOLOGY

#### 2.1 RESEARCH DATA

FIGURE 2 SENSORS MARKET FOR AUTONOMOUS VEHICLES: RESEARCH DESIGN

FIGURE 3 RESEARCH DESIGN MODEL

##### 2.1.1 SECONDARY DATA

2.1.1.1 Key secondary sources

2.1.1.2 Key data from secondary sources

2.1.2 PRIMARY DATA

2.1.2.1 Primary interviews from demand and supply sides

2.1.2.2 Key industry insights and breakdown of primary interviews

FIGURE 4 KEY INDUSTRY INSIGHTS

FIGURE 5 BREAKDOWN OF PRIMARY INTERVIEWS

2.1.2.3 List of primary participants

2.2 MARKET SIZE ESTIMATION

FIGURE 6 RESEARCH METHODOLOGY: HYPOTHESIS BUILDING

2.2.1 BOTTOM-UP APPROACH

FIGURE 7 BOTTOM-UP APPROACH

2.2.2 TOP-DOWN APPROACH

FIGURE 8 TOP-DOWN APPROACH

FIGURE 9 SENSORS MARKET FOR AUTONOMOUS VEHICLES: RESEARCH DESIGN & METHODOLOGY

2.2.3 RECESSION IMPACT ANALYSIS

2.3 DATA TRIANGULATION

FIGURE 10 DATA TRIANGULATION METHODOLOGY

FIGURE 11 MARKET GROWTH PROJECTIONS FROM DEMAND-SIDE DRIVERS AND OPPORTUNITIES

2.4 FACTOR ANALYSIS

2.4.1 FACTOR ANALYSIS FOR MARKET SIZING: DEMAND AND SUPPLY SIDES

2.5 RESEARCH ASSUMPTIONS

2.6 RESEARCH LIMITATIONS

### **3 EXECUTIVE SUMMARY**

FIGURE 12 SENSORS MARKET FOR AUTONOMOUS VEHICLES: MARKET OVERVIEW

FIGURE 13 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (THOUSAND UNITS)

FIGURE 14 SENSORS MARKET FOR AUTONOMOUS VEHICLES: ONGOING MARKET TRENDS

FIGURE 15 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY HARDWARE, 2022–2030

### **4 PREMIUM INSIGHTS**

#### 4.1 ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN SENSORS MARKET FOR AUTONOMOUS VEHICLES

FIGURE 16 INCREASING FOCUS ON SAFER VEHICLES AND ADVANCEMENTS IN VEHICLE TECHNOLOGY TO DRIVE MARKET

#### 4.2 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY COMPONENT

FIGURE 17 SOFTWARE SEGMENT TO REGISTER HIGHER CAGR THAN HARDWARE SEGMENT DURING FORECAST PERIOD

#### 4.3 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY OFFERING

FIGURE 18 RADAR SENSORS SEGMENT TO LEAD MARKET DURING FORECAST PERIOD

#### 4.4 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY SOFTWARE

FIGURE 19 MIDDLEWARE SEGMENT TO GROW AT HIGHEST RATE DURING FORECAST PERIOD

#### 4.5 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY

FIGURE 20 L3 SEGMENT TO LEAD MARKET DURING FORECAST PERIOD

#### 4.6 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY PROPULSION

FIGURE 21 ELECTRIC SEGMENT TO GROW AT HIGHER RATE THAN ICE SEGMENT DURING FORECAST PERIOD

#### 4.7 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY VEHICLE TYPE

FIGURE 22 PASSENGER CARS TO LEAD MARKET DURING FORECAST PERIOD

#### 4.8 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY SENSOR PLATFORM APPROACH

FIGURE 23 MID-LEVEL FUSION SEGMENT TO REGISTER HIGHEST GROWTH RATE DURING FORECAST PERIOD

#### 4.9 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY SENSOR FUSION PROCESS

FIGURE 24 FEATURE-LEVEL FUSION SEGMENT TO LEAD MARKET DURING FORECAST PERIOD

#### 4.10 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION

FIGURE 25 EUROPE ESTIMATED TO ACCOUNT FOR LARGEST MARKET SHARE IN 2022

## 5 MARKET OVERVIEW

### 5.1 INTRODUCTION

### 5.2 MARKET DYNAMICS

FIGURE 26 SENSORS MARKET FOR AUTONOMOUS VEHICLES: MARKET DYNAMICS

## 5.2.1 DRIVERS

5.2.1.1 Growing penetration of ADAS safety features

TABLE 11 SAFETY FEATURES UNDER DEVELOPMENT

FIGURE 27 ADAS FEATURE OFFERING BY VEHICLE HARDWARE

5.2.1.2 Advancements in automotive sensor technology

FIGURE 28 VAYYAR 4D IMAGING RADAR SYSTEM

5.2.1.3 Development of autonomous commercial vehicles

FIGURE 29 DAIMLER L4 TRUCK ARCHITECTURE

5.2.1.4 Government initiatives for road safety

TABLE 12 GLOBAL REGULATIONS AND INITIATIVES FOR DRIVER ASSISTANCE SYSTEMS

## 5.2.2 RESTRAINTS

5.2.2.1 Lack of standardization in software architecture/hardware platforms

FIGURE 30 SENSOR INTERFACE STANDARDIZATION AT DIFFERENT STANDARDIZATION LEVELS

5.2.2.2 Insufficient infrastructure for vehicle connectivity

5.2.2.3 Increase in cybersecurity threats due to advancements in connectivity technology

## 5.2.3 OPPORTUNITIES

5.2.3.1 Growing development in autonomous space

5.2.3.2 Rising popularity of electric vehicles

FIGURE 31 EV SALES (2010–2021)

