ROLLS-ROYCE GENERATOR FOR MOST POWERFUL HYBRID-ELECTRIC PROPULSION SYSTEM

News / Manufacturer

The generator that will be at the heart of the most powerful hybrid-electric aero power and propulsion system in aerospace has arrived for installation at our specialist testbed.

The generator, and related power electronics, was delivered to the newly-renovated Testbed 108 in Bristol, UK, from the Rolls-Royce facility in Trondheim, Norway, having completed an extensive development test programme. It will form part of the 2.5 megawatt (MW) Power Generation System 1 (PGS1) demonstrator programme, for future regional aircraft. In addition to hybrid-electric propulsion, the generator could also be used as part of a “more-electric” system for larger aircraft or within future ground or marine applications.

PGS1 forms an important element of our sustainability strategy, which includes developing innovative electrical power and propulsion systems.

Rolls-Royce has already tested the AE2100 engine element, specialist controls and thermal management system at Testbed 108.

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Adam Newman, Chief Design Engineer, Aviation Futures, Rolls-Royce, said: “We are excited to bring the generator to our new testbed and start fully integrating PGS1. This is a key milestone in the programme, bringing together the work of teams in the UK and Norway who have worked so hard to get us to this point. It is a great privilege to be involved in such important work – developing innovative electrical power systems is part of our sustainability strategy for the future.

“Our generator is about the size of a beer keg but it needs to produce enough electricity to continuously power around 2,500 homes – that is breaking new ground in terms of what is physically possible. On completion of testing, we will have a basis for megawatt-level power for future hybrid aircraft.”

Both Testbed 108 and PGS1 have been supported by the UK Aerospace Technology Institute’s MegaFlight project, while the 2.5MW electrical generator, motor and power electronics design, make and testing in Trondheim has been supported by the EU Clean Sky 2 programme.

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