Fraunhofer Institute for Production Technology IPT

Fraunhofer Society for the Promotion of Applied Research e. V.

About this organisation

Machine translation

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

The Fraunhofer Institute for Production Technology IPT develops system solutions for 'Next Generation Production' – a networked, adaptive production system for sustainable and resource-efficient products, as well as the associated services. Its main areas of focus are process technology, production machinery, production quality and measurement technology, as well as technology management.

Fibre-reinforced plastics (FRP) are ideal for lightweight construction and are being used with increasing frequency in a wide range of applications, from mobility and transport through to construction and energy generation: Wherever low component weight is a priority, they also offer the advantage of good corrosion resistance and, on top of that, possess electrical insulation properties. Consequently, lightweight materials such as glass-fibre-reinforced plastics (GFRP) are found, for example, in numerous components for wind turbine blades, pleasure boat hulls, antenna masts, lampposts, overhead line pylons and pipework systems. Carbon-fibre-reinforced plastics (CFRP) are widely used in vehicle manufacturing, the aerospace industry, and in sports equipment and other lightweight yet highly durable consumer goods.

Steinbachstraße 17
52074 Aachen
North Rhine-Westphalia
Germany
www.ipt.fraunhofer.de

Organisation type
Non-university research institution

Sectors

Employees
500 and more

Turnover
n/a N/A

Funding

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Main areas covered	Laser technologies, Fibre-reinforced composites technology, Additive manufacturing, Machining and Cutting, Surface Technology
Infrastructure	
Certifications	
Keywords	
Memberships	

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
Products Machines and plants, Software & databases, Systems and end products, Tools and moulds	✓	✓	✓
Services & consulting Consulting, Prototyping, Simulation, Technology transfer	✓	✓	✓

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Field of technology			
Design & layout Lightweight manufacturing, Hybrid structures, Lightweight construction concepts	✓	✓	✓
Functional integration Actuator technology, Sensor technology, Thermal activation	✓	✓	✓
Measuring and testing technology			
Modelling and simulation			
Plant construction & automation Plant construction, Automation technology, Handling technology, Robotics	✓	✓	✓
Recycling technologies			

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	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing 3D printing, Deposition welding, Selective laser melting (SLM, LPBF, ...)	✓	✓	✓
Coating (surface engineering)			
Fibre composite technology Filament winding	✓	✓	✓
Forming Impact extrusion, Compression moulding, Thermal converting	✓	✓	✓
Joining Welding	✓	✓	✓
Material property alteration			
Primary forming			
Processing and separating Milling, Cutting	✓	✓	✓
Textile technology			

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Material			
Biogenic materials			
Cellular materials (foam materials)			
Composites Glass-fiber reinforced plastics (GFRP), Carbon-fiber reinforced plastics (CFRP)	✓	✓	✓
Fibres Glass fibres, Carbon fibres	✓		
Functional materials			
Metals			
Plastics			
Structural ceramics			
(Technical) textiles			

Contacts

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Contacts

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