University of the Federal Armed Forces Munich

Institute for Lightweight Construction

About this organisation

Machine translation

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

The Institute of Lightweight Structures deals with the development and analysis of lightweight structures, in particular for the aerospace industry and other transport technology. The focus is on modern lightweight construction methods using fibre-reinforced materials, with particular emphasis on hybrid construction methods.

The research work focuses on the development of methods that are suitable for the initial design of lightweight structures. These are in particular analytical calculation methods, if necessary with the support of numerical methods. In addition to the development or preparation of special calculation methods for the respective problem, the experimental verification of the theories is a focal point of the work. Special attention is paid to sandwich structures and force transmission (e.g. bolted and bonded joints).

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85579 Neubiberg
Bavaria
Germany
www.unibw.de/leichtbau

Organisation type
University or higher education institution

Sectors
No specific sector

Employees
Up to 9

Turnover
n/a

Funding

Main areas covered	Hybrid structures, force application, Sandwich structures, Friction-based power transmission, Strength of imperfect structures
Infrastructure	Strength laboratory, Servohydraulic testing system, 10 - 1000 kN, Universal testing machine 150 kN, Electrodyn. shaker, max 20 kN, Electrical and optical measuring methods
Certifications	
Keywords	
Memberships	

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
Products Parts and components, Software & databases, Materials	✓	✓	
Services & consulting Training, Consulting, Testing and trials, Engineering, Simulation	✓	✓	
Field of technology			
Design & layout Lightweight design, Hybrid structures, Lightweight construction concepts, Lightweight material construction	✓	✓	
Functional integration			
Measuring and testing technology Component and part analysis, Destructive analysis	✓	✓	✓
Modelling and simulation Loads & stress, Optimisation, Structural mechanics, Materials	✓	✓	
Plant construction & automation			
Recycling technologies			

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing			
Coating (surface engineering)			
Fibre composite technology			
Forming			
Joining			
Material property alteration			
Primary forming			
Processing and separating			
Textile technology			
Material			
Biogenic materials			
Cellular materials (foam materials)			
Composites			
Fibres			
Functional materials			
Metals			
Plastics			
Structural ceramics			
(Technical) textiles			

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Contacts

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Institute Director

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