

Traffic Sensor Market by Type (Inductive Loop, Piezoelectric Sensor, Bending Plate, Image Sensor, Infrared Sensor, Radar Sensor, LiDAR Sensor, Magnetic Sensor, Acoustic Sensor, Thermal Sensor), Technology, Application, and Region - Global Forecast to 2026

<https://marketpublishers.com/r/T445186A58BEN.html>

Date: December 2021

Pages: 246

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

ID: T445186A58BEN

Abstracts

The traffic sensor market is estimated to be valued at USD 566 million in 2021 and reach USD 809 million by 2026, at a CAGR of 7.4% between 2021 and 2026. The growing need for real-time information system, and government initiative to upgrade transport infrastructure are the key factors driving the growth of the market. Likewise, growth in cycling infrastructure leading to higher adoption of bicycle counting sensors in traffic sensor market is expected to create lucrative opportunities for the players in the traffic sensor market. However, high cost and fulfilment of fundamental requirements for the installation of non-intrusive sensors are expected to restraint market growth.

Imaging sensor will have the highest growth in coming years

Image sensor is expected to account the largest share of the overall traffic sensor market by 2026. By image sensor the images are seen from the cameras located beside or upon the road. Moreover, the images seen from the camera located in the vehicle can be used for detection of the car behind it, measuring the distance of the following vehicle from it, detection of obstacle, and detection of lane. This traffic image sensor can be built into a traffic signal controller because of its compact size. Image sensor offers high sensitivity even in poor light conditions also, this image sensor possesses high speed imaging capabilities which offers better daytime imaging performance.

2D segment is expected to hold the largest share in 2026

Despite the numerous benefits of 3D sensor technology for quality traffic monitoring applications, many traffic control authorities continue to rely solely on 2D sensor for quality control processes. While useful in a limited number of scenarios, 2D sensor is limited in its ability to achieve 100% quality control, which is considered a major concern, especially in case of multilane and heavy urban traffic congestions, where near to 100% quality control is a major preference. Due to these reasons, although the 2D sensor will continue to dominate the traffic sensor market.

APAC is attributed to grow at the highest CAGR in overall traffic sensor market during the forecast period (2021-2026)

APAC is expected to grow at the highest CAGR in the overall traffic sensor market. The fastest growth of the APAC traffic sensor market is expected to be driven by the increasing number of mega cities and growing population in developed and developing countries.

The break-up of primary participants for the report has been shown below:

By Company Type: Tier 1 - 30%, Tier 2 - 45%, and Tier 3 - 25%

By Designation: C-level Executives - 35%, Director Level - 45%, and Others - 20%

By Region: North America - 50%, Europe - 30%, APAC - 10%, and RoW - 10%

Traffic sensor market was dominated by EFKON (Austria), Siemens (US), International Road Dynamics (Canada), Kapsch TrafficCom (Austria), and Q-Free ASA (Norway).

Research Coverage:

This research report categorizes traffic sensor market by sensor type, by technology, by application, and by region. The report describes the major drivers, restraints, challenges, and opportunities pertaining to the traffic sensor market and forecasts the same till 2026.

Key Benefits of Buying the Report

The report would help leaders/new entrants in this market in the following ways:

1. This report segments the traffic sensor market comprehensively and provides the closest market size projection for all subsegments across different regions.
2. The report helps stakeholders understand the pulse of the market and provides them with information on key drivers, restraints, challenges, and opportunities for market growth.
3. This report would help stakeholders understand their competitors better and gain more insights to improve their position in the business. The competitive landscape section includes product launches and developments, collaborations and acquisitions.
4. This report would help understand the pre and post-COVID-19 scenarios as to how would the penetration of traffic sensor will look like for the forecast period. The region segment includes the country wise impact analysis of COVID-19 and initiatives taken to overcome these impacts

Contents

1 INTRODUCTION

- 1.1 STUDY OBJECTIVES
- 1.2 MARKET DEFINITION
 - 1.2.1 INCLUSIONS AND EXCLUSIONS
- 1.3 STUDY SCOPE
 - 1.3.1 MARKETS COVERED
- FIGURE 1 MARKET SEGMENTATION
 - 1.3.2 GEOGRAPHIC SCOPE
 - 1.3.3 YEARS CONSIDERED
- 1.4 CURRENCY
- 1.5 LIMITATIONS
- 1.6 STAKEHOLDERS
- 1.7 SUMMARY OF CHANGES

2 RESEARCH METHODOLOGY

- 2.1 RESEARCH DATA
 - FIGURE 2 TRAFFIC SENSOR MARKET: RESEARCH DESIGN
 - 2.1.1 SECONDARY DATA
 - 2.1.1.1 Major secondary sources
 - 2.1.1.2 Key data from secondary sources
 - 2.1.2 PRIMARY DATA
 - 2.1.2.1 Primary interviews with experts
 - 2.1.2.2 Key data from primary sources
 - 2.1.2.3 Key industry insights
 - 2.1.2.4 Breakdown of primaries
 - 2.1.3 SECONDARY AND PRIMARY RESEARCH
 - 2.2 MARKET SIZE ESTIMATION
 - FIGURE 3 RESEARCH FLOW OF MARKET SIZE ESTIMATION
 - 2.2.1 BOTTOM-UP APPROACH
 - FIGURE 4 MARKET SIZE ESTIMATION METHODOLOGY (SUPPLY SIDE):
REVENUE FROM SALES OF TRAFFIC SENSOR PRODUCTS AND SOLUTIONS
 - 2.2.1.1 Approach for capturing market size by bottom-up analysis
(demand side)
 - FIGURE 5 MARKET SIZE ESTIMATION METHODOLOGY: BOTTOM-UP APPROACH
 - 2.2.2 TOP-DOWN APPROACH

