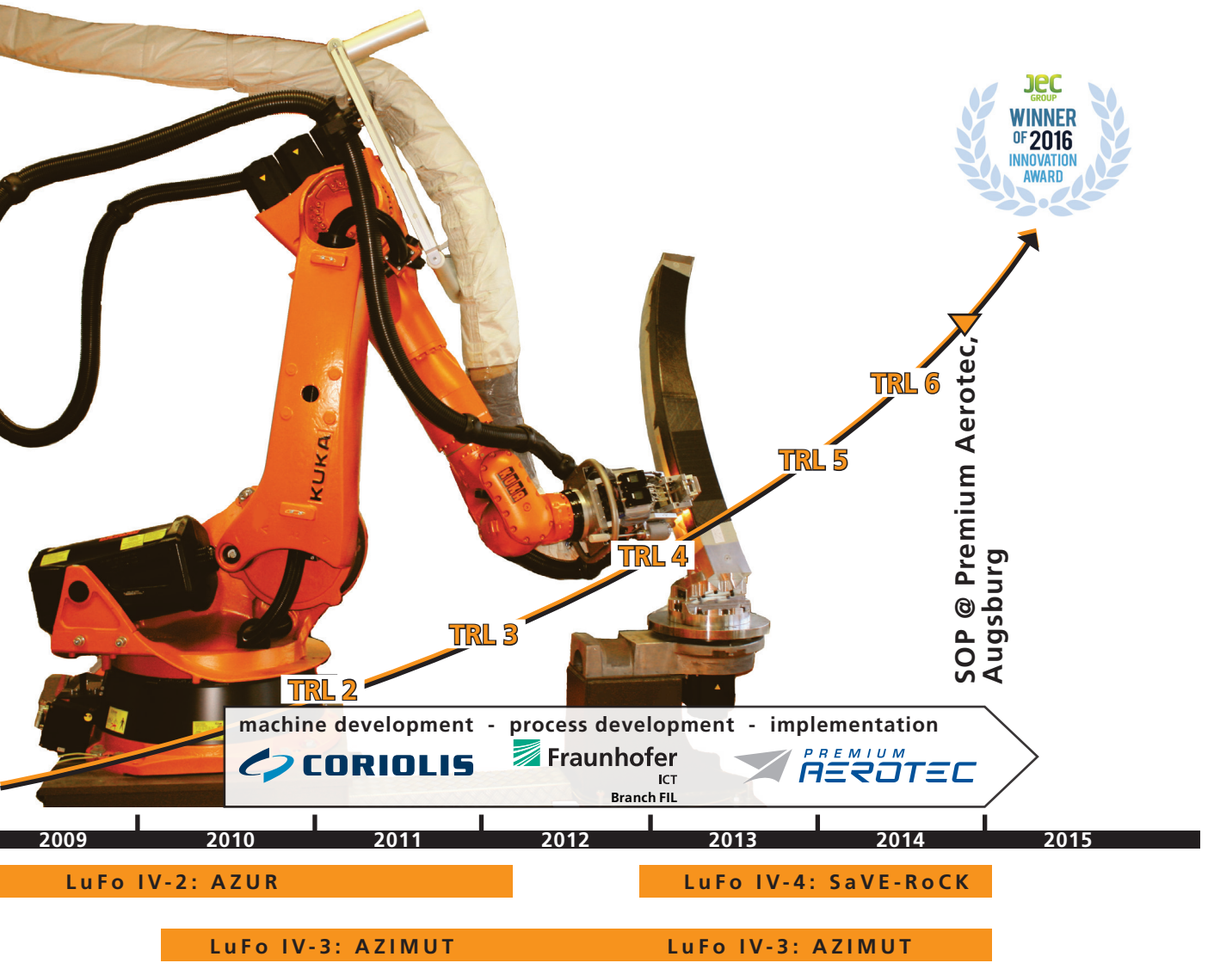
AFP-machinery at Fraunhofer ICT-FIL and technology know-how co-funded by

Bavarian Ministry of Economic Affairs and Media, Energy and Technology

Research & development activities within 4th „Luftfahrtforschungsprogramm“ co-funded by

Federal Ministry for Economic Affairs and Energy

on the basis of a decision by the German Bundestag



CONTACT

Fraunhofer Institute for Chemical Technology ICT
Augsburg Branch Functional Lightweight Design FIL
Am Technologiezentrum 2 | 86159 Augsburg | Germany
+49 821 90678 0
www.ict.fraunhofer.de/fil | fil.info@ict.fraunhofer.de

Premium AEROTEC GmbH
Haunstetter Straße 225
86179 Augsburg | Germany
+49 821 801 0
www.premium-aerotec.com

Coriolis Composites S.A.S.
Rue Condorcet - Z.A. du Mourillon
56530 Quéven | France
+33 2 97 59 94 98
contact@coriolis-composites.com
www.coriolis-composites.com

