

PROJECT

## ASPIRE

### Advanced Smart-grid Power dlstRibration systEm

**Funding:** European (Horizon 2020)

**Duration:** Sep 2016 - Feb 2020

**Status:** Complete

**Total project cost:** €820,163

**EU contribution:** €820,162



**Call for proposal:** H2020-CS2-CFP02-2015-01

[CORDIS RCN : 205649](#)

#### Objectives:

The ASPIRE Consortium will bring together their world-leading expertise in aircraft Electrical Power Systems (EPS) and Power Electronics (PE) in order to design, develop and manufacture an innovative DC/DC resonant cellular converter with automatic inversion functionality. This will be a key component in the creation and demonstration of an advanced Electrical Power Distribution System (EPDS) with Enhanced Electrical Energy Management (E2-EM) capability.

The ASPIRE Consortium will combine world-leading expertise in technical areas of PE conversion, EPS, smart-grids and their control, as well as in modelling and simulation for aerospace applications to enable step change in the design and development of future aircraft electrical power systems by making them “smart” and more efficient hence contributing towards more efficient, more-green aviation.

Due to the leading roles played by the ASPIRE Coordinator, UNOTT, on international aerospace standards committee for aircraft electric systems (SAE AE-7), ASPIRE results will be integrated into the development of future standards for aircraft EPS architectures and concepts, demonstrating international impact of the project in addition to enabling further developments in REG IADP by development and implementation of smart-grid concept of Topic REG-01-10.

#### 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:** €520,162

#### Partner Organisations:

**Universita Degli Studi Della Campania Luigi Vanvitelli**

**Address:**

Via Po 18/a  
10222 Busca  
Italy

**EU Contribution:** €120,000

**Power Naples Prototype Laboratory Srl****Address:**

VIA FRANCESCO CARACCIOLO 14  
80122 NAPOLI  
Italy

**EU Contribution:** €180,000

**Technologies:**

Aircraft design and manufacturing  
Innovative DC/DC resonant cellular  
converter

**Development phase:** Research/Invention

**STRIA Roadmaps:** Vehicle design and manufacturing

**Transport mode:** Air transport

**Transport sectors:** Passenger transport, Freight transport

**Transport policies:** Digitalisation

**Geo-spatial type:** Other