

Industrial Gases

An Industry Hiding in Plain Sight: Exploring the market that quietly enables India's Industrial Economy

October 2026

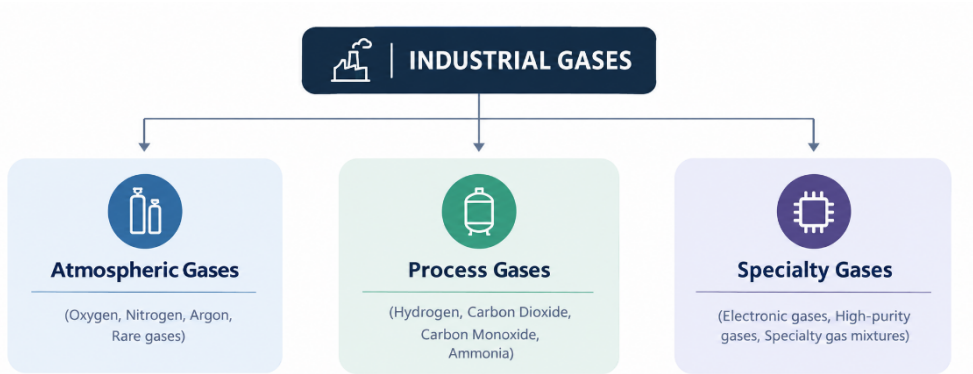
SECTION 01

Industry Overview

Industrial gases are gaseous materials that are produced, purified, and supplied specifically for industrial applications. They form the invisible backbone of modern manufacturing, healthcare, energy, and technology industries. From steel production and chemical refining to semiconductor manufacturing and medical care, industrial gases play a critical role in ensuring operational efficiency, product quality, and safety across a wide range of end-use sectors.

The Indian industrial gases industry is dominated by multinational players such as Linde, Air Liquide, and Inox Air Products, alongside a leading domestic player, Ellenbarrie Industrial Gases, and a long tail of regional producers serving local markets and niche applications.

Fig1. Classification Of Industrial Gases By Gas Type



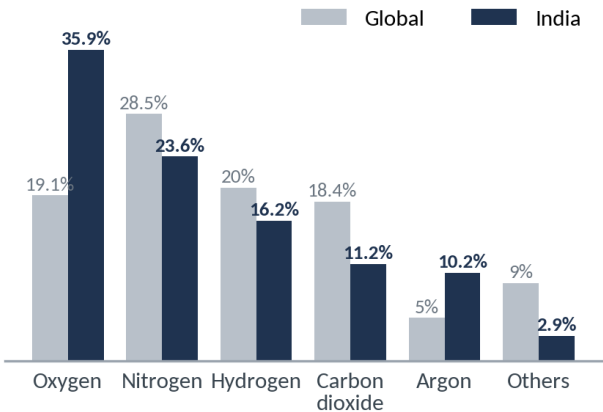
SECTION 02

A Growing Market with a Distinct Profile

India's Industrial gases market has expanded at a faster pace than the global market, underpinned by the broader growth of the country's industrial base, and is expected to continue on this trajectory.

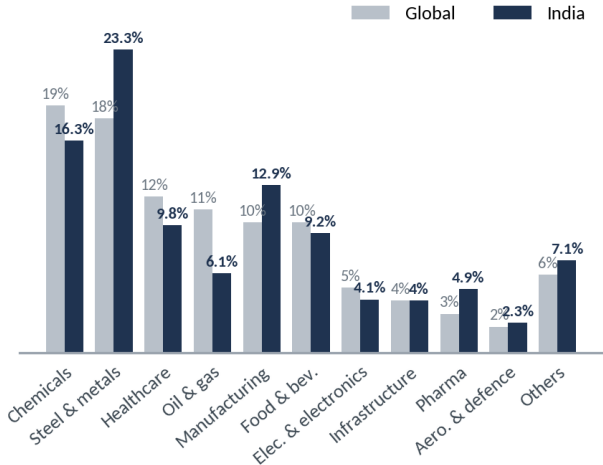
According to Frost & Sullivan Research & Analysis, the global industrial gases market was valued at USD 105.6 billion in CY2024, up from USD 80.1 billion in CY2018, and is projected to reach USD 131.1 billion by CY2028, a 5.5% CAGR. India's market was valued at USD 1.31 billion in CY2024 (up from USD 0.91 billion in CY2018, a 6.3% historical CAGR) and is projected to grow at a faster 7.5% CAGR through CY2028, reaching USD 1.75 billion.

