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.

Max-Planck-Str. 1
40237 Düsseldorf
North Rhine-Westphalia
Germany
www.mpie.de

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			

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Overview of lightweighting expertise

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

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Overview of lightweighting expertise

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

Contacts

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