

## **Global Gas Detection Equipment Market - Detector Types, Sensor Technologies and Applications**

Market Report | 2025-04-09 | 342 pages | Industry Experts

### **AVAILABLE LICENSES:**

- Single user licence (PDF) \$4500.00
- Enterprise Electronic (PDF) \$7200.00

### **Report description:**

Gas Detection Equipment Market Trends and Outlook

Gas Detection Equipment comprises safety devices essential for ensuring the safe operation of industrial systems and protecting personnel in gas-prone environments. These devices are also used in commercial and residential settings to detect hazardous gases. Early warning features help prevent accidents like fires, explosions, and poisoning. The two main types-Fixed and Portable-utilize various sensor technologies such as Catalytic Bead, Electrochemical, Infrared (IR), Optical, PID, Semiconductor, and Ultrasonic to detect gases like carbon monoxide, hydrogen sulfide, methane, ammonia, and VOCs. Industries like oil & gas, chemicals, mining, and utilities rely heavily on such equipment to maintain safety standards.

Technological advancements have significantly enhanced Gas Detection Equipment. Modern devices now feature wireless connectivity for remote, centralized gas level monitoring-particularly useful in large industrial facilities. IoT integration has led to smart gas detectors capable of analyzing historical data to predict leaks. GPS-enabled systems allow mobile alerts by location, enabling faster emergency response. Continued improvements in sensor technology are also boosting detection accuracy and reliability.

The global Gas Detection Equipment market is valued at US\$4.9 billion in 2024 and is expected to reach US\$8 billion by 2030, growing at a CAGR of 8.7%. This growth is driven by several factors, including stringent safety regulations, rising awareness of occupational health risks, and advancements in device technology. Regulatory agencies worldwide have enforced strict standards for air quality and workplace safety, especially in industries handling flammable or toxic substances, increasing the need for advanced gas detection systems.

Technological innovations-such as improved sensor capabilities and the integration of wireless and IoT features-have transformed gas detection equipment, broadening its application beyond traditional manufacturing sectors. The rising demand for portable and wearable gas detectors is attributed to their ability to enhance personal safety through real-time hazard monitoring. Modern

**Scotts International. EU Vat number: PL 6772247784**

tel. 0048 603 394 346 e-mail: [support@scott-international.com](mailto:support@scott-international.com)

[www.scott-international.com](http://www.scott-international.com)

detectors, being compact and user-friendly, provide instant alerts that enable rapid emergency response via enhanced connectivity. Additionally, industrial growth in developing regions is further boosting market expansion.

#### Gas Detection Equipment Regional Market Analysis

With an estimated share of 30.4% in 2024, Asia-Pacific is the largest global market for Gas Detection Equipment. The rapid levels of industrialization and urbanization being experienced by the region are contributing to propelling demand for gas detectors across a spectrum of sectors. Infrastructural development activities in the industrial and commercial sectors of the region, which further necessitate workplace safety and environmental protection, have been instrumental in wider adoption of these critical components. Governments and regulatory agencies have also been proactive in mandating the deployment of gas detection equipment wherever applicable to negate any threats associated with leakages of toxic and flammable gases.

However, the market for Gas Detection Equipment in North America is poised to post the fastest CAGR of 9.5% over the 2024-2030 analysis period, a major reason for which is the growing demand for fixed gas detectors in the region's vast industrial base in the oil & gas, chemical and mining sectors, among others. All these industries involve extremely risky work environments that are susceptible to leakages of hazardous and inflammable gases, for which it becomes imperative to have the necessary detection equipment in place.

