

PROJECT

WTM-RECYCLE

Large scale wind tunnel turboprop aircraft model integrating morphing devices for aerodynamic experimental assessment

Funding: European (Horizon 2020)

Duration: Sep 2017 - Feb 2021

Status: Complete

Total project cost: €1,534,250

EU contribution: €1,295,875



Call for proposal: H2020-CS2-CFP04-2016-02

[CORDIS RCN : 211376](#)

Objectives:

WTM-RECYCLE addresses the call JTI-CS2-2016-CFP04-REG-01-05 and will in total re-design an existing WT-model (designed and manufacturing in the JTI-CS-project LOSITA), manufacture the new parts and implement them in into the model and finally perform a WT-tests focused on delivering aerodynamic data. The results will be post-processed and implemented into an aerodynamic database supported by CFD.

The model updates to be performed focus on changes that can be roughly summarized in two groups:

- a.) At first model updates reflecting a new design state are implemented (e.g. fuselage geometry, fuselage length).
- b.) Solutions developed within the REG-ITD which shall be tested and assessed in the WT. This specifically involves the morphing LE, TE and winglet, which shall be used as High-Lift devices.

The project addressing this task is organized straight-forward using a consortium of three partners that have proven their competence in WT-model design, aerodynamic analysis and assessment as well as manufacturing in recent R&D projects. WT-test activities are subcontracted to the RUAG-WT, which is the obvious choice for test including this model. In total, the project strongly benefits from the experience with the initial model of two of the partners (IBK and EUROTECH) obtained in the LOSITA-project, since they will also support the WTM-RECYCLE project.

Finally, an aerodynamic assessment and an extrapolation towards full-scale will be performed under the responsibility of KTH in order to display the benefits of the new High-Lift-devices.

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:

Kungliga Tekniska Hoegskolan

Address:

Brinellvagen 8
100 44 Stockholm
Sweden

EU Contribution: €745,500

Partner Organisations:

Ibk Ingenieurbuero Dr Kretzschmar

Address:

Rehdorfer Str. 4
90431 NUREMBERG
Germany

Organisation Website:

<http://www.ibk-aero.com>

EU Contribution: €248,500

Eurotech Di Mario Amoroso Sas

Address:

Via Luigi Mercantini 23 IS 8
80125 NAPOLI
Italy

Organisation Website:

<http://www.eurotechsas.it>

EU Contribution: €301,875

Technologies:

Aircraft design and manufacturing
Morphing wing

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