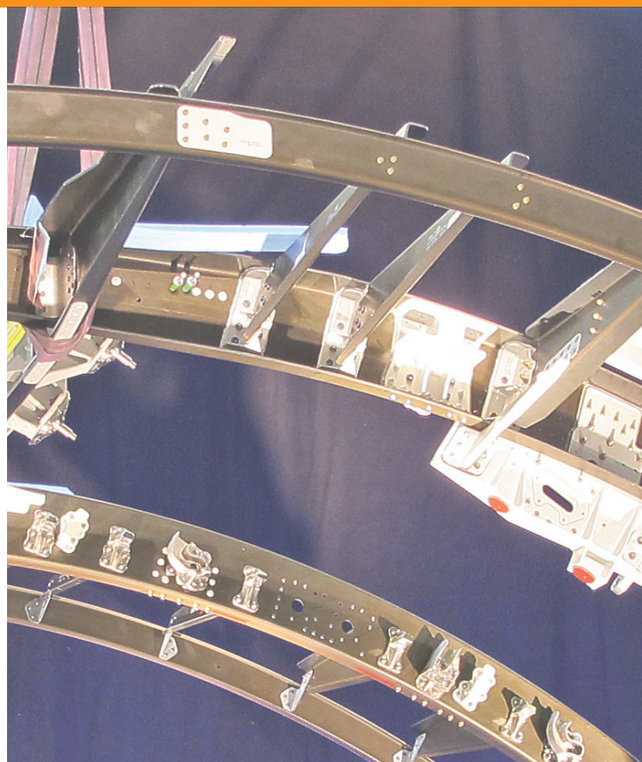
Fraunhofer ICT

PREMIUM AEROTEC

CORIOLIS

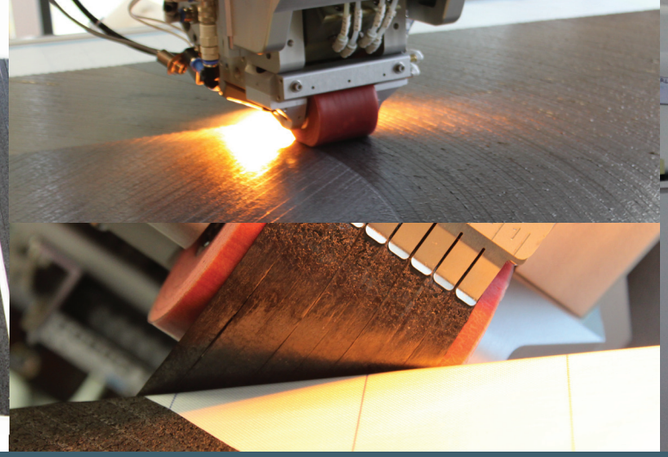
FROM TRL 2 TO TAKE-OFF

THE A350 DOOR SURROUND STRUCTURE – A SUCCESS STORY



BASIC STUDIES

- Screening of different technologies to manufacture door-surround structures
- Implementing Coriolis Composites AFP machinery at Fraunhofer ICT-FIL, Augsburg
- First studies using prepreg and dry fiber placement
- Process parameter studies at 2D laminates
- Manufacturing of 2D laminates for characteristic coupon testing



TRANSFER TO COMPLEX 3D SHAPES

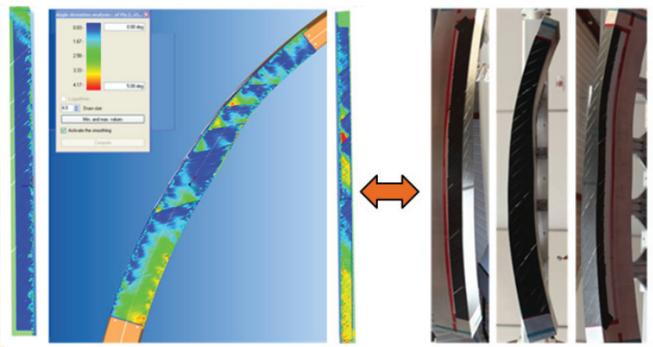
- Development of specific AFP programming strategies
- Proof of concept at TRL3 demonstrator parts
- Deducing design-to-fiber-placement principles from programming – real layup comparison and layup quality
- Positive decision for AFP based door surround structures
- Defining first staggering proposals

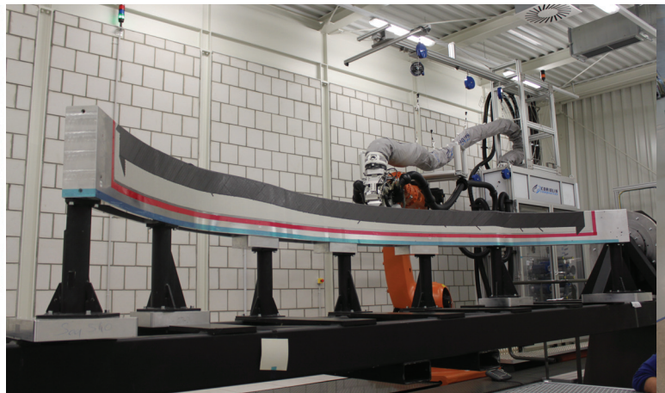
FROM LAB SCALE TO FULL SIZE

- Development of concepts for industrialization
- Increasing geometrical and composite plybook complexity as well as length to full size and final design equivalent doorframes
- Reproducibility analysis of different full scale configurations

DEVELOPING A SERIAL PROCESS

- Transfer of work and optimization of the process chain with focus on series compatibility
- Reducing cycle times
- Increasing process stability and reliability
- Meeting the requirements and tolerances for flying parts
- Pushing the technology to other applications





Bildquellen: © Fraunhofer Institutsteil FIL, © Premium AEROTEC, © Coriolis