

Smart Sensors Market by Type (Temperature & Humidity Sensor, Pressure Sensor, Motion & Occupancy Sensor), Technology (CMOS, MEMS), Component (Microcontrollers, Amplifiers, Transceivers), End-User Industry and Region - Global Forecast to 2029

<https://marketpublishers.com/r/S32F1E7F3B0EN.html>

Date: March 2024

Pages: 310

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

ID: S32F1E7F3B0EN

Abstracts

The smart sensors market was valued at USD 61.9 billion in 2024 and is projected to reach USD 136.3 billion by 2029; it is expected to grow at a CAGR of 17.1% from 2024 to 2029. Government support for construction of green buildings, rising demand for smart sensor-enabled wearable devices, and growing need for predictive maintenance in industries provide lucrative opportunities to the smart sensors market.

“Temperature & Humidity sensors segment to register highest growth rate during the forecast period.”

The temperature & humidity sensors segment is expected to record the highest CAGR during the forecast period due to their expanding application areas and increasing demand in various sectors. Temperature and humidity are one of the the major parameters monitored by smart sensors in smart homes and automotives.

Several emerging trends are driving the demand for temperature and humidity sensors in various industries. One of them is the increasing demand for smart home and building automation systems. These systems rely heavily on temperature and humidity sensors to regulate heating, ventilation, and air conditioning (HVAC) systems, resulting in increased energy efficiency and improved comfort. Another trend is the growing use of connected agriculture, where sensors are utilized to monitor and optimize crop growth

conditions, including temperature and humidity. This helps in improving agricultural yields and resource management. Lastly, the expansion of the Internet of Things (IoT) has resulted in various devices and appliances becoming connected. This has led to an increased need for environmental monitoring sensors like temperature and humidity sensors to collect data and enable intelligent decision-making.

“MEMS technology segment is expected to register highest growth rate during the forecast period.”

The MEMS technology segment holds the largest market share and is expected to grow with the highest growth rate during the forecast period from 2024 to 2029. MEMS-based sensors are versatile and widely used across various sectors. They have a significant market share in the smart sensor market. They are used in automotive for airbag deployment, tire pressure monitoring, and navigation systems. For consumer electronics, they are used in smartphones and wearables for motion tracking and image stabilization. In industrial automation, they are used for process control, liquid flow monitoring, and vibration monitoring. In healthcare, they are used for blood pressure monitoring, activity monitoring, and acceleration measurement.

“Germany in Europe is expected to hold the largest market share during the forecast period.”

In 2023, Germany accounted for the largest share of the European smart sensors market. Germany has a large number of automobile and chemical manufacturing plants. The growth of the market in this country can be attributed to the fact that Germany has emerged as a global automobile hub in the world. As such, the country witnesses increased demand for automobile sensors that are intelligent and can be used to control and process oil pressure and temperature in automobiles. They also regulate vehicle emission levels, coolant levels, etc. Also, a surge in the adoption of industrial automation and predictive maintenance in various manufacturing industries is likely to drive market growth in Germany.

Following is the breakup of the profiles of the primary participants for the report.

By Company Type: Tier 1 – 45 %, Tier 2 – 35%, and Tier 3 – 20%

By Designation: C-Level Executives –32%, Directors- 40%, and Others – 28%

By Region: Americas– 37%, Europe- 15%, Asia Pacific – 40%, and RoW – 8%

The report profiles key smart sensors market players and analyzes their market shares. Players profiled in this report are Analog Devices, Inc. (US), Infineon Technologies AG (Germany), Texas Instruments Incorporated (US), Microchip Technology Inc. (US), STMicroelectronics (Switzerland), TE Connectivity (Switzerland), Siemens (Germany), ABB (Switzerland), etc.

Research Coverage

The report defines, describes, and forecasts the smart sensors market based on Type, Component, Technology, Network Connectivity, End-user Industry, and Region. It provides detailed information regarding drivers, restraints, opportunities, and challenges influencing the growth of the smart sensors market. It also analyses competitive developments such as product launches, acquisitions, expansions, contracts, partnerships, and actions conducted by the key players to grow in the market.

Reasons to Buy This Report

The report will help the market leaders/new entrants with information on the closest approximations of the revenue numbers for the overall high-speed data converter and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the market pulse and provides information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers:

Analysis of key drivers (Surging demand for IOT-based devices and consumer electronics, increasing use of smart sensors to meet Industry 4.0 requirements, high demand for smart sensors in automobile industry, and increasing demand for wireless technology to monitor and control security devices), restraints (High installation and maintenance costs), opportunities (Rising demand for smart sensor-enabled wearable devices, government support for construction of green buildings, and growing need for predictive maintenance in industries), and challenges (Stringent application-based performance requirements, and lack of skilled workforce) influencing the growth of the smart sensors market.

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the smart sensors market

Market Development: Comprehensive information about lucrative markets – the report analyses the smart sensors market across varied regions.

Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the smart sensors market

Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players like Analog Devices, Inc. (US), Infineon Technologies AG (Germany), Texas Instruments Incorporated (US), Microchip Technology Inc. (US), STMicroelectronics (Switzerland), TE Connectivity (Switzerland), Siemens (Germany), ABB (Switzerland), Honeywell International Inc. (US), Robert Bosch GmbH (Germany), TDK Corporation (Japan), Sensirion AG (Switzerland), Eaton (Ireland), Emerson Electric Co. (US), NXP Semiconductors (Netherlands), General Electric (US), Legrand (France), Balluff GmbH (US), among others in the smart sensors market strategies. The report also helps stakeholders understand the pulse of the smart sensors market and provides them with information on key market drivers, restraints, challenges, and opportunities.

Contents

1 INTRODUCTION

1.1 STUDY OBJECTIVES

1.2 MARKET DEFINITION

1.3 STUDY SCOPE

1.3.1 INCLUSIONS AND EXCLUSIONS

1.3.2 MARKETS COVERED

FIGURE 1 SMART SENSORS MARKET SEGMENTATION

1.3.3 REGIONAL SCOPE

1.3.4 YEARS CONSIDERED

1.4 CURRENCY CONSIDERED

1.5 UNIT CONSIDERED

1.6 STAKEHOLDERS

1.7 SUMMARY OF CHANGES

1.8 RECESSION IMPACT

2 RESEARCH METHODOLOGY

2.1 RESEARCH DATA

FIGURE 2 SMART SENSORS 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 Key participants in primary interviews

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

2.2.1.1 Approach to estimate market size using bottom-up analysis
(demand side)

FIGURE 4 MARKET SIZE ESTIMATION METHODOLOGY: BOTTOM-UP APPROACH

2.2.2 TOP-DOWN APPROACH

2.2.2.1 Approach to estimate market size using top-down analysis

(supply side)

