Safran is working on the nEUROn, the UAV of the future

The nEUROn is a demonstrator for the future European stealth UCAV, and flown remotely from the ground. Its maiden flight, out of Istres on December 1st, 2012, was a success – and was a decisive step for this forward-looking program where Safran is supplying both the engine and braking control system.

The nEUROn project kicked off in 2005 at France’s initiative, via the DGA (the French defense procurement agency), and clearly ties in with efforts to build Defense Europe. Mirroring this Europe-wide drive, six European partner industrial firms are working on it, led by Dassault Aviation. Safran’s partnership with this aircraft manufacturer goes back a long way with the Mirage and Rafale programs, but we also have a strong track record in observation and surveillance UAVs. Sagem (Safran) is currently producing two tactical UAV systems for land forces: the Patroller, a long-endurance UAV system, and the Sperwer, an observation UAV system. Safran’s expertise in propulsion systems and equipment for fighter aircraft also put it in a good position to boost MALE (Medium Altitude Long Endurance) UAV development. These long-endurance UAVs are becoming increasingly active in field operations, especially in Afghanistan, and have become essential to armed forces.

Choosing experience

The nEUROn is 10 meters long, 12.5 meters wide and weighs 5 tons (tare). This latest-generation demonstrator is powered by a Safran engine. Dassault chose the Adour Mk 951, developed by RRTM, a Turbomeca (Safran) and Rolls-Royce joint venture, because it knows it can count on this engine’s reliability and it has clocked up extensive experience. This engine has flown over 8 million hours and is considered the benchmark in its category (6,000 to 6,500-lb, i.e. 3-ton thrust). And it has another advantage: RRTM’s continuous improvement drive has optimized its service life. “This single-engine aircraft is modern – and has been tried and tested,” explained Adour Program Manager Florent Chauvancy at Turbomeca. “We have run extremely in-depth endurance and integration tests on it.”

At the core of an integrated project

This military aircraft was the first to be entirely designed and developed on a virtual platform, in a Product Lifecycle Management (PLM) environment. Florent Chauvancy highlighted this trailblazing aspect: “This system allows partner teams to work simultaneously and in real time on the same 3D database from their offices across the continent. Safran provided Dassault with a full digital model of its Adour engine to harness this tool’s full potential. From a management perspective, this organization is the ultimate way to boost efficiency and control costs more effectively.” This forward-looking interface puts Safran in a position to start working on this major program early on, especially as it will also be supplying the nEUROn’s braking system and harnesses. “As we were actively involved in the very first development phases, it will be easier for Safran to develop the future UCAV,” the Adour Program Manager rounded up.

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