

Global Gas Detection System - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Global Gas Detection System Market is expected to register a CAGR of 9.4% during the forecast period.

Key Highlights

- The proliferation of handheld devices has led to developments in the field of gas sensors, detectors, and analyzers, which has considerably widened the scope of application across multiple end-user segments. Due to their chemical composition and properties, metal oxide gas sensors are well-suited for various applications, including detecting all reactive gases. Depending on the material used and the gases that must be detected, typical operating temperatures range between 300C and 900C.
- Currently, some prominent companies are developing products across the detector and analyzer segment application across clinical assaying, environmental emission control, explosive detection, agricultural storage, shipping, and workplace hazard monitoring. For instance, in March 2021, DD-scientific announced the launch of electrochemical gas sensors called the DceL suite for industrial safety. The products can measure oxygen, carbon monoxide, hydrogen sulfide, nitrogen dioxide, sulfur dioxide, and ammonia.
- In addition, governments worldwide are increasingly setting targets to reduce the emission of greenhouse gases and are adopting stringent regulations to tackle emission rates. For instance, the EU has set itself a net-zero greenhouse gas emissions goal by 2050. Such developments are expected to increase the adoption rates of gas detectors further.
- Such an increased focus on reducing greenhouse gasses is one of the primary factors driving the demand for the market studied. In line with this, governments across the globe are increasing investments to reduce emissions from the oil and gas sectors. For instance, in August 2022, the US Department of Energy announced funding up to USD 32 million for research and development of new monitoring, measurement, and mitigation technologies to help detect and reduce methane emissions across the oil and natural gas producing regions across the United States.
- The COVID-19 pandemic and recent lockdown restrictions affected industrial activities across the world, highlighting supply chain

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disruptions, lack of availability of raw materials used in the manufacturing process, labor shortages, and fluctuating prices that could cause the production of the final product to inflate and go beyond budget, shipping problems, etc. Although around May 2020, many of these industrial sites resumed their operations, the fluctuation caused starting four months in 2020 resulted in order delays and lead time across the gas sensors, analyzer, and detector supply chain 2020.

- The pandemic has led to new applications of gas detection systems. In January 2021, Teledyne Gas and Flame detection launched portable gas detectors for staff protection during the pandemic. The detectors monitor the CO2 concentration to control the Covid-19 outbreak in the facility. In addition, guidance for reducing the risk of exposure to the Covid-19 virus by major authorities is also developing a need for gas detectors. The Occupational Safety and Health Administration (OSHA) announced guidelines to reduce the exposure of the virus in different end-user industries such as oil and gas and others.

Gas Detection System Market Trends

Oil and Gas Sector to Have a Significant Market Share

- Various processes involved in oil and gas applications produce non-toxic gases, which, when accumulated in high concentration, deplete the oxygen, causing a hazardous condition to personnel who occupy the area and do not have access to protection. Oxygen depletion is dangerous to individuals, whereas even small concentrations of harmful toxic gases can lead to serious health implications (even death) for anyone entering an unoccupied area where such gases are present.
- Additionally, the old technologies, like handheld/personal detectors monitors, cannot detect the concentrations of combustible gases in unoccupied areas that are hazardous to personnel, equipment, and the facilities themselves.
- Oil refineries, pipelines, LPG/LNG plants, storage farms, and offshore platforms utilize a wide range of hazardous combustible and toxic gases. The need for safety measures contributes to the growth of the gas detection system market.
- Moreover, a series of successful licensing rounds and promising finds have sent a wave of optimism across the industry. Further, the oil and gas industry has invested heavily in research and development to have a grip on the latest emerging technologies.
- According to BP Statistics, crude oil consumption reached 94,088 thousand barrels per day worldwide in 2021. The increasing demand for crude oil is expected to drive the demand for gas detection systems.

North America is Expected to Hold a Significant Market Share

- North America is the largest revenue-generating market due to the presence of major vendors and government regulations regarding limiting gas emissions. The Environmental Protection Agency (EPA) has released the New Source Performance Standards for measuring and limiting methane emissions from new, reconstructed, or modified assets.
- Also, the Department of Energy (DOE) launched an Advanced Research Projects Agency-Energy (ARPA-E) program labeled MONITOR (Methane Observation Networks with Innovative Technology to Obtain Reductions) to provide funding for next-generation methane detection methods. In December 2020, the 'Protecting Our Infrastructure of Pipelines and Enhancing Safety' Act was signed into law in the United States. The act directs gas pipeline operators to use advanced leak-detection technologies to protect the environment and ensure pipeline safety. Such initiatives by the governmental authorities have pushed the need for gas detection systems.
- In line with the encouragement for gas detection by the government, vendors operating in the region are also launching new gas detection systems for transmission pipelines. In April 2021, Abb launched a drone-based gas detection system for detecting and quantifying gas emissions along transmission pipelines.
- Additionally, there has been a rise in the cases of gas leaks which have resulted in deaths and high costs to the companies. In January 2021, at least six people died from a liquid nitrogen gas leak at a food processing plant. In all, 130 people were

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transferred for evaluation in a medical facility in proximity, while 10 others were sent to a hospital due to the severity of their symptoms.

- Different end-users are also partnering with the regional gas detection equipment suppliers. In July 2021, MSA Safety, a Pennsylvania-based company, announced that it had been named the official supplier of portable gas detection equipment for Royal Dutch Shell. The company has signed a three-year global framework agreement to supply portable gas detection equipment.

Gas Detection System Industry Overview

The Gas Detection System market is significantly competitive. Over the past few years, the gas detection system market has witnessed an increase in the number of mergers and acquisitions (M&As), as well as in product innovation, to gain a competitive advantage. This trend is likely to continue in the future, thereby consolidating market participants.

- October 2021 - Honeywell International Inc. released two new Bluetooth-connected gas detectors that can continuously monitor dangerous gases even in fog, rain, snow, and other inclement weather, helping facilities keep their oil and gas, petrochemical, chemical, and other workers and industrial sites safe.
- September 2021 - International Gas Detectors Ltd. announced that it has partnered with mPower Electronics Inc., USA. This strategic partnership would allow IGD to offer mPower detectors, further extending their portable gas detector portfolio. The mPower range, which would be available through IGD, includes the NEO portable VOC detectors featuring PID sensors and POLI portable multi-gas portables, with nearly 40 different sensor options.
- August 2021 - MSA Safety has been named Royal Dutch Shell's preferred portable gas detection equipment provider. This is part of a three-year deal to supply Shell's offshore and onshore facilities and installations worldwide with portable gas detection equipment and other safety technology. Shell and MSA have been partners for 30 years, and this deal extends their partnership.
- July 2021 - Emtech Corporation, in partnership with eLichens, launched a new connected gas leak detector running on the LoRaWAN standard. Based on eLichens patented gas sensing technology, avolta can detect natural gas (methane) leaks with ultra-selectiveness, has no drift over time, and has been approved by research gas laboratories.
- July 2021 - MSA Safety Incorporated, a safety equipment manufacturer, announced that it completed the acquisition of Bacharach Inc. in a transaction valued at USD 337 million. Based in New Kensington, Pennsylvania, Bacharach is a gas detection technologies provider used in the heating, ventilation, air conditioning, and refrigeration (HVAC-R) markets, with annual revenue of approximately USD 70 million.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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