

Praj Demonstrates Integrated Ethanol-to-Jet Pathway for Sustainable Aviation Fuel with Axens Jetanol™ technology

Announcement made at Wings India 2026, underscoring global readiness for SAF scale-up

Pune, India | 29 Jan, 2026 — Praj Industries, a global leader in bioenergy, technology and sustainable solutions, has successfully demonstrated its Ethanol-to-Jet (EtJ) process utilizing Axens Jetanol™ technology at its fully Integrated Sustainable Aviation Fuel (SAF) demonstration plant at Praj Matrix, its R&D centre—marking a significant milestone in the global transition to low-carbon aviation fuels.

The announcement was made by Mr. Maneesh Kumar, Joint Director General, Directorate General of Civil Aviation at **Wings India 2026**, India's premier aviation industry platform in presence of Mr. Faiz Ahmed Kidwai, Director General, Directorate General of Civil Aviation as part of Roundtable on SAF chaired by Mr. Samir Kumar Sinha, Secretary, Ministry of Civil Aviation, in presence of key industry stakeholders of the SAF ecosystem. From Praj Mr. Atul Mulay, President Bioenergy Business and from Axens, Mr. Siddharth Saha, MD Axens India joined them on the stage.

The Integrated SAF demo plant, earlier inaugurated by the Hon'ble Union Minister for Petroleum and Natural Gas, Shri. Hardeep Singh Puri, has now proven its technological readiness for both AtJ pathways. After successful demonstration on bio-isobutanol as the feedstock, the plant has now validated bio-ethanol as a feedstock under the EtJ pathway. With this achievement, Praj has further strengthened the versatility and robustness of its feedstock to SAF technology portfolio.

Axens, a global provider of process technologies, catalysts, and services for cleaner fuels, has been a strategic partner to Praj in advancing SAF through the AtJ route. Axens has licensed Praj its Jetanol™ Alcohol-to-Jet technology, including dehydration, oligomerization, and hydrogenation steps, along with catalysts, and technical support.

This breakthrough achievement positions Praj as the first company globally to offer a fully integrated, end-to-end technology and engineering solution for the Alcohol-to-Jet (AtJ) pathway, encompassing both isobutanol and ethanol. Validated at demo-plant scale and now ready for commercial deployment, the offering seamlessly integrates Axens' proven technology with Praj's world-class technology, engineering and project execution capabilities.

This development enables the conversion of ethanol into drop-in sustainable aviation fuel (SAF) (Compliant to ASTM D7566) that is fully compatible with existing aircraft engines and aviation infrastructure, marking a significant step toward accelerating the global transition to low-carbon aviation.

Praj has previously demonstrated real-world SAF deployment in India, supporting the country's first commercial passenger flight powered by SAF-blended aviation turbine fuel, when an AirAsia India flight operated from Pune to New Delhi using indigenously produced SAF supplied by Praj Industries in collaboration with Indian Oil.

Commenting on this development, Dr. Pramod Chaudhari, Founder Chairman of Praj Industries, said: *"We are committed to advancing science-led, scalable solutions that support the decarbonisation of the hard-to-abate aviation sector, energy security, and global climate goals. With our indigenously developed integrated solutions now proven across both Alcohol-to-Jet and Ethanol-to-Jet pathways, Praj is well positioned to support Oil Marketing Companies and other stakeholders such as ethanol producers (both, sugarcane and grain based) through flexible deployment models, including bolt-on solutions to existing assets as well as greenfield projects, enabling faster and scalable production of Sustainable Aviation Fuel in line with emerging mandates."*

Quentin Debuisschert, CEO and Chairman of the Board of Axens, added:

"The successful demonstration of the Ethanol-to-Jet pathway via Axens Jetanol™ technology represents an important milestone for the SAF value chain. By combining Praj's engineering capabilities with Axens' proven, market-ready technologies, we are jointly accelerating the deployment of reliable and scalable ETJ solutions. Our long-standing experience in process design, catalyst development and technology licensing enables us to support producers with derisked pathways as they move towards higher SAF output and increasingly demanding regulatory frameworks."

Sustainable Aviation Fuel is recognised worldwide as a **key solution to reduce aviation's lifecycle carbon emissions**, with aircraft manufacturers and airlines gearing up for broader uptake.

According to the **International Air Transport Association (IATA)**'s Net Zero Roadmaps, global SAF demand will be upward of 500 million tonne (600 billion liters). As per IATA's *Global Feedstock Assessment for SAF Production Outlook to 2050* report, technological readiness and rollout as well as capacity creation will be key to success as there are enough sustainable feedstocks available around the world. SAF is central to civil aviation's long-term decarbonisation strategy and will be critical to meeting global emissions reduction goals, notably under mechanisms such as CORSIA.

The importance of coordinated industry action has been underscored by the Memorandum of Understanding signed between **Praj Industries, IATA and Indian Sugar & Bio-Energy Manufacturers Association (ISMA)**, to drive the certification and adoption of SAF in the country, with a focus on conducting a comprehensive Life Cycle Assessment (LCA) of SAF derived from Indian sugarcane feedstock via the Ethanol-to-Jet (ETJ) pathway.

