

# **Sensor Fusion Market for Automotive by Technology (Camera, LIDAR & RADAR), Data Fusion Type & Level (Homogeneous, Heterogeneous, Data, Decision, Feature), Software Layer, Vehicle Type (ICE, Autonomous & Electric) and Region-Global Forecast to 2030**

<https://marketpublishers.com/r/S79630768B6DEN.html>

Date: September 2021

Pages: 247

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

ID: S79630768B6DEN

## **Abstracts**

The ICE sensor fusion market for automotive is projected to reach USD 22.2 billion by 2030 from an estimated USD 2.9 billion in 2021, at a CAGR of 25.4% during the forecast period. Various governments globally are implementing safety standards by making safety features such as automated emergency brake, adaptive cruise control, lane departure warning a mandatory feature in vehicles, driving adoption of cameras, radars and LiDARs in automobiles. This is expected to strongly drive the adoption of sensor fusion in developed as well developing countries. Also, growing popularity of high-end and luxury cars is boosting sensor fusion market for automotive. Countries such as India, China, Brazil, Mexico, Argentina, European Union, US are focusing on enhanced automotive safety standards. Thus, the demand is expected to gain momentum globally.

“Heterogeneous fusion type is expected to be the largest market by data fusion type”

The key benefits of heterogenous sensor fusion are enhanced system performance and robustness. Examples of multi-modal fusion systems or heterogeneous sensors are visible cameras, Far IR cameras, visual cameras LASER scanner radar, GPS localizer CAN bus Gyroscope, etc. Various modern sensor networks are heterogenous - a combination of a variety of wired and wireless sensors/actuators. For instance, in a driver assistance system, the system collects data from internal and external sensors

installed in the car. This includes various types of sensors such as GPS localizers, a CAN bus, a gyroscope, radar, and cameras. Thus, the multiple benefits offered by heterogeneous sensor data fusion are driving its popularity in vehicles.

“Decision fusion market segment is expected to be the fastest”

In decision level sensors, each sensor makes an individual decision before forming a combination of decisions to arrive at a more informed final decision, i.e., target decision fusion. Decision fusion is less complex than data fusion. Decision-making algorithms, as a key technology for uncertain data fusion, is the core to obtain reasonable multisensory information fusion results. Thus, there is a broad application of decision-making algorithms on target attributes, characteristics, and types through detailed processing of information obtained through various sensors. A multitude of theorems and algorithms are emerging in decision sensor fusions. Decision fusion is expected to gain popularity globally in the coming years, owing to its advantages and less complex architecture. One of the many practical benefits offered by decision fusion is that it allows combining individual results, even if it was not expected in the testing of the algorithm. Consequently, different sources of information can be easily exchanged, and the fusion strategy is readily adapted to unknown future changes of input sources.

“Asia Pacific market is expected to register the highest growth during the forecast period”

The Asia Pacific sensor fusion market for automotive is estimated to be the fastest-growing regional market. The growing adoption of advanced ADAS technologies in China, Japan, South Korea, and India is expected to drive market growth in the region. China's passenger car production is expected to reach 24 million units by 2026, presenting a huge opportunity for sensor fusion hardware manufacturers and software/algorithm developers globally as well as domestically. Not only passenger cars but trucks are also set to reach 2 million units by 2026. The South Korean transport ministry announced that it requires all new large passenger vehicles and trucks to be fitted with AEB and LDW systems from January 2019. Thus, the implementation of government mandates is expected to drive the adoption of sensors- cameras, radars and LiDARs. Such factors would in turn, drive the growth of sensor fusion technology during the forecast period.

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

By Company Type: Supply Side- 70%, Demand Side- 30%

By Designation: C Level - 11%, D Level – 11%, and Others - 78%

By Region: Asia Pacific- 56%, Europe - 22%, North America - 22%

The sensor fusion market for automotive is led by globally established players such as Robert Bosch GmbH (Germany), ZF Friedrichshafen AG (Germany), Continental AG (Germany), NXP Semiconductors N.V. (Netherlands), Infineon Technologies (Germany), and Denso Corporation (Japan), Aptiv (Ireland). The study includes an in-depth competitive analysis of these key players in the sensor fusion market for automotive with their company profiles, MnM view of the top five companies, recent developments, and key market strategies.

#### Research Coverage:

The sensor fusion market for automotive is segmented by region (Asia Pacific, Europe, North America, and RoW), vehicle type (passenger car, LCV, and HCV), technology (camera, radar and LiDAR), electric vehicle type (BEV, PHEV and FCEV), autonomous vehicle (L4 and L5), software layer (operating system, middleware, and application software), data fusion type (homogeneous, and heterogeneous), data fusion level (data, feature, and decision), sensor type (temperature, pressure, oxygen, NOx, speed, inertial, image, position, and other sensors), application (powertrain & drivetrain, safety & body control, exhaust, infotainment, navigation & telematics, sensor fusion environment (internal and external).

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

#### Key Benefits of Buying the Report:

The report will help the market leaders/new entrants in this market with the information on the closest approximations of the revenue numbers for the overall sensor fusion market for automotive and the sub-segments. This report will help stakeholders understand the competitive landscape and gain insights to better position their businesses and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on

key market drivers, restraints, challenges, and opportunities.

## Contents

### 1 INTRODUCTION

#### 1.1 OBJECTIVES OF THE STUDY

#### 1.2 MARKET DEFINITION

##### 1.2.1 INCLUSIONS & EXCLUSIONS

#### 1.3 MARKET SCOPE

FIGURE 1 SENSOR FUSION MARKET FOR AUTOMOTIVE SEGMENTATION

FIGURE 2 SENSOR FUSION MARKET FOR AUTOMOTIVE: BY REGION

### 2 RESEARCH METHODOLOGY

#### 2.1 RESEARCH DATA

FIGURE 3 RESEARCH DESIGN

FIGURE 4 RESEARCH METHODOLOGY MODEL

##### 2.1.1 SECONDARY DATA

###### 2.1.1.1 List of key secondary sources

###### 2.1.1.2 List of key secondary sensor fusion sources

###### 2.1.1.3 Key data from secondary sources

##### 2.1.2 PRIMARY DATA

FIGURE 5 BREAKDOWN OF PRIMARY INTERVIEWS: BY STAKEHOLDER, DESIGNATION, AND REGION

###### 2.1.2.1 Primary participants

###### 2.1.2.2 List of primary participants

#### 2.2 MARKET ESTIMATION METHODOLOGY

FIGURE 6 RESEARCH METHODOLOGY: HYPOTHESIS BUILDING

##### 2.2.1 BOTTOM-UP APPROACH

FIGURE 7 SENSOR FUSION MARKET FOR AUTOMOTIVE: BOTTOM-UP APPROACH (ICE, EV, AND AUTONOMOUS VEHICLES)

