

About this organisation

Machine translation

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

Innovative products, hybrid lightweight structures, minimised use of materials for maximum resource efficiency - practical lightweight construction plays a key role in the development of technological, ecological and economic advantages. Our lightweight construction research group at the Chair of Design Engineering (KTmfk) at FAU Erlangen-Nuremberg has the following key competences in this area:

- Simulation-based design of fibre-reinforced plastic components
- Characterisation of materials under highly dynamic loads
- Integration of structural optimisation methods into the design process
- Development of crash-optimised lightweight construction concepts

Martensstraße 9
91058 Erlangen
Bavaria
Germany

🌐 www.mfk.uni-erlangen.de



Organisation type

University or higher education institution

Sectors



Employees

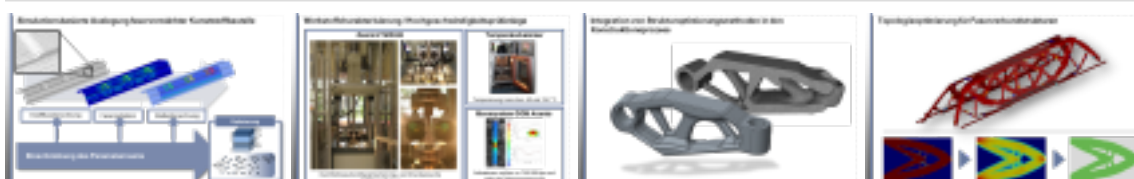
10 up to 49

Turnover

n/a

Funding

n/a



About this organisation

Main areas covered	Moulded lightweight construction, Composite lightweight construction, Simulation and design, Material characterisation, Topology optimisation/feedback
Infrastructure	Zwick HTM5020 high-speed tearing machine, GOM Aramis HHS 3D, Component stiffness test rig, Temperature chamber, Small load drop tower
Certifications	
Keywords	Simulation, Fibre composite, Optimisation, Crash, Attempts
Memberships	

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
<i>Products</i>			
<i>Services & consulting</i>			

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Field of technology			
Design & layout Lightweight design, Hybrid structures	✓	✓	
<i>Functional integration</i>			
Measuring and testing technology Component and part analysis, Destructive analysis	✓		
Modelling and simulation Crash behaviour, Loads & stress, Multiphysics simulation, Optimisation, Structural mechanics	✓	✓	
<i>Plant construction & factory automation</i>			
<i>Recycling technologies</i>			
Manufacturing process			
<i>Additive manufacturing</i>			
<i>Coating (surface engineering)</i>			
Fibre composite technology Manual lamination, Pre-preg processing	✓		
<i>Forming</i>			
Joining Clinching, Adhesive bonding, Riveting	✓		
<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			
<i>Biogenic materials</i>			
<i>Cellular materials (foam materials)</i>			
Composites			
Carbon-fiber reinforced plastics (CFRP)	✓		
Fibres			
Glass fibres, Carbon fibres	✓		
<i>Functional materials</i>			
<i>Metals</i>			
<i>Plastics</i>			
<i>Structural ceramics</i>			
<i>(Technical) textiles</i>			

Contacts

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Contacts

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