FIGURE 6 TOP-DOWN APPROACH

2.3 MARKET BREAKDOWN AND DATA TRIANGULATION

FIGURE 7 DATA TRIANGULATION

2.4 RESEARCH ASSUMPTIONS

2.5 RISK ASSESSMENT

TABLE 1 RISK FACTOR ANALYSIS

2.6 FORECASTING ASSUMPTIONS

2.7 COMPETITIVE LEADERSHIP MAPPING METHODOLOGY

TABLE 2 EVALUATION CRITERIA

2.7.1 VENDOR INCLUSION CRITERIA

2.8 STUDY LIMITATIONS

3 EXECUTIVE SUMMARY

FIGURE 8 TRAFFIC SENSOR MARKET, BY TYPE, 2021 VS. 2026

FIGURE 1 TRAFFIC SENSOR MARKET, BY APPLICATION, 2021 VS. 2026

FIGURE 2 APAC TO EXHIBIT HIGHEST CAGR IN TRAFFIC SENSOR MARKET DURING FORECAST PERIOD

3.1 IMPACT ANALYSIS OF COVID-19 ON TRAFFIC SENSOR MARKET

FIGURE 3 TRAFFIC SENSOR MARKET SIZE IN PRE-COVID-19 AND POST-COVID-19 SCENARIOS

3.1.1 PRE-COVID-19 SCENARIO

3.1.2 POST-COVID-19 SCENARIO

4 PREMIUM INSIGHTS

4.1 ATTRACTIVE OPPORTUNITIES IN TRAFFIC SENSOR MARKET

FIGURE 4 INCREASED FOCUS ON PROMOTING ROAD SAFETY AWARENESS WITH RAPID URBANIZATION AND GROWING POPULATION FUEL MARKET GROWTH

4.2 TRAFFIC SENSOR MARKET, BY TECHNOLOGY

FIGURE 5 2D TRAFFIC SENSOR TECHNOLOGY TO HOLD LARGEST MARKET SHARE IN 2021

4.3 TRAFFIC SENSOR MARKET IN NORTH AMERICA, BY SENSOR TYPE AND COUNTRY

FIGURE 6 IMAGE SENSORS AND US TO CAPTURE LARGEST SHARE OF NORTH AMERICAN TRAFFIC SENSOR MARKET IN 2021

4.4 TRAFFIC SENSOR MARKET, BY SENSOR TYPE

FIGURE 7 IMAGE SENSORS TO CAPTURE LARGEST SHARE OF TRAFFIC

SENSOR MARKET DURING FORECAST PERIOD

4.5 TRAFFIC SENSOR MARKET, BY KEY COUNTRY

FIGURE 8 US TO HOLD LARGEST SHARE OF TRAFFIC SENSOR MARKET IN 2021

5 MARKET OVERVIEW

5.1 INTRODUCTION

5.2 MARKET DYNAMICS

FIGURE 9 TRAFFIC SENSOR MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES

5.2.1 DRIVERS

FIGURE 10 IMPACT OF DRIVERS ON TRAFFIC SENSOR MARKET

5.2.1.1 Increased focus on promoting road safety awareness with rapid urbanization and growing population

FIGURE 11 INCREASE IN GLOBAL TRAFFIC CONGESTION LEVEL WITH GROWING URBAN POPULATION FROM 2015 TO 2020

5.2.1.2 Strong focus of governments worldwide on building extensive and efficient transport infrastructure

5.2.1.3 Increased investments in building smart cities

TABLE 3 TOP 15 SMART CITIES IN WORLD, 2020 VS. 2021

TABLE 4 SMART CITY INITIATIVES AND INVESTMENTS

5.2.1.4 Urgent need to deploy real-time information systems in transport infrastructure

5.2.2 RESTRAINTS

FIGURE 12 IMPACT OF RESTRAINTS ON TRAFFIC SENSOR MARKET

5.2.2.1 High installation cost and indispensable prerequisites of non-intrusive sensors

5.2.2.2 Deterioration of road pavements and traffic disruptions during installation and maintenance of traffic sensors

5.2.3 OPPORTUNITIES

FIGURE 13 IMPACT OF OPPORTUNITIES ON THE TRAFFIC SENSOR MARKET

5.2.3.1 Growing importance of cycling infrastructure leading to higher adoption of bicycle counting sensors

FIGURE 14 PATENTS FOR BICYCLE COUNTER SENSORS BETWEEN 2010 AND 2020

5.2.3.2 Increasing focus on integrating ITS with IoT and AI technologies

5.2.3.3 Rising adoption of electric and autonomous vehicles as new modes of transportation

5.2.4 CHALLENGES

FIGURE 15 IMPACT OF CHALLENGES ON TRAFFIC SENSOR MARKET

5.2.4.1 High amount of noise in raw and unfiltered floating cellular data

5.2.4.2 Challenges associated with data fusion due to deployment of multiple sensors

5.3 VALUE CHAIN ANALYSIS

FIGURE 16 VALUE CHAIN ANALYSIS OF TRAFFIC SENSORS ECOSYSTEM:
MANUFACTURING, ASSEMBLY, AND SYSTEM INTEGRATION PHASES
CONTRIBUTE MOST VALUE

5.3.1 PLANNING AND REVISING FUNDS

5.3.2 RESEARCH AND DEVELOPMENT

5.3.3 MANUFACTURING AND ASSEMBLY & SYSTEM INTEGRATION

5.3.4 DISTRIBUTION AND AFTER-SALES SERVICES

5.4 ECOSYSTEM

FIGURE 17 TRAFFIC SENSORS ECOSYSTEM

TABLE 5 LIST OF COMPANIES AND THEIR ROLE IN TRAFFIC SENSORS
ECOSYSTEM

5.5 TRENDS IMPACTING CUSTOMERS' BUSINESS

FIGURE 18 REVENUE SHIFT IN TRAFFIC SENSOR MARKET

5.6 CASE STUDIES

5.6.1 EFKON IS WORKING WITH VARANASI SMART CITY LIMITED (INDIA) TO
DEVELOP VARANASI SMART CITY INFORMATION AND COMMUNICATION
TECHNOLOGY (ICT) SOLUTIONS

5.6.2 SMATS TRAFFIC SOLUTIONS (CANADA) OFFERS REAL-TIME QUEUE
MONITORING AND SIGNAL TIMING SOLUTIONS FOR FLORIDA DEPARTMENT OF
TRANSPORTATION (FDOT) BY UTILISING VEHICLE-TO-NETWORK (V2N)
COMMUNICATION