##### 2.2.2 TOP-DOWN APPROACH

FIGURE 8 SENSOR FUSION MARKET FOR AUTOMOTIVE: TOP-DOWN APPROACH (BY DATA FUSION LEVEL AND TYPE)

FIGURE 9 SENSOR FUSION MARKET FOR AUTOMOTIVE: RESEARCH DESIGN & METHODOLOGY

##### 2.2.3 FACTOR ANALYSIS FOR MARKET SIZING: DEMAND AND SUPPLY-SIDE

#### 2.3 DATA TRIANGULATION

FIGURE 10 DATA TRIANGULATION METHODOLOGY

#### 2.4 FACTOR ANALYSIS

## 2.5 RESEARCH ASSUMPTIONS

### 2.5.1 GLOBAL ASSUMPTIONS

### 2.5.2 MARKET ASSUMPTIONS

## 2.6 RESEARCH LIMITATIONS

## 3 EXECUTIVE SUMMARY

### 3.1 PRE & POST COVID-19 SCENARIO

FIGURE 11 PRE- & POST-COVID-19 SCENARIO: SENSOR FUSION MARKET FOR AUTOMOTIVE, 2019-2030 (USD MILLION)

TABLE 1 SENSOR FUSION MARKET FOR AUTOMOTIVE: PRE- VS. POST-COVID-19 SCENARIO, 2019–2030 (USD MILLION)

### 3.2 REPORT SUMMARY

FIGURE 12 SENSOR FUSION MARKET FOR AUTOMOTIVE: MARKET OUTLOOK

FIGURE 13 SENSOR FUSION MARKET FOR ICE VEHICLES, 2021 VS. 2030

## 4 PREMIUM INSIGHTS

### 4.1 ATTRACTIVE OPPORTUNITIES IN SENSOR FUSION MARKET FOR AUTOMOTIVE

FIGURE 14 STRINGENT SAFETY STANDARDS AND GROWING POPULARITY OF PREMIUM VEHICLES TO DRIVE SENSOR FUSION MARKET FOR AUTOMOTIVE

### 4.2 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY DATA FUSION TYPE

FIGURE 15 HETEROGENEOUS DATA FUSION TO HOLD LARGEST MARKET SHARE IN 2021

### 4.3 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY VEHICLE TYPE

FIGURE 16 PASSENGER CARS PROJECTED TO LEAD SENSOR FUSION MARKET FOR AUTOMOTIVE BY 2030

### 4.4 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY

FIGURE 17 CAMERAS ESTIMATED TO BE LARGEST SEGMENT IN 2021

### 4.5 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY FUSION LEVEL

FIGURE 18 FEATURE FUSION EXPECTED TO COMMAND LARGEST SHARE DURING FORECAST PERIOD

### 4.6 SENSOR FUSION MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY

FIGURE 19 L5 SEGMENT TO SHOWCASE HIGHEST CAGR DURING FORECAST PERIOD

### 4.7 SENSOR FUSION MARKET FOR ELECTRIC VEHICLES, BY VEHICLE TYPE

FIGURE 20 BEV SEGMENT TO BE LARGEST DURING FORECAST PERIOD

#### 4.8 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION

FIGURE 21 ASIA PACIFIC TO DOMINATE MARKET DURING FORECAST PERIOD

### 5 MARKET OVERVIEW

#### 5.1 INTRODUCTION

#### 5.2 MARKET DYNAMICS

FIGURE 22 SENSOR FUSION MARKET FOR AUTOMOTIVE: MARKET DYNAMICS

##### 5.2.1 DRIVERS

5.2.1.1 Technical advantages offered by sensor fusion

TABLE 2 PROPERTIES OF VARIOUS SENSORS (SENSOR FUSION)

5.2.1.2 Stringent emission standards regarding NOx and particulate matter

TABLE 3 EURO-5 VS. EURO-6 VEHICLE EMISSION STANDARDS ON NEW EUROPEAN DRIVING CYCLE

TABLE 4 ON-ROAD VEHICLE EMISSION REGULATION OUTLOOK FOR PASSENGER CARS, 2016–2021

##### 5.2.2 RESTRAINTS

5.2.2.1 Lack of standardization in software architecture/hardware platforms

FIGURE 23 OVERALL APPROACH FOR SENSOR INTERFACE STANDARDIZATION CONSIDERS DIFFERENT STANDARDIZATION LEVELS

##### 5.2.3 OPPORTUNITIES

5.2.3.1 Development of autonomous vehicles

FIGURE 24 DEMAND FOR AUTONOMOUS CARS (L4 AND L5), 2027 VS. 2030 ('000 UNITS)

##### 5.2.4 CHALLENGES

5.2.4.1 Security and safety concerns

5.2.5 IMPACT OF COVID-19 ON SENSOR FUSION MARKET FOR AUTOMOTIVE

#### 5.3 TRENDS/DISRUPTIONS IMPACTING CUSTOMER'S BUSINESS

FIGURE 25 REVENUE SHIFT FOR SENSOR FUSION MARKET FOR AUTOMOTIVE

#### 5.4 PRICING ANALYSIS

TABLE 5 SENSOR FUSION MARKET FOR AUTOMOTIVE: AVERAGE OE PRICE RANGE (USD) ANALYSIS, BY TECHNOLOGY, 2021

#### 5.5 VALUE CHAIN ANALYSIS

FIGURE 26 VALUE CHAIN ANALYSIS: SENSOR FUSION MARKET FOR AUTOMOTIVE

#### 5.6 PATENT ANALYSIS

#### 5.7 ECOSYSTEM/MARKET MAP

TABLE 6 SENSOR FUSION MARKET: ECOSYSTEM

#### 5.8 SENSOR FUSION MARKET FOR AUTOMOTIVE, SCENARIOS (2019–2030)



## FIGURE 27 SENSOR FUSION MARKET FOR AUTOMOTIVE: COVID-19 SCENARIOS ANALYSIS

### 5.8.1 MOST LIKELY SCENARIO

TABLE 7 MOST LIKELY SCENARIO: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030 (USD MILLION)

### 5.8.2 HIGH COVID-19 IMPACT SCENARIO

TABLE 8 HIGH IMPACT SCENARIO: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030 (USD MILLION)

