

Global Gas Sensor Market Size Study & Forecast, by Technology (Electrochemical, Photoionization Detectors, Solid State/Metal Oxide Semiconductor, Catalytic, Infrared, Laser), Gas Type, Application, and Regional Forecasts 2025-2035

<https://marketpublishers.com/r/GEAF275DCAE6EN.html>

Date: July 2025

Pages: 285

Price: US\$ 3,750.00 (Single User License)

ID: GEAF275DCAE6EN

Abstracts

The Global Gas Sensor Market is valued approximately at USD 1.57 billion in 2024 and is anticipated to grow with a compelling CAGR of more than 8.14% over the forecast period 2025-2035. Gas sensors are essential components in an increasingly connected and safety-conscious world, enabling real-time monitoring and detection of toxic or combustible gases across a diverse range of industrial and consumer settings. These smart sensing devices—integrated with advanced technologies such as electrochemical, infrared, and metal oxide semiconductors—serve as the frontline defense against environmental hazards, while playing a pivotal role in smart infrastructure, automotive safety, and environmental monitoring. As digitization accelerates and regulatory frameworks tighten around emissions and occupational safety, the demand for robust, miniaturized, and energy-efficient gas sensors is on a steep upward trajectory.

In recent years, the convergence of sensor technology with IoT platforms and AI-based data analytics has drastically reshaped the landscape of the gas sensor market. Industries such as oil & gas, manufacturing, and automotive are increasingly adopting these sensors to optimize process control and enhance worker safety by continuously monitoring hazardous gases like carbon monoxide, hydrogen sulfide, and methane. According to recent trends, technological innovation in solid-state sensing materials and non-dispersive infrared detectors is enabling longer life spans and higher accuracy in challenging environments. Simultaneously, the surge in demand for indoor air quality solutions and smart wearables in consumer electronics is further amplifying market growth. Moreover, the miniaturization of sensor modules has empowered developers to

embed gas-sensing capabilities in smartphones and portable devices—broadening their usage into previously untapped segments.

Regionally, North America leads the charge, driven by stringent workplace safety regulations, widespread industrialization, and a strong push toward emission control systems. The U.S., in particular, is spearheading the market with rising investments in smart building infrastructure and the defense sector's increased reliance on advanced sensing for threat detection. Meanwhile, Europe follows closely with progressive environmental policies and a thriving automotive sector integrating gas sensors for emission monitoring and in-cabin air quality. The Asia Pacific region is poised for the fastest growth, primarily due to its booming electronics manufacturing ecosystem, increasing demand for gas leak detection systems, and rapid urbanization in countries such as China, India, and South Korea. Moreover, government-led initiatives aimed at pollution control and industrial automation are acting as catalysts for sensor deployment across the region.

Major market player included in this report are:

Figaro Engineering Inc.

Bosch Sensortec GmbH

Honeywell International Inc.

Amphenol Corporation

AlphaSense Inc.

Membrapor AG

City Technology Ltd (A subsidiary of Honeywell)

Dynament Ltd.

Sensirion AG

Siemens AG

Sensata Technologies

Emerson Electric Co.

Drägerwerk AG & Co. KGaA

ABB Ltd

Nissha Co., Ltd.

Global Gas Sensor Market Report Scope:

Historical Data – 2023, 2024

Base Year for Estimation – 2024

Forecast period – 2025–2035

Report Coverage – Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Regional Scope – North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope – Free report customization (equivalent up to 8 analysts' working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values for the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within the countries involved in the study. The report also provides detailed information about crucial aspects, such as driving factors and challenges, which will define the future growth of the market. Additionally, it incorporates potential opportunities in micro-markets for stakeholders to invest, along with a detailed analysis of the competitive landscape and product offerings of key players.

The detailed segments and sub-segments of the market are explained below:

Global Gas Sensor Market Size Study & Forecast, by Technology (Electrochemical, Photoionization Detectors, Sol...

By Technology:

Electrochemical

Photoionization Detectors

Solid State/Metal Oxide Semiconductor

Catalytic

Infrared

Laser

By Gas Type:

Oxygen

Carbon Monoxide

Carbon Dioxide

Hydrogen Sulfide

Nitrogen Oxide

Hydrogen

Others

By Application:

Water & Wastewater Treatment

Aerospace & Defense

Automotive & Transportation

Industrial Safety

Oil & Gas

Consumer Electronics

Others

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

Rest of Europe

Asia Pacific

China

India

Japan

Australia

South Korea

Rest of Asia Pacific

Latin America

Brazil

Mexico

Middle East & Africa

UAE

Saudi Arabia

South Africa

Rest of Middle East & Africa

Key Takeaways:

Market Estimates & Forecast for 10 years from 2025 to 2035.

Annualized revenues and regional level analysis for each market segment.

Detailed analysis of geographical landscape with Country level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of competitive structure of the market.

Demand side and supply side analysis of the market.

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