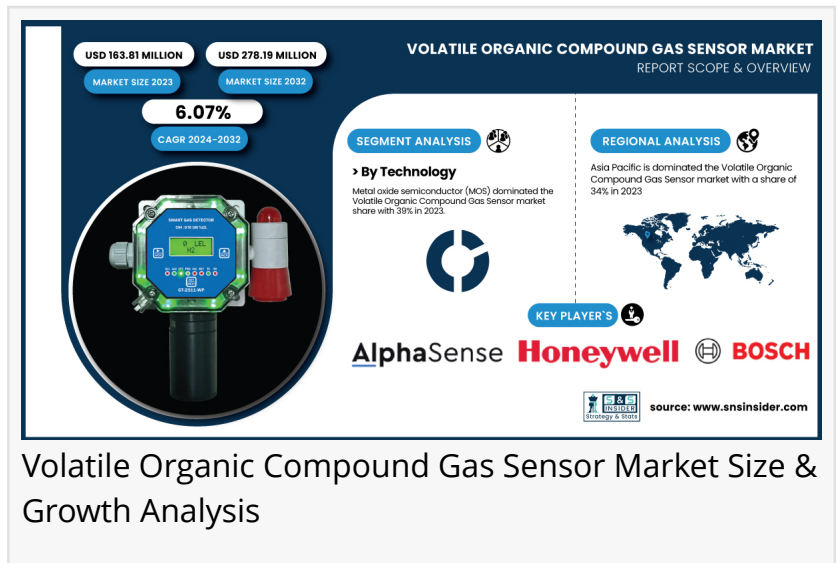


# Volatile Organic Compound Gas Sensor Market to Grow \$278.19 Million by 2032 Driven by Health Concerns & Smart Technology

*The Volatile Organic Compound (VOC) Gas Sensor Market is expanding with demand for air quality monitoring in industrial, residential, and automotive application*

AUSTIN, TX, UNITED STATES, February 27, 2025 /EINPresswire.com/ -- Market Size & Industry Insights

As Per the SNS Insider, "The [Volatile Organic Compound Gas Sensor market](#) was valued at USD 163.81 million in 2023 and is expected to grow to USD 278.19 million by 2032, at a CAGR of 6.07% over the forecast period of 2024-2032."



Volatile Organic Compound Gas Sensor Market Size & Growth Analysis

The expansion of the Volatile Organic Compound gas sensor market can be attributed to the growing recognition of stringent environmental regulations and indoor air quality. Health implications due to exposure to VOC are propelling demand and adoption across residential, commercial, and industrial applications. Advances in technology like miniaturized low-cost sensors are enhancing their employment in smart home appliances and air purifiers. Moreover, continuous air quality monitoring systems are more in demand due to the expanding industrialization and urbanization.

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SWOT Analysis of Key Players as follows:

- Alpha sense
- Honeywell International Inc.
- Bosch Sensortech GmbH

- ABB Ltd.
- Siemens AG
- Ion Science Ltd.
- SGX Sensortech
- Renesas Electronics Corporation
- Eco Sensor
- Sensirion AG
- ams AG
- Figaro Engineering Inc

Key Market Segmentation:

**By Technology:** The Metal Oxide Semiconductor (MOS) technology led the VOC gas sensors market in 2023, due to their enhanced sensitivity, low cost, and wider range of detection. Their top position in the market is mainly due to the widespread application of MOS sensors in industrial safety, environmental monitoring, and consumer electronics.

The Infrared-based detection technology is expected to have the highest CAGR from 2024 to 2032. The rising number is because of great precision, extended lifetime, and its stability in inclement environments. The growing demand for advanced air quality monitoring & industrial safety systems is also fuelling the adoption of IR technology.

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**By Type:** Multiple gas detection sensors led the Volatile Organic Compound (VOC) gas sensor market in 2023, enabling the detection of many gases at the same time, thereby improving safety and operational efficiency in industrial and commercial applications. The dominance in the market was offered by the high usage of environmental monitoring and industrial safety systems.

The single gas detection sensor segment is anticipated to grow at the highest CAGR during the forecast period, from 2024 to 2032. The demand for low-cost, low-power, and small-footprint sensors for targeted gas detection solutions in residential air quality monitoring and portable consumer devices is fuelling this growth.

**By Application:** The oil and gas segment of the VOC gas sensor market accounted for the largest share of global demand in 2023 due to strict safety regulations and the need to constantly monitor and classify hazardous gases as they are collected, refined, and distributed. The high demand for robust and reliable gas detection systems in this sector led to its largest share in the gas detection market.

The food and beverages segment is predicted to grow at the highest rate from 2024-2032. There is the proliferation of VOC sensors used to track freshness, spoilage, and contamination in food

processing environments, which is fuelling upcoming demand, especially due to growing regulatory standards for food safety and quality.

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## Asia Pacific Leads VOC Gas Sensor Market in 2023 While North America Set for Fastest Growth

In 2023, the Asia Pacific region dominated the Volatile Organic Compound (VOC) gas sensor market, owing to the rapid industrialization and urbanization along with the phenomenon of stringent environmental regulations in countries such as China, India, and Japan. This was further supported by the rising awareness related to indoor air quality and the surging usage of smart home devices and specific air purifiers. Another reason for the emergence of the region as a manufacturing and chemical industry leader.

North America is anticipated to expand at the highest CAGR from 2024 to 2032. Factors such as stringent environmental safety regulations, growing health consciousness, coupled with increasing investments in advanced air quality monitoring devices are escalating this growth. Demand is also being driven by the increased uptake of smart building technology, growing industrial automation, and advancements in sensor technology. North America also holds good growth due to increased focus on workplace safety and the presence of large players in the industry.

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