5.6.3 AGD SYSTEMS (UK) OFFERS COMBINATION OF PEDESTRIAN DETECTOR
SENSORS TO MANAGE TRAFFIC IN NEW SOUTH WALES, AUSTRALIA

5.6.4 SWARCO (AUSTRIA) COLLABORATED WITH ADG SYSTEMS (UK) TO
DEVELOP ADVANCED WARNING SYSTEM FOR SAFETY OF CYCLISTS ON
BEDFORDSHIRE'S COUNTRY LANES IN UK

5.6.5 KAPSCH TRAFFICOM (AUSTRIA) UPGRADED TOLL COLLECTION
EQUIPMENT ON MARYLAND ROADS IN US

5.7 PORTER'S FIVE FORCES ANALYSIS

FIGURE 19 PORTER'S FIVE FORCES ANALYSIS

TABLE 6 TRAFFIC SENSOR MARKET: PORTER'S FIVE FORCES ANALYSIS

5.7.1 THREAT OF NEW ENTRANTS

5.7.2 THREAT OF SUBSTITUTES

5.7.3 BARGAINING POWER OF BUYERS

5.7.4 BARGAINING POWER OF SUPPLIERS

5.7.5 INTENSITY OF COMPETITIVE RIVALRY

5.8 TECHNOLOGY TRENDS

5.8.1 KEY TECHNOLOGY

5.8.1.1 Advent of vehicle-to-everything (V2X) technology owing to its benefits and features

TABLE 7 V2X COMMUNICATION TECHNOLOGY

5.8.1.2 Rapid development of smart imaging sensors and powerful image processors

FIGURE 20 PATENTS FOR TRAFFIC IMAGE SENSORS BETWEEN 2010 AND 2020

5.8.2 COMPLEMENTARY TECHNOLOGY

5.8.2.1 Growing advancement in AI, IoT, and big data analytics

5.8.2.2 Edge computing and advent of 5G technology

5.9 TRADE ANALYSIS

5.9.1 IMPORT SCENARIO

5.9.1.1 Import scenario for traffic sensor market

TABLE 8 ELECTRIC SIGNAL, SAFETY & TRAFFIC CONTROLLER PARTS

(INCLUDING TRAFFIC SENSORS) IMPORTS, BY KEY COUNTRY, 2011–2020 (USD MILLION)

FIGURE 21 IMPORT DATA FOR ELECTRIC SIGNAL, SAFETY & TRAFFIC CONTROLLER PARTS (INCLUDING TRAFFIC SENSORS) IN MARKET FOR TOP FIVE COUNTRIES, 2016–2020 (USD MILLION)

5.9.2 EXPORT SCENARIO

5.9.2.1 Export scenario for traffic sensor market

TABLE 9 ELECTRIC SIGNAL, SAFETY & TRAFFIC CONTROLLER PARTS

(INCLUDING TRAFFIC SENSORS) EXPORTS, BY KEY COUNTRY, 2011–2020 (USD MILLION)

FIGURE 22 EXPORT DATA FOR ELECTRIC SIGNAL, SAFETY & TRAFFIC CONTROLLER PARTS (INCLUDING TRAFFIC SENSORS) IN MARKET FOR TOP FIVE COUNTRIES, 2016–2020 (USD MILLION)

5.10 PATENT ANALYSIS

TABLE 10 TOP 10 PATENT OWNERS IN LAST 10 YEARS (2011–2020)

TABLE 11 PATENTS FILED FOR VARIOUS TYPES OF TRAFFIC SENSORS, 2020

FIGURE 23 TRAFFIC SENSOR PATENTS GRANTED BETWEEN 2011 AND 2020

FIGURE 24 TOP 10 COMPANIES WITH LARGEST NUMBER OF PATENT APPLICATIONS, 2011–2020

5.11 TARIFFS AND REGULATIONS

5.11.1 TARIFFS

TABLE 12 WORLD IMPORT TARIFFS FOR ELECTRIC SIGNAL, SAFETY & TRAFFIC CONTROLLER PARTS (SIMPLE AVERAGE) VIEW DATA SAVE IMAGE SHARE, BY KEY COUNTRY

5.11.1.1 Positive impact of tariffs on traffic sensors ecosystem

5.11.1.2 Negative impact of tariffs on traffic sensors ecosystem

5.11.2 REGULATIONS AND STANDARDS

FIGURE 25 VARIOUS STANDARDS FOR TRAFFIC SENSORS

5.11.2.1 ISO standards

5.11.2.1.1 ISO 17386:2010

5.11.2.1.2 ISO/TS 15624:2001

5.11.2.1.3 ISO/IEC 30128:2014

5.11.2.1.4 ISO 15638-21:2018

5.11.2.2 Federal Communication Commission (FCC) Regulations

5.11.2.3 Regulations for different regions

TABLE 13 REGULATIONS FOR DIFFERENT REGIONS

5.12 AVERAGE SELLING PRICE

TABLE 14 AVERAGE SELLING PRICE OF TRAFFIC SENSOR, BY TYPE (USD)

FIGURE 26 ASP TREND FOR TRAFFIC SENSORS BETWEEN 2018 AND 2026

FIGURE 27 ASP TREND FOR BENDING PLATE SENSORS FROM 2018 TO 2026

6 TRAFFIC SENSOR MARKET, BY SENSOR TYPE

6.1 INTRODUCTION

FIGURE 28 TRAFFIC SENSOR MARKET, BY SENSOR TYPE

TABLE 15 TRAFFIC SENSOR MARKET, BY SENSOR TYPE, 2018–2020 (MILLION UNITS)

TABLE 16 TRAFFIC SENSOR MARKET, BY SENSOR TYPE, 2021–2026 (MILLION UNITS)

FIGURE 29 IMAGE SENSORS TO HOLD LARGEST SIZE OF TRAFFIC SENSOR MARKET

IN 2026

TABLE 17 TRAFFIC SENSOR MARKET, BY SENSOR TYPE, 2018–2020 (USD MILLION)

TABLE 18 TRAFFIC SENSOR MARKET, BY SENSOR TYPE, 2021–2026 (USD MILLION)

