German Aerospace Centre (DLR)

Centre for Lightweight Production Technology (ZLP) Augsburg

About this organisation

Machine translation

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

The Centre for Lightweight Production Technology (ZLP) is a national DLR facility at the Augsburg and Stade sites. Its research focuses on the automated production of large lightweight structures made of fibre composite materials for the aerospace industry. The aim is to produce these cost-effectively in high quality and quantities. All process steps are being analysed.

Researchers and technicians at the ZLP work closely with industry at the sites to reduce risk, costs and time to production maturity and to facilitate the industrialisation of innovations. The ZLP in Augsburg has an infrastructure that is unique in Europe. The centrepiece of the facilities is the Multifunctional Cell ("MFZ"), a robot-supported research platform that allows a wide variety of manufacturing processes to be developed flexibly and in line with requirements, tested for automation and cost-effectiveness and then validated. The ZLP's core competences include the following: - Processing fibre composites (carbon and glass fibres, auxiliary materials) and hybrid materials (FML and Glare®) - Optimisation along the entire process chain - Design and operation of robot-supported automation solutions - Automated testing of larger structures in a short time during ongoing production

Am Technologiezentrum 4
86159 Augsburg
Bavaria
Germany
www.dlr.de/augsburg

Deutsches Zentrum für Luft- und Raumfahrt

Organisation type
Non-university research institution

Sectors

Employees
50 up to 249

Turnover
n/a

Funding
n/a

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About this organisation

Main areas covered	Textile and infusion technology, Thermoplastic processing, Production-integrated QA, Assembly and connection technology, Robotics for fibre composite production
Infrastructure	Cutter centre, Robot cells, Hot press, Oven systems, Water jet cutting system
Certifications	ISO 9001
Keywords	Robot-based production, Mechatronic handling, Automated VARI process, Thermoplastics production process, Production-integrated NDT
Memberships	

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
Products Parts and components, Machines and plants, Tools and moulds	✓	✓	✓
Services & consulting Consulting, Testing and trials, Engineering, Prototyping, Validation, Simulation, Technology transfer	✓	✓	

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Field of technology			
Design & layout Lightweight manufacturing, Hybrid structures	✓	✓	
Functional integration			
Measuring and testing technology Component and part analysis, Visual analysis (e.g. microscopy, metallography), Non-destructive analysis	✓	✓	
Modelling and simulation Optimisation, Processes, Structural mechanics	✓	✓	
Plant construction & automation Automation technology, Handling technology, Robotics	✓	✓	✓
Recycling technologies			

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing 3D printing	✓	✓	✓
Coating (surface engineering) Plasma process	✓	✓	✓
Fibre composite technology Filament winding, Resin infusion process, Pre-preg processing, Vacuum infusion	✓	✓	✓
Forming Thermal converting	✓	✓	✓
Joining Hybrid joining, Adhesive bonding, Welding	✓	✓	✓
Material property alteration			
Primary forming			
Processing and separating Milling, Others (Water jet, laser)	✓	✓	✓
Textile technology Preforming	✓	✓	✓

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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), Others (Fibre metal laminates (FML))	✓	✓	✓
Fibres Glass fibres, Carbon fibres	✓	✓	✓
Functional materials			
Metals Aluminium	✓	✓	✓
Plastics Thermoset plastics, Elastomers, Thermoplastics	✓	✓	✓
Structural ceramics			
(Technical) textiles			

Contacts

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Contacts

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