Commenting on the broader industry context, Marie Owens Thomsen, **IATA**'s Senior Vice President Sustainability and Chief Economist said, *"Sustainable Aviation Fuel is essential to achieving aviation's net-zero ambitions and will require rapid scale-up supported by policy certainty, feedstock availability, and rapid technology development and use. Collaborative initiatives across the value chain, such as those bringing together airlines, fuel producers and*

technology providers, are critical to translating SAF ambitions into commercially viable supply."

Commenting on India's ethanol and SAF opportunity, Deepak Ballani, Director General, Indian Sugar & Bio-Energy Manufacturers Association (**ISMA**), said: *"India's potential for SAF production is both significant and strategic. Assessments referenced by the **International Civil Aviation Organization (ICAO)** indicate that the AtJ pathway presents the largest SAF opportunity for India and represents the next natural progression of the Indian sugar industry following the successful Ethanol Blending Programme. Building on this foundation, the recent ISMA-Deloitte '**India's SAF Roadmap**' highlights the potential of the sugar sector to produce 3.5–4 billion litres of SAF annually from 1G bioethanol alone, within an overall national SAF production potential of 16–19 billion litres by 2040. This positions India to not only meet its domestic SAF blending requirements, but also to emerge as a competitive global SAF export hub. Leveraging India's strong ethanol infrastructure through the AtJ pathway will be critical to unlocking this opportunity, and long-term policy certainty will help industry scale investment and production."*

"India has emerged as the third-largest domestic aviation market in the world and is witnessing historic advancements in connectivity, innovation, and sustainability, reflecting the sector's rapid growth and global relevance," Prime Minister Narendra Modi said in a recent address at the **IATA Annual General Meeting**, underscoring the government's push for reforms, green technologies, and a supportive policy ecosystem to propel the aviation industry forward. With proven technology, policy momentum, and industry collaboration coming together, Praj's Ethanol-to-Jet milestone reinforces the pathway toward scalable SAF adoption and cleaner skies for global aviation.

About Praj Industries Limited:

Praj, India's most accomplished industrial biotech company, is driven by innovation, integration, and delivery capabilities. Over the past four decades, Praj has focused on environment, energy, and agri-process industry, with more than 1000 customer references spanning more than 100 countries across six continents. Bio-Mobility® and Bio-Prism® are the mainstays of Praj's contribution to the global Bioeconomy. The Bio-Mobility® platform offers technology solutions globally to produce the renewable transportation fuel, thus ensuring sustainable decarbonization through a circular bioeconomy. The Company's Bio-Prism® portfolio comprises technologies to produce renewable chemicals and materials, promises sustainability while reimagining nature. Praj Matrix, the state-of-the-art R&D facility, forms the backbone for the company's endeavours towards a clean energy-based Bioeconomy. Praj's diverse portfolio comprises Bio-energy solutions, Critical process equipment & skids, Breweries, Zero liquid discharge systems and High purity water systems. Led by accomplished and caring leadership, Praj is a socially responsible corporate citizen. Praj is listed on the Bombay and National Stock Exchanges of India. To find out more, visit www.praj.net and follow us on LinkedIn. For media inquiries, please contact: priyankawatane@praj.net

About Axens

The Axens Group (www.axens.net) offers a complete range of solutions for the conversion of oil and biomass into cleaner fuels, the production and purification of major petrochemical intermediates, the chemical recycling of plastics, natural gas treatment and conversion options, water treatment and carbon capture. Their offer includes technologies, equipment, furnaces, modular units, catalysts, adsorbents and related services. Axens is ideally positioned to cover the entire value chain, from feasibility studies to start-up and monitoring of units throughout their lifecycle. This unique position guarantees optimum performance and a reduced environmental footprint. Axens' international offering is based on highly qualified human resources, modern production facilities and an extensive global network for industrial, technical support and sales services.

Axens Jetanol™ is the World's Preferred Ethanol-to-Jet Technology, combining proven, trusted process technology with robust engineering, technical services, and catalyst production, all backed by decades of successful technology deployment across the refining, petrochemical, and renewable industries. Jetanol™ provides its partners like Praj with the highest carbon retention and SAF yield on the ETJ market today - all backed by the reputation of Axens and the associated performance guarantees. The result: Jetanol™ has been competitively selected by most of the world's major ETJ projects.

Axens is an IFP Energies Nouvelles Group company. To find out more, visit our [website](#), and follow us on LinkedIn. Contact press: press@axens.net



In the photos from Left to Right –

Mr. Siddharth Saha, MD Axens India,
 Mr. Faiz Ahmed Kidwai, Director General, DGCA,
 Mr. Atul Mulay, President, Bioenergy, Praj,
 Mr. Maneesh Kumar, Joint Director General, DGCA,
 Mr. Gaurav Goyal, Joint Vice President, SAF, Praj,
 Ms. Ekta Agrawal, Asst. Director, Aircraft Engineering Directorate, DGCA, MoCA, GoI