textile.4U

THE TEXDATA INTERNATIONAL MAGAZINE

ISSUE NO 4 2026

TEXDATA INTERNATIONAL



INTERVIEW ANDREAS SCHNABEL

HEAD OF R&D TECHNICAL WEAVING SYSTEMS (TWS)
STÄUBLI INTERNATIONAL AG

INDIA'S TEXTILE INDUSTRY:

CURRENT POSITION, GROWTH TARGETS AND INDUSTRIAL DEVELOPMENT

ITMA ASIA 26

A RECORD EDITION?

India ITME 26

TEXTILE TECHNOLOGY MEETS INDIA'S INVESTMENT AMBITIONS

© AI Generated / TexData International

BENNINGER

CPB Dyeing Station for knitted goods







Salt-free dyeing with 100% level dyeing results.

The heart of the CPB dyeing station still is the padding mangle with two Küsters S-rolls and a dyeing trough that swivels downwards and backwards.

The improved CPB dyeing station guarantees 100% level dyeing results throughout the whole batch with no listing or tailing at less than 1l/kg water consumption.

Transforming fabric into brilliance.
You can feel it's Benninger!

Visit us at ITMA ASIA + CITME
20–24 November 2026, Shanghai
H8.1 booth B02

ITMA ASIA | CITME

Benninger AG | 9240 Uzwil | Switzerland | T +41 71 955 85 85 | F +41 71 955 87 47 | info@benningergroup.com | www.benningergroup.com

http://www.benningergroup.com



FROM THE EDITOR

DEAR READER,

Despite difficult market conditions, ITM in Istanbul was once again a well-run show that delivered on its promises. It also confirmed what we had expected before the event. Where the lowest price is the deciding factor, production is increasingly shifting to lower-cost locations. For Türkiye's textile industry, the opportunities lie in higher-value products and in niches where quality and specialisation pay off.

Since June, geopolitical tensions have intensified. The renewed rise in oil prices is putting pressure on the industry, from production through to transport. How mills can cut their energy consumption is therefore likely to be a major theme at both of the year's remaining textile machinery exhibitions. Beyond that, Shanghai and India will each pose a different question.

ITMA Asia will show how European and Chinese textile machinery measure up against each other. Chinese manufacturers have narrowed the technology gap and are offering attractive purchase prices. European suppliers will make their case on proven quality and durability, showing customers what return they can expect over the life of the equipment.

At India ITME, the question is how quickly the country's textile industry can expand and modernise. A market with room to grow and a range of government support programmes give companies every reason to invest now. The targets are ambitious and the strategy is in place.

How quickly and on what scale companies actually invest will show how well India can put its plans into practice.

In terms of technology, we expect relatively few major innovations at either show. Many machinery makers are likely to save their biggest launches for ITMA 2027 in Hannover. Even so, both exhibitions can tell us a great deal about where the industry will invest over the next few years and what technology it will need. In Shanghai, we are particularly keen to see which production tasks robots can now take on. At India ITME, we look forward to the sense of momentum and to hearing what companies plan to tackle next.

We are especially pleased to offer you a glimpse of the future of textile production in this issue. In our interview, Andreas Schnabel, Head of R&D Technical Weaving Systems (TWS) at Stäubli International AG, explains how 3D weaving opens up new possibilities for high-performance fabrics and which applications are now coming within reach. We came away impressed. Enjoy the issue!

Yours sincerely



OLIVER SCHMIDT

#Editor-in-chief

CONTENT







ITMA ASIA + CITME 2026
SHANGHAI PREPARES FOR A RECORD EDITION 6

INDIA'S TEXTILE INDUSTRY:
CURRENT POSITION, GROWTH TARGETS AND INDUSTRIAL DEVELOPMENT 36

INDIA ITME 2026
TEXTILE TECHNOLOGY MEETS INDIA'S INVESTMENT AMBITIONS 42

CONTENT







ITM 2026 & HIGHTEX 2026: **56**
THE NEW GEOGRAPHY OF TEXTILE PRODUCTION TAKES SHAPE

INTERVIEW ANDREAS SCHNABEL **32**
HEAD OF R&D TECHNICAL WEAVING SYSTEMS (TWS)
STÄUBLI INTERNATIONAL AG

ITMA ASIA + CITME
EXHIBITORS AND TECHNOLOGY HIGHLIGHTS **12**
A LOOK AT WHAT SELECTED EXHIBITORS
WILL PRESENT IN SHANGHAI.

INDIA ITME | EXHIBITORS AND TECHNOLOGY HIGHLIGHTS **46**
SELECTED EXHIBITORS SHOW HOW THEIR LATEST TECHNOLOGIES
MEET THE NEEDS OF INDIAN TEXTILE MANUFACTURERS.

AACHEN PRESENTS MONOFILAMENT TECHNOLOGIES:
FUNCTIONALITY AND CIRCULARITY BUILT INTO THE FIBRE 62

BIOACTIVE, BIO-BASED COATINGS FOR
FUNCTIONALIZED MEDICAL TEXTILES 64

MECHANOPHORE-DRIVEN EARLY DAMAGE WARNING
COATINGS FOR PERSONAL PROTECTIVE EQUIPMENT 66

BETWEEN LOOM AND CHAINSAW: HOW MILEI'S
REFORMS ARE CHANGING ARGENTINA'S TEXTILE MARKET 68

Editorial 3

Content 4

Next Issue 1 / 2027 70

Imprint 65

ITMA ASIA + CITME 2026

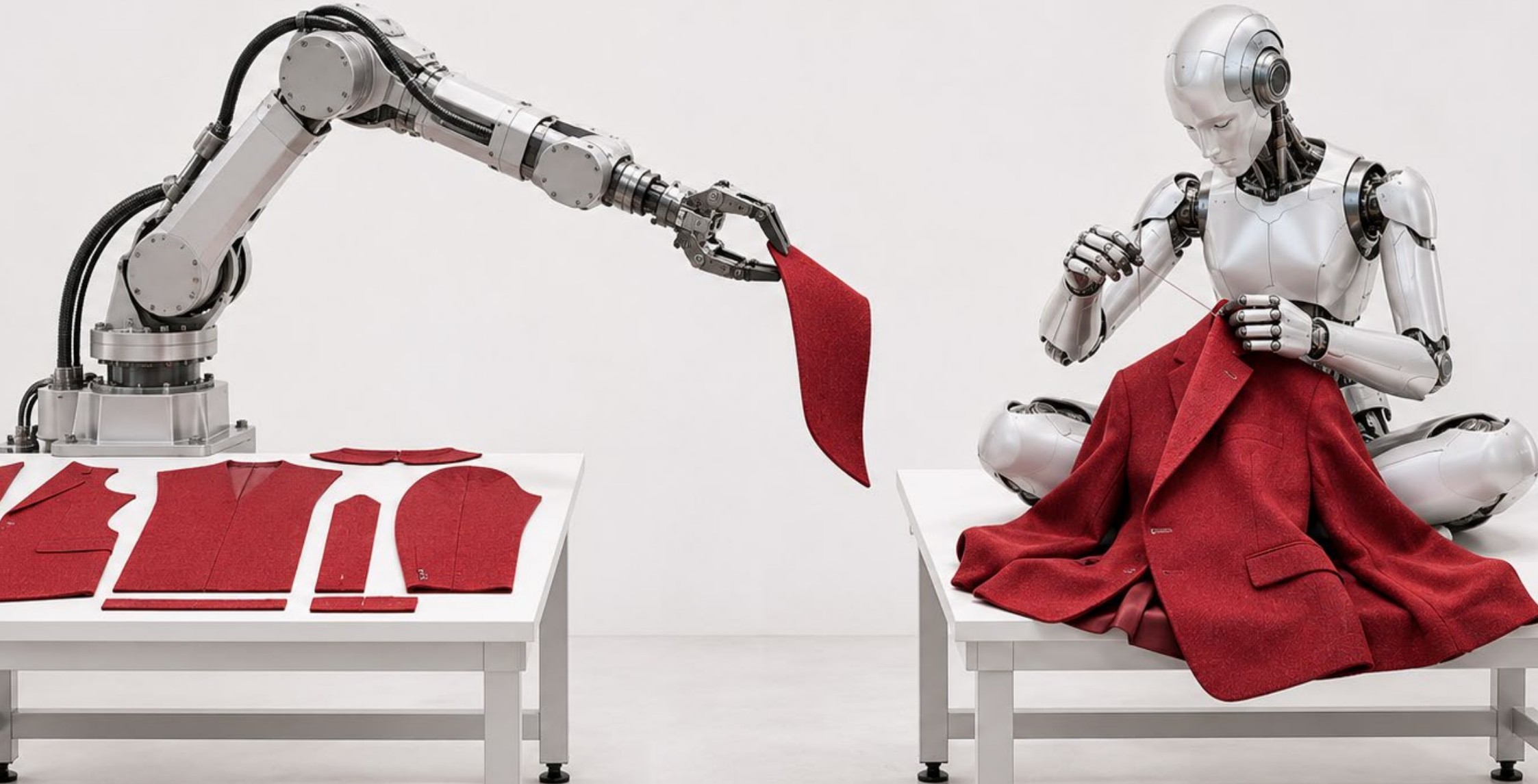


Image: 2026 TexData / AI generated

SHANGHAI PREPARES FOR A RECORD EDITION

With record demand for exhibition space, a strong presence of international technology suppliers and growing interest in automation and intelligent manufacturing, ITMA ASIA + CITME 2026 will provide an important overview of technological developments in the world's largest textile producing region.

From 20 to 24 November, ITMA ASIA + CITME 2026 will bring the international textile machinery industry together at the National Exhibition and Convention Centre (NECC) in Shanghai. The organisers are preparing for the largest edition of the combined exhibition to date, with seven halls covering approximately 180,000 square metres of gross exhibition space, an increase of around 10% compared with 2024.

The exhibition takes place at a time when textile manufacturers throughout Asia are facing changing market conditions. Competition, pressure on production costs and growing demands for quality and flexibility are influencing investment decisions. Automation, resource efficiency and intelligent manufacturing technologies are therefore becoming increasingly important.

For the textile industry, Shanghai offers an opportunity to compare technological developments across virtually the entire production chain and assess their potential for future manufacturing requirements.

CHINA REMAINS THE WORLD'S LEADING TEXTILE PRODUCER

China continues to dominate international textile production and trade. According to WTO statistics for 2024, the latest available year, China accounted for approximately 43.5% of global textile exports, followed by India with 5.8%. In clothing, China's share was lower at around 29.6%, reflecting the wider geographical distribution of apparel manufacturing.

The figures illustrate China's central role in global textile supply chains. While clothing production has expanded in countries such as Bangladesh and Vietnam, China remains a major supplier of fibres, yarns, fabrics and other textile materials.

Production networks across Asia are becoming increasingly interconnected. India, Vietnam, Indonesia, Bangladesh and Pakistan are important textile manufacturing locations, but their industries also depend on regional supplies of materials and technology.

Economic conditions vary considerably. According to the World Bank's October 2026 forecast, China's economy is expected to grow by 4.4% this year, compared with 4.5% for East Asia and the Pacific. Vietnam is forecast to achieve 7.4% growth and Malaysia 5.1%.

However, economic growth does not automatically translate into investment in new textile machinery. Profitability, financing conditions and expectations regarding future orders remain decisive. For many textile manufacturers, improving the efficiency and competitiveness of existing production facilities is as important as expanding capacity.

STRONG EXHIBITOR PARTICIPATION

The response from exhibitors confirms the importance of ITMA ASIA + CITME within the international exhibition calendar. By July, more than 1,800 companies had applied to participate, almost 90% of them from China.

The strong domestic presence reflects the size of China's textile machinery industry and its manufacturing base. At the same time, leading international suppliers remain well represented, including Barmag, Brückner, Dornier, Epson, Itema, KARL MAYER, Monforts, Murata, Picanol, Rieter, Santoni, Saurer, Savio, Shima Seiki, Stäubli, Trützschler and Vandewiele.

Many international companies have established production facilities, subsidiaries and service organisations in China, underlining the importance of the country's textile industry to their global operations.

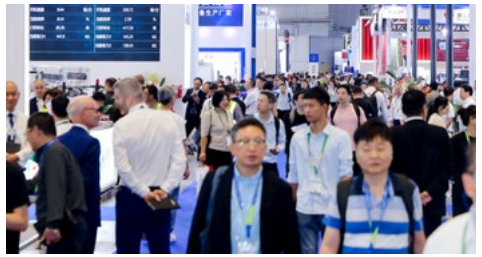
The exhibition also benefits from its proximity to China's major textile manufacturing centres, including Jiangsu, Zhejiang, Fujian, Shandong and Guangdong.

The previous edition in 2024 attracted more than 90,000 visitors from 111 countries and regions, with almost 90% coming from China. To strengthen international participation, the organisers have conducted promotional activities in several important textile manufacturing countries and invited more than 100 overseas trade associations, industry organisations and major enterprises.

Whether this will lead to a higher proportion of international visitors remains to be seen. Nevertheless, Shanghai continues to provide an important meeting point for textile manufacturers and technology suppliers from across Asia and beyond.







ITMA ASIA + CITME, the region's leading textile machinery exhibition, ended successfully after a five-day showcase on 18 October 2024. It attracted visitorship of about 90,000, with strong local attendance. The visitors came from 111 countries and regions. Eighty-seven per cent of the visitors were from China. Local visitors came from 31 provinces and cities. Jiangsu, Zhejiang, Shanghai, Guangdong, Shandong, Fujian, Hebei, Henan, Anhui and Hubei ranked in the top ten, demonstrating the strong vitality of the textile industry in these regions and the interest in new textile machinery trends.

Similar to the 2022 edition, India topped the list of overseas visitors. It has been followed by South Korea, Bangladesh, Indonesia and Iran.

© 2024 ITMA ASIA+CITME

YARN PRODUCTION LEADS THE TECHNOLOGY SECTORS

The distribution of exhibitors across the product chapters illustrates the exhibition's technological priorities.

Machinery for yarn production remains the largest segment. Chapter 1, covering spinning preparation, man-made fibre production and spinning, accounts for 430 exhibitor entries. Another 168 are registered in Chapter 2, covering winding, twisting and texturing.

Together, the two chapters account for 598 entries, compared with 541 in 2024, representing an increase of approximately 10.5%. Finishing follows with 353 exhibitor entries, weaving with 325 and knitting with 279. Digital printing accounts for 159 entries, while nonwovens technology is represented by 68.

The figures underline the continued importance of established machinery sectors, while also reflecting the significance of digital printing and specialised textile applications. As companies may be listed in several product chapters, the figures should not necessarily be interpreted as numbers of distinct exhibitors.

For visitors, the exhibition offers an opportunity to compare technologies and machinery concepts across the entire textile production chain.

PRODUCTIVITY, FLEXIBILITY AND RESOURCE EFFICIENCY

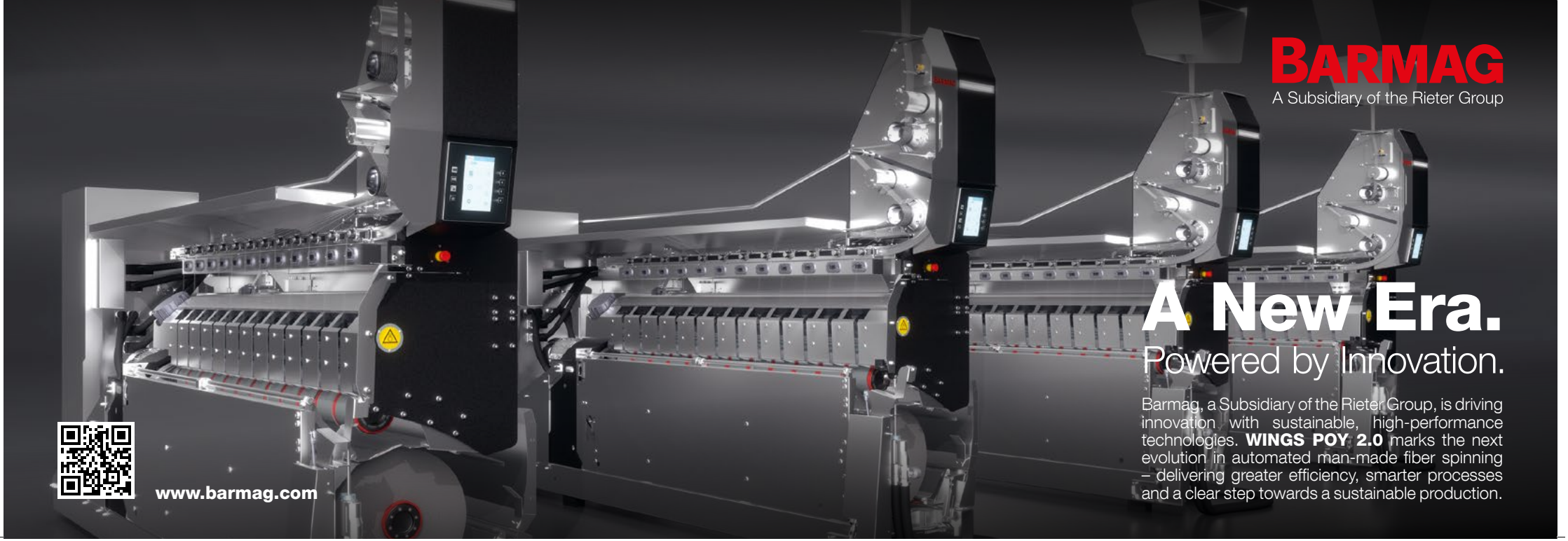
The technological developments presented in Shanghai will be measured primarily by their contribution to more competitive textile production.

Higher productivity, improved process stability, reduced waste and lower energy consumption remain central objectives. Automation can also improve production reliability and reduce manual intervention, particularly in material handling, quality inspection and process monitoring.

Flexibility is another increasingly important requirement. Textile manufacturers must respond to changing customer demands, shorter product cycles and a growing variety of materials.

The processing of recycled fibres presents additional challenges. Variations in fibre quality and characteristics require suitable preparation, processing and quality control technologies. Machinery capable of handling such materials efficiently can contribute to more circular production systems.

For textile manufacturers, the decisive question remains whether new technologies offer measurable advantages in terms of production costs, quality, resource consumption and long-term operational reliability.



ADVERTISING

FROM DATA COLLECTION TO INTELLIGENT PRODUCTION

Digitalisation and artificial intelligence will be among the major technological themes at ITMA ASIA + CITME 2026.

The organisers have expanded the exhibition's scope to include industrial robotics, intelligent sensing systems, virtual commissioning, digital twins and additional automation technologies.

However, the textile industry's digital transformation is moving beyond the collection and visualisation of machine data.

Over recent years, manufacturers have made considerable progress in connecting equipment and monitoring individual production processes. The next challenge is to use this information across the entire textile value chain and translate it into measurable improvements in productivity, quality and resource efficiency.

This requires the integration of machinery and software systems from different suppliers. Numerous digital platforms are already available, but proprietary architectures, incompatible interfaces and differing data structures continue to limit the exchange of information.

The greatest potential lies in overcoming these barriers. When production data can be combined across different processing stages, manufacturers can optimise operations beyond individual machines, improve production planning and identify opportunities to reduce waste and energy consumption.

Artificial intelligence may play an increasingly important role by analysing complex process relationships and supporting automated adjustments. Its effectiveness, however, depends on reliable data and the successful integration of different systems.

Shanghai is expected to demonstrate further progress in these areas. More comprehensive solutions for intelligent networking across entire textile production chains may become a major theme at ITMA 2027 in Hannover.

