**PROJECT**

**D-JOINTS**

**Design of innovative composite hybrid joints with electromagnetic compatibility**

**Funding:** European (Horizon 2020)  
**Duration:** May 2020 - Dec 2022  
**Status:** Ongoing  
**Total project cost:** €473,541  
**EU contribution:** €473,541

CORDIS RCN : 228441

**Objectives:**

D-JOINTS will explore new innovative composite-metal joints with enhanced lightning strike protection. The design of these joints will be achieved through a dedicated sizing tool. Key design parameters will be identified and coded in the tool. A material properties database will provide the needed material information for the design of each joint. Finally, the new joints will be integrated in a composite nose part. The manufactured demonstrators will be tested for lightning strike protection.

The project objectives are:

- Model the mechanical and electrical performance of reference joints
- Improve the reference joints electromagnetic performance
- Develop a sizing tool for dissimilar joints
- Manufacture and test the CNP with the new dissimilar joints integrated in the structure

**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)

**Other programmes:** JTI-CS2-2019-CFP10-AIR-02-79 Development of FEM fastener parametric/adaptable sizing tool including EMC impact, and manufacturing and EMC/LSP testing of demonstrators

**Lead Organisation:**

Twi Limited  
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**EU Contribution:** €249,575

**Partner Organisations:**

Brunel University  
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**Organisation Website:**
http://www.cranfield.ac.uk

**EU Contribution:** €123,841

**Technologies:**
Composite materials
Composite materials for structural purposes in the aircraft

**Development phase:** Research/Invention

**STRIA Roadmaps:** Vehicle design and manufacturing

**Transport mode:** Air transport

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

**Transport policies:** Other specified

**Geo-spatial type:** Other