With COPPER Bird®, Safran Electrical & Power benefits from a unique test rig for use in research into more electric aircraft

Safran Electrical & Power is Safran's strong arm in the realm of the "more electric aircraft". In 2005, at its Colombes site near Paris, it designed COPPER Bird®, a new generation test rig to support European research programs. COPPER Bird® is a test bench offering a number of innovative functions and can be used to test systems and validate aircraft electrical architectures.

"COPPER Bird® is used for electrical testing and characterization," explains Erwan Monnier, Head of the COPPER Bird® - Clean Sky project at Safran Electrical & Power. "It is a modular tool that can be fully reconfigured and it is key to R&T work in Europe, where the focus is on more electric aircraft, an area in which Safran has substantial interests."

COPPER Bird®: an innovative test rig for the leading manufacturers and international programs

COPPER Bird® is adaptable and integrates the full range of components making up an aircraft's electrical system.

Safran Electrical & Power designed COPPER Bird® to be adaptable and reconfigurable, depending on the architectures under study.

Other than assessing the architectures, strategies and equipment aimed at optimizing electricity distribution, it can also be used to test the functions that manage power onboard the aircraft. It is able to integrate all the components of a plane or helicopter's electrical system, as listed in chapter ATA24 (generation, distribution, conversion, batteries). Finally, it can run complex, automated sequences that represent aircraft use, from the electrical starting of engines using batteries to the activation of electrical flight controls powered by generators.

"With the growing electrification of aircraft systems, COPPER Bird® is the ultimate way of integrating new equipment powered by electricity: it is ready now for the planes and helicopters of the future," Erwan Monnier goes on.

This pioneering, innovative approach is highly appreciated by partners of the Clean Sky program: "Between now and the end of this year, we will be running three test campaigns on three different architectures, keeping to an ambitious timeframe," explains Erwan Monnier. "COPPER Bird® embodies Safran Electrical & Power' commitment to developing a "system" approach to the more electric aircraft, drawing on the rig's extraordinary
capacities and our staff's expertise," he concludes.

COPPER Bird® in pictures:

"New generation" test facilities equipped with...
…4 demonstration benches emulating two aircraft engines, each with one generator and one starter/generator.
…And one "Electrical Power Distribution Center" that is fully reconfigurable