# Saxon Textile Research Institute e.V. (STFI)

*Centre for Lightweight Textile Construction*

## About this organisation

### Machine translation

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

Since its foundation 30 years ago, the Saxon Textile Research Institute (STFI) has been a strong innovation partner and reliable service provider on behalf of its customers. The non-profit institute tackles technical and social issues with an open, interdisciplinary and reliable approach. Textile materials have always characterised its work.

Lightweight textile construction in all its facets has increasingly become the focus of research at the STFI in recent years. From the development of semi-finished textile products and the creation of new, sometimes hybrid material composites to recycling and reuse, the entire value chain is being analysed. Carbon fibre-reinforced plastics for a wide range of applications from the transport and automotive sectors to mechanical engineering play a major role in the research work. However, other reinforcing fibres, such as glass, basalt, aramid and natural fibres, are also considered in different matrix systems. The spectrum ranges from classic thermoset and thermoplastic systems to elastomers and mineral matrices. In addition to researching new materials and processes, the parallel development of suitable test methods and complex evaluation criteria is a focal point of the work.

**Organisation type**
Non-university research institution

**Sector**
Others: Forschung und Entwicklung

**Employees**
50 up to 249

**Turnover**
€10m - €50m

**Funding**

Annaberger Straße 240
09125 Chemnitz
Saxony
Germany
www.stfi.de





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## About this organisation

| | |
|---|---|
| **Main areas covered** | Woven fabrics, knitted fabrics, nonwovens, TFP, Carbon fibre recycling, organic sheets, Composite production, Accredited testing, Project coordination |
| **Infrastructure** | Weaving, knitting and embroidery technology, Cutting & tearing technology Carbon waste, Nonwoven production (anotropic/isotropic), Pressing, injection & laminating processes, Textile and composite testing |
| **Certifications** | Accredited test centre, on the basis of DIN EN ISO/IEC 17025 |
| **Keywords** | Recycling, Hybrid structures, Textile core structures, Testing of textiles and FRP, Textile research |
| **Memberships** | Composites United e. V., AVK, Zuse community |

## Overview of lightweighting expertise

### Machine translation

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

| | Research | Development | Manufacturing & Supply |
|---|---|---|---|
| **Offer** | | | |
| **Products**<br>Parts and components, Semi-finished parts, Machines and plants, Systems and end products, Materials | ✓ | ✓ | ✓ |
| **Services & consulting**<br>Training, Consulting, Testing and trials, Engineering, Standardisation, Prototyping, Validation, Simulation, Technology transfer | ✓ | ✓ | ✓ |

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## Overview of lightweighting expertise

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| | Research | Development | Manufacturing & Supply |
|---|---|---|---|
| **Field of technology** | | | |
| **Design & layout**<br>Hybrid structures, Lightweight material construction | ✓ | ✓ | |
| **Functional integration**<br>Actuator technology, Media conductivity, Sensor technology, Thermal activation, Material functionalisation | ✓ | ✓ | ✓ |
| **Measuring and testing technology**<br>Component and part analysis, Visual analysis (e.g. microscopy, metallography), Environmental simulation, Materials analysis, Destructive analysis, Non-destructive analysis | ✓ | ✓ | ✓ |
| **Modelling and simulation**<br>Processes, Materials | ✓ | ✓ | |
| **Plant construction & automation**<br>Plant construction, Automation technology, Handling technology | ✓ | ✓ | |
| **Recycling technologies**<br>Material separation, Recycling | ✓ | ✓ | ✓ |

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| | Research | Development | Manufacturing & Supply |
|---|---|---|---|
| **Manufacturing process** | | | |
| **Additive manufacturing**<br>3D printing | ✓ | ✓ | ✓ |
| **Coating (surface engineering)**<br>Plasma process, Sputtering | ✓ | ✓ | |
| **Fibre composite technology**<br>Manual lamination, Resin infusion process, Resin transfer moulding, Pre-preg processing, Vacuum infusion, Others (Moulding process for thermoplastics up to 420°C) | ✓ | ✓ | ✓ |
| **Forming**<br>Impact extrusion, Compression moulding, Thermal converting, Deep-drawing | ✓ | ✓ | ✓ |
| **Joining**<br>Hybrid joining, Adhesive bonding, Sewing, Others (Preform production through thermal activation of binders) | ✓ | ✓ | |
| *Material property alteration* | | | |
| **Primary forming**<br>Extrusion, Casting | ✓ | ✓ | |
| **Processing and separating**<br>Drilling, Turning, Milling, Sawing, Grinding, Cutting, Others (NC cutter for textile structures) | ✓ | ✓ | ✓ |
| **Textile technology**<br>Yarn & roving production, Preforming, Knitting, Textile surface treatment and finishing, Nonwoven & mats production, Weaving, Knitting, laid web production, Others (Yarn and secondary roving production from high performance fibres of finite length) | ✓ | ✓ | ✓ |

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| | Research | Development | Manufacturing & Supply |
|---|---|---|---|
| **Material** | | | |
| **Biogenic materials**<br>Bioplastics, Biocomposites, Wood | ✓ | ✓ | ✓ |
| **Cellular materials (foam materials)**<br>Others (Epoxy foams) | ✓ | ✓ | |
| **Composites**<br>Aramid fibre composites, Basalt fibre-reinforced plastic, Glass-fiber reinforced plastics (GFRP), Carbon-fiber reinforced plastics (CFRP), Metal-fibre-polymer composite, Metal-ceramic composite, Metal matrix composite, Natural fibre reinforced plastics (NFRP), Laminates, Textile-reinforced concrete | ✓ | ✓ | ✓ |
| **Fibres**<br>Aramid fibres, Basalt fibres, Glass fibres, Ceramic fibres, Carbon fibres, Metal fibres, Natural fibres | ✓ | ✓ | ✓ |
| *Functional materials* | | | |
| **Metals**<br>Steel | ✓ | ✓ | |
| **Plastics**<br>Thermoset plastics, Elastomers, Thermoplastics | ✓ | | |
| *Structural ceramics* | | | |
| **(Technical) textiles**<br>Yarns, rovings, Laid webs, Crocheted fabrics, Woven fabrics, Knitted fabrics, Nonwovens, mats, Others (Tailored fibre placement, round fabric, band-shaped structures) | ✓ | ✓ | ✓ |

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## Contacts

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


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| --- | --- |
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