FIGURE 5 APPROACH USED TO CAPTURE MARKET SIZE FROM SUPPLY SIDE

FIGURE 6 MARKET SIZE ESTIMATION METHODOLOGY: TOP-DOWN APPROACH

2.3 MARKET BREAKDOWN AND DATA TRIANGULATION

FIGURE 7 DATA TRIANGULATION

2.4 RESEARCH ASSUMPTIONS

2.5 PARAMETERS CONSIDERED TO ANALYZE RECESSION IMPACT ON SMART SENSORS MARKET

2.6 RISK ASSESSMENT

2.7 RESEARCH LIMITATIONS

3 EXECUTIVE SUMMARY

FIGURE 8 PRESSURE SENSORS TO HOLD LARGEST MARKET SHARE DURING FORECAST PERIOD

FIGURE 9 MEMS TECHNOLOGY SEGMENT TO RECORD HIGHEST CAGR FROM 2024 TO 2029

FIGURE 10 MICROCONTROLLERS SEGMENT TO REGISTER HIGHEST CAGR FROM 2024 TO 2029

FIGURE 11 CONSUMER ELECTRONICS SEGMENT TO REGISTER HIGHEST CAGR DURING FORECAST PERIOD

FIGURE 12 ASIA PACIFIC TO EXHIBIT HIGHEST CAGR IN SMART SENSORS MARKET DURING FORECAST PERIOD

4 PREMIUM INSIGHTS

4.1 MAJOR OPPORTUNITIES FOR PLAYERS IN SMART SENSORS MARKET

FIGURE 13 GROWING ADOPTION OF INDUSTRY 4.0 TO BOOST MARKET GROWTH

4.2 SMART SENSORS MARKET, BY TECHNOLOGY

FIGURE 14 MICROELECTROMECHANICAL SYSTEMS (MEMS) SEGMENT TO REGISTER HIGHEST CAGR DURING FORECAST PERIOD

4.3 SMART SENSORS MARKET, BY TYPE

FIGURE 15 PRESSURE SENSORS SEGMENT TO DOMINATE MARKET IN 2029

4.4 SMART SENSORS MARKET IN NORTH AMERICA, BY END-USER INDUSTRY AND COUNTRY

FIGURE 16 CONSUMER ELECTRONICS SEGMENT AND US LED MARKET IN NORTH AMERICA IN 2024

4.5 SMART SENSORS MARKET, BY END-USER INDUSTRY

FIGURE 17 CONSUMER ELECTRONICS INDUSTRY TO HOLD LARGEST MARKET SHARE IN 2029

4.6 SMART SENSORS MARKET, BY COUNTRY

FIGURE 18 INDIA TO RECORD HIGHEST CAGR IN GLOBAL SMART SENSORS MARKET DURING FORECAST PERIOD

5 MARKET OVERVIEW

5.1 INTRODUCTION

5.2 MARKET DYNAMICS

FIGURE 19 SMART SENSORS MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES

5.2.1 DRIVERS

5.2.1.1 Surging demand for IoT-based devices and consumer electronics

TABLE 1 COMPARATIVE STUDY OF VARIOUS SMARTPHONE BRANDS (SHIPMENTS IN MILLION UNITS)

5.2.1.2 Increasing use of smart sensors to meet Industry 4.0 requirements

5.2.1.3 High demand for smart sensors in automobile industry

5.2.1.4 Increasing demand for wireless technology to monitor and control security devices

FIGURE 20 IMPACT OF DRIVERS ON SMART SENSORS MARKET

5.2.2 RESTRAINTS

5.2.2.1 High installation and maintenance costs

FIGURE 21 IMPACT OF RESTRAINTS ON SMART SENSORS MARKET

5.2.3 OPPORTUNITIES

5.2.3.1 Rising demand for smart sensor-enabled wearable devices

TABLE 2 COMPARATIVE STUDY OF VARIOUS WEARABLE DEVICE BRANDS (SHIPMENTS IN MILLION UNITS)

5.2.3.2 Government support for construction of green buildings

5.2.3.3 Growing need for predictive maintenance in industries

FIGURE 22 IMPACT OF OPPORTUNITIES ON SMART SENSORS MARKET

5.2.4 CHALLENGES

5.2.4.1 Stringent application-based performance requirements

5.2.4.2 Lack of skilled workforce

FIGURE 23 IMPACT OF CHALLENGES ON SMART SENSORS MARKET

5.3 TRENDS/DISRUPTIONS IMPACTING CUSTOMER BUSINESS

FIGURE 24 TRENDS INFLUENCING SMART SENSOR BUSINESS OWNERS

5.4 PRICING ANALYSIS

TABLE 3 AVERAGE SELLING PRICE OF TEMPERATURE SENSORS, 2024

TABLE 4 AVERAGE SELLING PRICE OF ANGULAR SENSORS, 2024

TABLE 5 AVERAGE SELLING PRICE OF GAS SENSORS, 2024

5.5 VALUE CHAIN ANALYSIS

FIGURE 25 SMART SENSORS MARKET: VALUE CHAIN ANALYSIS

5.6 ECOSYSTEM ANALYSIS

FIGURE 26 SMART SENSORS ECOSYSTEM

TABLE 6 ROLE OF PLAYERS IN SMART SENSORS ECOSYSTEM

5.7 INVESTMENT AND FUNDING SCENARIO

FIGURE 27 FUNDS ACQUIRED BY COMPANIES IN SMART SENSORS MARKET

5.8 TECHNOLOGY TRENDS

5.8.1 GLUCOSE SENSORS (BIOLOGICAL SENSORS)

5.8.2 COGNITIVE SENSING

5.8.3 SEED TECHNOLOGY

5.8.4 UBIQUITOUS SENSOR NETWORKS

5.8.5 PRINTED GAS SENSORS

5.8.6 MICRO-ELECTRO-MECHANICAL SYSTEM (MEMS) SENSOR TECHNOLOGY

5.8.7 AI SENSOR TECHNOLOGY

5.9 CASE STUDY ANALYSIS

5.9.1 CERN PARTNERS WITH ABB TO ACHIEVE ENERGY EFFICIENCY

OBJECTIVES

5.9.2 VARDE MUNICIPALITY USES FILL-LEVEL SENSORS TO REDUCE CO2 EMISSIONS

5.9.3 PRESSAC OFFERS SMART GATEWAY TO MATRIX BOOKING FOR SEAMLESS DATA COLLECTION

5.10 PATENT ANALYSIS

FIGURE 28 COMPANIES WITH SIGNIFICANT NUMBER OF PATENT APPLICATIONS IN LAST 10 YEARS

TABLE 7 TOP 20 PATENT OWNERS IN LAST 10 YEARS (US)

FIGURE 29 NUMBER OF PATENTS GRANTED PER YEAR FROM 2013 TO 2023

TABLE 8 MAJOR PATENTS IN SMART SENSORS MARKET

5.11 TRADE ANALYSIS

5.11.1 IMPORT SCENARIO

FIGURE 30 IMPORT DATA FOR PRODUCTS COVERED UNDER HS CODE 902690, BY COUNTRY, 2018–2022 (USD THOUSAND)

5.11.2 EXPORT SCENARIO

FIGURE 31 EXPORT DATA FOR PRODUCTS COVERED UNDER HS CODE 902690, BY COUNTRY, 2018–2022 (USD THOUSAND)

