

VDMA Hybrid Lightweight Technologies Working Group

About this organisation

Machine translation

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

The working group deals with production processes for hybrid lightweight components using fibre-reinforced plastic composites and metals. In addition to technology providers in mechanical and plant engineering, users, suppliers and researchers are also invited to participate. The common goal is to further develop production processes, automation and joining technologies across materials and throughout Europe and to create sustainable jobs.

The VDMA Working Group on Hybrid Lightweight Technologies is primarily made up of technology providers from the mechanical and plant engineering sector for the production of composite and hybrid components. They cover the entire value chain in the production process from the raw material to the end product. The approximately 200 member companies are assigned to more than 10 trade associations within the VDMA, focussing on the following areas: - Foundry machinery - Metallurgical and rolling mill equipment - Manufacturing technology - Plastics machinery - Measuring and testing technology - Precision tools - Robotics and automation - Textile machinery - Thermal process technology - Machine tools - Wind industry The Technology and Processes experience exchange group deals with the development of strategies for hybrid lightweight construction and focusses on production, automation and joining technology. At www.composite-arena.de you will find a list of member companies with a production programme for composite manufacturing.

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Hesse
Germany
www.vdma.org/hybride-leichtbau-technologien



Organisation type

Association, Chamber of industry and commerce

Sectors



Employees

Up to 9

Turnover

n/a

Funding

n/a

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About this organisation

Main areas covered Mechanical and plant engineering, Proof of production, Lightweight construction technologies, Network, exchange of experience, Events, trade fair partners

Infrastructure

Certifications

Keywords Production technology platform, Hybrid lightweight construction, multi-material, Conferences, meetings, Carbon, CFRP, composites, Joining and connection technology

Memberships

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
Products Machines and plants, Software & databases, Tools and moulds	✓	✓	✓
Services & consulting Consulting, Funding, Standardisation	✓	✓	✓

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Field of technology			
<i>Design & layout</i>			
<i>Functional integration</i>			
Measuring and testing technology Component and part analysis, Visual analysis (e.g. microscopy, metallography), System analysis, Materials analysis, Destructive analysis, Non-destructive analysis	✓	✓	✓
Modelling and simulation Crash behaviour, Loads & stress, Life-cycle analysis, Multiphysics simulation, Optimisation, Processes, Structural mechanics, Materials, Reliability validation		✓	✓
Plant construction & automation Plant construction, Automation technology, Handling technology, Robotics	✓	✓	✓
Recycling technologies Downcycling, Material separation, Recycling, Upcycling		✓	✓

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing 3D printing		✓	✓
Coating (surface engineering) Galvanising, Painting, Plasma process, Powder coating, Hot dipping, Sputtering			✓
Fibre composite technology Fibre spraying, Filament winding, Resin infusion process, Resin transfer moulding, Pre-preg processing, Vacuum infusion			✓
Forming Bending, Impact extrusion, Compression moulding, Forging, Extrusion moulding, Stretch forming, Thermal converting, Deep-drawing, Fluid active media based forming, Rolling	✓	✓	✓
Joining Clinching, Hybrid joining, Adhesive bonding, Soldering, Sewing, Riveting, Screwing, Welding		✓	✓
Material property alteration Mechanical treatment, Thermochemical treatment, Thermomechanical treatment, Heat treatment			✓
Primary forming Extrusion, Casting, Pultrusion, Sintering, Injection moulding	✓	✓	✓
Processing and separating Drilling, Turning, Milling, Electrical discharge machining, Honing, Sawing, Shearing/punching, Grinding, Cutting		✓	✓
Textile technology Fibre manufacturing, Braiding, Yarn & roving production, Preforming, Knitting, Textile surface treatment and finishing, Nonwoven & mats production, Weaving, Knitting, laid web production	✓	✓	✓

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	Research	Development	Manufacturing & Supply
Material			
<i>Biogenic materials</i>			
<i>Cellular materials (foam materials)</i>			
<i>Composites</i>			
<i>Fibres</i>			
<i>Functional materials</i>			
<i>Metals</i>			
<i>Plastics</i>			
<i>Structural ceramics</i>			
<i>(Technical) textiles</i>			

Contacts

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