#### Gas Detection Equipment Type Market Analysis

Worldwide, the market for Gas Detection Equipment by type is larger for Fixed Detectors, estimated to account for a share of about 67% in 2024. As the name suggests, these types of detectors are secured at critical areas where the possibility of gas leakages is the highest in order that they be detected for timely action to be taken. Fixed gas detectors can provide 24/7 protection against the risk of gas leaks by monitoring gas concentrations in various industrial and other settings, thereby minimizing any potential hazard. However, the global demand for Portable Detectors will likely record the fastest CAGR of 9.3% during the 2024-2030 analysis period, a major factor for which is the flexibility offered by these devices in various environments to test for gas leaks. Other factors boosting the market for these devices include ability to provide localized detection in the proximate surrounding of the user, light weight and compact design, allowing Portable Detectors to be used by personnel working in hazardous areas.

#### Gas Detection Equipment Technology Market Analysis

By technology, the global market for Infrared (IR) Sensors-based Gas Detection Equipment is the largest. These devices are ideal for detecting combustible hydrocarbon gases and also for sensing carbon monoxide (CO) & carbon dioxide (CO<sub>2</sub>), thereby driving their demand. IR gas sensors are also a vital component of mining operations to detect hazardous gases, such as methane, which can be explosive and other toxic gases to ensure worker safety and prevent accidents. The fastest CAGR of 9.7% over 2024-2030, however, is anticipated to be registered by the demand for Semiconductor Sensor-based Gas Detection Equipment, which are offered in five major varieties based on the transducers used, including resistor, diode, metal-insulator-semiconductor (MIS) capacitor, metal-insulator-semiconductor field effect transistor (MIS FET) and oxygen concentration cell. These low power consuming, compact and highly cost-efficient sensors are finding growing application in environmental monitoring, general industry and even everyday life.

#### Gas Detection Equipment End-Use Sector Market Analysis

In addition to being the largest with an estimated 2024 share of 22.2%, the worldwide demand for Gas Detection Equipment in the Oil & Gas sector is also likely to be the fastest growing. This sector is particularly vulnerable to the risk of flammable gas leaks, such as methane, propane and butane. These gases become highly explosive after blending with air, which poses severe threats

**Scotts International. EU Vat number: PL 6772247784**

tel. 0048 603 394 346 e-mail: [support@scotts-international.com](mailto:support@scotts-international.com)

[www.scotts-international.com](http://www.scotts-international.com)

to personnel and infrastructure. In such cases, gas detectors are crucial to continuously monitor the gases and provide timely alarms for preventing potentially life- and asset-threatening situations. Gas leaks in offshore platforms, refineries and petrochemical plants can lead to catastrophic consequences, the proper control and prevention of which is possible only through using appropriate detection equipment. As the world's energy demand is growing exponentially, oil & gas exploration activities are getting further intensified, because of which investments in safety equipment, such as gas detectors, is also growing. This trend is especially evident in Middle East, North America and Asia-Pacific, which are witnessing significant growth in gas detection deployments due to expansion of oilfields, offshore drilling projects and refining activities.

#### Gas Detection Equipment Market Report Scope

This global report on Gas Detection Equipment analyzes the market based on type, technology and end-use sector for the period 2021-2030 with projections from 2024 to 2030 in terms of value in US\$. In addition to providing profiles of major companies operating in this space, the latest corporate and industrial developments have been covered to offer a clear panorama of how and where the market is progressing.

#### Key Metrics

Historical Period: 2021-2023

Base Year: 2024

Forecast Period: 2024-2030

Units: Value market in US\$

Companies Mentioned: 45+

#### Gas Detection Equipment Market by Geographic Region

- North America (The United States, Canada and Mexico)
- Europe (France, Germany, Italy, Russia, Spain, The United Kingdom and Rest of Europe)
- Asia-Pacific (China, Japan, India, South Korea and Rest of Asia-Pacific)
- South America (Argentina, Brazil and Rest of South America)
- Middle East & Africa

#### Gas Detection Equipment Market by Type

- Fixed Detectors
- Portable Detectors
- Multi-Gas Detectors
- Single Gas Detectors