5.12 TARIFF AND REGULATORY LANDSCAPE

5.12.1 TARIFF ANALYSIS

TABLE 9 MFN TARIFFS FOR HS CODE 902690-COMPLIANT PRODUCTS
EXPORTED BY US

TABLE 10 MFN TARIFFS FOR HS CODE 902690-COMPLIANT PRODUCTS
EXPORTED BY JAPAN

TABLE 11 MFN TARIFFS FOR HS CODE 902690-COMPLIANT PRODUCTS
EXPORTED BY GERMANY

TABLE 12 MFN TARIFFS FOR HS CODE 902690-COMPLIANT PRODUCTS
EXPORTED BY CHINA

5.12.2 REGULATORY LANDSCAPE

5.12.2.1 Regulatory bodies, government agencies, and other organizations

TABLE 13 NORTH AMERICA: REGULATORY BODIES, GOVERNMENT AGENCIES,
AND OTHER ORGANIZATIONS

TABLE 14 EUROPE: REGULATORY BODIES, GOVERNMENT AGENCIES, AND
OTHER ORGANIZATIONS

TABLE 15 ASIA PACIFIC: REGULATORY BODIES, GOVERNMENT AGENCIES, AND
OTHER ORGANIZATIONS

TABLE 16 MIDDLE EAST & AFRICA: REGULATORY BODIES, GOVERNMENT
AGENCIES, AND OTHER ORGANIZATIONS

5.12.2.2 Codes and standards

TABLE 17 CODES AND STANDARDS RELATED TO SMART SENSORS MARKET

5.13 KEY CONFERENCES AND EVENTS, 2024–2025

TABLE 18 SMART SENSORS MARKET: CONFERENCES AND EVENTS

5.14 PORTER'S FIVE FORCES ANALYSIS

TABLE 19 IMPACT OF PORTER'S FIVE FORCES ON SMART SENSORS MARKET

FIGURE 32 SMART SENSORS MARKET: PORTER'S FIVE FORCES ANALYSIS

5.14.1 THREAT OF NEW ENTRANTS

5.14.2 THREAT OF SUBSTITUTES

5.14.3 BARGAINING POWER OF SUPPLIERS

5.14.4 BARGAINING POWER OF BUYERS

5.14.5 INTENSITY OF COMPETITIVE RIVALRY

5.15 KEY STAKEHOLDERS AND BUYING CRITERIA

5.15.1 KEY STAKEHOLDERS IN BUYING PROCESS

FIGURE 33 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP
THREE END-USER INDUSTRIES

TABLE 20 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP
THREE END-USER INDUSTRIES

5.15.2 BUYING CRITERIA

FIGURE 34 KEY BUYING CRITERIA FOR TOP THREE END-USER INDUSTRIES

TABLE 21 KEY BUYING CRITERIA FOR TOP THREE END-USER INDUSTRIES

6 SMART SENSORS MARKET, BY TYPE

6.1 INTRODUCTION

6.1.1 RISING USE OF SMART DEVICES ACROSS INDUSTRIES

FIGURE 35 GROWING ADOPTION OF SMART SENSORS IN VARIOUS APPLICATIONS

6.1.2 INNOVATION IN SMART SENSORS TO BOOST IOT CAPABILITIES

FIGURE 36 PRESSURE SENSORS SEGMENT TO HOLD LARGEST MARKET SHARE DURING FORECAST PERIOD

TABLE 22 SMART SENSORS MARKET, BY TYPE, 2020–2023 (USD MILLION)

TABLE 23 SMART SENSORS MARKET, BY TYPE, 2024–2029 (USD MILLION)

TABLE 24 SMART SENSORS MARKET, BY TYPE, 2020–2023 (MILLION UNITS)

TABLE 25 SMART SENSORS MARKET, BY TYPE, 2024–2029 (MILLION UNITS)

6.2 TEMPERATURE & HUMIDITY SENSORS

6.2.1 INCREASING USE IN BUILDING AUTOMATION, AUTOMOTIVE, AND HEALTHCARE INDUSTRIES TO FUEL MARKET

6.2.2 MAJOR TYPES OF TEMPERATURE SENSORS

6.2.2.1 Thermocouples

6.2.2.2 Thermistors

6.2.2.3 Resistance temperature detectors

6.2.2.4 IR sensors

6.2.2.5 Others

6.2.2.5.1 MEMS technology-based temperature sensors

6.2.2.5.2 USB-based temperature sensors

6.2.2.5.3 Wi-Fi-based temperature sensors

6.2.2.5.4 ZigBee-based temperature sensors

6.2.2.5.5 Bluetooth-based temperature sensors

6.2.2.5.6 RFID temperature sensors

6.2.3 MAJOR TYPES OF HUMIDITY SENSORS

6.2.3.1 Capacitive humidity sensors

6.2.3.2 Resistive humidity sensors

TABLE 26 PROPERTIES OF HUMIDITY SENSORS

TABLE 27 SMART TEMPERATURE & HUMIDITY SENSORS MARKET, BY TECHNOLOGY, 2020–2023 (USD MILLION)

TABLE 28 SMART TEMPERATURE & HUMIDITY SENSORS MARKET, BY TECHNOLOGY, 2024–2029 (USD MILLION)

TABLE 29 SMART TEMPERATURE & HUMIDITY SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 30 SMART TEMPERATURE & HUMIDITY SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)**6.3 PRESSURE SENSORS****6.3.1 RISING USE OF MEMS-BASED PRESSURE SENSORS TO DRIVE MARKET****6.3.2 MAJOR TYPES OF PRESSURE SENSORS****6.3.2.1 Differential and gauge****6.3.2.2 Vacuum and absolute****6.3.3 MAJOR PRESSURE SENSING TECHNOLOGIES****6.3.3.1 Piezoresistive pressure sensors****6.3.3.2 Capacitive pressure sensors****6.3.3.3 Electromagnetic pressure sensors****6.3.3.4 Resonant solid-state pressure sensors****6.3.3.5 Optical pressure sensors****TABLE 31 SMART PRESSURE SENSORS MARKET, BY TECHNOLOGY, 2020–2023 (USD MILLION)****TABLE 32 SMART PRESSURE SENSORS MARKET, BY TECHNOLOGY, 2024–2029 (USD MILLION)****TABLE 33 SMART PRESSURE SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)****TABLE 34 SMART PRESSURE SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)****6.4 FLOW SENSORS****6.4.1 RISING DEMAND ACROSS PROCESS INDUSTRIES TO FUEL MARKET****TABLE 35 UNIT OF FLOW ACCORDING TO MATERIAL****TABLE 36 SMART FLOW SENSORS MARKET, BY TECHNOLOGY, 2020–2023 (USD MILLION)****TABLE 37 SMART FLOW SENSORS MARKET, BY TECHNOLOGY, 2024–2029 (USD MILLION)****TABLE 38 SMART FLOW SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)****TABLE 39 SMART FLOW SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)****6.5 TOUCH SENSORS****6.5.1 INCREASING USE IN SMARTPHONES TO PROPEL DEMAND****6.5.2 MAJOR TOUCH SENSING TECHNOLOGIES****6.5.2.1 Capacitive sensors****6.5.2.2 Resistive sensors****6.5.2.3 Infrared sensors****TABLE 40 SMART TOUCH SENSORS MARKET, BY TECHNOLOGY, 2020–2023**

(USD MILLION)

TABLE 41 SMART TOUCH SENSORS MARKET, BY TECHNOLOGY, 2024–2029

(USD MILLION)