Fig2. Market segmentation by product, by value



Source: Frost & Sullivan Research & Analysis, CY2024 data.

Fig3. Market segmentation by application, by value



Source: Frost & Sullivan Research & Analysis, CY2024 data.

India's industrial gases market exhibits a distinctly different product mix from the global market, reflecting differences in the underlying application profile. Steel and other metal manufacturing account for 23.3% of industrial gas demand in India, compared with 18.2% globally, contributing to oxygen accounting for 35.9% of India's market value versus 19.1% globally. Conversely, the global market exhibits a more balanced product mix, with nitrogen representing the largest product category due to its broad use across multiple industries.

SECTION 03

From Steel Mills to Semiconductor Fabs

Industrial gas demand is inherently derived from the performance of downstream industries. As production capacity expands across these sectors, the consumption of industrial gases rises in tandem, given their role as essential process inputs. Consequently, the long-term growth of the industrial gases industry is closely linked to industrial output, manufacturing expansion, and investment across end-use sectors.

Fig4. Industrial Gases By End Use Industry

End-use industry	Key gases	Representative applications	CAGR
Steel & Metals	Oxygen, Nitrogen, Argon, Acetylene	Steelmaking, EAF/BOF operations, welding & cutting, heat treatment	5.95%
Petrochemicals	Hydrogen, Nitrogen, Oxygen, CO ₂	Refining, hydrogenation, oxidation, inerting, process blanketing	3.82%
Hospitals & Healthcare	Medical Oxygen, Nitrous Oxide, Medical Air, Helium	Respiratory therapy, anaesthesia, MRI cooling, critical care	7.30%
Pharmaceuticals	Nitrogen, CO ₂ , Oxygen, UHP gases	Fermentation, freeze-drying, inerting, packaging	10.98%
Electronics Mfg. Services (EMS)	Argon, Nitrogen	PCB assembly (SMT), reflow soldering, wave soldering, testing	9.63%*
Semiconductors	UHP Nitrogen, UHP Hydrogen, UHP Helium, UHP Argon, Electronic-grade Silane, NF ₃ /CF ₄ /SF ₆	Wafer fabrication, CVD/PVD deposition, etching, lithography, ion implantation	16%†
Construction	Oxygen, Argon, Acetylene	Welding, cutting, metal fabrication, infrastructure projects	6.87%
Oil & Gas	Nitrogen, Hydrogen, CO ₂	Refining, pipeline purging, enhanced oil recovery, gas processing	5.02%
Wastewater Treatment	Oxygen, Ozone, CO ₂ , Nitrogen	Aeration, oxidation, pH control, VOC blanketing	7.00%
Green Hydrogen	Hydrogen, Oxygen	Fuel cells, mobility & transport, industrial feedstock (steel & ammonia), by-product oxygen recovery	37.92%
Paper	Oxygen, Nitrogen	Pulp bleaching, delignification, inerting, paper manufacturing	2.44%

Source: IMARC Group (2026-2034), unless otherwise stated.

*Electronics Manufacturing Services (EMS) CAGR is sourced from Mordor Intelligence (2026-2031) due to the unavailability of a comparable IMARC forecast for electronics manufacturing.

†Semiconductors CAGR is sourced from Verified Market Research, India Semiconductor Market report (2026-2032).

