

Industry Outlook

THEINDUSTRYOUTLOOK.COM

OIL & GAS INDUSTRY CONSULTANTS

Services & Consulting



**ANCHORING TODAY'S
DISRUPTIVE OIL & GAS
INDUSTRY**

₹250



MAY, 2026

**mechelonic
engineers**

Dedicated to Innovation and Excellence



PRODUCT RANGE



AUTOMOBILE

FUEL TANK
BODY FABRICATION
SHOCK ABSORBER
BRAKE SHOE
WHEEL RIM
EXHAUST SYSTEM



WHITE GOODS

HOME APPLIANCES
PUMPS



SWITCH GEAR

BRAID COMPACTING
CONTACT WELDING
FOIL SOLIDIFICATION



METAL CONTAINERS & BARRELS

SIDE SEAM WELDER
HANDLE / LUG WELDER
STRETCH FORMING



STEEL MILLS

STRIP JOINING



RADIATOR & HEAT EXCHANGERS

RADIATOR PANNEL SEAM
MULTIHEAD SPOT WELDING



FENCING & CONSTRUCTION

SECURITY FENCE
RAISED ACCESS FLOORS WIRE
MESH



AERO-SPACE

AEROCRAFT COMPONENTS



RAILWAYS

COACH BUILDING
RAIL FLASH BUTT WELDING

+91 22 6152 4000

sales@mechelonic.in



www.mechelonic.in





SAFFRON
FORMULATIONS®

VISION TO CARE MISSION TO CURE

SAFFRON FORMULATIONS

Success Journey Continues...

Pharmarack Dec'25 Highlights



All India
Value Rank



Represented
Market Value Rank

IMS-ORG Dec'25 Highlights



Gastro Splty.
Rx Rank



ENT Splty.
Rx Rank

ACCOLADES



**BUSINESS EXCELLENCE AWARD
AT INDIAN PHARMA EXPO**

TOP RANKED EMERGING PHARMA
COMPANY OF THE YEAR
“ETHICAL MARKETING”



NUTRITION & WELLNESS AWARDS

DiZEXA

Product with
Effective Marketing
Strategy



VITACORE 57™

Emerging Vitamin
Brand of the Year



**Pharma
Outlook Award**

“TOP 10
PHARMA
COMPANIES
TO WORK”

**“Most Promising Pharmaceutical
Company of the Year”**



Saffron Formulations Pvt Ltd
701.720, Times Square Arcade Opp Rambaugh,
Nr. Ravija Plaza, Thaltej Shilaj Road, Thaltej,
Ahmedabad-380059, Gujarat.



www.saffronformulations.com



info@saffronformulations.com



079-48918811

[youtube/saffronformulations](https://www.youtube.com/saffronformulations)

[facebook/saffronformulations](https://www.facebook.com/saffronformulations)

[instagram/saffronformulations](https://www.instagram.com/saffronformulations)

[linkedin/saffronformulations](https://www.linkedin.com/saffronformulations)

Industry Outlook

Vol 10 • Issue 03 - 05 • MAY, 2026

Publisher
Alok Chaturvedi

Managing Editor
Samrat Pradhan

Assistant Editor
Thiruamuthan T K

Editorial Team
Viswanathan A
Zeenat Parween
Ajay Sunny

GM - Media & Graphic Designing Visualizer
Prabhu Dutta A.R.N Ray

Visualizer
Girisha M

Advertising Queries
Madhushitha Sahu
Arpita Pradhan
Akhila Billav

VP - Sales & Marketing
Rohit kumar
sales@theindustryoutlook.com

Editorial Queries
editor@theindustryoutlook.com

Circulation Manager
Magendran Perumal

Magazine Price is Rs. 250 per issue

Printed and Published By Alok Chaturvedi on behalf of Silicon Media Technologies Pvt. Ltd. and Printed at Executive Prints - 113/7, Ground floor, Old madras road, Halasuru, Bangalore 560008 and Published At No. 124, 2nd Floor, Surya Chambers, Old Airport Road, Murugeshpalya, Bangalore-560017.

Publisher Alok Chaturvedi

Copyright © 2026 Silicon Media Technologies Pvt. Ltd. All rights reserved. Reproduction in whole or part of any text, photography or illustrations without written permission from the publisher is prohibited. The publisher assumes no responsibility for unsolicited manuscripts, photographs or illustrations. Views and opinions expressed in this publication are not necessarily those of the magazine and accordingly, no liability is assumed by the publisher.

EDITOR'S NOTE



Anchoring Today's Disruptive Oil & Gas Industry

The Oil & Gas consulting market is experiencing rapid expansion in 2026, projected to reach over USD 800 billion globally by the early 2030s. This surge can be attributed to a high double-digit compound annual growth rate (CAGR). The sector is further driven by energy transition strategies, digital transformation, and the need for operational efficiency amid ongoing price volatility.

Demand is particularly vibrant in emerging markets like India, where expanding energy consumption—including oil, gas, and renewable integrations—requires significant strategic advisory.

In the wake of the major escalation in West Asia—triggered by the U.S.-Israel military actions against Iran and subsequent retaliatory strikes—the global energy landscape has faced its largest supply shock on record.

With the Strait of Hormuz experiencing severe physical blockades and infrastructure damage, crude oil prices spiked drastically, moving from roughly USD 80 to historical USD 120 per barrel in a matter of weeks. Given this highly volatile environment, oil and gas consultants have shifted from being standard operational advisors to critical, frontline strategic partners for three primary reasons:

Highlighted by advisory reports from GlobalData, geopolitics has completely eclipsed technology and green transitions as the most disruptive theme in the energy sector. In this unfolding situation, consultants are the essential bridge who are aiding the industry survive this immediate crisis without completely abandoning long-term stability goals.

In this high-stakes environment, oil and gas consultants are essential structural advisors assisting Indian state-owned and private oil companies through three critical avenues:

A competent consultant can also aid in re-engineering alternative crude procurement, safeguarding the fiscal balance and subsidies, and addressing domestic security and infrastructural gap.

Understanding the importance of consultants in the oil and gas industry, **Industry Outlook** brings to you our yet another meticulously crafted edition - “**Top 10 Oil & Gas Industry Consultants - 2026.**” Through this edition, we will unravel these consultants' prowess in offering best-in-class services deliverability while laying focus on aspects that give them a competitive edge in the market today.

Samrat Pradhan
Managing Editor
editor@theindustryoutlook.com

Vision Makes Big Difference

WE'RE BUILDING THE FUTURE OF ENGINEERING

From vision to reality — delivering precision, power, and performance in every project we design. Innovation that drives industries forward.

ADVANCED PLANNING

Strategic project planning, accuracy and efficiency from start to finish.

SKILLED ENGINEERS

A team of trained professionals committed to excellence and innovation.

MODERN TECHNOLOGY

Equipped with cutting-edge engineering tools for seamless execution.

RELIABLE SOLUTIONS

Always Delivering sustainable, optimized and high-quality results for industrial growth..



ABOUT US

We are a team of passionate engineers and project specialists, focused on creating durable, efficient, and future-ready industrial solutions.

- Industrial Design & Engineering
- Process & Safety Engineering
- Automation & Control Systems
- Project Consultancy & Management

WHY CHOOSE US

- Proven industrial expertise
- Quality assurance at every stage
- On-time project completion
- Sustainable, future-ready designs



+ 91 9725570890

dm@mevronprocess.com

www.mevronprocess.com

CONTENTS

PANORAMA

10



Innovative Business Models for Cost Efficiency in Oil & Gas

17



Three Strategies of Thriving Businesses in Oil and Gas Industry

32



Ensuring Energy Security in the Oil & Gas Industry

TOP STORIES

JSW Energy Sells JSW Steel Stake for Rs 3,150 Crore in Bulk Deal

India Approves Rs 7,104 Cr for Electronics Component Manufacturing

08

Reliance-CATL Battery Talks Signal Big Renewable Push Ahead

Pune's Ramtekdi Plant: Eight Years Late, Still Not Running

09

From Bans to Gas Cuts: India's Fertiliser Sector Struggles

India's Coal Gasification Scheme Raises Questions Over Economic Fears

Minister Prahlad Joshi Calls Uber CEO to Lead India's EV Adoption

India Approves Rs 504 Crore EV Charger Expansion Under PM E-Drive

INDUSTRY INSIGHTS

Diganta Sarma,
Head – Strategy & Business Development,
INOX Air Products

Role of Industrial Gases in the Semiconductor & Electronics Ecosystem



22

28



Synthetic Engine Oils
Optimizing Friction,
Wear, and Fuel Economy

Arijit Basu,
Managing Director,
Veedol Corporation

Pandurang Landge,
President - Manufacturing
Business,
Deepak Fertilisers and
Petrochemicals Corporation

Greener Chemical
Manufacturing:
The Industry's Push for
Sustainability



30

IndustryOutlook TOP 10 OIL & GAS INDUSTRY CONSULTANTS - 2026

16

**AB ENGINEERS &
CONSULTANTS**

20

**JHANSI BOSE ENGINEERING
CONSULTING SERVICES (JBES)**

26

MEVRON PROCESS

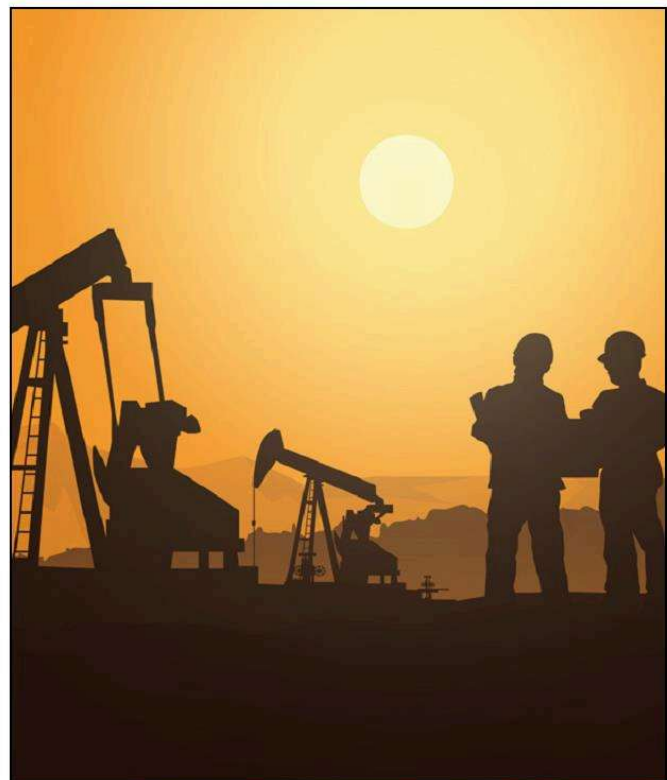
AFTER WORD



34

Integrated Fabrication
Workflows for Pre-Engineered
Steel Systems

Sunil Kumar Agarwal,
Director,
Kamdhenu



ANCHORING TODAY'S DISRUPTIVE OIL & GAS INDUSTRY



TOP STORIES

INDIA'S SOLAR SECTOR SEEKS HIGHER POWER PRICE CAP

India's solar industry has urged the Central Electricity Regulatory Commission (CERC) to raise the existing electricity price cap on power exchanges, arguing that the current ceiling is hurting renewable energy companies and slowing investment at a time when electricity demand is hitting record highs.

