

PROJECT

IOVISTAS VIRTEST

INPUTS OUTPUTS VIRTUAL INTEROPERABLE SIMULATION TEST OF AVIONICS SYSTEMS IN VIRTUAL/HYBRID/REAL TESTBENCH

Funding: European (Horizon 2020)

Duration: Mar 2019 - Feb 2021

Status: Complete

Total project cost: €570,750

EU contribution: €399,263



Call for proposal: H2020-CS2-CFP08-2018-01

[CORDIS RCN : 221191](#)

Objectives:

The aim of IOVISTAS VIRTEST project is to contribute to achieve the major expectations from More Electric Aircraft and consequently for reducing fuel consumption, by developing an innovative virtual testing methodology for on ground test facilities dedicated to High Voltage direct Current integration. The project will allow avoiding difficulties related to physical test benches used in aircraft development process, which are complex platforms with high initial and recurring costs. They are usually on the critical path on the development and cannot be easily multiplied to increase the validation capacity.

In particular, the facilities and equipment proposed will be used to test on ground actuation systems of electromechanical actuated surfaces such as ailerons, flaps, spoiler and winglet proposed by the Topic Manager in the context of Clean Sky 2 Regional FTB2 demonstrator, following the technology validation process before the aircraft integration.

In this context the general objective of IOVISTAS VIRTEST project is the design, development and installation of a configurable virtual/hybrid/real ground test environment, aircraft and airframe representative, according to VISTAS EUROCAE standard for on-ground tested validation (up TRL5 of technology integration of airframe) of flight control surfaces driven by electromechanical actuators powered by high voltage DC electrical generation (HVDC).

This general objective is twofold:

- To develop an A/C representative electrical test installation composed by the HVDC part of the A/C electrical generation and distribution system.
- To develop the I/O box concept, in accordance with VISTAS protocol, in order to provide the necessary interconnection between real and virtual test environments and providing the necessary infrastructure for virtualization at FTB#2 actuation on-ground rig.

The HVDC electrical installation of test bench design will be fully representative of aircraft environment containing real aircraft equipment.

Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Other programmes: JTI-CS2-2018-CfP08-AIR-02-62 Virtual-Hybrid-Real On Ground demonstration for HVDC & EMA Integration

Lead Organisation:

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EU Contribution: €399,263

Technologies:

Aircraft design and manufacturing
Transformer Rectifier Unit (TRU) equipment to supply an HVDC distribution system

Development phase: Demonstration/prototyping/Pilot Production

STRIA Roadmaps: Transport electrification, Vehicle design and manufacturing

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Environmental/Emissions aspects, Decarbonisation

Geo-spatial type: Other