

Media release

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Sustainability

SWISS to be the world's first airline to use Synhelion solar fuel
SWISS and the Lufthansa Group have concluded a strategic collaboration with the Synhelion company to bring its solar aviation fuel to market. This will make SWISS the first airline in the world to use 'sun-to-liquid' fuel. The process devised by Synhelion uses concentrated sunlight to produce carbon-neutral kerosene. With this collaboration, SWISS and Synhelion are playing a pioneering role in the production and the adoption of sustainable aviation fuels.

Swiss International Air Lines (SWISS) and the Lufthansa Group have concluded a strategic collaboration with ETH Zurich spinoff Synhelion to bring solar aviation fuel to market. This will make SWISS the first airline in the world to use solar kerosene. "Our team-up with Synhelion is founded on our shared vision to make carbon-neutral flying in regular flight operations possible through the use of solar fuel," explains SWISS Chief Executive Officer Dieter Vranckx. "We are proud that SWISS will be the first airline in the world to fly with solar kerosene. In partnering with Synhelion, we are supporting Swiss innovation and are actively pursuing and promoting the development, the market introduction and the scaling-up of this highly promising technology for producing sustainable fuels."

"We believe in a globalized world connected by climate-friendly mobility," adds Dr. Philipp Furler, Synhelion's co-founder and CEO. "Our next-generation carbon-neutral solar kerosene is an economically and ecologically viable substitute for fossil fuels. The commitment of SWISS and the Lufthansa Group underlines the aviation sector's keen interest in our solar fuel. And we are looking forward already to the day the first SWISS aircraft takes off with our solar kerosene."

Sunlight – the way to carbon-neutral flying

Synhelion has developed a key technology for manufacturing sustainable aviation fuel (SAF) from renewable energy sources. The unique procedure uses concentrated solar heat to manufacture syngas which can then be synthesized into kerosene using standard industrial processes. This sun-to-liquid fuel closes the fuel carbon cycle: when combusted, it will only produce as much CO₂ as went into its manufacture. The new fuel thus makes a major contribution to effectively decarbonizing air transport.

Synhelion will build the world's first-ever facility for the industrial production of solar fuel in Jülich (Germany) this year. SWISS is set to become the first customer for the solar kerosene in 2023.

Under the collaboration now concluded, SWISS and the Lufthansa Group will support the development of Synhelion's planned commercial fuel production facility in Spain, too.

Swiss pioneer Synhelion, SWISS, Edelweiss and the Lufthansa Group have been working together since 2020 to help reduce the carbon dioxide emissions of Swiss aviation through the use of solar fuels.

SWISS plans pioneering role in the use of sustainable fuels from renewable sources

The Lufthansa Group and SWISS have been pursuing and promoting comprehensive measures to minimize their carbon dioxide emissions for several years now, and work closely with their partners to steadily further reduce the environmental impact of their business and operational activities. SWISS will be substantially increasing its use of sustainable aviation fuels in the next few years to help achieve its climate objectives. In view of the limited availability of biofuels, however, alternatives will be required. "This is why we are actively supporting the development of solar fuels," stresses SWISS CEO Vranckx. "We want to be a pioneer in their use. So our involvement with Synhelion is a key element in our long-term sustainability strategy."

[Video on strategic collaboration between SWISS, Lufthansa Group and Synhelion.](#)

Swiss International Air Lines (SWISS) is Switzerland's largest airline. Operating one of Europe's youngest and most fuel-efficient aircraft fleets, SWISS provides direct flights from Zurich and Geneva that keep Switzerland connected with Europe and the world. Its Swiss WorldCargo division further offers an extensive range of airport-to-airport airfreight services for high-value and care-intensive consignments.

As The Airline of Switzerland, SWISS embodies its home country's traditional values, and is committed to delivering the highest product and service quality. SWISS is part of the Lufthansa Group, and is also a member of Star Alliance, the world's biggest airline network.

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 heat 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 the Lufthansa Group, Wood, Eni, the SMS Group, CEMEX and Zurich Airport. For more information, please visit www.synhelion.com.

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