Leonardo Develops BriteStorm Payload for Attritable UAVs

By Richard Scott

Leonardo (Luton, UK) has revealed details of a new, platform-agnostic stand-in jammer payload designed for integration into attritable uncrewed air vehicles (UAVs) and other launched effects.

The low-size, -weight and -power electronic attack (EA) payload, given the name BriteStorm, has been developed in response to growing interest in the employment of stand-in jammers for suppression of enemy air defense (SEAD) applications. BriteStorm has already completed flight trials with the UK Royal Air Force (RAF).

Stand-in jamming delivers SEAD effects by using an uncrewed air platform or launched effects vehicle to deploy an EA payload inside the lethal engagement envelope of an integrated air defence system. Jamming effects are employed to disrupt and degrade early warning, surveillance and weapon control radars and so provide a screen of protection for following "main force" platforms.

Leonardo has been undertaking engineering development and demonstration of affordable, small form factor EA payload technology since the late 1990s, including a UK-sponsored Stand-in Jammer Capability Concept Demonstrator that culminated with UK and US flight trials in 2007. The company has also been responsible for the development of a customized EA payload – called Nightjar – for MBDA's Spear-EW air-launched stand-in jammer/airborne decoy.

BriteStorm has leveraged from miniaturized DRFM technology already embodied in Leonardo's BriteCloud expendable active countermeasure device. Jamming effects – both noise and

deception techniques – are produced by an advanced, 2.5-kg Miniature Techniques Generator (MTG).

Alongside the core MTG, a standard BriteStorm fit also incorporates transmit/receive modules, and antennas matched to the specific platform. While the MTG covers the NATO A-J band, actual frequency coverage for a given platform will be conditioned by the selected antenna configuration.

Leonardo's is currently focused on opportunities for BriteStorm in the US market, reflecting the rapid gestation of initiatives, such as the Collaborative Combat Aircraft (CCA) program. Part of the Next Generation Air Dominance Family of Systems, CCA is intended to yield the US Air Force "affordable mass" at reduced costs and adaptable timelines.

Three BriteStorm payloads are now in the US to support trials and demonstrations for both end users and candidate integrators. Leonardo will not, at this stage, identify specific vehicle manufacturers it is in discussion with. But it says that it has been "pleased with the reception of the key primes in the US market."

BriteStorm is also being pitched to address opportunities emerging out of the UK's Autonomous Collaborative Platform (ACP) strategy released earlier this year. Stand-in jamming – as a contributor to SEAD – was identified amongst a number of ACP use cases.

The RAF's Rapid Capabilities Office (RCO) has already purchased payloads and conducted successful flight trials. According to Leonardo, the results obtained from RCO proving activities have given the company sufficient confidence to move BriteStorm into low-rate initial production.