5.2.3.3 Increasing adoption of 5G and connectivity

FIGURE 32 5G NETWORK SERVICES IN DIFFERENT COUNTRIES

## 5.2.4 CHALLENGES

5.2.4.1 Security and safety concerns

5.2.4.2 Environmental constraints in using LiDAR

5.2.4.3 Hard to trade-off between price and overall quality

## 5.2.5 IMPACT OF MARKET DYNAMICS

## 5.3 PORTER'S FIVE FORCES ANALYSIS

TABLE 13 PORTER'S 5 FORCES IMPACT ON THE SENSORS MARKET FOR AUTONOMOUS VEHICLES

FIGURE 33 PORTER'S FIVE FORCES ANALYSIS

5.3.1 THREAT OF NEW ENTRANTS

5.3.2 THREAT OF SUBSTITUTES

5.3.3 BARGAINING POWER OF SUPPLIERS

5.3.4 BARGAINING POWER OF BUYERS

5.3.5 INTENSITY OF COMPETITIVE RIVALRY

## 5.4 VALUE CHAIN ANALYSIS



#### 5.4.1 VALUE CHAIN ANALYSIS: SENSORS MARKET FOR AUTONOMOUS VEHICLES

### 5.5 MACROECONOMIC INDICATORS

#### 5.5.1 GDP TRENDS AND FORECAST FOR MAJOR ECONOMIES

TABLE 14 GDP TRENDS AND FORECAST, BY MAJOR ECONOMIES, 2018–2026 (USD BILLION)

### 5.6 PRICING ANALYSIS

FIGURE 34 SENSORS MARKET FOR AUTONOMOUS VEHICLES: AVERAGE PRICE OF ADAS COMPONENTS

### 5.7 SENSORS MARKET FOR AUTONOMOUS VEHICLES ECOSYSTEM

FIGURE 35 SENSORS MARKET FOR AUTONOMOUS VEHICLES: ECOSYSTEM ANALYSIS

#### 5.7.1 SENSORS

#### 5.7.2 PROCESSORS

#### 5.7.3 SOFTWARE AND SYSTEMS

#### 5.7.4 OEMS

TABLE 15 SENSORS MARKET FOR AUTONOMOUS VEHICLES: ROLE OF COMPANIES IN ECOSYSTEM

### 5.8 KEY STAKEHOLDERS AND BUYING CRITERIA

#### 5.8.1 PASSENGER CARS

#### 5.8.2 COMMERCIAL VEHICLES

#### 5.8.3 KEY STAKEHOLDERS IN BUYING PROCESS

FIGURE 36 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP 2 APPLICATIONS

TABLE 16 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP 2 APPLICATIONS (%)

#### 5.8.4 BUYING CRITERIA

FIGURE 37 KEY BUYING CRITERIA FOR TOP 2 APPLICATIONS

### 5.9 TECHNOLOGY ANALYSIS

#### 5.9.1 SOLID-STATE LIDAR

#### 5.9.2 TERRAIN SENSING SYSTEM FOR AUTONOMOUS VEHICLES

FIGURE 38 TERRAIN SENSING SYSTEM IN JAGUAR LAND ROVER

#### 5.9.3 V2X CONNECTED AUTONOMOUS VEHICLES

#### 5.9.4 AUTOMATED VALET PARKING (AVP)

#### 5.9.5 NIGHT VISION AND THERMAL IMAGING

TABLE 17 TYPES OF NIGHT VISION/THERMAL IMAGING

### 5.10 PATENT ANALYSIS

FIGURE 39 NUMBER OF PUBLISHED PATENTS (2012–2024)

FIGURE 40 NUMBER OF DOCUMENTS

**TABLE 18 IMPORTANT PATENT REGISTRATIONS RELATED TO SENSORS MARKET FOR AUTONOMOUS VEHICLES****5.11 CASE STUDY ANALYSIS**

5.11.1 CASE STUDY 1: DATASPEED AUTONOMOUS VEHICLE SOLUTION

5.11.2 CASE STUDY 2: RENESAS BOOSTS DEEP LEARNING DEVELOPMENT FOR ADAS AND AUTOMATED DRIVING APPLICATIONS

5.11.3 CASE STUDY 3: DEVELOPING AUTONOMOUS DRIVING FOR GLOBAL OEM

5.11.4 CASE STUDY 4: AUTOMATED PARKING FOR STUTTGART AIRPORT

5.11.5 CASE STUDY 5: ZF'S NEW AI-BASED SERVICE FOR ADAS DEVELOPMENT

5.11.6 CASE STUDY 6: OPEN AUTONOMY PILOT FOR US STATE

5.11.7 CASE STUDY 7: TRANSPORTATION FOR THE IMPAIRED

**5.12 REGULATORY OVERVIEW**

5.12.1 REGULATIONS ON AUTONOMOUS VEHICLES USAGE BY COUNTRY

5.12.2 LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 19 NORTH AMERICA: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 20 EUROPE: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 21 ASIA PACIFIC: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

