

PROJECT

PHOBIC2ICE

Super-IcePhobic Surfaces to Prevent Ice Formation on Aircraft

Funding: European (Horizon 2020)

Duration: Feb 2016 - Apr 2019

Status: Complete

Total project cost: €1,797,271

EU contribution: €1,797,271



Call for proposal: H2020-MG-2015_SingleStage-A

[CORDIS RCN : 199478](#)

Objectives:

The accretion of ice represents a severe problem for aircraft, as the presence of even a scarcely visible layer can severely limit the function of wings, propellers, windshields, antennas, vents, intakes and cowlings. The PHOBIC2ICE Project aims at developing technologies and predictive simulation tools for avoiding or mitigating this phenomenon.

The PHOBIC2ICE project, by applying an innovative approach to simulation and modelling, will enable the design and fabrication of icephobic surfaces with improved functionalities. Several types of polymeric, metallic and hybrid coatings using different deposition methods will be developed. Laser treated and anodized surfaces will be prepared. Consequently, the Project focuses on collecting fundamental knowledge of phenomena associated with icephobicity issues. This knowledge will give better understanding of the ice accretion process on different coatings and modified surfaces. Certified research infrastructure (ice wind tunnel) and flight tests planned will aid in developing comprehensive solutions to address ice formation issue and will raise the Project's innovation level.

The proposed solution will be environment-friendly, will contribute to the reduction of energy consumption, and will help eliminate the need for frequent on-ground de-icing procedures. This in turn will contribute to the reduction of cost, pollution and flight delay.

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:

Fundacja Partnerstwa Technologicznego Technology Partners

Address:

UL. PAWINSKIEGO 5A
02-106 WARSZAWA
Poland

Organisation Website:

<http://www.technologypartners.pl>

EU Contribution: €689,713

Partner Organisations:

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Airbus Defence And Space Gmbh**Address:**

Ludwig-Boelkow-Allee 1
85521 Ottobrunn
Germany

Organisation Website:

<http://www.airbus-group.com>

EU Contribution: €523,750

Agencia Estatal Consejo Superior Deinvestigaciones Cientificas**Address:**

CALLE SERRANO 117
28006 MADRID
Spain

Organisation Website:

<http://www.csic.es>

EU Contribution: €151,571

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: €432,238

Technologies:

Aircraft design and manufacturing
Simulation and modelling of ice formation

Development phase: Research/Invention

Aircraft design and manufacturing
Super-Icephobic surfaces to prevent ice formation on
aircraft

STRIA Roadmaps: Vehicle design and manufacturing

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Decarbonisation, Deployment planning/Financing/Market roll-out

Geo-spatial type: Other