FTSA AVALON 2019 - ABSTRACT

The changing flight test environment within the Australian Defence Force (ADF) has necessitated a shift away from the use of dedicated flight test aircraft towards the use of, and reliance on, fleet aircraft to achieve flight test objectives. The Air Warfare Centre (AWC), in 2015, collaborated with the Defence Science and Technology Group (DST) and industry partner Defence Innovations in pioneering the development and testing of a proof-of-concept Non-Intrusive Flight Test Instrumentation (NIFTI) wireless sensor system.

The first generation of this flight test system was successfully demonstrated at RAAF Edinburgh in late 2015 on an Aircraft Research and Development Unit (ARDU) PC-9/A aircraft. The outcomes from this proof-of-concept phase were presented to the Flight Test Society of Australia's 2016 and 2017 Symposiums; generating substantial interest in the development within the Flight Test community.

Since then the collaborative development of NIFTI has progressed through 2 supersonic sorties on an F/A-18 and the official handover of the first system at the DST Scindicate event in August 2018. Development continues with a range of additional sensor types and other capabilities being programed.

Beyond the ADF applications NIFTI promises to revolutionise all facets of flight test in both the Civil and Military domains, from initial certification through to highly complex flutter characterisation and stores/weapons clearance.