**5.13 TRENDS/DISRUPTIONS IMPACTING CUSTOMER BUSINESS**

FIGURE 41 REVENUE SHIFT FOR SENSORS MARKET FOR AUTONOMOUS VEHICLES

**5.14 RECESSION IMPACT**

5.14.1 INTRODUCTION

5.14.2 REGIONAL MACROECONOMIC OVERVIEW

5.14.3 ANALYSIS OF KEY ECONOMIC INDICATORS

TABLE 22 KEY ECONOMIC INDICATORS FOR SELECT COUNTRIES, 2021–2022

5.14.4 ECONOMIC STAGFLATION (SLOWDOWN) VS. ECONOMIC RECESSION

5.14.4.1 Europe

TABLE 23 EUROPE: KEY ECONOMIC INDICATORS, 2021–2023

TABLE 24 EUROPE: KEY INFLATION INDICATORS, 2021–2023

5.14.4.2 Asia Pacific

TABLE 25 ASIA PACIFIC: KEY ECONOMIC INDICATORS, 2021–2023

TABLE 26 ASIA PACIFIC: KEY INFLATION INDICATORS, 2021–2023

5.14.4.3 Americas

TABLE 27 AMERICAS: KEY ECONOMIC INDICATORS, 2021–2023

TABLE 28 AMERICAS: KEY INFLATION INDICATORS, 2021–2023

#### 5.14.5 ECONOMIC PROJECTIONS

TABLE 29 GDP GROWTH PROJECTIONS FOR KEY COUNTRIES, 2024–2027 (% GROWTH)

5.15 RECESSION IMPACT ON AUTOMOTIVE SECTOR

#### 5.15.1 ANALYSIS OF AUTOMOTIVE VEHICLE SALES

##### 5.15.1.1 Europe

TABLE 30 EUROPE: PASSENGER CAR AND LIGHT COMMERCIAL VEHICLE SALES, BY COUNTRY, 2021–2022

##### 5.15.1.2 Asia Pacific

TABLE 31 ASIA PACIFIC: PASSENGER CAR AND LIGHT COMMERCIAL VEHICLE SALES, BY COUNTRY, 2021–2022

##### 5.15.1.3 Americas

TABLE 32 AMERICAS: PASSENGER CAR AND LIGHT COMMERCIAL VEHICLE SALES, BY COUNTRY, 2021–2022

#### 5.15.2 AUTOMOTIVE SALES OUTLOOK

TABLE 33 PASSENGER CAR AND LIGHT COMMERCIAL VEHICLE PRODUCTION FORECAST, 2022 VS. 2030 (UNITS)

5.16 KEY CONFERENCES AND EVENTS, 2022–2023

TABLE 34 SENSORS MARKET FOR AUTONOMOUS VEHICLES: LIST OF CONFERENCES AND EVENTS

5.17 SENSORS MARKET FOR AUTONOMOUS VEHICLES, SCENARIOS (2022–2030)

#### 5.17.1 MOST LIKELY SCENARIO

FIGURE 42 SENSORS MARKET FOR AUTONOMOUS VEHICLES – FUTURE TRENDS & SCENARIO, 2022–2030 (THOUSAND UNITS)

TABLE 35 SENSORS MARKET FOR AUTONOMOUS VEHICLES (MOST LIKELY), BY REGION, 2022–2030 (THOUSAND UNITS)

#### 5.17.2 OPTIMISTIC SCENARIO

TABLE 36 SENSORS MARKET FOR AUTONOMOUS VEHICLES (OPTIMISTIC), BY REGION, 2022–2030 (THOUSAND UNITS)

#### 5.17.3 PESSIMISTIC SCENARIO

TABLE 37 SENSORS MARKET FOR AUTONOMOUS VEHICLES (PESSIMISTIC), BY REGION, 2022–2030 (THOUSAND UNITS)

## 6 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY COMPONENT

### 6.1 INTRODUCTION

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

FIGURE 43 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY COMPONENT, 2022–2030

TABLE 38 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY COMPONENT, 2022–2030 (USD MILLION)

6.1.1 ASSUMPTIONS

6.1.2 RESEARCH METHODOLOGY

6.2 HARDWARE

6.2.1 GROWING DEMAND FOR ADAS SAFETY SYSTEMS TO DRIVE SEGMENT

TABLE 39 TOP HARDWARE PROVIDERS, 2021

TABLE 40 HARDWARE: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

6.3 SOFTWARE

6.3.1 GROWING DEMAND FOR AUTONOMOUS VEHICLE PLATFORMS AND RELATED SOFTWARE TO DRIVE SEGMENT

TABLE 41 SOFTWARE: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

6.4 KEY INDUSTRY INSIGHTS

## **7 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY OFFERING**

7.1 INTRODUCTION

FIGURE 44 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY OFFERING, 2022–2030

TABLE 42 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY OFFERING, 2022–2030 (THOUSAND UNITS)

TABLE 43 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY OFFERING, 2022–2030 (USD MILLION)

7.1.1 ASSUMPTIONS

7.1.2 RESEARCH METHODOLOGY

7.2 CAMERAS

7.2.1 GROWING DEMAND FOR NIGHT VISION SYSTEMS AND INTELLIGENT PARKING SYSTEMS TO INCREASE DEMAND

TABLE 44 CAMERAS: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (THOUSAND UNITS)

TABLE 45 CAMERAS: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

7.3 CHIPS/SEMICONDUCTORS (ECU, SOC)

7.3.1 GROWING DEMAND FOR ADVANCED AUTOMOTIVE FEATURES TO DRIVE SEGMENT

TABLE 46 CHIPS/SEMICONDUCTORS: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (THOUSAND UNITS)

TABLE 47 CHIPS/SEMICONDUCTORS: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

#### 7.4 RADAR SENSORS

7.4.1 GROWING DEVELOPMENT OF AUTONOMOUS TECHNOLOGY TO INCREASE DEMAND FOR RADAR SYSTEMS IN VEHICLES

TABLE 48 RADAR SENSORS: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (THOUSAND UNITS)

