Disassembly of eco-designed helicopter demonstrators

Fact Sheet

Project Information

Disacop

Grant agreement ID: 323420

Project closed

Start date
1 November 2012

End date
31 October 2014

Funded under
Specific Programme "Cooperation": Joint Technology Initiatives

Total cost
€ 199 970,40

EU contribution
€ 149 977,00

Coordinated by
TECHNISCHE UNIVERSITAET MUENCHEN
Germany

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Objective

With the future use of thermoplastic composite (TPC) helicopter parts, recycling, repairing and reuse of used composite parts become within reach. In order to recycle used parts of an assembly group the joints have to be detachable.
Disacop will investigate a thermoplastic separation scenario that will allow disassembling the parts of a structure by fusion debonding for recycling. Due to the thermoplastic behavior of the TPC components, the fusion zone can be weakened by temperature. To ensure component separation at the joining interface between the components a special separation layer will be investigated if necessary. The separation is intended to be without degradation of the TPC parts. For economic and environmental reasons the heating will be limited to local heating of the joining zone. The possible joining and separation layer is intended to be used as a heating element as well.
Based on the available demonstrators, Disacop will identify a method to locally apply heat and to debond the assemblies. An energy-efficient technology is induction heating.
The approach is to perform first trials on available coupons and subcomponents from the industrial partners to understand the process effects on real joints. Then the technology will be fine-tuned based on the requirements coming from the industrial partners, first on coupon level. Subsequently, the technology will be scaled up to subcomponents/ validation articles and the demonstrators.

To prove the environmental benefits of the Disacop separation method data for life cycle assessment will be collected, for economic assessment a cost analysis for evaluation has to be made.

Fields of science (EuroSciVoc)

engineering and technology > mechanical engineering > vehicle engineering > aerospace engineering > aircraft > **rotorcraft**

Programme(s)

FP7-JTI - Specific Programme "Cooperation": Joint Technology Initiatives

Topic(s)

JTI-CS-2012-1-GRC-06-006 - Disassembly of eco-designed helicopter demonstrators

Call for proposal

SP1-JTI-CS-2012-01
See other projects for this call

Funding Scheme

JTI-CS - Joint Technology Initiatives - Clean Sky

Coordinator

TECHNISCHE UNIVERSITAET MUENCHEN

EU contribution

€ 78 472,00

Total cost

No data

Address

Arcisstrasse 21
80333 Muenchen
Germany

Region

Bayern > Oberbayern > München, Kreisfreie Stadt

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website

Participation in EU R&I programmes
HORIZON collaboration network

Participants (2)

POLYMER COMPETENCE CENTER LEOBEN GMBH

Austria

EU contribution

€ 51 390,00

Address

SAURAUGASSE 1
8700 LEOBEN

Region

Südösterreich > Steiermark > Östliche Obersteiermark

Activity type

Research Organisations

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

QPOINT COMPOSITE GmbH

Germany

EU contribution

€ 20 115,00

Address

BREITSCHEIDSTRASSE 78
01237 DRESDEN

Activity type

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

Links

Contact the organisation Website

Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

Last update: 6 September 2024

Permalink: https://cordis.europa.eu/project/id/323420