The petition was filed by the National Solar Energy Federation of India, which said the current cap of 10 Indian rupees (US\$0.1032) per unit makes it difficult for several market participants, including energy storage companies, to operate profitably.

The request comes as India faces soaring electricity demand driven by intense heat waves across the country. According to India's power ministry, peak power demand surged to 260.45 gigawatts on Tuesday, surpassing Monday's previous record of 257.37 gigawatts.

The industry group said a separate market segment designed to allow higher electricity prices has failed to function effectively because very few buyers are willing to purchase power at elevated rates. As a result, power producers are often forced to sell electricity at low prices during periods of weak demand but are unable to recover losses during high-demand periods because of the existing price ceiling. 

INDIA COPPER GIANTS PUSH BACK AGAINST SCRAP ROD STANDARDS

A dani copper producers, Vedanta copper industry, and Hindalco copper rods manufacturers have raised concerns over proposed scrap copper rod norms, as India's leading companies oppose the inclusion of scrap-based copper rods in official standards.

Industry leaders argue the move could affect product reliability and safety in electrical systems, sparking a wider debate within the India copper industry over quality control and sustainability. 

CONCERNS GROW OVER COPPER QUALITY STANDARDS

The debate centers on FRHC copper rods, a type of copper wire rods widely used in electrical cables, transformers, power systems, and industrial equipment. Large manufacturers believe copper rods produced from recycled scrap may not always achieve the high purity needed for critical electrical applications.

Industry experts warn that inconsistent copper quality could impact performance, increase overheating risks, and reduce durability in infrastructure projects. Since these products are essential for power transmission and manufacturing, major producers say maintaining strict copper quality standards is necessary to ensure safety and long-term efficiency. 

PEPSICO INDIA'S RS 5,700 CRORE EXPANSION PLAN FUELS GROWTH

PepsiCo India's ₹5,700 crore expansion plan reflects the company's growing confidence in the Indian market, with the food and beverage giant set to invest heavily in PepsiCo India manufacturing capacity by 2030.

The investment, aimed at strengthening production capabilities and supporting future demand, will focus on new and expanded facilities across Madhya Pradesh, Assam, and Tamil Nadu as PepsiCo deepens its presence in the growing India food and beverage market. 

INDIA SENDS BOEING 787 FUEL SWITCH TO US AMID SAFETY PROBE

India sends Boeing 787 fuel switch to the US for inspection as aviation authorities step up Boeing 787 safety concerns following issues raised during a routine Air India flight inspection. The decision comes amid growing focus on Air India Dreamliner safety, especially as investigators continue reviewing last year's fatal Dreamliner crash.

The Boeing 787 fuel control switch was removed from an Air India Boeing 787 aircraft after a pilot noticed an unusual issue during pre-flight checks at London Heathrow Airport in February. According to reports, the pilot observed that the switch, which controls fuel flow to the engines, moved too easily from the "RUN" position to "CUTOFF" and did not appear to lock properly.

The aircraft had been scheduled to operate a flight to Bengaluru but was grounded after the concern was reported. Air India engineers carried out inspections and later reviewed similar systems across its Boeing 787 fleet. While the airline and Boeing reportedly found no immediate defect in the component, Indian authorities decided to proceed with a Boeing 787 fuel switch inspection in the United States as a precautionary measure. 

EXPANDING MANUFACTURING CAPACITY ACROSS KEY REGIONS



The planned investment marks a major step in PepsiCo India growth strategy, helping the company meet rising consumer demand for packaged snacks and beverages. Changing food preferences, increasing disposable incomes, and the rise of quick commerce have created strong opportunities for the company to strengthen its market position.

According to company executives, a significant portion of the investment will go toward a concentrated manufacturing facility under the PepsiCo India Madhya Pradesh plant initiative, along with snacks production facilities under the PepsiCo India Assam facility and PepsiCo India Tamil Nadu expansion plans. These projects are expected to improve operational efficiency and strengthen regional supply chains. 

INDIA'S HYDROGEN PUSH GETS BIG BOOST WITH NORWAY DEAL

India's Hydrogen Push is gaining serious momentum after Advait Energy Transitions signed a strategic agreement with Norway-based TECO Fuel Cell Technology AS to manufacture hydrogen fuel cells in India.

The partnership was announced during the 3rd India-Nordic Summit in Oslo and is being seen as a major step toward strengthening India's clean energy ecosystem and green hydrogen ambitions.

India's Hydrogen Push initiative received global attention as the agreement was signed in the presence of Prime Minister Narendra Modi and Norwegian Prime Minister Jonas Gahr Store.

The collaboration aims to bring advanced hydrogen fuel cell technology to India while boosting domestic manufacturing under the government's green energy roadmap.

The agreement focuses on producing hydrogen fuel cell systems for multiple sectors, including heavy transport, marine applications, and stationary power generation. The companies also plan to create scalable clean energy solutions that can support India's growing demand for low-carbon technology. 

FROM BANS TO GAS CUTS: INDIA'S FERTILISER SECTOR STRUGGLES



India's fertiliser sector is one of the most tightly regulated industries in the country. Now, the industry is facing pressure from multiple directions at once, including state-level bans on non-subsidised products, tightening distribution controls, and increasing natural gas shortages.

India's fertiliser industry started struggling when the Uttar Pradesh Government issued an order on January 9, 2026, banning the sale of non-subsidised fertilisers by companies and distributors authorised to sell subsidised products. This ban was retrospectively effective from January.

The stated reason for this ban was the practice of "tagging," where farmers were compelled to purchase non-subsidised products alongside subsidised ones. Letters were sent to major fertiliser manufacturers, including IFFCO, KRIBHCO, Chambal Fertilisers, and others.

India Gets First Private Marine Gas Turbine Hub with Bharat Forge and the Andhra Pradesh government joining hands to establish a first-of-its-kind defense manufacturing facility in Visakhapatnam.

The major announcement marks a significant step in strengthening India's naval defense ecosystem and reducing dependence on foreign countries for critical marine engine support.

The project is expected to boost indigenous defense manufacturing, improve naval maintenance capabilities, and position India as a future regional hub for marine gas turbine repair and development.

The new marine gas turbine hub will be developed by Bharat Forge in partnership with the Andhra Pradesh government. The facility will come up in Visakhapatnam, one of India's most strategic naval locations. Spread across nearly 80 acres inside the state's defense manufacturing corridor, the project is being seen as a major boost to the country's "Aatmanirbhar Bharat" mission in the defense sector. 

PANORAMA

INNOVATIVE BUSINESS MODELS FOR COST EFFICIENCY IN OIL & GAS



India's oil and gas sector is expected to reach a value of 40.10 billion cubic meters by 2025 and it is anticipated to expand 51.67 billion cubic meters by 2030 which indicates a CAGR of 5.2% during the forecast period 2025-2030. Effective operations minimize the cost by decreasing waste, enhancing resource usage, and optimizing processes that assist oil and gas companies enhance their profitability. To meet fluctuating oil prices, regulatory challenges, and increasing competition, industries are focusing on cost optimization without sacrificing productivity. Digital technologies facilitate smooth operations, minimize downtime, and efficiently manage resources and it has the potential to enhance results throughout the oil and gas industry, assist in reducing risks, and proactive monitoring which will increase operational efficiency. Also, the strategic partnerships among oil and gas firms and governments are crucial for implanting sustainability into fundamental business strategies and supporting the achievement of Sustainable Development Goals while improving long-term business stability.

Digital Strategies for Cost Optimization

The oil and gas industry is adopting digital transformation to become more cost-efficient without reducing its productivity.

The market for digital transformation in the oil and gas sector is projected to rise by USD 56.4 billion and is expected to expand at a CAGR of 14.5% from 2025 to 2029. By using technologies such as artificial intelligence, machine learning, and the Internet of Things the operations can be optimized with minimal time. AI and IoT predict equipment maintenance identify potential equipment failures before they happen and minimize the costs of servicing them and uncertain shutdowns. Robotic Process Automation (RPA) automates repetitive tasks and assists in rapid deployment including data entry, and compliance reporting. Cloud computing enables the real-time monitoring of production and supply chain activities ensuring less inefficient activities and increasing the level of operation

transparency.

Indian Oil Corporation Limited (IOCL) has incorporated various digital tools into daily operations to increase efficiency. IOCL employs AI to predict systems to observe the condition of its industrial plants and pipelines which can avoid downtimes and save on repairs by keeping its operations smooth. Furthermore, the company applies cloud-based analytics platforms for the track real-time production data which assists more precise decision-making and resource utilization.

Manish Grover, Executive Director (strategic information systems), Indian Oil Corporation said, "We have created digital twins of the refinery units, which helps us optimise the operation, resulting in annual gains that run into millions of dollars."

Digital twins reduce integration of operational, maintenance, and engineering information to enhance the efficiency of hard-to-reach assets. This integrated structure enables digital twins to retrieve, analyze, and oversee data in real-time, enabling rapid enhancements in production efficiency. Also the blockchain technology enhances operational transparency, traceability, security, and accountability in supply chain operations.

Collaborative Partnerships for Operational Efficiency

Collaboration is an effective strategy for oil and gas industry growth which will improve sustainability, and stakeholder engagement, deliver high-quality project outcomes, and facilitate the development and growth of the project. As per the IMARC Group, the market for oil and gas in India is anticipated to show a growth rate CAGR of 5.50% from 2024 to 2032. A collaborative approach with the technology providers, contractors, or competitors reduces capital expenditure and increases innovation. By pooling resources, companies gain access to new markets, innovative technologies, and the success of projects through more efficient ways of implementing them. For example, shared pipeline networks and storage facilities reduce transportation and logistics costs and minimize environmental impacts.

Indian Oil Corporation and Nepal Oil Corporation have a partnership with a business-to-business framework agreement that involves the upgrading of petroleum infrastructure through the revival of petroleum products, thus ensuring a stable supply between the two countries. Nepal is looking to energy security by improving fuel supply to increase this fuel distribution efficiently through IOC's resources and expertise. The cooperation strategy of these two countries also symbolizes both countries' determination towards regional cooperation on energy security and long-term economic stability.

Hardeep Singh Puri, Union Minister for Petroleum and Natural Gas said, "Nearly 30,000 IOCIans and the six lakh-strong extended workforce who, through their indomitable spirit, ensure that India continues to march ahead towards becoming the 3rd largest economy!"

By being closer to equipment suppliers and service providers, an industry can optimize costs, and efficient procurement, and ensure the timely availability of heavy components. Long-term agreements with suppliers help in the stability of prices and minimal interruption of supply chain activities. A culture of collaboration is fostered, and oil and gas firms become more efficient, reduce waste, and innovate. These partnerships improve risk management and stability in an industry that faces constant market fluctuations and regulatory changes.