TABLE 49 RADAR SENSORS: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

#### 7.5 LIDAR SENSORS

7.5.1 INCREASING COST-EFFECTIVENESS OF LIDAR SYSTEMS TO INCREASE THEIR DEMAND IN AUTONOMOUS VEHICLES

TABLE 50 LIDAR SENSORS: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (THOUSAND UNITS)

TABLE 51 LIDAR SENSORS: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

#### 7.6 OTHERS

TABLE 52 OTHERS: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (THOUSAND UNITS)

TABLE 53 OTHERS: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

#### 7.7 KEY INDUSTRY INSIGHTS

## 8 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY SOFTWARE

### 8.1 INTRODUCTION

FIGURE 45 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY SOFTWARE, 2022–2030 (USD MILLION)

TABLE 54 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY SOFTWARE, 2022–2030 (USD MILLION)

#### 8.1.1 ASSUMPTIONS

#### 8.1.2 RESEARCH METHODOLOGY

### 8.2 OPERATING SYSTEM

8.2.1 NEED FOR EFFICIENT DATA MANAGEMENT TO INCREASE OPERATING SYSTEM APPLICATION IN AUTONOMOUS VEHICLES

TABLE 55 OPERATING SYSTEM: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

### 8.3 MIDDLEWARE

8.3.1 INCREASED USE OF SENSOR FUSION IN AUTONOMOUS VEHICLE APPLICATIONS TO INCREASE MIDDLEWARE USE

TABLE 56 MIDDLEWARE: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

### 8.4 APPLICATION SOFTWARE

8.4.1 GROWING LEVEL OF AUTOMATION TO INCREASE DEMAND FOR APPLICATION SOFTWARE

TABLE 57 APPLICATION SOFTWARE: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

### 8.5 KEY INDUSTRY INSIGHTS

## 9 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY

### 9.1 INTRODUCTION

FIGURE 46 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

TABLE 58 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

#### 9.1.1 ASSUMPTIONS

#### 9.1.2 RESEARCH METHODOLOGY

### 9.2 L3

9.2.1 INCREASING SAFETY MANDATES TO FUEL DEMAND FOR L3 AUTONOMOUS VEHICLES

TABLE 59 L3: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (THOUSAND UNITS)

### 9.3 L4

9.3.1 GROWING SHIFT TOWARD FULL AUTOMATION TO INCREASE DEMAND FOR SENSORS FOR L4 AUTONOMOUS VEHICLES

TABLE 60 L4: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (THOUSAND UNITS)

### 9.4 L5

9.4.1 DEMAND FOR L5 AUTONOMY IN TAXIS AND PASSENGER VEHICLES TO DRIVE MARKET

TABLE 61 L5: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (THOUSAND UNITS)

### 9.5 KEY INDUSTRY INSIGHTS

## 10 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY PROPULSION

## 10.1 INTRODUCTION

FIGURE 47 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY PROPULSION, 2022–2030 (THOUSAND UNITS)

TABLE 62 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY PROPULSION, 2022–2030 (THOUSAND UNITS)

### 10.1.1 ASSUMPTIONS

### 10.1.2 RESEARCH METHODOLOGY

## 10.2 ICE

10.2.1 INCREASING SAFETY REGULATIONS TO FUEL DEMAND FOR SENSORS IN ICE AUTONOMOUS VEHICLES

TABLE 63 ICE: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (THOUSAND UNITS)

## 10.3 ELECTRIC

10.3.1 ELECTRIFICATION TARGETS BY COUNTRIES TO DRIVE OEMS TOWARD DEVELOPING L4 AND ABOVE FEATURES MAINLY FOR EVS

TABLE 64 ELECTRIC: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (THOUSAND UNITS)

## 10.4 KEY INDUSTRY INSIGHTS

# 11 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY VEHICLE TYPE

## 11.1 INTRODUCTION

FIGURE 48 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY VEHICLE TYPE, 2022–2030 (THOUSAND UNITS)

TABLE 65 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY VEHICLE TYPE, 2022–2030 (THOUSAND UNITS)

### 11.1.1 OPERATIONAL DATA

TABLE 66 UPCOMING AND OPERATIONAL AUTONOMOUS CAR MODELS

### 11.1.2 ASSUMPTIONS

### 11.1.3 RESEARCH METHODOLOGY

## 11.2 PASSENGER CARS

11.2.1 MANDATES FOR LDW, DMS, AND FCW FEATURES TO INCREASE ADAS AND AUTONOMOUS VEHICLE DEMAND IN PASSENGER CARS SEGMENT

TABLE 67 PASSENGER CARS: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (THOUSAND UNITS)

## 11.3 COMMERCIAL VEHICLES

11.3.1 PLANS BY COUNTRIES TO MANDATE ADAS FEATURES TO INCREASE DEMAND FOR AUTONOMOUS COMMERCIAL VEHICLES

TABLE 68 COMMERCIAL VEHICLES: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (THOUSAND UNITS)

11.4 KEY INDUSTRY INSIGHTS

## **12 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY SENSOR PLATFORM APPROACH**

12.1 INTRODUCTION

FIGURE 49 APPLICATIONS OF DIFFERENT SENSOR FUSION LEVELS

FIGURE 50 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY SENSOR PLATFORM APPROACH, 2022–2030 (USD MILLION)

TABLE 69 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY SENSOR PLATFORM APPROACH, 2022–2030 (USD MILLION)