An interesting addition to the exhibition is the new Research and Innovation sector, featuring Chinese universities and research institutions. Announced topics include robotics for textile applications, intelligent inspection systems and AI development platforms.

NEW APPLICATIONS AND TECHNOLOGIES

ITMA ASIA + CITME 2026 is also expanding its technological scope. A new product chapter for textile-reinforced composites covers technologies such as multiaxial warp knitting, weaving and three-dimensional textile structures. These are used in applications including lightweight construction, automotive engineering and aerospace.

Such developments demonstrate the growing importance of technical textiles and industrial applications alongside conventional textile and clothing production.

Recycling, sustainability and resource efficiency will also feature prominently. Reduced energy and water consumption, more efficient material utilisation and technologies for processing recycled fibres are becoming increasingly relevant to textile manufacturers facing both economic and environmental requirements.

SHANGHAI AHEAD OF ITMA 2027

The exhibition comes at an important point in the international textile machinery calendar. India ITME will follow in December, while preparations for ITMA 2027 in Hannover are already well advanced.

Some manufacturers may reserve major innovations for Hannover. Nevertheless, Shanghai provides an opportunity to present technological developments, discuss investment projects and assess changing production requirements in China and other Asian markets.

The large number of exhibitors and the comprehensive range of technologies underline the continuing importance of the exhibition.

For textile manufacturers, ITMA ASIA + CITME 2026 will offer an overview of current solutions for improving productivity, quality, flexibility and resource efficiency. At the same time, developments in automation, digitalisation and artificial intelligence will provide an indication of the direction in which textile manufacturing is moving.

Shanghai will therefore not only be a showcase for machinery, but also an opportunity to assess how the world's leading textile producing region is preparing for the next phase of industrial transformation.

EXHIBITORS

With the exhibition approaching, attention now turns to its most important aspect: the exhibitors and the technologies they will present in Shanghai. The following pages provide an overview of selected companies, innovations and product highlights at ITMA ASIA + CITME 2026.

.

TEXDATA NEWS ITMA ASIA + CITME 2026
www.texdata.com/en/itma_asia_citme_2026
ITMA ASIA 2026 (OFFICIAL)
www.itmaasia.com
www.citme.com.cn

ADVERTISING

FAST MOVING TECHNOLOGY

STÄUBLI



No matter what type of fabric you produce, absolute reliability of the shaft movement – weft by weft – is a must. Stäubli shedding machines for producing basic weaves, patterned fabrics, or technical textiles are built with a passion for quality and innovation. Rely on the market leader with decades of experience gained through continuous collaboration with weaving mills around the world.

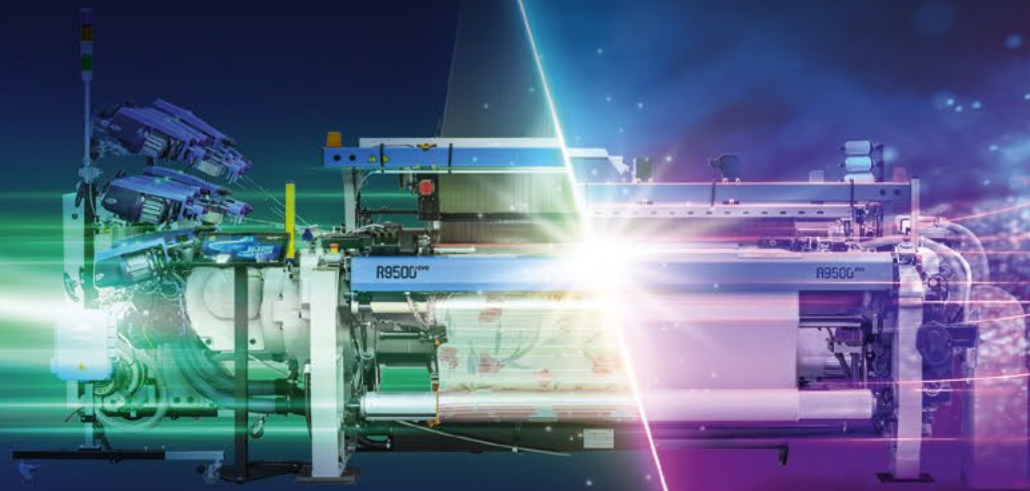
www.staubli.com

ITMA ASIA | CITME

Hall 3 | Stand n°D05

it IS ALL YOU NEED

TEXTILE MASTERY | ECO-EFFICIENCY | PERFORMANCE | EASY WEAVING



Visit us at the upcoming exhibitions

ITMA ASIA | CITME
20-24 November 2026 Shanghai, China
Hall 3 Stand D06

ITMA ASIA + CITME NEXT INDIA ITME 2026
4-9 December 2026 Noida, India
Hall 15 Stand G9

DISCOVER all the Itema machine models and benefits

itema *feel the future*

itemagroup.com

Textile Machinery itema® itematech® SCHOCH®

Innovation and Solutions itemalab®

Industrial LAMIFLEX®

Biopharmaceutical Tofflonit

BARMAG AND NEUMAG INTRODUCE

A NEW GENERATION OF FIBER PRODUCTION TECHNOLOGIES

Barmag and its Neumag product line are introducing a broad range of innovations covering filament yarn, staple fiber, carpet yarn and nonwoven production. At Hall 6.1, Booth D45, the company will present its new POY 2.0 spinning concept alongside advances in winding, texturing, automation and digital process control. The developments aim to improve production efficiency, flexibility and yarn quality while reducing energy consumption and operating costs.



Part of the new POY 2.0 spinning concept is the new WINGS POY 2.0 winder, which features an automatic string-up function for the first time. © 2026 Barmag

Barmag will present a broad portfolio of technologies for filament yarn, staple fiber and nonwoven production. Under the motto "A New Era. Powered by Innovation.", the company will highlight new spinning concepts, automation solutions and digital technologies designed to improve productivity, reduce resource consumption and address growing labor shortages.

POY 2.0: A NEW APPROACH TO FILAMENT SPINNING

At the center of Barmag's presentation is POY 2.0, a new spinning concept that combines developments in spinning, quenching, winding and digital process control. Rather than optimizing individual components, the system addresses the entire production process. A key element is the new WINGS POY 2.0 winder, which features a fully automatic string-up function for the first time. This reduces startup times, yarn waste and manual intervention.

"For decades, productivity improvements in spinning were often measured in percentages. With POY 2.0, we set out to rethink the entire process from the ground up," said André Wissenberg, Head of Marketing, Corporate Communications and Public Affairs at Barmag.

"The result is a solution that simultaneously addresses the industry's most pressing challenges: efficiency, quality, sustainability, and workforce availability. This is not a machine upgrade. It is a new production philosophy."

Further developments include the DIO Spin Pack Generation 2, which improves filament quality while reducing filter sand consumption by approximately one-third and component weight by more than 30 percent. A redesigned spinning beam reduces energy consumption by up to ten percent. The EvoQuench 2.0 system simplifies process adjustments and improves accessibility, helping to shorten setup times and reduce off-quality production during product changes.



The new Barmag EvoQuench 2.0 system optimizes filament quenching and simplifies process adjustments during product changes. © 2026 Barmag

DIGITAL INTEGRATION WITH ATMOS.IO

Barmag's atmos.io platform connects machinery, production processes and quality data within a digital manufacturing environment. Each bobbin receives a digital identity, enabling traceability from polymer processing to warehouse storage. The app-based platform allows manufacturers to monitor production, identify quality deviations and optimize process parameters. Its modular architecture supports integration into existing production environments.

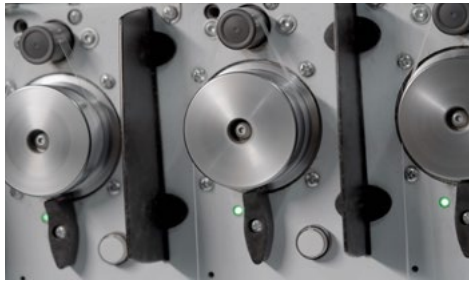
GREATER FLEXIBILITY IN WINDING AND TEXTURING

With WINGS FDY FLEX, Barmag introduces a winding concept designed for flexible production across different yarn types, including recycled polyester. The system offers a wide production window and enables faster product changes.

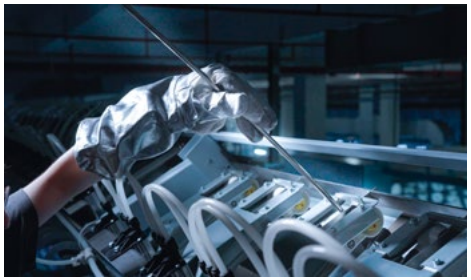


The Barmag WINGS FDY FLEX winding concept enables flexible production of different yarn types, including recycled polyester.

© 2026 Barmag



Barmag's eFK EvoSmart texturing technology with Smart Godets can reduce specific energy consumption by up to 25 percent. © 2026 Barmag



eFK EvoSmart heater insert exchange © 2026 Barmag



The Doffmatic automation solution enables automated doffing on Barmag eFK texturing machines and can be retrofitted to existing installations. © 2026 Barmag

In texturing, the eFK EvoSmart combines optimized process control with EvoHeater and Smart Godet technology. According to Barmag, the system can reduce specific energy consumption by up to 25 percent per kilogram of yarn. Replaceable heater inserts simplify maintenance, while optimized airflow systems can double service intervals and reduce maintenance effort by up to 50 percent.

Barmag is also expanding automation in texturing through its cooperation with India's Hitech Automation Solutions. The Doffmatic solution can be integrated into existing eFK systems, providing a retrofit option for automated doffing.

NEUMAG: INNOVATIONS IN STAPLE FIBER AND CARPET YARN PRODUCTION

Barmag's Neumag product line will present several developments for staple fiber production. The EvoSteam process is designed to reduce energy consumption while improving fiber quality. Additional technologies, including EvoDuct and EvE-2, optimize airflow management and monomer extraction.

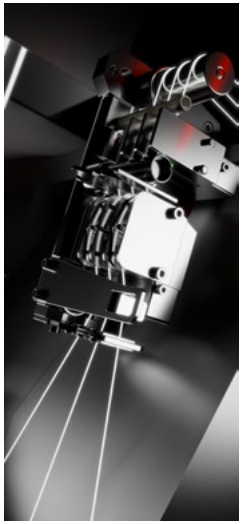
Robotic spin pack cleaning further extends automation, improving cleaning consistency and reducing manual intervention.

For carpet yarn production, Neumag introduces BICO BCF technology, which enables improved carpet bulk and recovery while reducing face fiber consumption by approximately 20 percent.



Neumag's patented hycuTEC technology enables highly efficient electrostatic charging of meltblown nonwovens for filtration applications.

© 2026 Barmag



Neumag's FiberGuard BCF – an intelligent system combining sensors and software – measures yarn tension between the twisting and winding stages in real time.

© 2026 Barmag



Neumag's EvoSteam process combines reduced energy consumption with improved fiber quality in staple fiber production. © 2026 Barmag

The FiberGuard BCF monitoring system continuously measures yarn tension between twisting and winding and automatically adjusts production parameters when deviations occur. The system can also be retrofitted to existing BCF installations.

NONWOVENS AND POLYESTER RECYCLING

In nonwoven production, Neumag highlights its patented hycuTEC technology, which enables electrostatic charging efficiencies of up to 99.99 percent in meltblown materials using osmosis-treated water. The technology is particularly relevant for demanding filtration applications.

Barmag Huitong Engineering will also present homogenization technology for the thermomechanical recycling of post-industrial polyester waste, including bottle flakes and films. By controlling melt viscosity, the process supports the production of recycled polyester for pellets, melt processing and direct fiber spinning.

Together, these developments illustrate Barmag's approach to integrating machinery, automation and digital process control across different areas of man-made fiber production.

Barmag & Neumag: Hall 6.1, Booth D45

www.barmag.com

TRÜTZSCHLER WILL SHOWCASE NEXT-GENERATION CARDING, T-CAN AUTOMATION AND THE NEW ATB OVEN FOR NONWOVENS

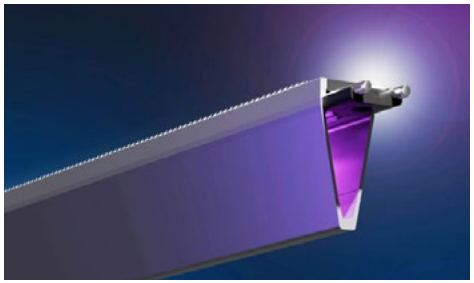


T-CAN helps spinning mills to lower operational costs and minimize downtime. It automates sliver can transport between cards and drawing passages, reducing manual handling in spinning preparation. © 2026 Trützschler

Trützschler is presenting a broad portfolio of innovations for spinning preparation, card clothing and nonwoven production. At Hall 5.1, Booth D20, the German machinery manufacturer will highlight technologies designed to increase productivity, improve fiber utilization and reduce manual intervention. Key developments include the automated can transport system T-CAN, the next-generation TC 30 card, advanced card clothing solutions and new technologies for hygiene, wipes and filtration applications.

TRÜTZSCHLER SPINNING: AUTOMATION AND EFFICIENT FIBER UTILIZATION

A central focus of Trützschler Spinning is the increasing automation of spinning preparation. The T-CAN automated can transport system connects cards and drawing passages, enabling the automated movement and allocation of sliver cans throughout the production process. By reducing manual handling and ensuring a continuous material flow, the system helps spinning mills address labor shortages, minimize downtime and improve operational efficiency.



Trützschler's STEELTOP all-steel flat top offers more than twice the service life of conventional card clothing solutions. © 2026 Trützschler

Another highlight is the next-generation TC 30 card, which combines higher productivity with improved raw material utilization. According to Trützschler, the machine can achieve productivity increases of up to 40 percent in man-made fiber applications while maintaining or improving yarn quality.

An advanced waste suction system enables the separate collection of different waste types, allowing more than 50 percent of card waste to be reused in high-quality applications. Together with the established WASTECONTROL system, which helps prevent unnecessary fiber loss, the TC 30 supports more efficient use of valuable raw materials.

TRÜTZSCHLER CARD CLOTHING: DURABILITY AND PROCESS OPTIMIZATION

Trützschler Card Clothing is introducing technologies designed to improve carding performance, extend service life and maintain consistent fiber quality.

The STEELTOP all-steel flat top offers more than twice the service life of conventional solutions while maintaining high sliver and yarn quality. Its durable construction is intended to reduce replacement frequency and support stable carding performance over extended operating periods.

For nonwoven applications, SUPERFLOW card clothing is designed to minimize fiber accumulation and maintain stable processing conditions, particularly at high production speeds.

Additional developments include Flexible Bend Control (FBC), an automated system for adjusting the carding gap, and the GX SeedClean cylinder wire series, which improves cleaning performance and contributes to consistent yarn quality.



The new Trützschler ATB Oven provides uniform airflow and heat distribution for the production of hygiene, medical and filtration nonwovens. © 2026 Trützschler

TRÜTZSCHLER NONWOVENS: FLEXIBLE TECHNOLOGIES FOR HYGIENE AND FILTRATION

In nonwoven production, Trützschler is focusing on technologies that combine production efficiency with flexibility across different applications.

A key innovation is the new ATB (Air-Through-Bonding) Oven, developed for the production of hygiene, medical and filtration materials. Applications include topsheets, backsheets and acquisition and distribution layers (ADLs) for diapers, as well as medical products and filtration media.

The oven uses air-through bonding technology to provide gentle, uniform heat distribution and homogeneous airflow across the web. This supports consistent bonding quality and efficient processing, even at high production speeds.

Trützschler is also presenting its established technologies for pulp-based nonwovens. The WLS (Wet-Laid/Spunlace) process is designed for flushable products, while Carded/Pulp (CP) technology addresses applications in premium wipes.

Building on these processes, the company offers several flexible production configurations, including CPC (Carded/Pulp/Carded), CAC (Carded/Airlaid/Carded) and SPC (Spunbond/Pulp/Carded). These combinations allow manufacturers to develop different material structures and adapt product properties to specific requirements in hygiene and wipes applications.

The portfolio illustrates Trützschler's approach to combining efficient fiber processing with flexible production concepts across spinning preparation and nonwoven manufacturing.

Trützschler Group: Hall 5.1, Booth D20.

www.truetzschler.com

MURATA MACHINERY PAIRS FLEXIBLE WINDING WITH HIGH-SPEED VORTEX SPINNING

Murata Machinery will present its PROCESS CONER AIcone automatic winder and VORTEX 870 EX air-jet spinning machine in Hall 5, Booths E01 and E02. The AIcone combines lower electricity consumption with simpler lot changes and flexible package winding, while the VORTEX 870 EX reaches spinning speeds of up to 550 m/min, depending on fibre material and yarn count.

AICONE SIMPLIFIES LOT CHANGES

A more efficient power converter reduces distribution losses, while optimised motor currents lower electricity consumption in standby mode. Standardised controls simplify operation across the winding units, auto-doffer and bobbin supply area. The expanded VOS control system lets operators recall lot settings for the auto-doffer and CBF directly from the screen, replacing adjustments previously made by hand.

The redesigned winding unit is divided into three independent modules. This allows drum and arm traverse systems to be fitted on the same machine, giving mills greater flexibility to meet different yarn and package requirements. Murata has also replaced aluminium with resin in the intermediate casing of the winding unit.

The company reports that the change cuts CO_2 emissions associated with that manufacturing process by 85%.

VORTEX 870 EX HANDLES COUNTS FROM NE 10 TO NE 80

The VORTEX 870 EX processes pure cotton, synthetic fibres and cotton/synthetic blends. Relatively minor component changes allow mills to switch between materials and yarn counts. Murata introduced its first VORTEX machine in 1997 at 350 m/min and has since raised the maximum speed to 550 m/min with the 870 EX.

The optional POLYMASTER system is designed to improve the processing of demanding synthetic fibres, particularly 100% polyester, while supporting higher spinning speeds. A separate filament core yarn device feeds a continuous filament into the spinning process so that staple fibres can form the outer covering. Standard equipment includes the VOS III control panel, the Muratec Spin Clearer, automatic waste fibre extraction and an auto-doffer.

Murata Machinery: Hall 5, Booths E01 and E02.

www.muratec-vortex.com

SAVIO SHOWCASES AI-POWERED

WINDING WITH PROXIMA SMARTCONER AND FLEXIBLE AIR-JET SPINNING WITH LYBRA

Savio will showcase its latest developments in winding and spinning technology, focusing on artificial intelligence, automation and digital integration. At Hall 6.1, Booth C35, the company will highlight two machines: the Proxima Smartconer®, its next-generation winding platform, and the Lybra Smartspinner®, an air-jet spinning solution designed for flexible yarn production across a wide range of textile applications.

PROXIMA SMARTCONER® – INTELLIGENT WINDING TECHNOLOGY

Savio's Proxima Smartconer® is available in a comprehensive range of configurations, including fully automatic operation, manual feeding, cone-to-cone winding, Duo Lot and large bobbin feeding for the carded wool sector. The winding platform combines energy-saving technologies, optimized bobbin flow and AI-supported functions. It also incorporates Savio Insight, a web-based system for real-time production monitoring and control. Operators can remotely configure machines, track production data and analyze performance, enabling more informed decisions throughout the winding process.

Another development is a newly designed, patented suction nozzle in the preparation area.



The Savio Proxima Smartconer® combines AI-supported winding functions, intelligent bobbin flow management and digital process monitoring to improve productivity and energy efficiency. © 2026 Savio

The component improves yarn-end capture efficiency while reducing energy consumption. According to Savio, this contributes to higher operational efficiency and lower running costs without compromising reliability or yarn quality.

Additional AI-driven functions include adaptive tension control, smart metering and intelligent bobbin flow management. These technologies are designed to enhance automation, improve process precision and optimize machine performance.

