

Airbus VP of Research & Technology Talks Sustainable Aviation Fuel and Hydrogen



The group at Airbus is working towards 100% SAF to fuel all operations by 2030, and having an airliner utilizing hydrogen as an energy source in service by 2035 (Photo: Airbus)

By the end of 2021, for all consumers getting airplane from Airbus's last assembly line in Mobile, Alabama, sustainable airtravel fuel (SAF) was included in the shipment procedure. "In the future, we're looking at going beyond simply Mobile to some of our other production centers in North America and integrating SAF into their operations," Amanda Simpson, Airbus VP of Research and Technology, informed *Avionics International*. They anticipate to start utilizing increasing amounts of SAF in all operations, consisting of test flights and approval flights, over the next couple of years.

The SAF that Airbus utilizes for airplane shipment is produced by World Energy, which owns and runs California's just sustainable airtravel fuel production center and materials SAF to airports throughout the U.S. "The SAF is mainly based on making use of waste items," described Simpson. "In basic, these items might be leftovers from lumber and tree cutting operations; it might be farming by-products, community strong waste, or cooking oil." In all of these cases, she stated, the carbon is pulled from the environment, rather than from the ground through petroleum.



World Energy materials SAF for Airbus to fuel airplane shipment from their center in Mobile, Alabama. (Photo: Airbus)

All of Airbus's airplane are authorized to run on mixes of SAF up to 50%. According to Simpson, the group is working on increasing that to 100% SAF in all of their airplane. "Our objective is to have that finished by the end of this years. The concerns there are guaranteeing compatibility with the engines themselves and all of the fuel systems, as well as the fueling systems at the airport. [We want to] make sure the SAF doesn't have any negative impacts, that it's totally safe to utilize, and doesn't effect the dependability and effectiveness of the engines or the operation of the airplane. We have actually done presentations, with an A350 and an A319, to program that we can fly airplane on 100% SAF."

Apart from advancing the usage of SAF, Airbus is working on a job called ZEROe that includes 3 idea airplane setups utilizing hydrogen as an energy source (rather than burning kerosene or SAF). When utilizing hydrogen as an energy source, "the just thing it releases out of the tailpipe is water," described Simpson. "Our objective is to have an airliner that utilizes hydrogen as an energy source in service by 2035."



The Airbus ZEROe principles are all hybrid-hydrogen airplane and consist of the following setups: turbofan, turboprop, and blended-wing body (pictured above). (Airbus)

Right now, the ZEROe task is in the innovation maturation stage. In addition to utilizing hydrogen as an energy source, Airbus is presently working on leveraging advances in composites, production, aerodynamics, and other innovations in order to relocation forward with a detailed style of the ZEROe generation of airplane by 2025.

All 3 of the idea airplane have a hybrid-electric propulsion system. They are powered by hydrogen combustion utilizing customized gas turbine engines, where liquid hydrogen is the fuel source. An benefit of hydrogen combustion is that no carbon dioxide, carbon monoxide, sulfurous oxide, nitrous oxide, or other unburned hydrocarbons are launched. "You can burn hydrogen in a jet engine, in a turbine engine, extremely likewise to the method you burn kerosene today. The engines would appearance the exactsame. The distinction is that you have to change and enhance the engine to burn a various fuel," Simpson stated.



The veryfirst comprehensive styles of the ZEROe airplane are anticipated to be finished by2025 (Airbus)

Along with hydrogen combustion, the ZEROe principles integrate hydrogen fuel cells to power an electrical motor in an airplane, with water as a by-product. The hydrogen fuel cells produce electrical power to enhance the gas turbine. “All of these innovations are complementary, and the advantages are additive,” according to the business’s site.

Source: [Airbus VP of Research & Technology Talks Sustainable Aviation Fuel and Hydrogen.](#)