TABLE 42 SMART TOUCH SENSORS MARKET, BY END-USER INDUSTRY,
2020–2023 (USD MILLION)

TABLE 43 SMART TOUCH SENSORS MARKET, BY END-USER INDUSTRY,
2024–2029 (USD MILLION)

6.6 IMAGE SENSORS

6.6.1 WIDE ADOPTION OF CMOS-BASED IMAGE SENSORS TO DRIVE MARKET

6.6.2 MAJOR IMAGE SENSING TECHNOLOGIES

6.6.2.1 CMOS-based image sensors

6.6.2.2 Fingerprint recognition

6.6.2.3 Iris scanning

TABLE 44 SMART IMAGE SENSORS MARKET, BY TECHNOLOGY, 2020–2023 (USD
MILLION)

TABLE 45 SMART IMAGE SENSORS MARKET, BY TECHNOLOGY, 2024–2029 (USD
MILLION)

TABLE 46 SMART IMAGE SENSORS MARKET, BY END-USER INDUSTRY,
2020–2023 (USD MILLION)

TABLE 47 SMART IMAGE SENSORS MARKET, BY END-USER INDUSTRY,
2024–2029 (USD MILLION)

6.7 MOTION & OCCUPANCY SENSORS

6.7.1 MOTION SENSORS

6.7.1.1 Growing demand for smart consumer electronics to fuel market

6.7.2 MAJOR EMBEDDED SENSOR TYPES IN MOTION SENSORS

6.7.2.1 MEMS accelerometers

6.7.2.2 MEMS gyroscopes

6.7.2.3 MEMS magnetometers

6.7.2.4 Sensor combos

6.7.3 OCCUPANCY SENSORS

6.7.3.1 PIR-based occupancy sensors to dominate market

6.7.4 MAJOR TYPES OF OCCUPANCY SENSORS

6.7.4.1 PIR-based sensors

6.7.4.2 Ultrasonic-based sensors

6.7.4.3 Dual technology-based sensors

TABLE 48 SMART MOTION & OCCUPANCY SENSORS MARKET, BY
TECHNOLOGY, 2020–2023 (USD MILLION)

TABLE 49 SMART MOTION & OCCUPANCY SENSORS MARKET, BY
TECHNOLOGY, 2024–2029 (USD MILLION)

TABLE 50 SMART MOTION & OCCUPANCY SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 51 SMART MOTION AND OCCUPANCY SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

6.8 WATER SENSORS

6.8.1 GOVERNMENT REGULATIONS TO PROMOTE MARKET GROWTH

TABLE 52 SMART WATER SENSORS MARKET, BY TYPE, 2020–2023 (USD MILLION)

TABLE 53 SMART WATER SENSORS MARKET, BY TYPE, 2024–2029 (USD MILLION)

6.8.2 MAJOR TYPES OF WATER SENSORS

6.8.2.1 Turbidity sensors

6.8.2.2 pH sensors

6.8.2.3 Soil moisture sensors

6.8.2.4 Level sensors

6.8.2.5 Dissolved oxygen (DO2) sensors

TABLE 54 SMART WATER SENSORS MARKET, BY TECHNOLOGY, 2020–2023 (USD MILLION)

TABLE 55 SMART WATER SENSORS MARKET, BY TECHNOLOGY, 2024–2029 (USD MILLION)

TABLE 56 SMART WATER SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 57 SMART WATER SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

6.9 POSITION SENSORS

6.9.1 INCREASING DEMAND IN AUTOMOTIVE INDUSTRY TO FUEL MARKET

6.9.2 MAJOR TYPES OF POSITION SENSORS

6.9.2.1 Linear position sensors

6.9.2.2 Rotary position sensors

6.9.2.3 Proximity sensors

TABLE 58 SMART POSITION SENSORS MARKET, BY TECHNOLOGY, 2020–2023 (USD MILLION)

TABLE 59 SMART POSITION SENSORS MARKET, BY TECHNOLOGY, 2024–2029 (USD MILLION)

TABLE 60 SMART POSITION SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 61 SMART POSITION SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

6.10 LIGHT SENSORS

6.10.1 INCREASED USE IN CONSUMER ELECTRONICS TO BOOST DEMAND

6.10.2 MAJOR TYPES OF LIGHT SENSORS

6.10.2.1 Analog light sensors

6.10.2.2 Digital light sensors

TABLE 62 SMART LIGHT SENSORS MARKET, BY TECHNOLOGY, 2020–2023 (USD MILLION)

TABLE 63 SMART LIGHT SENSORS MARKET, BY TECHNOLOGY, 2024–2029 (USD MILLION)

TABLE 64 SMART LIGHT SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 65 SMART LIGHT SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

6.11 ULTRASONIC SENSORS

6.11.1 RISING USE IN INDUSTRIAL AUTOMATION TO DRIVE MARKET

TABLE 66 SMART ULTRASONIC SENSORS MARKET, BY TECHNOLOGY, 2020–2023 (USD MILLION)

TABLE 67 SMART ULTRASONIC SENSORS MARKET, BY TECHNOLOGY, 2024–2029 (USD MILLION)

TABLE 68 SMART ULTRASONIC SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 69 SMART ULTRASONIC SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

6.12 OTHER SENSORS

6.12.1 ELECTRICAL CONDUCTIVITY SENSORS

6.12.2 GESTURE SENSORS

6.12.3 RADAR SENSORS

6.12.4 OXIDATION REDUCTION POTENTIAL (ORP) SENSORS

6.12.5 COLOR SENSORS

TABLE 70 OTHER SMART SENSORS MARKET, BY TECHNOLOGY, 2020–2023 (USD MILLION)

TABLE 71 OTHER SMART SENSORS MARKET, BY TECHNOLOGY, 2024–2029 (USD MILLION)

TABLE 72 OTHER SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 73 OTHER SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

7 SMART SENSORS MARKET, BY TECHNOLOGY

7.1 INTRODUCTION

FIGURE 37 SMART SENSORS MARKET, BY TECHNOLOGY

FIGURE 38 MICROELECTROMECHANICAL SYSTEMS (MEMS) SEGMENT TO REGISTER HIGHEST CAGR DURING FORECAST PERIOD

TABLE 74 SMART SENSORS MARKET, BY TECHNOLOGY, 2020–2023 (USD BILLION)

TABLE 75 SMART SENSORS MARKET, BY TECHNOLOGY, 2024–2029 (USD BILLION)

7.2 MAJOR PACKAGING TYPES CONSIDERED IN SMART SENSORS MARKET

7.2.1 SYSTEM-IN-PACKAGE (SIP)

7.2.1.1 Surging demand for miniaturization to drive demand

7.2.2 SYSTEM-ON-CHIP (SOC)

7.2.2.1 Portability and fast circuit operation to propel market

TABLE 76 TECHNICAL FEATURES OF SYSTEM-IN-PACKAGE (SIP) AND SYSTEM-ON-CHIP (SOC)

7.3 MICROELECTROMECHANICAL SYSTEMS (MEMS)

7.3.1 INCREASING ADOPTION IN VARIOUS PROCESS INDUSTRIES TO BOOST MARKET

TABLE 77 MEMS: SMART SENSORS MARKET, BY TYPE, 2020–2023 (USD MILLION)

