PARSIFAL

Prandtlplane ARchitecture for the Sustainable Improvement of Future AirpLanes

Funding: European (Horizon 2020)
Duration: May 2017 - Jul 2020
Status: Complete
Total project cost: €2,955,706
EU contribution: €2,955,706

Objectives:

The project PARSIFAL (Prandtlplane ARchitecture for the Sustainable Improvement of Future AirpLanes) aims at defining the basis to improve the air transport of the future by evaluating the effects of the introduction of an innovative box-wing aircraft, called “PrandtlPlane” (PrP), into service.

The project is focused on the medium size commercial aircraft category, in which the adoption of the PrP configuration can confer to aircraft with the same overall dimensions and fuel consumption of an A320/B737 the payload capacity of an A330/B767. In addition, a further objective of PARSIFAL is to develop the design tools that would allow to investigate the application of the PrP configuration to other aircraft categories, such as the ultra-large airliners, for which the PrP can provide a huge increase of payload (passengers and freight), keeping the dimensions fully compatible with existing airports. The efficiency of the PrP aircraft resulting after the conclusion of PARSIFAL will be compared with the most efficient equivalent conventional aircraft and the advantages of the new configuration will be quantified, taking also the standpoint of manufacturers, airlines and airport managers into account.

The PARSIFAL Consortium is made of 6 partners from 4 different countries University of Pisa (Italy), as coordinator, University of Delft (The Netherlands), ONERA (France), DLR (Germany), ENSAM (France) and SkyBox Engineering S.r.l. (Italy). In addition, an Advisory Board composed of representatives of aircraft manufacturers, airlines and airport management companies will provide requirements, guidance and industrial expertise to shape and support PARSIFAL from different viewpoints.

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:

Universita Di Pisa

Address:
N/a
56122 Pisa
Italy

Organisation Website: http://www.unipi.it
EU Contribution: €628,750
Partner Organisations:

Ecole Nationale Superieure D'arts Et Metiers

**Address:**
BOULEVARD DE L HOPITAL 151
75013 PARIS
France

**Organisation Website:**
http://www.ensam.eu

**EU Contribution:** €557,000

Skybox Engineering Srl

**Address:**
VIA SAN BIAGIO 49
56124 PISA
Italy

**EU Contribution:** €322,500

Office National D' Etudes Et De Recherches Aérospatiales

**Address:**
29, avenue de la Division Leclerc
BP72 CHÂTILLON CEDEX
France

**Organisation Website:**
http://www.onera.fr

**EU Contribution:** €594,938

Deutsches Zentrum Fr Luft Und Raumfahrt E.v

**Address:**
Linder Hoehe
51147 KOELN
Germany

**Organisation Website:**
http://www.dlr.de

**EU Contribution:** €350,000

Technische Universiteit Delft

**Address:**
2600 GA Delft
Netherlands

**EU Contribution:** €502,519

Technologies:

Aircraft design and manufacturing
Box wing aircraft

**Development phase:** Research/Invention

STRIA Roadmaps: Vehicle design and manufacturing
Transport mode: Air transport
Transport sectors: Passenger transport
Transport policies: Other specified
Geo-spatial type: Other