Chair of Design Engineering KTmfk

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 crashoptimised lightweight construction concepts

Martensstraße 9 91058 Erlangen Bavaria Germany ☑ www.mfk.uni-erlangen.de



Organisation type University or higher education institution



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	N Development	1anufacturing & Supply
Offer			
Products			
Services & consulting			

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

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overview of lightweighting expertise				
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	Research	l Development	Manufacturing & Supply	
Material				
Biogenic materials				
Cellular materials (foam materials)				
Composites Carbon-fiber reinforced plastics (CFRP)	\checkmark			
Fibres Glass fibres, Carbon fibres	\checkmark			
Functional materials				
Metals				
Plastics				
Structural ceramics				
(Technical) textiles				

Contacts

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Contacts				
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