

PROJECT

SORCERER

Structural pOweR CompositEs foR futurE civil aiRcraft

Funding: European (Horizon 2020)

Duration: Feb 2017 - Jan 2021

Status: Complete

Total project cost: €1,650,633

EU contribution: €1,650,633



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

[CORDIS RCN : 207252](#)

Objectives:

In SORCERER revolutionary lightweight electrical energy storing composite materials for future electric and hybrid-electric aircraft are to be developed. Building on previous research novel lightweight supercapacitor composites, structural battery and structural energy generating composite materials are to be realised for aeronautical application and demonstrated on the systems level. Such demonstration ranges from table-top demonstrators for structural batteries and energy harvesting materials to aircraft component demonstrators for structural supercapacitors.

Methodology:

The SORCERER consortium consist of the world leading research groups on structural power composites. The team has an outstanding scientific track record in research covering all aspects of structural power composites development and manufacture namely: multifunctional matrices (SPE) and carbon fibres (i.e. constituents); separator materials and designs; structural electrodes; connectivity and power management and materials modelling and design.

In SORCERER we will build on these experiences to adapt current structural power composites solutions for aeronautical applications as well as develop new materials and devices for the aircraft application. By the end of the project each technology, i.e. structural supercapacitor, battery and power generation device, will have matured and as a result been brought-up at least one step on the TRL scale. In particular, the developed devices will be demonstrated on the systems level. For all structural battery and power generation composite materials this will be the world's first demonstration on that level of complexity.

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:

Imperial College Of Science Technology And Medicine

Address:

Exhibition Road, South Kensington
LONDON
SW7 2AZ
United Kingdom

Organisation Website:

<http://www.imperial.ac.uk>

EU Contribution: €715,243

Partner Organisations:

Fundacion Imdea Materiales

Address:

Calle Eric Kandel 2 Parque Cientifico Y Tecnologico Tecnogetafe
28906 Getafe
Spain

EU Contribution: €100,006

Kungliga Tekniska Hoegskolan

Address:

Brinellvagen 8
100 44 Stockholm
Sweden

EU Contribution: €409,075

Chalmers Tekniska Hoegskola Ab

Address:

-
41296 GOTHENBURG
Sweden

Organisation Website:

<http://www.chalmers.se>

EU Contribution: €426,309

Technologies:

Electric vehicle batteries (and energy management)
Supercapacitors energy storage system

Development phase: Research/Invention

Transport

STRIA Roadmaps: electrification

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Other specified

Geo-spatial type: Other