

PROJECT

DYNCAT

Dynamic Configuration Adjustment in the TMA

Funding: European (Horizon 2020)

Duration: Jul 2020 - Dec 2022

Status: Ongoing

Total project cost: €989,299

EU contribution: €989,299



Call for proposal: H2020-SESAR-2019-2

[CORDIS RCN : 229756](#)

Objectives:

DYNCAT aims at enabling more environmentally friendly and more predictable flight profiles in the TMA, namely on approach, by supporting the pilots in configuration management.

Approach and take-off operations at busy airports are virtually always less noise and fuel efficient than possible due to very rigid constraints imposed on the flight profiles by ATC (concerning both vertical profiles and speed regimes), but also due to lack of support to the pilots for dealing with given restrictions/constraints and actual weather in an optimal way. Current FMS functionalities do not support configuration management very well, only a simplified, static high-lift sequence with a fixed order is available. The adequacy of actual procedure flown depends very much on the pilots' skills, but also on their access to information such as actual wind situation and ATC intents.

Objectives:

- analyse impact of current mismatch of aircraft and ATC procedures on flyability (pilot workload, safety) and environmental impact (fuel burn and CO₂; noise)
- propose amendments to on-board and ground procedures including identification of necessary enablers (technical, regulatory)
- quantify ecological and economical potential of proposed improvements, including the prediction of 4D Trajectories, through exemplary analysis and early prototype simulation of newly designed configuration management functionality

The study will be done using the A320 family as reference aircraft and the development of new FMS functionalities for the optimisation of the high-lift system sequencing during approach as use case. Access to recordings of actual flight operational data, associated ATC instructions issued, weather data and noise measurements for a large number of operations in Swiss airspace on one hand and the implementation of the improved functionalities on an industrial test platform on the other allow for high validity and relevance of the results.

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: SESAR-ER4-05-2019 Environment and Meteorology for ATM

Lead Organisation:

Deutsches Zentrum Fr Luft Und Raumfahrt E.v

Address:

Linder Hoehe

51147 KOELN
Germany

Organisation Website:

<http://www.dlr.de>

EU Contribution: €367,540

Partner Organisations:

Swiss International Air Lines Ag

Address:

MALZGASSE 15
4052 BASEL
Switzerland

EU Contribution: €44,565

Swiss Skylab Foundation

Address:

SEESTRASSE 42
8802 KILCHBERG ZH
Switzerland

EU Contribution: €73,240

Thales Avs France Sas

Address:

75-77 Avenue Marcel Dassault
33700 Merignac
France

EU Contribution: €400,000

Eidgenoessische Materialpruefungs- Und Forschungsanstalt

Address:

Ueberlandstrasse 129
8600 DUEBENDORF
Switzerland

Organisation Website:

<http://www.empa.ch>

EU Contribution: €103,954

Technologies:

Information systems
Air traffic management systems

Development phase: Validation

STRIA Roadmaps: Network and traffic management systems

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport
Societal/Economic issues, Environmental/Emissions

Transport policies: aspects

Geo-spatial type: Other