

PROJECT

FUSINBUL

Full scale innovative pressure bulkheads for Regional Aircraft Fuselage barrel on-ground demonstrators

Funding: European (Horizon 2020)

Duration: Apr 2019 - Sep 2021

Status: Complete

Total project cost: €1,155,971

EU contribution: €996,481



Call for proposal: H2020-CS2-CFP08-2018-01

[CORDIS RCN : 221275](#)

Objectives:

Full scale innovative pressure bulkheads for Regional Aircraft Fuselage barrel on-ground demonstrators:

The scope of this project is to develop and validate two advanced manufacturing processes to reach a significant reduction in the overall production costs and flows to obtain composite pressure bulkheads for regional aircraft light-weight fuselage manufacturing. A final trade-off analysis will be drawn as well, including costs, advantages, implementation advances, comparison with former costs and frame.

In order to achieve the general scope, the consortium members will divide the project in 4 work packages:

1. Production of 2 bulkheads using the 2 different manufacturing techniques (one bulkhead in prepreg and a second one in dry fibre material) and laboratory - NDT testing
2. Production of 4 bulkheads as final demonstrators for fuselage testing, using both manufacturing techniques
3. Trade-off analysis
4. Management of the project

The innovative and lighter fuselage concept must be implemented in future aircraft models (among others, Innovative Turboprop, 130 pax, and Advanced Turboprop, 90 pax, are being developed at the moment). The EU policies are clear about the need to reduce 75% the CO2 emissions per passenger-kilometre and 90% of NOX as well. In addition to that, by 2050, aircraft movements must be emission-free when taxiing and air vehicles must be designed and manufactured to be recyclable.

Innovative low cost and low weight technologies shall be integrated into the fuselage structural demonstrator to get weight reduction, less manufacturing recurring costs, maintenance improvement and implementation of new eco-compatible materials and processes. And the final step to enter them into use is validation through a test that needs 2 bulkheads as vital elements to close the fuselage cylinder.

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-CfP08-REG-01-17 Full scale innovative pressure bulkheads for Regional Aircraft Fuselage barrel on-ground demonstrators

Lead Organisation:

Fundacion Para La Investigacion, Desarrollo Y Aplicacion De Materiales Compuestos

Address:

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28906 Getafe
Spain

Organisation Website:

<http://www.fidamc.es>

EU Contribution: €599,938

Partner Organisations:**Servicios De Tecnologia Ingenieria E Informatica SI****Address:**

RITA LEVI MONTALCINI 14
28906 GETAFE MADRID
Spain

Organisation Website:

<http://www.sertec.net>

EU Contribution: €73,938

O.m.p.m. - Officina Meridionale Di Precisione Meccanica Srl**Address:**

VIA FONTANA 5
84012 ANGRI
Italy

EU Contribution: €98,744

Metitalia S.r.l.**Address:**

VIA FONTANA 17
84012 ANGRI
Italy

EU Contribution: €223,863

Technologies:

Composite materials
Composite fuselage sections

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