



Axens and Praj Industries Limited sign MoU for Sustainable Aviation Fuel (SAF) projects in India

Rueil-Malmaison and Pune, 3rd February 2023

Axens and Praj have signed a Memorandum of Understanding to work jointly on projects in India for production of Sustainable Aviation Fuel (SAF) from low carbon alcohols through Alcohol-to-Jet (ATJ) pathway.

India is among top five aviation markets globally, and robust growth is expected over the next two decades. In its pursuit of Net Zero target, Government of India is mulling over introducing SAF mandates to decarbonize the aviation sector.

The ASTM approved ATJ pathway (ATJ-SPK) involving conversion of low-carbon ethanol or low-carbon isobutanol into SAF will play a major role in meeting India's requirement of SAF production.

Praj brings to the table proven expertise in modularized solutions, integration services for complete project and technology for production of low carbon isobutanol and ethanol from conventional bio-sourced feedstock.

Axens will provide its JetanolTM Alcohol-To-Jet technologies (dehydration, olefin oligomerization and hydrogenation steps), catalyst solution, equipment and services (training, technical assistance) for conversion of alcohols to SAF.

Axens and Praj will continue to individually offer technology for production of low carbon ethanol from cellulosic biomass in India and abroad.

Mr. Shishir Joshipura, CEO & MD of Praj said: "As a sustainable climate action company we are involved in accelerating energy transition through bioeconomy. Partnership with Axens is yet another step in this regard. With complementary strengths across the value chain of SAF production, this is a definitive step towards cleaner skies in India."

Xavier Decoodt, Vice President – Gasoline and ATJ product line at Axens said: "As a technology provider, Axens has been deeply involved in India's journey toward cleaner fuels for more than three decades and we are very excited to continue that work on SAF projects with Praj as new partner."





About Axens

Axens group (www.axens.net) provides a complete range of solutions for the conversion of oil and biomass to cleaner fuels, the production and purification of major petrochemical intermediates, the chemical recycling of plastics, all natural gas treatment and conversion options along with water treatment and carbon capture. The offer includes technologies, equipment, furnaces, modular units, catalysts, adsorbents and related services. Axens is ideally positioned to cover the entire value chain, from feasibility study to unit start-up and follow-up throughout the entire unit life cycle. This unique position ensures the highest level of performance with a reduced environmental footprint. Axens global offer is based on highly trained human resources, modern production facilities and an extended global network for industrial, technical supports & commercial services. Axens is an IFP Group company. Press contact: press@axens.net

About Axens SAF technologies

Among the seven pathways currently certified under the ASTM D-7566 specification for synthetic kerosene to be blended into Jet A1 pool, Axens provides mature technologies for the three main pathway:

- Vegan® is a flexible solution to produce SAF but also renewable diesel through the hydrotreatment of a wide range of lipids (HVO). SAF can also be produced by co-processing those lipids into existing refining as-sets.
- <u>BioTfueL®</u> (Gasification + Fischer-Tropsch) technology unlocks SAF and renewable fuels production from lignocellulosic biomass via a thermochemical pathway.
- Converting any type of low-carbon ethanol into SAF, the Alcohol-to-Jet <u>Jetanol™</u> technology is a fully-proven, end-to-end technology.

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 the environment, energy, and agri-process industry, with 1000 ++ customer references spanning 100+ countries across all five 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 an accomplished and caring leadership, Praj is a socially responsible corporate citizen. Praj is listed on the Bombay and National Stock Exchanges of India.

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