

# Environmental Sensor Market worth \$3.83 billion by 2030, growing at a CAGR of 9.29% - Exclusive Report by 360iResearch

The Global Environmental Sensor Market to grow from USD 1.88 billion in 2022 to USD 3.83 billion by 2030, at a CAGR of 9.29%.

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-- The "Environmental Sensor Market
by Type (Air Quality, Humidity,
Integrated), Deployment (Indoor,
Outdoor, Portable), Application,
Vertical - Global Forecast 2023-2030"
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The Global Environmental Sensor

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The Global Environmental Sensor Market is projected to grow at a CAGR 9.29%

2022
USD 1.88 billion

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Environmental Sensor Market - Exclusive Report by 360iResearch

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An environmental sensor detects and measures a specific aspect of the environment, intentionally providing a detailed record of environmental conditions. These sensors are crucial for integral parts in fields diverse as agriculture, health and safety, and climate studies. The environmental sensor has undergone rapid innovation and growth in recent years. An increase in air quality monitoring stations and increasing adoption of environmental sensors for consumer products, HVAC, and air purifiers is anticipating the growth of environmental sensors. Furthermore, health and safety concerns are upsurging demand for environmental monitoring systems, which leads to the increasing utilization of environmental sensors. In contrast, fluctuating raw materials and technical limitations of sensor applications are penetrating the market growth. However, market vendors are increasingly working on research and

development to improve sensor performance. Moreover, technological advancements such as the development of nanotechnology-based environmental monitoring products have found extensive applications across various industries. In addition, the various roles of remote sensing devices and GIS for real-time ambient air quality monitoring present substantial growth opportunities for this market.

Vertical: Wider scope of environmental sensors in industrial sector to evaluate and maintain a safe working environment

The commercial sector forms a considerable part of the demand demographics in the environmental sensors market. In this sector, environmental sensors are chiefly utilized to monitor air and water quality, particularly in healthcare, hospitality, and entertainment industries. In the industrial segment, environmental sensors have a crucial role in various applications including weather forecasting, pollution checks, climate control, and fire detection. Industries, including oil and gas, manufacturing, and energy, utilize these sensors to evaluate and maintain a safe working environment, promoting occupational health and safety. The residential sector uses environmental sensors to enhance the quality of living conditions. Home automation systems integrate these sensors to monitor and control air quality, humidity, and temperature.

Type: Consumer preference for air quality sensor for monitoring air quality to mitigate health risks

An air quality sensor detects and measures the level of pollutants in the air. These sensors have become increasingly essential for monitoring indoor environments, such as offices, homes, and cars, where exposure to poor air quality can pose serious health risks. Humidity sensors measure the amount of water vapor in the air, soil, or confined spaces. These sensors facilitate control for building management systems, meteorology departments, agricultural sectors, and HVAC systems by determining the relative humidity of the environment. Integrated environmental sensors compile various climatic parameters, including temperature, humidity, light level, pressure, and air quality. These sensors offer a more comprehensive understanding of specific conditions for use in agriculture, meteorology, and building automation. Soil moisture sensors are used to gauge the volumetric content of water within the soil. These sensors help optimize irrigation procedures, conserve water, and achieve better crop yield and quality in the agricultural and gardening sectors. Temperature sensors are pivotal in many industrial controls and room-temperature regulation applications. They identify variations in physical temperature and deliver feedback so that temperature-controlled environments remain within the needed parameters. Ultraviolet (UV) sensors detect the UV radiation in the environment. These are predominantly used in the healthcare industry, for equipment sterilization, and in meteorology to monitor the UV index. Water quality sensors provide vital real-time data on the state of water by testing parameters such as pH levels, dissolved oxygen, conductivity, and temperature. These sensors are crucial for maintaining safe public and private water supplies and meeting environmental protection standards in wastewater treatment and aquaculture industries.