6.2 PIEZOELECTRIC SENSORS

6.2.1 PIEZOELECTRIC SENSORS ARE USED FOR MEASURING GENERATED ELECTRIC CHARGE OR ANY MECHANICAL DEFORMATION

FIGURE 30 PIEZOELECTRIC TRAFFIC SENSOR MARKET, BY SENSOR TYPE

TABLE 19 TRAFFIC SENSOR MARKET FOR PIEZOELECTRIC SENSORS, BY REGION, 2018–2020 (USD MILLION)

TABLE 20 TRAFFIC SENSOR MARKET FOR PIEZOELECTRIC SENSORS, BY REGION, 2021–2026 (USD MILLION)

TABLE 21 TRAFFIC SENSOR MARKET FOR PIEZOELECTRIC SENSORS, BY TYPE, 2018–2020 (USD MILLION)

TABLE 22 TRAFFIC SENSOR MARKET FOR PIEZOELECTRIC SENSORS, BY TYPE, 2021–2026 (USD MILLION)

6.2.2 CERAMIC

6.2.2.1 Ceramic piezoelectric sensors offer fast response and highly accurate operation resonance in real time

6.2.3 QUARTZ

6.2.3.1 Quartz piezoelectric sensors are used to minimize effort to install sensors across highways

6.3 BENDING PLATE SENSORS

6.3.1 BENDING PLATE SENSORS ARE WIDELY USED IN WIM APPLICATIONS

TABLE 23 TRAFFIC SENSOR MARKET FOR BENDING PLATE SENSORS, BY REGION, 2018–2020 (USD MILLION)

TABLE 24 TRAFFIC SENSOR MARKET FOR BENDING PLATE SENSORS, BY REGION, 2021–2026 (USD MILLION)

6.4 INDUCTIVE LOOP SENSORS

6.4.1 INDUCTIVE LOOP SENSORS ARE USED TO DETECT AND COUNT NUMBER OF VEHICLES

TABLE 25 TRAFFIC SENSOR MARKET FOR INDUCTIVE LOOP SENSORS, BY REGION, 2018–2020 (USD MILLION)

TABLE 26 TRAFFIC SENSOR MARKET FOR INDUCTIVE LOOP SENSORS, BY REGION, 2021–2026 (USD MILLION)

6.5 MAGNETIC SENSORS

6.5.1 MAGNETIC SENSORS CAN BE USED AS CONTACTLESS DETECTION SENSORS

FIGURE 31 GLOBAL MARKET SIZE FOR AUTOMOTIVE MAGNETIC SENSORS, 2017 VS. 2030

TABLE 27 TRAFFIC SENSOR MARKET FOR MAGNETIC SENSORS, BY REGION, 2018–2020 (USD MILLION)

TABLE 28 TRAFFIC SENSOR MARKET FOR MAGNETIC SENSORS, BY REGION, 2021–2026 (USD MILLION)

6.6 ACOUSTIC SENSORS

6.6.1 ACOUSTIC SENSORS ARE HELPFUL IN MEASURING SOUND LEVELS

TABLE 29 TRAFFIC SENSOR MARKET FOR ACOUSTIC SENSORS, BY REGION, 2018–2020 (USD MILLION)

TABLE 30 TRAFFIC SENSOR MARKET FOR ACOUSTIC SENSORS, BY REGION, 2021–2026 (USD MILLION)

6.7 INFRARED SENSORS

6.7.1 INFRARED SENSORS ARE USEFUL IN IDENTIFYING VEHICLES AND ESTIMATING THEIR SPEED

TABLE 31 TRAFFIC SENSOR MARKET FOR INFRARED SENSORS, BY REGION, 2018–2020 (USD MILLION)

TABLE 32 TRAFFIC SENSOR MARKET FOR INFRARED SENSORS, BY REGION, 2021–2026 (USD MILLION)

6.8 IMAGE SENSORS

6.8.1 IMAGE SENSORS ARE USED TO DETECT PARKED AND MOVING VEHICLES

TABLE 33 TRAFFIC SENSOR MARKET FOR IMAGE SENSORS, BY REGION, 2018–2020 (USD MILLION)

TABLE 34 TRAFFIC SENSOR MARKET FOR IMAGE SENSORS, BY REGION, 2021–2026 (USD MILLION)

6.9 RADAR SENSORS

6.9.1 RADAR SENSORS ARE USED TO FIND VELOCITY AND ACCURATE POSITION OF DISTANT OBJECTS

TABLE 35 TRAFFIC SENSOR MARKET FOR RADAR SENSORS, BY REGION, 2018–2020 (USD MILLION)

TABLE 36 TRAFFIC SENSOR MARKET FOR RADAR SENSORS, BY REGION, 2021–2026 (USD MILLION)

6.10 LIDAR SENSORS

6.10.1 LIDAR SENSORS ARE UTILIZED TO ACHIEVE REAL-TIME INFORMATION ABOUT VEHICLE COUNT, TYPE, POSITION, DIRECTION, AND SPEED

TABLE 37 TRAFFIC SENSOR MARKET FOR LIDAR SENSORS, BY REGION, 2018–2020 (USD MILLION)

TABLE 38 TRAFFIC SENSOR MARKET FOR LIDAR SENSORS, BY REGION, 2021–2026 (USD MILLION)

6.11 THERMAL SENSORS

6.11.1 THERMAL SENSORS ARE USED WHEN THERE IS LACK OF LIGHT TO CAPTURE VEHICLE IMAGES

TABLE 39 TRAFFIC SENSOR MARKET FOR THERMAL SENSORS, BY REGION, 2018–2020 (USD MILLION)

TABLE 40 TRAFFIC SENSOR MARKET FOR THERMAL SENSORS, BY REGION, 2021–2026 (USD MILLION)

7 TRAFFIC SENSOR MARKET, BY TECHNOLOGY

7.1 INTRODUCTION

FIGURE 32 3D SENSOR TECHNOLOGY TO EXHIBIT HIGHEST CAGR IN TRAFFIC

Traffic Sensor Market by Type (Inductive Loop, Piezoelectric Sensor, Bending Plate, Image Sensor, Infrared Sen...

