

PROJECT

NADiA

Novel Air Distribution Approaches

Funding: European (Horizon 2020)

Duration: Apr 2019 - Mar 2022

Status: Ongoing

Total project cost: €1,299,271

EU contribution: €1,299,271



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

[CORDIS RCN : 221218](#)

Objectives:

NADiA project will research, develop, design, manufacture and test technologies and solutions aiming at significant improvements of the air distribution system (ADS), using the example of a 90 passenger advanced turboprop aircraft.

The integrated improved cabin ADS is one of the key contributors to the environmental challenge of the ITD Airframe activities in reducing the structural weight by 4% to 6%, the CO₂ and NO_x, footprint by 3% to 5%, while enhancing passenger comfort by reducing noise and vibration. NADiA will significantly improve the ADS by 15% in weight, 3dB in acoustic and 20% in cost.

Development, manufacturing costs and assembly times will be reduced, and production rates will be increased. To achieve the overall goals, 'beyond state of the art' technologies will be developed and verified in dedicated tests up to TRL6.

The key end goal of NADiA will be to fully integrate and test the novel ADS in the cabin demonstrator located at Fraunhofer IBP in Holzkirchen (Topic Manager), as well as to provide support for the Environmental Control System (ECS) testing performed by Fraunhofer IBP.

NADiA consortium applies advanced design principles, innovative system architectures, advanced materials and processes to generate high potential air distribution solutions for next generation turboprop aircraft.

NADiA participants have a longstanding experience in ADS and ECS products. Diehl Aviation Laupheim integrates ADS for all Airbus aircraft programs, including the mixer for the A350. The delivered systems are developed and simulated using CAD and CFD software solutions. Diehl Aviation Gilching developed and manufactures vans and air-cooling devices for several Airbus programs.

NADiA total grant request to CS2JU is 1 299 271.25€ for the whole consortium and will be conducted within 36 months. Diehl Aviation Laupheim will complete the CS2 funding by bringing additional internal funding of 200 000€ to deepen the innovation work on materials and technologies.

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-AIR-02-67 Model based development of an innovative ECS air distribution system for ground testing with a Cabin Demonstrator

Lead Organisation:

Diehl Aviation Laupheim GmbH

Address:

AM FLUGPLATZ 1
88471 LAUPHEIM
Germany

Organisation Website:

<http://www.diehl-aircabin.de>

EU Contribution: €862,844

Partner Organisations:**Diehl Aviation Gilching GmbH****Address:**

FRIEDRICHSHAFENER STRASSE 5
82205 GILCHING
Germany

Organisation Website:

<http://www.aoa-gauting.de>

EU Contribution: €436,428

Technologies:

Cabin and cockpit design
Cabin Air Purification

Development phase: Demonstration/prototyping/Pilot Production

STRIA Roadmaps: Vehicle design and manufacturing

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport
Environmental/Emissions aspects, Other

Transport policies: specified

Geo-spatial type: Other