

PROJECT

INSTEP

INnovative Smart Electric Power Distribution

Funding: European (Horizon 2020)

Duration: Feb 2017 - Jan 2023

Status: Ongoing

Total project cost: €2,087,620

EU contribution: €1,707,445



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

[CORDIS RCN : 208064](#)

Objectives:

The INSTEP Consortium will bring together their world-leading expertise in aircraft Electrical Power Systems (EPS) and Power Electronics (PE) in order to design, develop, manufacture, test and provide qualification for flight of an innovative Power Distribution Units (PDUs) for safe control and protection of both High-Voltage Direct Current (HVDC) and Low-Voltage Direct Power (LVDC) electrical generation systems. This will be a key component in the creation and demonstration of a Next Generation Civil Tilt Rotor aircraft.

The INSTEP Consortium will combine their world-leading expertise in the technical areas of PE and PE conversion, power distribution, aircraft EPS topologies, smart-girds and their control, as well as in modelling and simulation, together with world-recognised expertise in manufacturing, testing and qualification of EPDS for aerospace applications in order to enable a step change in the design and development of future aircraft electrical PDUs by introducing innovative technological solutions, making them “smart”, safe and more efficient, hence contributing towards more efficient, greener aviation.

Due to the leading role played by both the INSTEP partners, University of Nottingham and Zodiac Aerospace, in the International Aerospace Standards Committee for Aircraft Electric Systems (SAE AE-7), INSTEP results will be integrated into the development of future standards for aircraft EPS architectures and concepts. This demonstrates the international impact of the project in addition to enabling further developments in the FRC IADP by development and implementation of the power distribution centres, Topic FRC-01-09.

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:

The University Of Nottingham

Address:

University Park
Nottingham
NG7 2RD
United Kingdom

EU Contribution: €820,370

Partner Organisations:

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Zodiac Aero Electric Sas**Address:**

Rue Des Longs Quartiers 7
93100 Montreuil
France

EU Contribution: €887,075

Technologies:

Aircraft design and manufacturing
Power electronics

Development phase: Research/Invention

STRIA Roadmaps: Vehicle design and manufacturing

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Environmental/Emissions aspects, Safety/Security

Geo-spatial type: Other