SENSOR MARKET DURING FORECAST PERIOD

TABLE 41 TRAFFIC SENSOR MARKET, BY TECHNOLOGY, 2018–2020 (USD MILLION)

TABLE 42 TRAFFIC SENSOR MARKET, BY TECHNOLOGY, 2021–2026 (USD MILLION)

7.2 2D SENSOR

7.2.1 PROMINENT PRESENCE OF VENDORS, SMALL FORM FACTOR, AND LOW INVESTMENT PROPEL MARKET GROWTH FOR 2D SENSORS

7.3 3D SENSOR

7.3.1 3D SENSORS CAN CAPTURE REAL-TIME DATA FOR EASY IDENTIFICATION OF VEHICLES, DATA ACQUISITION, POINT CLOUD CLASSIFICATION, AND 3D VISUALIZATION

7.4 GLOBAL SYSTEM FOR MOBILE COMMUNICATION (GSM)

7.4.1 GSM TECHNOLOGY MANAGES TRAFFIC BY COLLECTING LOCATION DATA, SPEED, DIRECTION OF TRAVEL, AND TIME INFORMATION FROM MOBILE PHONES IN MOVING VEHICLES

7.5 RADIOFREQUENCY IDENTIFICATION (RFID)

7.5.1 V2X COLLISION DETECTION SYSTEM UTILIZES RFID TECHNOLOGY TO DETECT VEHICLE PRESENCE ON ROAD INTERSECTIONS

8 TRAFFIC SENSOR MARKET, BY APPLICATION

8.1 INTRODUCTION

FIGURE 33 TRAFFIC SENSOR MARKET, BY APPLICATION

FIGURE 34 TRAFFIC MONITORING APPLICATION TO HOLD LARGEST SIZE OF TRAFFIC SENSOR MARKET BETWEEN 2021 AND 2026

TABLE 43 TRAFFIC SENSOR MARKET, BY APPLICATION, 2018–2020 (USD MILLION)

TABLE 44 TRAFFIC SENSOR MARKET, BY APPLICATION, 2021–2026 (USD MILLION)

8.2 VEHICLE MEASUREMENT AND PROFILING

8.2.1 VEHICLE RECOGNITION, CLASSIFICATION, AND AXLE COUNTING ARE MAJOR APPLICATIONS OF TRAFFIC SENSORS

8.2.2 VEHICLE PROFILING

8.2.2.1 Vehicle profiling can be done through traffic sensors

8.2.3 AXLE COUNTING

8.2.3.1 Axle counter enables error-free detection and counting of vehicle axles in multi-lane roads and free-flowing traffic

TABLE 45 TRAFFIC SENSOR MARKET FOR VEHICLE MEASUREMENT AND

PROFILING APPLICATION, BY REGION, 2018–2020 (USD MILLION)

TABLE 46 TRAFFIC SENSOR MARKET FOR VEHICLE MEASUREMENT AND PROFILING APPLICATION, BY REGION, 2021–2026 (USD MILLION)

TABLE 47 TRAFFIC SENSOR MARKET FOR VEHICLE MEASUREMENT AND PROFILING APPLICATION, BY TYPE, 2018–2020 (USD MILLION)

TABLE 48 TRAFFIC SENSOR MARKET FOR VEHICLE MEASUREMENT AND PROFILING APPLICATION, BY TYPE, 2021–2026 (USD MILLION)

8.3 WEIGH IN MOTION

8.3.1 TRAFFIC SENSORS PROVIDE ACCURATE DATA REGARDING GROSS WEIGHTS OF VEHICLES IN MOTION AND INDIVIDUAL AXLE LOADS WITHOUT DISTURBING TRAFFIC FLOW

FIGURE 35 TRAFFIC SENSOR MARKET FOR WEIGH IN MOTION APPLICATION IN APAC TO GROW AT HIGHEST CAGR DURING FORECAST PERIOD

TABLE 49 TRAFFIC SENSOR MARKET FOR WEIGH IN MOTION APPLICATION, BY REGION, 2018–2020 (USD MILLION)

TABLE 50 TRAFFIC SENSOR MARKET FOR WEIGH IN MOTION APPLICATION, BY REGION, 2021–2026 (USD MILLION)

TABLE 51 TRAFFIC SENSOR MARKET FOR WEIGHT IN MOTION APPLICATION, BY TYPE, 2018–2020 (USD MILLION)

TABLE 52 TRAFFIC SENSOR MARKET FOR WEIGHT IN MOTION APPLICATION, BY TYPE, 2021–2026 (USD MILLION)

8.3.2 WEIGHT ENFORCEMENT

8.3.2.1 Weight enforcement application ensures detection of overloaded vehicles in real time

8.3.3 WEIGHT-BASED TOLL COLLECTION

8.3.3.1 Weight-based toll collection systems present option to sanction loading limit violations or deny access to bridges roads

8.3.4 TRAFFIC DATA COLLECTION

8.3.4.1 Traffic data collection systems are used to get continuous, reliable, complete, and accurate traffic and weight-related data

8.4 TRAFFIC MONITORING

8.4.1 TRAFFIC MONITORING SYSTEMS ARE INTEGRATED WITH TRAFFIC SENSORS TO MONITOR ON-ROAD TRAFFIC IN REAL TIME

FIGURE 36 NORTH AMERICA TO HOLD LARGEST SIZE OF TRAFFIC SENSOR MARKET FOR TRAFFIC MONITORING APPLICATION THROUGHOUT FORECAST PERIOD

TABLE 53 TRAFFIC SENSOR MARKET FOR TRAFFIC MONITORING APPLICATION, BY REGION, 2018–2020 (USD MILLION)

TABLE 54 TRAFFIC SENSOR MARKET FOR TRAFFIC MONITORING APPLICATION,

BY REGION, 2021–2026 (USD MILLION)

TABLE 55 TRAFFIC SENSOR MARKET FOR TRAFFIC MONITORING APPLICATION, BY TYPE, 2018–2020 (USD MILLION)

TABLE 56 TRAFFIC SENSOR MARKET FOR TRAFFIC MONITORING APPLICATION, BY TYPE, 2021–2026 (USD MILLION)

