

Industrial Gases Market Projected to Reach \$158.35 Bn by 2030 - New Report Added to Comprehensive Publication Portfolio

Industrial Gases Market Size 2024 | Share by Top Companies, Trends, In-Depth Analysis and Growth Forecast 2030

WASHINGTON, DISTRICT OF COLUMBIA, UNITED STATES, February 12, 2024 /EINPresswire.com/ --Industrial Gases are gaseous or liquefied substances that are used for various purposes in different industries, such as manufacturing, healthcare, food and beverage, oil and gas, power, metallurgy, and electronics. Some of the common Industrial Gases



are oxygen, nitrogen, carbon dioxide, hydrogen, argon, helium, and acetylene. Industrial Gases are produced by air separation units, steam reforming, gasification, or other chemical processes, and are distributed to end-users through gas cylinders, bulk liquid, or pipelines.

The Global Industrial Gases Market size was valued at USD 97.52 billion in 2022 and is expected to surpass USD 158.35 billion by 2030, growing at a compound annual growth rate (CAGR) of 6.3% from 2023 to 2030, according to a report by Vantage Market Research. The growth of the market is driven by several factors, such as the increasing demand from major end-use industries, the rising popularity of electronic devices, the surging demand for renewable energy, and the growing awareness of environmental and safety issues. The market also faces some challenges, such as the high cost of gas production and distribution, the stringent environmental regulations, and the impact of the COVID-19 pandemic on the industrial activities.

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Market Dynamics

The demand for Industrial Gases is largely dependent on the performance and growth of the

end-use industries that consume them. Some of the major end-use industries that drive the demand for Industrial Gases are oil and gas, chemicals, <u>petrochemicals</u>, food and beverage, power, metallurgy, and electronics. These industries use Industrial Gases for various applications, such as packaging, coolant, carbonation, cryogenic, cutting and welding, laboratory, air separation, and others. For instance, the oil and gas industry uses hydrogen for refining and processing of crude oil, nitrogen for enhanced oil recovery and pipeline testing, and carbon dioxide for enhanced oil recovery and carbon capture and storage. The chemical and petrochemical industry uses oxygen, hydrogen, and nitrogen for various reactions and processes, such as oxidation, hydrogenation, and ammonia production. The food and beverage industry uses carbon dioxide, nitrogen, and oxygen for packaging, preservation, and carbonation of food and drinks. The power industry uses hydrogen and oxygen for fuel cells and gas turbines, and nitrogen and argon for cooling and inerting. The metallurgy industry uses oxygen, nitrogen, and argon for steelmaking, metal cutting, and welding. The electronics industry uses nitrogen, hydrogen, helium, and specialty gases for semiconductor fabrication, flat-panel display manufacturing, and LED lighting production.

Technological innovations:

* Cryogenic air separation: This is the most widely used technology for producing oxygen, nitrogen, and argon from atmospheric air. It involves cooling and compressing the air to very low temperatures and separating the gases by distillation in a fractionating column. This technology offers high purity, high volume, and low cost of production of the gases.

* Steam reforming: This is the most widely used technology for producing hydrogen from natural gas or other hydrocarbon feedstocks. It involves reacting the feedstock with steam at high temperatures and pressures in the presence of a catalyst to produce hydrogen and carbon monoxide. This technology offers high efficiency, high capacity, and low cost of production of hydrogen.

* Gasification: This is an emerging technology for producing hydrogen, carbon monoxide, and other syngas components from coal, biomass, or other solid feedstocks. It involves heating and partially oxidizing the feedstock in a gasifier to produce syngas, which can be further processed to produce hydrogen and other products. This technology offers high flexibility, high carbon efficiency, and low environmental impact of production of the gases.

* Membrane separation: This is an alternative technology for producing oxygen, nitrogen, and hydrogen from air or other gas mixtures. It involves passing the gas mixture through a selective membrane that allows only certain gases to permeate and separate. This technology offers low energy consumption, low maintenance, and modular design of production of the gases.

