

About this organisation

Machine translation

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

Leichtwerk Research GmbH works on challenging and innovative research and development projects in the field of aerospace technology. The subject areas include the development, testing and certification of manned and unmanned flight systems, the modification and equipping of research aircraft and the development of flight operation procedures and human-machine interfaces.

In addition to overall aircraft design, the core competencies of Leichtwerk Research GmbH lie primarily in the development of innovative lightweight structures made of fibre composite and sustainable materials as well as the investigation of fracture mechanics problems to increase the reliability and damage tolerance of components. The work is carried out using analytical and numerical calculation methods on the one hand and experimental validation on the other. In accordance with customer specifications, we work on all aspects of component development, from the design study and structural design to the manufacturing process. We also produce demonstrators, mock-ups and small series for our customers in our prototype workshop. Projects have included the development of lightweight structures for manned and unmanned aerial vehicles, wind tunnel models, rotor blades for wind turbines and other industries.

Hermann-Blenk-Straße 38
38108 Braunschweig
Lower Saxony
Germany
www.leichtwerk-research.de



Organisation type

Small or medium-sized enterprise

Sectors



Employees

10 up to 49

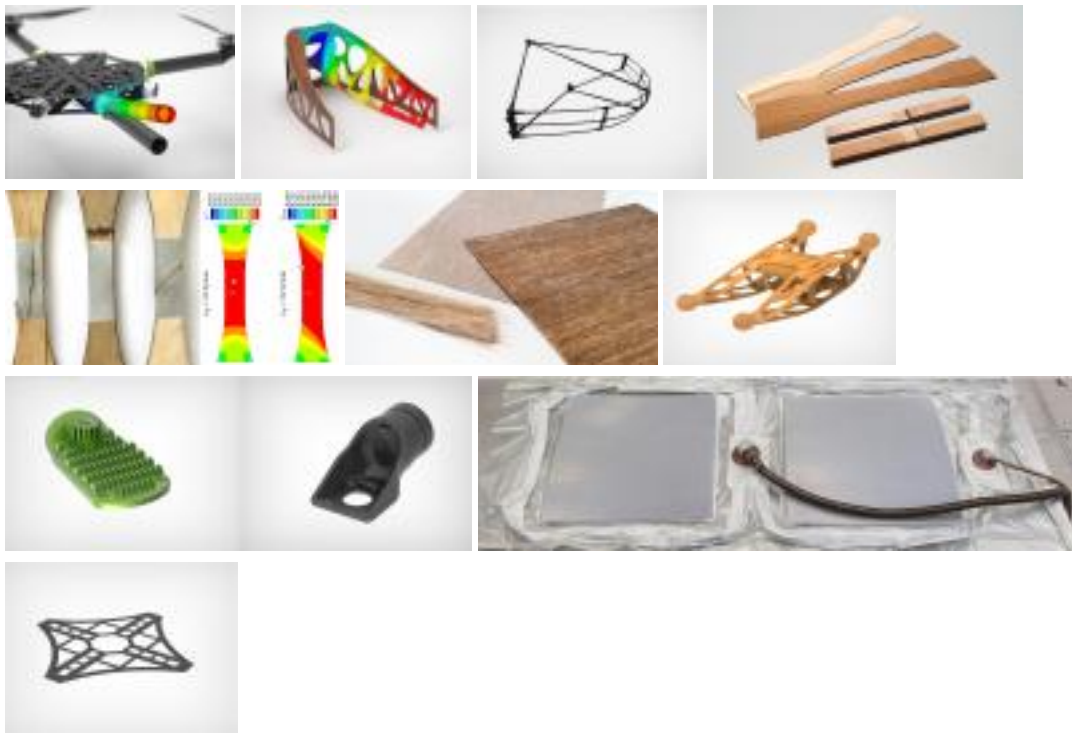
Turnover

Up to €2m

Funding

n/a

About this organisation



Main areas covered	Innovative lightweight structures, Unmanned aerial systems, Sustainable materials, FEM, Aircraft design
Infrastructure	CAD design, FEM, Test benches, Workshop, Material testing
Certifications	n.a.
Keywords	Fibre composites, Sustainable materials, Construction, Simulation, Unmanned aerial systems
Memberships	UAV DACH e.V., DroneMasters

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
Products Parts and components, Systems and end products, Materials	✓	✓	✓
Services & consulting Consulting, Testing and trials, Funding, Engineering, Prototyping, Validation, Simulation, Technology transfer	✓	✓	✓
Field of technology			
Design & layout Lightweight manufacturing, Lightweight design, Hybrid structures, Lightweight construction concepts, Lightweight material construction	✓	✓	✓
Functional integration Actuator technology, Sensor technology, Thermal activation, Material functionalisation	✓	✓	✓
Measuring and testing technology Component and part analysis, System analysis, Environmental simulation, Materials analysis, Destructive analysis, Non-destructive analysis	✓	✓	✓
Modelling and simulation Crash behaviour, Loads & stress, Life-cycle analysis, Optimisation, Structural mechanics, Materials, Reliability validation	✓	✓	✓
<i>Plant construction & automation</i>			
<i>Recycling technologies</i>			

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing 3D printing, Laminated object manufacturing (LOM), Fused deposition modeling, Selective laser sintering (SLS)	✓	✓	✓
<i>Coating (surface engineering)</i>			
Fibre composite technology Filament winding, Manual lamination, Resin infusion process, Resin transfer moulding, Pre-preg processing, Vacuum infusion	✓	✓	✓
<i>Forming</i>			
<i>Joining</i>			
<i>Material property alteration</i>			
<i>Primary forming</i>			
<i>Processing and separating</i>			
<i>Textile technology</i>			

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Material			
Biogenic materials Bioplastics, Biocomposites, Wood	✓	✓	
Cellular materials (foam materials) Closed-pore, Open-pore, Syntactic foams	✓	✓	
Composites Aramid fibre composites, Basalt fibre-reinforced plastic, Glass-fiber reinforced plastics (GFRP), Carbon-fiber reinforced plastics (CFRP), Metal-fibre-polymer composite, Metal matrix composite, Natural fibre reinforced plastics (NFRP), Laminates, Particulate composites	✓	✓	✓
Fibres Aramid fibres, Basalt fibres, Glass fibres, Ceramic fibres, Carbon fibres, Metal fibres, Natural fibres	✓	✓	
<i>Functional materials</i>			
Metals Aluminium, Steel, Titanium	✓	✓	
Plastics Thermoset plastics, Elastomers, Thermoplastics	✓	✓	
Structural ceramics Oxidic ceramics	✓	✓	
<i>(Technical) textiles</i>			

Contacts

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Managing Director

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