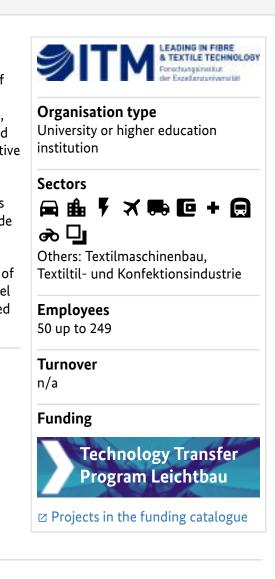
Institute of Textile Machinery and High Performance Material Technology (ITM)

About this organisation

The Institute for Textile Machinery and Textile High Performance Materials Technology at TU Dresden is a world-leading university research institution in the field of textile technology along the entire process chain. For the successful implementation of its diverse research projects, the ITM has a modern infrastructure that enables the rapid development of completely new technologies and innovative products.

The research activities at the ITM are focused on the areas machine, technology and product development and include development and processing of high-tech fibres made of carbon, glass, aramid, steel and ceramics. The research activities are complemented by modelling and simulation of structures and processes and include development of novel yarn constructions, 2D and 3D reinforcement semi-finished products, finishing and functionalisation.

Hohe Straße 6 01069 Dresden Saxony Germany ☑ tu-dresden.de/ing/maschinenwesen/itm





About this org	ganisation
Main areas covered	Textile machine development, 2D/3D reinforcement textiles, Structure and process simulation, Preform production, Textile-integrated sensors/actuators
Infrastructure	Technical Centre Textile Processes , Technical Centre Preforming, Technical Centre Fibre-Plastic Composites, Technical Centre Testing, CAE laboratories
Certifications	
Keywords	
Memberships	Composites United e. V.

Overview of lightweighting expertise					
	Research	N Development	lanufacturing & Supply		
Offer					
Products Parts and components, Semi-finished parts, Machines and plants, Materials	\checkmark	~			
Services & consulting Training, Consulting, Testing and trials, Validation, Simulation	~	\checkmark			

Research		lanufacturing & Supply
~	~	
\checkmark	~	
\checkmark	~	
\checkmark	~	
	Research	Research Development

	Research	N Development	Aanufacturing & Supply
Manufacturing process			
Additive manufacturing 3D printing, Others: null	\checkmark	\checkmark	
Coating (surface engineering) Plasma process, Others: null	\checkmark	\checkmark	
Fibre composite technology Casting (concrete), Manual lamination, Resin infusion process, Resin transfer moulding, Vacuum infusion, Others: null	~		
Forming Others: null	\checkmark	\checkmark	
Joining Adhesive bonding, Sewing, Welding	\checkmark	\checkmark	
Material property alteration Others: null	\checkmark	\checkmark	
Primary forming Others: null	\checkmark	\checkmark	
Processing and separating Others: null	\checkmark	\checkmark	
Textile technology Fibre manufacturing, Braiding, Yarn & roving production, Preforming, Knitting, Textile surface treatment and finishing, Weaving, Knitting, laid web production, Others: null	~	~	

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	Research	M Development	anufacturing & Supply
Material			
Biogenic materials Biocomposites, Others: null	\checkmark	\checkmark	
Cellular materials (foam materials) Others: null	\checkmark	\checkmark	
Composites Aramid fibre composites, Basalt fibre-reinforced plastic, Glass-fiber reinforced plastics (GFRP), Ceramic matrix composite (CMC), Carbon-fiber reinforced plastics (CFRP), Metal-fibre-polymer composite, Metal matrix composite, Textile- reinforced concrete	~	~	
Fibres Aramid fibres, Basalt fibres, Glass fibres, Ceramic fibres, Carbon fibres, Metal fibres, Natural fibres, Others: null	\checkmark	\checkmark	
Functional materials Shape memory materials, Others: null	\checkmark	\checkmark	
Metals Others: null	\checkmark	\checkmark	
Plastics Thermoset plastics, Elastomers, Thermoplastics	\checkmark	\checkmark	
Structural ceramics Others: null	\checkmark	\checkmark	
(Technical) textiles Yarns, rovings, Meshes, Laid webs, Crocheted fabrics, Woven fabrics, Knitted fabrics, Nonwovens, mats, Others: null	\checkmark	\checkmark	

Contacts