

HP CFK - Research co-operation for high-performance production of CFRP structures

About this organisation

Machine translation

This profile has been machine-translated based on data provided in German.

As a research association of Leibniz Universität Hannover (IFW), TU Braunschweig (IFL) and TU Clausthal (PuK), we have been a partner for the design and development of lightweight structures made of fibre-reinforced plastic composites and their production technologies at the CFRP North Research Centre since 2011.

Aircraft and structural design - Design development and investigations - Numerical calculation methods - Design of structural concepts and optimisation - Fibre composite and hybrid lightweight structures Materials engineering and science - Characterisation of thermoset and thermoplastic resin systems, e.g. deformation and flow and flow behaviour, thermal conductivity, reaction kinetics, Tg - Characterisation of textile systems (carbon fibre, glass fibre) - Process development - Hybrid material concepts, e.g. metal-CFRP composites Mechanical engineering and production technology - Development of lay-up systems, e.g. automated fibre placement systems, draping systems lay-up systems, deposition systems for metal foils (for hybrid components) - Process monitoring in lay-up systems, e.g. with the aid of thermography - Moulding tools, e.g. self-heated tools for prepreg forming or for autoclave-free autoclave-free component curing - Process chain design and optimisation

Ottenbecker Damm 12
21684 Stade
Lower Saxony
Germany
www.hpcfkd.de



Organisation type

University or higher education institution

Sectors



Employees

10 up to 49

Turnover

Up to €2m

Funding



[Projects in the funding catalogue](#)



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Main areas covered Automated fibre placement, Thermographic process monitoring, CFRP-metal hybrid composites, Structural design/optimisation, Material characterisation

Infrastructure Material characterisation laboratory

Certifications

Keywords

Memberships

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
<i>Products</i>			
Services & consulting Consulting, Testing and trials, Engineering, Prototyping, Validation, Simulation, Technology transfer, Others: null	✓	✓	

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Field of technology			
Design & layout Lightweight manufacturing, Lightweight design, Hybrid structures	✓	✓	
Functional integration Actuator technology, Material functionalisation	✓	✓	
Measuring and testing technology Component and part analysis, Visual analysis (e.g. microscopy, metallography), Materials analysis, Destructive analysis, Non-destructive analysis	✓	✓	✓
Modelling and simulation Loads & stress, Life-cycle analysis, Optimisation, Processes, Structural mechanics, Materials	✓	✓	✓
Plant construction & factory automation Plant construction, Automation technology, Handling technology, Robotics	✓	✓	

Recycling technologies

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	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing 3D printing, Fused deposition modeling	✓	✓	✓
<i>Coating (surface engineering)</i>			
Fibre composite technology Resin infusion process, Pre-preg processing, Vacuum infusion, Others: null	✓	✓	
Forming Thermal converting, Others: null	✓		
Joining Hybrid joining, Others: null	✓	✓	
<i>Material property alteration</i>			
<i>Primary forming</i>			
Processing and separating Milling	✓	✓	
Textile technology Preforming	✓		

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	Research	Development	Manufacturing & Supply
Material			
<i>Biogenic materials</i>			
Cellular materials (foam materials) Closed-pore	✓		
Composites Glass-fiber reinforced plastics (GFRP), Carbon-fiber reinforced plastics (CFRP), Others: null	✓		
Fibres Glass fibres, Carbon fibres	✓		
<i>Functional materials</i>			
Metals Aluminium, Steel	✓		
Plastics Thermoset plastics, Elastomers, Thermoplastics	✓		
<i>Structural ceramics</i>			
(Technical) textiles Laid webs, Woven fabrics	✓		

Contacts

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Contacts

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