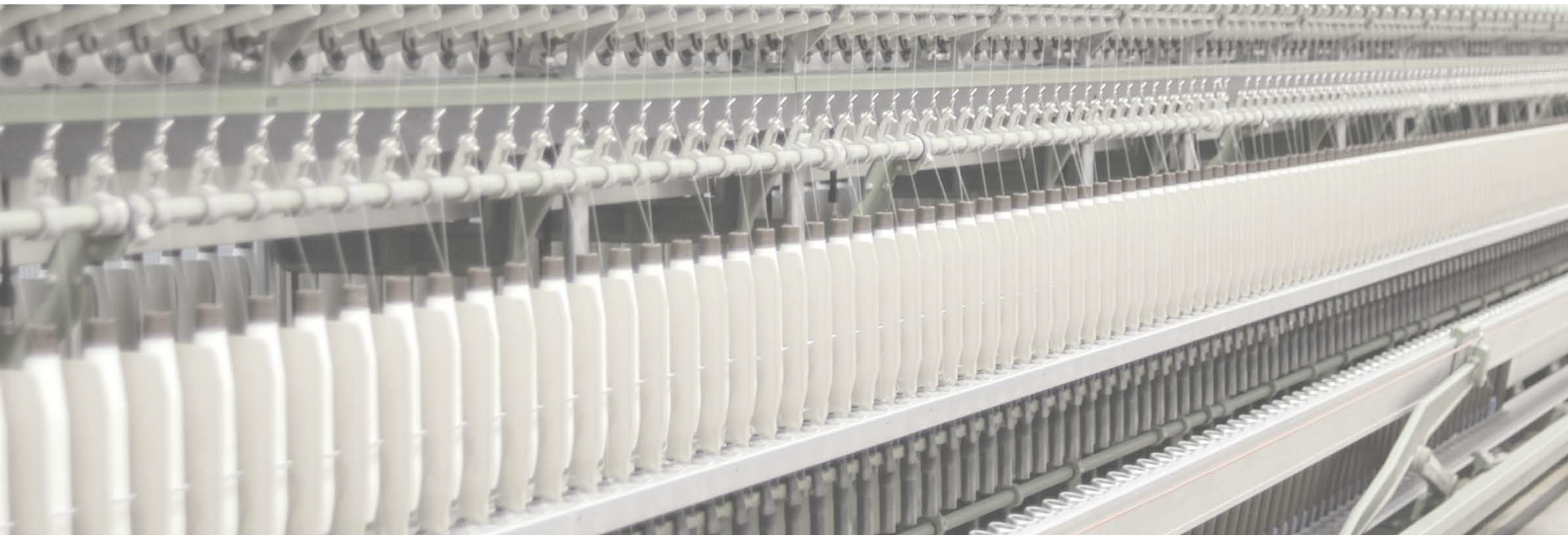


High performance technology in staple fiber yarn production



Spinning trials under industrial conditions

Research topics

- improvement of fiber processing (natural, synthetic, technical and recycled fibers)
- creation of new yarn structures
- exploration of high-performance technologies in all partial processes
- development and improvement of textile machinery components
- fiber measurement technology
- yarn analysis processes

Range of services

- experimental spinning in pilot spinning
- short and long staple spinning process
- processing of manmade, natural and recycled fibers, e.g. polyester, viscose, acrylic, cotton, nettle, banana or pineapple
- resource efficiency/recycling: recycling of fiber-based raw materials in the spinning mill, e.g. cotton or carbon fiber recycling
- measuring tasks such as CFD, PIV, LDA, high-speed video
- development of textile machinery components

Preparation and sliver manufacturing

In the area of preparation the processes of fiber opening, cleaning, including drawing and combing process and roving formation are analyzed and developed further. The card is quality-determining for all conventional and non-conventional spinning processes. Accordingly, optimization of card technology, clothing design and process measuring technology are in the center of attention.

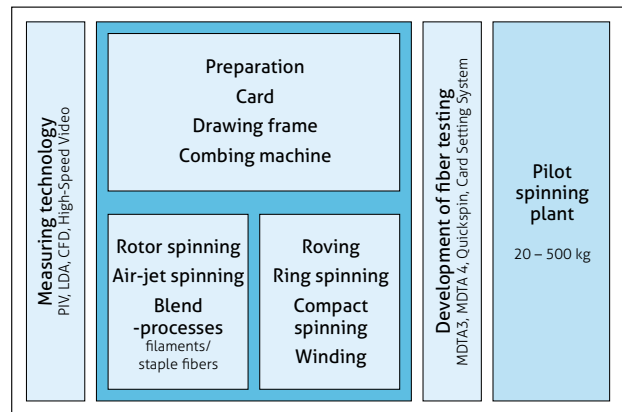
New and conventional spinning processes

The spinning components and processes are continuously developed in accordance with most modern analysis methods regarding productivity and quality. This concerns all important spinning processes such as ring / compact / rotor and air-jet spinning.

The development of new yarn structures and spinning processes is important for fulfilling the future requirements of garment and technical textiles. The improvement of core and hybrid yarn spinning processes is an example where filament and staple fiber processes are combined.



Test device development using the example of MDTA 4, a joint development between Textechno and DITF



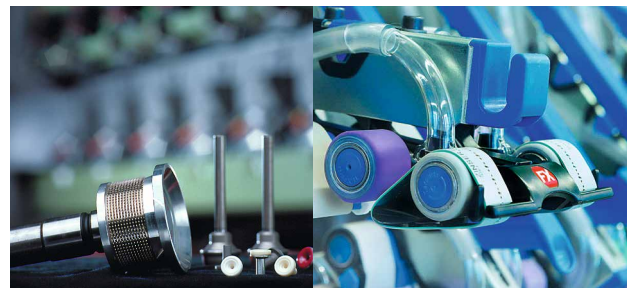
Working fields of research are Staple Fiber Technology

Technology development

All technological process steps from fiber to yarn bobbin are subject to continuous innovation. The fiber spectrum includes all natural and manmade fibers, regenerative/ recycling fibers (also carbon) and their blends. A further research area is the replacement of spinning processes or process steps by new processes, e.g. for the production of semi-finished products for fiber composite technology, as well as new measuring methods.

Pilot spinning plant and staple fiber yarn production

In the pilot spinning plant all relevant processes of staple fiber production are available. All types of natural and man-made fibers can be processed applying short / long staple processing technology. The production scale is 20 – 500 kg, thus offering industry spinning trials on almost any scale.



The German Institutes of Textile and Fiber Research (DITF) form the largest textile research center in Europe. From the molecule to the finished product, the DITF conduct research and develop products along the entire textile value chain, always taking into consideration the corporate processes and business models. A wide range of textile testing services, prototype construction and a pilot factory complete the offer.

The Competence Center Staple Fibers, Weaving & Simulation conducts research and development along the value chain from the fiber flock to yarn or twist to the woven fabric supported by simulation of production processes and products. The KPZ SWS provides technology transfer from feasibility to small batch production and offers this from a single source.

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