

Direct Manufacturing Research Centre (DMRC) - University of Paderborn

Establishment of the Faculty of Mechanical Engineering at Paderborn University

About this organisation

Machine translation

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

Additive manufacturing processes are attracting increasing interest in science, industry and education. With this motivation in mind, the Direct Manufacturing Research Centre (DMRC) conducts research with the aim of enabling and improving the use of additive manufacturing processes in terms of direct manufacturing. The results are intended to support industry as well as teaching and training programmes.

Lightweight construction competences among others: - Structural lightweight construction - Lightweight material construction

Mersinweg 3
33098 Paderborn
North Rhine-Westphalia
Germany
dmrc.uni-paderborn.de/de/



Organisation type

University or higher education institution

Sectors



Employees

10 up to 49

Turnover

n/a

Funding

n/a

Main areas covered

Additive manufacturing processes, Topology optimisation, Re-engineering

Infrastructure

SLM, SLS, FDM

Certifications

Keywords

AM, Generative manufacturing, Industry 4.0, University research, Additive manufacturing

Memberships

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
<i>Products</i>			
Services & consulting Training, Consulting, Testing and trials, Engineering, Prototyping, Validation, Simulation, Technology transfer	✓	✓	
Field of technology			
Design & layout Lightweight manufacturing, Lightweight design, Hybrid structures, Lightweight construction concepts, Lightweight material construction	✓		
Functional integration Material functionalisation	✓		
Measuring and testing technology Component and part analysis, Visual analysis (e.g. microscopy, metallography), System analysis, Materials analysis, Destructive analysis, Non-destructive analysis	✓	✓	
Modelling and simulation Crash behaviour, Loads & stress, Life-cycle analysis, Multiphysics simulation, Optimisation, Materials, Reliability validation	✓	✓	
<i>Plant construction & automation</i>			
Recycling technologies Recycling	✓		

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	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing 3D printing, Fused deposition modeling, Selective laser melting (SLM, LPBF, ...), Selective laser sintering (SLS)	✓	✓	✓
<i>Coating (surface engineering)</i>			
<i>Fibre composite technology</i>			
<i>Forming</i>			
<i>Joining</i>			
<i>Material property alteration</i>			
<i>Primary forming</i>			
Processing and separating Milling, Sawing, Grinding, Cutting	✓		
<i>Textile technology</i>			

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	Research	Development	Manufacturing & Supply
Material			
<i>Biogenic materials</i>			
<i>Cellular materials (foam materials)</i>			
<i>Composites</i>			
<i>Fibres</i>			
<i>Functional materials</i>			
Metals Aluminium, Intermetallic alloys, Steel, Titanium	✓		
Plastics Thermoplastics	✓		
<i>Structural ceramics</i>			
<i>(Technical) textiles</i>			

Contacts

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Management

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