



SAFRAN TO LEAD OPEN FAN DEMONSTRATION PROGRAM WITH EUROPEAN PARTNERS UNDER CLEAN AVIATION OFELIA PROJECT

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Safran Aircraft Engines is coordinating the demonstration of new Open Fan engine technologies within the frame of the Clean Aviation Joint Undertaking project OFELIA, which stands for Open Fan for Environmental Low Impact of Aviation. French engine manufacturer will be working with 26 industry European key partners, including Airbus, Avio Aero, GKN Aerospace, as well as research lab such as ONERA and academics from several countries across Europe. The OFELIA consortium is set to receive 100M€ in European funding from Clean Aviation.

OFELIA's objective is to demonstrate the benefits of an open fan architecture in terms of efficiency to address the needs of future generation of Short & Medium Range (SMR) Aircraft around 2035, on the path towards industry target to achieve net-zero carbon emissions by 2050. The Open Fan aims to save 20% of fuel consumption and CO2 emissions compared to today's narrow body engines. Under Clean Aviation's OFELIA initiative, Safran Aircraft Engines and its partners will

mature a set of technologies to TRL 5 for low-pressure systems, high-pressure core and advanced systems including hybridization that will pave the way to ground and flight test demonstrations on an Airbus A380 powered with an Open Fan by the middle of this decade. The consortium also targets to ensure the full compatibility of this disruptive architecture with Sustainable Aviation Fuels and hydrogen.

Michel Brioude, Executive Vice President, Engineering and R&T, Safran Aircraft Engines, commented: “As a world-leading military and commercial engine manufacturer, our responsibility is to develop key technologies that will lead to a more sustainable aviation. The Open Fan architecture is the major innovation of our CFM RISE technology demonstration program with GE Aerospace and stands as a key driver to improve next generation engine’s efficiency. We are looking forward to partnering with European industry leaders to shape the future of a clean aviation.”

The OFELIA roadmap will encompass more than 20 tests at partners’ facilities. Safran Aircraft Engines, Avio Aero and GKN Aerospace will work together to design and manufacture components for the Open Fan engine Demonstrator. In the meantime, thanks to this unique collaboration between the program partners with labs and academics, OFELIA will address specific topics of the technology maturation plan for the Open Fan, such as whirl flutter, unducted FAN, propeller and vanes, high speed booster, high speed low pressure turbine aerodynamics, high power compact reduction gearbox, light weight engine components, combustor emissions, high pressure compressor aerodynamics, engine hybridization. In order to be ready for the second phase of Clean Aviation focused on flight tests, Airbus will prepare the preliminary dossier for the Aircraft Flying Test Demonstrator.

“The OFELIA project is part of Clean Aviation’s 20 daring projects that are researching innovative solutions to power the next generation of sustainable aircraft. Together with the European Union, European aviation has the power to lead the way towards a climate-neutral aviation system and set new global standards for safe, reliable, affordable and clean air transport”, said Axel Krein Executive Director of Clean Aviation.

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