8.4.2 VEHICLE COUNTING

8.4.2.1 Vehicle counting systems are integrated with traffic sensors for continuous recording of vehicle counts

8.4.3 BICYCLE COUNTING

8.4.3.1 Bicycle counting systems record count of cyclists and pedestrians separately

8.4.4 VEHICLE MOTION TRACKING

8.4.4.1 Vehicle motion tracking systems are integrated with traffic sensors to detect vehicles with higher accuracy

8.5 AUTOMATED TOLLING (E-TOLL)

8.5.1 AUTOMATED TOLLING SOLUTIONS ARE DEPLOYED TO COLLECT TOLL FEES AT FASTER RATE

TABLE 57 TRAFFIC SENSOR MARKET FOR AUTOMATED TOLLING APPLICATION, BY REGION, 2018–2020 (USD MILLION)

TABLE 58 TRAFFIC SENSOR MARKET FOR AUTOMATED TOLLING APPLICATION, BY REGION, 2021–2026 (USD MILLION)

9 GEOGRAPHIC ANALYSIS

9.1 INTRODUCTION

FIGURE 37 TRAFFIC SENSOR MARKET IN REST OF APAC TO GROW AT HIGHEST CAGR BETWEEN 2021 AND 2026

FIGURE 38 APAC TO EXHIBIT HIGHEST CAGR IN TRAFFIC SENSOR MARKET DURING FORECAST PERIOD

TABLE 59 TRAFFIC SENSOR MARKET, BY REGION, 2018–2020 (USD MILLION)

TABLE 60 TRAFFIC SENSOR MARKET, BY REGION, 2021–2026 (USD MILLION)

9.2 NORTH AMERICA

FIGURE 39 NORTH AMERICA: SNAPSHOT OF TRAFFIC SENSOR MARKET

TABLE 61 TRAFFIC SENSOR MARKET IN NORTH AMERICA, BY SENSOR TYPE, 2018–2020 (USD MILLION)

TABLE 62 TRAFFIC SENSOR MARKET IN NORTH AMERICA, BY SENSOR TYPE, 2021–2026 (USD MILLION)

TABLE 63 TRAFFIC SENSOR MARKET IN NORTH AMERICA, BY APPLICATION, 2018–2020 (USD MILLION)

TABLE 64 TRAFFIC SENSOR MARKET IN NORTH AMERICA, BY APPLICATION,

2021–2026 (USD MILLION)

TABLE 65 NORTH AMERICA: TRAFFIC SENSOR MARKET FOR VEHICLE MEASUREMENT AND PROFILING APPLICATION, BY TYPE, 2018–2020 (USD MILLION)

TABLE 66 NORTH AMERICA: TRAFFIC SENSOR MARKET FOR VEHICLE MEASUREMENT AND PROFILING APPLICATION, BY TYPE, 2021–2026 (USD MILLION)

TABLE 67 NORTH AMERICA: TRAFFIC SENSOR MARKET FOR WEIGH IN MOTION APPLICATION, BY TYPE, 2018–2020 (USD MILLION)

TABLE 68 NORTH AMERICA: TRAFFIC SENSOR MARKET FOR WEIGH IN MOTION APPLICATION, BY TYPE, 2021–2026 (USD MILLION)

TABLE 69 NORTH AMERICA: TRAFFIC SENSOR MARKET FOR TRAFFIC MONITORING APPLICATION, BY TYPE, 2018–2020 (USD MILLION)

TABLE 70 NORTH AMERICA: TRAFFIC SENSOR MARKET FOR TRAFFIC MONITORING APPLICATION, BY TYPE, 2021–2026 (USD MILLION)

TABLE 71 TRAFFIC SENSOR MARKET IN NORTH AMERICA, BY COUNTRY, 2018–2020 (USD MILLION)

TABLE 72 TRAFFIC SENSOR MARKET IN NORTH AMERICA, BY COUNTRY, 2021–2026 (USD MILLION)

9.2.1 US

9.2.1.1 US holds first rank in global traffic sensor market at present

9.2.2 CANADA

9.2.2.1 Government initiatives for development of smart cities and managing urban traffic congestion boost market growth in Canada

9.2.3 MEXICO

9.2.3.1 Strong inclination of country toward development and adoption of automated tolling systems to drive market growth in Mexico

9.3 EUROPE

FIGURE 40 EUROPE: SNAPSHOT OF TRAFFIC SENSOR MARKET

TABLE 73 TRAFFIC SENSOR MARKET IN EUROPE, BY SENSOR TYPE, 2018–2020 (USD MILLION)

TABLE 74 TRAFFIC SENSOR MARKET IN EUROPE, BY SENSOR TYPE, 2021–2026 (USD MILLION)

TABLE 75 TRAFFIC SENSOR MARKET IN EUROPE, BY APPLICATION, 2018–2020 (USD MILLION)

TABLE 76 TRAFFIC SENSOR MARKET IN EUROPE, BY APPLICATION, 2021–2026 (USD MILLION)

TABLE 77 EUROPE: TRAFFIC SENSOR MARKET FOR VEHICLE MEASUREMENT AND PROFILING APPLICATION, BY TYPE, 2018–2020 (USD MILLION)

TABLE 78 EUROPE: TRAFFIC SENSOR MARKET FOR VEHICLE MEASUREMENT AND PROFILING APPLICATION, BY TYPE, 2021–2026 (USD MILLION)

TABLE 79 EUROPE: TRAFFIC SENSOR MARKET FOR WEIGH IN MOTION APPLICATION, BY TYPE, 2018–2020 (USD MILLION)

TABLE 80 EUROPE: TRAFFIC SENSOR MARKET FOR WEIGH IN MOTION APPLICATION, BY TYPE, 2021–2026 (USD MILLION)

TABLE 81 EUROPE: TRAFFIC SENSOR MARKET FOR TRAFFIC MONITORING APPLICATION, BY TYPE, 2018–2020 (USD MILLION)

TABLE 82 EUROPE: TRAFFIC SENSOR MARKET FOR TRAFFIC MONITORING APPLICATION, BY TYPE, 2021–2026 (USD MILLION)

TABLE 83 TRAFFIC SENSOR MARKET IN EUROPE, BY COUNTRY, 2018–2020 (USD MILLION)

TABLE 84 TRAFFIC SENSOR MARKET IN EUROPE, BY COUNTRY, 2021–2026 (USD MILLION)

