Institute for Production Engineering and Forming Machines (PtU)

About this organisation

Machine translation

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The Institute of Production Engineering and Forming Machines (PtU) at the Technical University of Darmstadt conducts research in the field of production engineering with a focus on forming manufacturing processes. In addition to the treatment of metallic forming materials, the research focus has expanded in recent years to include the forming of fibre materials such as paper, layered composites and functionally integrated construction methods.

The range of services in the field of lightweight construction includes the development and expansion of manufacturing methods for the production of spatially branched profiles made of high-strength steel and aluminium alloys. On the other hand, the PtU develops methods that enable the integration of functional materials during a forming process and thus represent functionally integrated structures. In addition, the PtU lays the foundations for the forming processing of layered composites (e.g. metal-plastic-metal) and fibre materials (e.g. paper or intrinsic prestressing through fibre-plastic composites). Furthermore, great attention is paid to profiling processes such as roll forming and gap profiling. The constant expansion of the process limits of classic forming processes in recent years has led to the application spectrum of these manufacturing methods being opened up for lightweight construction.

Otto-Berndt-Straße 2 64287 Darmstadt Hesse Germany ☑ www.ptu.tu-darmstadt.de



Organisation type University or higher education institution

Sectors No specific sector

Employees 50 up to 249

Turnover €2m - €10m

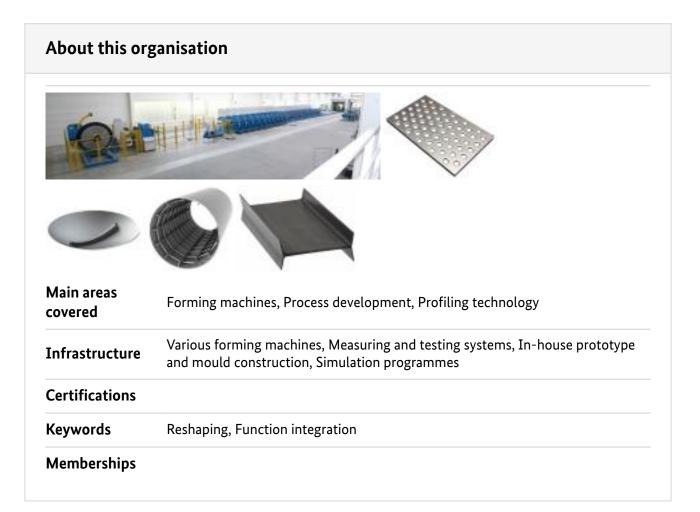
Funding



Technology Transfer Program Leichtbau

☑ Projects in the funding catalogue

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Overview of lightweighting expertise

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	Research	N Development	Aanufacturing & Supply
Offer			
Products Parts and components, Semi-finished parts, Machines and plants, Tools and moulds	\checkmark	\checkmark	
Services & consulting Training, Consulting, Testing and trials, Prototyping, Simulation	~	\checkmark	

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Overview of lightweighting expertise				
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	Research	N Development	lanufacturin & Supply	
Field of technology				
Design & layout Hybrid structures	\checkmark	\checkmark	\checkmark	
Functional integration Actuator technology, Sensor technology	\checkmark	\checkmark	\checkmark	
Measuring and testing technology Visual analysis (e.g. microscopy, metallography), Materials analysis, Destructive analysis, Non- destructive analysis	\checkmark	~		
Modelling and simulation Processes, Materials	\checkmark	\checkmark		
Plant construction & factory automation				
Recycling technologies				

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verview of lightweighting expertise				
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	Research	Development	Manufacturin & Supply	
Manufacturing process				
Additive manufacturing				
Coating (surface engineering) Others: null	\checkmark	\checkmark	\checkmark	
Fibre composite technology				
Forming Bending, Impact extrusion, Forging, Deep- drawing, Fluid active media based forming, Others: null	\checkmark	\checkmark	\checkmark	
Joining				
Material property alteration				
Primary forming				
Processing and separating				
Textile technology				

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	Research	N Development	Manufacturi & Supply	
Material				
Biogenic materials				
Cellular materials (foam materials)				
Composites Laminates, Others: null	~	\checkmark	\checkmark	
Fibres				
Functional materials				
Metals Aluminium, Magnesium, Steel	~	\checkmark		
Plastics				
Structural ceramics				
(Technical) textiles				

Contacts

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