



# FIRST RUN OF TECH TP ACHIEVE HYBRID ELECTRIC TURBOPROP DEMONSTRATOR

News / Manufacturer



**Safran Helicopter Engines has successfully completed ground tests of a "more-electric" variant of its Tech TP turboprop engine at its Tarnos facility. The Ardiden 3-based technological demonstrator incorporates technologies from Clean Sky1 ACHIEVE project, resulting in more efficient and more sustainable operating modes. ACHIEVE (Advanced mechatronics devices for a novel turboprop electric starter-generator and health monitoring system) is a Clean Sky project coordinated by the UK University of Nottingham and supported by NEMA Ltd and Power System Technology.**

**Within this project, an innovative and more powerful electrical motor-generator has been developed and integrated in the Tech TP propeller and accessory gearbox. This device comprises an electrical machine, an electronic power converter and associate controllers.**

It allows to drive the propeller electrically, enabling new operating modes such as taxiing without using power directly from the main turbine engines or in-flight electric assistance. This saves fuel and reduces noise and emissions, resulting in more sustainable operations.

Didier Nicoud, Safran Helicopter Engines EVP Engineering commented: "Leveraging hybrid electric technologies is an important pillar in our strategy to reduce fuel consumption and carbon emissions. ACHIEVE Tech TP also paves the way for a new Clean Aviation demonstrator managed by the HE-ART (Hybrid-Electric propulsion system for regional AiRcraft) consortium. By 2025 HE-ART, bringing together 38 partners (with Safran Helicopter Engines as technical coordinator), plans to ground test a hybrid electric propulsion engine intended for regional turboprop aircraft."



Tech TP is a technology demonstrator developed as part of the European Clean Sky 2 research program. It features 18% lower fuel consumption and CO2 emissions compared to similar engines currently in service, as evaluated by Piaggio Aerospace on a virtual 19-seater commuter installation. It is optimized for operations at medium and high altitudes (45,000 feet) and will be particularly easy to operate, thanks to an innovative throttle lever interfaced with a Full-Authority Digital Engine and Propeller Control (FADEPC) computer. More than 20 partners from eight European countries are contributed to this project.



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