

Max-Planck-Institut für Eisenforschung GmbH

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About this organisation

The Max-Planck-Institut für Eisenforschung conducts advanced basic materials research related to the fields of sustainability, energy, digitalisation, mobility, infrastructure and medicine. We focus on nanostructured metallic materials as well as semiconductors and analyse them down to their atomic and electronic scales.

This enables us to develop new, tailor-made and more sustainable structural and functional materials, embracing their responsible synthesis and processing, atomic-scale characterization and properties, as well as their response in engineering components exposed to harsh, real operating environments.

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MAX-PLANCK-INSTITUT
FÜR EISENFORSCHUNG GmbH



Organisation type

Non-university research institution

Sectors

No specific sector

Employees

250 up to 499

Turnover

n/a

Funding

Main areas covered

Materials Science, Computer simulation, Al and Mg alloys

Infrastructure

Metallography, SEM-Scanning Electron Microscopy, TEM Transmiss. Electron Microscopy, APT-Atom Probe Tomography, mechanical characterisation

Certifications

Keywords

Memberships

Overview of lightweighting expertise

Research Development **Manufacturing
& Supply**

Offer

Products

Services & consulting

Overview of lightweighting expertise

	Research	Development	Manufacturing & Supply
Field of technology			
<i>Design & layout</i>			
<i>Functional integration</i>			
<i>Measuring and testing technology</i>			
Modelling and simulation Multiphysics simulation, Structural mechanics, Materials	✓		
<i>Plant construction & automation</i>			
Recycling technologies Recycling	✓		
Manufacturing process			
Additive manufacturing 3D printing, Selective laser melting (SLM, LPBF, ...)	✓		
Coating (surface engineering) Sputtering	✓		
<i>Fibre composite technology</i>			
<i>Forming</i>			
<i>Joining</i>			
<i>Material property alteration</i>			
<i>Primary forming</i>			
<i>Processing and separating</i>			
<i>Textile technology</i>			

Overview of lightweighting expertise

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

Contacts

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