Reducing Costs through Green Practices

India's refining capacity has risen from 215.1 Million Metric Tonnes per Annum (MTPA) to 256.8 MTPA over the past decade. Companies implementing environmental activities to enhance the low-carbon profile also have strong implications for optimizing costs by including upgrading compressors, pumps, and turbines with more energy-

efficient which will enhance energy efficiency, minimize waste production, and leverage renewable energies. Also, excess heat produced in industrial processes can be used by companies after implementing waste heat recovery systems to cut down energy expenditures. Many oil and gas companies are investing in solar and wind energy to power their remote drilling sites away from the expensive diesel generators and their emissions while working.

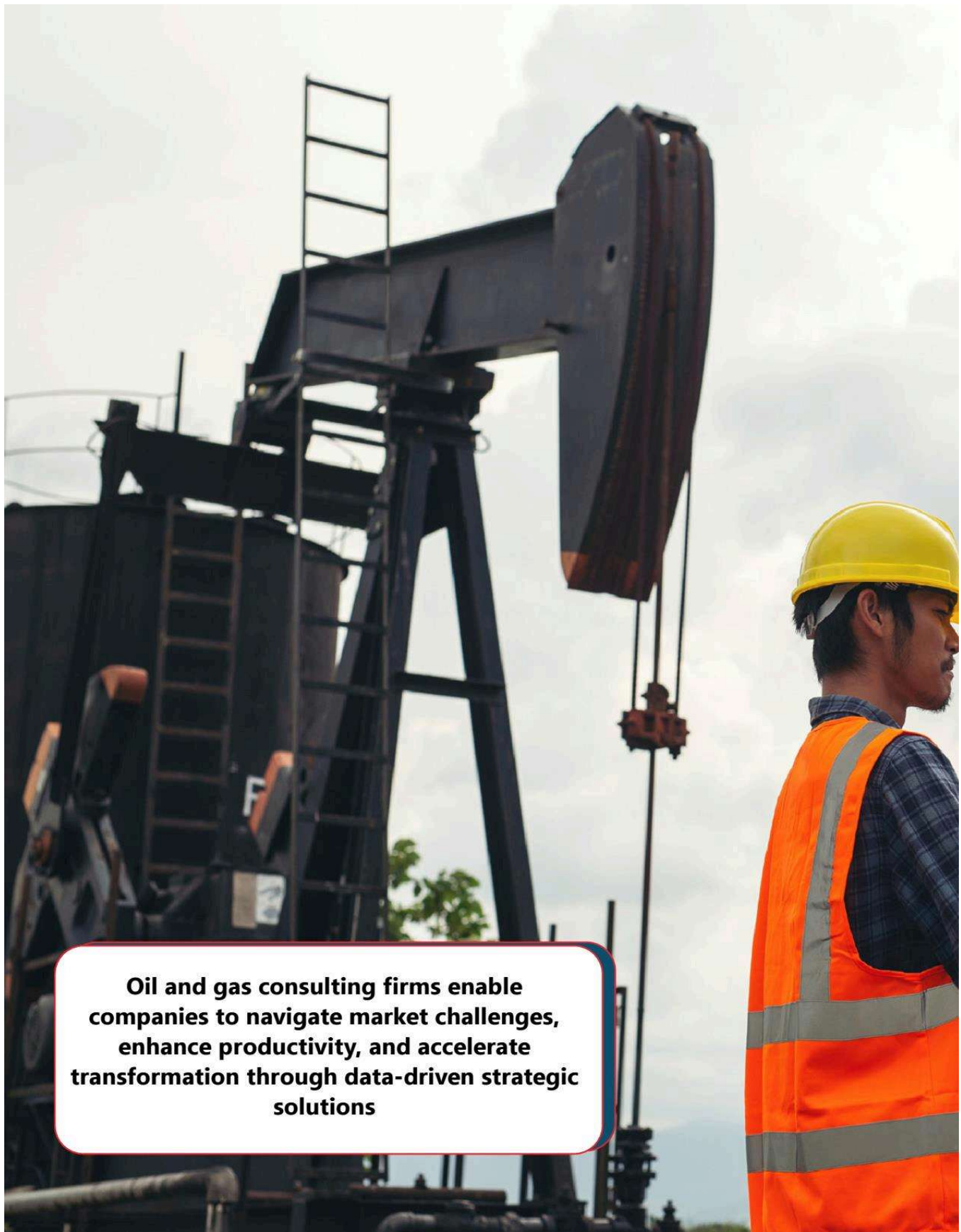
Bob Dudley, Chief Executive Officer, BP said, "India is one of the fastest growing economies in the world. By allying ourselves with Reliance, we will access the most prolific gas basin in India and secure a place in the fast growing Indian gas markets, creating a genuinely distinctive BP position."

By pooling resources, companies gain access to new markets, innovative technologies, and the success of projects through more efficient ways of implementing them

Reliance industry maintains their cost optimizing by extensively investing in energy-efficient technologies all along its refineries and petrochemical plants. The oil-to-telecommunications conglomerate, which manages the largest refining complex globally, revealed \$10 billion in investments to enhance its green energy portfolio and reach its 2035 net zero carbon objectives.

Mukesh Ambani, Chairman and Managing Director, Reliance Industries Limited said, "Over the next 12 months, our focus is to bring new energy manufacturing facilities on-stream, operate them efficiently, and start developing RE generation projects."

Reliance, aiming to set up 100 GW of renewable energy capacity by 2030, will commence the manufacturing of ingots and wafers—essential for producing affordable solar cells and modules—at its 10 GW solar photovoltaic (PV) giga factory. The company has also invested in renewable energy sources through solar power sources to power some of its refineries, removing the reliance on traditional fuels to cut down costs on energy utilization. 



Oil and gas consulting firms enable companies to navigate market challenges, enhance productivity, and accelerate transformation through data-driven strategic solutions

IndustryOutlook TOP 10
**OIL & GAS INDUSTRY
CONSULTANTS - 2026**

Top 10 Oil & Gas Industry Consultants - 2026: The following list has been prepared after being closely scrutinized by a distinguished panel of judges, including CXOs, analysts, and our editorial board. We recognize their valuable contribution to the ever-expanding and competitive market and their ability to sustain themselves and emerge as top contestants through their reliable products.

By tailoring solutions to specific operational contexts and maintaining transparent communication throughout project lifecycles, MEVRON Process fosters long-term relationships built on trust and performance. - MEVRON Process

As the oil and gas sector continues to evolve, JB Engineering Consulting Services is focused on driving innovation and strengthening its position as a trusted technical advisory consultant. - Jhansi Bose Engineering Consulting Services

AB Engineers & Consultants aims to further strengthen its position as a high-value transformation partner for oil & gas and manufacturing organizations across India and the Middle East. - AB Engineers & Consultants

Let's delve more into these prominent players and how they are spearheading the industry today.

Industry Outlook TOP 10
**OIL & GAS INDUSTRY
CONSULTANTS - 2026**

COMPANY	MANAGEMENT	DESCRIPTION
AB Engineers & Consultants Jalandhar abec.in	Parveen Kohli Founder	Offers a wide range of services including API Q1 implementation, API Monogram certification support, ISO and management systems consulting, internal audits, supplier assessments, SOP development, leadership workshops, and more
Ajr Oil & Gas Engineering Services Navi Mumbai ajres.com	Ravi Kiran CEO & Managing Director	With extensive expertise across the onshore and offshore oil & gas sector, the company specializes in executing EPCIC projects while delivering comprehensive PMC services with operational excellence and industry-driven engineering solutions
BMGI India Mumbai bmgindia.com	Naresh N Shahani Founder & Managing Director	Delivering strategic consulting, innovation, and transformation solutions for the oil and gas sector, enabling industries to optimize production, reduce costs, improve maintenance efficiency, and strengthen overall supply chain performance
Jhansi Bose Engineering Consulting Services (JBES) Gandhinagar jbcs.in	Bose Babu Nallapaneni Founder	Delivering end-to-end advisory solutions backed by global expertise and industry insight, the company supports oil and gas firms in overcoming challenges while enhancing pipeline infrastructure efficiency, reliability, and long-term operational performance
MCE Consulting Engineers Mumbai mceconsulting.in	Manoj Juvali Managing Director	Provides fully integrated engineering, procurement & construction management services for energy, chemicals, refineries, petrochemicals, fertilizer, green hydrogen, pharmaceuticals, bulk drugs & food industries

COMPANY	MANAGEMENT	DESCRIPTION
Megatech Oil & Gas Consultancy Thane megatechogc.com	Dnyanesh Potdar Managing Director	Specialized offshore inspection and maintenance consulting firm delivering end-to-end oil & gas manpower solutions, including rope access experts, shutdown workforce, engineers, and skilled onshore and offshore professionals worldwide
Mevron Process Kheda mevronprocess.com	Dharmesh Mehta Founder	The firm delivers consulting solutions for oil and gas, petrochemicals, chemicals, and allied sectors, specializing in process engineering, safety studies, audits, training, operational optimization, and digital transformation services
Modrig Techsolutions Mumbai modrigts.com	Rohit Pandirkar Head - Business Development & Commercials	The firm delivers onshore and offshore equipment services, supports drilling rigs for projects and routine operations, and specializes in efficient project execution, workforce management, and tailored manpower solutions
Petrocon Engineers & Consultant Hyderabad petroconengineers.com	Rasheed Mohammed Managing Director	Specializes in design, modeling, and analysis, transforming complex engineering challenges into efficient, build-ready solutions across AEC (BIM), infrastructure, oil & gas, water treatment, hydrocarbon processing, and allied sectors
Ven Consulting India Bangalore venindia.com	Sanjay G Lingadalli Managing Director	With over a decade of expertise, the company delivers diverse services, including project engagement, maintenance and reliability, quality assurance and control, project management, supply chain management, and other integrated solutions

AB ENGINEERS & CONSULTANTS

TRANSFORMING QUALITY SYSTEMS INTO ENGINES OF OPERATIONAL EXCELLENCE



Parveen Kohli
Founder

In today's oil and gas industry, quality is no longer viewed as a standalone compliance requirement, it has become a strategic business function that directly impacts reliability, profitability, and global competitiveness. The sector is steadily shifting from traditional certification-focused approaches toward performance-driven management systems that emphasize product integrity, supplier quality, operational discipline, lifecycle reliability, and risk management. As organizations navigate these complexities, the role of consulting firms has evolved significantly. Businesses today require partners that can move beyond theoretical frameworks and deliver practical, execution-focused solutions that create measurable business impact. This is where AB Engineers & Consultants has established a strong industry presence.

Led by industry professionals with over 30 years of experience in oil & gas manufacturing quality systems, and API certification programs, AB Engineers & Consultants combines strategic consulting with deep shop-floor understanding. The firm supports clients across India and the Middle East, helping organizations strengthen operational systems, improve process discipline, and align compliance with long-term business performance.

