

PROJECT

ECO-CLIP

Eco-friendly Frame Clips and System Brackets for a fuselage demonstrator

Funding: European (Horizon 2020)

Duration: May 2020 - Oct 2022

Status: Ongoing

Total project cost: €500,000

EU contribution: €500,000



[CORDIS RCN : 228386](#)

Objectives:

ECO-CLIP project aims to demonstrate the technical, environmental and economic feasibility of manufacturing structural parts of aircrafts, specifically frame clips and system brackets, using recycled CF/LMPAEK obtained from factory waste.

The overall approach of ECO-CLIP is to develop a short fibre recycled composite based on CF/LMPAEK, the manufacturing process for fabricating structural parts of aircraft (clips and brackets) and the welding technology for a success joining in a fuselage demonstrator avoiding fasteners. The whole product development process and manufacture technology will be validated by LCA/LCC studies. As final result, the new manufacturing processing route will be demonstrated as cost-effective and environmentally favourable by LCA and LCC studies. This can be understood in different stages:

- Designing of recycling route to re-use material from factory waste
- Material development: exploring different mixtures of %wt recycled %wt virgin CF/LMPAEK to accomplish the structural and mechanical requirements.
- Design of manufacturing processes fulfilling the use case scenarios (clips and brackets)
- Selected the joining technology for a MFFD
- Assessment of developed technology through a study of ecological and economic impact

The innovation results from ECO-CLIP project will comprise: development of a new composite material based on short fibre recycled CF/LMPAEK, optimised for injection moulding and 3D-printing, and methodology to redesign structural parts to be installed on a MFFD. These solutions will enable to validate the assessment of the technology, and the viability of the environmental and economic impact.

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-LPA-02-31 Development of short fibre reinforced thermoplastic airframe clips and brackets using factory waste

Lead Organisation:

Asociacion De Investigacion Metalurgica Del Noroeste

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36410 Porrino
Spain

EU Contribution: €291,000

Partner Organisations:

Fundacion Aitiip

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50720 ZARAGOZA
Spain

Organisation Website:

<http://www.aitip.com/>

EU Contribution: €209,000

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