

# New Materials Fürth GmbH

*Independent state research institution of the Free State of Bavaria*

## About this organisation

### Machine translation

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

Neue Materialien Fürth GmbH (NMF) is an application-oriented state research centre of the Free State of Bavaria with the aim of implementing new materials and manufacturing processes in industry-oriented solutions in close cooperation with research institutes and partners from industry. At NMF, new manufacturing processes are realised for the first time in pilot plant operation on industrial-grade equipment with unique selling points.

- Electron beam-based additive manufacturing (3D printing) of metals (e.g. Ni, Ti) and intermetallic materials
- Production, functionalisation and processing of long-fibre-reinforced thermoplastics (organic sheets) in process chains suitable for series production
- Future-oriented forming technologies for customised metal and hybrid components
- Magnesium injection moulding & die casting (Mg, Al): Alloy and process development, heat treatment, corrosion protection, hybrid and composite materials
- Continuous powder extrusion (Temconex®) for the production of profiles, wires and tubes (e.g. Al, Cu; also chip material and MMCs)
- Quality-assured additive manufacturing chain for metal and ceramic components (granulate production, moulding, sintering, post-processing; digital twin)
- Design of tools and processes through modelling and simulation
- Digitalisation in production
- Material testing and characterisation, metallography & analytics

Dr.-Mack-Str. 81  
90762 Fürth  
Bavaria  
Germany  
[www.nmfgmbh.de](http://www.nmfgmbh.de)



### Organisation type

Non-university research institution

### Sectors



### Employees

10 up to 49

### Turnover

€2m - €10m

### Funding

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### Main areas covered

Additive manufacturing, Long fibre-reinforced thermoplastics, forming technology, Magnesium injection moulding, Continuous powder extrusion, Material characterisation, digitalisation

### Infrastructure

Systems for selective electron beam melting, Intermittent hot presses, injection moulding machines, Continuous powder extrusion press, forming presses, Magnesium injection moulding plant, die casting machine, 3D printers, sintering furnaces, CAE tools, test laboratory

### Certifications

### Keywords

Organosheets, 3D printing, Magnesium, Simulation, Lightweight sheet metal construction

### Memberships

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## Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
<b>Offer</b>			
<b>Products</b> Parts and components, Semi-finished parts, Software & databases, Materials	✓	✓	
<b>Services &amp; consulting</b> Training, Consulting, Testing and trials, Prototyping, Validation, Simulation, Technology transfer	✓	✓	
<b>Field of technology</b>			
<b>Design &amp; layout</b> Hybrid structures, Lightweight construction concepts	✓	✓	✓
<b>Functional integration</b> Material functionalisation	✓		
<b>Measuring and testing technology</b> Component and part analysis, Visual analysis (e.g. microscopy, metallography), Environmental simulation, Materials analysis, Destructive analysis, Non-destructive analysis	✓	✓	
<b>Modelling and simulation</b> Loads & stress, Optimisation, Processes, Structural mechanics, Materials	✓	✓	✓
<i>Plant construction &amp; automation</i>			
<i>Recycling technologies</i>			

## Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
<b>Manufacturing process</b>			
<b>Additive manufacturing</b> 3D printing, Electron beam melting, Selective laser melting (SLM, LPBF, ...), Selective laser sintering (SLS)	✓	✓	
<i>Coating (surface engineering)</i>			
<b>Fibre composite technology</b> Others (Long-fibre reinforced thermoplastics (organic sheets), production and further processing on injection moulding machines and forming presses)	✓	✓	✓
<b>Forming</b> Impact extrusion, Compression moulding, Extrusion moulding, Thermal converting, Rolling, Others (Continuous powder extrusion)	✓	✓	
<i>Joining</i>			
<i>Material property alteration</i>			
<b>Primary forming</b> Casting, Pultrusion, Sintering, Injection moulding	✓	✓	
<i>Processing and separating</i>			
<i>Textile technology</i>			

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	Research	Development	Manufacturing & Supply
<b>Material</b>			
<i>Biogenic materials</i>			
<i>Cellular materials (foam materials)</i>			
<b>Composites</b> Aramid fibre composites, Glass-fiber reinforced plastics (GFRP), Carbon-fiber reinforced plastics (CFRP), Natural fibre reinforced plastics (NFRP)	✓	✓	
<b>Fibres</b> Aramid fibres, Glass fibres, Carbon fibres, Natural fibres	✓		
<i>Functional materials</i>			
<b>Metals</b> Aluminium, Intermetallic alloys, Magnesium, Steel, Titanium, Others (e.g. nickel, copper, intermetallic materials)	✓	✓	
<b>Plastics</b> Thermoplastics	✓		
<i>Structural ceramics</i>			
<i>(Technical) textiles</i>			

## Contacts

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**Contacts**

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