

# Fraunhofer Institute for Machine Tools and Forming Technology

## Fraunhofer Plastics Technology Center Oberlausitz

### About this organisation

Fraunhofer Plastics Technology Center Oberlausitz (FKO) has been working as a project group of Fraunhofer IWU in Zittau since 2011, conducting research and development of competitive lightweight structures and efficient plastic technologies. The focus lies on the transfer of know-how into the region and on the development of innovative technologies and products mainly for the plastics processing industry.

The research focuses on additive manufacturing of plastic components, the development of semi-finished products of fiber-reinforced thermoplasts, on the development of functionally integrated plastic components and on elastomer processing. Two rapid prototyping machines are available as the latest technology of additive manufacturing for manufacturing complex plastic models, tools and functional prototypes. In addition to research and development activities, these two plants are also specifically used for education and training of skilled personnel. The technical center, which was inaugurated in November 2016, equips the project group with modern machinery with extensive system technology and analytical technology for representing continuous process chains. At this technical center a successful collaboration exists between Fraunhofer IWU, the University of Applied Sciences Zittau / Görlitz and Chemnitz University of Technology.

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#### Organisation type

Non-university research institution

#### Sectors



#### Employees

10 up to 49

#### Turnover

Up to €2m

#### Funding



[Projects in the funding catalogue](#)

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### About this organisation

<b>Main areas covered</b>	high pressure RTM, compression moulding, additive manufacturing
<b>Infrastructure</b>	thermal moulding press, plasticating unit, handling systems, laboratories
<b>Certifications</b>	ISO 9001
<b>Keywords</b>	3D-Printing, high performance materials
<b>Memberships</b>	

### Overview of lightweighting expertise

	Research	Development	Manufacturing & Supply
<b>Offer</b>			
<i>Products</i>			
<b>Services &amp; consulting</b>			
Testing and trials, Prototyping, Validation, Simulation, Technology transfer	✓	✓	

## Overview of lightweighting expertise

	Research	Development	Manufacturing & Supply
<b>Field of technology</b>			
<b>Design &amp; layout</b> Lightweight design, Hybrid structures	✓	✓	
<b>Functional integration</b> Material functionalisation	✓	✓	
<b>Measuring and testing technology</b> Visual analysis (e.g. microscopy, metallography), Materials analysis, Destructive analysis, Non- destructive analysis	✓		
<b>Modelling and simulation</b> Loads & stress, Life-cycle analysis, Optimisation, Processes, Structural mechanics, Materials, Reliability validation	✓	✓	
<b>Plant construction &amp; factory automation</b> Automation technology, Handling technology	✓	✓	
<i>Recycling technologies</i>			

## Overview of lightweighting expertise

	Research	Development	Manufacturing & Supply
<b>Manufacturing process</b>			
<b>Additive manufacturing</b> 3D printing, Fused deposition modeling, Selective laser sintering (SLS)	✓	✓	
<i>Coating (surface engineering)</i>			
<b>Fibre composite technology</b> Resin infusion process, Resin transfer moulding, Pre-preg processing	✓	✓	
<i>Forming</i>			
<i>Joining</i>			
<b>Material property alteration</b> Mechanical treatment, Thermomechanical treatment, Heat treatment	✓	✓	
<i>Primary forming</i>			
<i>Processing and separating</i>			
<i>Textile technology</i>			

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### Overview of lightweighting expertise

	Research	Development	Manufacturing & Supply
<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)	✓	✓	
<b>Fibres</b> Aramid fibres, Glass fibres, Carbon fibres	✓	✓	
<i>Functional materials</i>			
<i>Metals</i>			
<b>Plastics</b> Thermoset plastics, Elastomers, Thermoplastics	✓	✓	
<i>Structural ceramics</i>			
<i>(Technical) textiles</i>			

### Contacts

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