Fraunhofer Institute for Surface Engineering and Thin Films; Braunschweig

incl. Application Centre for Plasma and Photonics; Göttingen

About this organisation

Machine translation

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

"Fraunhofer" is one of the four major non-university research organisations in Germany with approx. 24,000 employees, spread over approx. 67 institutes and an annual budget of approx. 2 billion euros, making it the leading provider of R&D services in Europe. The Fraunhofer IST in Braunschweig with its application centre in Göttingen is one of the leading R&D facilities for coating and surface technology.

Specialised coatings generate new material properties and enable new lightweight construction concepts: Prototype systems and hand-held devices for ultra-fine cleaning, microstructuring, coating and modification of surfaces - especially of temperature-sensitive substrates (polymers, ultra-thin glass, films, paper, FRP). Special coatings for weight reduction (e.g. Al and Ti) in tribological systems Transparent scratch protection of glass to reduce weight Plastic metallisations against the background of REACH Functional coatings of light metals such as Ti, Mg, Al and their alloys Galvanic metallisation of CFRP components incl. laser pre-treatment Adhesive-free joining using the AD plasma process Sensors for forming technology with: Sensor modules for the deep drawing process and plastic injection moulding Sensor tools for the sheet metal forming process

Bienroder Weg 54 E
38108 Braunschweig
Lower Saxony
Germany
ist.fraunhofer.de/

Organisation type
Non-university research institution

Sectors

Employees
50 up to 249

Turnover
€10m - €50m

Funding

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About this organisation

Main areas covered	Surface modification, Layer development, Simulation of layer systems, Process development, Equipment and plant engineering
Infrastructure	Analytics/quality assurance lab, Plasma particle technical centre, Laser-Plasma-Hybrid-Lab, New tribology centre
Certifications	
Keywords	Chemical vapour deposition, Atmospheric pressure plasma process, Low-pressure plasma process, Tribological layers, Electrochemical processes
Memberships	

Overview of lightweighting expertise

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

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Field of technology			
Design & layout			
Functional integration Sensor technology, Material functionalisation	✓	✓	✓
Measuring and testing technology Component and part analysis, Visual analysis (e.g. microscopy, metallography), Materials analysis, Destructive analysis, Non-destructive analysis	✓	✓	✓
Modelling and simulation Multiphysics simulation, Optimisation, Materials	✓	✓	✓
Plant construction & automation Plant construction	✓	✓	✓
Recycling technologies Recycling, Upcycling	✓	✓	

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing 3D printing, Selective laser melting (SLM, LPBF, ...), Selective laser sintering (SLS)	✓	✓	
Coating (surface engineering) Galvanising, Plasma process, Powder coating, Sputtering, Others (Microstructuring Ultra-fine cleaning)	✓	✓	✓
Fibre composite technology			
Forming Compression moulding, Extrusion moulding, Deep-drawing, Rolling	✓	✓	
Joining Others (Adhesive-free joining)	✓	✓	
Material property alteration			
Primary forming			
Processing and separating Drilling, Turning, Milling, Honing, Grinding, Cutting	✓	✓	✓
Textile technology Textile surface treatment and finishing	✓	✓	

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Material			
Biogenic materials Wood	✓	✓	✓
Cellular materials (foam materials)			
Composites Glass-fiber reinforced plastics (GFRP), Carbon-fiber reinforced plastics (CFRP)	✓	✓	
Fibres Glass fibres, Natural fibres	✓	✓	
Functional materials			
Metals Aluminium, Intermetallic alloys, Magnesium, Steel, Titanium	✓	✓	✓
Plastics Thermoset plastics, Elastomers, Thermoplastics	✓	✓	
Structural ceramics			
(Technical) textiles			

Contacts

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Contacts

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