



SAFRAN'S ENGINEUS™ ELECTRIC MOTORS WILL FLY ON THE VOLTAERO CASSIO 1 HYBRID-ELECTRIC TESTBED AIRCRAFT

News / Events / Festivals, Manufacturer



Safran Electrical & Power's ENGINEUS™ smart electric motors will begin flying in November 2019 on the testbed for VoltAero's Cassio hybrid-electric general aviation aircraft.

Two ENGINEUS™ 45 motor versions will be installed in forward-facing positions on the wings of VoltAero's Cassio 1 testbed as part of this aircraft's "push-pull" propulsion configuration. The ENGINEUS™ 45 delivers a continuous power of 45 kW and features built-in, dedicated control electronics.

Safran Electrical & Power revealed the ENGINEUS™ range of electric motors at last year's NBAA-BACE Conference & Exhibition. By integrating the ENGINEUS™ 45 motors on Cassio 1, Safran Electrical & Power will contribute to the development of a highly promising hybrid-electric general aviation aircraft.

"Since our unveiling of ENGINEUS™, we have worked daily to continually improve the motors' exceptional performance, and we've just started their industrialization to address the emerging market of more-electric aircraft," said Hervé Blanc, Executive Vice President & General Manager of the Electrical Systems and Motors Division at Safran Electrical & Power.

ELECTRICAL & POWER

Safran's ENGINEUS™ electric motors flying on the VoltAero Cassio 1

PERFORMANCE

- /// UNRIVALLED SMART MOTOR POWER DENSITY AT LOW SPEED:

2,5 KW/KG @2500 RPM for 45 KW continuous power → POWER DENSITY BASED ON SMART MOTOR TOTAL WEIGHT.	15 N.M/KG @2500 RPM for 172 N.M continuous torque → TORQUE DENSITY BASED ON MOTOR & MAG-ONLY WEIGHT.	10 N.M/KG @2500 RPM for 172 N.M continuous torque → POWER DENSITY BASED ON SMART MOTOR TOTAL WEIGHT.
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- /// EFFICIENCY > 94% for the entire smart motor
- /// CUSTOMIZED POWER RATING FROM 45 KW based on a large power range building-block family

APPLICATION

- /// ACTUATION
- /// PROPULSION
- /// HYBRIDIZATION

SAFRAN

VoltAero will integrate the two ENGINEUS™ 45 motors on Cassio 1 to replace a pair of earlier-generation electric motors that were utilized during initial testing. The Cassio 1 testbed is validating VoltAero's design of an all-new hybrid-electric aircraft with seating for four to nine passengers, which is tailored for operation by private owners, air taxi/charter companies, in commercial flights

for point-to-point regional travel, and in various utility-category applications.

"VoltAero is at the forefront in introducing a new era of safe, efficient and eco-friendly flight," stated Jean Botti, the VoltAero CEO and Chief Technical Officer. "With the use of ENGINEUS™ 45 motors, we will fully benefit from Safran's cutting-edge technology in smart, efficient and optimized electric propulsion."

The ENGINEUS™ product line includes a range of electric motors with power outputs of up to 500 kW. Its technology optimizes the electrical architecture by consolidating several key conversion, control and battery interface functions – with the motors' mechanical and structural characteristics perfectly suited to their use on aircraft.

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