THE FUTURE OF SUSTAINABLE AVIATION - VOLTAERO PARIS AIR SHOW WORLD DEBUT OF CASSIO 330 ELECTRIC-HYBRID AIRCRAFT

News / Manufacturer

Today, VoltAero unveiled Cassio 330 electric-hybrid aircraft, introducing the first member in an airplane family that brings together a clean-sheet airframe design with a proprietary hybrid propulsion system. The no. 1 Cassio 330 prototype is targeted to perform its maiden flight in late 2023. This aircraft will be used to validate the overall airframe configuration and aerodynamics of VoltAero's all-new design for Cassio, and will be powered by a four-cylinder Kawasaki Motors thermal engine derived from the Japanese company's proven motorcycle engine products.

It will be followed by the no. 2 Cassio 330's maiden flight in the second quarter of 2024. This aircraft will be used for the airworthiness certification program, and is to be equipped with VoltAero's full-up hybrid propulsion unit – composed of the four-cylinder Kawasaki Motors thermal engine (with a peak power rating of 165 kW) and a Safran ENGINeUSTM smart electric motor (with a peak power rating of 180 kW).

The no. 2 Cassio 330 prototype also will have the full-definition avionics suite from Avidyne, integrating a glass cockpit with new-generation Quantum 14-inch displays for single pilot operation, and which is specifically designed for the connected aircraft environment. Based on its

agreement with VoltAero, the U.S.-based Avidyne will perform exclusive development in tailoring the avionics for the power management of Cassio's hybrid propulsion unit. At the Paris Air Show, VoltAero's exhibit stand includes the Avidyne cockpit panel configuration, highlighting its dual PFD/MFD (Primary Flight Display/Multifunction Display) layout with 4K resolution.

Jean Botti, VoltAero's CEO and Chief Technical Officer, commented: "Today marks a true milestone for electric aviation, as VoltAero delivers on its promise to take an all-new approach for quiet, efficient and eco-friendly transportation that is based on a hybrid design combining thermal and electric propulsion for maximum flight safety. I want to thank my VoltAero team for its dedication and tireless work in reaching this historic moment, as well as express my appreciation to our suppliers and partners for their commitment to Cassio."

VoltAero has selected AKIRA Technologies for the integration and validation of Cassio's hybrid propulsion unit. This French company – which is specialized in the design and production of energy conversion systems and test benches – has been given the responsibility by VoltAero for design and development of the Cassio hybrid propulsion unit's gearbox, along with the unit's mechanical integration and ground testing, as well as test/adaptation of the Kawasaki thermal engine and Safran electric motor.

The Cassio 330 will have a four/five-seat interior configuration, followed by the six-seat Cassio 480 with a combined electric-hybrid propulsion power of 480 kilowatts, and the Cassio 600 – which is to be sized at a 10/12-seat capacity with electric-hybrid propulsion power of 600 kilowatts. The Cassio 480 will utilize Kawasaki Motors' six-cylinder thermal engine.

Cassio will fly with sustainable aviation fuel and hydrogen

VoltAero also is pursuing the application of sustainable fuels for Cassio's hybrid propulsion unit, including biofuel and hydrogen. Currently, VoltAero's Cassio S testbed aircraft is performing flight validations of VoltAero's hybrid power unit with biofuel. And as part of its Paris Air Show exhibit, VoltAero is displaying a Kawasaki Motors thermal engine that operates with liquid hydrogen, which will be used on Cassio 330 aircraft in the future.

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