

Climate pioneers cooperate to produce solar fuels

Lugano, Switzerland, and Karlsruhe, Germany, March 29, 2022

Climate tech companies Synhelion and INERATEC have joined forces to decarbonize the transportation sector and help it achieve its ambitious net-zero target. By combining their complementing technologies, the climate pioneers can scale their respective clean technologies, paving the way for solar fuels to replace fossil fuels.

While electrification is a viable option for many sectors, fuel-intensive industries such as aviation will continue to require liquid fuels with a high energy density. This requirement means that a sustainable substitute for fossil-based kerosene is urgently needed to decarbonize aviation. Additionally, recent commitments from major airlines such as SWISS to use solar fuels underpin the growing demand for sustainable aviation fuel (SAF). To meet market needs, SAF producers are scaling their technologies. Synhelion and INERATEC's collaboration will accelerate the roll-out of carbon-neutral fuels.

A perfect technological match

Synhelion has developed a technology to produce next-generation synthetic fuels. At the core of the solution is a proprietary process that converts solar heat into syngas. This syngas is then fed into INERATEC's modular synthesis plant and converted into liquid fuels via the Fischer-Tropsch process. By combining these cutting-edge technologies, Synhelion and INERATEC can produce clean solar fuels that offer an economically viable, efficient, and scalable substitute for fossil fuels. These are fully compatible with existing global fuel infrastructure and show great disruptive potential to accelerate the energy transition.

Solar fuel for sustainable aviation

Synhelion is currently implementing an industrial-scale plant to produce sustainable kerosene from solar energy in Jülich in North Rhine-Westphalia, Germany, and has chosen INERATEC as partner for the fuel production from the solar syngas. The modularity and cost-efficiency of both technologies are key drivers to demonstrate the profitable and scalable production of solar fuels. After that, both partners plan to rapidly scale their fuel production with support from industry partners such as SWISS International Air Lines and Lufthansa Group.

Climate tech innovation made in Europe

Philipp Good, Chief Technology Officer at Synhelion, commented: "We're excited to collaborate with INERATEC, a fellow European climate tech pioneer. Our technology is designed to produce syngas using the heat of the sun. INERATEC's modular Fischer-Tropsch synthesis reactors are the perfect fit for us to produce solar fuels at scale and enter the synthetic fuel market."

Tim Böltken, Managing Director and Founder of INERATEC, added: "Joining forces with Synhelion shows what can be achieved when partners who share the same vision collaborate. Together, we're producing sustainable fuel to make transportation more climate friendly. We're looking forward to demonstrating the production of sustainable fuels at scale in Jülich."

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About INERATEC

INERATEC is a pioneer in the field of Power-to-Liquid applications that provides modular chemical plants for Power-to-X and Gas-to-Liquid applications and supplies sustainable fuels and products: hydrogen from renewable electricity and greenhouse gases like CO₂ are converted into e-kerosene, CO₂-neutral gasoline, clean Diesel or synthetic waxes, methanol or SNG. The company, founded in 2016, has already implemented industrial-scale power-to-liquid plants at German sites to boost the availability of sustainable fuels and chemicals in various transport sectors such as aviation. Further information can be found via www.ineratec.com

About Synhelion

Synhelion is a global pioneer in the field of sustainable solar fuels. The clean energy company evolved from the Swiss Federal Institute of Technology (ETH Zurich) in 2016 to decarbonize transportation. Solar fuels can replace all types of fossil fuels as they are economically viable and fully compatible with existing global infrastructure. Synhelion’s unique technology converts concentrated solar radiation into the hottest existing process heat on the market, making it possible to drive an unprecedented number of industrial processes such as fuel production and cement manufacturing with solar heat. The company already works with international partners such as Lufthansa Group, Wood, Eni, SMS group, CEMEX, and Zurich Airport. For more information, please visit: www.synhelion.com

Press contacts

<p>Isabel Fisch PR & Communication Manager</p> <p>Mobile: +49 162 185 2663 e-mail: isabel.fisch@ineratec.de</p> <p>INERATEC GmbH Siemensallee 84 76187 Karlsruhe Germany</p>	<p>Carmen Murer Head Corporate Communication</p> <p>Mobile: +41 79 619 52 11 E-mail: media@synhelion.com</p> <p>Synhelion SA Via Cantonale 19 6900 Lugano Switzerland</p>
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