

About this organisation

35 scientists, supported by 11 technicians and administrative staff members and approximately 50 student assistants, work on the institute's research projects. Especially when it comes to interdisciplinary research issues, the projects are often pursued with national and international partners.

The research activities of the Institute of Forming Technology and Lightweight Components comprise the development of new forming processes and process chains as well as the extension of existing production processes. The objectives are physically sound process descriptions, the configuration and improvement of component properties, and a holistic approach of the process efficiency. Methodological key aspects are material characterization and simulation methods. The fundamental research results are transferred to industrial practice. This process is often accompanied by industrial partners.

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Main areas covered

Umformtechnik, Leichtbau, Massivumformung, Biegung, Blechumformung

Infrastructure

Certifications

Keywords

Memberships



Organisation type

University or higher education institution

Sector



Employees

10 up to 49

Turnover

n/a

Funding

Overview of lightweighting expertise			
	Research	Development	Manufacturing & Supply
Offer			
Products			
Services & consulting			
Field of technology			
Design & layout			
Functional integration			
Measuring and testing technology			
Modelling and simulation Loads & stress, Life-cycle analysis, Multiphysics simulation, Optimisation, Processes, Structural mechanics, Materials	✓	✓	✓
Plant construction & automation			
Recycling technologies			

Overview of lightweighting expertise

	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing 3D printing, Fused deposition modeling, Selective laser melting (SLM, LPBF, ...), Selective laser sintering (SLS)	✓	✓	
<i>Coating (surface engineering)</i>			
<i>Fibre composite technology</i>			
Forming Bending, Impact extrusion, Compression moulding, Forging, Extrusion moulding, Stretch forming, Thermal converting, Deep-drawing, Fluid active media based forming, Rolling	✓	✓	✓
Joining Hybrid joining, Welding	✓	✓	
<i>Material property alteration</i>			
Primary forming Extrusion	✓	✓	
<i>Processing and separating</i>			
<i>Textile technology</i>			

Overview of lightweighting expertise			
	Research	Development	Manufacturing & Supply
Material			
Biogenic materials			
Cellular materials (foam materials)			
Composites			
Fibres			
Functional materials			
Metals			
Aluminium, Magnesium, Steel, Titanium	✓	✓	
Plastics			
Structural ceramics			
(Technical) textiles			

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