Together, these developments aim to combine high productivity and consistent yarn quality with lower energy consumption and comprehensive digital connectivity.

LYBRA SMARTSPINNER® – FLEXIBLE AIR-JET SPINNING WITH INTEGRATED FIBER BLENDING

Savio's Lybra Smartspinner® is an air-jet spinning machine developed for applications including knitting, home textiles and sunshades. Its technology offers manufacturers greater flexibility in yarn production, particularly when processing different fiber blends and developing specialized yarns.

A key feature is the Multi Blend System, which allows two slivers to be fed directly into the spinning chamber. The fibers are blended in real time, enabling manufacturers to adjust the blend composition during production without extensive changes to the preparation process.

Blend ratios can be modified directly through the machine PC, allowing yarn composition to be adjusted on the fly. This flexibility simplifies preparation processes and can reduce production costs.

The system also creates opportunities for different material and color combinations, including mélange effects. By integrating



The Savio Lybra Smartspinner® features the Multi Blend System, enabling real-time blending of two fiber slivers and flexible adjustment of yarn composition during production. © 2026 Savio

fiber blending directly into the spinning process, Lybra enables manufacturers to develop differentiated yarns while maintaining flexible production planning.

According to Savio, the Lybra Smartspinner® combines versatility and ease of operation with high production rates and reduced processing costs.

With Proxima Smartconer® and Lybra Smartspinner®, Savio demonstrates how intelligent winding, digital process control and flexible air-jet spinning can improve efficiency and adaptability in yarn manufacturing.

Savio: Hall 6.1, Booth C35.

www.saviospa.com

DORNIER HIGHLIGHTS
AIRBAG, FILTRATION AND COMPOSITE WEAVING TECHNOLOGIES

Lindauer DORNIER will demonstrate the production of a flat airbag fabric on its A2 air-jet weaving machine in Hall 3, Booth E02. The German manufacturer will also highlight its P2 rapier weaving machine for high-density filter fabrics and its TRITOS FLEX system for complex 3D composite preforms. "In Shanghai, we will demonstrate how our air-jet and rapier weaving machines can help textile manufacturers in Asia's demanding markets to produce fabrics flexibly, reliably and with the lowest possible energy consumption," says Yvonne Schuberth, Head of Product Line Weaving Machines at DORNIER.

A2 AIR-JET WEAVING FOR FLAT AND SEAMLESS AIRBAGS

The A2 uses pneumatic weft insertion to accelerate yarns to speeds of up to 280 km/h and can operate at up to 1,000 rpm. The live demonstration will show how the machine combines high output with the consistent fabric quality required for automotive safety applications. Reliable weft insertion is central to the zero-defect strategy pursued by airbag manufacturers.

DORNIER will also address the production of seamless One Piece Woven (OPW) airbags. For this application, leading international airbag manufacturers use the A2 in combination with Jacquard technology.



The DORNIER TRITOS FLEX 3D weaving system enables the flexible and cost-effective production of complex fibre-reinforced preforms from glass, carbon and aramid fibres, particularly for small and medium-sized production runs. (Photo: © Lindauer DORNIER)

P2 RAPIER WEAVING FOR HIGH-DENSITY FILTERS

Stricter emission standards and tighter purity requirements in industrial processes are driving demand for high-performance filters, says Yvonne Schuberth, Head of Product Line Weaving Machines at DORNIER. The P2 is designed to produce dense fabrics with tight tolerances and uniform pore sizes for solid-liquid separation, water treatment and air pollution control.

The P2's shed geometry is optimised for demanding materials and fabric constructions. Three variants with reed beat-up forces of 2.3, 3.7 and 5.0 tonnes cover applications ranging from heavy-duty industrial filters to fine precision filters. The machine can also produce ultra-fine wire meshes for specialised applications.

TRITOS FLEX FOR SMALL AND MEDIUM-SIZED PRODUCTION RUNS

DORNIER will present technologies for producing unidirectional tapes and complex 3D fabrics from glass, carbon and aramid fibres. These reinforcements serve markets such as wind energy, automotive engineering and aerospace. TRITOS FLEX builds on DORNIER's TRITOS 3D weaving system and is designed for manufacturers producing complex preforms in smaller volumes.

Josef Klingele, Head of the Composite Systems product line, explains the system's purpose. "TRITOS® FLEX enables companies with small and medium-sized production runs to enter the production of complex 3D preforms flexibly and cost-effectively."

At DORNIER's expanded Composite Systems Technology Center in Esseratsweiler, customers can carry out confidential trials under industrially relevant conditions, from initial product development through to preparation for series production.

RETROFITS AND REGIONAL SERVICE

DORNIER's retrofits help mills extend the service life of existing air-jet and rapier weaving machines, improve energy efficiency and adapt them to new production requirements. Shanghai-based ChinDO handles sales and service across Southeast Asia. DORNIER has also expanded its sales team in China to improve local support and shorten response times for maintenance, repairs and spare parts.

Lindauer DORNIER: Hall 3, Stand E02

www.lindauerdornier.com

STÄUBLI SHOWCASES
ADVANCED WEAVING PREPARATION, JACQUARD AND SHEDDING TECHNOLOGIES ALONGSIDE 3D WEAVING SOLUTIONS

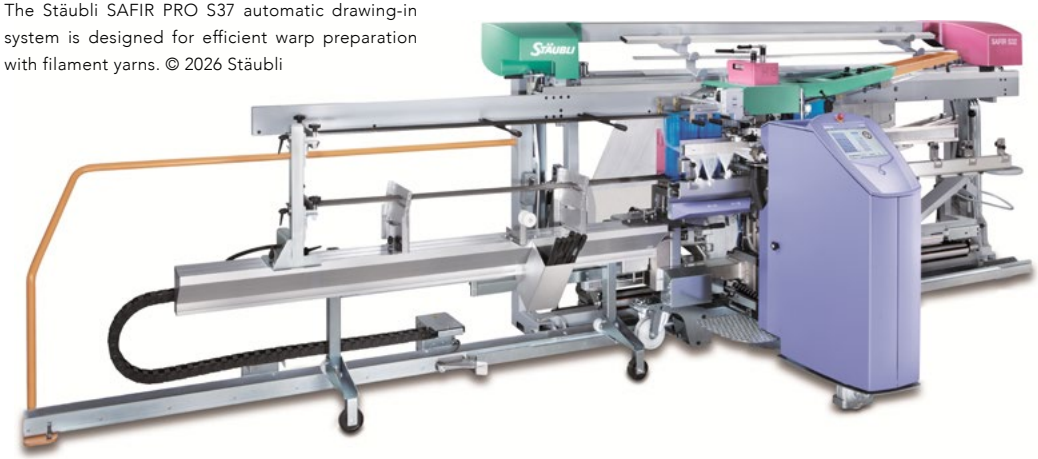
Stäubli will present a comprehensive portfolio of technologies covering weaving preparation, Jacquard weaving, shedding systems and technical textiles. At Hall 3, Booth D05, the company will demonstrate solutions designed to improve productivity, process reliability and fabric quality across a wide range of weaving applications, from high-volume denim production and fine fabrics to industrial 3D textiles and composite materials.

ADVANCED WEAVING PREPARATION SYSTEMS

In weaving preparation, Stäubli will showcase the SAFIR PRO S37 automatic drawing-in system, designed for filament yarns and demanding weaving applications. Advanced yarn handling and automation support efficient preparation processes and consistent quality, helping manufacturers reduce manual intervention and improve operational reliability.

The MAGMA automatic warp-tying machine addresses applications involving coarse and technical yarns. Its single- and double-knot capability, combined with optoelectronic double-end detection, enables reliable warp changes across different yarn types and production requirements.

The Stäubli SAFIR PRO S37 automatic drawing-in system is designed for efficient warp preparation with filament yarns. © 2026 Stäubli





Stäubli's MAGMA automatic warp-tying machine combines single- and double-knot capability with optoelectronic double-end detection for demanding yarn applications. © 2026 Stäubli

JACQUARD TECHNOLOGY FOR VERSATILE FABRIC PRODUCTION

Stäubli's Jacquard portfolio covers configurations ranging from 80 to 25,600 hooks, supporting applications from apparel and upholstery to technical textiles and sophisticated decorative fabrics.

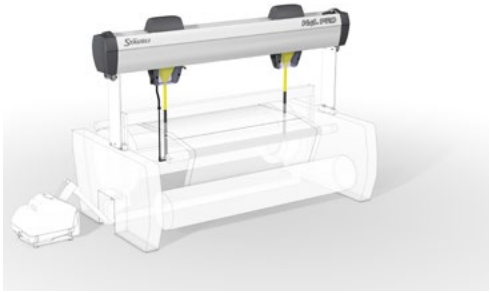
The SX PRO Jacquard machine, presented with harness, is designed for a broad range of applications, including terry fabrics, apparel, upholstery, tapestry, silk and technical textiles. Its combination of precision, flexibility and reliable operation supports complex woven structures and demanding production environments.

Another highlight is the N4L PRO, a specialized Jacquard solution that enables manufacturers to weave brand names and identifying elements directly into fabric selvedges, adding distinctive details to premium woven products.

HIGH-PERFORMANCE SHEDDING SYSTEMS

For frame weaving, Stäubli will present several cam motions and rotary dobbies developed for high-speed industrial applications.

The S1628 cam motion is designed for air-jet and rapier weaving machines and supports mechanical speeds of up to 1,200 rpm, depending on loom configuration and application.



The Stäubli N4L PRO enables brand names and identifying elements to be woven directly into fabric selvedges. © 2026 Stäubli



Stäubli's S1628 cam motion supports high-speed shedding on air-jet and rapier weaving machines, with mechanical speeds of up to 1,200 rpm.© 2026 Stäubli

The S3018 rotary dobby will be shown in two configurations: one for rapier and air-jet weaving machines, with speeds of up to 650 rpm, and another for water-jet weaving machines, reaching up to 740 rpm.

The S3060 rotary dobby, designed for air-jet weaving applications, offers speeds of up to 800 rpm. These systems are intended to combine precise shedding performance with operational reliability and consistent fabric quality.

The stated speeds represent maximum mechanical speeds and depend on loom parameters and applications.



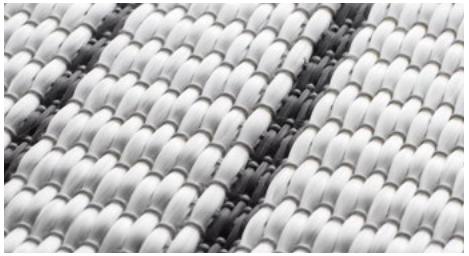
The Stäubli S3060 rotary dobby is designed for reliable high-speed shedding in air-jet weaving applications. © 2026 Stäubli

TECHNICAL WEAVING SYSTEMS FOR 3D TEXTILES

Stäubli will also highlight its developments in technical weaving, particularly for applications in aerospace, automotive, energy and industrial composite materials.

Building on more than a decade of experience in industrial 3D weaving, the company has developed its TF platform into a modular and configurable system designed to accommodate different materials, textile structures and production requirements.

The platform allows manufacturers to adapt weaving configurations to specific applications, supporting the production of complex three-dimensional textile structures. Visitors will be able to examine samples of technical fabrics produced on Stäubli TF weaving systems, illustrating their potential for advanced textile and composite applications.



Glass and carbon fiber fabrics demonstrate the versatility of Stäubli's TF weaving technology for technical textiles and composites. © 2026 Stäubli



Multilayer distance fabric illustrating the potential of advanced weaving technologies to produce complex three-dimensional textile structures. © 2026 Stäubli



JIEDE Textile production facilities operate 430 Stäubli S3060 rotary dobbies. © 2026 Stäubli

CUSTOMER APPLICATION: JIEDE TEXTILE DEMONSTRATES INDUSTRIAL RELIABILITY

A practical example of Stäubli technology in large-scale production comes from JIEDE Textile, a denim manufacturer based in Guangdong Province, China. The company operates an integrated production chain covering spinning, dyeing, weaving and finishing, with an annual denim fabric production capacity of 100 million meters.

JIEDE Textile currently operates 430 Stäubli S3060 rotary dobbies. According to the company, the machines contribute to stable high-speed production, reduced downtime and fewer fabric defects while improving consistency between production batches.

"For us, Stäubli is more than an equipment supplier. It is a key technology partner. From solution design to ongoing service, they support us throughout the entire lifecycle," says Wang Lihua, General Manager of JIEDE Textile.

The installation illustrates the role of reliable shedding technology in maintaining consistent fabric quality and production efficiency in high-volume denim manufacturing.

Stäubli: Hall 3, Booth D05

www.staubli.com

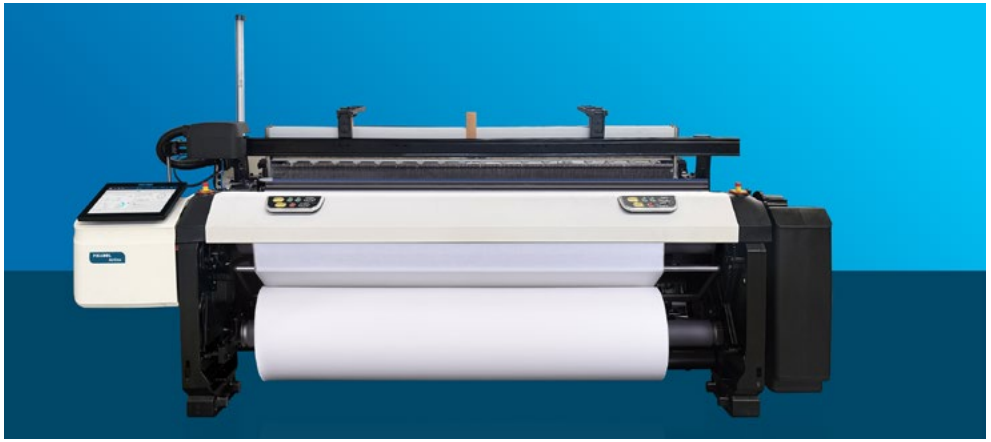
PICANOL TO UNVEIL
NEW AIRONE AIRJET WEAVING PLATFORM WITH CRANK SHEDDING MOTION

Picanol will present the world premiere of its new AirOne generation of airjet weaving machines, developed specifically for the production of basic woven fabrics. At Hall 3, Booth F01, the company will demonstrate three weaving machines in operation and introduce new digital applications within its PicConnect ecosystem.

The AirOne platform represents an expansion of Picanol's portfolio, combining a newly developed crank shedding motion with energy-efficient technologies, digital connectivity and simplified operation.

AIRONE – NEW PLATFORM FOR BASIC WOVEN FABRICS

Developed following extensive market research, R&D and field testing, AirOne addresses weaving mills seeking high productivity, reliable operation and competitive production costs. Positioned alongside the established OmniPlus-i Connect, the new platform extends Picanol's airjet offering into the basic fabric segment. The AirOne-4-E 190 will be demonstrated weaving poplin fabric. Its newly developed crank shedding motion incorporates automatic central lubrication and adjustable shed angles. Technologies including AirStream, EcoBoost and EcoWeft are designed to optimize weaving performance and reduce energy consumption.



World premiere: Picanol's new AirOne airjet weaving machine features a newly developed crank shedding motion and energy-efficient technologies for basic woven fabric production. © 2026 Picanol

Additional features include WeavePilot and Twinjet, while the BlueBox electronic platform, BlueTouch display and SUMO drive concept support digital machine control. PicConnect connectivity enables integration into the weaving mill's digital environment.

Johan Verstraete, Vice President Weaving Machines at Picanol, explains: "AirOne represents a special launch for Picanol. I am particularly pleased to see that this new machine platform brings together all the strengths that define Picanol today: from high performance and low energy consumption to digital capabilities and ease of operation. At the same time, it empowers us to enter a new market segment. Our Sales and Service team is looking forward to making Picanol technology accessible to an even broader group of weaving mills in the near future."

FURTHER WEAVING TECHNOLOGIES AND DIGITAL SOLUTIONS

Alongside the AirOne premiere, Picanol will demonstrate the OmniPlus-i Connect-6-R 220 producing ladieswear fabrics from polyester and elastane yarns. Designed for high-speed filament weaving, the machine features Adaptive Relay Valve Drive (ARVD II Plus), fully electronic pressure settings and the AirMaster system for monitoring and optimizing compressed air consumption.

The Supermax-4-R 250 rapier weaving machine will be shown producing denim. Equipped with the Guided Gripper system, QuickStep weft presenter and Stäubli S3018 dobby, the machine combines flexible yarn processing, including recycled materials, with digital monitoring and control.

Picanol will also introduce new AI-powered applications within PicConnect, its centralized digital ecosystem. The platform integrates production monitoring, machine optimization and service-related functions to support operational efficiency and data-driven decision-making in weaving mills.

Beyond its own booth, five additional Supermax machines will operate at partner stands, demonstrating applications ranging from saree and denim production to shoe fabrics and labels. The machines will be presented at JKD (Hall 3, Booth B06), S&S (Hall 3, Booth B09), Tongxiang (Hall 3, Booth D16) and Jinjiang Xinlilai (Hall 3, Booth C19).

Picanol: Hall 3, Booth F01

www.picanol.be

VANDEWIELE FOCUSES ON WEAVING EFFICIENCY, CARPET TECHNOLOGY AND AUTOMATION

Vandewiele will present innovations for weaving, carpet manufacturing, tufting, yarn processing and automation. At Hall 3, Booth D01, the Belgian machinery group will showcase new weft-feeding technologies, energy-efficient loom control, carpet weaving solutions and automated yarn handling. Together with SUPERBA and Vandewiele Automation, the company will demonstrate technologies designed to improve productivity, resource efficiency and manufacturing flexibility.

NEW WEFT FEEDERS AND ENERGY-EFFICIENT LOOM CONTROL

Vandewiele will present four weft-feeding solutions, including three new launches: the Super Elf GF-TC and GF-TD for glass-fiber applications, and the Chrono X4 and Laser G2 for rapier looms.



RCF high-speed face-to-face carpet weaving machine © 2026 Vandewiele



The new-generation Chrono X4 © 2026 Vandewiele



Super Elf GF-TC and Super Elf GF-TD © 2026 Vandewiele

The new-generation Chrono X4 features a modular design supporting advanced yarn tensioning systems. Compatibility with existing rapier and projectile loom control boxes enables upgrades without extensive modifications.

The Super Elf GF-TC and GF-TD address growing demand for specialised glass-fiber processing, particularly for fabrics used in printed circuit boards (PCBs), a market benefiting from the expansion of AI applications. Both feeders operate with glass-fiber air-jet looms.

The new Loom Control System (LCS) incorporates proprietary solenoid valve technology for air-jet weaving. According to Vandewiele, it can reduce compressed-air consumption by up to 13%, lowering energy costs.

CARPET WEAVING: SPEED AND FLEXIBILITY

The RCF high-speed face-to-face carpet weaving machine reaches up to 250 rpm and features Fast Creel technology, allowing bobbin changes during production. Electronically controlled yarn tension supports consistent quality, while optimised yarn utilisation reduces waste.

The UCF weaving platform offers flexibility for different carpet constructions and designs at competitive manufacturing costs.

For hospitality and contract flooring, the MAX91 high-speed Axminster weaving machine supports up to 16 colour frames for complex multicolour designs. Its technology operates without incorporated pile yarns, improving material utilisation.

DIGITAL CONTROL IN TUFTING

Vandewiele offers two tufting platforms: the cost-effective Standard platform and the advanced HST platform focusing on digitalisation and repeatability.

By replacing mechanical adjustments with independently servo-controlled movements, HST enables precise, reproducible settings, supporting consistent quality and production flexibility.

