

PROJECT

FLHYSAFE

Fuel Cell HYdrogen System for Aircraft Emergency operation

Funding: European (Horizon 2020)

Duration: Jan 2018 - Sep 2022

Status: Ongoing

Total project cost: €7,311,428

EU contribution: €5,063,023



Call for proposal: H2020-JTI-FCH-2017-1

[CORDIS RCN : 213070](#)

Background & policy context:

In order to meet the increasing demand to reduce fuel consumption, Green House Gas emissions as well as operating and maintenance costs, while optimising aircraft performances, fuel cell systems are considered as one of the best options for efficient power generation systems in the context of more electric aircraft (MEA).

Objectives:

FLHYSAFE's ambition is to demonstrate that a cost efficient modular fuel cell system can replace the most critical safety systems and be used as an emergency power unit (EPU) aboard a commercial airplane providing enhanced safety functionalities. Additionally, the project will virtually demonstrate that the system is able to be integrated into current aircraft designs respecting both installation volumes and maintenance constraints.

In order to shift from demonstrator levels (achieved in other projects such as Antares DLR H2 and FCH HYCARUS), to the ready-to-certify product level, it is necessary to optimise the different components of the fuel cell system to reduce its weight, increase its lifetime, ensure its reliability, certify its safety and make its costs compatible with market requirements.

Within FLHYSAFE a consortium driven by two major aeronautical Tier 1 OEMs will propose fuel cell technologies using PEM fuel cell stacks, more integrated power converters and air bearing compressors. Thanks to the experience of the participants in previous projects, the necessary tests will be carried out in order to demonstrate compatibility with representative environment and safety levels.

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:

Safran Power Units

Address:

Chemin Du Pont De Rupe 8
31200 Toulouse
France

EU Contribution: €1,145,550

Partner Organisations:

Zodiac Aerosafety Systems

Address:

RUE PIERRE CURIE 61
78370 PLAISIR
France

Organisation Website:

<http://www.zodiacaerospace.com>

EU Contribution: €1,157,328

Universitaet Ulm

Address:

HELMHOLTZSTRASSE 16
89081 ULM
Germany

Organisation Website:

<http://www.uni-ulm.de>

EU Contribution: €199,875

Commissariat A L Energie Atomique Et Aux Energies Alternatives

Address:

RUE LEBLANC 25
75015 PARIS 15
France

Organisation Website:

<http://www.cea.fr>

EU Contribution: €752,086

Deutsches Zentrum Fr Luft Und Raumfahrt E.v

Address:

Linder Hoehe
51147 KOELN
Germany

Organisation Website:

<http://www.dlr.de>

EU Contribution: €800,204

Arttic

Address:

58A rue du Dessous des Berges
75013 PARIS
France

Organisation Website:

<http://www.arttic.com>

EU Contribution: €308,885

Instituto Nacional De Técnica Aeroespacial

Address:

Carretera de Ajalvir Km 4,5

28850 TORREJON DE ARDOZ
Spain

Organisation Website:

<http://www.inta.es>

EU Contribution: €699,095

Technologies:

Fuel cells and hydrogen fuel
Modular fuel cell system

Development phase: Research/Invention

STRIA Roadmaps: Transport electrification, Low-emission alternative energy for transport

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Environmental/Emissions aspects

Geo-spatial type: Other