### 5.8.3 LOW COVID-19 IMPACT SCENARIO

TABLE 9 LOW IMPACT SCENARIO: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030 (USD MILLION)

## 5.9 PORTER'S FIVE FORCES ANALYSIS

TABLE 10 PORTER'S 5 FORCES IMPACT ON THE SENSOR FUSION MARKET FOR AUTOMOTIVE

## FIGURE 28 PORTER'S FIVE FORCES ANALYSIS

### 5.9.1 THREAT OF NEW ENTRANTS

### 5.9.2 THREAT OF SUBSTITUTES

### 5.9.3 BARGAINING POWER OF SUPPLIERS

### 5.9.4 BARGAINING POWER OF BUYERS

### 5.9.5 INTENSITY OF COMPETITIVE RIVALRY

## 6 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY ENVIRONMENT

### 6.1 INTRODUCTION

### 6.2 INTERNAL SENSORS

### 6.3 EXTERNAL SENSORS

## 7 SENSOR FUSION FOR AUTOMOTIVE: ALGORITHMS

### 7.1 INTRODUCTION

### 7.2 KALMAN FILTER

### 7.3 BAYESIAN FILTER

### 7.4 CENTRAL LIMIT THEOREM

### 7.5 CONVOLUTIONAL NEURAL NETWORKS

## 8 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY

### 8.1 INTRODUCTION

#### 8.1.1 RESEARCH METHODOLOGY



### 8.1.2 ASSUMPTIONS/LIMITATIONS

### 8.1.3 INDUSTRY INSIGHTS

FIGURE 29 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2021 VS. 2030 (USD MILLION)

TABLE 11 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 ('000 UNITS)

TABLE 12 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 (USD MILLION)

## 8.2 CAMERAS

8.2.1 TECHNICAL ADVANTAGES SUCH AS READING SIGNS & CLASSIFYING OBJECTS BOOST DEMAND FOR CAMERAS

TABLE 13 CAMERAS: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030 ('000 UNITS)

TABLE 14 CAMERAS: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030 (USD MILLION)

## 8.3 RADAR

8.3.1 AFFORDABILITY AND CLARITY IN CHALLENGING CONDITIONS EXPECTED TO DRIVE RADAR DEMAND

TABLE 15 RADAR: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030 ('000 UNITS)

TABLE 16 RADAR: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030 (USD MILLION)

## 8.4 LIDAR

8.4.1 ENHANCED OBSTACLE DETECTION & SAFE NAVIGATION BOOST APPLICATION IN VEHICLES

TABLE 17 LIDAR: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030 ('000 UNITS)

TABLE 18 LIDAR: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030 (USD MILLION)

## 9 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY FUSION LEVEL

### 9.1 INTRODUCTION

#### 9.1.1 RESEARCH METHODOLOGY

#### 9.1.2 ASSUMPTIONS/LIMITATIONS

#### 9.1.3 INDUSTRY INSIGHTS

FIGURE 30 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY FUSION LEVEL, 2021 VS. 2030 (USD MILLION)

TABLE 19 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY FUSION LEVEL,

2019–2030 (USD MILLION)

## 9.2 FEATURE FUSION

9.2.1 ACCURACY OF FEATURE LEVEL FUSION DRIVES ITS POPULARITY

TABLE 20 AUTOMOTIVE FEATURE FUSION MARKET, BY REGION, 2019–2030  
(USD MILLION)

## 9.3 DECISION FUSION

9.3.1 DEVELOPMENTS IN ALGORITHMS FOR DECISION FUSION BOOST  
GROWTH

TABLE 21 AUTOMOTIVE DECISION FUSION MARKET, BY REGION, 2019–2030  
(USD MILLION)

## 9.4 DATA FUSION

9.4.1 LOWER DETECTION ERROR PROBABILITY DRIVES SEGMENT GROWTH

TABLE 22 AUTOMOTIVE DATA FUSION MARKET, BY REGION, 2019–2030 (USD  
MILLION)

# 10 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY VEHICLE TYPE

## 10.1 INTRODUCTION

10.1.1 RESEARCH METHODOLOGY

10.1.2 ASSUMPTIONS/LIMITATIONS

10.1.3 INDUSTRY INSIGHTS

FIGURE 31 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY VEHICLE TYPE,  
2021 VS. 2030 (USD MILLION)

TABLE 23 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY VEHICLE TYPE,  
2019–2030 ('000 UNITS)

TABLE 24 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY VEHICLE TYPE,  
2019–2030 (USD MILLION)

## 10.2 PASSENGER CARS

10.2.1 IMPLEMENTATION OF REGULATIONS TO MAKE ADAS STANDARD IN  
PASSENGERS CARS DRIVES SEGMENT

TABLE 25 PASSENGER CARS: SENSOR FUSION MARKET, BY REGION,  
2019–2030 ('000 UNITS)

TABLE 26 PASSENGER CARS: SENSOR FUSION MARKET, BY REGION,  
2019–2030 (USD MILLION)

## 10.3 LIGHT COMMERCIAL VEHICLES (LCV)

10.3.1 SAFETY REGULATIONS TO REDUCE ACCIDENTS BOOSTS ADOPTION OF  
SENSOR FUSION IN LCVS

TABLE 27 LIGHT COMMERCIAL VEHICLES: SENSOR FUSION MARKET, BY  
REGION, 2019–2030 ('000 UNITS)

TABLE 28 LIGHT COMMERCIAL VEHICLES: SENSOR FUSION MARKET, BY REGION, 2019–2030 (USD MILLION)

10.4 HEAVY COMMERCIAL VEHICLES (HCV)

10.4.1 SEGMENT DRIVEN BY ADOPTION OF ADAS FEATURES IN HCVS

TABLE 29 HEAVY COMMERCIAL VEHICLES: SENSOR FUSION MARKET, BY REGION, 2019–2030 ('000 UNITS)

TABLE 30 HEAVY COMMERCIAL VEHICLES: SENSOR FUSION MARKET, BY REGION, 2019–2030 (USD MILLION)

## **11 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY DATA FUSION TYPE**

### **11.1 INTRODUCTION**

11.1.1 RESEARCH METHODOLOGY

11.1.2 ASSUMPTIONS/LIMITATIONS

11.1.3 INDUSTRY INSIGHTS

FIGURE 32 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY DATA FUSION TYPE, 2021 VS. 2030 (USD MILLION)

TABLE 31 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY DATA FUSION TYPE, 2019–2030 (USD MILLION)

