### About this organisation

#### **Machine translation**

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

3M was founded in Minnesota, USA, in 1902 and is considered one of the most innovative companies in the world. 90,000 employees in 200 countries generate sales of over 30 billion dollars. At home, in the office, in the hospital, at the dentist, in the telephone, PC or car - 3M science can be found pretty much everywhere.

Expertise in lightweight construction: Advanced Materials 3M<sup>™</sup> Glass Bubbles are a key product for lightweight hybrid materials. The hollow microspheres are added to a range of materials as a universal lightweight filler and help to make these products up to 30 per cent lighter. Structural bonding Bond lightweight materials with adhesives and adhesive tapes from 3M: For the efficient bonding of fibre composites, multi-material systems and plastics in industry and trade. Sound insulation 3M<sup>™</sup> Thinsulate<sup>™</sup> acoustic nonwoven consists of polypropylene microfibres and polyester staple fibres. It offers excellent acoustic absorption and is up to 50 per cent lighter than conventional insulation material. Downsizing motors 3M<sup>™</sup> Friction Shims are used in components for power transmission, where they increase the static friction coefficient, i.e. the transmittable forces and torques, through micro-moulding.

Carl-Schurz-Straße 1 41453 Neuss North Rhine-Westphalia Germany ☑ 3M.de/leichtbau





Funding n/a

## About this organisation

Main areas covered	Structural bonding, Sound insulation, Downsizing engines, Advanced Materials, Thermal management
Infrastructure	Inspiration Lab, Adhesive bonding laboratory, Acoustics laboratory, Robotics test centre, European Development Centre
Certifications	ISO 9001, ISO 16949, ISO 14001, EN 9100, ISO 50001
Keywords	Quality processes, Innovation processes, Fillers
Memberships	

## Overview of lightweighting expertise

### Machine translation

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

	Research	N Development	Aanufacturing & Supply
Offer			
<b>Products</b> Software & databases, Materials, Tools and moulds	$\checkmark$	$\checkmark$	$\checkmark$
<b>Services &amp; consulting</b> Training, Consulting, Distribution, Testing and trials, Engineering, Validation, Simulation, Technology transfer, Maintenance and repair	$\checkmark$	$\checkmark$	$\checkmark$

Overview of lightweighting expertise			
Machine translation This organisation has been machine-translated based on data provided in German.			
	Research	Development	Manufacturing & Supply
Field of technology			
<b>Design &amp; layout</b> Lightweight manufacturing, Lightweight design, Hybrid structures, Lightweight construction concepts, Lightweight material construction	~	$\checkmark$	$\checkmark$
Functional integration Sensor technology	$\checkmark$	$\checkmark$	
<b>Measuring and testing technology</b> Visual analysis (e.g. microscopy, metallography), System analysis, Environmental simulation, Materials analysis, Destructive analysis	$\checkmark$	$\checkmark$	
<b>Modelling and simulation</b> Loads & stress, Life-cycle analysis, Multiphysics simulation, Optimisation, Processes, Structural mechanics, Materials, Reliability validation	$\checkmark$	$\checkmark$	$\checkmark$
<b>Plant construction &amp; automation</b> Automation technology, Robotics	$\checkmark$	$\checkmark$	$\checkmark$
Recycling technologies Upcycling	$\checkmark$	$\checkmark$	$\checkmark$

Overview of lightweighting expertise			
Machine translation			
his organisation has been machine-translated based on data provided in German.			
	Research	N Development	lanufacturin & Supply
Manufacturing process			
Additive manufacturing 3D printing, Fused deposition modeling, Selective laser melting (SLM, LPBF,), Stereolithography	~	~	~
<b>Coating (surface engineering)</b> Painting, Sputtering	$\checkmark$	$\checkmark$	
<b>Fibre composite technology</b> Manual lamination, Pre-preg processing	$\checkmark$	$\checkmark$	
Forming			
<b>Joining</b> Adhesive bonding	$\checkmark$	$\checkmark$	$\checkmark$
Material property alteration			
Primary forming			
<b>Processing and separating</b> Grinding, Cutting	$\checkmark$	$\checkmark$	$\checkmark$
<b>Textile technology</b> Fibre manufacturing, Textile surface treatment and finishing, Nonwoven & mats production, Weaving	$\checkmark$	$\checkmark$	~

Overview of lightweighting expertise			
Machine translation			
his organisation has been machine-translated based on data provided in German.			
	Research	N Development	Manufacturing & Supply
Material			
<b>Biogenic materials</b> Bioplastics, Biocomposites	$\checkmark$	$\checkmark$	
<b>Cellular materials (foam materials)</b> Syntactic foams	$\checkmark$	$\checkmark$	$\checkmark$
<b>Composites</b> Ceramic matrix composite (CMC), Metal matrix composite	$\checkmark$	$\checkmark$	$\checkmark$
<b>Fibres</b> Ceramic fibres	$\checkmark$	$\checkmark$	$\checkmark$
Functional materials			
Metals			
<b>Plastics</b> Thermoset plastics, Elastomers, Thermoplastics	$\checkmark$	$\checkmark$	$\checkmark$
<b>Structural ceramics</b> Monolithic ceramics, Non-oxidic ceramics, Oxidic ceramics, Ultra-high-temperature ceramics	$\checkmark$	$\checkmark$	$\checkmark$
<b>(Technical) textiles</b> Yarns, rovings, Nonwovens, mats	$\checkmark$	$\checkmark$	$\checkmark$

### Contacts

### Machine translation

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

Mr Rüdiger Frisch	Mr Oliver Lingk
Technical Manager Vehicle Lightweight	Expert for Glass Bubbles
rfrisch@mmm.com	olingk@mmm.com
Mr Jürgen Peters	Ms Domenica Kirchmeyer
Expert for Bonding	Expert for Glazing
jpeters@mmm.com	dkirchmeyer@mmm.com
Ms Anja Rohmann	
Expert for Acoustics	