TABLE 70 SENSOR FUSION LEVEL COMPARISON

12.1.1 ASSUMPTIONS

TABLE 71 ASSUMPTIONS: BY SENSOR PLATFORM APPROACH

12.1.2 RESEARCH METHODOLOGY

12.2 LOW-LEVEL FUSION

12.2.1 RAPID DEVELOPMENT OF ADVANCED SENSORS AND NEED FOR ACCURATE OBJECT DETECTION TO DRIVE SEGMENT

TABLE 72 LOW-LEVEL FUSION: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

12.3 MID-LEVEL FUSION

12.3.1 DEMAND FOR SAFETY FEATURES IN VEHICLES TO DRIVE SEGMENT

TABLE 73 MID-LEVEL FUSION: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

12.4 HIGH-LEVEL FUSION

12.4.1 INCREASING DEVELOPMENT OF BASIC SENSOR FUSION IN AUTOMOBILES TO DRIVE SEGMENT

TABLE 74 HIGH-LEVEL FUSION: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

12.5 KEY INDUSTRY INSIGHTS

## **13 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY SENSOR FUSION PROCESS**

13.1 INTRODUCTION

FIGURE 51 APPLICATIONS OF DIFFERENT TYPES OF SENSOR FUSION PROCESSES IN VEHICLE



FIGURE 52 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY SENSOR FUSION PROCESS, 2022–2030 (USD MILLION)

TABLE 75 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY SENSOR FUSION PROCESS, 2022–2030 (USD MILLION)

13.1.1 ASSUMPTIONS

TABLE 76 ASSUMPTIONS: BY SENSOR FUSION PROCESS

13.1.2 RESEARCH METHODOLOGY

13.2 SIGNAL-LEVEL FUSION

13.2.1 DEVELOPMENT OF NEW SENSORS WITH HIGHER ACCURACY AND LOWER COST TO INCREASE DEMAND FOR SIGNAL-LEVEL SENSOR FUSION

TABLE 77 SIGNAL-LEVEL FUSION: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

13.3 OBJECT-LEVEL FUSION

13.3.1 ADVANCEMENTS IN AI TECHNOLOGIES TO DRIVE DEMAND FOR OBJECT-LEVEL SENSOR FUSION

TABLE 78 OBJECT-LEVEL FUSION: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

13.4 FEATURE-LEVEL FUSION

13.4.1 NEED FOR MORE ACCURATE AND RELIABLE DATA FOR DECISION-MAKING IN COMPLEX AND DYNAMIC DRIVING ENVIRONMENTS TO DRIVE SEGMENT

TABLE 79 FEATURE LEVEL FUSION: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

13.5 DECISION-LEVEL FUSION

13.5.1 GOVERNMENT REGULATIONS FOR SAFER DRIVING SYSTEMS AND INCREASING DEMAND FOR AUTONOMOUS TRANSPORTATION TO DRIVE SEGMENT

TABLE 80 DECISION-LEVEL FUSION: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (USD MILLION)

13.6 KEY INDUSTRY INSIGHTS

## **14 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION**

14.1 INTRODUCTION

TABLE 81 PHASES IN AUTONOMOUS VEHICLE DEVELOPMENT AND IMPACTS

FIGURE 53 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (THOUSAND UNITS)

TABLE 82 SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY REGION, 2022–2030 (THOUSAND UNITS)

## 14.2 ASIA PACIFIC

### FIGURE 54 ASIA PACIFIC: SENSORS MARKET FOR AUTONOMOUS VEHICLES SNAPSHOT

TABLE 83 ASIA PACIFIC: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY  
COUNTRY, 2022–2030 (THOUSAND UNITS)

#### 14.2.1 CHINA

14.2.1.1 Increasing deployment of autonomous vehicles for testing by ride-hailing  
aggregators to increase demand for sensors

TABLE 84 KEY COMPANIES IN AUTONOMOUS VEHICLE TECHNOLOGY AND  
THEIR KNOWN PARTNERS IN CHINA

TABLE 85 LIST OF KEY START-UPS IN CHINA

TABLE 86 CHINA: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL  
OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

#### 14.2.2 JAPAN

14.2.2.1 Government initiatives for road safety and push for autonomous vehicles to  
drive market

TABLE 87 LIST OF KEY START-UPS IN JAPAN

TABLE 88 JAPAN: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL  
OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

#### 14.2.3 SOUTH KOREA

14.2.3.1 Government focus on autonomous vehicle deployment to drive market

TABLE 89 LIST OF KEY START-UPS IN SOUTH KOREA

TABLE 90 SOUTH KOREA: SENSORS MARKET FOR AUTONOMOUS VEHICLES,  
BY LEVEL OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

#### 14.2.4 INDIA

14.2.4.1 Increasing prices of petrol and diesel to drive market

TABLE 91 LIST OF KEY START-UPS IN INDIA

TABLE 92 INDIA: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL  
OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

## 14.3 EUROPE

FIGURE 55 EUROPE: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY  
COUNTRY, 2022–2030 (THOUSAND UNITS)

TABLE 93 EUROPE: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY  
COUNTRY, 2022–2030 (THOUSAND UNITS)