The stronger growth expected across emerging end-use industries such as electronics, semiconductors, and pharmaceuticals, relative to established sectors such as steel, points towards a gradual diversification of the industry's underlying demand profile consistent with the product mix trends discussed in Section 2.

SECTION 04

The Larger the Customer, the Closer the Supply

Industrial gases are supplied through three primary models: **packaged, merchant (bulk), and on-site**. The selection of a model depends on the customer's consumption volume, purity requirements, continuity of supply, and proximity to production facilities but is, most fundamentally, driven by economics.

Customers with low and intermittent demand, such as hospitals, laboratories, fabrication workshops, and research institutions, are typically served through packaged gases delivered in cylinders or dewars. This model offers the greatest flexibility to customers and typically carries the highest margins for suppliers.

For medium to large-volume consumers, including pharmaceutical companies, food processors, and manufacturing facilities, the merchant model provides a more economical solution. Liquefied gases are transported in cryogenic tankers and stored in insulated bulk tanks at the customer's premises before being vaporised for use. By reducing the frequency of smaller deliveries, this model minimises environmental impact and lowers the transportation costs associated with gas supply logistics.

Beyond a certain consumption threshold, transporting gases over long distances becomes economically inefficient, making dedicated on-site production the preferred solution for large industrial consumers such as steel plants, refineries, and petrochemical complexes. These plants are connected directly to the customer's operations through pipelines, ensuring continuous and reliable gas supply under long-term contracts that generally span 15-20 years. While these contracts carry the lowest margins for suppliers, they are typically governed by long-term take-or-pay arrangements, under which customers commit to purchasing a minimum quantity of gas or compensate the supplier for the contracted volume. These arrangements provide revenue visibility while enabling producers to recover the substantial capital invested in dedicated production facilities.

According to Frost & Sullivan, packaged and merchant supply together account for 83.2% of India's industrial gases market by value, while only 16.8% is supplied through on-site production. Together, these three supply models illustrate a broader pattern: as customer scale increases, supplier margins fall but revenue visibility and customer stickiness rise, a trade-off that underpins the industry's capital-intensive, contract-driven structure and the durable market positions held by established incumbents.

SECTION 05

Capacity is Following the Next Wave of Industrial Demand

India's industrial gases industry is witnessing continued investment in production capacity, driven by both customer-specific requirements and expectations of broader industrial demand. Capacity additions are taking place across established industrial gas producers as well as newer entrants, with investments spanning customer-anchored on-site facilities, merchant capacity and geographically diversified production networks.

Linde India continues to pursue customer-anchored expansion, having capitalised its IOCL Panipat nitrogen project in October 2025 and developing a third Air Separation Unit at Dahej, Gujarat, with 245 TPD liquid capacity and 100 TPD gaseous oxygen, under a long-term pipeline supply agreement with Asian Paints.

Ellenbarrie Industrial Gases is taking a more geographically diversified approach, having commissioned 600 TPD at Kurnool and 170 TPD at Kharagpur, with a further 540 TPD under development and plans for a 220 TPD liquid ASU and cylinder filling facility in North India.

New entrants are also contributing to the capacity build-out. Ace Gases Technologies has announced a RM120 million (~US\$29.3 million) merchant ASU in Maharashtra, while Shaktishree Air has commissioned a 178 TPD cryogenic ASU at Karjan, Gujarat.

SECTION 06

A Concentrated Core with a Fragmented Periphery

The Indian industrial gases market shows moderate concentration at the top: the six largest companies by revenue, held a combined ~57% share of the USD 1.3bn Indian market in FY2024, a level of concentration that appears broadly consistent with more recent data.