* On-site generation: This is a growing trend for producing and supplying Industrial Gases directly at the point of use, without the need for transportation or storage. It involves installing small-scale production units, such as electrolyzers, reformers, or membrane separators, at the

customer's site and delivering the gases through pipelines or cylinders. This trend offers convenience, reliability, and cost savings for the customers and the suppliers of the gases.

Top Players in The Global Industrial Gases Market Report Scope:

- * Air Liquide S.A.
- * Yingde Gases Group Company Limited
- * Airgas Inc.
- * Linde Group
- * Buzwair Industrial Gases Factories
- * Messer Group
- * Taiyo Nippon Sanso Corporation
- * Air Products and Chemicals Inc.
- * BASF SE
- * Air Water Incorporation.

To Know an Additional List of Key Players, Request Here to Download a Free Report PDF Brochure: <u>https://www.vantagemarketresearch.com/industrial-gases-market-0301/request-sample</u>

Top Trends

The hydrogen economy is a concept that envisions the use of hydrogen as a clean and sustainable source of energy for various applications, such as transportation, power generation, and industrial processes. Hydrogen is considered as a clean and sustainable source of energy, as it can be produced from renewable sources, such as water, biomass, or solar energy, and can be used without emitting any greenhouse gases or pollutants, except water. The growing popularity of hydrogen economy has created opportunities for the Industrial Gases industry, as it has increased the demand and supply of hydrogen for various applications, such as fuel cells, gas turbines, and hydrogen vehicles. it has also created challenges for the industry, as it has required the industry to invest in the production, distribution, and storage of hydrogen, and to overcome the technical and economic barriers of hydrogen economy, such as high cost and safety of hydrogen.

The demand for specialty gases, such as helium, xenon, krypton, neon, and sulfur hexafluoride, has increased due to the rising popularity of electronic devices, such as smartphones, tablets, laptops, and TVs. Specialty gases are used for various applications in the electronics industry, such as plasma etching, thin film deposition, laser cutting, and backlighting. Specialty gases are also used for other applications, such as medical imaging, aerospace, lighting, and research. The increasing demand for specialty gases has created opportunities for the Industrial Gases industry, as it has increased the production and supply of the gases to the electronics and other sectors. it has also created challenges for the industry, as it has required the industry to ensure the quality, purity, and availability of the gases, and to cope with the volatility and scarcity of

some of the gases, such as helium and xenon.

Top Report Findings

* The Global Industrial Gases Market size was valued at USD 97.52 billion in 2022 and is expected to surpass USD 158.35 billion by 2030, growing at a CAGR of 6.3% from 2023 to 2030, according to a report by Vantage Market Research.

* The demand for Industrial Gases is driven by the increasing demand from major end-use industries, the rising popularity of electronic devices, the surging demand for renewable energy, and the growing awareness of environmental and safety issues.

* The supply of Industrial Gases is influenced by the technological innovations that enhance the production, distribution, and application of the gases, such as cryogenic air separation, steam reforming, gasification, membrane separation, and on-site generation.

* The Industrial Gases Market is also subject to various environmental and safety regulations that govern the production, distribution, and application of the gases, such as the greenhouse gas emissions, the air quality standards, and the occupational health and safety standards.
* The Industrial Gases Market is also shaped by various trends that reflect the changing preferences and needs of the customers and the suppliers of the gases, such as the rising demand for medical gases, the growing popularity of hydrogen economy, the increasing demand for specialty gases, and the emerging applications of Industrial Gases.

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Challenges

The production and distribution of Industrial Gases involve high capital and operational costs, such as the cost of raw materials, energy, equipment, infrastructure, transportation, and maintenance. The cost of gas production and distribution varies depending on the type, purity, volume, and location of the gas. The cost of gas production and distribution also depends on the market conditions, such as the demand and supply, the competition, and the regulations. The high cost of gas production and distribution affects the profitability and competitiveness of the Industrial Gases industry, and also limits the accessibility and affordability of the gases for the customers.

