

PROJECT

SafeNcy

SafeNcy - the safe emergency trajectory generator

Funding: European (Horizon 2020)

Duration: Nov 2019 - Oct 2022

Status: Ongoing

Total project cost: €1,342,908

EU contribution: €998,917



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

[CORDIS RCN : 225466](#)

Objectives:

SafeNcy project aims at designing, developing, testing and validating a TRL5 on-board function for the FMS capable to support the pilot in the decision making process following an emergency situation with degraded and adverse conditions.

Firstly, an emergency landing site selection algorithm will be developed, using a database of possible landing sites that is constantly updated via data-link connection with the airline Operating Control Centre (OCC) and which takes into account updated meteorological information and potential hazards. This landing site will minimize also the collateral effect of the emergency landing by selecting landing sites with a minimum population density and low risk propagation.

Secondly, an on-board trajectory generation prototype will be developed in order to compute the best emergency trajectory from the aircraft to the selected landing site(s). This algorithm will also take into account the most up-to-date meteorological information, consider the degraded dynamics of the aircraft resulting from some failures, and will have a robust design allowing real-time capabilities.

Finally, a thorough verification and validation campaign will be performed, developing an ad-hoc simulator for testing purposes and integrating it with a fault detection and identification external block provided by the Topic Leader.

The consortium has been structured to gather and organise complementary expertise and capabilities to answer the project objectives. It is formed by two SMEs, CGX AERO (coordinator) and Metsafe; DSNA Services, the expertise and consultancy office of the French civil aviation; two universities, ENAC and UPC; and Eurocontrol, all supported by an internal advisory board composed of active pilots from large and low-cost airline, Aviation, Accident and Investigation, Human Factors and ATM experts, from the French Civil Aviation Authority, and Military pilots, human factors and flight dynamics experts from the French Air Force Academy.

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-LPA-03-18 - Safe emergency trajectory generator

Lead Organisation:

France Aviation Civile Services

Address:

7 AVENUE EDOUARD BELIN
31055 TOULOUSE

France

EU Contribution: €196,870

Partner Organisations:

Eurocontrol - European Organisation For The Safety Of Air Navigation

Address:

Rue De La Fusée 96
1130 Bruxelles
Belgium

EU Contribution: €0

Metsafe

Address:

20 RUE SAINTE-LUCIE APT A03
31300 TOULOUSE
France

EU Contribution: €91,438

Universitat Politecnica De Catalunya

Address:

Calle Jordi Girona 31
8034 Barcelona
Spain

Organisation Website:

<http://www.upc.edu>

EU Contribution: €192,500

Ecole Nationale De L Aviation Civile

Address:

Avenue Edouard Belin 7
31055 31055
France

Organisation Website:

<http://www.enac.fr>

EU Contribution: €180,000

Cgx Aero

Address:

Rue Victor Hugo 2
81100 Castres
France

Organisation Website:

<http://www.aeroinsys.com>

EU Contribution: €338,110

Technologies:

Aircraft operations and safety
Trajectory Based Flight Operations

Development phase: Demonstration/prototyping/Pilot Production

Vehicle design and manufacturing, Other

STRIA Roadmaps: specified

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Safety/Security

Geo-spatial type: Other