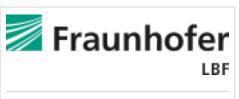
#### About this organisation

Fraunhofer LBF is an institute of the Fraunhofer Gesellschaft, with its expertise in the areas of structural durability, system reliability, vibration technology and polymer technology . Comprehensive skills ranging from data acquisition in real operational field use to data analysis and data Interpretation, in Addition to deriving specific measures to design and improve material, component and system properties form the basis for this.

The range of services in lightweighting includes layout and design, prototyping and validation of composites and plastic components along the entire value chain. From materials and construction to production and use. Fields of action are the examinination, validation and optimization of material or component properties and llifespan considering the real, application specific operational loads.

Bartningstraße 47 64289 Darmstadt Hesse Germany ☑ www.lbf.fraunhofer.de



**Organisation type** Non-university research institution

# Sectors 🛱 🗮 🖶 🔁 🔁

Others: Chemische Industrie / Kunststofftechnik

Employees 250 up to 499

**Turnover** €10m - €50m

Funding



Main areas covered	Fibre structure analyses, Characterisation of plastics and composites, Evaluation and optimisation of lightweight structures from the point of view of stability and fatigue strength, Function integration
Infrastructure	Fibre composite laboratory, Test facility Operational strength
Certifications	DIN ISO EN 9001:2008, DIN ISO-IEC 17025:2005
Keywords	Function-integrated lightweight construction, Integrative simulation, Material models
Memberships	Fraunhofer-Allianz Leichtbau, Initiative Leichtbau des BMWi, Fraunhofer- Verbund MATERIALS

	Research	N Development	Aanufacturing & Supply
Offer			
<b>Products</b> Parts and components, Semi-finished parts, Materials	$\checkmark$	$\checkmark$	
<b>Services &amp; consulting</b> Training, Consulting, Testing and trials, Engineering, Prototyping, Validation, Simulation, Approval	$\checkmark$	~	~
Field of technology			
<b>Design &amp; layout</b> Lightweight design, Hybrid structures, Lightweight construction concepts	$\checkmark$	~	
<b>Functional integration</b> Actuator technology, Sensor technology, Material functionalisation	$\checkmark$	~	$\checkmark$
<b>Measuring and testing technology</b> Component and part analysis, System analysis, Environmental simulation, Materials analysis, Destructive analysis, Non-destructive analysis	~	~	~
<b>Modelling and simulation</b> Loads & stress, Life-cycle analysis, Optimisation, Structural mechanics, Materials, Reliability validation	$\checkmark$	~	~
Plant construction & automation			

			Manufacturing	
	Research	Development	& Supply	
Manufacturing process				
Additive manufacturing				
Coating (surface engineering)				
Fibre composite technology				
Forming				
Joining				
Material property alteration				
Primary forming				
Processing and separating				

		Manufacturi	
	Research	Development	& Supply
Material			
Biogenic materials			
Cellular materials (foam materials)			
<b>Composites</b> Glass-fiber reinforced plastics (GFRP), Carbon-fiber reinforced plastics (CFRP), Nanocomposites, Natural fibre reinforced plastics (NFRP)	~	~	~
Fibres			
<b>Functional materials</b> Electrorheological/magnetorheological fluids, Electrostrictive / magnetostrictive materials, Shape memory materials, Piezoelectric materials	~	~	
<b>Metals</b> Steel	$\checkmark$	$\checkmark$	
<b>Plastics</b> Thermoset plastics, Elastomers, Thermoplastics	$\checkmark$	$\checkmark$	
Structural ceramics			

#### Contacts