#### Gas Detection Equipment Market by Technology

- Catalytic Bead Sensors
- Electrochemical Sensors
- Infrared (IR) Sensors
- Optical Sensors
- Photoionization Detector (PID)
- Semiconductor Sensors
- Ultrasonic Sensors
- Other Technologies (Incl. Holographic, Laser-Based, MEMS & Solid-State)

#### Gas Detection Equipment Market by End-Use Sector

- Automotive

**Scotts International. EU Vat number: PL 6772247784**

tel. 0048 603 394 346 e-mail: [support@scotts-international.com](mailto:support@scotts-international.com)

[www.scotts-international.com](http://www.scotts-international.com)

- Building & Facility Safety
- Chemical
- Environmental Monitoring
- Medical & Healthcare
- Mining
- Oil & Gas
- Water & Wastewater Treatment
- Other End-Use Sectors (Incl. Food & Beverages, Power Generation/Utilities, Semiconductors & General Industry)

## **Table of Contents:**

### **PART A: GLOBAL MARKET PERSPECTIVE**

#### **1. Introduction**

- Gas Detection Equipment Outline
  - Gas Detection Equipment Defined
  - o□Gas Detection Equipment Types
    - Fixed Detectors
    - Portable Detectors
    - Multi-Gas Detectors
    - Single Gas Detectors
  - o□Gas Detection Equipment Technologies
    - Catalytic Bead Sensors
    - Electrochemical Sensors
    - Infrared (IR) Sensors
    - Optical Sensors
    - Photoionization Detector (PID)
    - Semiconductor Sensors
    - Ultrasonic Sensors
    - Other Technologies (Incl. Holographic, Laser-Based, MEMS & Solid-State)
  - o□Gas Detection Equipment End-Use Sectors
    - Automotive
    - Building & Facility Safety
    - Chemical
    - Environmental Monitoring
    - Medical & Healthcare
    - Mining
    - Oil & Gas
    - Water & Wastewater Treatment
    - Other End-Use Sectors (Incl. Food & Beverages, Power Generation/Utilities, Semiconductors and General Industry)
- #### **2. Key Market Trends**
- #### **3. Key Market Players**
- 3M Co
  - ABB Ltd.
  - AirTest Technologies Inc.
  - Analytical Technology, Inc.
  - Bacharach, Inc.
  - BW Technologies Ltd

**Scotts International. EU Vat number: PL 6772247784**

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- []City Technology Ltd
- []Control Instruments Corp
- []Crowcon Detection Instruments Ltd
- []Danfoss A/S
- []Detector Electronics Corp (Det-Tronics)
- []DOD Technologies, Inc.
- []Dragerwerk AG & Co KGaA
- []Emerson Electric Co
- []ESP Safety, Inc
- []Fluke Corp
- []Fortive Corp
- []GE Measurement and Control Solutions
- []GfG Gesellschaft fur Geratebau mbH
- []GMI
- []Halma plc
- []Hanwei Electronics Group Corp
- []Honeywell International, Inc.
- []Industrial Scientific Corp
- []Inficon Holding AG
- []International Gas Detectors Ltd
- []ION Science, Inc.
- []Linde Group
- []Lynred
- []MSA Safety, Inc.
- []New Cosmos Electric Co Ltd
- []Opgal Optronic Industries Ltd.
- []Process Sensing Technologies Ltd
- []RAE Systems, Inc.
- []Riken Keiki Co Ltd
- []RKI Instruments Inc.
- []Sensidyne LP
- []SENSIT Technologies LLC
- []Siemens AG
- []Sierra Monitor Corp
- []Teledyne Gas and Flame Detection
- []Testo SE & Co KGaA
- []Thermo Fisher Scientific, Inc.
- []Trolex Ltd
- []Uniphos Envirotronic Pvt Ltd
- []Yokogawa Electric Corp

#### 4. Key Business & Product Trends

#### 5. Global Market Overview

- []Global Gas Detection Equipment Market Overview by Type
- o[]Gas Detection Equipment Component Market Overview by Type
- []Fixed Detectors
- []Portable Detectors
- []Multi-Gas Detectors

