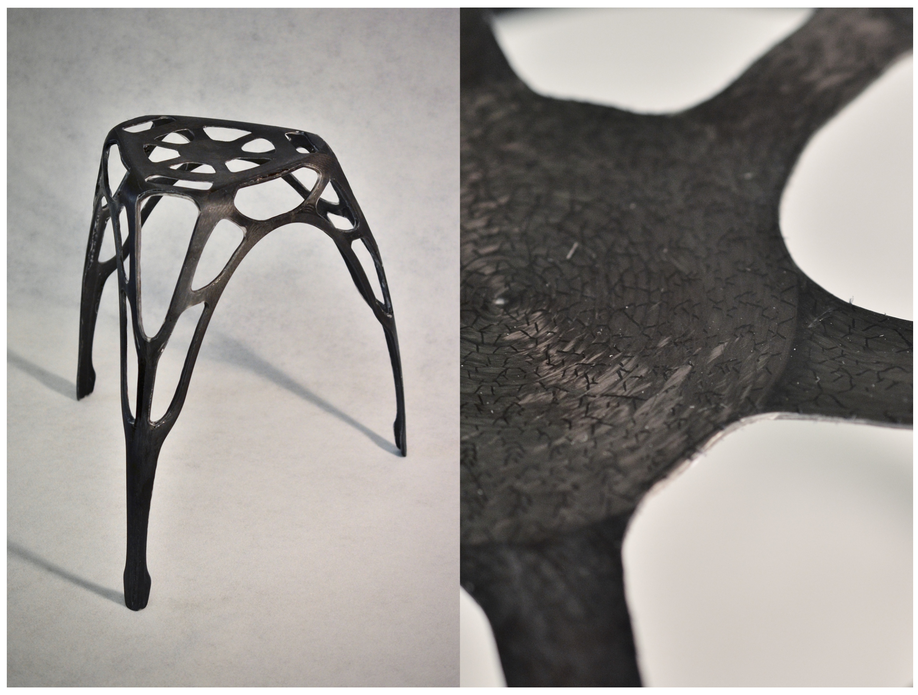
Leibniz-Institute of Polymer Research Dresden e.V.

VARIABLE-AXIAL FIBRE COMPOSITE CONSTRUCTION

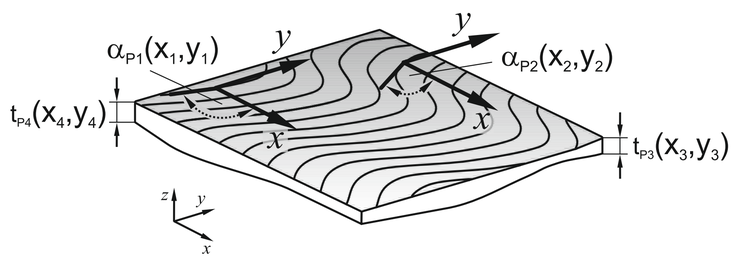
Application Laboratory

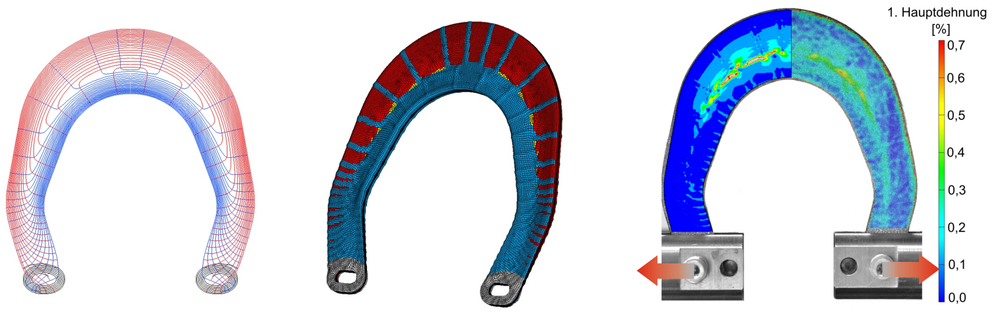
- Know-how from basic research is directly transferred to **industry-oriented projects** and into practice
- **Increase of lightweight construction potential by** variable-axial fibre composite design instead of conventional multiaxial fibre composite structures
- **Development and use of novel approaches** for structure design and modelling of complex variable-axial fibre composite components
- **Preform and component manufacturing** by Tailored Fibre Placement (TFP) technology or matrix infiltration by processes of pressing, infusing and injecting



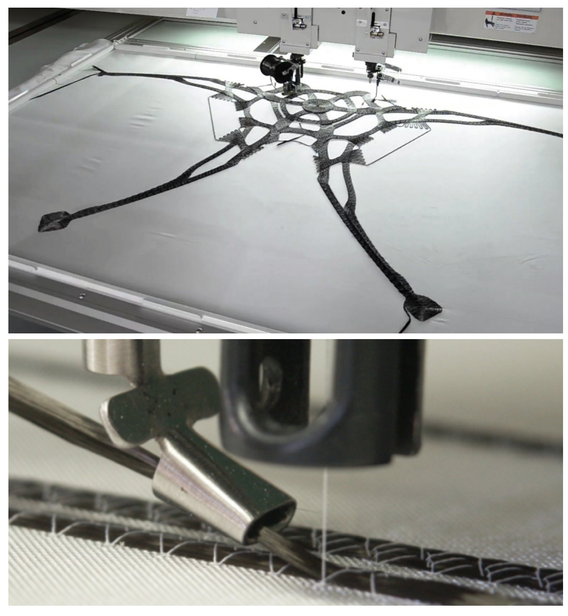
CFRP light-weight structure with variable-axial fibre design

From the design to the component

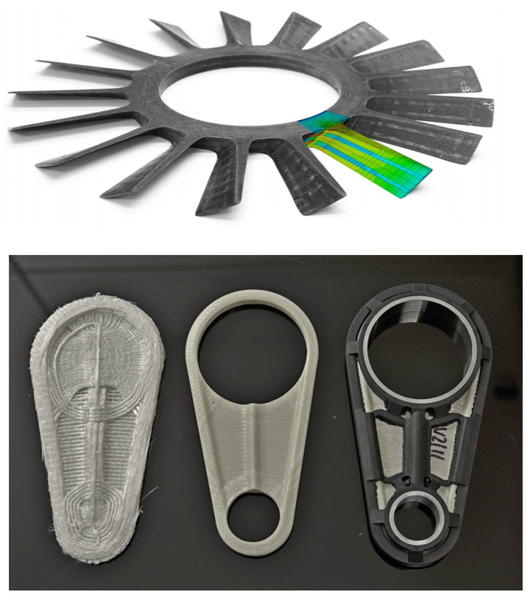




Variable-axial fibre design: *Design - Modelling - Stress analysis*



Preform production *with 1600 mm x 1100 mm by TFP technology*



Component fabrication

Range of services

Research and Development

- Production of textile stress-adjusted variable-axial reinforcement structures by TFP technology
- Use of unical methods for component design and modelling in connection with commercial finite element analysis applications
- Development and use of novel software tools, especially for the optimisation of TFP patterns and processes

Consulting and further training

- Inquiries according to design and fabrication of variable-axial fibre composite components
- Seminars, master theses and graduations

Contact

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