

# German Aerospace Centre (DLR)

## Centre for Lightweight Production Technology (ZLP) Augsburg

### About this organisation

#### Machine translation

This profile 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

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Bavaria  
Germany  
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#### Organisation type

Non-university research institution

#### Sectors



#### Employees

50 up to 249

#### Turnover

n/a

#### Funding

n/a

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

### Overview of lightweighting expertise

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

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

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

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<b>Material</b>			
<i>Biogenic materials</i>			
<i>Cellular materials (foam materials)</i>			
<b>Composites</b> Glass-fiber reinforced plastics (GFRP), Carbon-fiber reinforced plastics (CFRP), Others: null	✓	✓	✓
<b>Fibres</b> Glass fibres, Carbon fibres	✓	✓	✓
<i>Functional materials</i>			
<b>Metals</b> Aluminium	✓	✓	✓
<b>Plastics</b> Thermoset plastics, Elastomers, Thermoplastics	✓	✓	✓
<i>Structural ceramics</i>			
<i>(Technical) textiles</i>			

### Contacts

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### Contacts

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*Head of ZLP Augsburg*

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