### **11.2 HOMOGENOUS**

11.2.1 HOMOGENOUS FUSION TO WITNESS MODERATE GROWTH DURING FORECAST PERIOD

TABLE 32 HOMOGENOUS SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030 (USD MILLION)

### **11.3 HETEROGENOUS**

11.3.1 GROWING DEMAND FOR PREMIUM VEHICLES WITH SENSOR FUSION EXPECTED TO DRIVE DEMAND

TABLE 33 HETEROGENOUS SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030 ('000 UNITS)

## **12 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY SOFTWARE LAYER**

### **12.1 INTRODUCTION**

12.1.1 RESEARCH METHODOLOGY

12.1.2 ASSUMPTIONS/LIMITATIONS

12.1.3 INDUSTRY INSIGHTS

FIGURE 33 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY SOFTWARE LAYER, 2021 VS. 2030 (USD MILLION)

TABLE 34 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY SOFTWARE LAYER,

2019–2030 (USD MILLION)

## 12.2 OPERATING SYSTEM

12.2.1 ONGOING DEVELOPMENTS IN ADVANCED SOFTWARE OPERATING SYSTEMS DRIVE POPULARITY

TABLE 35 OPERATING SYSTEM: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030 (USD MILLION)

## 12.3 MIDDLEWARE

12.3.1 AVAILABILITY OF VARIOUS MIDDLEWARE EXPECTED TO BOOST MARKET

TABLE 36 MIDDLEWARE: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030 (USD MILLION)

## 12.4 APPLICATION SOFTWARE

12.4.1 DEVELOPMENTS IN APPLICATION SOFTWARE WITH MORE ADVANCED FEATURES EXPECTED TO DRIVE ADOPTION

TABLE 37 APPLICATION SOFTWARE: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030 ('000 UNITS)

# 13 SENSOR FUSION MARKET FOR ELECTRIC VEHICLES, BY VEHICLE TYPE

## 13.1 INTRODUCTION

13.1.1 RESEARCH METHODOLOGY

13.1.2 ASSUMPTIONS/LIMITATIONS

13.1.3 INDUSTRY INSIGHTS

FIGURE 34 ELECTRIC VEHICLE SENSOR FUSION MARKET, BY VEHICLE TYPE, 2021 VS. 2030 (USD MILLION)

TABLE 38 ELECTRIC VEHICLE SENSOR FUSION MARKET, BY VEHICLE TYPE, 2019–2030 ('000 UNITS)

TABLE 39 ELECTRIC VEHICLE SENSOR FUSION MARKET, BY VEHICLE TYPE, 2019–2030 (USD MILLION)

## 13.2 BATTERY ELECTRIC VEHICLES (BEV)

13.2.1 REGULATIONS TO MANDATE ADAS FEATURES IN BEVS BOOST SEGMENT

TABLE 40 BEV: SENSOR FUSION MARKET, BY REGION, 2019–2030 ('000 UNITS)

TABLE 41 BEV: SENSOR FUSION MARKET, BY REGION, 2019–2030 (USD MILLION)

## 13.3 PLUG-IN HYBRID ELECTRIC VEHICLES (PHEV)

13.3.1 INCREASING SALES OF PHEVS WITH ADAS FEATURES BOOST SEGMENT

TABLE 42 PHEV: SENSOR FUSION MARKET, BY REGION, 2019–2030 ('000 UNITS)

TABLE 43 PHEV: SENSOR FUSION MARKET, BY REGION, 2019–2030 (USD MILLION)

13.4 FUEL-CELL ELECTRIC VEHICLES (FCEV)

13.4.1 LAUNCH OF FCEV MODELS WITH ADAS FEATURES TO DRIVE GROWTH

TABLE 44 FCEV: SENSOR FUSION MARKET, BY REGION, 2019–2030 ('000 UNITS)

TABLE 45 FCEV: SENSOR FUSION MARKET, BY REGION, 2019–2030 (USD MILLION)

## **14 SENSOR FUSION MARKET FOR AUTONOMOUS VEHICLES, BY LEVEL OF AUTONOMY**

14.1 INTRODUCTION

14.1.1 RESEARCH METHODOLOGY

14.1.2 ASSUMPTIONS/LIMITATIONS

14.1.3 INDUSTRY INSIGHTS

FIGURE 35 AUTONOMOUS VEHICLE SENSOR FUSION MARKET, BY LEVEL OF AUTONOMY, 2024 VS. 2030 (USD MILLION)

TABLE 46 AUTONOMOUS VEHICLE SENSOR FUSION MARKET, BY LEVEL OF AUTONOMY, 2024–2030 ('000 UNITS)

TABLE 47 AUTONOMOUS VEHICLE SENSOR FUSION MARKET, BY LEVEL OF AUTONOMY, 2024–2030 (USD MILLION)

14.2 L4

14.2.1 SEGMENT PROPELLED BY OEM INVESTMENT IN AUTOMATED DRIVING

TABLE 48 L4: SENSOR FUSION MARKET, BY REGION, 2024–2030 ('000 UNITS)

TABLE 49 L4: SENSOR FUSION MARKET, BY REGION, 2024–2030 (USD MILLION)

14.3 L5

14.3.1 INCREASED TESTING OF AUTONOMOUS DRIVING BOOSTS

ADVANCEMENTS IN L5

TABLE 50 L5: SENSOR FUSION MARKET, BY REGION, 2028–2030 ('000 UNITS)

TABLE 51 L5: SENSOR FUSION MARKET, BY REGION, 2028–2030 (USD MILLION)

## **15 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION**

15.1 INTRODUCTION

15.1.1 RESEARCH METHODOLOGY

15.1.2 ASSUMPTIONS/LIMITATIONS

15.1.3 INDUSTRY INSIGHTS

FIGURE 36 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2021 VS. 2030 (USD MILLION)

TABLE 52 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030  
(‘000 UNITS)

TABLE 53 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY REGION, 2019–2030  
(USD MILLION)

## 15.2 ASIA PACIFIC

FIGURE 37 ASIA PACIFIC: SENSOR FUSION MARKET FOR AUTOMOTIVE

TABLE 54 ASIA PACIFIC: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
COUNTRY, 2019–2030 (‘000 UNITS)

TABLE 55 ASIA PACIFIC: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
COUNTRY, 2019–2030 (USD MILLION)

### 15.2.1 CHINA

15.2.1.1 Demand for compact premium and luxury cars to drive Chinese market

TABLE 56 CHINA: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
TECHNOLOGY, 2019–2030 (‘000 UNITS)

