University of Bayreuth

Chair of Engineering Design and CAD

About this organisation

Machine translation

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

In line with the principle of "generating knowledge, structuring knowledge and imparting knowledge", we work on mostly interdisciplinary research projects to develop solutions for current challenges, for example in the areas of digitalisation, mobility and energy, and to make these available to German SMEs in particular.

Our expertise in lightweight construction is mainly reflected in two of our five specialist groups: Calculation and simulation methods: - Coupling classic analytical calculation methods based on technical mechanics with numerical calculation methods such as finite element analysis. This can drastically reduce the calculation time while maintaining the same quality of results. - Utilisation of machine learning methods for the design of components. Material and stress-optimised design: - Effective material/component behaviour - Process-oriented structural optimisation - Multi-scale analysis - Tribology and surface technology

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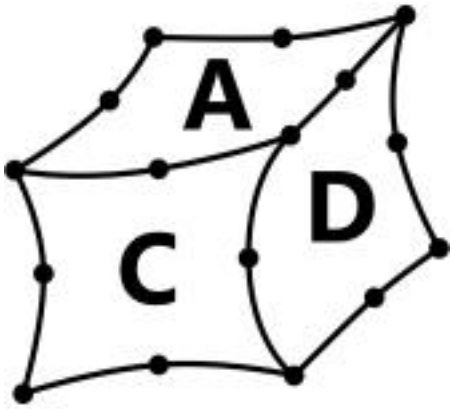
www.konstruktionslehre.uni-bayreuth.de/de/index.html



Organisation type
University or higher education institution

Sectors
No specific sector

Employees
10 up to 49

Turnover
n/a

Funding

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About this organisation

Main areas covered	Simulation tools, Calculation & simulation methods, Continuous development processes, Process-oriented structural optimisation, Tribology
Infrastructure	
Certifications	
Keywords	
Memberships	

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
Products			
Services & consulting Training, Consulting, Engineering, Simulation, Technology transfer	✓	✓	

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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, Lightweight construction concepts, Lightweight material construction	✓	✓	
Functional integration			
Measuring and testing technology			
Modelling and simulation Loads & stress, Multiphysics simulation, Optimisation, Structural mechanics, Materials	✓	✓	✓
Plant construction & automation			
Recycling technologies			
Manufacturing process			
Additive manufacturing Fused deposition modeling, Stereolithography	✓	✓	✓
Coating (surface engineering)			
Fibre composite technology			
Forming			
Joining			
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 Biocomposites	✓	✓	
Cellular materials (foam materials)			
Composites			
Fibres			
Functional materials			
Metals			
Plastics			
Structural ceramics			
(Technical) textiles			

Contacts

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Contacts

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