#### 14.3.1 GERMANY

14.3.1.1 Strong autonomous vehicle development ecosystem to drive market

TABLE 94 AUTONOMOUS VEHICLE SENSOR AND SENSING PLATFORM START-  
UPS IN GERMANY

TABLE 95 GERMANY: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY

## LEVEL OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

### 14.3.2 FRANCE

14.3.2.1 Government mandates for road safety to increase demand for autonomous vehicle sensing systems

TABLE 96 AUTONOMOUS VEHICLE SENSOR AND SENSING PLATFORM START-UPS IN FRANCE

TABLE 97 FRANCE: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

### 14.3.3 ITALY

14.3.3.1 Growing consumer demand for luxury automobiles with advanced safety features to drive market

TABLE 98 ITALY: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

### 14.3.4 UK

14.3.4.1 Increasing demand for advanced safety and leisure features on luxury vehicles to drive market

TABLE 99 AUTONOMOUS VEHICLE SENSOR AND SENSING PLATFORM START-UPS IN UK

TABLE 100 UK: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

### 14.3.5 REST OF EUROPE

TABLE 101 REST OF EUROPE: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

## 14.4 NORTH AMERICA

FIGURE 56 NORTH AMERICA: SENSORS MARKET FOR AUTONOMOUS VEHICLES SNAPSHOT

TABLE 102 NORTH AMERICA: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY COUNTRY, 2022–2030 (THOUSAND UNITS)

### 14.4.1 US

14.4.1.1 Government support for developing and testing autonomous vehicles to drive market

TABLE 103 AUTONOMOUS VEHICLE SENSOR AND SENSING PLATFORM START-UPS IN US

TABLE 104 US: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

### 14.4.2 CANADA

14.4.2.1 Strong start-up ecosystem and presence of leading tier 1 component manufacturers to drive market

TABLE 105 AUTONOMOUS VEHICLE SENSOR AND SENSING PLATFORM START-

## UPS IN CANADA

TABLE 106 CANADA: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

## 14.5 REST OF THE WORLD

FIGURE 57 REST OF THE WORLD: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY COUNTRY, 2022–2030

TABLE 107 REST OF THE WORLD: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY COUNTRY, 2022–2030 (THOUSAND UNITS)

### 14.5.1 BRAZIL

14.5.1.1 Expansion of R&D centers for autonomous vehicle development due to export demand to drive market

TABLE 108 BRAZIL: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

### 14.5.2 UAE

14.5.2.1 Increasing development in autonomous driving to boost market

TABLE 109 UAE: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

### 14.5.3 OTHERS

TABLE 110 OTHERS: SENSORS MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY, 2022–2030 (THOUSAND UNITS)

