IMASAT

Innovation

Integrated Modular Avionics for Small Air Transport

This project has received funding from the Clean Sky 2 Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under grant agreement No 785523.

IMASAT project aims to provide a response to one of the goals of the Clean Sky 2 initiative, the most important European research programme for the development of technology that improves competitiveness in the industrial aeronautic sector, and also intends to reinvigorate the SAT market, encouraging the application of new and profitable technologies in the systems area for a future state-of-the-art small air transport aircraft.

The results of the research work will be used to define and implement the Integrated Modular Avionics concept (IMA) for Small Air Transport (SAT) aircraft with a capacity for 6 to 19 passengers. The aim is to help the European industry adopt fly-by-wire systems (FBW) to reduce the weight of avionics systems, reduce the number of maintenance operations and improve safety by improving the human-machine interface and automatically help stabilise the aircraft.

[Continued overleaf]

Clean Sky 2 JOINT UNDERTAKING

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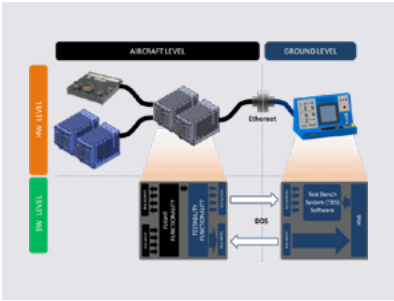
The project research work will focus on the design, manufacturing and classification of the new computer node, so it can be used as a flight control element in this SAT segment, providing a new approach for the architecture, design, software, production and certification of a new integrated modular avionics concept.

IMASAT project contributes to the safety and efficiency of small aircraft operation by enabling the implementation of fly-by-wire systems, towards a More Electric Aircraft, thus further benefiting from the use of such technology, increasing flight and operation efficiency and lowering environmental impact through:

Lower computational node cost, when compared to current nodes, it will reduce the cost approximately by a third. Lower maintenance costs, when compared to mechanical controls, along with a better fault isolation and test. The increase of the flight stability (safety) derived from the application electronically computed control laws as part of the fly-by-wire system.
Fuel savings through the reduction of weight, size and energy of power systems (electric vs. hydraulic) and actuators (EHA, EMA vs. SHA) required to actuate flight controls. In addition, IMASAT is an outstanding opportunity for the European SAT industry to develop the first avionic system that relies completely on European technologies, which would have important strategic advantages.

IMASAT impact into society can be measured in terms of employment generated by increasing the competitiveness of the Andalusian region, where AERTEC and CLUE Technologies (as SME) are based. Finally, IMASAT is 100% aligned with the RIS3 Area “Advanced Transport Systems in the aeronautics, aerospace and naval industries”, part of Andalusia’s Smart Specialization Strategies.



Partners

AERTEC

Clue

Topic Manager

PIAGGIO AEROSPACE

For more information:

imasat.eu