TABLE 78 MEMS: SMART SENSORS MARKET, BY TYPE, 2024–2029 (USD MILLION)

7.3.2 ROLE OF VERY LARGE SCALE INTEGRATION TECHNOLOGY (VLSI)

7.3.3 RELEVANCE OF NANOELECTROMECHANICAL SYSTEMS (NEMS)

FIGURE 39 MERITS AND DEMERITS OF MEMS TECHNOLOGY

7.4 COMPLEMENTARY METAL-OXIDE-SEMICONDUCTOR (CMOS)

7.4.1 LOW STATIC POWER CONSUMPTION AND HIGH NOISE IMMUNITY TO DRIVE DEMAND

FIGURE 40 MERITS AND DEMERITS OF CMOS TECHNOLOGY

TABLE 79 CMOS: SMART SENSORS MARKET, BY TYPE, 2020–2023 (USD MILLION)

TABLE 80 CMOS: SMART SENSORS MARKET, BY TYPE, 2024–2029 (USD MILLION)

7.5 OTHER TECHNOLOGIES

7.5.1 OPTICAL SPECTROSCOPY

7.5.2 MICROSYSTEMS TECHNOLOGY (MST)

7.5.3 INTEGRATED SMART SENSOR – HYBRID SENSOR

7.5.4 IC-COMPATIBLE 3D MICROSTRUCTURING

7.5.5 APPLICATION-SPECIFIC INTEGRATED CIRCUIT (ASIC)

7.5.6 OPTICAL SENSING

TABLE 81 OTHER TECHNOLOGIES: SMART SENSORS MARKET, BY TYPE, 2020–2023 (USD MILLION)

TABLE 82 OTHER TECHNOLOGIES: SMART SENSORS MARKET, BY TYPE, 2024–2029 (USD MILLION)

8 SMART SENSORS MARKET, BY COMPONENT

8.1 INTRODUCTION

FIGURE 41 SMART SENSORS MARKET, BY COMPONENT

FIGURE 42 MICROCONTROLLERS SEGMENT TO REGISTER HIGHEST CAGR DURING FORECAST PERIOD

TABLE 83 SMART SENSORS MARKET, BY COMPONENT, 2020–2023 (USD BILLION)

TABLE 84 SMART SENSORS MARKET, BY COMPONENT, 2024–2029 (USD BILLION)

8.2 ANALOG-TO-DIGITAL CONVERTERS

8.2.1 OFFER HIGH SAMPLING RATE AND EASY INTEGRATION

8.2.1.1 Advantages of analog-to-digital converters

8.3 DIGITAL-TO-ANALOG CONVERTERS

8.3.1 PROVIDE INTERFACE BETWEEN DIGITAL AND REAL WORLD

8.3.1.1 Advantages of digital-to-analog converters

8.4 TRANSCEIVERS

8.4.1 MAINLY USED IN WIRELESS COMMUNICATION DEVICES

8.4.1.1 Advantages of transceivers

8.5 AMPLIFIERS

8.5.1 HELP INCREASE SIGNAL POWER

8.5.1.1 Advantages of amplifiers

8.6 MICROCONTROLLERS

8.6.1 CONTROL FUNCTIONS OF EMBEDDED SYSTEMS IN GADGETS

8.6.1.1 Advantages of microcontrollers

8.7 OTHER COMPONENTS

9 SMART SENSORS MARKET, BY NETWORK CONNECTIVITY

9.1 INTRODUCTION

FIGURE 43 SMART SENSORS MARKET, BY NETWORK CONNECTIVITY

9.2 WIRED NETWORK CONNECTIVITY

9.2.1 KNX

9.2.2 LONWORKS

9.2.3 ETHERNET

9.2.4 MODBUS

9.2.5 DIGITAL ADDRESSABLE LIGHTING INTERFACE (DALI)

9.3 WIRELESS NETWORK CONNECTIVITY

9.3.1 ENOCEAN

9.3.2 WI-FI

9.3.3 ZIGBEE

9.3.4 Z-WAVE

9.3.5 NFC

9.3.6 RFID

9.3.7 WIRELESS-HART (WHART)

9.3.8 PROFIBUS

9.3.9 DECT-ULE

9.3.10 BLUETOOTH

9.3.10.1 Bluetooth Smart

9.3.10.2 Wi-Fi/Bluetooth Smart

9.3.10.3 Bluetooth Smart/ANT+

9.3.10.4 Bluetooth 5

9.3.11 OTHERS

10 SMART SENSORS MARKET, BY END-USER INDUSTRY

10.1 INTRODUCTION

FIGURE 44 CONSUMER ELECTRONICS INDUSTRY TO WITNESS HIGHEST CAGR DURING FORECAST PERIOD

TABLE 85 SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD BILLION)

TABLE 86 SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD BILLION)

10.2 INDUSTRIAL AUTOMATION

10.2.1 SURGING ADOPTION IN PROCESS INDUSTRIES TO DRIVE MARKET

TABLE 87 SMART SENSORS USED IN INDUSTRIAL AUTOMATION INDUSTRY

TABLE 88 INDUSTRIAL AUTOMATION: SMART SENSORS MARKET, BY TYPE, 2020–2023 (USD MILLION)

TABLE 89 INDUSTRIAL AUTOMATION: SMART SENSORS MARKET, BY TYPE, 2024–2029 (USD MILLION)

TABLE 90 INDUSTRIAL AUTOMATION: SMART SENSORS MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 91 INDUSTRIAL AUTOMATION: SMART SENSORS MARKET, BY REGION,
2024–2029 (USD MILLION)

10.3 BUILDING AUTOMATION

10.3.1 RISING NEED TO MONITOR SURVEILLANCE SYSTEMS TO BOOST
DEMAND

TABLE 92 SMART SENSORS USED IN BUILDING AUTOMATION INDUSTRY

TABLE 93 BUILDING AUTOMATION: SMART SENSORS MARKET, BY TYPE,
2020–2023 (USD MILLION)

TABLE 94 BUILDING AUTOMATION: SMART SENSORS MARKET, BY TYPE,
2024–2029 (USD MILLION)

TABLE 95 BUILDING AUTOMATION: SMART SENSORS MARKET, BY REGION,
2020–2023 (USD MILLION)

TABLE 96 BUILDING AUTOMATION: SMART SENSORS MARKET, BY REGION,
2024–2029 (USD MILLION)

TABLE 97 BUILDING AUTOMATION: SMART SENSORS MARKET, BY
APPLICATION, 2020–2023 (USD MILLION)

TABLE 98 BUILDING AUTOMATION: SMART SENSORS MARKET, BY
APPLICATION, 2024–2029 (USD MILLION)

10.3.2 BY APPLICATION

10.3.2.1 Security & surveillance systems

10.3.2.2 Access control systems

10.3.2.3 Radio frequency identification (RFID) tags

10.3.2.4 Lighting control systems

10.3.2.5 Heating, ventilation, and air-conditioning (HVAC) systems

10.3.2.6 Other applications

10.4 CONSUMER ELECTRONICS

10.4.1 GROWING DEMAND FOR WEARABLE ELECTRONICS TO DRIVE MARKET

TABLE 99 CONSUMER ELECTRONICS: SMART SENSORS MARKET, BY TYPE,
2020–2023 (USD MILLION)