SUPERBA: CARPET YARN PROCESSING

Group company SUPERBA will present its continuous heat-setting and space-dyeing technologies for carpet yarns, including the TVP3 heat-setting line and the DHS3, MCD3M and MF400 systems, supported by an international service network.

AUTOMATION: KR1 HANDLES 240 YARN PACKAGES PER HOUR

Vandewiele Automation's KR1 automatic knotting robot combines advanced vision technology with automated yarn handling. It can identify, handle and knot yarn packages automatically, processing up to 240 packages per hour.

Designed for different yarn applications, the robot reduces manual intervention, improves process consistency and increases productivity, highlighting the growing importance of robotics in textile manufacturing.

Vandewiele: Hall 3, Booth D01

www.vandewiele.com

ITEMA DEMONSTRATES GALILEO WEAVING VERSATILITY

ACROSS DENIM AND TECHNICAL TEXTILES

Itema will demonstrate the versatility of its Galileo weaving platforms. At Hall 3, Booth D06, the company will present two Galileo-RX rapier weaving machines producing heavy denim and conveyor belt fabrics.

Five additional machines at partner booths will cover applications including footwear fabrics, labels, Jacquard leno fabrics and shirting. An international fabric gallery and weaving accessories from Group company Lamiflex will complement the exhibition.

GALILEO-RXDENIM FOR DEMANDING DENIM APPLICATIONS

The Galileo-RXdenim, with a nominal weaving width of 230 cm, will produce heavy cotton denim. The machine features a reinforced upper press roller and the SK Ultralight Rapier Weft Transfer, a configuration specifically adapted to processing coarse cotton yarns in demanding denim applications. The demonstration will highlight the machine's ability to maintain fabric quality when handling heavy constructions and challenging yarn characteristics.

According to Itema, the configuration helps reduce stop marks while improving fabric hand, texture and colour consistency.

The Galileo-RXdenim reflects the company's approach of adapting its weaving technology to the specific requirements of denim manufacturers, where productivity, fabric appearance and reliable processing of heavy yarns are important production factors.

GALILEO-RX FOR CONVEYOR BELT FABRICS

A second Galileo-RX, with a nominal weaving width of 300 cm, will demonstrate the production of conveyor belt fabrics, representing a technically demanding application requiring high yarn tensions and precise weft insertion.

The machine is equipped with the FPA free-flight rapier weft transfer, specifically designed for technical textile applications. A reinforced take-up system and whip roller accommodate the high-tension requirements of conveyor belt fabrics while supporting stable weaving conditions.

Together, the two Galileo-RX configurations illustrate the platform's flexibility across different textile segments, from heavy apparel fabrics to industrial textiles requiring specialised machine configurations.

FIVE ADDITIONAL WEAVING MACHINES AT PARTNER BOOTHS

Itema will extend its exhibition presence through five additional machines displayed at three partner stands in Hall 3, demonstrating further applications of its rapier and air-jet weaving technologies.

At Huzhou Hyundai (Julibao), Booth D07, three Itema rapier weaving machines will be demonstrated. A Galileo-RX with a nominal width of 190 cm will produce footwear upper fabrics and labels, featuring full-repeat weaving capability. A second Galileo-RX, also 190 cm wide, will demonstrate the production of Jacquard leno fabrics.



The 230 cm Itema Galileo-RXdenim will weave heavy cotton denim at ITMA Asia + CITME. Its reinforced upper press roller and SK Ultralight Rapier Weft Transfer are configured to handle coarse cotton yarns. © 2026 Itema



The 300 cm Itema Galileo-RX will weave conveyor belt fabrics using the FPA free-flight rapier weft transfer system. A reinforced take-up system and whip roller accommodate the high yarn tensions required for this application.
© 2026 Itema

An R9500EVO with a nominal weaving width of 230 cm will focus on wide-width label production, illustrating the machine's suitability for specialised narrow-fabric applications produced across wider weaving widths.

At Jinjiang Xinlilai, Booth C18, another Galileo-RX with a nominal width of 240 cm will demonstrate label weaving. The wider configuration accommodates multiple sets of labels across the fabric, offering manufacturers opportunities to increase output through efficient use of the available weaving width.

Song & Song, Booth B09, will present the Galileo-AX air-jet weaving machine in a 190 cm configuration. Developed to combine fabric quality with competitive investment and operating costs, the machine also focuses on energy efficiency.

At the exhibition, the Galileo-AX will produce shirting fabric using pneumatic tuckers and name Jacquard technology, demonstrating the platform's capabilities in apparel fabric production.

INTERNATIONAL FABRIC GALLERY HIGHLIGHTS TEXTILE POSSIBILITIES

Alongside the live weaving demonstrations, Itema will host an international fabric gallery featuring textiles produced by customers in China, Europe, India and Türkiye.

The collection includes fabrics developed for international fashion and textile brands, highlighting complex constructions and the processing of delicate, precious and recycled yarns.

By presenting finished fabrics alongside the weaving machinery, Itema aims to demonstrate the relationship between machine configuration, yarn selection and the resulting textile characteristics. The gallery will cover different market segments and illustrate the variety of fabric qualities achievable with Itema weaving technologies.

LAMIFLEX AND ORIGINAL SPARE PARTS

A dedicated area for Itema Original Spare Parts will provide information on maintenance, technical support and replacement components for installed weaving equipment.

Group company Lamiflex will also present its range of advanced weaving accessories, including rapier tapes and sprocket wheels. These components contribute to the reliability and performance of rapier weaving systems.

With seven machines across its own and partner booths, Itema will demonstrate how application-specific configurations, specialised weaving components and different weft insertion technologies can address the requirements of modern textile manufacturing.

Itema at ITMA Asia 2026: Hall 3, Booth D06

Additional demonstrations: Hall 3, Booth D07 (Huzhou Hyundai/Julibao), Booth C18 (Jinjiang Xinlilai) and Booth B09 (Song & Song).

www.itemagroup.com

GROZ-BECKERT SHOWCASES
INNOVATIONS ACROSS SIX TEXTILE TECHNOLOGY SECTORS

Groz-Beckert will present its latest innovations across six textile technology sectors. At Hall 4.1, Booth D41, the German technology specialist will showcase developments in Knitting, Weaving, Nonwovens, Sewing, Tufting and Spinning. The portfolio focuses on energy efficiency, process reliability, precision and solutions for increasingly demanding textile applications.

KNITTING: ENERGY EFFICIENCY AND SPECIALISED APPLICATIONS

In Circular Knitting, Groz-Beckert will highlight its energy-saving LCmax™ needles. Their wave-shaped shank geometry reduces friction and energy consumption while facilitating handling and maintaining knitting performance.

For Flat Knitting, the SAN™ TT is designed for particularly tight loops in technical and medical textiles, while the new SAN™ FY enables reliable processing of uneven effect yarns.

Together with SINOTEX, Groz-Beckert will demonstrate fine-gauge technology using a knitted collar produced with the spring-loaded latch needle Vosa Spec. 89.50-45 G016. The application illustrates the production of finer fabrics and tighter stitch loops for high-quality collars and sweater components.

The Legwear segment will feature durable dur™ needles for sock and fine hosiery machines. In Warp Knitting, the patented compound needle Spec. 51/43.36 G 101 offers enhanced stability and minimal tolerances for producing uniform, fine-gauge elastic fabrics.

Groz-Beckert will also introduce an AI-powered WeChat chatbot for Chinese knitting customers, providing product information and handling product and price enquiries through natural language interaction.

WEAVING: PRECISION FOR GLASS FIBER AND PCB APPLICATIONS

In Weaving, Groz-Beckert will focus on components for demanding glass-fiber fabrics used in printed circuit boards (PCBs).

As finer yarns and increasingly complex electronic fabrics place higher demands on process stability, the company will present solutions ranging from weaving preparation equipment to precision yarn-guiding components, including drop wires, healds and reeds.

These technologies are designed to support reliable processing and consistent fabric quality in technically demanding weaving applications.



Knitting needle Spec. 51/43.36 G 101petrol
Groz-Beckert's patented compound knitting needle Spec. 51/43.36 G 101petrol features a reinforced plastic component for improved stability and precision in fine-gauge elastic fabric production. © Groz-Beckert



LCmax™ knitting needle
Groz-Beckert's energy-saving LCmax™ circular knitting needle features an innovative wave-shaped shank geometry that reduces friction and energy consumption while maintaining high knitting performance.
© Groz-Beckert



Knitting needle Vo DUR
Groz-Beckert's durable Vo DUR knitting needle is designed for sock and fine hosiery production, offering high wear resistance and reliable performance. © Groz-Beckert



Knitting needle Vosa Spec. 89.50-45
The spring-loaded latch needle Vosa Spec. 89.50-45 G016 enables the production of finer knitted fabrics and tighter stitch loops, particularly for high-quality collars and sweater components. © Groz-Beckert



Weaving Drop Wire
Groz-Beckert's Drop Wire is a yarn-monitoring component used in weaving preparation and weaving processes, including demanding glass-fiber applications. © Groz-Beckert



Nonwovens needle CB-Barb
Groz-Beckert's newly developed CB-Barb felting needle expands the company's needle portfolio for nonwoven production. © Groz-Beckert



Sewing needle Litespeed™
Groz-Beckert's Litespeed™ sewing needle features a special geometry designed for heat-intensive sewing applications, including high sewing speeds and dense or multilayer materials. © Groz-Beckert

NONWOVENS: NEW FELTING NEEDLES AND CARDING SOLUTIONS

In Nonwovens, Groz-Beckert will introduce the advanced Litespeed™ felting needle, designed to reduce insertion and removal times, simplify handling and improve operational efficiency. The newly developed CB-Barb felting needle will also be presented.

For Nonwovens Carding, the company will showcase its specialised Mounting Service and SiroLock™ plus wires from the Groz-Beckert InLine card clothing family. These solutions aim to improve precision, reliability and performance throughout the carding process.

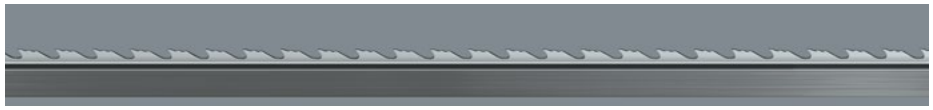
SEWING: SPECIAL NEEDLES FOR DEMANDING MATERIALS

The Sewing segment will highlight SAN™ special application needles for different industrial requirements.

SAN™ 5.2 offers enhanced stability and reliable loop pick-up for technical textiles such as airbags, while SAN™ 6 is designed for woven fabrics including denim. Both feature the wear-resistant GEBEDUR™ coating.



Tufting Gauge Part system
Groz-Beckert's Gauge Part system combines precisely coordinated tufting components to ensure reliable production and consistent quality in carpets, bath mats and artificial turf. © Groz-Beckert



Spinning maintenance-free cylinder wire
Groz-Beckert's new maintenance-free cylinder wire is designed to reduce energy consumption and maintenance costs while increasing card output and extending service life. © Groz-Beckert



Nonwoven card clothing wire SiroLock™ plus
Groz-Beckert's SiroLock™ plus wires from the InLine card clothing family are designed to improve fiber control, precision and process reliability in nonwovens carding. © Groz-Beckert

For particularly fine materials, the slim SAN™ 10 and SAN™ 10 XS minimise the risk of material damage. The new Litespeed™ sewing needle is designed for heat-intensive applications, including high sewing speeds and dense or multilayer materials.
Digital support tools include the Groz-Beckert Sewing video series and the interactive Needle Finder, which helps users identify suitable needles for specific sewing applications.

TUFTING: COORDINATED COMPONENTS FOR FLOOR COVERINGS

In Tufting, Groz-Beckert will present its Gauge Part system for producing carpets, bath mats and artificial turf. The coordinated interaction of individual components and materials is designed to ensure reliable production and consistent results.

SPINNING: ENERGY-SAVING CARD CLOTHING

For Spinning, Groz-Beckert will introduce a new energy-saving, maintenance-free cylinder wire designed for longer service life, higher card output and reduced maintenance costs.

Further developments include high-PPSI revolving tops for processing fine yarns and special top technologies adapted to the latest card models. Stationary flats with optimised profiles and wire designs aim to improve overall carding performance.

Across all six sectors, Groz-Beckert's innovations address the growing requirements for efficient processing, longer component life and reliable textile production.

Groz-Beckert: Hall 4.1, Booth D41

www.groz-beckert.com

KARL MAYER PRESENTS NEW MACHINERY
WARP KNITTING, WARP PREPARATION AND TECHNICAL TEXTILES

Innovations in Shanghai and Changzhou include next-generation tricot machines, the upgraded TM WEFT, high-performance warp preparation and the new MULTIPLY BX for wind turbine reinforcement fabrics.

KARL MAYER will present a broad range of innovations, combining two exhibition booths in Shanghai with an extensive product show at its Chinese manufacturing site in Changzhou. At Hall 4.1, Booth C18, the company will focus on warp knitting, while Hall 3, Booth A24 will feature warp preparation technologies. Further machine premieres in Changzhou will include developments for fashion fabrics, footwear and technical textiles, particularly wind turbine reinforcement materials.

The presentation addresses key challenges facing Asian textile manufacturers, including rising labour and energy costs, increasing price pressure and demand for shorter production runs. KARL MAYER aims to respond with higher machine productivity, greater flexibility and technologies supporting efficient textile production.



TIC machinery © 2026 KARL MAYER

"Our closeness to customers in Asia helps us identify market requirements at an early stage and translate them into targeted innovations. That is why, at this trade fair, we will be showcasing solutions that are not only technologically leading but, above all, deliver one key benefit: they create measurable added value and long-term growth opportunities for our customers," explains Lutz Wolf, CEO of KARL MAYER.

NEXT-GENERATION TRICOT MACHINES FOR HIGHER PRODUCTIVITY

In warp knitting, KARL MAYER will introduce a new generation of two-, three- and four-bar tricot machines offering higher output, greater flexibility and improved fabric quality through wider working widths, higher operating speeds and finer gauges.

At the Shanghai exhibition, a two-bar elastic tricot machine will demonstrate production possibilities for sportswear, outerwear and lingerie, combining productivity with flexibility in panel widths. A three-bar tricot machine will highlight additional patterning options and fabric widths with a focus on cost-efficient manufacturing.

The presentation will be complemented by textile collections featuring natural fibres and applications in sportswear, fashion and footwear. KARL MAYER will also showcase its Care Solutions, including the Customer Portal, digital services and Spare Parts Webshop.

WARP PREPARATION: WARPDIRECT 2.0 AND HSB SIZE BOX

At Hall 3, Booth A24, KARL MAYER will demonstrate advanced warp preparation technology for staple fibre processing, focusing on the WARPDIRECT 2.0 direct warping machine and the HSB Size Box from its PROSIZE series.

The WARPDIRECT 2.0 achieves warping speeds of up to 1,200 m/min and produces warp beams with uniform lengths and precise yarn arrangement. An electrically operated press roll system replaces hydraulic operation, reducing maintenance requirements while supporting consistent beam quality. Additional features include Smart-Riet for automatic reed adjustment, a yarn-protecting kick-back function and automatic uncrossing after machine start-up.

Four yarn tensioning systems demonstrate the machine's flexibility: OPTOGUARD with optical yarn monitoring, the electronic YTC 2000 tension control system, the universal ISOTENS double-disc tensioner and MEGATENS for coarse and technical yarns.

The HSB Size Box aims to reduce sizing agent consumption while maintaining high yarn coverage. Its process concept achieves a cover factor of up to 100%, with potential savings of up to 10% in sizing agent consumption. The system operates at speeds of up to 160 m/min, optionally reaching 200 m/min, and is designed for reduced maintenance and improved accessibility.



ISOTENS
© 2026 KARL MAYER



MEGATENS
© 2026 KARL MAYER



YTC
© 2026 KARL MAYER



PROSIZE with HSB size box
© 2026 KARL MAYER



Weft insertion warp knitting machine
© 2026 KARL MAYER

TM WEFT: NEW POSSIBILITIES FOR WOVEN-LIKE FASHION FABRICS

At the accompanying product show in Changzhou, KARL MAYER will present the upgraded TM WEFT warp knitting machine with weft insertion.The latest developments include a new E 36 gauge for finer fabric constructions, an EL pattern drive for greater patterning flexibility and continuous yarn tension regulation to improve process stability and fabric quality.



Dense, textured woven-like warp knitted fabric developed on KARL MAYER's TM WEFT, demonstrating sophisticated surface structures and new design possibilities for autumn and winter fashion. © 2026 KARL MAYER



Lightweight woven-like warp knitted fabric produced on the TM WEFT. The collection features flowing drape, subtle transparency and fine textures, with the lightest construction weighing just 63 g/m². © 2026 KARL MAYER

The machine is particularly suitable for processing challenging materials such as effect yarns, linen and acetate fibres. Its technology combines the appearance of woven fabrics with the production efficiency, dimensional stability and comfort associated with warp knitting.

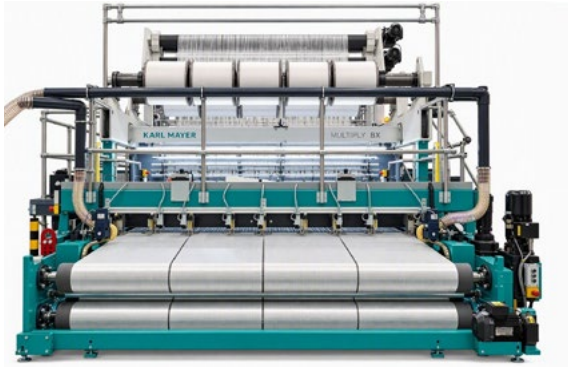
KARL MAYER's TEXTILE INNOVATION CENTER has developed two contrasting fabric collections to demonstrate these capabilities. Dense, textured fabrics for autumn and winter fashion include crêpe-like constructions with LYCRA® T400®, bouclé-inspired surfaces with metallic yarns and floral patterns created through burn-out techniques.

A second collection focuses on lightweight fabrics with flowing drape, crêpe-like textures and varying degrees of transparency. The lightest fabric weighs just 63 g/m². Acetate, viscose and cotton blends provide different surface characteristics and wearing properties.

MULTIPLY BX: NEW COMPOSITE MACHINE FOR WIND TURBINE BLADES

Another major premiere in Changzhou will be the MULTIPLY BX, a new biaxial warp knitting machine developed specifically for producing non-crimp glass-fibre reinforcement fabrics for wind turbine rotor blades.

The machine focuses on fabrics with a high proportion of longitudinal reinforcement yarns and lightweight transverse stabilisation. It processes filler yarns of up to 2,400 tex combined with weft yarns of 100 to



KARL MAYER's new MULTIPLY BX produces biaxial non-crimp glass-fibre fabrics for wind turbine rotor blades at speeds of up to 500 m/h, offering 20–25% higher productivity than the MAX GLASS ECO. © KARL MAYER

200 tex, typically achieving a filler-to-weft weight ratio of 6:1.With operating speeds of 1,600 to 2,200 min⁻¹, depending on stitch length, the MULTIPLY BX achieves production rates of up to 500 m/h. According to KARL MAYER, this represents a productivity increase of 20 to 25% compared with the established MAX GLASS ECO.

The machine builds on proven MAX GLASS ECO technology but incorporates several targeted improvements. The weft insertion carriage has been widened to 12 inches for parallel insertion and 16 inches for cross insertion, increasing output.

An optimised needle lift movement reduces the formation of so-called fish eyes, small holes that can affect the mechanical performance of reinforcement fabrics. Modified lever movements minimise vibration during high-speed operation, reducing wear and improving running stability.

The working width has also increased from 101 to 103 inches, improving material utilisation when producing narrow strips for rotor blade manufacturing.