**Scotts International. EU Vat number: PL 6772247784**

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- Single Gas Detectors
- o□Gas Detection Equipment Market by Technology
- Catalytic Bead Sensors
- Electrochemical Sensors
- Infrared (IR) Sensors
- Optical Sensors
- Photoionization Detector (PID)
- Semiconductor Sensors
- Ultrasonic Sensors
- Other Technologies (Incl. Holographic, Laser-Based, MEMS & Solid-State)
- o□Gas Detection Equipment Market by End-Use Sector
- Automotive
- Building & Facility Safety
- Chemical
- Environmental Monitoring
- Medical & Healthcare
- Mining
- Oil & Gas
- Water & Wastewater Treatment
- Other End-Use Sectors (Incl. Food & Beverages, Power Generation/Utilities, Semiconductors and General Industry)

#### PART B: REGIONAL MARKET PERSPECTIVE

- Global Gas Detection Equipment Market Overview by Geographic Region

#### REGIONAL MARKET OVERVIEW

##### 6. North America

- North American Gas Detection Equipment Market Overview by Geographic Region
- North American Gas Detection Equipment Market Overview by Type
- North American Gas Detection Equipment Market Overview by Technology
- North American Gas Detection Equipment Market Overview by End-Use Sector
- Country-wise Analysis of North American Gas Detection Equipment Market
- o□The United States
- United States Gas Detection Equipment Market Overview by Type
- United States Gas Detection Equipment Market Overview by Technology
- United States Gas Detection Equipment Market Overview by End-Use Sector
- o□Canada
- Canadian Gas Detection Equipment Market Overview by Type
- Canadian Gas Detection Equipment Market Overview by Technology
- Canadian Gas Detection Equipment Market Overview by End-Use Sector
- o□Mexico
- Mexican Gas Detection Equipment Market Overview by Type
- Mexican Gas Detection Equipment Market Overview by Technology
- Mexican Gas Detection Equipment Market Overview by End-Use Sector

##### 7. Europe

- European Gas Detection Equipment Market Overview by Geographic Region
- North American Gas Detection Equipment Market Overview by Type
- North American Gas Detection Equipment Market Overview by Technology
- North American Gas Detection Equipment Market Overview by End-Use Sector
- Country-wise Analysis of European Gas Detection Equipment Market

**Scotts International. EU Vat number: PL 6772247784**

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

o France

- French Gas Detection Equipment Market Overview by Type
- French Gas Detection Equipment Market Overview by Technology
- French Gas Detection Equipment Market Overview by End-Use Sector

o Germany

- German Gas Detection Equipment Market Overview by Type
- German Gas Detection Equipment Market Overview by Technology
- German Gas Detection Equipment Market Overview by End-Use Sector

o Italy

- Italian Gas Detection Equipment Market Overview by Type
- Italian Gas Detection Equipment Market Overview by Technology
- Italian Gas Detection Equipment Market Overview by End-Use Sector

o Russia

- Russian Gas Detection Equipment Market Overview by Type
- Russian Gas Detection Equipment Market Overview by Technology
- Russian Gas Detection Equipment Market Overview by End-Use Sector

o Spain

- Spanish Gas Detection Equipment Market Overview by Type
- Spanish Gas Detection Equipment Market Overview by Technology
- Spanish Gas Detection Equipment Market Overview by End-Use Sector

o The United Kingdom

- United Kingdom Gas Detection Equipment Market Overview by Type
- United Kingdom Gas Detection Equipment Market Overview by Technology
- United Kingdom Gas Detection Equipment Market Overview by End-Use Sector

o Rest of Europe

- Rest of Europe Gas Detection Equipment Market Overview by Type
- Rest of Europe Gas Detection Equipment Market Overview by Technology
- Rest of Europe Gas Detection Equipment Market Overview by End-Use Sector

