Complex Cores for New Utilities

Fact Sheet

Project Information

CoCoNut

Grant agreement ID: 864488

Start date
1 October 2019

End date
31 December 2021

Funded under
H2020-EU.3.4.5.6.

Overall budget
€ 712 970

EU contribution
€ 499 079

Coordinated by
ISRAEL AEROSPACE INDUSTRIES LTD.
Israel

Project description

New tooling parts promise to make aerospace composite production less costly and complex

Resin transfer moulding is a closed-mould process for manufacturing high-performance composite components. It is a process suited for short and medium production runs and is employed in many different fields including the aerospace. The conventional process utilises multi-part metal core tools, which make it complex and costly. The EU-funded CoCoNut project will replace the use of metallic cores with water-soluble materials. Successful proof of principle of this technology on a large scale will enable the technology to move from technology readiness level three to six. Comparison of legacy technology based on metallic cores with the CoCoNut

solution will enable researchers to prove the value of the latter for the production of aerospace composites.

Objective

The current process using multi-part metal core tools to fabricate complex primary structural carbon fibre reinforced polymer (CFRP) components via resin transfer moulding (RTM) is costly and complicated. The proposed solution within the CoCoNut proposal involves the use of advanced water-soluble materials that will replace the use of metallic cores. The scope of the proposed project consists of the development of technologies using assets already tried and tested by the partners. It will include the production of a demonstrator part that will provide both a POC (proof of concept) demonstration of the feasibility of the technology, and production of a full-scale part based on the configuration of a composite landing gear part designed for the HECOLAG project, using RTM and incorporating cores designed for the current project. This is expected to drive the technology from TRL 3-4 to TRL 5-6. A comparison will be made between the new technology that will be designed, produced, and tested for the HECOLAG project and the existing Legacy technology based on metallic cores. The applicants have extensive experience both in advanced cores development and manufacturing, and in advanced aerospace composites production processes, in particular resin transfer moulding (RTM).

Fields of science

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Programme(s)

Topic(s)

Call for proposal

H2020-CS2-CFP09-2018-02

Funding Scheme

Coordinator

ISRAEL AEROSPACE INDUSTRIES LTD.

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Website

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation

EU contribution

€ 289 783,37

Participants (1)

AERO CONSULTANTS AG

Switzerland

EU contribution

€ 209 295,63

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Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation

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