

## About this organisation

### Machine translation

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

The Institute of Textile Technology (ITA) is one of the largest institutes in the Department of Mechanical Engineering at RWTH Aachen University. Associated with the Institute is the Chair of Textile Technology in Mechanical Engineering. The institute is headed by Univ.-Prof. Dr.-Ing. Dipl.-Wirt. Ing. Thomas Gries.

In the field of fibre composites, the ITA develops and investigates production technologies for textile semi-finished products and their further processing into preforms. This includes the production of multiaxial fabrics, braids and the automation of the assembly of preforms. In the field of materials research, technologies for the coating of semi-finished reinforcement products and the production of high-temperature materials are being developed. The evaluation is carried out using established and self-developed testing and measuring methods in our own test laboratory. The fields of application for these preforms are in the areas of fibre-reinforced plastics and textile-reinforced concrete.

Otto-Blumenthal-Strasse 1  
52074 Aachen  
North Rhine-Westphalia  
Germany  
[www.ita.rwth-aachen.de](http://www.ita.rwth-aachen.de)

### Main areas covered

Textile lightweight construction, Fibres, Preforming, Tapes

### Infrastructure

Textile technology laboratory, Tissue and clutch production, CNC cutting, Automated production cell, Carbon fibre production

### Certifications

### Keywords

Textile, Tape, Preforming, Fibre

### Memberships

CCeV, AVK, CFRP Valley



### Organisation type

University or higher education institution

### Sectors



### Employees

50 up to 249

### Turnover

€10m - €50m

### Funding

## Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
<b>Offer</b>			
<b>Products</b> Parts and components, Semi-finished parts, Machines and plants, Materials, Tools and moulds	✓	✓	✓
<i>Services &amp; consulting</i>			
<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> Sensor technology, Material functionalisation	✓		
<i>Measuring and testing technology</i>			
<b>Modelling and simulation</b> Loads & stress, Optimisation, Processes, Structural mechanics, Materials	✓	✓	
<b>Plant construction &amp; automation</b> Automation technology, Handling technology, Robotics, Others (Assistance systems Human-machine interaction Human-robot collaboration)	✓	✓	
<b>Recycling technologies</b> Material separation, Recycling	✓	✓	

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	Research	Development	Manufacturing & Supply
<b>Manufacturing process</b>			
<i>Additive manufacturing</i>			
<i>Coating (surface engineering)</i>			
<b>Fibre composite technology</b> Casting (concrete), Manual lamination, Resin infusion process, Pre-preg processing, Vacuum infusion	✓		
<b>Forming</b> Others (Stamp moulding Foam forming Material feeding)	✓	✓	
<b>Joining</b> Adhesive bonding, Sewing	✓	✓	
<i>Material property alteration</i>			
<i>Primary forming</i>			
<b>Processing and separating</b> Drilling, Turning, Milling			✓
<b>Textile technology</b> 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
<b>Material</b>			
<i>Biogenic materials</i>			
<i>Cellular materials (foam materials)</i>			
<b>Composites</b> Aramid fibre composites, Basalt fibre-reinforced plastic, Glass-fiber reinforced plastics (GFRP), Ceramic matrix composite (CMC), Carbon-fiber reinforced plastics (CFRP), Short fibre-reinforced concrete, Metal-ceramic composite, Natural fibre reinforced plastics (NFRP), Textile-reinforced concrete	✓	✓	
<b>Fibres</b> Aramid fibres, Basalt fibres, Glass fibres, Ceramic fibres, Carbon fibres, Natural fibres	✓	✓	
<i>Functional materials</i>			
<i>Metals</i>			
<b>Plastics</b> Thermoset plastics, Elastomers, Thermoplastics	✓		
<i>Structural ceramics</i>			
<b>(Technical) textiles</b> Yarns, rovings, Meshes, Laid webs, Crocheted fabrics, Woven fabrics, Knitted fabrics, Nonwovens, mats	✓	✓	

## Contacts

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Mr Dr.-Ing. Christoph Greb

*Scientific Director*

[Christoph.Greb@ita.rwth-aachen.de](mailto:Christoph.Greb@ita.rwth-aachen.de)

Mr Dr.-Ing. Carsten Uthemann

*Division Manager*

[Carsten.Uthemann@ita.rwth-aachen.de](mailto:Carsten.Uthemann@ita.rwth-aachen.de)

Mr Dominik Granich, M.Sc.

*Division Manager*

[Dominik.Granich@ita.rwth-aachen.de](mailto:Dominik.Granich@ita.rwth-aachen.de)

Mr Oliver Deußen, M.Sc.

*Division Manager*

[Oliver.Deussen@ita.rwth-aachen.de](mailto:Oliver.Deussen@ita.rwth-aachen.de)

Ms Dr.-Ing. Hannah Dammers

*Division Manager*

[Hannah.Dammers@ita.rwth-aachen.de](mailto:Hannah.Dammers@ita.rwth-aachen.de)

Ms Dr.-Ing. Kira Heins

*Division Manager*

[Kira.Heins@ita.rwth-aachen.de](mailto:Kira.Heins@ita.rwth-aachen.de)