8. Asia-Pacific

- Asia-Pacific Gas Detection Equipment Market Overview by Geographic Region
- Asia-Pacific Gas Detection Equipment Market Overview by Type
- Asia-Pacific Gas Detection Equipment Market Overview by Technology
- Asia-Pacific Gas Detection Equipment Market Overview by End-Use Sector
- Country-wise Analysis of Asia-Pacific Gas Detection Equipment Market

o China

- Chinese Gas Detection Equipment Market Overview by Type
- Chinese Gas Detection Equipment Market Overview by Technology
- Chinese Gas Detection Equipment Market Overview by End-Use Sector

o India

- Indian Gas Detection Equipment Market Overview by Type
- Indian Gas Detection Equipment Market Overview by Technology
- Indian Gas Detection Equipment Market Overview by End-Use Sector

o Japan

- Japanese Gas Detection Equipment Market Overview by Type
- Japanese Gas Detection Equipment Market Overview by Technology
- Japanese Gas Detection Equipment Market Overview by End-Use Sector

o South Korea

**Scotts International. EU Vat number: PL 6772247784**

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- South Korean Gas Detection Equipment Market Overview by Type
- South Korean Gas Detection Equipment Market Overview by Technology
- South Korean Gas Detection Equipment Market Overview by End-Use Sector
- o□Rest of Asia-Pacific
  - Rest of Asia-Pacific Gas Detection Equipment Market Overview by Type
  - Rest of Asia-Pacific Gas Detection Equipment Market Overview by Technology
  - Rest of Asia-Pacific Gas Detection Equipment Market Overview by End-Use Sector
- 9. South America
  - South American Gas Detection Equipment Market Overview by Geographic Region
  - South American Gas Detection Equipment Market Overview by Type
  - South American Gas Detection Equipment Market Overview by Technology
  - South American Gas Detection Equipment Market Overview by End-Use Sector
  - Country-wise Analysis of South American Gas Detection Equipment Market
  - o□Argentina
    - Argentine Gas Detection Equipment Market Overview by Type
    - Argentine Gas Detection Equipment Market Overview by Technology
    - Argentine Gas Detection Equipment Market Overview by End-Use Sector
  - o□Brazil
    - Brazilian Gas Detection Equipment Market Overview by Type
    - Brazilian Gas Detection Equipment Market Overview by Technology
    - Brazilian Gas Detection Equipment Market Overview by End-Use Sector
  - o□Rest of South America
    - Rest of South American Gas Detection Equipment Market Overview by Type
    - Rest of South American Gas Detection Equipment Market Overview by Technology
    - Rest of South American Gas Detection Equipment Market Overview by End-Use Sector
- 10. Middle East & Africa
  - Middle East & African Gas Detection Equipment Market Overview by Type
  - Middle East & African Gas Detection Equipment Market Overview by Technology
  - Middle East & African Gas Detection Equipment Market Overview by End-Use Sector

PART C: GUIDE TO THE INDUSTRY

PART D: ANNEXURE

1. RESEARCH METHODOLOGY
2. FEEDBACK

**Scotts International. EU Vat number: PL 6772247784**

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

**Global Gas Detection Equipment Market - Detector Types, Sensor Technologies and Applications**

Market Report | 2025-04-09 | 342 pages | Industry Experts

To place an Order with Scotts International:

- Print this form
- Complete the relevant blank fields and sign
- Send as a scanned email to support@scotts-international.com

**ORDER FORM:**

Select license	License	Price
	Single user licence (PDF)	\$4500.00
	Enterprise Electronic (PDF)	\$7200.00
		VAT
		Total

\*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

\*\* VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>
Zip Code*	<input type="text"/>	Country*	<input type="text"/>
		Date	<input type="text" value="2026-02-22"/>
		Signature	<input type="text"/>

**Scotts International. EU Vat number: PL 6772247784**

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com