

PROJECT

TRANSITION

TRANSITION - Tool-Part-Interaction simulation process linked to laminate quality

Funding: European (Horizon 2020)

Duration: Jul 2016 - Dec 2019

Status: Complete

Total project cost: €348,125

EU contribution: €348,125



Call for proposal: H2020-CS2-CFP02-2015-01

[CORDIS RCN : 205633](#)

Objectives:

Highly integrated, complex composite structures require a thorough evaluation of processing tools and parameters in order to achieve a competitive time-to-market as well as a cost efficient solution. The link between processing conditions and final laminate quality as to porosity and geometric deviations can be captured by processing simulation tools. Goal of this project is to adapt and implement two existing model approaches into an ABAQUS framework to be able to validate and adapt the tooling concept early in the design process. One of the models will be implemented as a subroutine in ABAQUS to capture the Prepreg consolidation depending on the prevailing processing conditions, while the second model is subsequently capable of predicting the porosity within the part depending on the temperature and pressure history. The predicted part quality will be compared with physical experiments on parts with increasing complexity.

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:

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EU Contribution: €348,125

Technologies:

Manufacturing processes
Smart composite manufacture

Development phase: Validation

STRIA Roadmaps: Vehicle design and manufacturing

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Other specified

Geo-spatial type: Other