FURTHER MACHINE PREMIERES IN CHANGZHOU

The product show at KARL MAYER (China) will feature additional developments, including a new four-bar short-stroke tricot machine combining high operating speeds with the finest gauge in the company's four-bar portfolio. Several double-needle bar Raschel machines will make their public debut, offering new patterning possibilities, particularly for footwear applications. A RASCHELTRONIC® machine will demonstrate additional creative options for textile development.

The TEXTILE INNOVATION CENTER in Changzhou will complement the machine presentations with textile collections reflecting current trends and new market applications.

With its combined presence in Shanghai and Changzhou, KARL MAYER will demonstrate how advanced machinery, digital services and textile innovation can help manufacturers improve productivity, reduce resource consumption and develop new applications.

KARL MAYER: Hall 4.1, Booth C18 (Warp Knitting) and Hall 3, Booth A24 (Warp Preparation). Product Show at KARL MAYER (China), Changzhou.

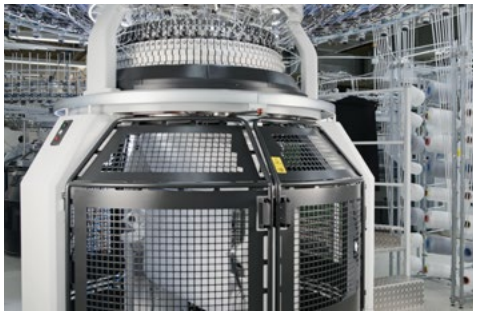
www.karlmayer.com

MAYER & CIE. GLOBAL FOCUSES ON MATTRESS FABRICS AND FINE-GAUGE KNITTING

Mayer & Cie. Global will present two circular knitting machines in Hall 4.1, Booth E01, focusing on mattress fabric production and fine-gauge double-face fabrics. The company will showcase the OVJA 2.4 EM, a high-performance machine for mattress ticking, alongside the OV 3.2 QCe in an E40 configuration. The German manufacturer will also introduce its new portfolio strategy and provide insights into ongoing machine development at its Albstadt headquarters.

OVJA 2.4 EM: HIGH PRODUCTIVITY FOR MATTRESS FABRICS

With around 70% of the world's mattress fabric production taking place in China, the market represents an important application area for Mayer & Cie. Global.



OVJA 2.4 EM
The OVJA 2.4 EM combines a feeder density of 2.4 feeders per inch with electronic individual needle selection, achieving production rates of up to 30 kg/h in mattress ticking. © Mayer & Cie. Global

The OVJA 2.4 EM achieves production rates of up to 30 kg/h, supported by a feeder density of 2.4 feeders per inch. Electronic individual needle selection in the cylinder enables extensive patterning possibilities and rapid design changes.

A horizontal weft yarn guide on each cylinder segment simplifies operation and shortens changeover times. Improved yarn guidance and a pneumatic cross-flow nozzle help maintain constant yarn tension at high speeds, reducing vibration and ensuring reliable yarn feeding.

Mayer & Cie. was among the pioneers of circular-knitted mattress ticking. In 1997, the company's predecessor introduced an electronically controlled knitting machine that helped establish knitted mattress covers as an alternative to woven fabrics. Their elasticity allows the covers to adapt closely to modern mattress constructions.

OV 3.2 QCE: DOUBLE-FACE FABRICS IN E40

The second exhibit, the OV 3.2 QCe, will demonstrate the production of double-face fabrics in the exceptionally fine E40 gauge using all needles. The machine processes both filament and staple fibre yarns and is designed for interlock fabrics and interlock-based structures.

"In this configuration, the OV 3.2 QCe stands out in the market. The ability to knit double-face fabric at this fine gauge is an exceptionally rare capability that very few manufacturers can offer," explains Axel Brünner, Head of Product Management at Mayer & Cie. Global.

NEW OV 2.5 QCE UNDER DEVELOPMENT

Mayer & Cie. Global is also developing a new member of its OV machine family at its Albstadt headquarters.

The OV 2.5 QCe features 2.5 feeders per inch at a diameter of 34 inches, targeting high productivity in interlock fabrics and interlock-based structures, including 8-lock.

An optional conversion kit will enable manufacturers to produce rib and spacer fabrics as well as particularly fine-gauge constructions, increasing the machine's application flexibility.

NEW PORTFOLIO STRATEGY

Mayer & Cie. Global will also outline its new portfolio strategy, aimed at offering customers machinery solutions tailored to different production requirements and investment budgets.



Mayer & Cie. pioneered electronically controlled circular knitting for mattress ticking in 1997, helping establish knitted fabrics in a market previously dominated by woven materials. © Mayer & Cie. Global

The company continues to rely on its engineering and development expertise in Albstadt while emphasising closer cooperation with customers and sales partners, shorter decision-making processes and faster implementation of new developments.

The presentation in Shanghai will demonstrate how Mayer & Cie. Global intends to combine its established expertise in circular knitting with a more flexible, market-oriented product portfolio.

Mayer & Cie. Global: Hall 4.1, Booth E01

www.mayercie.com

BRÜCKNER COMBINES EFFICIENT STENTER DRYING WITH HEAT RECOVERY

Brückner will highlight its latest POWER-FRAME stenter technology alongside heat recovery and exhaust air purification systems in Hall 8.1, Stand C46. The German finishing machinery specialist will use practical examples to show how mills can reduce energy demand and emissions on new and existing finishing lines. The presentation will cover both the energy needed to dry the fabric and the potential for recovering heat from the exhaust air.

POWER-FRAME SFP-2 FOR DRYING AND HEAT-SETTING

The POWER-FRAME SFP-2 uses Brückner's split-flow air circulation system to achieve high drying performance. Opposing thermal zones help distribute airflow and temperature evenly across the working width. This gives finishers more uniform processing conditions from one fabric edge to the other, both when removing moisture during drying and when applying heat to stabilise the fabric during heat-setting.



Brückner POWER-FRAME stenter equipped with heat recovery and exhaust air purification systems for energy-efficient textile finishing. © 2026 Brückner

The standard configuration includes a dewatering and finishing padder, a vertically circulating transport chain, a cooling zone and a plaiter. Depending on the process, the padder removes excess moisture before the fabric enters the drying chambers or applies a finish. Brückner offers direct gas heating with compact ICE burners or a thermal oil system. The vertical transport system is designed for low maintenance, and the horizontally arranged lint screens are easy to access for cleaning.

Mills can adapt the standard line to their finishing requirements with a second padder with a centre-supported roller, a stand-alone or integrated fabric straightener, or equipment for edge gumming and trimming. Further options include a second exhaust fan and the compact Eco-Heat heat recovery system, which can be mounted on the stenter.

RECOVERING HEAT AND TREATING EXHAUST AIR

Heat recovery and exhaust air purification will be a particular focus of Brückner's presentation. Heat recovery captures usable energy from the hot exhaust air leaving the stenter and makes it available for reuse. This can lower the mill's heating demand and operating costs, with corresponding potential to reduce CO₂ emissions. Exhaust air purification treats emissions from the finishing process and helps mills meet environmental requirements.

For new installations, Brückner will illustrate how mills can plan the stenter, heat recovery and exhaust air treatment as part of the same line. For existing installations, the presentation will address where energy recovery and exhaust air treatment can improve the performance of equipment already in production.

Alexander Mandel, Sales Director at Brückner, will be at the stand to discuss the technologies with visitors. "Sustainability has long become a decisive competitive factor for many textile companies. With our technologies, we help our customers minimize energy consumption, reduce emissions, and future-proof their production operations."

Brückner: Hall 8.1, Booth C46

www.brueckner-textile.com

MAHLO PRESENTS

AI-SUPPORTED ORTHOPAC RVMC-20 PLUS

Mahlo GmbH + Co. KG will present its latest measurement and control technologies for textile finishing at ITMA Asia 2026 in Shanghai. Together with Mahlo China and local partner Kuantex, the German specialist will showcase the new Orthopac RVMC-20 plus at Hall 7.1, Booth C22. The system combines AI-supported weft straightening with feed-forward and closed-loop control, offering a more economical alternative to the company's high-end Orthopac RXVMC-20.

With the Orthopac RVMC-20 plus, Mahlo has further developed its technology for fully automatic distortion correction.



Orthopac RVMC-20 plus: Mahlo's new AI-supported weft straightening system combines feed-forward and closed-loop control for precise distortion correction, consistent fabric quality and reduced waste. © Mahlo

Like the high-end RXVMC-20, the new system uses two scanning units positioned at the fabric infeed and outfeed to continuously monitor fabric distortions and the effectiveness of the straightening process.

The feed-forward control system detects distortions before the fabric reaches the straightening rollers, allowing the controller to react at an early stage. Meanwhile, the closed-loop system monitors the correction results at the outfeed and provides direct feedback to the controller.

The interaction of both control loops, supported by artificial intelligence, enables continuous weft correction in real time, even under changing distortion conditions and at high production speeds. According to Mahlo, this helps maintain consistent fabric quality while reducing waste during batch changes.

INTEGRATED PROCESS CONTROL IMPROVES EFFICIENCY

The straightening technology is complemented by Mahlo's Optipac VMC-15 process control system, which continuously monitors important production parameters directly on the moving fabric web. These include dwell time, weft density, residual moisture and exhaust air humidity.

Continuous monitoring allows operators to detect process deviations at an early stage and make targeted adjustments. For example, it can prevent unnecessary energy consumption caused by overdrying, support exhaust air optimisation and reduce fabric discolouration resulting from excessive dwell times.

At the same time, improved process stability helps minimise quality variations, reprocessing and material waste. According to Mahlo, combining weft straightening with process control contributes to more economical and resource-efficient textile finishing.

THREE ORTHOPAC SOLUTIONS FOR DIFFERENT REQUIREMENTS

The new RVMC-20 plus expands Mahlo's Orthopac portfolio, providing manufacturers with different solutions according to their production requirements and investment priorities.

The Orthopac RVMC-15 serves as the standard solution for automatic weft straightening. The new RVMC-20 plus adds a second scanning unit at the fabric infeed and combines feed-forward and closed-loop control for more demanding applications.

At the upper end of the range, the Orthopac RXVMC-20 features two independent straightening modules designed to handle particularly complex and highly variable fabric distortions.

This differentiated portfolio allows Mahlo to address applications ranging from standard finishing processes to demanding production environments requiring maximum precision and process stability.

ASIA REMAINS A KEY MARKET

Asia continues to be an important market for Mahlo, with manufacturers increasingly focusing on quality, productivity and resource efficiency. At ITMA Asia, the company will demonstrate how intelligent measurement and control technologies can help improve process reliability while reducing operating costs.

Ralph Greenwood-Mahlo, Owner and Managing Director, Thomas Höpfl, Head of Sales, and Clemens Kaplan, Textile Product Manager, will be available for discussions alongside representatives of local partner Kuantex.

Mahlo: Hall 7.1, Booth C22

www.mahlo.com

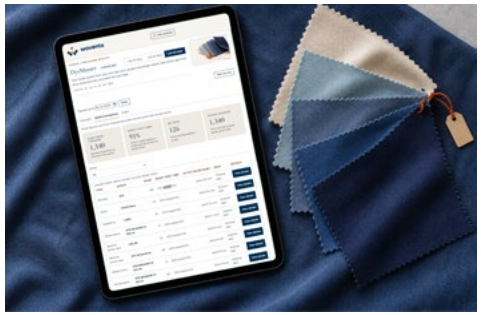
TEXTILE SOLUTIONS GROUP CONNECTS

PRODUCTION DATA WITH WOVENTA

The Textile Solutions Group (TSG) is addressing one of the textile industry's major digitalisation challenges: connecting information across previously isolated production and business systems. At Hall 8.1, Booth C45, SETEX and Datatex will demonstrate how the new woventa platform links machine-level production data with manufacturing execution systems (MES) and enterprise resource planning (ERP).

Introduced in October 2026, woventa is designed to connect existing software environments without replacing established systems. The platform brings together expertise from TSG companies covering textile design, product lifecycle management, production planning, ERP and machine controls.

A practical application focuses on dyeing and finishing, where SETEX OrgaTEX and Datatex NOW exchange information through woventa. Using the SmartRecipe functionality in OrgaTEX, dyeing recipes are calculated according to the specific article, dyes, machine and process conditions. The resulting quantities of dyes and chemicals can be transferred to the ERP system, enabling more accurate order costing before production begins.



woventa DyeMaster screenshot © AI-generated setting / SETEX & Textile Solutions Group

After processing, OrgaTEX provides actual consumption data, including chemicals, water, energy and processing time. Linking these figures to the original order allows manufacturers to compare planned and actual costs and identify deviations.

The integration between OrgaTEX and Datatex NOW has already been demonstrated in selected scenarios. Further development will focus on AI-supported analysis and decision-making. woventa is currently available through limited pilot projects, with general availability targeted for the first quarter of 2027.

SETEX & Datatex: Hall 8.1, Booth C45

textiletsg.com

www.setex-germany.com

SWEDISH TECHNOLOGY

HIGHLIGHTS PRECISE YARN CONTROL

TMAS members Eltex and Vandewiele Sweden will highlight two applications of yarn tension control. Eltex will present its ACT-MULTI system for yarn heat-setting, while Vandewiele Sweden will focus on weft feeding and tension control at the Vandewiele stand in Hall 3, Stand D01.

ACT-MULTI monitors and automatically adjusts tension at individual yarn positions, helping producers maintain consistent conditions during heat-setting. This step stabilises synthetic and blended yarns and locks in twist and bulk for subsequent processing. Vandewiele Sweden's weft feeders help weaving mills maintain consistent yarn delivery and fabric quality at high loom speeds. The company is also developing data-ready feeders.

Therese Premler-Andersson, secretary general of TMAS, puts the exhibits in the context of a year of investment and product launches. "These developments demonstrate the breadth of Swedish textile technology and the very practical way our members are responding to the changing requirements of manufacturers worldwide."

www.tmas.se

SWISS TECHNOLOGY

FOR CHINA'S TEXTILE MILLS

Around 20 member companies of Swiss Textile Machinery, part of Swissmem, will exhibit at ITMA Asia + CITME. Their offering spans the textile production chain, from fibre preparation and spinning to weaving, knitting, embroidery, finishing and quality control.

China's highly integrated textile industry, with its large man-made fibre sector, offers opportunities for Swiss suppliers of specialised machinery and components. As Chinese machinery manufacturers become more competitive, Swiss suppliers see particular scope for automation, digital connectivity and precise process control. These technologies can help mills increase productivity, maintain consistent quality and use resources more efficiently.

Many Swiss suppliers have worked with Chinese textile manufacturers for decades and support them through local sales and service teams. Cornelia Buchwalder, Secretary General of Swiss Textile Machinery, explains how these relationships shape technology development: "Today, innovation is increasingly driven by close cooperation with customers and a detailed understanding of their production processes. Swiss companies combine engineering expertise with specialised textile knowledge, enabling them to develop solutions that improve efficiency, reliability and product quality."

www.swisstextilemachinery.ch



©STÄUBLI

Interview

Andreas Schnabel

Head of R&D Technical Weaving Systems (TWS)
Stäubli International AG

by Oliver Schmidt

“A complex design is only useful if the machine can reproduce it consistently”

Andreas Schnabel, Head of R&D for Technical Weaving Systems at Stäubli, discusses how 3D weaving can create textile reinforcements tailored to the loads within a composite component, where near-net-shape weaving can reduce processing steps and material waste, and what it takes to produce complex structures reliably and economically. He also explains how manufacturers can adapt Stäubli’s modular TF weaving platforms to new applications and how the company’s centre of excellence in Bayreuth supports the transition from research to industrial production.

1. Where Stäubli technology makes a difference

Stäubli weaving technologies are used in a wide range of applications, from airbags and filtration fabrics to advanced composite materials. Looking specifically at 3D weaving, could you give our readers some concrete examples of products or components manufactured using Stäubli TF systems? Where might we encounter this technology without even realising it?

Stäubli serves a wide range of markets through its broad technology portfolio, which includes dobbies for tire cord, Jacquard machines for airbags, and WPS solutions for glass-fibre fabrics used in printed circuit boards (PCBs), among other applications. Focusing specifically on 3D weaving, our TF systems are designed to produce textile structures that are used as reinforcements, mostly within a composite component. Applications range from aerospace structural parts and ballistic protection to high-temperature structural applications. Depending on the end use, these reinforcements can take the form of multilayer woven structures or near-net-shape preforms.

Stäubli has been active in 3D weaving for around 15 years. Many customer projects involve commercially sensitive technologies and applications, so we respect their confidentiality and focus here on publicly documented industry examples rather than individual Stäubli installations.

A well-known public example is the LEAP - Leading Edge Aviation Propulsion - aircraft engine, which uses 3D-woven composite technology for its fan blades and fan case. These textile reinforcements are hidden inside the finished components, so passengers may encounter the technology without ever seeing the woven structure itself.

2. Improving existing products and creating new possibilities

3D weaving opens up possibilities that go far beyond conventional textile structures. Which existing materials, components or manufacturing processes could be improved or even replaced by 3D-woven textiles? Could this technology also enable entirely new products or functionalities that have not been feasible until now? Which industries do you believe should be exploring these opportunities more closely?

3D-woven reinforcements offer an alternative to conventional preforms assembled from stacked layers of flat reinforcement fabrics, particularly when tailoring crash behavior and energy absorption. Appropriately designed composites can also replace selected titanium or other metal components where weight, performance and operating-temperature requirements favor this approach. Suitability must be assessed for each application, taking account of the reinforcement architecture, fiber and matrix materials, loading conditions, damage tolerance, manufacturing economics and qualification requirements. Beyond material substitution, 3D weaving provides freedom to tailor reinforcement distribution and load paths within a component.

3. Near-net-shape weaving: Producing components close to their final form

Near-net-shape weaving makes it possible to produce textile preforms whose geometry already closely resembles that of the final composite component. This can reduce subsequent processing steps and material waste. How far has this technology progressed, and what potential do you see for the industrial production of complex components? Are there applications where this approach is already being used economically?

Near-net-shape weaving is about more than producing a shape. Cutting, stacking and forming flat fabrics can also create complex geometries. The distinctive opportunity of 3D weaving is to create an integral textile reinforcement with yarn connections through the thickness and a locally tailored architecture. This allows reinforcement directions and distribution to be adjusted in three dimensions to suit different regions of the component.

Bringing the preform closer to the required geometry can reduce subsequent cutting, assembly and material waste. However, the maturity and industrial viability of near-net-shape woven structures vary with the material, geometric complexity, production rate and downstream composite process. A successful demonstrator is an important step, but industrialization also requires repeatable quality at the required production rate and an economically viable process.

As a weaving-system supplier, we help customers assess equipment and process requirements, supported by application engineering and weaving trials where needed.

4. When precision makes innovation possible

Stäubli has earned a worldwide reputation for precision, reliability and engineering excellence. In advanced 3D weaving, can the technological capabilities and precision of a machine determine whether a complex textile structure can be manufactured at all? What makes Stäubli technology particularly well suited to these challenges?

Yes, weaving equipment capabilities can determine which textile architectures are feasible. A complex design is only useful if the machine can reproduce it consistently while handling the material appropriately. Shedding, weft insertion and machine configuration must therefore be considered together.

Requirements vary considerably between applications. Sensitive materials such as carbon, aramid ceramics and other high performance fiber require gentle fiber handling and precise yarn positioning and alignment. The weave structure and shedding parameters must support the required stiffness, fiber volume content, impregnation capacity and drapability.

Our approach combines adaptable TF loom platforms with different weft insertion and shedding technologies. The TF30 and TF38 platforms support rigid rapier and shuttle technologies, selected according to material behavior and fabric requirements.

