

About this organisation

Machine translation

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

The Fraunhofer IGCV stands for application-oriented research. This means the transfer of basic knowledge into customised solutions. Our unique selling point lies in interdisciplinary solutions from the fields of foundry, composite and processing technology. We enable end-to-end innovations from materials technology and component design through to production technology and the supply chain.

The main focus is on providing new types of structures for lightweight construction that are differentiated by manufacturing concepts and joining techniques. Focussing on hybrid construction methods and corresponding production systems also offers potential for highly integrated solutions and innovative design concepts in lightweight construction. The integration of expertise from the field of Industry 4.0 is also an important building block for the competitive production of tomorrow. With its Learning Factory for Networked Production (LVP), the Fraunhofer IGCV is strongly committed to the transfer of digital technologies to companies in the region.

Am Technologiezentrum 2
86159 Augsburg
Bavaria
Germany
www.igcv.fraunhofer.de



Organisation type

Non-university research institution

Sectors



Employees

50 up to 249

Turnover

n/a

Funding

Fraunhofer Institute for Casting, Composite and Processing Technology

About this organisation

Main areas covered	Light metal casting, Fibre composite construction, Hybrid construction, Industry 4.0, Industrial projects and further training
Infrastructure	Learning factory for networked production, Metallography laboratory, Laboratory for material analysis, Laboratory for testing technology and recycling, Laboratory for Additive Manufacturing AMLab
Certifications	
Keywords	Additive manufacturing, Lightweight casting technologies, Fibre composites
Memberships	Fraunhofer Group for Production

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
Products Parts and components, Machines and plants, Software & databases, Systems and end products, Materials	✓	✓	
Services & consulting Training, Consulting, Testing and trials, Engineering, Standardisation, Prototyping, Validation, Simulation, Technology transfer	✓	✓	

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Field of technology			
Design & layout Lightweight manufacturing, Hybrid structures, Lightweight construction concepts, Lightweight material construction	✓	✓	
Functional integration Thermal activation, Material functionalisation	✓	✓	
Measuring and testing technology Component and part analysis, Visual analysis (e.g. microscopy, metallography), Environmental simulation, Materials analysis, Destructive analysis, Non-destructive analysis	✓	✓	
Modelling and simulation Crash behaviour, Loads & stress, Life-cycle analysis, Multiphysics simulation, Optimisation, Processes, Structural mechanics, Materials, Reliability validation	✓	✓	
Plant construction & automation Automation technology, Handling technology, Robotics		✓	
Recycling technologies Downcycling, Material separation, Recycling	✓	✓	

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing 3D printing, Deposition welding, Selective laser melting (SLM, LPBF, ...)	✓	✓	✓
<i>Coating (surface engineering)</i>			
Fibre composite technology Casting (concrete), Manual lamination, Resin infusion process, Resin transfer moulding, Pre-preg processing, Vacuum infusion	✓	✓	✓
Forming Compression moulding, Thermal converting, Deep-drawing	✓	✓	
Joining Hybrid joining, Adhesive bonding	✓	✓	
<i>Material property alteration</i>			
Primary forming Casting, Pultrusion	✓	✓	✓
<i>Processing and separating</i>			
Textile technology Preforming	✓	✓	

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Material			
<i>Biogenic materials</i>			
<i>Cellular materials (foam materials)</i>			
Composites			
Metal-ceramic composite	✓		
<i>Fibres</i>			
<i>Functional materials</i>			
Metals			
Aluminium, Steel, Titanium	✓	✓	
<i>Plastics</i>			
Structural ceramics			
Oxidic ceramics	✓		
<i>(Technical) textiles</i>			

Contacts

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Contacts

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