

PROJECT

InVIGO

INTake Vortex Ingestion on Ground Operations

Funding: European (Horizon 2020)

Duration: Oct 2019 - Jan 2022

Status: Ongoing

Total project cost: €749,865

EU contribution: €749,865



[CORDIS RCN : 224835](#)

Objectives:

As part of H2020 program, Clean Sky 2 aims at pushing forward the whole EU aeronautical sector to a worldwide prominent place as well as addressing ambitious targets in reduction of pollution and fuel consumption. Within the “Sustainable and Green Engine” Integrated Technology Demonstrator, WP 2 “Ultra High Propulsive Efficiency demonstrator for Short Medium Range Aircraft” aims to bring to market a new engine generation with large bypass ratios.

The present call JTI-CS2-2018-CfP09-ENG-01-41 concerns the inherent problem of vortex ground ingestion into the fan during ground operating conditions with cross-wind. Its objective is to obtain a method able to predict the vortex properties based on degraded WTT instrumentation.

The consortium proposes the project named InVIGO for Intake Vortex Ingestion in Ground Operation. Two partners are involved: ALTRAN, European leader on innovation and high-tech engineering consulting, as project coordinator, and in charge of CFD activities, the prediction method and the project coordination and CSTB, Scientific and Technical Center for Building specialized in experimental campaigns for buildings, structures, industrial equipment and vehicles, to perform the wind tunnel tests. This project is composed of three main activities: the first one is dedicated to the generation of a comprehensive database on vortex characteristics from WTT measurements and CFD simulations, the second one to the method development itself and its industrialization and the last one on management and scientific dissemination.

The key strengths of our proposal are notably the following ones:

- New approach with artificial intelligence applied to flow characterization of fan inlet
- WTT campaigns on the whole ground vortex formation conditions
- Strong expertise on CFD and numerical method development
- Strong relationship between experimental and numerical simulation teams

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)

Lead Organisation:

Altran Technologies

Address:

96 AVENUE CHARLES DE GAULLE
92200 NEUILLY SUR SEINE
France

EU Contribution: €418,520

Partner Organisations:

Centre Scientifique Et Technique Du Bâtiment

Address:

N/a
6904 Sophia Antipolis Cedex
France

EU Contribution: €331,345

Technologies:

Aircraft propulsion
Highly efficient aircraft engine

Development phase: Research/Invention

STRIA Roadmaps: Vehicle design and manufacturing

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Other specified

Geo-spatial type: Other