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News

Innovation and Industry

Fuels

Axens, SMS group subsidiary Paul Wurth and IFP Energies nouvelles signed a co-development agreement for the optimization of the Reverse Water Gas Shift technology (RWGS) and its integration into e-fuel projects. The RWGS technology is indeed an essential part of the suite of technologies converting CO_2 to renewable/low carbon fuels and chemicals intermediates.

The parties are cooperating based on their specific backgrounds, know-how and expertise:

- Axens is the licensor of the Gasel® technology (Jointly developed with IFPEN and Eni), an efficient FT process which converts syngas into liquid hydrocarbons, such as Sustainable Aviation Fuels (SAF). Axens also brings to the collaboration its recognized expertise of scaling up technologies from pilot to commercial scale integration and optimization of technologies suites.

- Paul Wurth, along with its mother company SMS group, is a leading international technology partner, plant builder and equipment developer, investing in projects for the conversion of CO_2 and H_2 to e-fuel. Its ambition is to bring its high temperature experience on equipment, internals, material selection etc. to the RWGS technology development and its application to e-fuel projects.

- IFPEN is a major research and innovation player in the fields of energy, transport and environment. IFPEN is well-known in the field of catalytic process development and has studied high-temperature processes for syngas production. This know-how led to the development of a proprietary RWGS technology and will be used to optimize the reaction conditions and performances and to design the RWGS reactor technology.

The parties are collaborating to define synergies to speed-up the improved RWGS technology industrialization and maturity level, to optimize its operating cost and output. This is key to bring to the market a commercial e-fuel scheme to efficiently produce synthetic fuel to support the global demand of SAF worldwide.

> Jacinthe Frecon, Process and Equipment Innovation Director at Axens said: “Adding RWGS to Axens portfolio of technologies will enable us to propose an integrated e-fuel offer from CO_2 Capture, via our DMX™ technology, to the production of Sustainable Aviation Fuel (SAF), and we are looking forward to industrial applications in the coming months. We are excited to embark on this journey towards decarbonization with Paul Wurth and IFPEN.”

> Ludivine Piezanowski, Lead Engineer Business Development at Paul Wurth (SMS group), said: “With this collaboration, two different industries are joining forces. We are bringing together our complementary know-how to develop and industrialize a key unit (RWGS) to generate syngas for the production of e-fuels. We are very excited to work with IFPEN and Axens, two experienced and renowned companies in their industry, striving towards more sustainability. Together, I am convinced that we can contribute to setting up an innovative pathway for the e-fuel market.”

> António Pires da Cruz, E-Fuels Program Manager at IFPEN, said: “At IFPEN, we are fully committed to attaining the very ambitious targets necessary to decarbonize transport. Innovation is our backbone. For SAF production, our research drove us to proposing an integrated offer, coupling mature technologies such as Axens CO_2 capture DMX™ and fuel synthesis Fischer-Tropsch Gasel® with cutting edge RWGS. This will now benefit from co-development with Paul Wurth’s equipment to upscale the full process to an industrial level”.

About Paul Wurth (SMS group)

SMS group is renowned worldwide for its future-oriented technologies and outstanding service for the metals industry. The company applies its 150 years of experience and its digital know-how to provide the industry continuously with innovative products and processes – even beyond its core business. Paving the way for a carbon-neutral and sustainable metals industry is the company's stated goal. As a member of SMS group, Paul Wurth is an established technology provider and plant builder for the global ironmaking industry. Presently, the company is focusing on the development of innovative solutions to lead the green transformation of the (steel) industry, as well as actively shaping the production of e-fuels in order to enable the aviation industry reach its net-zero emission targets.

Learn more on our website and follow us on LinkedIn.
Contact press: presse@sms-group.com

About IFPEN

IFP Energies nouvelles (IFPEN) is a major research and training player in the fields of energy, transport and the environment. From scientific concepts within the framework of fundamental research, through to technological solutions in the context of applied research, innovation is central to its activities, hinged around four strategic directions: climate, environment and circular economy – renewable energies – sustainable mobility – responsible oil and gas.

Learn more on our website and follow us on Twitter and LinkedIn.
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About Axens

Axens group (www.axens.net) pprovides 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 and all natural gas treatment and conversion options. 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.

Learn more on our website, and follow us on Twitter and LinkedIn.
Contact press: press@axens.net

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