TABLE 57 CHINA: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
TECHNOLOGY, 2019–2030 (USD MILLION)

### 15.2.2 INDIA

15.2.2.1 Stringency in safety standards making ADAS features a mandate boosts  
Indian market

TABLE 58 INDIA: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
TECHNOLOGY, 2019–2030 (‘000 UNITS)

TABLE 59 INDIA: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
TECHNOLOGY, 2019–2030 (USD MILLION)

### 15.2.3 JAPAN

15.2.3.1 Market in Japan driven by development of advanced ADAS features

TABLE 60 JAPAN: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
TECHNOLOGY, 2019–2030 (‘000 UNITS)

TABLE 61 JAPAN: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
TECHNOLOGY, 2019–2030 (USD MILLION)

### 15.2.4 SOUTH KOREA

15.2.4.1 Government regulations to mandate AEB and LDW fuel growth  
in South Korea

TABLE 62 SOUTH KOREA: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
TECHNOLOGY, 2019–2030 (‘000 UNITS)

TABLE 63 SOUTH KOREA: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
TECHNOLOGY, 2019–2030 (USD MILLION)

### 15.2.5 REST OF ASIA PACIFIC

15.2.5.1 Growing demand for vehicles with ADAS and advanced safety features  
drives market in Rest of Asia Pacific

TABLE 64 REST OF ASIA PACIFIC: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 ('000 UNITS)

TABLE 65 REST OF ASIA PACIFIC: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 (USD MILLION)

### 15.3 EUROPE

FIGURE 38 EUROPE: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY COUNTRY, 2021 VS. 2030

TABLE 66 EUROPE: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY COUNTRY, 2019–2030 ('000 UNITS)

TABLE 67 EUROPE: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY COUNTRY, 2019–2030 (USD MILLION)

#### 15.3.1 GERMANY

15.3.1.1 German market boosted by increased R&D in advanced ADAS & automated driving

TABLE 68 GERMANY: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 ('000 UNITS)

TABLE 69 GERMANY: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 (USD MILLION)

#### 15.3.2 FRANCE

15.3.2.1 Adoption of multiple ADAS features in commercial vehicles to drive market in France

TABLE 70 FRANCE: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 ('000 UNITS)

TABLE 71 FRANCE: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 (USD MILLION)

#### 15.3.3 SPAIN

15.3.3.1 Implementation of road safety and regulations to fuel market in Spain

TABLE 72 SPAIN: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 ('000 UNITS)

TABLE 73 SPAIN: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 (USD MILLION)

#### 15.3.4 ITALY

15.3.4.1 Regulations mandating advanced ADAS features - driver for Italian market

TABLE 74 ITALY: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 ('000 UNITS)

TABLE 75 ITALY: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 (USD MILLION)

#### 15.3.5 UK



#### 15.3.5.1 Customer shift towards premium vehicles fuels UK market

TABLE 76 UK: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 ('000 UNITS)

TABLE 77 UK: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 (USD MILLION)

#### 15.3.6 RUSSIA

##### 15.3.6.1 Increasing sales of premium cars will fuel Russian market

TABLE 78 RUSSIA: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 ('000 UNITS)

TABLE 79 RUSSIA: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 (USD MILLION)

#### 15.3.7 REST OF EUROPE

TABLE 80 REST OF EUROPE: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 ('000 UNITS)

TABLE 81 REST OF EUROPE: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 (USD MILLION)

#### 15.4 NORTH AMERICA

FIGURE 39 NORTH AMERICA: SENSOR FUSION MARKET FOR AUTOMOTIVE

TABLE 82 NORTH AMERICA: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY COUNTRY, 2019–2030 ('000 UNITS)

TABLE 83 NORTH AMERICA: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY COUNTRY, 2019–2030 (USD MILLION)

#### 15.4.1 US

15.4.1.1 Developments in L3 autonomous driving systems to propel US market

TABLE 84 US: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY COUNTRY, 2019–2030 ('000 UNITS)

TABLE 85 US: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY COUNTRY, 2019–2030 (USD MILLION)

#### 15.4.2 CANADA

##### 15.4.2.1 Research in autonomous driving technologies fuels market in Canada

TABLE 86 CANADA: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 ('000 UNITS)

TABLE 87 CANADA: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY TECHNOLOGY, 2019–2030 (USD MILLION)

#### 15.4.3 MEXICO

15.4.3.1 Free trade agreements promoting domestic production of automotive components to drive Mexican market

TABLE 88 MEXICO: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY

TECHNOLOGY, 2019–2030 ('000 UNITS)

TABLE 89 MEXICO: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
TECHNOLOGY, 2019–2030 (USD MILLION)

15.5 REST OF THE WORLD (ROW)

FIGURE 40 ROW: SENSOR FUSION MARKET FOR AUTOMOTIVE, 2021 VS. 2030  
(USD MILLION)

TABLE 90 ROW: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY COUNTRY,  
2019–2030 ('000 UNITS)

TABLE 91 ROW: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY COUNTRY,  
2019–2030 (USD MILLION)

#### 15.5.1 BRAZIL

15.5.1.1 Sensor fusion likely to witness significant growth post 2026 in Brazil

TABLE 92 BRAZIL: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
TECHNOLOGY, 2019–2030 ('000 UNITS)

TABLE 93 BRAZIL: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
TECHNOLOGY, 2019–2030 (USD MILLION)

#### 15.5.2 SOUTH AFRICA

15.5.2.1 Growing demand for premium vehicles to boost market in  
South Africa

TABLE 94 SOUTH AFRICA: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
TECHNOLOGY, 2019–2030 ('000 UNITS)

TABLE 95 SOUTH AFRICA: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
TECHNOLOGY, 2019–2030 (USD MILLION)

#### 15.5.3 OTHERS IN ROW

TABLE 96 OTHERS IN ROW: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
TECHNOLOGY, 2019–2030 ('000 UNITS)

TABLE 97 OTHERS IN ROW: SENSOR FUSION MARKET FOR AUTOMOTIVE, BY  
TECHNOLOGY, 2019–2030 (USD MILLION)

## 16 AUTOMOTIVE SENSORS MARKET, BY SENSOR TYPE

### 16.1 INTRODUCTION

FIGURE 41 AUTOMOTIVE SENSORS MARKET, BY TYPE

FIGURE 42 POSITION SENSORS TO LEAD MARKET DURING FORECAST PERIOD

TABLE 98 AUTOMOTIVE SENSORS MARKET, BY TYPE, 2019–2025 (USD MILLION)