Driving Practical Implementation Beyond Documentation

One of the biggest challenges in the industry today is that many organizations

continue to treat standards and certifications as documentation exercises rather than operational tools. Systems may exist on paper, but execution gaps often lead to recurring customer complaints, delayed deliveries, ineffective audits, weak risk management, and lack of accountability across functions.

AB Engineers & Consultants addresses these challenges through a highly practical and implementation-driven approach. Rather than limiting its role to identifying gaps, the firm works closely with organizations to redesign systems, strengthen execution discipline, improve internal accountability, and enhance process effectiveness across operational levels.

The company offers a wide range of services including API Q1 implementation, API Monogram certification support, ISO and management systems consulting, internal audits, supplier assessments, SOP development, leadership workshops, manufacturing quality improvement, and operational transformation programs.

The firm is particularly recognized for its expertise in API Q1, API Monogram programs, operational risk management, and manufacturing quality systems. Its strength lies in converting technical standards into working business systems that support real operational performance instead of remaining compliance-driven formalities.

Building Future-Ready Systems through Learning and Technology

In an industry where standards, customer expectations, and operational risks continue to evolve, continuous learning remains central to the company's philosophy. AB Engineers & Consultants actively studies revised international standards, audit interpretations, customer specifications, failure trends, and global best practices to ensure its consulting methodologies remain relevant and effective.

At the same time, the firm is integrating digital tools and intelligent systems into its consulting and auditing processes to improve speed, visibility, and decision-making. Its evolving digital ecosystem includes remote audits, virtual training programs, audit analytics, NCR trend analysis, dashboard-based monitoring, digital audit readiness systems, and AI-assisted technical knowledge platforms designed to support faster problem-solving and stronger operational control.

The company believes technology should simplify execution and strengthen decision-making rather than create unnecessary complexity. This balanced approach enables clients to improve audit preparedness, monitor operational performance more effectively, and accelerate organizational learning.



AB Engineers & Consultants actively studies revised international standards, audit interpretations, customer specifications, failure trends, and global best practices to ensure its consulting methodologies remain relevant and effective

A Vision Centered on Long-Term Industry Leadership

Looking ahead, AB Engineers & Consultants aims to further strengthen its position as a high-value transformation partner for oil & gas and manufacturing organizations across India and the Middle East. The firm's roadmap focuses on integrating certification readiness with operational excellence, leadership alignment, digital enablement, and sustainable performance improvement.

With its strong technical expertise, practical execution capabilities, and industry-focused approach, AB Engineers & Consultants continues to help organizations build systems that are resilient, scalable, and globally competitive. The future belongs to organizations that convert quality systems into execution systems.

PANORAMA

THREE STRATEGIES OF THRIVING BUSINESSES IN OIL AND GAS INDUSTRY



The International Energy Agency (IEA) estimates that global oil supply will increase by 1.8 million barrels per day in 2025 to 104.7 million barrels per day, compared with 660 thousand barrels per day in 2024. Oil and gas industry is on a transformational journey due to rising concern over sustainable development, affordability and energy security. With rising global energy demand and a rapidly growing economy like India the industry must innovate to take on the challenges of climate change, economic growth and geopolitical instability. This motivates companies to adopt green energy strategies such as investing in renewable energy and hydrogen to reduce their carbon footprint over the long term. However, the fluctuation in oil prices affects consumers around the world. Energy security is becoming more important as Indian corporations strive to diversify their energy mix and reduce their dependence on foreign sources.

Innovative Solutions for Energy Sustainability

Sustainability is major concern in oil and gas sector in order to face climate changes and conserve resources. A transition into greener energies is an environmental need also become an important business imperative to compete successfully in an evolving marketplace. Bharat Petroleum Corporation Limited (BPCL) plans to increase its refinery capacity to 900,000 barrels per day by 2028, build up petrochemical complexes in Kochi and Bina, targets net-zero carbon emissions by 2040. The company also plans to invest ₹1 trillion

in green technologies and put up 2 GW of renewable capacity by 2025 thus the installation capacity will reach 10 GW by 2035.

Krishnakumar, Chairman, Bharat Petroleum Corporation Limited said, "These combined efforts, along with the upcoming commissioning of a bio-ethanol refinery, positions BPCL as a key player in India's transition to a greener fuel mix, creating a robust ecosystem for the adoption of cleaner fuels across the country."

The industries focus on aligning strategies with global climate goals such as achieving net-zero emissions. It aims for ambitious sustainability targets, enhances transparency in reporting, and is increasingly partnering with stakeholders towards a positive transformation. A key business strategy is to align operations with innovative technologies that reduce emissions and enhance energy efficiency, as well as incorporate renewable energy sources. Carbon capture, utilization, and storage (CCUS) have become significant among industries. According to the research by InsightAce Analytic, the Carbon Capture, Utilization, and Storage Market is expected to reach US\$ 17.37 Bn by 2031, with a CAGR of 21.2% during the forecast period of 2024-2031. Industry reduces the emission of greenhouse gases through industrial processes also researching the production and use of green hydrogen, which no emissions. Technologies such as AI and IoT-in enhance efficiency and reduce waste while leading towards the ecosystem's development.

Reliance Industries Limited (RIL) remains the forefront of efforts for sustainability in the oil and gas sector. The list of strategies employed to reduce its carbon footprint includes investments made in renewable energy and the development of green technologies. RIL has committed to net-zero emissions by 2035 and is working on diversifying into renewable energy, such as solar and wind power projects. Its business strategy is shifting toward cleaner, more sustainable energy, without compromising its strong operations in the oil and gas industry. Also Reliance partner with global industries to obtain technologies in the new energy space for building end-to-end integrated renewable energy manufacturing facilities, including projects for green hydrogen, green chemicals and energy storage.

Achieving Energy Affordability through Innovation

Affordability will be the crucial focus for the oil and gas industry to guarantee access to energy for all while preserving economic stability. The industry is challenged by unstable global oil prices, high operating costs, and investments in new technologies. This demands strategic planning and innovative approaches to balance these factors. The Abu Dhabi National Oil Company (ADNOC) supplied crude oil on a delivered at port (DAP) basis to Indian refiners such as Indian Oil Corporation, Hindustan Petroleum Corporation, and Bharat Petroleum Corporation. This approach facilitates refiners to manage costs effectively when freight rates escalate and during supply uncertainties.

Kumar Singh, MD & CEO of Petronet LNG said, "Unaffordable prices will force consumers to switch over to other fuels, and it's imperative to calibrate it carefully so that high prices do not end up destroying demand."

A key business strategy for ensuring cost optimization is achieved through streamlined operations, technological advancement, and effective supply chain management. Investing in the companies which aim to decrease the cost of production without damaging the quality of energy produced while making it accessible to the consumers, government policies and subsidies at stake to keep prices stable. According to International Energy Agency (IEA), India accounts for more than one-third of global oil demand growth in 2023-2030 forecast period. Investment in alternative fuels like natural gas, biofuels, and renewable energy reduces dependence on traditional sources of fuel. The alternatives are generally cheaper to produce also in line with the global sustainability objectives. Affordability ensures that energy remains a driver of economic growth and social development which is necessary for the future of the oil and gas industry.

Anil Agarwal, Chairman, Vedanta said, "With 75 percent of our oil reserves still unexplored, India can unlock its true potential with the help of global companies. They have cash reserves worth \$3 trillion and are looking for investment opportunities."

Oil and Natural Gas Corporation (ONGC), has used the cost-effective approach to maintain its leadership in this industry. ONGC focuses on improving efficiency and reducing operational costs through advanced technology, including digitalization and automation. In addition, ONGC aspired to share exploration risk through joint ventures and partnerships while optimizing resource use and reducing the costs of developing new oil and gas fields.

Strategic Approaches for Enhancing Energy Security

The uninterrupted availability of energy system protects

country and global interests from geopolitical uncertainties, market fluctuations, and natural disruptions. The way towards energy security lies in the diversification of sources. Energy dependency will decrease if countries use multiple suppliers and invest in domestic exploration. Developing strategic budgets allows the country to handle supply disruptions efficiently when emergencies arise. For instance, Prime Minister Narendra Modi announced Guyana as strategically important for India's energy security because India will be purchasing two million barrels of crude oil from the South American country. With substantial offshore oil reserves, Guyana is all set to emerge as one of India's crucial partners for diversifying its oil imports.

Hardeep Singh Puri, Union Minister for Petroleum and Natural Gas said, "Despite geopolitical tensions in some parts of the world, there is no shortage of crude oil in the world. Consuming countries have several options to choose from".

Energy security is one of the major concerns requiring companies to ensure a reliable and strong supply chain. The different business strategies to address energy security are diversification of energy sources, building strategic reserves, and securing of long-term supply contracts. The other key strategy would include investing in oil and gas infrastructures, such as pipelines, refineries, and storage facilities that contribute to minimizing interruptions in the supplies. This further includes a significant partnership with the governments and international associations that are essentially required for staying in regulatory agreement and securing from geopolitical risks.

Ambassador Virendra Gupta, Co-Chairman, CII Core Group on Energy Security said, "Energy security is about ensuring supply at affordable costs, not just owning assets abroad".

The strategic initiatives ensure that companies secure energy supply without increasing vulnerability. Integration of renewable energy into the supply mix would further ensure long-term energy security since demand for cleaner alternatives continues to increase. Indian Oil Corporation (IOC) has developed a strategic approach to secure energy supply through strategic investments in infrastructure and diversified sources of energy. IOC has extended its refinery network, pipelines, and storage facilities for the efficient transportation and supply of oil and gas. IOC has secured long-term contracts for crude oil originating from several, reducing its dependence on a single source and ensuring a consistent energy supply. To ensure stronger energy security, IOC also invests in alternative energy sources such as biofuel and electric vehicle charging stations. 



Roughneck Pro Series

Now STQC Tested & BIS ER Certified.



Dome Cameras
(5MP & 8MP)

Bullet Cameras
(5MP & 8MP)

PTZ Cameras
(5MP & 8MP)

Box Cameras
(5MP & 8MP)

Fisheye Cameras
(12MP)

Learn more at: www.vicon-security.com/india

JHANSI BOSE ENGINEERING CONSULTING SERVICES (JBES)

POWERING PIPELINE & CITY GAS DISTRIBUTION NETWORK INTEGRITY THROUGH EXPERTISE & INSIGHT

Consultants in the oil and gas industry plays a critical role in ensuring operational safety, efficiency, and long-term asset reliability. In this evolving landscape, firms that bring deep domain expertise and independent technical insight are becoming indispensable to operators. Jhansi Bose Engineering Consulting Services (JBES) stands out as one such specialist, contributing meaningfully to the industry by focusing on pipeline integrity and engineering excellence. By offering end-to-end advisory services rooted in global standards and practical experience, JBES is helping oil and gas companies navigate challenges while optimizing the performance and longevity of critical pipeline infrastructure.