## 15 COMPETITIVE LANDSCAPE

### 15.1 OVERVIEW

### 15.2 MARKET RANKING ANALYSIS

FIGURE 58 MARKET RANKING ANALYSIS FOR SENSORS MARKET FOR AUTONOMOUS VEHICLES, 2022

### 15.3 MARKET EVALUATION FRAMEWORK: REVENUE ANALYSIS OF TOP LISTED/PUBLIC PLAYERS

FIGURE 59 TOP PUBLIC/LISTED PLAYERS DOMINATING SENSORS MARKET FOR AUTONOMOUS VEHICLES

### 15.4 COMPETITIVE SCENARIO

#### 15.4.1 DEALS

TABLE 111 DEALS, 2020–2023

#### 15.4.2 PRODUCT DEVELOPMENTS

TABLE 112 NEW PRODUCT DEVELOPMENTS, 2020–2023

#### 15.4.3 OTHERS, 2020–2023

TABLE 113 EXPANSIONS, 2020–2023

### 15.5 COMPETITIVE LEADERSHIP MAPPING FOR SENSORS MARKET FOR

## AUTONOMOUS VEHICLES

### 15.5.1 STARS

### 15.5.2 EMERGING LEADERS

### 15.5.3 PERVASIVE PLAYERS

### 15.5.4 PARTICIPANTS

FIGURE 60 SENSORS MARKET FOR AUTONOMOUS VEHICLES: COMPETITIVE LEADERSHIP MAPPING FOR TOP PLAYERS, 2022

15.6 COMPANY EVALUATION QUADRANT: SENSORS MARKET FOR AUTONOMOUS VEHICLES

TABLE 114 COMPANY PRODUCT FOOTPRINT

15.7 SENSORS MARKET FOR AUTONOMOUS VEHICLES: COMPANY APPLICATION FOOTPRINT FOR MANUFACTURERS, 2022

15.8 SENSORS MARKET FOR AUTONOMOUS VEHICLES: REGIONAL FOOTPRINT FOR MANUFACTURERS, 2022

15.9 COMPETITIVE EVALUATION QUADRANT: SMES AND START-UPS

#### 15.9.1 PROGRESSIVE COMPANIES

#### 15.9.2 RESPONSIVE COMPANIES

#### 15.9.3 DYNAMIC COMPANIES

#### 15.9.4 STARTING BLOCKS

FIGURE 61 SENSORS MARKET FOR AUTONOMOUS VEHICLES: COMPETITIVE LEADERSHIP MAPPING FOR OTHER PLAYERS, 2022

TABLE 115 SENSORS MARKET FOR AUTONOMOUS VEHICLES: DETAILED LIST OF KEY START-UPS

## 16 COMPANY PROFILES

(Business overview, Products offered, Recent developments & MnM View)\*

### 16.1 KEY PLAYERS

#### 16.1.1 ROBERT BOSCH GMBH

TABLE 116 ROBERT BOSCH GMBH: BUSINESS OVERVIEW

FIGURE 62 ROBERT BOSCH GMBH: COMPANY SNAPSHOT

FIGURE 63 BOSCH ADAS SYSTEMS

TABLE 117 ROBERT BOSCH GMBH: PRODUCTS OFFERED

TABLE 118 ROBERT BOSCH GMBH: NEW PRODUCT DEVELOPMENTS

TABLE 119 ROBERT BOSCH GMBH: DEALS

#### 16.1.2 CONTINENTAL AG

TABLE 120 CONTINENTAL AG: BUSINESS OVERVIEW

FIGURE 64 CONTINENTAL AG: COMPANY SNAPSHOT

TABLE 121 CONTINENTAL AG: PRODUCTS OFFERED

TABLE 122 CONTINENTAL AG: NEW PRODUCT DEVELOPMENTS

TABLE 123 CONTINENTAL AG: DEALS

TABLE 124 CONTINENTAL AG: OTHERS

#### 16.1.3 ZF FRIEDRICHSHAFEN AG

TABLE 125 ZF FRIEDRICHSHAFEN AG: BUSINESS OVERVIEW

FIGURE 65 ZF FRIEDRICHSHAFEN AG: COMPANY SNAPSHOT

FIGURE 66 ZF FRIEDRICHSHAFEN AG'S ADAS SYSTEMS FOR AUTONOMOUS VEHICLES

TABLE 126 ZF FRIEDRICHSHAFEN AG: PRODUCTS OFFERED

TABLE 127 ZF FRIEDRICHSHAFEN AG: NEW PRODUCT DEVELOPMENTS

TABLE 128 ZF FRIEDRICHSHAFEN AG: DEALS

#### 16.1.4 DENSO

TABLE 129 DENSO: BUSINESS OVERVIEW

FIGURE 67 DENSO: COMPANY SNAPSHOT

TABLE 130 DENSO: PRODUCTS OFFERED

TABLE 131 DENSO: NEW PRODUCT DEVELOPMENTS

TABLE 132 DENSO: DEALS

#### 16.1.5 NXP SEMICONDUCTORS

TABLE 133 NXP SEMICONDUCTORS: BUSINESS OVERVIEW

FIGURE 68 NXP SEMICONDUCTORS: COMPANY SNAPSHOT

TABLE 134 NXP SEMICONDUCTORS: PRODUCTS OFFERED

TABLE 135 NXP SEMICONDUCTORS: NEW PRODUCT DEVELOPMENTS

TABLE 136 NXP SEMICONDUCTORS: DEALS

#### 16.1.6 ALLEGRO MICROSYSTEMS

TABLE 137 ALLEGRO MICROSYSTEMS: BUSINESS OVERVIEW

FIGURE 69 ALLEGRO MICROSYSTEMS: COMPANY SNAPSHOT

TABLE 138 ALLEGRO MICROSYSTEMS: PRODUCTS OFFERED

TABLE 139 ALLEGRO MICROSYSTEMS: NEW PRODUCT DEVELOPMENTS

TABLE 140 ALLEGRO MICROSYSTEMS: DEALS

#### 16.1.7 STMICROELECTRONICS

TABLE 141 STMICROELECTRONICS: BUSINESS OVERVIEW

FIGURE 70 STMICROELECTRONICS: COMPANY SNAPSHOT

TABLE 142 STMICROELECTRONICS: PRODUCTS OFFERED

TABLE 143 STMICROELECTRONICS: NEW PRODUCT DEVELOPMENTS

TABLE 144 STMICROELECTRONICS: DEALS

#### 16.1.8 APTIV PLC

TABLE 145 APTIV PLC: BUSINESS OVERVIEW

FIGURE 71 APTIV PLC: COMPANY SNAPSHOT

FIGURE 72 APTIV PLC AV ARCHITECTURE

TABLE 146 APTIV PLC: PRODUCTS OFFERED

TABLE 147 APTIV PLC: NEW PRODUCT DEVELOPMENTS

TABLE 148 APTIV PLC: DEALS

#### 16.1.9 LEDDARTECH

TABLE 149 LEDDARTECH: BUSINESS OVERVIEW

FIGURE 73 LEDDARVISION'S ENVIRONMENTAL PERCEPTION FRAMEWORK FOR AV

TABLE 150 LEDDARTECH: PRODUCTS OFFERED

TABLE 151 LEDDARTECH: NEW PRODUCT DEVELOPMENTS

TABLE 152 LEDDARTECH: DEALS

TABLE 153 LEDDARTECH: OTHERS