TABLE 100 CONSUMER ELECTRONICS: SMART SENSORS MARKET, BY TYPE,
2024–2029 (USD MILLION)

TABLE 101 CONSUMER ELECTRONICS: SMART SENSORS MARKET, BY REGION,
2020–2023 (USD MILLION)

TABLE 102 CONSUMER ELECTRONICS: SMART SENSORS MARKET, BY REGION,
2024–2029 (USD MILLION)

TABLE 103 CONSUMER ELECTRONICS: SMART SENSORS MARKET, BY
APPLICATION, 2020–2023 (USD MILLION)

TABLE 104 CONSUMER ELECTRONICS: SMART SENSORS MARKET, BY
APPLICATION, 2024–2029 (USD MILLION)

10.4.2 BY APPLICATION

10.4.2.1 Communications and IT solutions

10.4.2.2 Entertainment solutions

10.4.2.3 Home appliances

10.4.2.4 Wearable electronics

10.5 BIOMEDICAL & HEALTHCARE

10.5.1 DEPLOYMENT OF SMART SENSORS IN LIFE-SUPPORTING
INSTRUMENTS TO PROPEL MARKET

TABLE 105 SMART SENSORS USED IN BIOMEDICAL & HEALTHCARE INDUSTRY

TABLE 106 BIOMEDICAL & HEALTHCARE: SMART SENSORS MARKET, BY TYPE,
2020–2023 (USD MILLION)

TABLE 107 BIOMEDICAL & HEALTHCARE: SMART SENSORS MARKET, BY TYPE,
2024–2029 (USD MILLION)

TABLE 108 BIOMEDICAL & HEALTHCARE: SMART SENSORS MARKET, BY
REGION, 2020–2023 (USD MILLION)

TABLE 109 BIOMEDICAL & HEALTHCARE: SMART SENSORS MARKET, BY
REGION, 2024–2029 (USD MILLION)

10.6 AUTOMOTIVE

10.6.1 USE OF SMART SENSORS IN SELF-DRIVING CARS TO FUEL MARKET

TABLE 110 SMART SENSORS USED IN AUTOMOTIVE INDUSTRY

TABLE 111 AUTOMOTIVE: SMART SENSORS MARKET, BY TYPE, 2020–2023 (USD
MILLION)

TABLE 112 AUTOMOTIVE: SMART SENSORS MARKET, BY TYPE, 2024–2029 (USD
MILLION)

TABLE 113 AUTOMOTIVE: SMART SENSORS MARKET, BY REGION, 2020–2023
(USD MILLION)

TABLE 114 AUTOMOTIVE: SMART SENSORS MARKET, BY REGION, 2024–2029
(USD MILLION)

10.7 AEROSPACE & DEFENSE

10.7.1 RISING USE OF SENSORS IN SOLUTIONS FOR MISSION-CRITICAL TASKS
TO DRIVE MARKET

TABLE 115 SMART SENSORS USED IN AEROSPACE & DEFENSE INDUSTRY

TABLE 116 AEROSPACE & DEFENSE: SMART SENSORS MARKET, BY TYPE,
2020–2023 (USD MILLION)

TABLE 117 AEROSPACE & DEFENSE: SMART SENSORS MARKET, BY TYPE,
2024–2029 (USD MILLION)

TABLE 118 AEROSPACE & DEFENSE: SMART SENSORS MARKET, BY REGION,
2020–2023 (USD MILLION)

TABLE 119 AEROSPACE & DEFENSE: SMART SENSORS MARKET, BY REGION,

2024–2029 (USD MILLION)

10.8 OTHER INDUSTRIES

TABLE 120 OTHER INDUSTRIES: SMART SENSORS MARKET, BY TYPE,
2020–2023 (USD MILLION)

TABLE 121 OTHER INDUSTRIES: SMART SENSORS MARKET, BY TYPE,
2024–2029 (USD MILLION)

TABLE 122 OTHER INDUSTRIES: SMART SENSORS MARKET, BY REGION,
2020–2023 (USD MILLION)

TABLE 123 OTHER INDUSTRIES: SMART SENSORS MARKET, BY REGION,
2024–2029 (USD MILLION)

11 SMART SENSORS MARKET, BY REGION

11.1 INTRODUCTION

FIGURE 45 SMART SENSORS MARKET, BY REGION

FIGURE 46 ASIA PACIFIC MARKET TO GROW AT HIGHEST CAGR DURING
FORECAST PERIOD

TABLE 124 SMART SENSORS MARKET, BY REGION, 2020–2023 (USD BILLION)

TABLE 125 SMART SENSORS MARKET, BY REGION, 2024–2029 (USD BILLION)

11.2 AMERICAS

FIGURE 47 AMERICAS: SMART SENSORS MARKET SNAPSHOT

TABLE 126 AMERICAS: SMART SENSORS MARKET, BY END-USER INDUSTRY,
2020–2023 (USD MILLION)

TABLE 127 AMERICAS: SMART SENSORS MARKET, BY END-USER INDUSTRY,
2024–2029 (USD MILLION)

TABLE 128 AMERICAS: SMART SENSORS MARKET, BY REGION, 2020–2023 (USD
MILLION)

TABLE 129 AMERICAS: SMART SENSORS MARKET, BY REGION, 2024–2029 (USD
MILLION)

11.2.1 AMERICAS: IMPACT OF RECESSION

FIGURE 48 ANALYSIS OF SMART SENSORS MARKET IN AMERICAS: PRE- AND
POST-RECESSION SCENARIOS

11.2.2 NORTH AMERICA

TABLE 130 NORTH AMERICA: SMART SENSORS MARKET, BY END-USER
INDUSTRY, 2020–2023 (USD MILLION)

TABLE 131 NORTH AMERICA: SMART SENSORS MARKET, BY END-USER
INDUSTRY, 2024–2029 (USD MILLION)

11.2.2.1 US

11.2.2.1.1 Growing demand in automotive industry to fuel market

TABLE 132 US: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 133 US: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

11.2.2.2 Canada

11.2.2.2.1 Increasing automation in various sectors to drive market

TABLE 134 CANADA: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 135 CANADA: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

11.2.2.3 Mexico

11.2.2.3.1 Rising demand from healthcare sector to boost market

TABLE 136 MEXICO: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 137 MEXICO: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

11.2.3 SOUTH AMERICA

11.2.3.1 High demand for consumer electronics to drive market

TABLE 138 SOUTH AMERICA: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 139 SOUTH AMERICA: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

11.3 EUROPE

FIGURE 49 EUROPE: SMART SENSORS MARKET SNAPSHOT

TABLE 140 EUROPE: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 141 EUROPE: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

TABLE 142 EUROPE: SMART SENSORS MARKET, BY COUNTRY, 2020–2023 (USD MILLION)

TABLE 143 EUROPE: SMART SENSORS MARKET, BY COUNTRY, 2024–2029 (USD MILLION)