A Niche Focus on Pipeline Integrity

Jhansi Bose Engineering Consulting Services has positioned itself as a specialized player in pipeline integrity management, a domain that is rapidly gaining importance across the oil and gas sector. With a significant portion of pipeline infrastructure in India exceeding two decades of average life of pipeline operations, ensuring safety and reliability has become a pressing concern.

JBES addresses this need by offering comprehensive integrity services that span the entire lifecycle of a pipeline. From the initial route surveys, design and engineering critical assessments to operational monitoring, integrity management and eventual till decommissioning,

the firm provides continuous technical advisory support. JBES helps operators maintain optimal performance while safeguarding life, assets and the environment.

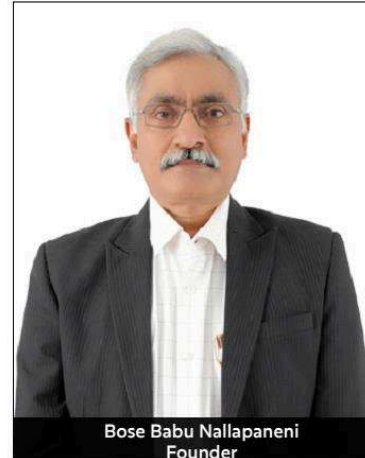


As the oil and gas sector continues to evolve, JB Engineering Consulting Services is focused on driving innovation and strengthening its position as a trusted technical advisory consultant

Led by an Industry Veteran

Bose Babu Nallapaneni is a graduate in Engineering from Nagpur University and has 35 years of rich experience in Oil and Gas covering, upstream, midstream and downstream. He is passionate with his work and as a Subject Matter Expert of Pipelines. He is well recognized and respected for his dedication towards Quality & Safety of the Pipeline Industry, including training of personnel.

He was Chairman of ASME, B31.8 International Working Group India (2009 to 2019) and



Bose Babu Nallapaneni
Founder

Chairman of Pipeline System Division (PSD), Houston for 2024-2025. He is also a Global Trainer for ASME B31.8 and B31.8S. He has presented many technical topics at national and international conferences.

He received the best paper award from PESO/CCOE(GOI) for Pipeline Integrity Management – Prevention of Failures. He was facilitated with an international award by ASME for Dedicated Service Award for the year 2021 for his excellent contribution for Pipeline Industry and for outstanding performance, demonstrated effective leadership.

Engineering Excellence Backed by Data and Analysis

At the core of JBES' service portfolio is its ability to translate complex technical data into actionable insights. Pipelines generate vast amounts of data through design, construction, inspections, monitoring systems, and operational records. JBES bridges this gap by con-



ducting in-depth reviews of engineering, construction, and operational data to assess pipeline health and to improve the performance.

In addition, JBES offers services such as fitness-for-service assessments, failure analysis, gap analysis and technical audits for all kinds of pipelines. These services enable operators to make informed decisions about maintenance, repairs, and upgrades, ultimately extending the life of their assets beyond the economic life and reducing operational risks.

Global Collaborations Enhancing Local Impact

A distinguishing feature of JBES is its ability to integrate global expertise into its consulting approach. The firm collaborates with international partners to bring advanced technologies and specialized knowledge to the Indian market. Through its association with DUX-HEAD in Brazil, JBES supports all kinds of slurry pipeline projects in India. This collaboration allows the firm to combine local project management capabilities with global engineering excellence in Slurry Pipeline Engineering & Integrity Management.

Independent Advisory Driving Trust and Compliance

One of the defining aspects of JBES' approach is its commitment to independence and objectivity. This independent review model enhances the credibility of its recommendations and supports clients in

meeting regulatory requirements. With oversight from bodies such as the Petroleum and Natural Gas Regulatory Board (PNGRB), compliance has become a critical component of pipeline operations. JBES helps operators align with these standards by providing clear, data-backed guidance on safety, maintenance, and digital reporting practices.

Beyond compliance, the firm plays a vital role in risk identification and providing mitigation measures. This proactive approach not only protects infrastructure but also ensures uninterrupted supply and economic stability.

Shaping the Future of Pipeline Consulting

As the oil and gas sector continues to evolve, JB Engineering Consulting Services is focused on driving innovation and strengthening its position as a trusted technical advisory consultant. A key priority for the firm is promoting digital transformation within the industry. By encouraging operators to digitize and validate their data, JBES aims to unlock new levels of efficiency and insight in pipeline management.

In any pipeline operations, where safety, reliability, and efficiency are paramount, JBES exemplifies the value of specialized technical consulting service provider. Through its expertise, independence, and commitment to excellence, the firm is not only supporting the present needs of the oil and gas pipeline sector, but also shaping its future trajectory. 

INDUSTRY INSIGHTS

ROLE OF INDUSTRIAL GASES IN THE SEMICONDUCTOR & ELECTRONICS ECOSYSTEM

● Diganta Sarma, Head – Strategy & Business Development, INOX Air Products

Diganta Sarma, Head – Strategy & Business Development, INOX Air Products, engaged in a conversation with Thirumuthan, Assistant Editor at Industry Outlook, discusses the critical role of ultra-high purity and specialty gases in ensuring precision, yield, and reliability in semiconductor manufacturing. He also talks about how localized supply, advanced gas technologies, and resilient infrastructure are essential to support India's growing semiconductor ecosystem.

Diganta Sarma is a seasoned business leader with over three decades of experience, specializing in strategic P&L management, business growth, and decarbonization. His expertise spans hydrogen, specialty gases, and industrial markets, with strong capabilities in strategy, commercialization, operations, and B2B market development across global regions.



Diganta Sarma,
Head – Strategy & Business Development

Given the precision requirements in semiconductor fabrication, how critical are ultra-high purity industrial gases in ensuring yield, reliability, and process consistency?

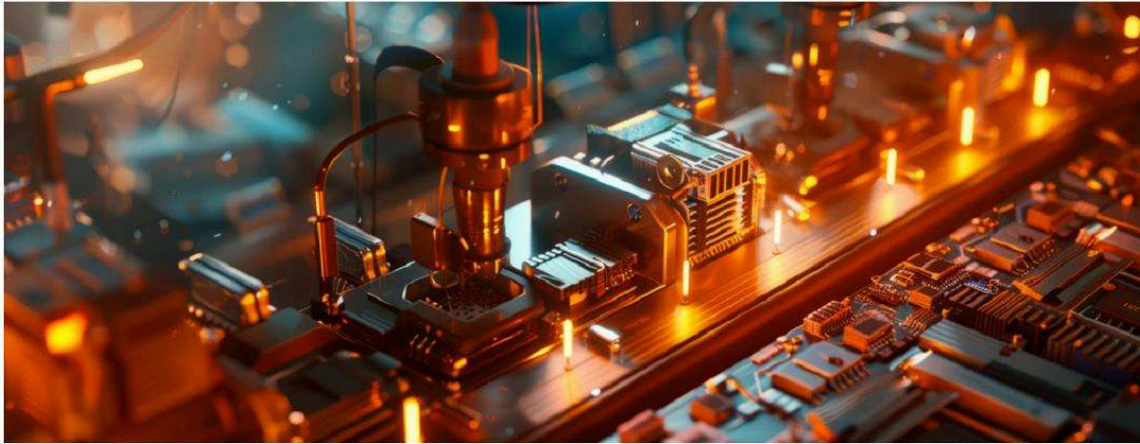
Ultra-high purity (UHP) gases are, without doubt, the backbone of semiconductor fabrication. At nanometer-scale nodes, even the slightest trace of contaminants can significantly disrupt critical processes such as deposition, etching, and overall transistor behavior. As a result, yield is impacted through wafer defects, reliability is compromised due to latent failures, and process consistency declines

owing to batch variability. Therefore, maintaining purity is not limited to a single stage but must seamlessly extend across the entire value chain—right from production and storage to transportation and point-of-use. In this context, at INOX Air Products, for instance, we ensure end-to-end integrity through advanced purification technologies, well-engineered distribution networks, and stringent quality control protocols.

Amid India's Push To Build A Domestic Semiconductor Ecosystem, How Is The Availability Of Specialty Gases Shaping The Readiness Of Fabs And Electronics Manufacturing Units?

India's semiconductor drive, backed by initiatives such as the India Semiconductor Mission, strongly hinges on the reliable availability of specialty gases across the value chain. Semiconductor fabs depend not only on bulk gases but also on highly specialized chemistries, where assured supply, consistent quality, and precision are absolutely critical for seamless operations. At the same time, a significant reliance on imports exposes the ecosystem to potential risks, including supply disruptions, logistical delays, and cost uncertainties, which can directly impact production timelines.

In this evolving landscape, the need for a robust and localized gas infrastructure becomes increasingly important. INOX Air Products, with its strong national footprint and deep domain expertise, is actively investing in building localized capabilities and infrastructure to ensure a dependable and high-quality gas supply. This, in turn, plays a vital role in strengthening the resilience and long-term sustainability of India's semiconductor ecosystem.



In the context of increasing chip complexity and shrinking nodes, how are gas technologies evolving to support advanced processes like etching, deposition, and cleaning?

As semiconductor nodes continue to shrink, the demand for atomic-level precision across manufacturing processes is becoming increasingly critical. In this context, etching requires highly selective chemistries, deposition depends on advanced precursors for forming ultra-thin films, and cleaning processes are progressively shifting toward dry, gas-based methods. At the same time, gas delivery systems must ensure precise flow control, contamination-free distribution, and real-time monitoring to consistently maintain process integrity.

Additionally, the growing role of digitalization is enabling predictive control and improved process optimization across operations. As a result, industrial gas companies are steadily evolving into comprehensive solution providers, seamlessly integrating chemistry, engineering, and digital capabilities to effectively address next-generation semiconductor process requirements.

Against the backdrop of heavy import dependence for specialty gases, what challenges exist in localizing production without compromising purity and quality standards?

Electronic-grade gases demand parts-per-trillion levels of purity, which are supported by highly advanced purification technologies and extremely tightly controlled production environments. In addition to this, proprietary synthesis processes often require close collaboration with global partners to ensure the highest standards are consistently met.



India's semiconductor ecosystem can only scale sustainably with assured access to high-quality specialty gases, making localization and supply chain resilience a strategic imperative

However, achieving uniform consistency at scale, while also ensuring economic viability, continues to remain a significant challenge, particularly during the early stages of ecosystem development. Moreover, seamless integration across the supply chain, from raw material sourcing and processing to secure storage and logistics, is absolutely critical to maintaining both quality and reliability.

At INOX Air Products, with its proven expertise in high-purity gases, is well positioned to drive localization efforts while consistently adhering to and meeting established global benchmarks.

Considering the stringent safety and handling requirements of industrial gases, how are suppliers and fabs collaborating to manage risks across storage, transport, and usage?