Application: Significant role of environmental sensors for smart home automation to improve

wellness, potentially avoiding health issues

In smart cities, these sensors enable the monitoring of various environmental parameters such as air quality, noise levels, temperature, humidity, and radiation levels. As cities become more congested, the data collected from these sensors aid in environmental management, including waste and pollution control. Environmental sensors for smart home automation offer homeowners advanced control over their home's heating, ventilation, and air conditioning (HVAC) systems, lights, and appliances. In the corporate world, smart office automation is becoming a necessity for creating efficient, productive, and safe office environments. Environmental sensors are used to monitor and regulate various parameters within office infrastructures.

Deployment: Extensive deployment of environmental sensors for the outdoors to protect public health and enable weather forecasting

Indoor environmental sensors are employed within enclosed spaces such as commercial buildings, residences, manufacturing facilities, and laboratories. They primarily monitor air quality, temperature, humidity, light, and sound. Outdoor environmental sensors offer essential, real-time data on various eco-parameters such as temperature, rainfall, wind speed and direction, and UV radiation. Environmental sensors are predominantly used in meteorology, agriculture, environmental research, disaster management, and sports. Their usage ensures the protection of public health, aids in weather forecasting, and enables effective planning and execution of outdoor events. Portable environmental sensors are designed with mobility in mind, offering flexible deployment across varied locations on a per-need basis. These compact, lightweight devices can quickly monitor environmental parameters anytime and anywhere.

## Regional Insights:

In the Americas, there's a remarkable increase in demand for environmental sensors. The trend is highly driven by rapid urbanization, an escalating need for pollution control, and weather monitoring in these regions. Environmental conservation awareness has also contributed significantly to the surge in demand. These nations aggressively invest in smart city projects, thus fuelling the need for efficient and real-time environmental monitoring systems. Furthermore, the EMEA region is witnessing a significant demand due to the wide-scale incorporation of environmental sensors in numerous industrial sectors. European nations are at the forefront, spurred by stringent environmental regulations and policies. Several countries are demonstrating a high propensity for smart and connected devices, pushing the demand for sensors. Although relatively slower, the Middle East and Africa are gradually tuning into market trends, focusing primarily on air-quality monitoring and related health implications. Moreover, in the Asia-Pacific region, the demand for environmental sensors is skyrocketing, primarily due to deterioration in environmental conditions and the risk of natural disasters in several countries. Several countries spearheading technological advancement have emerged as massive markets in the region. These countries are progressively focusing on sustainability and environmental protection through technological advancements and are witnessing a steep rise in the demand for such sensors.

### **FPNV Positioning Matrix:**

The FPNV Positioning Matrix is essential for assessing the Environmental Sensor Market. It provides a comprehensive evaluation of vendors by examining key metrics within Business Strategy and Product Satisfaction, allowing users to make informed decisions based on their specific needs. This advanced analysis then organizes these vendors into four distinct quadrants, which represent varying levels of success: Forefront (F), Pathfinder (P), Niche (N), or Vital(V).

### Market Share Analysis:

The Market Share Analysis offers an insightful look at the current state of vendors in the Environmental Sensor Market. By comparing vendor contributions to overall revenue, customer base, and other key metrics, we can give companies a greater understanding of their performance and what they are up against when competing for market share. The analysis also sheds light on just how competitive any given sector is about accumulation, fragmentation dominance, and amalgamation traits over the base year period studied.

### **Key Company Profiles:**

The report delves into recent significant developments in the Environmental Sensor Market, highlighting leading vendors and their innovative profiles. These include ABB Ltd., Aeroqual Limited, Amphenol Corporation, ams-OSRAM AG, Comptus Inc., eLichens, Honeywell International, Inc., Hunan Rika Electronic Tech Co., Ltd., IST AG, KEMET Electronics Corporation, Laird Connectivity, METER Group, Inc., Murata Manufacturing Co., Ltd., Nissin Electric Co., Ltd., NuWave Sensor Technology Limited, NXP Semiconductors N.V., Omron Corporation, Renesas Electronics Corporation, Ricoh Company, Ltd, RioT Technology Corp., Robert Bosch GmbH, Samsara Inc., Schneider Electric SE, Sensirion AG, Siemens AG, STMicroelectronics International N.V., TE Connectivity Ltd., Texas Instruments Incorporated, Vaisala Oyj, Verkada Inc., Vertiv Group Corp., and Zebra Technologies Corporatio.