11.3.1 EUROPE: IMPACT OF RECESSION

FIGURE 50 ANALYSIS OF SMART SENSORS MARKET IN EUROPE: PRE- AND POST-RECESSION SCENARIOS

11.3.2 GERMANY

11.3.2.1 Booming automotive industry to drive market growth

TABLE 144 GERMANY: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 145 GERMANY: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

11.3.3 UK

11.3.3.1 Consumer electronics industry to drive demand

TABLE 146 UK: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 147 UK: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

11.3.4 FRANCE

11.3.4.1 Strong automotive and manufacturing industries to fuel market

TABLE 148 FRANCE: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 149 FRANCE: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

11.3.5 SPAIN

11.3.5.1 Growing demand in aerospace & defense industry to boost market

TABLE 150 SPAIN: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 151 SPAIN: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

11.3.6 REST OF EUROPE

TABLE 152 REST OF EUROPE: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 153 REST OF EUROPE: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

11.4 ASIA PACIFIC

FIGURE 51 ASIA PACIFIC: SMART SENSORS MARKET SNAPSHOT

TABLE 154 ASIA PACIFIC: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 155 ASIA PACIFIC: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

TABLE 156 ASIA PACIFIC: SMART SENSORS MARKET, BY COUNTRY, 2020–2023 (USD MILLION)

TABLE 157 ASIA PACIFIC: SMART SENSORS MARKET, BY COUNTRY, 2024–2029 (USD MILLION)

11.4.1 ASIA PACIFIC: IMPACT OF RECESSION

FIGURE 52 ANALYSIS OF SMART SENSORS MARKET IN ASIA PACIFIC: PRE- AND POST-RECESSION SCENARIOS

11.4.2 CHINA

11.4.2.1 Growth in manufacturing industry to propel demand

TABLE 158 CHINA: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 159 CHINA: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

11.4.3 JAPAN

11.4.3.1 Presence of leading sensor manufacturing companies to support market

TABLE 160 JAPAN: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 161 JAPAN: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

11.4.4 INDIA

11.4.4.1 Strong government support for industrial automation to boost demand

TABLE 162 INDIA: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 163 INDIA: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

11.4.5 SOUTH KOREA

11.4.5.1 Increasing demand in electronics and automotive industries to fuel market

TABLE 164 SOUTH KOREA: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 165 SOUTH KOREA: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

11.4.6 REST OF ASIA PACIFIC

TABLE 166 REST OF ASIA PACIFIC: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 167 REST OF ASIA PACIFIC: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

11.5 MIDDLE EAST & AFRICA (MEA)

TABLE 168 MIDDLE EAST & AFRICA: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2020–2023 (USD MILLION)

TABLE 169 MIDDLE EAST & AFRICA: SMART SENSORS MARKET, BY END-USER INDUSTRY, 2024–2029 (USD MILLION)

TABLE 170 MIDDLE EAST & AFRICA: SMART SENSORS MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 171 MIDDLE EAST & AFRICA: SMART SENSORS MARKET, BY REGION, 2024–2029 (USD MILLION)

11.5.1 MIDDLE EAST & AFRICA: IMPACT OF RECESSION

FIGURE 53 ANALYSIS OF SMART SENSORS MARKET IN MIDDLE EAST & AFRICA:

PRE- AND POST-RECESSION SCENARIOS

11.5.2 GCC COUNTRIES

11.5.2.1 Promotion of domestic electronics manufacturing to support market

11.5.3 AFRICA & REST OF MIDDLE EAST

11.5.3.1 Wide adoption in oil & gas industries to boost demand

12 COMPETITIVE LANDSCAPE

12.1 OVERVIEW

12.2 STRATEGIES ADOPTED BY KEY PLAYERS

TABLE 172 OVERVIEW OF STRATEGIES ADOPTED BY KEY PLAYERS IN SMART SENSORS MARKET

12.3 REVENUE ANALYSIS OF TOP FIVE PLAYERS, 2021–2023

FIGURE 54 THREE-YEAR REVENUE ANALYSIS OF TOP MARKET PLAYERS, 2021–2023

12.4 MARKET SHARE ANALYSIS, 2023

TABLE 173 SMART SENSORS MARKET: DEGREE OF COMPETITION

TABLE 174 SMART SENSORS MARKET: RANKING ANALYSIS

FIGURE 55 MARKET SHARE ANALYSIS OF KEY PLAYERS, 2023

12.5 COMPANY VALUATION AND FINANCIAL METRICS

FIGURE 56 VALUATION AND FINANCIAL METRICS OF KEY PLAYERS IN SMART SENSORS MARKET

FIGURE 57 EV/EBITDA OF KEY PLAYERS

12.6 BRAND/PRODUCT COMPARISON

FIGURE 58 SMART SENSORS MARKET: TOP TRENDING BRANDS/PRODUCTS

12.7 COMPANY EVALUATION MATRIX, KEY PLAYERS, 2023

12.7.1 STARS

12.7.2 EMERGING LEADERS

12.7.3 PERVASIVE PLAYERS

12.7.4 PARTICIPANTS

FIGURE 59 SMART SENSORS MARKET: COMPANY EVALUATION MATRIX (KEY PLAYERS), 2023

12.7.5 COMPANY FOOTPRINT

12.7.5.1 Type footprint

TABLE 175 KEY PLAYERS: TYPE FOOTPRINT (21 COMPANIES)

12.7.5.2 Technology footprint

TABLE 176 KEY PLAYERS: TECHNOLOGY FOOTPRINT (21 COMPANIES)

12.7.5.3 Component footprint

TABLE 177 KEY PLAYERS: COMPONENT FOOTPRINT (21 COMPANIES)

12.7.5.4 End-user industry footprint

TABLE 178 KEY PLAYERS: END-USER INDUSTRY FOOTPRINT (21 COMPANIES)

12.7.5.5 Region footprint

TABLE 179 KEY PLAYERS: REGION FOOTPRINT (21 COMPANIES)

12.7.5.6 Company overall footprint

FIGURE 60 COMPANY OVERALL FOOTPRINT: KEY PLAYERS

12.8 COMPANY EVALUATION MATRIX: START-UPS/SMES, 2023

12.8.1 PROGRESSIVE COMPANIES

12.8.2 RESPONSIVE COMPANIES

12.8.3 DYNAMIC COMPANIES

12.8.4 STARTING BLOCKS

FIGURE 61 SMART SENSORS MARKET: COMPANY EVALUATION MATRIX (START-UPS/SMES), 2023

12.8.5 COMPETITIVE BENCHMARKING

TABLE 180 SMART SENSORS MARKET: KEY START-UPS/SMES

12.8.6 START-UPS/SMES FOOTPRINT

12.8.6.1 Type footprint

TABLE 181 START-UPS/SMES: TYPE FOOTPRINT (4 COMPANIES)

12.8.6.2 Technology footprint

TABLE 182 START-UPS/SMES: TECHNOLOGY FOOTPRINT (4 COMPANIES)

12.8.6.3 Component footprint

TABLE 183 START-UPS/SMES: COMPONENT FOOTPRINT (4 COMPANIES)

12.8.6.4 End-user industry footprint

TABLE 184 START-UPS/SMES: END-USER INDUSTRY FOOTPRINT (4 COMPANIES)