Safety is absolutely non-negotiable in semiconductor gas management, given the critical nature of operations and the potential risks involved. In this context, suppliers and fabs work closely together on infrastructure that is specifically engineered with advanced safety features such as leak



detection systems, automated shut-offs, and multiple fail-safe mechanisms. Furthermore, well-defined joint operating procedures, along with real-time monitoring and predictive maintenance practices, play a crucial role in enhancing overall system reliability. At the same time, regular training programs, safety audits, and emergency drills are conducted to ensure a high level of workforce readiness and awareness. In this regard, INOX Air Products partners closely with fabs to embed a strong culture of safety and operational excellence across the entire gas lifecycle.

As semiconductor manufacturing scales up, how are gas supply chains being designed to ensure uninterrupted availability and minimize production downtime?

In semiconductor manufacturing, downtime is often measured in millions, making uninterrupted operations absolutely critical for fabs. As a result, supply chains are strategically designed with a strong focus on resilience and redundancy, incorporating on-site generation for bulk gases, along with multi-source strategies and adequate backup storage for specialty gases. In addition, digital inventory management systems play a vital role by enabling accurate demand forecasting and proactive replenishment, thereby minimizing the risk of supply disruptions. We integrate deeply into fab operations, offering comprehensive on-site management and advanced logistics optimization solutions to ensure a consistent and uninterrupted gas supply at all times.

With rising focus on sustainability in electronics manufacturing, how are industrial gas companies addressing emissions, recycling, and efficient gas utilization?

Sustainability is increasingly becoming central to modern semiconductor fabs, as the industry places greater emphasis on reducing its environmental footprint. In this context, industrial gas companies are actively deploying advanced abatement technologies to neutralize high global warming potential (GWP) emissions, while also focusing on reclaiming and recycling high-value gases to improve resource efficiency.

Additionally, efforts are being made to optimize energy consumption across production processes to enhance overall sustainability. In line with this approach, INOX Air Products embeds sustainability across its operations, from plant design and engineering to logistics and emissions management, thereby aligning with global ESG goals while simultaneously improving operational efficiency and long-term value creation.

Looking ahead, how will advancements in semiconductor technologies influence demand patterns and innovation in industrial gases within the electronics ecosystem?

advancements in semiconductors across AI, high-performance computing (HPC), mobility, and IoT are set to significantly reshape gas demand, driving the need for higher purity levels, more specialized chemistries, and highly tailored solutions.

In this evolving landscape, novel precursors and selective etching gases are expected to gain increasing prominence. Consequently, industrial gas companies must move beyond traditional supply roles and evolve into true innovation partners, working closely with fabs and equipment manufacturers to co-develop next-generation solutions. In this regard, we actively are investing in R&D, digitalization, and integrated service models to play a pivotal role in shaping the future of the electronics ecosystem. 

Industry Outlook

SUBSCRIPTION OFFERS

1
YEAR
2500

2
YEAR
4500

3
YEAR
6000



DISSEMINATING INFORMATION WITH OPTIMAL DUE-DILIGENCE

SUBSCRIBE NOW!

Now you can also subscribe through credit card: visit <https://www.theindustryoutlook.com/subscribe/>



SCAN HERE TO SUBSCRIBE

FOR 1 YEAR
₹2500
ONLY

Industry Outlook

The Industry outlook is a monthly Magazine. Take advantage of this special offer and get 12 issues for only ₹2500

I would like to subscribe* to Siliconindia for ☐ 1 year at ₹ 2500, ☐ 2 year at ₹ 4500, ☐ 3 year at ₹ 6000

I am enclosing the cheque/DD No. _____ Dated _____ for ₹. _____

Bank _____ Branch _____ drawn in favour of SILICONMEDIATECHNOLOGIES PVT LTD.

My personal mailing details (IN BLOCK LETTERS): NAME _____

DESIGNATION _____ COMPANY NAME _____

ADDRESS _____

_____ CITY _____ STATE _____ PIN _____

TELEPHONE _____ EMAIL(Mandatory) _____

Age in years _____ Experience _____ Industry _____ Education _____

How did you come to know about siliconindia? _____

Payment acceptable in cheque/DD favouring:

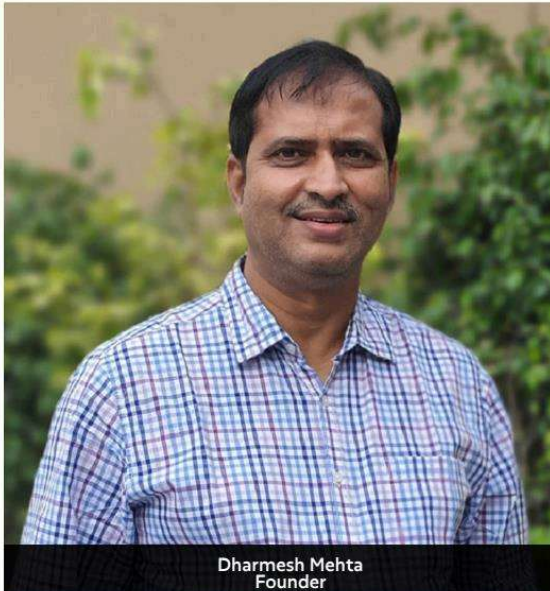
SiliconMedia Technologies Pvt.Ltd, No.124, 2nd Floor, South Block, Surya Chambers, Old Airport Road, Bangalore 560017

This offer is valid in India only. Allow 2-3 weeks for processing your subscription. Kindly mention your name and address on back of the cheque/DD. Cancellation/ Refunds are not allowed.

Subscription Helpline - P Magendran Tel:+91 80 46442190 or email at subscription@siliconindia.com

MEVRON PROCESS

ENGINEERING SAFER, SMARTER & SUSTAINABLE ENERGY SOLUTIONS



Dharmesh Mehta
Founder



Bharti
Admin & Legal Support

In today's rapidly evolving energy landscape, consultants play a pivotal role in shaping the future of the oil and gas industry. As companies navigate increasing regulatory pressures, energy transition goals, and operational complexities, expert guidance in process engineering and safety has become indispensable. Modern consultancies are no longer limited to traditional engineering support; they are now strategic partners driving digital transformation, sustainability, and risk mitigation. With the growing emphasis on low-carbon operations and resilient infrastructure, consultants help organizations balance efficiency with compliance while adopting advanced technologies such as AI/ML, IoT, and predictive analytics. It is within this dynamic and demanding environment that firms like MEVRON Process are making a significant impact.

Building a Future-Ready Engineering Vision

Founded in November 2025 by an industry veteran with over three decades of experience, MEVRON Process was established with a clear vision: to transform challenges in process engineering into opportunities for safer, smarter, and more sustainable operations. The firm focuses on delivering high quality consulting services across oil and gas, petrochemicals, chemicals

and related other sectors. From the outset, MEVRON Process has emphasized integrating technical rigor with forward-looking solutions, ensuring that clients are not only compliant with current standards but also prepared for future industry shifts.

The company's expertise spans core areas such as process engineering, safety studies, audits, trainings, optimization, and digitalization. By embedding Environmental, Social, and Governance (ESG) principles into its design philosophy, MEVRON Process ensures that sustainability is not an afterthought but a foundational element of every project.

Driving Efficiency through Innovation and Technology

A defining strength of MEVRON Process lies in its adoption of cutting-edge technologies to enhance operational efficiency and reliability. The firm leverages digital twins, predictive analytics, and advanced data monitoring systems to provide clients with actionable insights and real-time visibility into their operations. These tools enable proactive decision-making, reduce downtime, and improving the overall process performance.

In areas such as Front-End Engineering Design (FEED) and hazard analysis, the company combines



traditional engineering expertise with digital enhancements to identify risks early and optimize system design. Its approach to process optimization integrates statistical tools and technical analysis, ensuring measurable improvements in energy efficiency, throughput, and yield. By continuously scanning global trends and adopting emerging technologies, MEVRON Process remains at the forefront of innovation in the consulting space.



Working with “Vision Makes Big Difference”, the company’s expertise spans core areas such as process engineering, safety studies, audits, trainings, optimization, and digitalization

People-Centric Approach and Long-Term Partnerships

Beyond technology, MEVRON Process places strong emphasis on people and partnerships. Its

multidisciplinary team, comprising experienced professionals and emerging talent, brings together diverse expertise across engineering, safety, and digital domains. The firm actively invests in training and knowledge transfer, ensuring that both its team and clients are equipped to handle evolving industry challenges.

Additionally, the firm actively collaborates with academic institutions, conducting practical training sessions and knowledge-sharing programs for engineering students. This initiative helps bridge the gap between theory and industry practices while nurturing future-ready leadership for the energy sector.

Collaboration is central to its client engagement model. By tailoring solutions to specific operational contexts and maintaining transparent communication throughout project lifecycles, MEVRON Process fosters long-term relationships built on trust and performance. A notable example of its impact includes delivering a critical engineering compliance solution for an international oil and gas client within a tight timeframe, resulting in an over 30 percent reduction in capital expenditure and securing an ongoing partnership.

As the industry moves toward a more sustainable and technologically advanced future, MEVRON Process continues to position itself as a forward-thinking consultancy. With a strong focus on safety, innovation, and sustainability, the company is not only supporting the current needs of the oil and gas sector but also shaping its future trajectory. 

INDUSTRY INSIGHTS

SYNTHETIC ENGINE OILS OPTIMIZING FRICTION, WEAR, AND FUEL ECONOMY

● Arijit Basu, Managing Director, Veedol Corporation

In an exclusive interview with Thirumathan, Assistant Editor at Industry Outlook, Arijit Basu, Managing Director at Veedol Corporation Limited, discusses the evolution of synthetic oils in India's automotive industry. He highlights their role in improving fuel efficiency, reducing emissions, and meeting sustainability goals, sharing how these advancements cater to the evolving needs of the automotive sector. Arijit Basu is an experienced business leader with over two decades of expertise in automotive lubricants, construction chemicals, and industrial products. He specializes in transformation, strategic investments, P&L leadership, digitalization, and team development, with a focus on scaling organizations and driving profitable growth.



Arijit Basu,
Managing Director

Modern synthetic oils reduce high-temperature wear and micro-friction while ensuring engine reliability under India's harsh conditions, so how do they consistently maintain such performance levels?

It is a combination of lubricant technology and the evolution of engine technology. Globally and in India, the focus is on improving fuel efficiency, using cleaner fuels, and reducing vehicle-related emissions. That being said, cutting down the carbon credit is also a crucial factor in both global and now in India.

Considering all these factors, the lubricant technology is now palpably evolving alongside engine advancements. Moreover, engines are becoming more powerful than before,

but at the same time, the annular space between the pistons is shrinking. So what is needed is lubricant technology based on molecules that can perform effectively in a narrow annular space, delivering better performance while reducing oil consumption.

This is possible with the newer and advanced lubricant technology, primarily based on synthetic molecules and low-viscosity base oils, which are becoming more common in India. So the progression in technology is taking place in terms of moving the lubricating oils from mineral to semi-synthetic to fully synthetic versions.

The organization I represent, Veedol, which is a very well-known for helping its customers understand the benefits of synthetic lubricants. This supports the broader goal of achieving high performance oils while protecting the environment.