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# Market Segmentation & Coverage:

This research report categorizes the Environmental Sensor Market in order to forecast the revenues and analyze trends in each of following sub-markets:

Based on Type, market is studied across Air Quality, Humidity, Integrated, Soil Moisture, Temperature, Ultraviolet, and Water Quality. The Air Quality is projected to witness significant market share during forecast period.

Based on Deployment, market is studied across Indoor, Outdoor, and Portable. The Outdoor is

projected to witness significant market share during forecast period.

Based on Application, market is studied across Smart City, Smart Home Automation, and Smart Office Automation. The Smart Office Automation is projected to witness significant market share during forecast period.

Based on Vertical, market is studied across Commercial, Industrial, and Residential. The Industrial is projected to witness significant market share during forecast period.

Based on Region, market is studied across Americas, Asia-Pacific, and Europe, Middle East & Africa. The Americas is further studied across Argentina, Brazil, Canada, Mexico, and United States. The United States is further studied across California, Florida, Illinois, New York, Ohio, Pennsylvania, and Texas. The Asia-Pacific is further studied across Australia, China, India, Indonesia, Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan, Thailand, and Vietnam. The Europe, Middle East & Africa is further studied across Denmark, Egypt, Finland, France, Germany, Israel, Italy, Netherlands, Nigeria, Norway, Poland, Qatar, Russia, Saudi Arabia, South Africa, Spain, Sweden, Switzerland, Turkey, United Arab Emirates, and United Kingdom. The Europe, Middle East & Africa commanded largest market share of 37.82% in 2022, followed by Asia-Pacific.

### **Key Topics Covered:**

- 1. Preface
- 2. Research Methodology
- 3. Executive Summary
- 4. Market Overview
- 5. Market Insights
- 6. Environmental Sensor Market, by Type
- 7. Environmental Sensor Market, by Deployment
- 8. Environmental Sensor Market, by Application
- 9. Environmental Sensor Market, by Vertical
- 10. Americas Environmental Sensor Market
- 11. Asia-Pacific Environmental Sensor Market
- 12. Europe, Middle East & Africa Environmental Sensor Market
- 13. Competitive Landscape
- 14. Competitive Portfolio
- 15. Appendix

The report provides insights on the following pointers:

- 1. Market Penetration: Provides comprehensive information on the market offered by the key players
- 2. Market Development: Provides in-depth information about lucrative emerging markets and analyzes penetration across mature segments of the markets

- 3. Market Diversification: Provides detailed information about new product launches, untapped geographies, recent developments, and investments
- 4. Competitive Assessment & Intelligence: Provides an exhaustive assessment of market shares, strategies, products, certification, regulatory approvals, patent landscape, and manufacturing capabilities of the leading players
- 5. Product Development & Innovation: Provides intelligent insights on future technologies, R&D activities, and breakthrough product developments

The report answers questions such as:

- 1. What is the market size and forecast of the Environmental Sensor Market?
- 2. Which are the products/segments/applications/areas to invest in over the forecast period in the Environmental Sensor Market?
- 3. What is the competitive strategic window for opportunities in the Environmental Sensor Market?
- 4. What are the technology trends and regulatory frameworks in the Environmental Sensor Market?
- 5. What is the market share of the leading vendors in the Environmental Sensor Market?
- 6. What modes and strategic moves are considered suitable for entering the Environmental Sensor Market?

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