For shedding, the UNIVAL 100 provides individual warp-end control for complex structures, while the LX2494 offer options for high-load applications. The strength lies in coordinating the appropriate technologies for each application, rather than expecting one configuration to meet every requirement. Our shedding solutions draw on 130 years of experience.

„Weaving equipment capabilities can determine which textile architectures are feasible."

Equally important is the customer's freedom to keep developing. Our open machine architecture is intended to enable customers to adapt and further develop their equipment and processes themselves, or with Stäubli's support, as requirements evolve.

5. Flexibility and economic efficiency of the TF platform

Markets for technical textiles and composite materials are evolving rapidly. At the same time, investments in highly specialised production equipment involve substantial costs. Stäubli therefore relies on a modular platform concept for its TF series. How far does this flexibility extend in practice? Can manufacturers really develop and produce entirely different products on the same machine, and what economic advantages does this offer?

The modular concept gives manufacturers scope to adapt the equipment to different materials, textile architectures and process requirements. For the TWS platforms, this includes a choice of rigid rapier or shuttle technology, together with different shedding and take-up solutions.

That does not mean that every product can be manufactured on the same machine without modification. A new application may require a different configuration, equipment adaptation and process development. The practical flexibility depends on the machine's specifications and the extent of the new requirements.

A major advantage is that the same loom platform can be adapted to a wide range of applications, allowing customers to respond to evolving requirements independently or with Stäubli's support.

The economic benefit is the potential to an existing platform rather than invest in a dedicated machine for every new development. It can also provide continuity between research and production. The actual return depends on factors such as the extent of the modifications, changeover requirements, machine utilization and production volumes.

6. From research to industrial production

You recently emphasised the importance of helping customers move from research and development to industrial production while maintaining flexibility for future applications. What are the greatest challenges in this transition, and how does Stäubli's Technical Weaving Systems center of excellence in Bayreuth help customers overcome them?

„With 3D weaving, the possibilities for exploring new textile architectures and applications seem almost limitless."

One of the main challenges is moving from demonstrating that a structure can be woven to producing it reliably under industrial conditions. Manufacturers need to establish a stable process, repeatable quality and a suitable machine configuration, while also considering productivity and composite manufacturing steps.

Another challenge is retaining the ability to explore a wide variety of textile structures without investing in a new machine or technology for every development. Customers need a practical balance between the requirements of today's product and the flexibility to address multiple applications on the same loom as well as tomorrow's applications. Our center of excellence in Bayreuth brings together application engineering, machine adaptation and industrialization, supported by in-house production capabilities.

Customers can rely on this support according to their needs while retaining control over their own fabric architectures, production processes and equipment. The objective is to help them develop a credible route from an initial concept to industrial production, without unnecessarily restricting their ability to address future applications.

7. A personal perspective on the future

As Head of R&D, you play an important role in shaping the future of technical weaving. What fascinates you personally most about this field? And is there a technological challenge or breakthrough you would particularly like to achieve in the coming years?

What fascinates me most is the connection between textile architecture and machine engineering. With 3D weaving, the possibilities for exploring new textile architectures and applications seem almost limitless. In technical weaving, the machine is not simply producing a fabric; it enables a structure designed to perform a specific function in the final component. Understanding what the customer wants to achieve is therefore just as important as understanding the equipment.

Looking ahead, my ambition is to make it even easier and faster for customers to move from a new weaving idea to a stable industrial process. Progress means not only enabling increasingly complex structures, but also giving manufacturers the freedom to explore, adapt and build on their own expertise. The real achievement is not simply to weave something new once; it is to make new structures more accessible to develop and practical to produce consistently and economically, with Stäubli's support when needed and independently when preferred.

Mr Schnabel, thank you very much for the interesting insights and the interview.

ADVERTISING

Events during the Conference:

18 plenary and keynote lectures, as well as over 48 lectures from industry and science
Participation in research-industry-Interaction
Visit of the famous Striezelmarkt
Conference Dinner on 26th of November
Institutional visits on 28th of November

PROGRAM& REGISTRATION:
Location: Dresden, Germany

www.aachen-dresden-denkendorf.de/itc

PARTNER COUNTRIES:
Poland & Czech Republic
with plenary and keynote sessions and special symposia on

- Trends in the Textile Production
- Sustainable Polymer Material Systems and Functionalization
- Protective & Functional Textiles
- Novel Machine Systems for Fiber-Reinforced Structures and Composites
- Technology Transfer – "From Idea to Practice"





INDIA'S TEXTILE INDUSTRY:
CURRENT POSITION, GROWTH TARGETS AND INDUSTRIAL DEVELOPMENT

With ambitious export targets, major investments in manufacturing infrastructure and new international trade agreements, India is pursuing a comprehensive development strategy for its textile and apparel industry. An overview of the industry's current position, government initiatives, progress achieved and challenges ahead.

Four segments illustrate the growth opportunities for India's textile industry at home and abroad. From left to right, the image depicts home textiles, functional protective clothing, casualwear, and premium sportswear and outdoor apparel in the colours of the Indian flag.
© 2026: AI Generated / TexData International

INDIA'S TEXTILE INDUSTRY TODAY

India's textile and apparel industry occupies a distinctive position in the global market. The country has one of the world's largest textile manufacturing bases, a substantial domestic market and a production structure extending from cotton cultivation and fibre processing to spinning, weaving, knitting, finishing and garment manufacturing. Few countries possess such a broadly integrated textile value chain.

The industry's economic and social importance is considerable. According to India's Economic Survey 2024–25, textiles and apparel contribute approximately 2.3% to national GDP and account for around 13% of industrial production. The sector provides direct employment to an estimated 45 million people, making it one of the country's largest industrial employers. The survey also indicates that around 80% of production capacity is concentrated in micro, small and medium-sized enterprise (MSME) clusters.

India's traditional strength lies in cotton. According to estimates published by the International Cotton Advisory Committee (ICAC), the country is expected to produce approximately 5.5 million tonnes of cotton lint in the 2025/26 season, representing roughly one-fifth of global output. India is the world's second-largest cotton producer after China and has the largest area devoted to cotton cultivation. ICAC estimates domestic cotton consumption at nearly 5.9 million tonnes, illustrating the scale of India's processing industry but also the importance of productivity, fibre quality and raw material availability.

Cotton remains central to India's textile exports, although the industry's product range is becoming more diversified. Based on export figures published by India's Ministry of Textiles for the 2024/25 financial year, ready-made garments accounted for approximately 42.4% of textile and apparel exports including handicrafts, followed by cotton textiles at 32.6% and man-made textiles at 14.0%. The development of synthetic fibres, technical textiles and higher-value finished products is therefore an important element of the country's industrial strategy.

Despite its considerable manufacturing capacity, India faces strong international competition.

According to WTO international trade statistics for 2024, India accounted for approximately 5.8% of global textile exports, compared with China's share of around 43.5%. In the broader textile and apparel market, India's share of world exports was approximately 4.1%.

These figures demonstrate both the country's established position and the considerable distance separating it from the world's leading exporter. They also underline the importance of improving productivity, expanding manufacturing capacity and strengthening competitiveness in international markets.

GROWTH TARGETS AND GOVERNMENT STRATEGY

The Indian government has set ambitious targets for the industry's development. In a statement published by the Ministry of Textiles in June 2026, Union Minister Giriraj Singh reiterated the objective of increasing the value of India's textile and apparel industry to USD 350 billion by 2030. The government's export target stands at USD 100 billion. According to the ministry, the industry's value had reached approximately USD 190 billion in 2025/26.

Achieving these objectives would require substantial growth in both domestic production and international sales. The government's strategy combines financial incentives, infrastructure development, industrial diversification and measures intended to improve India's position in global supply chains.

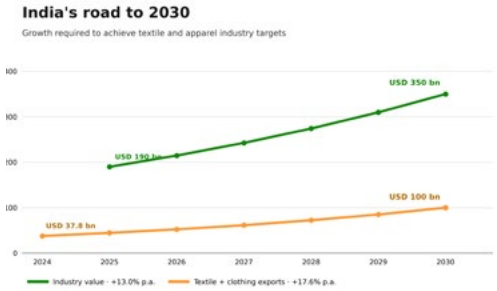
One of its central initiatives is the PM Mega Integrated Textile Regions and Apparel (PM MITRA) scheme. According to the Ministry of Textiles, the programme provides for seven large integrated textile parks, supported by a government allocation of ₹4,445 crore (≈ EUR 423 million). These industrial locations are intended to bring different stages of textile manufacturing closer together, reduce logistics costs and provide common infrastructure for participating companies.

Another major initiative is the Production Linked Incentive (PLI) Scheme for textiles, with an approved allocation of ₹10,683 crore (≈ EUR 1.02 billion). Its focus is on man-made fibre apparel, man-made fibre fabrics and technical textiles, areas in which the government seeks to expand domestic manufacturing and international competitiveness.

According to figures published by India's Ministry of Textiles through the Press Information Bureau on 4 August 2026, 170 companies had received approval under the PLI programme by 31 March 2026. Reported investments amounted to approximately ₹8,118 crore (≈ EUR 773 million), while participating companies had generated turnover of around ₹11,241 crore (≈ EUR 1.07 billion) and created more than 33,400 jobs. These figures indicate measurable progress, although the programme's longer-term contribution to production capacity and exports remains to be assessed.

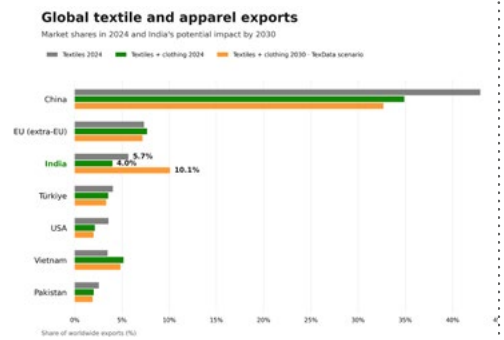
The programme is also being extended. In an announcement issued on 28 October 2026, India's Ministry of Textiles confirmed that a new application round would open in November 2026. The government also announced an extension of the scheme's implementation period for newly approved applicants, providing additional time for investments and production development. The decision reflects continued efforts to attract manufacturing investment in man-made fibres and technical textiles.

The National Technical Textiles Mission, supported by a government allocation of ₹1,480 crore (≈ EUR 141 million), addresses another development priority. According to the Ministry of Textiles, it promotes research, innovation, market development and the wider application of technical textiles in industrial, medical, agricultural and infrastructure-related sectors.



India's ambition to expand its textile and apparel industry from USD 190 billion to USD 350 billion by 2030 would require average annual growth of approximately 13%. Achieving the export target of USD 100 billion from a baseline of USD 37.8 billion would require annual growth of around 17.6%. The intermediate values represent calculated growth paths, not official forecasts.

Source: Ministry of Textiles, Government of India; TexData calculations. Industry baseline: FY2025/26; export baseline: FY2024/25. Annualised calculations use simplified periods ending in 2030.



India's target of USD 100 billion in textile and apparel exports by 2030 would raise its share of global exports from 4.0% in 2024 to approximately 10.1%. The TexData scenario assumes annual global export growth of 2% and proportional market-share adjustments for all other exporters.

Source: WTO merchandise trade statistics 2024; TexData calculations. EU figures exclude intra-EU trade.
© 2026 TexData International

Export development is supported by additional measures, including the Export Promotion Mission. According to a government announcement published by the Press Information Bureau on 6 December 2025, the mission provides for an allocation of ₹25,060 crore (≈ EUR 2.39 billion) from the 2025/26 financial year through 2030/31.

Taken together, these programmes represent a broad attempt to transform the industry's production structure. Their success, however, will depend on how effectively financial support and announced investment plans translate into competitive manufacturing operations.

INVESTMENTS AND INDUSTRIAL INFRASTRUCTURE

The PM MITRA programme provides a particularly visible example of India's industrial development strategy. According to the Ministry of Textiles, the seven planned textile parks are located in Tamil Nadu, Telangana, Gujarat, Karnataka, Madhya Pradesh, Maharashtra and Uttar Pradesh.

The government intends these locations to accommodate integrated manufacturing facilities covering several stages of textile production. Shared infrastructure, improved transport connections and the proximity of suppliers and processors are expected to reduce operating costs and support larger industrial investments.



India's seven PM MITRA textile parks are strategically distributed across Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Telangana, Tamil Nadu and Uttar Pradesh. The government initiative aims to create integrated textile manufacturing hubs with modern infrastructure, strengthen industrial value chains and attract new investment.

Source: Ministry of Textiles, Government of India. Map: TexData International.

In an official parliamentary reply published on 11 August 2026, the Ministry of Textiles reported investment interest associated with the seven parks totalling approximately ₹68,590 crore (≈ EUR 6.53 billion). This figure represents the ministry's reported investment interest and must not be confused with capital already invested or production facilities that have commenced operations.

Progress differs considerably between individual locations.

In Telangana, the Kakatiya Mega Textile Park near Warangal is among the more advanced projects. According to the Deccan Chronicle of 9 May 2026, South Korea's Youngone Corporation and recycling specialist Ganesha Ecosphere had commenced operations at the site. Kitex Garments had already started commercial production in September 2025, as confirmed by the Telangana government's investment agency, Invest Telangana.

According to a Ministry of Textiles announcement published in May 2026, approximately 548 acres had been allocated to industrial companies. Invest Telangana puts the employment commitments associated with the park's anchor investors at around 24,400 jobs. These figures represent anticipated employment rather than positions already created.

In Madhya Pradesh, development of the PM MITRA park in Dhar is progressing on a site covering approximately 2,158 acres. Following the foundation ceremony in September 2025, infrastructure development and preparations for industrial investment continued.

Major Indian textile manufacturers have announced substantial projects for the location. As reported by the Free Press Journal on 14 September 2025, Vardhman Textiles planned an investment of ₹2,000 crore (≈ EUR 190 million). The newspaper also cited a proposed investment of ₹4,881 crore (≈ EUR 465 million) by Trident Group. More recently, The Textile Magazine reported on 3 November 2026 that Trident had approved a ₹4,650-crore (≈ EUR 443 million) expansion programme, including ₹1,660 crore (≈ EUR 158 million) for a new spinning facility in Dhar, scheduled for completion in 2029.



The foundation stone for the PM MITRA textile park in Amravati, Maharashtra, was laid on 20 September 2024, marking an important step in India's programme to establish seven integrated textile manufacturing parks. The project aims to attract industrial investment, strengthen textile value chains and create new employment opportunities.

Photo: Press Information Bureau, Government of India.



The PM MITRA Park at Virudhunagar in Tamil Nadu is being developed as an integrated textile manufacturing hub. By February 2026, industrial land covering approximately 190 acres had been allotted to 23 investors, representing committed investments of around ₹2,192 crore (EUR 209 million). The park is scheduled for completion by December 2027.

Photo: Press Information Bureau, Government of India.

Another project illustrates the scale of planned expansion in man-made fibres. According to Textile Insights on 12 October 2026, Bhilosa Industries proposed a phased investment of ₹7,500 crore (≈ EUR 714 million), beginning with an initial investment of ₹2,500 crore (≈ EUR 238 million) in an integrated polyester manufacturing facility at the Dhar PM MITRA Park. Commercial production is targeted to begin in 2028.

In Tamil Nadu, the PM MITRA park at Virudhunagar is intended to strengthen the region's established textile manufacturing base. According to an official government announcement issued on 28 February 2026, land covering approximately 190 acres had been allocated to 23 investors, with committed investments totalling ₹2,192 crore (≈ EUR 209 million). The projects could eventually create up to 15,000 jobs.

These examples illustrate the opportunities associated with integrated industrial infrastructure, but also the time required to develop major manufacturing locations. Land allocation, construction, machinery installation and the establishment of reliable supply chains are successive stages that cannot be completed simultaneously.

The distinction between announced investments, committed capital and operational production capacity will therefore be crucial when assessing the programme's contribution to India's 2030 objectives.

EXPORT MARKETS, TRADE AGREEMENTS AND LOGISTICS

International market access is a central element of India's textile development strategy. According to the Ministry of Textiles' Year End Review 2025, the United States, European Union and United Kingdom together accounted for approximately 55% of the country's textile and apparel exports in 2024/25. The United States remains the largest individual destination, while Bangladesh is an important customer for Indian yarns and fabrics used in its export-oriented garment industry.

Recent export figures illustrate the challenges facing the industry as well as the different developments in its principal markets.

According to provisional data from India's Directorate General of Commercial Intelligence and Statistics (DGCIS), published by the Ministry of Textiles on 28 July 2026, the country's textile and apparel exports, including handicrafts, increased from ₹297,004 crore (≈ EUR 28.29 billion) in 2023/24 to ₹319,573 crore (≈ EUR 30.44 billion) in 2024/25 and ₹325,339 crore (≈ EUR 30.98 billion) in 2025/26. Growth in the latest financial year amounted to just 1.8%.

The same statistics reveal considerable differences between export markets. Shipments to five major EU destinations – Germany, the Netherlands, Spain, France and Italy – increased by a combined 9.3% to ₹49,793 crore (≈ EUR 4.74 billion).

Germany remained the largest of these five markets with ₹13,200 crore (≈ EUR 1.26 billion; +9.7%), followed by the Netherlands (₹10,461 crore; +2.7%), Spain (₹9,651 crore; +15.3%), France (₹9,074 crore; +9.4%) and Italy (₹7,407 crore; +10.8%). By contrast, exports to the United States, India's largest individual market, declined by 7.2% to ₹85,910 crore (≈ EUR 8.18 billion).

The figures indicate that these European markets have recently developed more favourably than India's overall textile export business. This is particularly relevant in the context of the country's evolving trade relations.

According to the European Commission, India and the European Union concluded negotiations on a comprehensive free trade agreement on 27 January 2026. Although the agreement has yet to enter into force, the planned reduction of import duties could improve market access for Indian textiles and apparel. For European textile machinery manufacturers, improved trading conditions could also facilitate equipment exports to India, depending on the final tariff provisions and implementation schedule.

A separate agreement with the European Free Trade Association (EFTA), comprising Switzerland, Norway, Iceland and Liechtenstein, entered into force on 1 October 2025. According to EFTA's official announcement, the Trade and Economic Partnership Agreement combines improved market access with an objective of mobilising USD 100 billion in investments in India over 15 years and supporting the creation of one million direct jobs. These investment objectives are distinct from India's textile export target for 2030.

Beyond tariffs, logistics remain an important factor in international competitiveness. India's geographical position offers shorter maritime distances to Europe than China's main eastern export centres. However, transport efficiency depends on port capacity, inland connections, shipping services and reliable delivery schedules.

According to the World Bank's Logistics Performance Index 2023, India ranked 38th among 139 economies, compared with China's 19th position. India had nevertheless improved from 54th place in 2014.

The Indian government is addressing these challenges through infrastructure investment, the PM GatiShakti National Master Plan and the National Logistics Policy. The development of integrated textile parks is intended to complement these measures by reducing transport between individual production stages.

Improved market access and logistics infrastructure can strengthen India's export competitiveness. Their impact will ultimately depend on the industry's ability to deliver consistent quality, competitive costs and reliable production volumes to international customers.

TECHNOLOGY AND FUTURE REQUIREMENTS

Modernising India's textile production facilities will be essential to achieving the government's industrial and export targets. While many manufacturers operate internationally competitive facilities with advanced machinery, technological capabilities vary considerably. Smaller enterprises in particular face challenges involving investment costs, productivity, automation and skilled personnel.

In cotton processing, improving fibre utilisation, yarn quality and efficiency remains a priority. Modern blowroom, carding, combing and spinning technologies can reduce waste, improve process stability and ensure consistent yarn quality. This is particularly relevant given pressure on domestic cotton availability and the need to increase value added.

