

About this organisation

Machine translation

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

Forward Engineering is a globally active development and consulting partner for holistic and sustainable product development, taking into account new materials and manufacturing processes. The company is headquartered in Munich with offices in Japan, China and the United States.

From concept development to series validation, FORWARD supports automotive manufacturers, suppliers and material manufacturers in the realisation of functional lightweight construction solutions that achieve real added value through the targeted use of technical and fibre-reinforced plastics. FORWARD's unique capabilities in the areas of "Production Based Engineering" and "Simulation Driven Design" accelerate product development throughout the entire development phase. The result is reduced iterations during FEA/crash simulation, a higher level of confidence in the detailed design, and production-ready and validated solutions with accurate cost estimates. In co-operation with its global partner network of technology companies, the materials and supply industry as well as public and private institutes, FORWARD quickly and efficiently delivers holistic solutions to challenging problems

Frei-Otto-Str. 22
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Bavaria
Germany

🌐 www.forward-engineering.com



Organisation type

Small or medium-sized enterprise

Sectors



Employees

10 up to 49

Turnover

€2m - €10m

Funding

n/a

Forward Engineering GmbH

About this organisation

Main areas covered	Development service, Technical advice, Battery development, Future Mobility structural development, Design for Sustainability
Infrastructure	FEA, CAD and LCA software tools, OEM specific project offices, 3D printing & prototyping, Material database, internal tools, Material & process expert network
Certifications	
Keywords	Development, Calculation, Counselling, Simulation, Design
Memberships	Composites United e.V., IACMI - The Composites Institute, The Battery Show - Advisory Board

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
Products Parts and components, Others (Prototyping and Testing, Material and Product Testing, Test Development)	✓	✓	✓
Services & consulting Training, Consulting, Testing and trials, Engineering, Prototyping, Validation, Simulation, Others (Forward Academy, LCA, life cycle assessment, cost engineering, project management)	✓	✓	

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Field of technology			
Design & layout Lightweight manufacturing, Lightweight design, Hybrid structures, Lightweight construction concepts, Lightweight material construction, Others (Material & Simulation Driven Design, Manufacturing Based Engineering)	✓	✓	✓
Functional integration Material functionalisation	✓	✓	
Measuring and testing technology Component and part analysis, System analysis	✓	✓	
Modelling and simulation Crash behaviour, Loads & stress, Life-cycle analysis, Multiphysics simulation, Optimisation, Processes, Structural mechanics, Materials		✓	
<i>Plant construction & automation</i>			
<i>Recycling technologies</i>			

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing 3D printing		✓	✓
<i>Coating (surface engineering)</i>			
Fibre composite technology Filament winding, Manual lamination, Resin infusion process, Resin transfer moulding, Pre-preg processing, Vacuum infusion, Others (Specialisation in industrial production/ series production of composites and plastic applications.)		✓	✓
Forming Impact extrusion, Compression moulding, Thermal converting		✓	
<i>Joining</i>			
<i>Material property alteration</i>			
Primary forming Pultrusion, Injection moulding		✓	
<i>Processing and separating</i>			
Textile technology Braiding, Preforming, Knitting, Nonwoven & mats production, Weaving, Knitting, laid web production		✓	

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Material			
Biogenic materials Bioplastics, Biocomposites, Wood		✓	
<i>Cellular materials (foam materials)</i>			
Composites Aramid fibre composites, Basalt fibre-reinforced plastic, Glass-fiber reinforced plastics (GFRP), Carbon-fiber reinforced plastics (CFRP), Natural fibre reinforced plastics (NFRP), Laminates, Particulate composites		✓	
Fibres Aramid fibres, Basalt fibres, Glass fibres, Ceramic fibres, Carbon fibres, Metal fibres, Natural fibres		✓	
<i>Functional materials</i>			
Metals Others (green metals, recycling technologies)		✓	
Plastics Thermoset plastics, Elastomers, Thermoplastics		✓	
<i>Structural ceramics</i>			
(Technical) textiles Yarns, rovings, Meshes, Laid webs, Crocheted fabrics, Woven fabrics, Knitted fabrics, Nonwovens, mats		✓	

Contacts

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Forward Engineering GmbH

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