

PROJECT

HFLE

Hybrid Fixed Leading Edge

Funding: European (Horizon 2020)

Duration: Feb 2017 - Dec 2019

Status: Complete

Total project cost: €1,316,858

EU contribution: €999,177



Call for proposal: H2020-CS2-CFP03-2016-01

[CORDIS RCN : 208058](#)

Objectives:

The proposal is addressing the topic JTI-CS2-2016-CFP03-LPA01-14 Automated injection RTM system process based on innovative sensor technologies in a low cost smart manufacturing tooling prototype and any tooling involved in the manufacture or the validation of the structure.

The final objective of this topic is to produce the needed tooling to manufacture the HTP Leading edge structure (modified to include a HLFC system) using liquid resin injection processes, in particular RTM process to produce the mentioned part. The resulting structure shall comply with the actual regulation of the aerospace sector, in particular regarding geometrical tolerances and defects.

Methodology:

Coexpair is the leader of this project, the other partners are Tecnalía, Pégard Productics and University of Liège. In order to produce the needed tooling to manufacture the HTP Leading edge structure, 5 elementary technology blocs are defined as objectives:

1. low cost/ natural materials employed in the tooling manufactured,
2. eco-design for of the tooling manufactured,
3. energy savings during the manufacture processes of the future parts,
4. manufacturing processes simplification in order to improve the repetitiveness of the process,
5. production time savings to reduce the cost and production lead times.

A “quick” specimen was manufactured prior to project submission to show the RTM process is suitable for the project. The project focuses on the automation of manufacturing steps of RTM process, including ply cutting and mould cleaning.

Elementary tests of a few key points of the automation will be performed in industrial environment (Coexpair shop). In order to optimize floor shop organization, work flow simulation will be performed. In addition to Coexpair experience on RTM process and mould design, the consortium gathers experience in complex part mould machining, experience in robotic development and performing automation. The project is planned within a duration of 24 months.

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:

Coexpair Sa

Address:

Rue Des Entrepreneurs 10
5020 Namur
Belgium

EU Contribution: €433,031

Partner Organisations:

Universite De Liege

Address:

PLACE DU 20 AOUT 7
4000 LIEGE
Belgium

Organisation Website:

<http://www.ulg.ac.be>

EU Contribution: €129,375

Fundacion Tecnalia Research & Innovation

Address:

PARQUE CIENTIFICO Y TECNOLOGICO DE GIPUZKOA PASEO MIKELETEGI 2
20009 DONOSTIA/SAN SEBASTIAN (GIPUZKOA)
Spain

Organisation Website:

<http://www.tecnalia.com>

EU Contribution: €128,546

Pegard Productics

Address:

AVENUE REINE ELISABETH 59
5300 ANDENNE
Belgium

EU Contribution: €308,224

Technologies:

Sensor technologies
Integrated sensors for structural components

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