Further investment is needed in weaving, knitting and finishing. Higher productivity, improved process control and efficient use of energy, water and chemicals are increasingly important for international competitiveness. Modern drying, heat-setting and monitoring technologies can improve fabric quality while reducing resource consumption and production losses.

India's modernisation also represents a substantial market for international textile machinery manufacturers.

According to figures from the Textile Machinery Manufacturers' Association (TMMA), presented by industry expert Dr. Gurudas Aras in October 2025, domestic machinery demand reached ₹23,067 crore (≈ EUR 2.20 billion) in 2024/25. Indian manufacturers supplied approximately 36%, while imports accounted for 64%, based on adjusted import figures.

China was by far the largest foreign supplier, followed by Japan, Germany, Italy and Switzerland. Together, these countries accounted for approximately 87% of recorded machinery imports.

However, machinery demand declined from ₹27,786 crore (≈ EUR 2.65 billion) in 2022/23 to ₹23,067 crore (≈ EUR 2.20 billion) in 2024/25, indicating that investment activity does not follow a continuous upward trajectory.

The TMMA analysis also reveals differences between segments. India has a comparatively strong domestic spinning machinery industry, while weaving machines are largely imported. Foreign suppliers also play an important role in advanced finishing and specialised technologies.

The expansion of man-made fibre processing and technical textiles creates additional requirements for specialised equipment, materials expertise and cooperation between manufacturers, machinery suppliers and research institutions.

Machinery investment alone will not suffice. Technical training, maintenance, reliable energy supply and digital production systems are equally important. Smaller manufacturers also depend on financing and sufficient production volumes to justify modernisation.

Against this background, India ITME 2026 offers manufacturers an opportunity to assess technologies and investment options. Beyond individual innovations, the exhibition can support an industry seeking higher productivity, greater competitiveness and a stronger position in international markets.

OUTLOOK: THE INVESTMENT CHALLENGE AHEAD

Doing the maths: According to TexData calculations, assuming that India's industrial targets are to be achieved by the end of 2030, increasing the value of the textile and apparel industry from approximately USD 190 billion in 2025/26 to USD 350 billion would require average annual growth of around 13% over five years. Raising textile and apparel exports from USD 37.8 billion in 2024/25 to USD 100 billion would require annual growth of approximately 17.6% over six years. These calculations use simplified annual periods and an assumed deadline of 31 December 2030, rather than an officially defined financial-year endpoint.

Even with this extended timeframe, the required growth rates remain substantial, particularly against the background of modest recent export growth.

Achieving such expansion will require more than government incentives and new industrial parks. Substantial investment in production capacity, modern machinery, automation, energy efficiency and workforce development will be essential. Moreover, investment decisions made today will determine the industry's production capabilities towards the end of the decade. Planning, financing, installing and commissioning new equipment takes time, particularly for integrated manufacturing facilities.

This gives India ITME 2026 particular significance. For textile manufacturers intending to contribute to the country's 2030 ambitions, the exhibition comes at a critical point in the investment cycle. Technology decisions cannot be postponed indefinitely if additional capacity and higher productivity are to be achieved within the remaining years.

India has established an ambitious industrial development framework. Whether its targets can be reached will ultimately depend on how quickly investment commitments are translated into operating factories, modern production equipment and competitive textile products. India ITME 2026 offers an important opportunity to take the next steps.

www.pib.gov.in

INDIA ITME 2026



TEXTILE TECHNOLOGY MEETS INDIA'S INVESTMENT AMBITIONS

Image: 2026 TexData / AI generated

With ambitious growth targets, government incentive programmes and industrial development initiatives already underway, India is preparing for the next stage of its textile transformation. Against this backdrop, the 12th India ITME, taking place in Greater Noida from 4 to 9 December 2026, arrives at a particularly important moment for machinery manufacturers and textile producers alike.



India has set ambitious targets for expanding its textile industry and strengthening its position in international markets. Government initiatives are intended to encourage investment, modernise manufacturing facilities, expand production capacities and develop more integrated textile value chains. Several programmes have already moved beyond the planning stage, while others are creating incentives for future industrial investment.

These developments provide an important backdrop for India ITME 2026. Achieving the country's industrial ambitions will require not only additional production capacity but also substantial investment in modern machinery, efficient processes and advanced manufacturing technologies. For machinery manufacturers, technology suppliers and textile producers, the exhibition therefore comes at a time when industrial strategies and investment opportunities are increasingly converging.

The broader economic and political framework, including India's textile industry targets, incentive schemes and ongoing industrial projects, is examined in detail in our accompanying feature on the Indian textile sector. Here, the focus turns to the exhibition itself – and to the technologies, companies and industry discussions that could help translate these ambitions into industrial practice.

AN EXHIBITION WITH INTERNATIONAL AMBITIONS

Organised by the India ITME Society, the six-day exhibition will take place at the India Expo Centre & Mart in Greater Noida, in the National Capital Region of Delhi. It is one of the major international textile machinery exhibitions serving the Indian subcontinent and brings together technology suppliers and textile manufacturers from India and abroad.

According to the organisers, India ITME 2026 is expected to attract more than 1,800 exhibitors and over 150,000 visitors. The India Expo Centre & Mart offers approximately 235,000 square metres of exhibition and event facilities, providing the setting for an extensive presentation of textile manufacturing technologies.

The exhibition also benefits from broad institutional backing. According to the organisers, India ITME 2026 is supported by two government ministries and 72 industry organisations, reflecting its importance as a platform connecting textile manufacturing, technology suppliers and industrial development. This support reinforces the exhibition's role at a time when India is pursuing ambitious investment and modernisation programmes across its textile sector.

The exhibition covers 20 product chapters, reflecting the diversity of the textile production chain. These include machinery and equipment for spinning, weaving, knitting, textile processing, printing and garment manufacturing, alongside technologies for technical textiles and other specialised applications.

International machinery manufacturers are expected to participate alongside Indian technology suppliers. Many established global companies maintain a substantial presence in India through subsidiaries, manufacturing operations, sales organisations and service networks. Their involvement reflects the importance of the Indian market not only as a destination for machinery exports but also as a location for industrial investment and long-term technological cooperation.

The previous edition, held in Greater Noida in December 2022, marked the exhibition's return following the disruption caused by the pandemic. Four years later, India ITME 2026 offers another opportunity for the industry to assess technological developments and establish business relationships.



FROM INDUSTRIAL STRATEGY TO INVESTMENT DECISIONS

The timing of India ITME 2026 gives the exhibition particular relevance. India's industrial development plans and government incentive programmes are creating opportunities for textile manufacturers to evaluate new investments, expand existing facilities and modernise production processes. Technology suppliers, in turn, have an opportunity to demonstrate how their solutions can contribute to these objectives.

Ketan Sanghvi, Chairman of the India ITME Society, has emphasised that the textile industry today needs more than technological innovation alone. Accordingly, the organisers aim to strengthen the exhibition's role as a platform for investment, industrial cooperation and dialogue between manufacturers, technology suppliers, financial institutions and policymakers.

This broader approach reflects the fact that industrial transformation cannot be achieved through machinery investment alone. Financing, infrastructure, skilled personnel and long-term planning are equally important. India ITME therefore provides a setting in which technological capabilities can be discussed alongside the practical requirements of industrial expansion.

TECHNOLOGY ACROSS THE PRODUCTION CHAIN

The exhibition's broad scope is particularly relevant to an industry in which improvements at one production stage can influence the efficiency and quality of subsequent processes.

Spinning technology remains an important exhibition segment, alongside machinery for weaving and knitting. Textile processing and finishing equipment, printing technologies and garment production systems complete the conventional manufacturing chain.

Other areas, including automation, digital production management, resource efficiency and technical textiles, reflect developments that are becoming increasingly important across the industry.

Rather than concentrating on a single manufacturing discipline, India ITME provides a platform for examining technological solutions across different stages of textile production. This also creates opportunities for cooperation between machinery suppliers, component manufacturers, technology developers and textile producers.

INDUSTRY DIALOGUE AND ACCOMPANYING EVENTS

The exhibition programme is intended to extend beyond the machinery stands. The announced Textile Horizons conference, scheduled for 5 and 6 December, will provide an additional forum for discussions concerning the future development of the textile sector.

Such events complement the commercial exhibition by bringing broader industrial issues into focus. They also underline the organisers' ambition to position India ITME as a meeting point for technology, investment and industry development.

PLANNING A VISIT TO GREATER NOIDA

The India Expo Centre & Mart is located in Greater Noida, southeast of New Delhi. International visitors generally arrive through Indira Gandhi International Airport in Delhi, with onward travel to the exhibition venue by road.

Accommodation is available in Greater Noida, Noida and the wider Delhi region. Visitors are advised to consider travel distances and traffic conditions when choosing a hotel, particularly when planning several consecutive days at the exhibition. For overseas visitors, India ITME 2026 offers an opportunity to combine exhibition attendance with meetings involving Indian manufacturers, local subsidiaries and business partners.

With its broad technology portfolio and international orientation, the 12th India ITME will provide a meeting point for the machinery industry and textile manufacturers seeking to translate India's industrial ambitions into practical investments.

OUTLOOK: STRONG EXPECTATIONS FOR INDIA ITME 2026

The prospects for India ITME 2026 appear particularly promising. Machinery manufacturers can be expected to arrive well prepared, with technologies and solutions tailored to the specific requirements of India's textile industry. At the same time, the determination to expand and modernise textile manufacturing is evident in the country's ambitious industrial strategies, investment incentives and projects already underway.

This combination of technological expertise and a strong willingness to invest could create an exceptionally productive environment for discussions, partnerships and new business opportunities. India ITME 2026 therefore has every opportunity to become a particularly successful edition of the exhibition – and an important meeting point for the next phase of India's textile development.

TEXDATA NEWS INDIA ITME 2026
www.texdata.com/en/india_itme_2026
INDIA ITME 2026 (OFFICIAL)
corporate.india-itme.com

ADVERTISING

DILO GROUP
ENGINEERING FOR NONWOVENS





Enhancing Your Nonwoven Line Efficiency
with HyperPunch, SuperPunch and HyperLayer

- web infeed speed up to approx. 200 m/min
- draw off speed up to approx. 150 m/min (HyperPunch) or up to approx. 60 m/min (SuperPunch)

Test our new SuperPunch at our Technical Research Centre

www.dilo.de

Machines To Masterpieces

INDIA ITME 2026

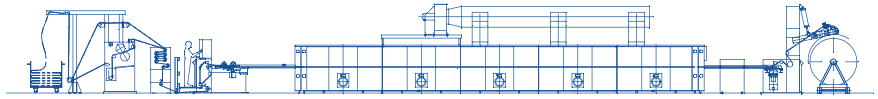
MAKE YOUR ENERGY COUNT.

The KRANTZ K30 stenter frame helps you save by making optimal use of thermal energy, thanks to its patented Econ-Air airflow system and other innovative technologies. Consistent fabric quality, even at the highest standards, means minimal waste – saving you energy and money twice over while strengthening your competitiveness in international markets.

Discover more at India ITME 2026.

VISIT US AT HALL 7 / BOOTH H7L2

INTERSPARE
TEXTILMASCHINEN
ARTOS Krantz



Still the peak in finishing machinery.

BARMAG PUTS AUTOMATIC STRING-UP

AT THE CENTRE OF POY 2.0

Barmag's India ITME showcase spans filament spinning, texturing and digital production control. Highlights include a retrofit for existing eFK texturing machines in collaboration with India's Hitech Automation Solutions and Neumag technologies for staple fibres, carpet yarns and nonwovens.

At India ITME, Barmag will present its POY 2.0 spinning concept in Hall 10, booth C15. The concept links spinning, quenching and winding with digital process control. At its centre is the WINGS POY 2.0 winder, whose fully automatic string-up shortens start-up times, reduces yarn waste and requires fewer manual interventions.

The redesign extends upstream. Barmag says its more compact DIO Spin Pack Generation 2 uses about one-third less filter sand and weighs more than 30 percent less. The redesigned spinning beam can cut energy consumption by up to 10 percent. EvoQuench 2.0 improves access for operators and simplifies process adjustments, helping to reduce set-up time and off-quality production during changeovers.

Barmag's atmos.io platform gives each bobbin a digital identity and links production and quality data from polymer processing to the warehouse.



Part of the new POY 2.0 spinning concept is the new WINGS POY 2.0 winder, which features an automatic string-up function for the first time. © 2026 Barmag

Mills can use the data to identify quality deviations earlier and select the applications they need for their existing infrastructure.

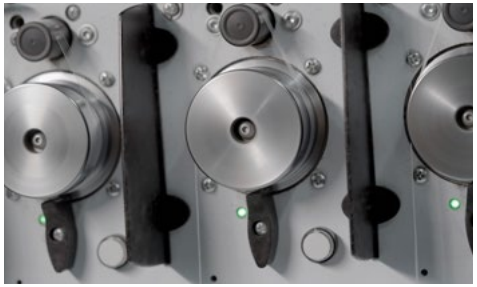


Barmag's atmos.io platform gives each bobbin a digital identity, linking production and quality data from polymer processing to the warehouse. © 2026 Barmag

More flexibility in winding and texturing WINGS FDY FLEX supports rapid changeovers across a broad range of yarn types, including yarns made from recycled polyester. In texturing, Barmag says the eFK EvoSmart can cut energy consumption per kilogram of yarn by up to 25 percent through optimised process control, the EvoHeater and Smart Godet technology.

Replaceable heater inserts simplify cleaning, while optimised airflow doubles service intervals and can reduce maintenance effort by up to 50 percent.

For mills looking to automate existing texturing equipment, Barmag and India's Hitech Automation Solutions are integrating the retrofit-capable Doffmatic system into existing eFK platforms.



Smart Godets on Barmag's eFK EvoSmart texturing machine help reduce energy consumption per kilogram of yarn. © 2026 Barmag

NEUMAG TARGETS STAPLE FIBRES, CARPET YARNS AND FILTRATION

For staple fibre production, Neumag will highlight EvoSteam, designed to lower energy use and improve fibre quality. EvoDuct and EvE-2 improve airflow management and monomer extraction, while robotic spin pack cleaning helps mills achieve more consistent cleaning results with less manual work.

For carpet yarns, Neumag's BICO BCF technology is designed to improve carpet bulk and recovery while reducing face fibre consumption by around 20 percent. The retrofit-capable FiberGuard BCF monitors yarn tension between twisting and winding and automatically adjusts process parameters when deviations occur. For filtration applications, Neumag will present hycuTEC, which uses osmosis-treated water to electrostatically charge meltblown media.

Barmag Huitong Engineering will also present homogenisation technology for thermomechanical polyester recycling. By adjusting melt viscosity, the process can prepare recycled polyester for pellet production or direct spinning.

Barmag at hall 10, booth C15.

www.barmag.com

TRÜTZSCHLER COMBINES

INTELLIGENT CARDING WITH AUTOMATED SLIVER TRANSPORT

The TC 26i card and 12-head TCO 21XL comber lead Trützschler's spinning showcase at India ITME. The company will also present automated can transport, new card clothing and nonwovens technologies for hygiene products, wipes and industrial applications.

Trützschler will show how spinning mills can make better use of their raw materials and automate sliver handling at Hall 11, booth B15. The TC 26i intelligent card is designed to maintain high productivity and consistent sliver quality under varying production conditions. Its T-GO system automatically adjusts the carding gap with greater precision than manual settings allow. By making waste extraction more selective, WASTECONTROL and the new PMS 2 mote knife system can reduce raw material consumption by up to 2 percent while maintaining sliver quality, according to Trützschler.

AUTOMATED TRANSPORT AND SHORTER SPINNING PREPARATION

T-CAN combines automated guided vehicles with software to transport sliver cans between cards and drawing passages. The system directs cans to the required machines, reducing manual handling and helping maintain a continuous supply of sliver.



The TC 26i uses T-GO to adjust the carding gap automatically under varying production conditions. © 2026 Trützschler

The Integrated Draw Frame IDF 3 shortens spinning preparation for rotor and airjet applications. Its new can-changing system can increase card efficiency by up to 3 percent, while improved measuring devices support more uniform sliver. Trützschler says the benefits are particularly evident with raw materials containing a high proportion of short fibres, where the IDF 3 can improve yarn evenness and reduce imperfections while maintaining yarn strength.

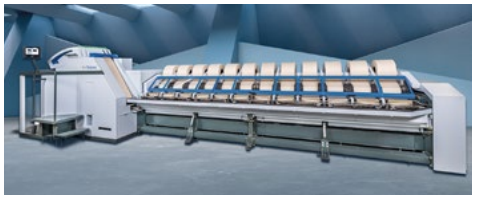
TWELVE COMBING HEADS AND DIGITAL MILL MONITORING

The TCO 21XL comber has twelve combing heads and delivers around 50 percent higher productivity than a conventional eight-head machine, according to Trützschler. The company also reports lower energy consumption per head. COUNT CONTROL maintains a consistent sliver count during production.

Trützschler will also present MyMill, its cloud-based application for monitoring spinning operations and identifying opportunities for process improvements. Mills can access MyMill through the My Trützschler portal, which also brings together training services and the spare parts shop.



T-SUPREMA needlepunch lines cover applications from geotextiles and automotive textiles to filter media. © 2026 Trützschler



The TCO 21XL comber combines twelve combing heads with COUNT CONTROL to maintain a consistent sliver count. © 2026 Trützschler

CARD CLOTHING FOR CLEANER COTTON

Trützschler Card Clothing will showcase the GX SeedClean cylinder wire series, designed to improve cotton cleanliness and reduce seed-coat neps. The new T42.40° doffer wire supports higher production rates while maintaining yarn quality. STEELTOP is designed for durability and consistent performance on modern cards.

NONWOVENS FOR HYGIENE, WIPES AND TECHNICAL USES

For hygiene applications, Trützschler will highlight air-through bonding technology for soft diaper topsheets and backsheets. The new AquaJet-X adapts the company's AquaJet spunlacing technology specifically to wipe production, with a smaller footprint and lower investment costs. For durable nonwovens, the T-SUPREMA line concepts offer flexible needlepunch production for geotextiles, automotive textiles and filter media.

Trützschler at Hall 11, booth B15.

www.truetzschler.com

USTER LINKS FIBRE CLEANING AND YARN CLEARING

TO CUT WASTE

Uster's new Contamination Control solution connects data from bale management, fibre cleaning and yarn clearing. The Vision Shield 3i adds AI-assisted detection of polypropylene, while Uster Trade helps mills track and document quality consistency.

At India ITME, Uster will present its latest quality management tools in Hall 11, booth C18. A central question for spinners is how much contamination to remove to meet a customer's yarn specification while keeping the loss of usable fibre as low as possible. Uster's new approach gives mills data from three stages of production to make that decision.

TRACKING CONTAMINATION FROM BALE TO YARN

Uster Contamination Control (UCC) builds on the company's Total Contamination Control concept. It brings together raw material and bale laydown data from FiberQ, detection and ejection data from Vision Shield, and yarn clearing data from Quantum. Analysing these records together helps mills assess how changes in the fibre mix affect contamination in the finished yarn and adjust cleaning and clearing settings accordingly. It can also help identify recurring contamination in incoming material and inform purchasing decisions.



Uster Contamination Control for optimum clearing at minimum cost © 2026 Uster Technologies

The new Contamination Body feature classifies contaminants at the fibre cleaning stage, applying the principle behind Uster's Yarn Body for yarn clearing. It helps operators set contamination limits and see how changes in settings affect ejection levels. Through the 360Q platform, mills can apply settings across several machines or tailor them to a particular fibre mix.

