

About this organisation

Machine translation

This profile 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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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



[Projects in the funding catalogue](#)

About this organisation

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

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	✓	✓	

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Field of technology			
Design & layout Lightweight design, Hybrid structures, Lightweight construction concepts, Lightweight material construction	✓	✓	
<i>Functional integration</i>			
Measuring and testing technology Component and part analysis, Destructive analysis	✓	✓	✓
Modelling and simulation Loads & stress, Optimisation, Structural mechanics, Materials	✓	✓	
<i>Plant construction & factory automation</i>			
<i>Recycling technologies</i>			
Manufacturing process			
<i>Additive manufacturing</i>			
<i>Coating (surface engineering)</i>			
<i>Fibre composite technology</i>			
<i>Forming</i>			
<i>Joining</i>			
<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			
Biogenic materials			
Cellular materials (foam materials)			
Composites			
Fibres			
Functional materials			
Metals			
Plastics			
Structural ceramics			
(Technical) textiles			

Contacts

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Institute Director

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