

Ilmenau University of Technology

Department of Production Engineering

About this organisation

Machine translation

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

Ilmenau University of Technology is a university of the Free State of Thuringia in the Goethe and university town of Ilmenau. The TU Ilmenau comprises five faculties (Electrical Engineering and Information Technology, Computer Science and Automation, Mechanical Engineering, Mathematics and Natural Sciences, Economics and Media) Research and teaching at the TU Ilmenau are strongly characterised by engineering.

Production engineering is a pillar of mechanical engineering; the Department of Production Engineering can look back on 60 years of research and teaching. During this time, the scientists in the department have been active in several areas of production engineering and have been able to actively shape the changes in production. Today, the department specialises in pressure welding, laser material processing, arc technology and machining. Focus on research Ilmenau Production Engineering is primarily concerned with laser material processing, arc technology, pressure welding and machining. The research focus is on material and process-related investigations of metals, metallic mixed compounds, hybrid composites and plastics. Ilmenauer Fertigungstechnik can draw on many years of experience and excellent networking with research centres and industrial partners.

Gustav-Kirchhoff-Platz 2
98693 Ilmenau
Thuringia
Germany
www.tu-ilmenau.de/fertigungstechnik/



Organisation type

University or higher education institution

Sectors



Employees

10 up to 49

Turnover

€2m - €10m

Funding

About this organisation

Main areas covered Arc technology, Laser material processing, Pressure welding, Tensioning, Additive manufacturing using WAAM

Infrastructure

Certifications

Keywords

Memberships

Overview of lightweighting expertise

Machine translation

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Manufacturing
Research Development & Supply

Offer

Products

Services & consulting

Training, Consulting, Testing and trials,
Engineering, Prototyping, Validation,
Simulation, Technology transfer



Overview of lightweighting expertise

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Field of technology	Manufacturing		
	Research	Development	& Supply
Design & layout Lightweight manufacturing, Lightweight design, Hybrid structures, Lightweight construction concepts, Lightweight material construction	✓	✓	
Functional integration Material functionalisation	✓	✓	
Measuring and testing technology Component and part analysis, Visual analysis (e.g. microscopy, metallography), Materials analysis, Destructive analysis, Non-destructive analysis	✓	✓	
Modelling and simulation Multiphysics simulation, Processes, Structural mechanics, Materials, Reliability validation	✓	✓	
Plant construction & automation Plant construction, Automation technology, Handling technology, Robotics	✓	✓	
<i>Recycling technologies</i>			

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing 3D printing, Deposition welding, Others (WAAM - Wire Arc Additive Manufacturing)	✓	✓	
<i>Coating (surface engineering)</i>			
<i>Fibre composite technology</i>			
<i>Forming</i>			
Joining Hybrid joining, Soldering, Welding	✓	✓	
Material property alteration Heat treatment	✓	✓	
Primary forming Extrusion	✓	✓	
Processing and separating Milling	✓	✓	
<i>Textile technology</i>			

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Material			
<i>Biogenic materials</i>			
<i>Cellular materials (foam materials)</i>			
Composites			
Glass-fiber reinforced plastics (GFRP), Carbon-fiber reinforced plastics (CFRP)	✓	✓	
Fibres			
Glass fibres, Carbon fibres	✓	✓	
<i>Functional materials</i>			
Metals			
Aluminium, Intermetallic alloys, Magnesium, Steel, Titanium, Others (Nickel, bronze)	✓	✓	
Plastics			
Thermoset plastics, Elastomers, Thermoplastics	✓	✓	
<i>Structural ceramics</i>			
<i>(Technical) textiles</i>			

Contacts

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Contacts

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