Thus, lubricating oils are aligning with advancements in the automotive industry.

Low-friction synthetic oils improve fuel efficiency and reduce emissions while aiding Indian fleet operations, so what measurable gains are operators currently observing in real usage?

The need for lubricants depends on various transportation segments. In fleet transport, long drain intervals and reliable lubricating oil quality are key. Long-haul fleets prefer fewer lubricant changes, achievable through high-tech lubricants that offer lower friction, better performance, and higher temperature stability. Reliability of service availability is equally important for this segment. It's a combination of quality and service that meets these needs.

For passenger cars and two-wheelers, the focus is on higher performance, ride comfort, and a better riding

experience. We now offer a synthetic range of lubricating oils with EPR (Engine Power Retention) technology, a unique, first-of-its-kind technology using EstoBioLides fully sustainable synthetic molecules. This technology ensures power retention in the engine throughout the vehicle's life cycle. Besides fuel efficiency and comfort, it offers value-added benefits like consistent engine power from day one to the end of the vehicle's performance.

This technology is unique and category-specific, depending on the type of vehicle or transportation. Electric vehicles, especially in passenger cars, are also gaining popularity, with different expectations and requirements. These trends will influence how we produce and service the industry, bringing advanced technologies to the Indian market and consumers.

Long-haul fleets prefer fewer lubricant changes, achievable through high-tech lubricants that offer lower friction, better performance, and higher temperature stability.

Arijit Basu, Managing Director, Veedol Corporation Limited

Advanced synthetic formulations protect engines in heavy-duty and long-haul operations while reducing wear, so how are fleet managers evaluating their impact on vehicle life and costs?

It's not just about the oil; road conditions and exposure also impact vehicle maintenance. There are various factors, which impact the overall maintenance usage of the vehicle.

So compounding all this, the most important thing is the benefit from the lubricating side to the end user achieving up to 5-6 percent fuel efficiency with synthetic kind of molecules. Additionally, longer drain intervals help them reduce long-term cost. While synthetic oils may have a higher initial cost per liter, they eliminate the need for frequent oil changes, providing a cost-optimized solution over time for the end user. Technically, this approach offers a cleaner, more environmentally friendly solution without impacting the fleet's budget. In the long term, fleet managers save money while benefiting from better engine performance and overall vehicle experience.

Synthetic oils lower emissions by improving combustion efficiency and reducing internal friction across India's transport sector, so how are they strengthening fleet-level sustainability commitments?

Synthetic oils assist in enhancing sustainability commitments at the fleet level through offering bio-based and eco-friendly measures. These oils enhance efficiency on the combustion engine and lower internal friction, leading to the minimization of emissions within the transport industry in India. Synthetic oils have better qualities in that they have ex-

tended drain cycles and are more fuel-efficient, as this also contributes to the sustainability goals the industry strives to achieve.

These oils are not the only factor in the attainment of sustainability, but they do play an important role in the overall plan of the fleet industry. Synthetic oils are important to the industry in terms of sustainability by minimizing the environmental impact of vehicle operations. Their application is in line with the shift in the industry to greener and efficient solutions that balance performance with the environment.

As hybrid and electric vehicles expand in India, synthetic lubricants must align with new efficiency needs, so what innovations will be required to meet future performance demands?

As hybrid and electric vehicles grow in India, synthetic lubricants must align with new efficiency needs. Hybrid vehicles, linking with internal combustion engines, and electric vehicles, as alternatives, do not require conventional engine lubricants. However, they require transmission and thermal management, particularly with the use of electric batteries.

For both hybrid and electric vehicles, as well as existing internal combustion engines, the demand for new technological solutions in lubrication and cooling systems will continue to increase. Meeting these demands will be important for developing advanced solutions. Regardless of the power source, the focus will be on providing sustainable and environmentally friendly solutions to end customers.

This is where the whole lubricant industry is currently focused: innovating and improving technologies to meet future performance needs while ensuring sustainability and environmental responsibility. The goal is to adapt lubricant and cooling technologies to evolving vehicle power trends, ensuring they meet the challenges of both hybrid and electric vehicle operations.

Key Advice for Emerging Leaders from Arijit Basu:

Customer-Centric Approach: Stay focused on understanding your customers. They are the ones who will express what value additions are appreciated and recognized. Even when customers may not fully know the real value, their feedback is crucial in guiding your strategy.

Innovation: Innovation will come from solution providers who look at problems from new perspectives. By offering new technologies and approaches, you can deliver value that customers may not even realize they need yet.

Value Addition through Innovation: It's important to continually innovate and find ways to add value. Through focused innovation, you can reach out to end customers and offer solutions that improve their experience and meet their evolving needs. 

INDUSTRY INSIGHTS

GREENER CHEMICAL MANUFACTURING: THE INDUSTRY'S PUSH FOR SUSTAINABILITY

● Pandurang Landge, President - Manufacturing Business, Deepak Fertilisers and Petrochemicals Corporation

Pandurang Landge is a senior chemical manufacturing leader with 39 years of global experience, specialising in large-scale operations, project development, commercialisation, and transformation initiatives, backed by deep expertise in process optimisation and new product development.

In a conversation with Thirumathan, Assistant Editor at Industry Outlook, Pandurang Landge, President of Manufacturing Business at Deepak Fertilisers and Petrochemicals Corporation, provided insights on how India's chemical sector is addressing rising environmental and operational pressures. He underscored the sector's move toward sustainable manufacturing, customer-aligned innovation, and technology-driven systems that reduce resource dependency and strengthen long-term competitiveness.

Freshwater stress is intensifying across key chemical production zones. What strategic steps can the sector take to decouple growth from freshwater dependency in manufacturing?

Freshwater stress is no longer just an environmental issue; it has become a direct industrial and competitiveness challenge for India's chemical sector. Decoupling growth from freshwater dependency requires a decisive shift toward fundamentally circular water systems. This includes basin-level water planning aligned with local hydrological realities, greater utilisation of recycled municipal and industrial water, adoption of closed-loop cooling and recovery systems, and aggressive efficiency measures across process water consumption.

To give an illustration vividly, we at DFPCL are advancing this transition by reducing reliance on freshwater through the use of third-party treated water, significantly expanding internal recycling, rainwater harvesting and operationalising Zero Liquid Discharge (ZLD) systems at critical sites such as Taloja, Srikakulam, and Panipat. These interventions have meaningfully lowered our freshwater footprint and demonstrated that production reliability and sustainability can scale together.

India lacks a unified green certification standard for chemical products. How does this regulatory gap impact sector competitiveness, particularly for global market access?

The absence of a unified national green certification standard creates fragmentation across India's chemical value chain and directly affects global competitiveness. Without a single benchmark, companies must navigate a patchwork of international ecolabels, customer-specific audits, and diverse reporting requirements. This increases compliance costs, delays market entry, and dilutes the credibility of



Pandurang Landge,
President - Manufacturing Business

Indian exporters in highly regulated global markets. Until a national framework emerges, the sector must move toward Life Cycle Assessment (LCA) based disclosures, standardised environmental product data, and globally aligned transparency norms to remain competitive.

We have proactively strengthened our sustainability credentials through enhanced BRSR reporting, supply chain ESG disclosures, improved product-level traceability, and investments in data systems aligned with global disclosure expectations. These efforts ensure that even in the absence of a unified Indian certification, we maintain export readiness, build trust with international customers, and stay future-ready in a world where transparency and environmental assurance are key differentiators.

Solvent recovery inefficiencies raise costs and emissions across chemical plants. How can membrane filtration or solvent exchange improve efficiency and environmental outcomes sector-wide?

Solvent losses represent both a major economic cost and a significant environmental liability for the chemical industry particularly as energy prices rise and emission norms tighten. Advanced technologies such as membrane filtration, organic solvent nanofiltration, and solvent-exchange systems offer high-efficiency alternatives to traditional distillation by enabling high-purity solvent recovery with much lower energy demand. When deployed as part of hybrid recovery systems, these technologies can reduce VOC emissions, extend solvent life cycles, and substantially cut greenhouse gas footprints across manufacturing operations.



Technology-enabled circularity will be central to the next era of chemical manufacturing, and early pilots already show how membrane-assisted recovery can meaningfully cut emissions and energy use

We see strong potential in these next-generation recovery solutions and are currently exploring membrane-assisted solvent recovery pilots across select units. Early assessments show clear improvements in energy efficiency and recovery rates, reinforcing our conviction that technology-enabled circularity will be central to greener, more resilient chemical manufacturing platforms.

Stringent Zero Liquid Discharge (ZLD) norms strain plant-level economics in key chemical zones. How can the sector adopt scalable, cost-effective ZLD without compromising compliance?

Zero Liquid Discharge (ZLD) is critical for ecological protection, yet its cost and operational complexity can be challenging—particularly for mid-sized manufacturers. The sector needs a scalable and cost-effective approach centred on energy-efficient evaporators, membrane-based pre-treatment, effluent segregation at source, and, where feasible, cluster-level ZLD systems that reduce individual burden through shared infrastructure.

Viewed through a resource-recovery lens rather than as a compliance obligation, ZLD can unlock long-term value by supplying reusable water and recoverable salts.

Our experience at DFPCL underscores this. By implementing ZLD in phases at sites such as Taloja and Panipat, deploying multi-effect evaporators, and prioritising waste minimisation at source, we have established a scalable,

cost-balanced framework that ensures compliance while maintaining operational sustainability. This approach is both economically viable and environmentally responsible.

Scope 3 emissions from chemical supply chains remain underreported. What sector-wide measures are needed to accurately assess and mitigate upstream and downstream emissions?

Scope 3 emissions remain the largest blind spot in the sector's sustainability agenda, driven by data gaps, inconsistent calculation methods, and limited supplier readiness. Closing this gap requires the adoption of digital data systems that standardise activity-level inputs across the value chain, capability building for suppliers, especially MSMEs and alignment on common reporting templates.

As carbon-intensity norms increasingly influence procurement decisions, decarbonisation will evolve into a value-chain mandate rather than a company-specific initiative.

We are strengthening the foundation for this transition by enhancing supplier-engagement frameworks, improving logistics efficiency, expanding cleaner fuel adaptation, and investing in robust systems to generate high-quality emissions data. We have completed Scope 3 emissions inventory estimations, and this level of transparency is essential not only for regulatory preparedness but also for earning global customer confidence as sustainability-linked procurement becomes the norm.

Bio-catalysis and electrified reactors offer greener chemical production. Which of these technologies could significantly transform India's chemical sector by 2047?

Both bio-catalysis and electrified reactors will help reshape India's chemical sector each transforming different parts of the value chain. Bio-catalysis is already demonstrating high selectivity and low-temperature efficiency, making it ideal for pharmaceutical intermediates, fine chemicals, and specialty chemistries. In contrast, the deep decarbonisation of bulk and commodity chemicals will depend on electrified reactors capable of replacing traditional thermal processes, increasingly powered by renewable energy.

