Fraunhofer
IGCV

FRAUNHOFER INSTITUTE FOR
CASTING, COMPOSITE AND PROCESSING TECHNOLOGY

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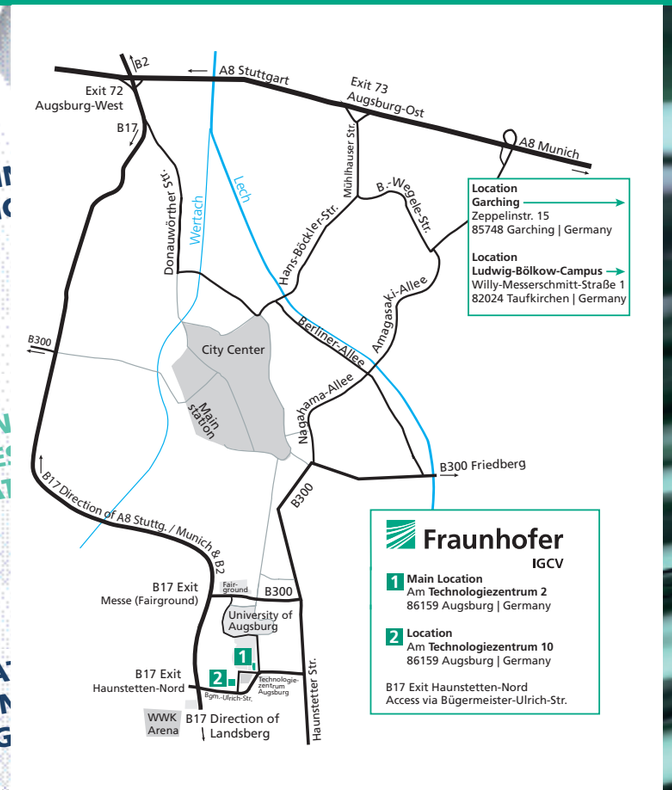
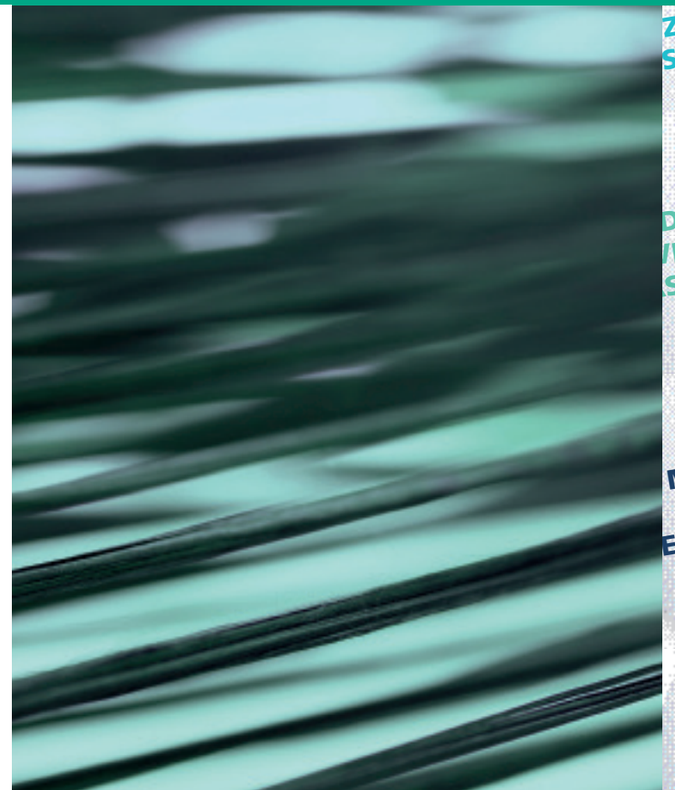
INNOVATIONS FOR PRODUCTION OF TOMORROW








ABOUT US

The aim of the Fraunhofer IGCV is to pool research and development in the fields of lightweight casting technologies, fiber composite materials, and automated production, to generate innovations for the German industry, and to advance interdisciplinary research in the German core industries of automotive, aircraft, plant, and mechanical engineering.

The institute management, administration, and the fields of research of automation, processing, and composites are located at the Augsburg headquarters. At the Garching site, a casting technology department will be set up.

In close cooperation with the Augsburg universities, we persistently strive to establish a European center for resource efficiency in Augsburg.

The Fraunhofer IGCV undertakes production and process engineering research with direct links to application. The competences range from material sciences to structural mechanics to manufacturing technology and production. The main focus is on providing new structures for lightweight construction that differentiate through manufacturing concepts and joining technologies.

OUR SERVICES

Technology consulting and optimization

- P-Processes
- Materials
- Studies (manufacturing)
- Material dimensioning and evaluation
- Industrialization concepts
- Process monitoring
- Process simulation
- Customer-specific optimization of additive manufacturing processes
- Qualification of new materials for additive manufacturing
- Development of specific facility components
- Technology comparison and optimization of industrial purification processes

Business organization

- Optimization of order processing
- Selection and assessment of relevant ICT
- Auto ID implementation
- Platform concepts
- Process/material flow simulation

Material and component analysis

- Testing technology
- Material characterization
- Online process monitoring
  - Curing process monitoring
  - Phase transformation monitoring
- Component analysis
- Contamination analysis in terms of technical cleanliness
- Testing the processability of fiber reinforced tows/tapes (slitting, placing, forming, consolidating or soaking behavior, etc.)

Prototyping

- Lot size 1 to small series
- Production of fiber reinforced components by
  - Pultrusion
  - Automated tape laying
  - Automated fiber placement
- Production of casting molds

Process chain analysis

- Intelligent material flow management/production process planning
- Cost analysis of individual production technologies and complete production process chains
- Ecological assessment of the product life cycle
- Potential analysis
- Energy management
- Provision of energy data for different production technologies, process parameters, and marginal production conditions
- Analysis and improvement of production sequences in terms of technical cleanliness
- SCP

Training

- Training factory for networked production (www.lvp-bayern.de)
- Teacher training
- Company-specific employee qualification for the implementation of additive manufacturing processes