

PROJECT

Pilot3

A software engine for multi-criteria decision support in flight management

Funding: European (Horizon 2020)

Duration: Nov 2019 - Jan 2022

Status: Ongoing

Total project cost: €660,063

EU contribution: €629,913



Call for proposal: H2020-CS2-CFP09-2018-02

[CORDIS RCN : 225262](#)

Objectives:

Pilot3 will develop a software engine model for supporting crew decisions for civil aircraft. This software will provide a set of options to the pilot with information to help the crew select the most suitable one considering multi-criteria business objectives of the airline.

Pilot3 will look integrate airlines flight policies and overall performance targets to select and rank the alternatives. The system does not only consider the flight but the whole network operations of the airline.

Pilot3 is composed on four different subsystems: Indicators Estimator, Alternatives Generator, Performance Assessment Module and HMI. The first three will be developed during the project, while an HMI will be designed. Pilot3 will specify the software interface so that it can be integrated in larger systems.

The Indicators Estimator will provide an estimation of the different performance indicators for a given trajectory. Pilot3 will allow the airline to select how to estimate these values: using airborne information, ground information, with analysis of data and heuristics or with machine learning predictors.

The Alternatives Generator will automatically compute different alternative trajectories considering the airlines' flight policies and its performance goals. This system will also allow the pilot to add constraints and even to specify a given trajectory to be assessed. This module will perform a multi-objective optimisation.

The Performance Assessment Module will compare the expected performance of each alternative trajectory produced by the Alternatives Generator and rank them according to the overall airlines' goals.

Finally, the designed HMI will present the information to the pilot and allow the crew to interact with the system, accepting an alternative, rejecting them (triggering a re-computation of alternatives) or adding constraints.

Pilot3 will contribute to the capture and definition of flight policies and allow airlines to define enriched policies.

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-CfP09-SYS-01-12 - Software engine for multi-criteria decision support in civil aircraft flight management

Lead Organisation:

The University Of Westminster Lbg**Address:**

Regent Street 309
London
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United Kingdom

EU Contribution: €226,563

Partner Organisations:**Pace Aerospace Engineering And Information Technology Gmbh****Address:**

AM BAHNHOF WESTEND 13
14059 BERLIN
Germany

Organisation Website:

<http://www.pacelab.com>

EU Contribution: €70,350

Universitat Politecnica De Catalunya**Address:**

Calle Jordi Girona 31
8034 Barcelona
Spain

Organisation Website:

<http://www.upc.edu>

EU Contribution: €174,250

Fundacion Instituto De Investigacion Innaxis**Address:**

Calle Marques De Lozoya 23 5A
28007 Madrid
Spain

EU Contribution: €158,750

Technologies:

Information systems
Machine learning for air traffic management

Development phase: Research/Invention

STRIA Roadmaps: Other specified

Transport mode: Air transport

Transport sectors: Passenger transport

Transport policies: Digitalisation

Geo-spatial type: Other