By 2047, India will likely witness dual transitions: precision-driven biochemical manufacturing for specialty segments and fully electrified process pathways for large-volume commodity chemicals.

At DFPCL, we are actively evaluating both pathways. We are exploring enzyme-enabled process options for select value-added products while strengthening energy-efficiency programmes and expanding renewable power adoption both essential enablers for long-term electrification. This balanced approach ensures we remain at the forefront of India's transition toward green and future-ready manufacturing. 

PANORAMA

ENSURING ENERGY SECURITY IN THE OIL & GAS INDUSTRY



With a goal to improve domestic energy production and security, Equinor UK Ltd and Shell UK Limited have entered into a partnership with a key focus on extending the productive span of the region's oil and gas equipment, ensuring economic recovery in a maturing basin facing natural production declines. Considering the oil and gas analytics market, it was valued at USD 13.5 billion in 2020 and is expected to reach USD 50 billion by 2030, with an impressive compound annual growth rate of 15.3% during the forecast period. In the realm of oil and gas industry, energy security is a significant aspect of economic stability and national security. Due to fluctuating demand and changing energy transition policies, it is imperative to have a stable energy resources. Let us have a broader understanding of the strategies that can have a major impact to maintain energy security.

Strengthening Infrastructure Resilience

From the company's point of view, energy infrastructure plays an important role and have to be capable of ensuring uninterrupted operations. As infrastructure remains the

key in the oil and gas sector, companies must ensure that all infrastructure-related tasks are running in a healthy condition. However, any operation failures in storage facilities, pipelines and transportation networks can adversely affect energy security. Timely maintenance is essential; even integrating advanced monitoring systems can improve resilience. Besides, there is a massive rise in the utilization of technologies, and cyber threats may likely occur. Hence, the implementation of adequate security measures is critical for the protection of energy infrastructure.

For example, ExxonMobil, one of the largest chemical firms, has been bolstering its infrastructure by significantly changing its refineries and widening its LNG facilities to ensure a stable energy supply chain even during market changes.

Alex Whitworth, Vice President, Power & Renewables Research, Wood Mackenzie says to reuters "The emphasis has moved away from carbon emissions to energy security".

Leveraging Technological Innovations

As companies are involved in many critical business operations, there is a huge need to integrate cutting-edge

technologies that help them manage the production and distribution process. Companies can look for technologies such as artificial intelligence-driven data analysis, which can make them more efficient in discovery and extraction. For enhanced oil recovery, certain technologies like thermal recovery and CO2 injection help more output from current oil fields, lowering the requirement for drilling activities. Apart from this, digitization is a key aspect of operations; significant technologies such as blockchain and automation in supply chain management improve overall efficiency and security in the oil and gas sector.

For instance, Tesla, a US-based energy leader, has added value to energy security by developing battery storage solutions like the megapack, stabilizing energy grids, and more effectively incorporating green energy sources.

Moreover, firms can integrate energy sources like solar and wind, lowering dependence on fossil fuels and contributing to energy security

"Digital transformation is driving profound changes in the oil and gas sector, enabling companies to operate more efficiently, safely, and sustainably" - Rahul Tandon, Head- Industrial & Commercial Business, Bharat Petroleum Corporation



Diversification of Energy Supply Sources

Diversifying energy sources enables companies in the oil and gas sector to smoothen their overall business operation, and it is one of the effective strategies. In specific scenarios, organizations may comprehensively rely on a single supplier or region, which leads to supply instability, natural disasters and economic crises. At the same time, seeking diversification in the oil and gas sector can significantly impact organizations and governments that need to explore unconventional reserves. Also, to lower the risk related to supply disruptions, it is crucial to ensure that various transportation routes encompass LNG terminals and shipping lanes. Moreover, firms can integrate energy sources like solar and wind, lowering dependence on fossil fuels and contributing to energy security.

For instance, Shell, oil and gas giant firm has been branching out their energy supply by funding its renewable energy sources like wind and solar while widening its liquefied natural gas to make sure flexible and safe energy supply.

All in all, heaps of industries rely on oil and gas companies, and energy security has to be maintained at all times to avoid complications for dependable sectors. Security can never be compromised, and strict security measures are required to keep everything in control. The industry needs a synergy of diversified supply sources, efficient technologies, and the most modern technologies and policies. When the oil and gas sector continues to evolve, security measures have to be tightened to ensure all activities remain streamlined and secure the future of energy. The industry can smoothly meet global energy requirements and address current challenges through adequate funding and innovation. 

AFTERWORD

INTEGRATED FABRICATION WORKFLOWS FOR PRE-ENGINEERED STEEL SYSTEMS

● Sunil Kumar Agarwal, Director, Kamdhenu

Sunil Kumar Agarwal, Director at Kamdhenu Limited, in a conversation with Thirumathan, Assistant Editor at Industry Outlook, shares his expert insights on how India's construction sector is embracing pre-engineered steel systems. Integrated fabrication workflows are redefining project execution by unifying design, analysis, and production into a seamless digital process that enhances precision, reduces errors, and minimizes costs. With AI, IoT, and digital twins, these workflows are enabling smarter, faster, and more sustainable construction.

As pre-engineered steel systems gain momentum in India, how are integrated fabrication workflows enhancing speed, precision, and overall cost efficiency on projects?

Pre-engineered steel systems offer immense benefits such as enhanced quality of construction and significant reduction in construction timelines. The integrated fabrication workflow encompasses design and production into a single workflow, thereby streamlining the whole process. Such a system is ideal for the deployment of software tools and aids in analysis, planning and production stages to increase efficiency, reduce errors, and minimize costs compared to traditional construction. From 3D modelling to enhance structural integrity to precise fabrication and optimized workflow and material use, the integrated fabrication workflows deliver better buildings with significantly lower cost of construction and maintenance.

Today, steel structures are becoming increasingly complex. Given this, what specific obstacles are companies encountering when aligning design software with automated fabrication machinery for smoother workflow integration?

The increasing complexity in steel structures with high performance requirements does presents challenges in aligning design software with the fabrication machinery. The use of proprietary data formats by different software companies and machinery producers often hinders interoperability and compatibility. Fabrication plants also tend to add customization to

their machinery and software so as to cater to their specific requirements fragmenting the workflow. Even as software developers and machinery providers upgrade their products to the latest standards, the need for end users to incorporate specific design or quality cues from their real-world learnings will remain.

Amid rising modular construction demand, how are integrated fabrication workflows effectively reducing on-site assembly errors and minimizing rework in Indian projects?

Modular construction, as the outcome of an integrated fabrication workflow that seamlessly connects design, fabrication, and construction, significantly enhances on-site efficiency. By using precision-engineered components and optimized installation guides, it minimizes alignment issues and assembly inconsistencies. This coordinated approach not only reduces rework and material wastage but also ensures faster installation, improved quality control, and greater predictability in project timelines; key advantages in India's fast-evolving construction landscape.

As digital twin technology sees wider adoption in steel fabrication, how is it improving quality control and enabling real-time workflow monitoring?

Digital twin technology creates a virtual replica that is continuously updated with real-time data. This allows for greater oversight into the manufacturing process with real-time monitoring and end-to-end visibility for greater

coordination between the various teams involved in the process. With faster detection of issues, higher precision and the possibility of continuous process improvements, the digital twin technology is redefining workflow monitoring and quality control.

With sustainability becoming a priority, how are integrated steel fabrication workflows helping reduce material waste and lower energy consumption in India's pre-engineered sector?

The streamlining of designing, production and construction through the integrated steel fabrication workflow has resulted in better designs, greater quality controls, precision guided material use and minimized need for rework at the shop floor and construction site. The cumulative impact of all these is in better buildings, lower construction time and minimal material wastage for a more sustainable construction of buildings.

Looking ahead to AI and IoT adoption, how will these technologies transform the efficiency, accuracy, and automation of pre-engineered steel fabrication workflows?

The adoption of AI and IoT into the integrated fabrication workflow will enhance the efficiency of the workflow through greater controls and oversight over the end-to-end process in the workflow. AI and IoT will also allow for faster detection and quicker resolution of emerging constraints in the process, which will further enhance the speed, precision and overall cost efficiency of projects. 



Advanced Bio Solutions. Superior Results.

Innovative bio-inputs developed through research to support sustainable, profitable and faster than chemicals farming.

Since 2011, we offer advanced crop protection solutions with a strong focus on quality, innovation, and farmer support that help farmers protect their crops, improve yields, and farm with confidence.

Our Product Range:

- ◆ Organic & Bio Plant Growth Promoters.
- ◆ Bio & Eco-Friendly Insecticides.
- ◆ Selective & Non-Selective Herbicides.
- ◆ Broad-Spectrum Fungicides.

- 1 Purely organic. Scientifically proven. Farmer trusted.
- 2 Maximum profit. Perfect price.
- 3 Natural solutions healthier soil
- 4 Stronger crops and sustainable yields



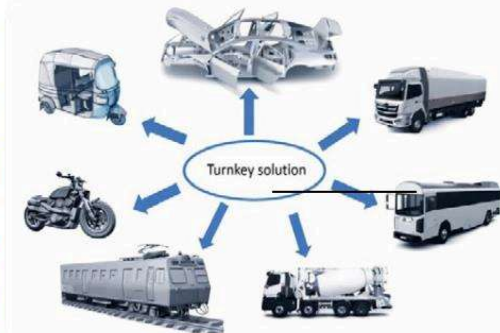
Follow at :



www.saicropscience.com

INNOVATIVE ENGINEERING SERVICES &

IES INNOVATIVE ENGG AUTOMATIONS PRIVATE LIMITED



"Solution Provider", from conceptualizing, designing, manufacturing, implementing and support

12+ Years in Business (20+ Years of Experienced team members)

Automotive Body Shop – BIW Turnkey Line Builder



Who We Are	Our Strengths	In-House Capability
➤ Automotive Body Shop Turnkey ➤ BIW Welding Line Builder ➤ Body Shop Hemming Systems & Checking Fixtures ➤ Assembly Shop Solutions – Conveyors, Engine & Battery Assembly Systems ➤ Industrial Automation Solutions ➤ Joining Automation (SPOT / MIG / NUT Welding) ➤ Process Automation & SPMs ➤ Vision Inspection Systems	➤ Customer-Focused Execution ➤ QDCSS-Driven (Quality, Delivery, Cost, Safety and Support) ➤ Flexibility & Adoptability ➤ Taking Challenges ➤ Never Give up ➤ Continuous Improvements	➤ Engineering Design ➤ Electrical , PLC and Robotics ➤ Manufacturing facility ➤ Quality & Testing team ➤ Integration & Tryout facility ➤ Project Management Model ➤ Smart ERP Systems ➤ Domestic & Global Project Expertise

Value We Deliver:



Quality



On-Time Delivery



Cost Efficiency



Safety



<https://innovativeengg.co.in/>



sales@innovativeengg.co.in / sivanesanp@innovativeengg.co.in



+91 9150033951 / +91 94431 75166