TABLE 99 AUTOMOTIVE SENSORS MARKET, BY TYPE, 2019–2025 (MILLION  
UNITS)

### 16.2 TEMPERATURE SENSORS

16.2.1 TEMPERATURE SENSORS MAINLY USED IN POWERTRAIN AND HVAC

## APPLICATIONS

TABLE 100 AUTOMOTIVE TEMPERATURE SENSORS MARKET, BY REGION,  
2019–2025 (USD MILLION)

TABLE 101 AUTOMOTIVE TEMPERATURE SENSORS MARKET, BY REGION,  
2019–2025 (MILLION UNITS)

### 16.3 PRESSURE SENSORS

16.3.1 PRESSURE SENSORS MAINLY USED IN HVAC, SAFETY & CONTROL, AND  
TPMS

TABLE 102 AUTOMOTIVE PRESSURE SENSORS MARKET, BY REGION,  
2019–2025 (USD MILLION)

TABLE 103 AUTOMOTIVE PRESSURE SENSORS MARKET, BY REGION,  
2019–2025 (MILLION UNITS)

### 16.4 POSITION SENSORS

16.4.1 POSITION SENSORS WIDELY USED TO PROVIDE INFORMATION TO  
ECMS

TABLE 104 AUTOMOTIVE POSITION SENSORS MARKET, BY REGION, 2019–2025  
(USD MILLION)

TABLE 105 AUTOMOTIVE POSITION SENSORS MARKET, BY REGION, 2019–2025  
(MILLION UNITS)

### 16.5 OXYGEN SENSORS

16.5.1 OXYGEN SENSORS USED TO MEASURE PROPORTIONAL AMOUNT OF  
OXYGEN IN LIQUID OR GAS

TABLE 106 AUTOMOTIVE OXYGEN SENSORS MARKET, BY REGION, 2019–2025  
(USD MILLION)

TABLE 107 AUTOMOTIVE OXYGEN SENSORS MARKET, BY REGION, 2019–2025  
(MILLION UNITS)

### 16.6 NITROGEN OXIDE SENSORS

16.6.1 STRINGENT GOVERNMENT REGULATIONS TO LIMIT NOX EMISSIONS TO  
PROVIDE OPPORTUNITIES FOR NOX SENSORS

TABLE 108 AUTOMOTIVE NOX SENSORS MARKET, BY REGION, 2019–2025 (USD  
MILLION)

TABLE 109 AUTOMOTIVE NOX SENSORS MARKET, BY REGION, 2019–2025  
(MILLION UNITS)

### 16.7 SPEED SENSORS

16.7.1 SPEED SENSORS USED TO MEASURE ENGINE CAMSHAFT SPEED  
AND VEHICLE SPEED

TABLE 110 AUTOMOTIVE SPEED SENSORS MARKET, BY REGION, 2019–2025  
(USD MILLION)

TABLE 111 AUTOMOTIVE SPEED SENSORS MARKET, BY REGION, 2019–2025

(MILLION UNITS)

## 16.8 INERTIAL SENSORS

16.8.1 INERTIAL SENSORS MAINLY BASED ON MEMS TECHNOLOGY AND USED IN ACCELEROMETERS AND GYROSCOPES

16.8.1.1 Accelerometers

16.8.1.2 Gyroscopes

TABLE 112 AUTOMOTIVE INERTIAL SENSORS MARKET, BY REGION, 2019–2025  
(USD MILLION)

TABLE 113 AUTOMOTIVE INERTIAL SENSORS MARKET, BY REGION, 2019–2025  
(MILLION UNITS)

## 16.9 IMAGE SENSORS

16.9.1 INCREASING ADOPTION OF ADAS TO BOOST USE OF IMAGE SENSORS

16.9.1.1 CMOS

16.9.1.2 CCD

TABLE 114 FEATURES OFFERED BY IMAGE SENSORS IN AUTOMOBILES

TABLE 115 AUTOMOTIVE IMAGE SENSORS MARKET, BY REGION, 2019–2025  
(USD MILLION)

TABLE 116 AUTOMOTIVE IMAGE SENSORS MARKET, BY REGION, 2019–2025  
(MILLION UNITS)

## 16.10 OTHER SENSORS

16.10.1 RADAR

16.10.2 ULTRASONIC SENSORS

16.10.3 RAIN SENSORS

16.10.4 RELATIVE HUMIDITY SENSORS

16.10.5 PROXIMITY SENSORS

16.10.6 PARTICULATE MATTER SENSORS

16.10.7 LIDAR

16.10.8 CURRENT SENSORS

TABLE 117 OTHER AUTOMOTIVE SENSORS MARKET, BY REGION, 2019–2025  
(USD MILLION)

TABLE 118 OTHER AUTOMOTIVE SENSORS MARKET, BY REGION, 2019–2025  
(MILLION UNITS)

# 17 AUTOMOTIVE SENSORS MARKET, BY APPLICATION

## 17.1 INTRODUCTION

FIGURE 43 AUTOMOTIVE SENSORS MARKET, BY APPLICATION

FIGURE 44 POWERTRAIN TO LEAD AUTOMOTIVE SENSORS MARKET DURING FORECAST PERIOD

TABLE 119 AUTOMOTIVE SENSORS MARKET, BY APPLICATION, 2019–2025 (USD MILLION)

TABLE 120 AUTOMOTIVE SENSORS MARKET, BY APPLICATION, 2019–2025 (MILLION UNITS)

## 17.2 POWERTRAIN

17.2.1 POWERTRAIN COMPRISES COMPONENTS THAT GENERATE POWER AND DELIVERS IT TO VEHICLE

TABLE 121 AUTOMOTIVE SENSORS MARKET FOR POWERTRAIN, BY VEHICLE TYPE, 2019–2025 (USD MILLION)

TABLE 122 AUTOMOTIVE SENSORS MARKET FOR POWERTRAIN, BY VEHICLE TYPE, 2019–2025 (MILLION UNITS)

## 17.3 CHASSIS

17.3.1 FUNCTIONS INCLUDE BRAKING/TRACTION CONTROL, VEHICLE STABILITY, STEERING ASSIST, ETC.

TABLE 123 AUTOMOTIVE SENSORS MARKET FOR CHASSIS, BY VEHICLE TYPE, 2019–2025 (USD MILLION)

TABLE 124 AUTOMOTIVE SENSORS MARKET FOR CHASSIS, BY VEHICLE TYPE, 2019–2025 (MILLION UNITS)

