Friedrich-Alexander-University Erlangen-Nuremberg

Chair of Design Engineering KTmfk

About this organisation

Machine translation

This organisation 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

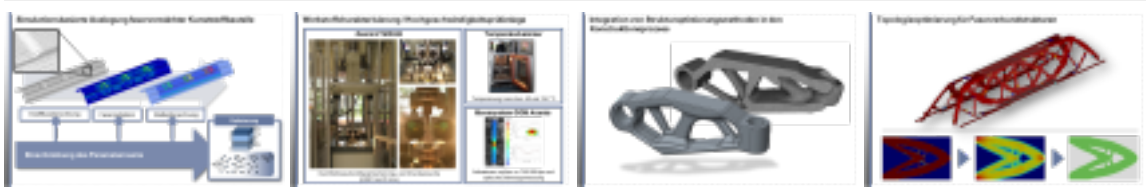
Organisation type
University or higher education institution

Sectors

Employees
10 up to 49

Turnover
n/a

Funding
n/a



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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			
Products			
Services & consulting			

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Field of technology			
Design & layout Lightweight design, Hybrid structures	✓	✓	
Functional integration			
Measuring and testing technology Component and part analysis, Destructive analysis	✓		
Modelling and simulation Crash behaviour, Loads & stress, Multiphysics simulation, Optimisation, Structural mechanics	✓	✓	
Plant construction & automation			
Recycling technologies			
Manufacturing process			
Additive manufacturing			
Coating (surface engineering)			
Fibre composite technology Manual lamination, Pre-preg processing	✓		
Forming			
Joining Clinching, Adhesive bonding, Riveting	✓		
Material property alteration			
Primary forming			
Processing and separating			
Textile technology			

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Material			
Biogenic materials			
Cellular materials (foam materials)			
Composites Carbon-fiber reinforced plastics (CFRP)	✓		
Fibres Glass fibres, Carbon fibres	✓		
Functional materials			
Metals			
Plastics			
Structural ceramics			
(Technical) textiles			

Contacts

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Contacts

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