9.3.1 GERMANY

9.3.1.1 Collaboration of German government with companies offering smarter transport solutions stimulate market growth

9.3.2 UK

9.3.2.1 Investments in development and deployment of ITS encourage adoption of traffic sensors in UK

9.3.3 FRANCE

9.3.3.1 Technological advancement in transportation industry for accessing real-time information spur demand for traffic sensors in France

9.3.4 RUSSIA

9.3.4.1 Approval of funds by Russian government for implementation of ITS in country supports traffic sensor market growth

9.3.5 ITALY

9.3.5.1 Research and development activities and initiatives by local authorities to implement smart mobility systems foster traffic sensor market growth in Italy

9.3.6 SPAIN

9.3.6.1 Initiatives of local authorities to implement smart mobility systems fuel traffic sensor market in Spain

9.3.7 REST OF EUROPE

9.4 ASIA PACIFIC

FIGURE 41 ASIA PACIFIC: SNAPSHOT OF TRAFFIC SENSOR MARKET

TABLE 85 TRAFFIC SENSOR MARKET IN APAC, BY SENSOR TYPE, 2018–2020 (USD MILLION)

TABLE 86 TRAFFIC SENSOR MARKET IN APAC, BY SENSOR TYPE, 2021–2026 (USD MILLION)

TABLE 87 TRAFFIC SENSOR MARKET IN APAC, BY APPLICATION, 2018–2020 (USD MILLION)

TABLE 88 TRAFFIC SENSOR MARKET IN APAC, BY APPLICATION, 2021–2026 (USD MILLION)

TABLE 89 APAC: TRAFFIC SENSOR MARKET FOR VEHICLE MEASUREMENT AND PROFILING APPLICATION, BY TYPE, 2018–2020 (USD MILLION)

TABLE 90 APAC: TRAFFIC SENSOR MARKET FOR VEHICLE MEASUREMENT AND PROFILING APPLICATION, BY TYPE, 2021–2026 (USD MILLION)

TABLE 91 APAC: TRAFFIC SENSOR MARKET FOR WEIGH IN MOTION APPLICATION, BY TYPE, 2018–2020 (USD MILLION)

TABLE 92 APAC: TRAFFIC SENSOR MARKET FOR WEIGH IN MOTION APPLICATION, BY TYPE, 2021–2026 (USD MILLION)

TABLE 93 APAC: TRAFFIC SENSOR MARKET FOR TRAFFIC MONITORING APPLICATION, BY TYPE, 2018–2020 (USD MILLION)

TABLE 94 APAC: TRAFFIC SENSOR MARKET FOR TRAFFIC MONITORING APPLICATION, BY TYPE, 2021–2026 (USD MILLION)

TABLE 95 TRAFFIC SENSOR MARKET IN APAC, BY COUNTRY, 2018–2020 (USD MILLION)

TABLE 96 TRAFFIC SENSOR MARKET IN APAC, BY COUNTRY, 2021–2026 (USD MILLION)

9.4.1 CHINA

9.4.1.1 Robust transportation infrastructure, increasing investments in smart city projects, and faster economic development to drive market growth in China

9.4.2 JAPAN

9.4.2.1 High emphasis of Japan on improving road safety and traffic congestion creates lucrative opportunities for traffic sensor market

9.4.3 AUSTRALIA

9.4.3.1 Huge investments in traffic management systems and smart city projects to drive market in Australia

9.4.4 REST OF ASIA PACIFIC

9.5 ROW

FIGURE 42 ROW: SNAPSHOT OF TRAFFIC SENSOR MARKET

TABLE 97 TRAFFIC SENSOR MARKET IN ROW, BY SENSOR TYPE, 2018–2020 (USD MILLION)

TABLE 98 TRAFFIC SENSOR MARKET IN ROW, BY SENSOR TYPE, 2021–2026 (USD MILLION)

TABLE 99 TRAFFIC SENSOR MARKET IN ROW, BY APPLICATION, 2018–2020 (USD MILLION)

TABLE 100 TRAFFIC SENSOR MARKET IN ROW, BY APPLICATION, 2021–2026

(USD MILLION)

TABLE 101 ROW: TRAFFIC SENSOR MARKET FOR VEHICLE MEASUREMENT AND PROFILING APPLICATION, BY TYPE, 2018–2020 (USD MILLION)

TABLE 102 ROW: TRAFFIC SENSOR MARKET FOR VEHICLE MEASUREMENT AND PROFILING APPLICATION, BY TYPE, 2021–2026 (USD MILLION)

TABLE 103 ROW: TRAFFIC SENSOR MARKET FOR WEIGH IN MOTION APPLICATION, BY TYPE, 2018–2020 (USD MILLION)

TABLE 104 ROW: TRAFFIC SENSOR MARKET FOR WEIGH IN MOTION APPLICATION, BY TYPE, 2021–2026 (USD MILLION)

TABLE 105 ROW: TRAFFIC SENSOR MARKET FOR TRAFFIC MONITORING APPLICATION, BY TYPE, 2018–2020 (USD MILLION)

TABLE 106 ROW: TRAFFIC SENSOR MARKET FOR TRAFFIC MONITORING APPLICATION, BY TYPE, 2021–2026 (USD MILLION)

TABLE 107 TRAFFIC SENSOR MARKET IN ROW, BY REGION, 2017–2020 (USD MILLION)

TABLE 108 TRAFFIC SENSOR MARKET IN ROW, BY REGION, 2021–2026 (USD MILLION)

9.5.1 SOUTH AMERICA

9.5.1.1 Integration of IoT and GSM technologies in traffic management solutions to fuel need for traffic sensors

9.5.2 MIDDLE EAST & AFRICA

9.5.2.1 Implementation of sustainable traffic management systems to reduce traffic congestion supports growth of traffic sensor market in MEA

10 COMPETITIVE LANDSCAPE

10.1 OVERVIEW

10.2 KEY PLAYER STRATEGIES/RIGHT TO WIN

10.2.1 OVERVIEW OF STRATEGIES DEPLOYED BY ORIGINAL EQUIPMENT MANUFACTURERS OF TRAFFIC SENSORS

10.3 COMPANY REVENUE ANALYSIS, 2020

TABLE 109 REVENUE ANALYSIS OF FIVE PLAYERS IN TRAFFIC SENSOR MARKET, 2016–2020 (USD MILLION)