## 17.4 EXHAUST

17.4.1 STRINGENT GOVERNMENT REGULATIONS REGARDING EXHAUSTS DRIVE MARKET

TABLE 125 AUTOMOTIVE SENSORS MARKET FOR EXHAUST, BY VEHICLE TYPE, 2019–2025 (USD MILLION)

TABLE 126 AUTOMOTIVE SENSORS MARKET FOR EXHAUST, BY VEHICLE TYPE, 2019–2025 (MILLION UNITS)

## 17.5 SAFETY & CONTROL

17.5.1 RISE IN DEMAND FOR SAFE, EFFICIENT, AND CONVENIENT DRIVING EXPERIENCE DRIVE USE OF AUTOMOTIVE SENSORS

TABLE 127 AUTOMOTIVE SENSORS MARKET FOR SAFETY & CONTROL, BY VEHICLE TYPE, 2019–2025 (USD MILLION)

TABLE 128 AUTOMOTIVE SENSORS MARKET FOR SAFETY & CONTROL, BY VEHICLE TYPE, 2019–2025 (MILLION UNITS)

## 17.6 BODY ELECTRONICS

17.6.1 PASSENGER CARS TO DOMINATE BODY ELECTRONICS

TABLE 129 AUTOMOTIVE SENSORS MARKET FOR BODY ELECTRONICS, BY VEHICLE TYPE, 2019–2025 (USD MILLION)

TABLE 130 AUTOMOTIVE SENSORS MARKET FOR BODY ELECTRONICS, BY VEHICLE TYPE, 2019–2025 (MILLION UNITS)

## 17.7 TELEMATICS

17.7.1 TELEMATICS COVERS INFORMATION AND NAVIGATION,  
ENTERTAINMENT, AND DIAGNOSTICS

TABLE 131 AUTOMOTIVE SENSORS MARKET FOR TELEMATICS, BY VEHICLE  
TYPE, 2019–2025 (USD MILLION)

TABLE 132 AUTOMOTIVE SENSORS MARKET FOR TELEMATICS, BY VEHICLE  
TYPE, 2019–2025 (MILLION UNITS)

17.8 OTHERS

TABLE 133 AUTOMOTIVE SENSORS MARKET FOR OTHERS, BY VEHICLE TYPE,  
2019–2025 (USD MILLION)

TABLE 134 AUTOMOTIVE SENSORS MARKET FOR OTHERS, BY VEHICLE TYPE,  
2019–2025 (MILLION UNITS)

## **18 RECOMMENDATIONS BY MARKETSANDMARKETS**

18.1 ASIA PACIFIC: A POTENTIAL MARKET FOR SENSOR FUSION MARKET FOR  
AUTOMOTIVE

18.2 STRATEGIC ADOPTION OF LIDAR TO CREATE NEW REVENUE POCKETS

18.3 GROWING DEMAND FOR SENSOR FUSION IN ELECTRIC & AUTONOMOUS  
VEHICLES

18.4 CONCLUSION

## **19 COMPETITIVE LANDSCAPE**

19.1 OVERVIEW

19.2 KEY PLAYER STRATEGIES/RIGHT TO WIN

FIGURE 45 COMPANIES ADOPTED NEW PRODUCT DEVELOPMENT AS THE KEY  
GROWTH STRATEGY, 2019–2021

19.3 REVENUE ANALYSIS OF TOP FIVE PLAYERS, 2018-2020

FIGURE 46 REVENUE ANALYSIS OF TOP 5 PLAYERS, 2018-2020

19.4 MARKET SHARE ANALYSIS

TABLE 135 MARKET STRUCTURE, 2020

FIGURE 47 MARKET SHARE ANALYSIS, 2020

19.5 COMPETITIVE LEADERSHIP MAPPING

19.5.1 STAR

19.5.2 EMERGING LEADER

19.5.3 PERVASIVE

19.5.4 PARTICIPANT

FIGURE 48 COMPETITIVE LEADERSHIP MAPPING: SENSOR FUSION  
COMPONENT MANUFACTURERS

TABLE 136 SENSOR FUSION MARKET FOR AUTOMOTIVE: COMPANY FOOTPRINT

TABLE 137 COMPANY TECHNOLOGY FOOTPRINT

TABLE 138 COMPANY REGION FOOTPRINT (19 COMPANIES)

