

## About this organisation

### Machine translation

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

AUTOMOTEAM is a technology-orientated research and development company with a unique position. We are developing the globally new technological ecosystem METAHYBRID and highly innovative series solutions focussing on multifunctional material hybrids with previously unknown properties. Our goals: maximum functional density and performance with minimum weight, as well as very high material, energy and cost efficiency.

State-of-the-art technologies such as METAKER® Surface or OPENPORE Light Metals are changing the perception of the constructive, functional and economic potential of light metals and light metal-based hybrid parts. The new METAHYBRID technological ecosystem makes it possible to combine materials from conventional and modern material classes with customised material properties to create a unique material system. Not only material hybrids, but also superordinate hybrids of material hybrids (metahybrids) become possible. A new perception of the limits of feasibility opens up new solutions ranging from the optimisation of existing products and processes to disruptive product and process innovations in a wide range of technical fields. The positive effects in terms of material, energy and cost efficiency are in the multi-digit percentage range.

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[www.automoteam.com](http://www.automoteam.com)



### Organisation type

Cluster

### Sectors



### Employees

n/a

### Turnover

n/a

### Funding

n/a

About this organisation

Main areas covered	Multi-material systems, Function integration, Lightweight construction, Modified materials
Infrastructure	METAHYBRID technology consortium, Consultancy and product development, Computer simulations, Material analysis, Series production
Certifications	
Keywords	LIGHTWEIGHT CONSTRUCTION, METAHYBRIDE, FUNCTIONAL HYBRID, ALUMINIUM HYBRID, MATERIAL HYBRID
Memberships	METAHYBRID innovation ecosystem, InSeL - Research network

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
Products			
Services & consulting			
Consulting, Engineering, Prototyping, Validation, Simulation, Technology transfer	✓	✓	✓

## Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
<b>Field of technology</b>			
<b>Design &amp; layout</b> Lightweight manufacturing, Lightweight design, Hybrid structures, Lightweight construction concepts, Lightweight material construction	✓	✓	✓
<b>Functional integration</b> Actuator technology, Media conductivity, Sensor technology, Thermal activation, Material functionalisation	✓	✓	✓
<b>Measuring and testing technology</b> Component and part analysis, Visual analysis (e.g. microscopy, metallography), Materials analysis, Destructive analysis, Non-destructive analysis	✓	✓	✓
<b>Modelling and simulation</b> Crash behaviour, Loads & stress, Life-cycle analysis, Multiphysics simulation, Optimisation, Structural mechanics, Materials, Reliability validation, Others (Multiscale simulation)	✓	✓	✓
<i>Plant construction &amp; automation</i>			
<i>Recycling technologies</i>			

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	Research	Development	Manufacturing & Supply
<b>Manufacturing process</b>			
<i>Additive manufacturing</i>			
<b>Coating (surface engineering)</b> Others (METAKER Surface - Microarc Oxidation or Plasma Electrolytic Oxidation)	✓	✓	✓
<i>Fibre composite technology</i>			
<i>Forming</i>			
<b>Joining</b> Hybrid joining, Adhesive bonding, Riveting, Screwing, Others (MM-Welding® technology is an innovative fastening technique that uses ultrasonic energy to form a positive and non-positive bond in porous materials, sheet metal structures, sandwich materials, injection-moulded and compression-moulded parts.)		✓	✓
<b>Material property alteration</b> Thermochemical treatment, Thermomechanical treatment, Heat treatment, Others (METAKER® Surface process transforms the surface layers of light metals into a unique, high-performance, multifunctional, atomic metal-ceramic composite.)	✓	✓	✓
<b>Primary forming</b> Casting, Injection moulding , Others (OPENPORE Light Metals - open-pored Al/Mg chill casting. Macroscopically isotropic, adjustable lightweight structures. METAHYBRID multi-material systems)	✓	✓	✓
<b>Processing and separating</b> Drilling, Turning, Milling, Electrical discharge machining, Sawing, Shearing/punching, Grinding, Cutting			✓
<i>Textile technology</i>			

## Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
<b>Material</b>			
<i>Biogenic materials</i>			
<b>Cellular materials (foam materials)</b> Open-pore, Syntactic foams	✓	✓	✓
<b>Composites</b> Metal-fibre-polymer composite, Metal-ceramic composite, Metal matrix composite, Nanocomposites, Laminates	✓	✓	✓
<i>Fibres</i>			
<i>Functional materials</i>			
<b>Metals</b> Aluminium, Magnesium			✓
<b>Plastics</b> Thermoset plastics, Elastomers, Thermoplastics			✓
<b>Structural ceramics</b> Oxidic ceramics, Others (METAKER® Surface process transforms the surface layers of light metals into a unique, high-performance, multifunctional, atomic metal-ceramic composite.)	✓	✓	✓
<i>(Technical) textiles</i>			

## Contacts

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Contacts

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