#### 16.1.10 VELODYNE LIDAR

TABLE 154 VELODYNE LIDAR: BUSINESS OVERVIEW

FIGURE 74 VELODYNE LIDAR: COMPANY SNAPSHOT

TABLE 155 VELODYNE LIDAR: PRODUCTS OFFERED

TABLE 156 VELODYNE LIDAR: NEW PRODUCT DEVELOPMENTS

TABLE 157 VELODYNE LIDAR: DEALS

#### 16.1.11 INFINEON TECHNOLOGIES

TABLE 158 INFINEON TECHNOLOGIES: BUSINESS OVERVIEW

FIGURE 75 INFINEON TECHNOLOGIES: COMPANY SNAPSHOT

TABLE 159 INFINEON TECHNOLOGIES: PRODUCTS OFFERED

TABLE 160 INFINEON TECHNOLOGIES: NEW PRODUCT DEVELOPMENTS

TABLE 161 INFINEON TECHNOLOGIES: DEALS

#### 16.1.12 NVIDIA

TABLE 162 NVIDIA: BUSINESS OVERVIEW

FIGURE 76 NVIDIA: COMPANY SNAPSHOT

FIGURE 77 NVIDIA DRIVE PLATFORM

TABLE 163 NVIDIA: PRODUCTS OFFERED

TABLE 164 NVIDIA: NEW PRODUCT DEVELOPMENTS

TABLE 165 NVIDIA: DEALS

#### 16.1.13 QUALCOMM

TABLE 166 QUALCOMM: BUSINESS OVERVIEW

FIGURE 78 QUALCOMM: COMPANY SNAPSHOT

FIGURE 79 QUALCOMM'S SNAPDRAGON RIDE SOFTWARE PLATFORM FOR AV

TABLE 167 QUALCOMM: PRODUCTS OFFERED

TABLE 168 QUALCOMM: NEW PRODUCT DEVELOPMENTS

TABLE 169 QUALCOMM: DEALS

#### 16.1.14 DATASPEED INC.

TABLE 170 DATASPEED INC.: BUSINESS OVERVIEW

TABLE 171 DATASPEED INC.: PRODUCTS OFFERED

TABLE 172 DATASPEED INC.: NEW PRODUCT DEVELOPMENTS

TABLE 173 DATASPEED INC.: DEALS

16.1.15 BASELABS

TABLE 174 BASELABS: BUSINESS OVERVIEW

FIGURE 80 BASELABS DATA FUSION TECHNOLOGY

TABLE 175 BASELABS: PRODUCTS OFFERED

TABLE 176 BASELABS: NEW PRODUCT DEVELOPMENTS

TABLE 177 BASELABS: DEALS

\*Details on Business overview, Products offered, Recent developments & MnM View might not be captured in case of unlisted companies.

16.2 OTHER PLAYERS

16.2.1 CTS CORPORATION

16.2.2 MEMSIC SEMICONDUCTOR (TIANJIN) CO., LTD.

16.2.3 KIONIX, INC.

TABLE 178 KIONIX, INC.: BUSINESS OVERVIEW

16.2.4 TDK CORPORATION

TABLE 179 TDK CORPORATION: BUSINESS OVERVIEW

16.2.5 MICROCHIP TECHNOLOGY INC.

TABLE 180 MICROCHIP TECHNOLOGY INC.: BUSINESS OVERVIEW

16.2.6 MONOLITHIC POWER SYSTEMS, INC.

TABLE 181 MONOLITHIC POWER SYSTEMS, INC.: BUSINESS OVERVIEW

16.2.7 IBEO AUTOMOTIVE SYSTEMS GMBH

TABLE 182 IBEO AUTOMOTIVE SYSTEMS GMBH: BUSINESS OVERVIEW

16.2.8 RENESAS ELECTRONICS CORPORATION

TABLE 183 RENESAS ELECTRONICS CORPORATION: BUSINESS OVERVIEW

16.2.9 MOBILEYE

TABLE 184 MOBILEYE: BUSINESS OVERVIEW

16.2.10 MAGNA INTERNATIONAL

TABLE 185 MAGNA INTERNATIONAL: BUSINESS OVERVIEW

16.2.11 ANALOG DEVICES

TABLE 186 ANALOG DEVICES: BUSINESS OVERVIEW

16.2.12 VISTEON CORPORATION

TABLE 187 VISTEON CORPORATION: BUSINESS OVERVIEW

16.2.13 PHANTOM AI

TABLE 188 PHANTOM AI: BUSINESS OVERVIEW

16.2.14 TESLA

TABLE 189 TESLA: BUSINESS OVERVIEW

16.2.15 NEOUSYS TECHNOLOGY



TABLE 190 NEOUSYS TECHNOLOGY: BUSINESS OVERVIEW

16.2.16 ALPHABET INC.

TABLE 191 ALPHABET INC.: BUSINESS OVERVIEW

16.2.17 INTEL CORPORATION

TABLE 192 INTEL CORPORATION: BUSINESS OVERVIEW

16.2.18 MICROSOFT CORPORATION

TABLE 193 MICROSOFT CORPORATION: BUSINESS OVERVIEW

16.2.19 TE CONNECTIVITY LTD.

TABLE 194 TE CONNECTIVITY LTD.: BUSINESS OVERVIEW

16.2.20 MICRON TECHNOLOGY

TABLE 195 MICRON TECHNOLOGY: BUSINESS OVERVIEW

16.2.21 XILINX, INC.

TABLE 196 XILINX, INC.: BUSINESS OVERVIEW

16.2.22 IBM

TABLE 197 IBM: BUSINESS OVERVIEW

## **17 RECOMMENDATIONS BY MARKET SAND MARKETS**

17.1 ASIA PACIFIC TO BE MOST LUCRATIVE REGION FOR SENSORS MARKET FOR AUTONOMOUS VEHICLES

17.2 TECHNOLOGICAL ADVANCEMENTS TO HELP DEVELOP MARKET FOR AUTONOMOUS VEHICLES

17.3 SOFTWARE SEGMENT TO WITNESS SIGNIFICANT OPPORTUNITIES IN COMING YEARS WITH INCREASED VIABILITY OF LOW AND MID-LEVEL SENSOR FUSION

17.4 CONCLUSION

## **18 APPENDIX**

18.1 KEY INSIGHTS FROM INDUSTRY EXPERTS

18.2 DISCUSSION GUIDE

18.3 KNOWLEDGESTORE: MARKET SAND MARKETS' SUBSCRIPTION PORTAL

18.4 CUSTOMIZATION OPTIONS

18.5 RELATED REPORTS

18.6 AUTHOR DETAILS

## I would like to order

Product name: 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

Product link: <https://marketpublishers.com/r/SBE800BEC569EN.html>

Price: US\$ 4,950.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/SBE800BEC569EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below

and fax the completed form to +44 20 7900 3970