19.6 COMPETITIVE SCENARIO

19.7 NEW PRODUCT LAUNCHES

TABLE 139 NEW PRODUCT DEVELOPMENT, 2019-2020

19.8 AGREEMENTS, PARTNERSHIPS, COLLABORATIONS, AND JOINT VENTURES

TABLE 140 AGREEMENTS, PARTNERSHIPS, COLLABORATIONS, AND JOINT VENTURES, 2019-2021

## **20 COMPANY PROFILES**

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

### **20.1 KEY PLAYERS**

#### **20.1.1 ROBERT BOSCH GMBH**

TABLE 141 ROBERT BOSCH GMBH: BUSINESS OVERVIEW

FIGURE 49 ROBERT BOSCH GMBH: COMPANY SNAPSHOT

TABLE 142 ROBERT BOSCH GMBH: DEALS

#### **20.1.2 CONTINENTAL AG**

TABLE 143 CONTINENTAL AG: BUSINESS OVERVIEW

FIGURE 50 CONTINENTAL AG: COMPANY SNAPSHOT

TABLE 144 CONTINENTAL AG: PRODUCT DEVELOPMENTS

TABLE 145 CONTINENTAL AG: DEALS

#### **20.1.3 NXP SEMICONDUCTORS N.V.**

TABLE 146 NXP SEMICONDUCTORS N.V.: BUSINESS OVERVIEW

FIGURE 51 NXP SEMICONDUCTORS N.V.: COMPANY SNAPSHOT

TABLE 147 NXP SEMICONDUCTORS N.V.: PRODUCT LAUNCHES

#### **20.1.4 STMICROELECTRONICS**

TABLE 148 STMICROELECTRONICS N.V.: BUSINESS OVERVIEW

FIGURE 52 STMICROELECTRONICS N.V.: COMPANY SNAPSHOT

TABLE 149 STMICROELECTRONICS N.V.: PRODUCT LAUNCHES

TABLE 150 STMICROELECTRONICS N.V.: DEALS

#### **20.1.5 ZF FRIEDRICHSHAFEN AG**

TABLE 151 ZF FRIEDRICHSHAFEN AG: BUSINESS OVERVIEW

FIGURE 53 ZF FRIEDRICHSHAFEN AG: COMPANY SNAPSHOT

TABLE 152 ZF FRIEDRICHSHAFEN AG: PRODUCT LAUNCHES

TABLE 153 ZF FRIEDRICHSHAFEN AG: DEALS



#### 20.1.6 INFINEON TECHNOLOGIES

TABLE 154 INFINEON TECHNOLOGIES: BUSINESS OVERVIEW

FIGURE 54 INFINEON TECHNOLOGIES: COMPANY SNAPSHOT

TABLE 155 INFINEON TECHNOLOGIES: PRODUCT LAUNCHES

TABLE 156 INFINEON TECHNOLOGIES: DEALS

#### 20.1.7 ALLEGRO MICROSYSTEMS

TABLE 157 ALLEGRO MICROSYSTEMS: BUSINESS OVERVIEW

FIGURE 55 ALLEGRO MICROSYSTEMS: COMPANY SNAPSHOT

TABLE 158 ALLEGRO MICROSYSTEMS: PRODUCT LAUNCHES

TABLE 159 ALLEGRO MICROSYSTEMS: DEALS

#### 20.1.8 DENSO CORPORATION

TABLE 160 DENSO CORPORATION: BUSINESS OVERVIEW

FIGURE 56 DENSO CORPORATION: COMPANY SNAPSHOT

TABLE 161 DENSO CORPORATION: PRODUCT LAUNCHES

TABLE 162 DENSO CORPORATION: DEALS

#### 20.1.9 SENSATA TECHNOLOGIES, INC.

TABLE 163 SENSATA TECHNOLOGIES, INC.: BUSINESS OVERVIEW

FIGURE 57 SENSATA TECHNOLOGIES, INC.: COMPANY SNAPSHOT

TABLE 164 SENSATA TECHNOLOGIES, INC.: DEALS

#### 20.1.10 ELMOS SEMICONDUCTOR SE

TABLE 165 ELMOS SEMICONDUCTOR SE.: BUSINESS OVERVIEW

FIGURE 58 ELMOS SEMICONDUCTOR SE: COMPANY SNAPSHOT

TABLE 166 ELMOS SEMICONDUCTOR SE: DEALS

#### 20.1.11 TE CONNECTIVITY LTD.

TABLE 167 TE CONNECTIVITY LTD.: BUSINESS OVERVIEW

FIGURE 59 TE CONNECTIVITY LTD.: COMPANY SNAPSHOT

TABLE 168 TE CONNECTIVITY LTD.: DEALS

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

### 20.2 OTHER KEY PLAYERS

#### 20.2.1 CTS CORPORATION

TABLE 169 CTS CORPORATION: BUSINESS OVERVIEW

#### 20.2.2 BASELABS GMBH

TABLE 170 BASELABS GMBH: BUSINESS OVERVIEW

#### 20.2.3 MEMSIC SEMICONDUCTOR (TIANJIN) CO., LTD.

TABLE 171 MEMSIC SEMICONDUCTOR (TIANJIN) CO., LTD.: BUSINESS OVERVIEW

#### 20.2.4 KIONIX, INC.

TABLE 172 KIONIX, INC.: BUSINESS OVERVIEW

#### 20.2.5 TDK CORPORATION

TABLE 173 TDK CORPORATION: BUSINESS OVERVIEW

#### 20.2.6 ANALOG DEVICES

TABLE 174 ANALOG DEVICES: BUSINESS OVERVIEW

#### 20.2.7 MICROCHIP TECHNOLOGY INC.

TABLE 175 MICROCHIP TECHNOLOGY INC.: BUSINESS OVERVIEW

#### 20.2.8 MONOLITHIC POWER SYSTEMS, INC.

TABLE 176 MONOLITHIC POWER SYSTEMS, INC.: BUSINESS OVERVIEW

#### 20.2.9 LEDDARTECH INC.

TABLE 177 LEDDARTECH INC.: BUSINESS OVERVIEW

#### 20.2.10 IBEO AUTOMOTIVE SYSTEMS GMBH

TABLE 178 IBEO AUTOMOTIVE SYSTEMS GMBH: BUSINESS OVERVIEW

#### 20.2.11 MAXIM INTEGRATED

TABLE 179 MAXIM INTEGRATED: BUSINESS OVERVIEW

#### 20.2.12 VELODYNE LIDAR, INC.

TABLE 180 VELODYNE LIDAR, INC.: BUSINESS OVERVIEW

#### 20.2.13 RENESAS ELECTRONICS CORPORATION

TABLE 181 RENESAS ELECTRONICS CORPORATION: BUSINESS OVERVIEW

#### 20.2.14 MOBILEYE

TABLE 182 MOBILEYE: BUSINESS OVERVIEW

#### 20.2.15 APTIV PLC

TABLE 183 APTIV PLC: BUSINESS OVERVIEW

#### 20.2.16 MAGNA INTERNATIONAL

TABLE 184 MAGNA INTERNATIONAL: BUSINESS OVERVIEW

## 21 APPENDIX

### 21.1 CURRENCY & PRICING

TABLE 185 CURRENCY EXCHANGE RATES (WRT PER USD)

### 21.2 INSIGHTS OF INDUSTRY EXPERTS

### 21.3 DISCUSSION GUIDE

### 21.4 KNOWLEDGE STORE: MARKETSandMARKETS' SUBSCRIPTION PORTAL

### 21.5 AVAILABLE CUSTOMIZATIONS

#### 21.5.1 SENSOR FUSION MARKET FOR AUTOMOTIVE, BY VEHICLE TYPE & BY TECHNOLOGY

##### 21.5.1.1 Cameras

##### 21.5.1.2 Radar

##### 21.5.1.3 LiDAR

#### 21.5.2 AUTONOMOUS VEHICLE TYPE SENSOR FUSION MARKET, BY

## TECHNOLOGY

21.5.2.1 Cameras

21.5.2.2 Radar

21.5.2.3 LiDAR

## 21.5.3 ELECTRIC VEHICLE TYPE SENSOR FUSION MARKET, BY TECHNOLOGY

21.5.3.1 Cameras

21.5.3.2 Radar

21.5.3.3 LiDAR

## 21.6 RELATED REPORTS

## 21.7 AUTHOR DETAILS

## I would like to order

Product name: Sensor Fusion Market for Automotive by Technology (Camera, LIDAR & RADAR), Data Fusion Type & Level (Homogeneous, Heterogeneous, Data, Decision, Feature), Software Layer, Vehicle Type (ICE, Autonomous & Electric) and Region-Global Forecast to 2030

Product link: <https://marketpublishers.com/r/S79630768B6DEN.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/S79630768B6DEN.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