FIGURE 43 FIVE-YEAR REVENUE ANALYSIS OF KEY PLAYERS, 2016–2020

10.4 MARKET SHARE ANALYSIS, 2020

FIGURE 44 SHARES OF MAJOR PLAYERS IN TRAFFIC SENSOR MARKET, 2020

TABLE 110 TRAFFIC SENSOR MARKET: DEGREE OF COMPETITION

10.5 RANKING OF KEY PLAYERS IN TRAFFIC SENSOR MARKET

FIGURE 45 TRAFFIC SENSOR MARKET: RANKING OF KEY PLAYERS, 2020**10.6 COMPANY EVALUATION QUADRANT**

10.6.1 STAR

10.6.2 PERVASIVE PLAYER

10.6.3 EMERGING LEADER

10.6.4 PARTICIPANT

FIGURE 46 TRAFFIC SENSOR MARKET: COMPANY EVALUATION QUADRANT, 2020**10.7 STARTUP/SME EVALUATION QUADRANT**

10.7.1 PROGRESSIVE COMPANY

10.7.2 RESPONSIVE COMPANY

10.7.3 DYNAMIC COMPANY

10.7.4 STARTING BLOCK

FIGURE 47 TRAFFIC SENSOR MARKET: STARTUP/SME EVALUATION QUADRANT, 2020**10.8 TRAFFIC SENSOR MARKET: COMPANY FOOTPRINT**

TABLE 111 FOOTPRINT OF COMPANIES

TABLE 112 APPLICATION FOOTPRINT OF COMPANIES

TABLE 113 TECHNOLOGY FOOTPRINT OF COMPANIES

TABLE 114 REGIONAL FOOTPRINT OF COMPANIES

10.9 COMPETITIVE SCENARIO AND TRENDS**FIGURE 48 MARKET EVALUATION FRAMEWORK: PRODUCT LAUNCHES AND DEVELOPMENTS, PARTNERSHIPS, COLLABORATIONS, AND ACQUISITIONS WERE MOST COMMONLY ADOPTED STRATEGIES BY MARKET PLAYERS FROM 2017 TO 2021**

10.9.1 RECENT DEVELOPMENT

TABLE 115 TRAFFIC SENSOR MARKET: PRODUCT LAUNCHES AND DEVELOPMENTS

10.9.2 DEALS

TABLE 116 TRAFFIC SENSOR MARKET: DEALS

11 COMPANY PROFILES**11.1 KEY PLAYERS**

(Business overview, Products offered, Recent Developments, MNM view)*

11.1.1 EFKON AG

TABLE 117 EFKON AG: BUSINESS OVERVIEW

11.1.2 KAPSCH TRAFFICCOM AG

TABLE 118 KAPSCH TRAFFICCOM AG: BUSINESS OVERVIEW

FIGURE 49 KAPSCHE TRAFFICOM AG: COMPANY SNAPSHOT**11.1.3 TRANSCORE****TABLE 119 TRANSCORE: BUSINESS OVERVIEW****11.1.4 INTERNATIONAL ROAD DYNAMICS INC.****TABLE 120 INTERNATIONAL ROAD DYNAMICS INC.: BUSINESS OVERVIEW****11.1.5 KISTLER GROUP****TABLE 121 KISTLER GROUP: BUSINESS OVERVIEW****11.1.6 FLIR SYSTEMS****TABLE 122 FLIR SYSTEMS: BUSINESS OVERVIEW****FIGURE 50 FLIR SYSTEMS: COMPANY SNAPSHOT****11.1.7 TE CONNECTIVITY LTD.****TABLE 123 TE CONNECTIVITY LTD.: BUSINESS OVERVIEW****FIGURE 51 TE CONNECTIVITY LTD.: COMPANY SNAPSHOT****11.1.8 SWARCO AG****TABLE 124 SWARCO AG: BUSINESS OVERVIEW****11.1.9 Q-FREE ASA****TABLE 125 Q-FREE ASA: BUSINESS OVERVIEW****FIGURE 52 Q-FREE ASA: COMPANY SNAPSHOT****11.1.10 SICK AG****TABLE 126 SICK AG: BUSINESS OVERVIEW****FIGURE 53 SICK AG: COMPANY SNAPSHOT****11.1.11 AXIS COMMUNICATIONS AB****TABLE 127 AXIS COMMUNICATIONS AB: BUSINESS OVERVIEW****FIGURE 54 AXIS COMMUNICATIONS AB: COMPANY SNAPSHOT****11.1.12 RAYTHEON COMPANY****TABLE 128 RAYTHEON COMPANY: BUSINESS OVERVIEW****FIGURE 55 RAYTHEON COMPANY: COMPANY SNAPSHOT****11.1.13 SIEMENS****TABLE 129 SIEMENS: BUSINESS OVERVIEW****FIGURE 56 SIEMENS: COMPANY SNAPSHOT****11.2 OTHER KEY PLAYERS****11.2.1 SENSYS NETWORKS****11.2.2 LEDDARTECH****11.2.3 IMAGE SENSING SYSTEMS (ISS)****11.2.4 AGD SYSTEMS****11.2.5 JENOPTIK****11.2.6 MIOVISION****11.2.7 DIABLO CONTROLS**

*Details on Business overview, Products offered, Recent Developments, MNM view

might not be captured in case of unlisted companies.

12 APPENDIX

12.1 POINTS TO BE DISCUSSED:

12.2 KNOWLEDGE STORE: MARKETSandMARKETS' SUBSCRIPTION PORTAL

12.3 AVAILABLE CUSTOMIZATIONS

12.4 RELATED REPORT

12.5 AUTHOR DETAILS

I would like to order

Product name: Traffic Sensor Market by Type (Inductive Loop, Piezoelectric Sensor, Bending Plate, Image Sensor, Infrared Sensor, Radar Sensor, LiDAR Sensor, Magnetic Sensor, Acoustic Sensor, Thermal Sensor), Technology, Application, and Region - Global Forecast to 2026

Product link: <https://marketpublishers.com/r/T445186A58BEN.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

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/T445186A58BEN.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