

EcoMaT - Centre for Eco-efficient Materials & Technologies

Technology and Research Centre for Lightweight Construction in Bremen

About this organisation

Machine translation

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

The research and technology centre EcoMaT - Center for Eco-efficient Materials & Technologies - is being built in the airport city of Bremen. EcoMaT brings together the existing expertise of business and science in the field of lightweight construction in Bremen, in the immediate vicinity of Bremen Airport and important industrial partners. From 2019, around 500 employees will be conducting joint research into lightweight construction under one roof.

Central partners and tenants in EcoMaT: Airbus Group, Testia GmbH, Bremen Fibre Institute, DLR - German Aerospace Centre, Daimler AG Sector focus: Aviation, aerospace, automotive (supplemented by maritime industry, wind energy, plant and mechanical engineering) Technologies and areas of expertise: - Additive manufacturing (primarily metal) and industrial processes - Fibre composite materials (especially CFRP) - High-lift systems - Structural health monitoring - Testing and qualification of materials / components - Industry 4.0 (robotic systems, logistics in production) - Virtual development / testing of aircraft structures - Functional surfaces / functional integration - Qualification / training / education

Zweite Schlachtpforte 3
28195 Bremen
Bremen
Germany
www.ecomat-bremen.de



Organisation type

Administration or agency

Sectors



Employees

250 up to 499

Turnover

n/a

Funding

n/a

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Main areas covered	additive manufacturing, Fibre composite, Industry 4.0
Infrastructure	Various laboratories and technical facilities
Certifications	Various certifications
Keywords	Airbus, Bremen, Fibre institute, additive manufacturing
Memberships	

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
Products Parts and components, Machines and plants, Software & databases, Materials	✓	✓	✓
Services & consulting Training, Consulting, Testing and trials, Funding, Engineering, Standardisation, HR services, Validation, Simulation, Technology transfer, Approval	✓	✓	✓

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	Research	Development	Manufacturing & Supply
Field of technology			
Design & layout Lightweight manufacturing, Lightweight construction concepts, Others (Bionics)	✓	✓	
Functional integration Actuator technology, Media conductivity, Sensor technology	✓	✓	✓
Measuring and testing technology Component and part analysis, Visual analysis (e.g. microscopy, metallography), Materials analysis, Destructive analysis, Non-destructive analysis	✓	✓	✓
Modelling and simulation Crash behaviour, Optimisation, Processes, Structural mechanics, Materials, Reliability validation	✓	✓	
Plant construction & automation Plant construction, Robotics, Others (CoBots (collaborative industrial robotics))	✓	✓	✓
<i>Recycling technologies</i>			

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	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing 3D printing, Deposition welding, Selective laser melting (SLM, LPBF, ...), Selective laser sintering (SLS), Others (Powder qualification and production, software, simulation)	✓	✓	✓
Coating (surface engineering) Galvanising		✓	✓
Fibre composite technology Fibre spraying, Filament winding, Manual lamination, Resin infusion process, Resin transfer moulding, Vacuum infusion	✓	✓	✓
<i>Forming</i>			
Joining Adhesive bonding, Riveting	✓	✓	✓
Material property alteration Mechanical treatment, Thermochemical treatment, Thermomechanical treatment, Heat treatment	✓	✓	✓
Primary forming Extrusion, Sintering, Injection moulding	✓	✓	
<i>Processing and separating</i>			
Textile technology Preforming	✓	✓	

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	Research	Development	Manufacturing & Supply
Material			
<i>Biogenic materials</i>			
Cellular materials (foam materials) Others (Metal foams)	✓	✓	✓
Composites Aramid fibre composites, Glass-fiber reinforced plastics (GFRP), Carbon-fiber reinforced plastics (CFRP), Metal-fibre-polymer composite, Metal matrix composite, Natural fibre reinforced plastics (NFRP)	✓		
Fibres Aramid fibres, Glass fibres, Carbon fibres	✓		
Functional materials Shape memory materials, Others (Functional surfaces)	✓	✓	
<i>Metals</i>			
Plastics Thermoset plastics, Elastomers, Thermoplastics	✓	✓	
<i>Structural ceramics</i>			
(Technical) textiles Yarns, rovings, Woven fabrics, Knitted fabrics, Nonwovens, mats	✓	✓	

Contacts

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Contacts

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