Fig5. Key Players And Their Financial Profile

Company	Status	Market cap	Revenue	OP margin	Product categories
Linde India	Listed	INR 52,230 Cr.	INR 2,531 Cr.	36%	Atmospheric; Helium & Rare Gases; Specialty; Electronic; Diving; Fumigants; Hospitality
Ellenbarrie Industrial Gases	Listed	INR 4,989 Cr.	INR 342 Cr.	34%	Oxygen; Nitrogen; Argon; CO ₂ ; Helium; Acetylene; Hydrogen; Nitrous Oxide; Synthetic Air; Specialty / Gas Mixtures
National Oxygen Ltd	Listed	INR 28.2 Cr.	INR 23 Cr.	-14%	Oxygen; Nitrogen; Argon; CO ₂ ; Helium; Acetylene; Hydrogen; Nitrous Oxide; Synthetic Air; Specialty / Gas Mixtures
Hilltone Software & Gases Ltd	Listed	INR 49.7 Cr.	INR 15 Cr.	2%	Oxygen; Nitrogen; Argon; CO ₂ ; Acetylene; Hydrogen; Helium; Liquid Gases; Mixed Gases
Southern Gas Ltd	Listed	INR 0.06 Cr.	INR 37 Cr.	11%	Oxygen; Argon; Hydrogen; CO ₂ ; Helium; Acetylene; Nitrous Oxide; Medical Gases; Gas Mixtures
INOX Air Products	Unlisted	-	INR 3,048 Cr.	50%	Argon; CO ₂ ; CO; Food Grade Gases; Helium; Hydrogen; Nitrogen; Oxygen; Rare Gases; Syngas
Air Liquide	Unlisted	-	INR 220 Cr.	-12%	Argon; CO ₂ ; Helium; Hydrogen; Nitrogen; Oxygen
Goyal MG Gases	Unlisted	-	INR 225 Cr.	32%	Oxygen; Dissolved Acetylene; Medical Oxygen; Zero Air / Synthetic Air; Nitrogen; Specialty Gases; Argon; Dry Ice; Hydrogen; CO ₂ ; Helium
Madhuraj Industrial Gases	Unlisted	-	INR 158 Cr.	6%	Argon; Oxygen; Nitrogen; Dissolved Acetylene; Zero Air; Helium; Hydrogen; CO ₂ ; Ammonia; Nitrous Oxide; Gas Mixtures

Financials for unlisted companies are based on FY25, whereas financials for listed companies reflect FY26.

Operating margins vary widely across the peer set and don't track neatly with company scale or listing status. Inox Air Products, India's largest unlisted producer, posts the highest margin at 50%, while Ellenbarrie matches Linde India's margin (34% vs. 36%) despite a fraction of its revenue. National Oxygen and Air Liquide India, by contrast, both report negative margins despite sitting at opposite ends of the market, one a small domestic producer, the other a global multinational's local arm.

National Oxygen's (-14%) margin follows the closure of its Perundurai plant in May 2025 amid rising costs and competition. Southern Gas Ltd's figure tells a different story: rather than reflecting the underlying business, its near-zero market cap is a function of the stock barely trading at all, as little as 20 shares changed hands in a session (as of August 2025), against a reported book value per share exceeding INR 11,000.

SECTION 07

An Industry Moving Beyond Its Traditional Base

Taken together, the trends outlined in this report point to an industry in transition. India's industrial gases market continues to grow faster than the global market, but the composition of that growth is shifting: demand from emerging sectors such as electronics, semiconductors, pharmaceuticals, and green hydrogen is expanding considerably faster than demand from traditional, steel-led consumption, suggesting a gradual broadening of the market's product and application mix over time.

This growth is occurring within a structurally durable industry framework. The prevailing supply models: packaged, merchant, and on-site; create a natural alignment between customer scale and supplier commitment, with on-site, pipeline-connected supply in particular generating long-term, take-or-pay contracts that provide revenue visibility while reinforcing high barriers to entry for new competitors. Continued capacity investment by both established players and new entrants, spanning established industrial hubs as well as emerging regions, indicates that producers view this demand growth as durable rather than transient.

As India's industrial base continues to diversify into higher-value, higher-growth sectors, the industrial gases industry is likely to see continued capacity expansion, broader geographic coverage, and a gradual shift in demand composition, developments that warrant continued monitoring as the sector evolves.

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