University of Paderborn - Laboratory for Materials and Joining Technology (LWF)

Laboratory for Materials and Joining Technology (LWF)

About this organisation

Machine translation

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

The Laboratory for Materials and Joining Technology (LWF) is a nationally and internationally recognised research institute with a focus on joining technology, in particular mechanical and thermal joining, bonding and hybrid joining. It also specialises in determining characteristic values and simulation.

As a partner to SMEs, large companies and funding organisations, we provide process-, material-specific and constructive research results in materials and joining technology for the economic development and production of energy-efficient lightweight structures in particular.

Pohlweg 47 - 49
33098 Paderborn
North Rhine-Westphalia
Germany
www.lwf.upb.de

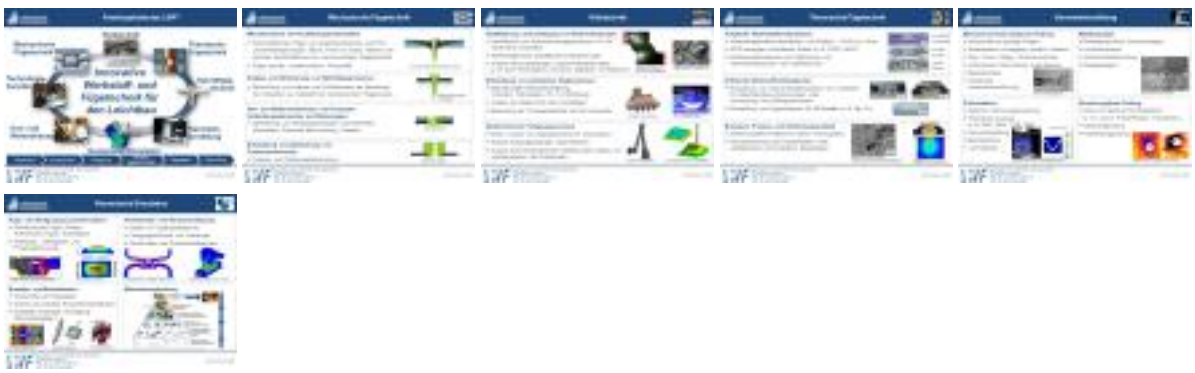
Organisation type
University or higher education institution

Sectors

Employees
50 up to 249

Turnover
€2m - €10m

Funding



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About this organisation

Main areas covered	Joining lightweight structures, (Mechanical joining technology, Thermal joining, bonding technology, Determination of characteristic values, simulation)
Infrastructure	Joining equipment, bonding laboratory, Testing equipment (destructive, non-destructive), Optical testing technology, Metallography
Certifications	Centre for mechanical joining, Hybrid joining
Keywords	Mechanical joining, Thermal joining, Adhesive bonding, Simulation, Determination of characteristic values
Memberships	EFB e.V., FOSTA e.V., GFaI e.V., DVS e.V., WAW e.V.

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
Products Parts and components, Machines and plants, Software & databases, Materials	✓	✓	✓
Services & consulting Training, Consulting, Testing and trials, Engineering, Validation, Simulation	✓	✓	✓

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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 Actuator technology, Sensor technology, Thermal activation	✓	✓	✓
Measuring and testing technology Component and part analysis, Visual analysis (e.g. microscopy, metallography), System analysis, Materials analysis, Destructive analysis, Non-destructive analysis	✓	✓	✓
Modelling and simulation Crash behaviour, Loads & stress, Life-cycle analysis, Optimisation, Processes, Structural mechanics, Materials, Reliability validation	✓	✓	✓
Plant construction & automation Plant construction, Automation technology, Handling technology, Robotics	✓	✓	✓
Recycling technologies Material separation, Recycling	✓	✓	✓

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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 Clinching, Hybrid joining, Adhesive bonding, Riveting, Screwing, Welding	✓	✓	✓
Material property alteration Thermomechanical treatment, Heat treatment	✓	✓	
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			
Cellular materials (foam materials)			
Composites Glass-fiber reinforced plastics (GFRP), Carbon-fiber reinforced plastics (CFRP), Laminates	✓	✓	
Fibres Glass fibres, Carbon fibres	✓	✓	
Functional materials			
Metals Aluminium, Intermetallic alloys, Magnesium, Steel, Titanium	✓	✓	
Plastics Thermoset plastics, Elastomers, Thermoplastics	✓	✓	
Structural ceramics			
(Technical) textiles			

Contacts

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Contacts

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