The Industrial Gases industry is subject to various environmental regulations that regulate the emissions of greenhouse gases and pollutants from the production and consumption of the gases. These regulations aim to reduce the environmental impact and the climate change effects of the Industrial Gases industry, and also to promote the use of low-carbon or carbon-neutral technologies and solutions. These regulations create challenges for the Industrial Gases industry, as they require the industry to invest in emission reduction technologies and solutions, such as carbon capture and storage, renewable energy, and hydrogen economy. These regulations also create uncertainties and risks for the industry, as they may change or vary depending on the

political and social factors, such as the public opinion, the international agreements, and the government policies.

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Opportunities

The demand for Industrial Gases is expected to grow significantly in the emerging markets, such as Asia Pacific, Latin America, and Africa, due to the rapid industrialization, urbanization, and economic development in these regions. These regions offer opportunities for the Industrial Gases industry, as they have a large and growing population, a rising middle class, a growing demand for energy, and a need for infrastructure and industrial development. These regions also offer opportunities for the Industrial Gases industry, as they have a low penetration and a high potential of the gases, especially in the sectors, such as healthcare, food and beverage, and electronics. The Industrial Gases industry can leverage these opportunities by expanding its production and distribution capacity, offering customized and value-added solutions, and forming strategic partnerships and alliances with the local players and stakeholders in these regions.

The Industrial Gases industry can also enhance its growth and development by innovating and diversifying its products and services, such as the types, purities, volumes, and applications of the gases. The Industrial Gases industry can innovate and diversify its products and services by adopting new and advanced technologies and solutions, such as gasification, membrane separation, on-site generation, and carbon capture and utilization. The Industrial Gases industry can also innovate and diversify its products and services by exploring new and emerging applications and markets, such as biotechnology, nanotechnology, and environmental engineering. The Industrial Gases industry can leverage these opportunities by offering differentiated and competitive products and services, meeting the changing and evolving needs and preferences of the customers, and creating new and sustainable value propositions and business models for the industry.

The Industrial Gases industry can also enhance its growth and development by collaborating and integrating its value chain, such as the production, distribution, and application of the gases. The Industrial Gases industry can collaborate and integrate its value chain by forming strategic partnerships and alliances with the upstream and downstream players and stakeholders, such as the raw material suppliers, the energy providers, the equipment manufacturers, the end-use industries, and the regulators.

The Industrial Gases industry can also collaborate and integrate its value chain by adopting digital and smart technologies and solutions, such as the Internet of Things, the cloud computing, the artificial intelligence, and the blockchain. The Industrial Gases industry can leverage these opportunities by improving the efficiency, reliability, and flexibility of its

operations, enhancing the customer satisfaction and loyalty, and creating synergies and value addition for the industry.

Key Questions Answered in the Report

* What is the size and growth of the Global Industrial Gases Market?

- * What are the key drivers and restraints of the Industrial Gases Market?
- * What are the key technologies and solutions that influence the Industrial Gases Market?

* What are the key environmental and safety regulations that affect the Industrial Gases Market?

- * What are the key trends and opportunities that shape the Industrial Gases Market?
- * What are the key challenges and risks that face the Industrial Gases Market?
- * What are the key segments and regions of the Industrial Gases Market?
- * Who are the key players and competitors of the Industrial Gases Market?

* What are the key strategies and recommendations for the Industrial Gases industry players and competitors?

* How can the Industrial Gases industry overcome the challenges and leverage the opportunities in the market?

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Regional Analysis

The Industrial Gases Market is segmented into five regions, namely North America, Europe, Asia Pacific, Latin America, and Middle East and Africa. Among these regions, Asia Pacific is expected to be the largest and fastest-growing region in the Industrial Gases Market, due to the rapid industrialization, urbanization, and economic development in the region. Asia Pacific accounts for a significant share of the global demand and supply of Industrial Gases, especially in the sectors, such as oil and gas, chemicals, petrochemicals, power, metallurgy, and electronics. Asia Pacific also offers opportunities for the Industrial Gases industry, as it has a large and growing population, a rising middle class, a growing demand for energy, and a need for infrastructure and industrial development. Some of the key countries and markets in Asia Pacific are China, India, Japan, South Korea, and Australia.

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