12.8.6.5 Region footprint

TABLE 185 START-UPS/SMES: REGION FOOTPRINT (4 COMPANIES)

12.8.6.6 Company overall footprint

FIGURE 62 COMPANY OVERALL FOOTPRINT: START-UPS/SMES

12.9 COMPETITIVE SCENARIOS AND TRENDS

12.9.1 PRODUCT LAUNCHES

TABLE 186 SMART SENSORS MARKET: PRODUCT LAUNCHES, JANUARY 2021–FEBRUARY 2024

12.9.2 DEALS

TABLE 187 SMART SENSOR MARKET: DEALS, JANUARY 2021–FEBRUARY 2024

13 COMPANY PROFILES

(Business Overview, Products/Solutions Offered, Recent Developments, and MnM View)

(Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats))*

13.1 INTRODUCTION

13.2 KEY PLAYERS

13.2.1 ANALOG DEVICES, INC.

TABLE 188 ANALOG DEVICES, INC.: COMPANY OVERVIEW

FIGURE 63 ANALOG DEVICES, INC.: COMPANY SNAPSHOT

TABLE 189 ANALOG DEVICES, INC.: PRODUCTS/SOLUTIONS OFFERED

TABLE 190 ANALOG DEVICES, INC.: DEALS

TABLE 191 ANALOG DEVICES, INC.: OTHERS

13.2.2 TE CONNECTIVITY

TABLE 192 TE CONNECTIVITY: COMPANY OVERVIEW

FIGURE 64 TE CONNECTIVITY: COMPANY SNAPSHOT

TABLE 193 TE CONNECTIVITY: PRODUCTS/SOLUTIONS OFFERED

TABLE 194 TE CONNECTIVITY: DEALS

13.2.3 INFINEON TECHNOLOGIES AG

TABLE 195 INFINEON TECHNOLOGIES AG: COMPANY OVERVIEW

FIGURE 65 INFINEON TECHNOLOGIES AG: COMPANY SNAPSHOT

TABLE 196 INFINEON TECHNOLOGIES AG: PRODUCTS/SOLUTIONS OFFERED

TABLE 197 INFINEON TECHNOLOGIES AG: PRODUCT LAUNCHES

TABLE 198 INFINEON TECHNOLOGIES AG: DEALS

TABLE 199 INFINEON TECHNOLOGIES AG: OTHERS

13.2.4 STMICROELECTRONICS

TABLE 200 STMICROELECTRONICS: COMPANY OVERVIEW

FIGURE 66 STMICROELECTRONICS: COMPANY SNAPSHOT

TABLE 201 STMICROELECTRONICS: PRODUCTS/SOLUTIONS OFFERED

TABLE 202 STMICROELECTRONICS: PRODUCT LAUNCHES

TABLE 203 STMICROELECTRONICS: DEALS

TABLE 204 STMICROELECTRONICS: OTHERS

13.2.5 ABB

TABLE 205 ABB: COMPANY OVERVIEW

FIGURE 67 ABB: COMPANY SNAPSHOT

TABLE 206 ABB: PRODUCTS/SOLUTIONS OFFERED

TABLE 207 ABB: PRODUCT LAUNCHES

TABLE 208 ABB: DEALS

13.2.6 MICROCHIP TECHNOLOGY INC.

TABLE 209 MICROCHIP TECHNOLOGY INC.: COMPANY OVERVIEW

FIGURE 68 MICROCHIP TECHNOLOGY INC.: COMPANY SNAPSHOT

TABLE 210 MICROCHIP TECHNOLOGY INC.: PRODUCTS/SOLUTIONS OFFERED

TABLE 211 MICROCHIP TECHNOLOGY INC.: PRODUCT LAUNCHES

TABLE 212 MICROCHIP TECHNOLOGY INC.: OTHERS

13.2.7 NXP SEMICONDUCTORS

TABLE 213 NXP SEMICONDUCTORS: COMPANY OVERVIEW

FIGURE 69 NXP SEMICONDUCTORS: COMPANY SNAPSHOT

TABLE 214 NXP SEMICONDUCTORS: PRODUCTS/SOLUTIONS OFFERED

TABLE 215 NXP SEMICONDUCTORS: DEALS

13.2.8 SIEMENS

TABLE 216 SIEMENS: COMPANY OVERVIEW

FIGURE 70 SIEMENS: COMPANY SNAPSHOT

TABLE 217 SIEMENS: PRODUCTS/SOLUTIONS OFFERED

TABLE 218 SIEMENS: PRODUCT LAUNCHES

13.2.9 ROBERT BOSCH GMBH

TABLE 219 ROBERT BOSCH GMBH: COMPANY OVERVIEW

FIGURE 71 ROBERT BOSCH GMBH: COMPANY SNAPSHOT

TABLE 220 ROBERT BOSCH GMBH: PRODUCTS/SOLUTIONS OFFERED

TABLE 221 ROBERT BOSCH GMBH: PRODUCT LAUNCHES

TABLE 222 ROBERT BOSCH GMBH: DEALS

13.2.10 HONEYWELL INTERNATIONAL INC.

TABLE 223 HONEYWELL INTERNATIONAL INC.: COMPANY OVERVIEW

FIGURE 72 HONEYWELL INTERNATIONAL INC.: COMPANY SNAPSHOT

TABLE 224 HONEYWELL INTERNATIONAL INC.: PRODUCTS/SOLUTIONS OFFERED

TABLE 225 HONEYWELL INTERNATIONAL INC.: PRODUCT LAUNCHES

TABLE 226 HONEYWELL INTERNATIONAL INC.: DEALS

13.3 OTHER PLAYERS

13.3.1 TDK CORPORATION

13.3.2 EATON CORPORATION

13.3.3 EMERSON ELECTRIC CO.

13.3.4 GENERAL ELECTRIC

13.3.5 LEGRAND

13.3.6 TEXAS INSTRUMENTS INCORPORATED

13.3.7 BALLUFF GMBH

13.3.8 SENSIRION AG

13.3.9 QUALCOMM TECHNOLOGIES, INC.

13.3.10 MEMSIC SEMICONDUCTOR CO., LTD.

13.3.11 AIRMAR TECHNOLOGY CORPORATION

13.3.12 VISHAY PRECISION GROUP INC.

13.3.13 GILL SENSORS & CONTROLS LIMITED

13.3.14 MURATA MANUFACTURING CO., LTD.

13.3.15 RENESAS ELECTRONICS CORPORATION

*Details on Business Overview, Products/Solutions Offered, Recent Developments, and MnM View (Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats) might not be captured in case of unlisted companies.

14 APPENDIX

14.1 DISCUSSION GUIDE

14.2 KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL

14.3 CUSTOMIZATION OPTIONS

14.4 RELATED REPORTS

14.5 AUTHOR DETAILS

I would like to order

Product name: Smart Sensors Market by Type (Temperature & Humidity Sensor, Pressure Sensor, Motion & Occupancy Sensor), Technology (CMOS, MEMS), Component (Microcontrollers, Amplifiers, Transceivers), End-User Industry and Region - Global Forecast to 2029

Product link: <https://marketpublishers.com/r/S32F1E7F3B0EN.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/S32F1E7F3B0EN.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