VISION SHIELD 3I DETECTS TRANSPARENT POLYPROPYLENE

The Vision Shield 3i combines high-resolution imaging with SpecFusion, which uses multiple sensors and illumination at different wavelengths. Its AI-assisted detection system identifies polypropylene, including transparent fragments, alongside coloured contaminants. Uster says the system also reduces the amount of material expelled with each ejection.

Operators can use the Contamination Body to assess which fragments warrant removal and how stricter settings would affect waste. Vision Shield 3i connects with Quantum and the 360Q platform, bringing fibre cleaning and yarn clearing results into the same analysis.



Uster Vision Shield 3i uses AI-assisted detection to identify contaminants such as transparent polypropylene during fibre cleaning. © 2026 Uster Technologies



Uster Trade tracks yarn quality consistency over time, flags deviations and helps mills document their performance for buyers. © 2026 Uster Technologies

USTER TRADE DOCUMENTS QUALITY CONSISTENCY

Uster Trade monitors quality consistency over time and flags deviations early so mills can take corrective action. Its traceability tools help teams investigate the causes of quality issues and handle customer claims. The service also provides quality consistency standards and a ranking tool that spinners can use to show buyers how consistently their yarn meets quality criteria relevant to fabric appearance and performance.

Uster at hall 11, booth C18.

www.uster.com

STÄUBLI DEBUTS S3292 ROTARY DOBBY

FOR HIGH-SPEED AIR-JET WEAVING

Developed with the Indian weaving market in mind, the S3292 supports up to 12 frames and reaches speeds of up to 1,200 rpm. Stäubli will present the new dobby alongside its warp preparation, cam motion and Jacquard technologies.

Stäubli will introduce its S3292 rotary dobby in Hall 14, booth B2. Designed for high-speed air-jet weaving, it is particularly suited to denim production. The maximum speed depends on the loom configuration and application, while the optimised shedding motion is designed to extend the service life of frames and heddles.

For mills producing fabrics with simple weave patterns at high volumes, Stäubli will also present the S1792 cam motion. It supports up to 10 frames and can reach speeds of up to 1,400 rpm, depending on loom settings and application.

WARP PREPARATION FOR FREQUENT STYLE CHANGES

The SAFIR PRO S47 automatic drawing-in machine processes a wide range of yarns, from cotton and coarse or fancy yarns to technical yarns such as glass fibre. It draws in up to 190 ends per minute and uses Active Warp Control 2.0 to help maintain preparation quality when mills switch between styles.



The S3292 rotary dobby supports up to 12 frames and reaches up to 1,200 rpm in air-jet weaving, depending on the loom configuration and application. © 2026 Stäubli

The TOPMATIC warp tying machine handles staple fibre and filament yarns with minimal adjustments. It can tie single or double knots and detect double ends in warps with or without a 1:1 lease.



Stäubli's SAFIR PRO S47 automatic drawing-in machine uses Active Warp Control 2.0 to help maintain preparation quality when mills switch between styles. © 2026 Stäubli



TOPMATIC ties single or double knots and detects double ends during warp changes. © 2026 Stäubli

JACQUARD WEAVING AND DIGITAL SERVICES

Available with 4,608 to 12,288 hooks, the LX PRO Jacquard machine can be used on air-jet and rapier looms for applications ranging from upholstery and silk fabrics to terry cloth and technical textiles. The N4L PRO is designed to weave labels and logos into selvedges or across the fabric.



LX PRO Jacquard machine © 2026 Stäubli

At the booth, visitors can also explore the MyStäubli portal, including online spare parts ordering, on a touchscreen.

D'DECOR PUTS EQUIPMENT LONGEVITY TO THE TEST

D'Decor, an Indian manufacturer and exporter of curtain and upholstery fabrics, has worked with Stäubli for more than two decades. Its production facilities operate 300 Jacquard machines, 220 dobbies and 15 automatic warp tying machines, including TOPMATIC and MAGMA systems. The equipment supports round-the-clock production across a wide range of decorative fabric designs.

Ajay Arora, Managing Director of D'Decor Home Fabrics, describes how the machines hold up in daily operation. "We run our machines 24/7 for almost the entire year. Some of the Stäubli machines installed decades ago are still running perfectly today. That is the true measure of quality and reliability."

Stäubli at hall 14, booth B2.

www.staubli.com

PICANOL BRINGS AIRONE TO INDIA

WITH SMARTSHED WORLD PREMIERE

Picanol will present its new AirOne airjet weaving platform on the Indian subcontinent at India ITME 2026 in Hall 15, Stand E10. Two AirOne machines will weave different poplin constructions, with the SmartShed Pro configuration marking the world premiere of Picanol's SmartShed technology.

Kasiviswanathan Palanisamy, Director of Picanol India, says the platform has undergone several months of testing at customer sites, with performance, energy efficiency and operating costs among its priorities.

The AirOne-4-E 190 Crank is designed for high output and low energy consumption in plain weaving. It will weave poplin at 68 ends and 56 picks per inch and features crank shed angle adjustment, automatic central lubrication and Prewinder Switch-Off. The AirOne-4-D 190 SmartShed Pro will weave a denser poplin at 108 ends per inch, using a polyester/elastane weft. Its shedding system gives mills the flexibility to produce structures beyond plain weave. Both AirOne versions come with AirStream, EcoBoost, EcoWeft and WeavePilot as standard.



Picanol's AirOne airjet weaving machine equipped with SmartShed Pro will weave poplin at India ITME 2026, marking the world premiere of the SmartShed technology. © 2026 Picanol

The third airjet machine, an OmniPlus-i Connect-4-R 230, will weave denim at 100 picks per inch using cotton and polyester/elastane weft yarns. The configuration combines AirMaster with integrated air consumption measurement, fully electronic pressure settings and Pick Repair Automation. Its automation package also includes AutoSpeed, harness frame stroke measurement and shed simulation.

Alongside the weaving demonstrations, visitors will get a first look at AI-powered applications in PicConnect. Live demonstrations will show how the platform brings machine monitoring, weave room management and service applications into one interface.

Picanol at hall 15, booth E10.

www.picanol.com

VANDEWIELE PUTS LIVE CABLING AND TWISTING AT THE CENTRE OF ITS SHOWCASE

Vandewiele Group will demonstrate its Cabler & Twister in operation in Hall 15, Stand E2F1. First unveiled at ITM in Istanbul, the machine cables and twists fine-denier DTY, ATY and FDY yarns on a single platform. It is designed for carpet, rug and textile applications where yarn softness and appearance are important.

In carpet weaving, the RCF face-to-face machine runs at up to 250 rpm and allows bobbin changes during production with Fast Creel. The UCF gives mills flexibility in carpet construction and design, while the MAX91 supports Axminster production with up to 16 colour frames. Vandewiele will also present its standard and servo-controlled HST tufting platforms. SUPERBA will cover carpet yarn heat-setting, and Vandewiele Automation will present the KR1 robot, which can knot up to 240 yarn packages per hour.

Savio's presentation includes the Proxima Smartconer®, the Lybra Smartspinner® with direct feeding of two slivers into the spinning chamber, and the Phoenix Assembly Winder for package preparation ahead of two-for-one twisting.

Loepfe's YarnMaster® PRISMA combines optical and capacitive yarn clearing to help mills avoid unnecessary cuts.



Vandewiele will demonstrate its Cabler & Twister live at India ITME 2026. The machine cables and twists fine-denier filament yarns for carpets, rugs and other textiles on a single platform. © 2026 Vandewiele

Mesdan will present the CONTEST-S cotton stickiness tester and the EVENEXT evenness tester, which can test up to 24 bobbins automatically.

BMSvision will launch an updated WeaveMaster MES with a web-based interface and access to AI capabilities through BMSedge. Its planning module uses live production, order and quality data to let mills compare scheduling scenarios before releasing them to the shop floor.

Vandewiele at hall 15, booth E2F1.

www.vandewiele.com

KARL MAYER TARGETS GROWTH

IN ATHLEISURE, FOOTWEAR AND TECHNICAL TEXTILES

Tricot machines for functional fabrics and Jacquard raschel machines for shoe uppers lead KARL MAYER's India ITME showcase. The company will also highlight warp preparation for staple fibre yarns and production technologies for geogrids and composite reinforcements.

KARL MAYER will present its warp knitting, warp preparation and technical textiles portfolio in Hall 15, booth 15G19. The company will use large-screen machine demonstrations and fabric samples to show how manufacturers can diversify their product ranges. In the service area, KARL MAYER will introduce the expanded Indian edition of its spare parts webshop, which now includes common wear parts for warp knitting machines.

FROM FOUR-WAY STRETCH TO JACQUARD SHOE UPPERS

Two- and three-bar tricot machines are among KARL MAYER's bestsellers in India. The latest models will feature in video demonstrations focused on functional athleisure fabrics. The fabric display will include four-way stretch materials and warp knits with a woven appearance, alongside examples for apparel and home textiles.



The HKS 3 M is part of KARL MAYER's tricot machine range. © 2026 KARL MAYER

For footwear, the company will present its new Jacquard double-needle-bar raschel machines, which give manufacturers greater design flexibility when producing patterned shoe uppers.

Mark Smith, Deputy Vice President of Sales for KARL MAYER's Warp Knitting business unit, sees interest from mills looking to diversify. "We're seeing a great deal of interest in our technology from circular knitters. They recognize the advantages in terms of output and consistent quality and want to expand their product range to include warp knitted fabrics." Smith will also address robotics and automation in yarn and fabric formation at the Textile Horizons conference.

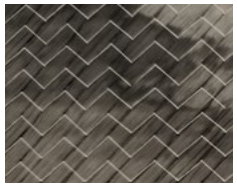
WARPING AND SIZING FROM A SINGLE SUPPLIER

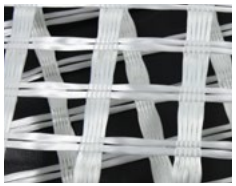
For Indian mills processing staple fibre yarns, KARL MAYER will highlight the combination of its WARPDIRECT warping machine with a V-shaped creel and its PROSIZE sizing machine. WARPDIRECT controls winding density at high operating speeds and is designed to reduce yarn waste. KARL MAYER says PROSIZE can reduce sizing agent consumption by up to 10 percent while keeping yarn stretch to a minimum. The digital presentation will also cover sectional and sample warping, assembly machines and indigo dyeing lines.





Four-way stretch fabrics and woven-like fabrics are among the warp-knitted applications KARL MAYER will highlight © 2026 KARL MAYER





Multiaxial non-crimp fabrics provide reinforcement in multiple directions for composite components such as wind turbine blades. Warp-knitted geogrids reinforce soil in applications such as slope stabilisation. © 2026 KARL MAYER

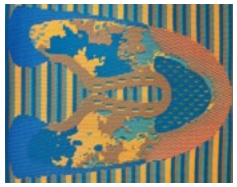


KARL MAYER's PROSIZE sizing machine can reduce sizing agent consumption by up to 10 percent while minimising yarn stretch, according to the company. © 2026 KARL MAYER

GEOGRIDS AND REINFORCEMENTS FOR TRANSPORT AND WIND ENERGY

In technical textiles, KARL MAYER reports strong interest in warp knitting machines with weft insertion for geogrids used in applications such as slope stabilisation. The company also sees opportunities for composite reinforcement fabrics in transport, citing the use of composite components in the cabins of Vande Bharat Express trains. India's wind energy expansion is another source of demand for multiaxial warp knitting machines that produce reinforcement fabrics for rotor blades.

Karl Mayer at hall 15, booth 15G19.



KARL MAYER's Jacquard double-needle-bar raschel machines give footwear manufacturers greater design flexibility when producing patterned shoe uppers. © 2026 KARL MAYER

www.karlmayer.com

MONFORTS PUTS FINISHING AT THE CENTRE OF

INDIA'S SHIFT TO HIGHER-VALUE FABRICS

At India ITME, Monforts will highlight ways to reduce drying and finishing costs, expand coating capabilities and modernise existing lines. Daniel Rütten, the company's new Area Sales Manager for Asia, takes over responsibility for India and the wider region from Hans Wroblowski.

Monforts will present its finishing and coating technologies in Hall 1, booth A5. The German machinery specialist sees continued investment in apparel and home textiles alongside growth in activewear, sportswear, filtration and automotive applications. For mills moving into more specialised fabrics, the finishing stage is where properties such as handle, appearance and functionality can be tailored to the end use.



The Monforts Eco Applicator applies finishing chemicals with minimal liquor, leaving less water to evaporate during drying. © 2026 Monforts



Daniel Rütten takes over responsibility for India and the wider region as Monforts Area Sales Manager for Asia. © 2026 Monforts

Rütten joined Monforts in 1998 and worked in sales and logistics at its headquarters before taking responsibility for customers in Latin America. He says Indian mills are looking more closely at energy, water and chemical consumption, as well as the degree of automation needed to maintain consistent quality. "Productivity remains essential, but increasingly it has to be combined with lower operating costs, greater flexibility and the ability to manufacture more sophisticated products."

LESS LIQUOR TO APPLY, LESS WATER TO EVAPORATE

Monforts continues to develop its MONTEX stenters and THERMEX dyeing and curing systems to maintain consistent output while reducing energy consumption. Drying is a particular focus.

The Eco Applicator applies finishing chemicals with a small amount of liquor, leaving less water to evaporate downstream. Depending on the application, this can reduce water, chemical and energy consumption.

Monforts is also working with BW Converting on digital spray application. A Baldwin TexCoat G4 unit installed at the Monforts Advanced Technology Center in Mönchengladbach allows mills to trial spray application with finishing chemistries supplied by Archroma.

COATING OPTIONS FOR TECHNICAL TEXTILES AND ACTIVEWEAR

For manufacturers working with several application methods, MontexCoat combines knife coating, magnet roller coating and rotary screen printing on one platform.



The THERMEX line at the Monforts Advanced Technology Center in Mönchengladbach has been equipped with a Monforts Universal Energy Tower. © 2026 Monforts

The lower-cost coaTTex line is aimed primarily at mills focusing on knife coating. It is now also available with a table for specialised activewear coatings.

Upgrades for lines already in production Monforts works in India with A.T.E. Enterprises, which has business units in the country's major textile regions. Its role covers initial customer contact, project planning, logistics and engineering, as well as service and spare parts after installation.

Monforts says many of its stenters have been in operation for more than three decades. Modernisation is therefore an increasingly important part of its business. New controls, drives and monitoring systems can improve productivity, energy efficiency and process control while extending the operating life of existing lines.

Looking further ahead, Monforts sees potential for technical cooperation between India and Europe on alternative energy. The company has already worked on adapting heating systems to use green hydrogen in place of natural gas for energy-intensive processes such as drying and heat treatment.

Monforts at· hall 1, booth A5.

www.monforts.de

INTERSPARE BUILDS ON NEW KRANTZ INSTALLATIONS IN INDIA WITH A FOCUS ON

ENERGY-EFFICIENT DRYING AND MODULAR UPGRADES

The German finishing machinery specialist makes its India ITME debut after commissioning four new KRANTZ machines in the country. Together with its local partner Global Group of Marketing, iNTERSPARE will highlight the KRANTZ K30 stenter, upgrades for existing finishing lines and new projects involving artificial intelligence.

iNTERSPARE will make its first appearance at India ITME at the stand of its long-standing Indian partner, Global Group of Marketing, in Hall 7, stand H7L2. The company commissioned four new KRANTZ machines in India following a major order received in 2025. The installations give iNTERSPARE new references in one of its most important markets. As Indian manufacturers look to expand textile exports, the company sees demand for finishing technology that combines consistent fabric quality and high output with competitive operating costs.

"I am very much looking forward to India ITME and to meeting customers and other textile industry professionals in person," says Dirk Polchow, Managing Director of iNTERSPARE. "The names Krantz, Artos and Babcock still enjoy an excellent reputation in India, and rightly so. Their technologies have long been recognised for their ability to meet even the most demanding requirements. We want to demonstrate these capabilities to a new generation of textile manufacturers and to companies that may not yet be familiar with iNTERSPARE. We now have excellent references in India and are ready to build on this success."



Dirk Polchow, Managing Director of iNTERSPARE, in front of a KRANTZ Syncro shrink dryer ready for delivery.
© 2026 iNTERSPARE

MAKING BETTER USE OF HEAT IN DRYING

The KRANTZ K30 stenter uses the patented Econ-Air airflow system, originally developed by Babcock. It guides heated air through the drying compartments so that the air absorbs more moisture and makes better use of the thermal energy supplied. Star-Jet or Convey-Air nozzles distribute air and heat evenly across the fabric width, helping mills achieve reproducible drying results.

The K30's cast-chain system transports fabric under low tension and is designed for low wear, even at high production speeds.

For knitted and woven fabrics, precise drying helps mills maintain dimensional stability, fabric handle and uniform finishing quality. Fewer rejects can also reduce the energy and material needed for reprocessing or replacement production. Alongside the K30, iNTERSPARE continues to develop the KRANTZ Syncro shrink dryer with modern drives, updated controls and improved process monitoring.

MODULAR UPGRADES FOR EXISTING FINISHING LINES

Many KRANTZ, ARTOS and BABCOCK machines have been in service for decades. Through its EMU programme, which stands for Expansion, Modernization and Upgrading, iNTERSPARE offers retrofits for controls, drives, automation, operator interfaces and heating systems. The scope can be tailored to the installation and the mill's investment budget.

Typical projects include replacing legacy Siemens S5 controllers with VIPA systems, upgrading frequency converters with Lenze technology and installing Siemens Comfort Panels in place of ageing industrial PCs. Heating systems can also be adapted as requirements change. Upgrading individual systems can improve machine availability, process control and energy efficiency while extending the operating life of the line.

DIGITALISATION AND AI

iNTERSPARE will discuss its new AI projects at the fair alongside its work on data acquisition and process visualisation. For both new and existing lines, the company sees modern controls and better access to operating data as ways to give mill teams a clearer view of the finishing process.

Managing Directors Dirk Polchow and Carsten Kalek will attend with Bruno de Almeida B. Pereira, Area Sales Manager Far East Asia. Together with Global Group of Marketing, the team will discuss new machinery investments, modernisation projects and technical service for Indian mills.

iNTERSPARE and Global Group of Marketing at hall 7, booth H7L2.

www.interspare.com

BENNINGER PRESENTS TAILORED DYEING SOLUTIONS

FOR INDIAN TEXTILE MILLS

Benninger will exhibit in Hall 3, Stand D1F2. The Swiss machinery manufacturer offers a range of wet processing technologies particularly relevant to Indian mills, from reactive dyeing of cotton wovens and knits to batch dyeing of synthetics and stretch blends.

FABRICMASTER FOR VERSATILE BATCH DYEING

The FabricMaster is a soft-flow jet dyeing machine designed for short batch cycles and reproducible results across a wide range of fabrics, including synthetics and demanding Lycra blends. It combines gentle fabric handling with high rope speeds, while its liquor delivery system promotes even penetration of the dye liquor into the fabric. The low liquor ratio reduces the amount of water needed in the dye bath. For trials and recipe development, Benninger offers a sample dyeing machine with the same nozzle design and liquor ratio as the production model, helping mills transfer recipes from sample to production scale.

SALT-FREE REACTIVE DYEING WITH COLD PAD BATCH

Benninger has adapted its cold pad batch (CPB) systems to tropical and subtropical operating conditions. The process allows mills to dye woven and knitted fabrics in open width with reactive dyes, without adding salt to the dye bath or heating the fabric during fixation.



Benninger Fabricmaster © 2026 Benninger

At the heart of the system is the Küsters DyePad, whose two floating rollers help apply the dye liquor evenly across the full fabric width.

SYNTHMASTER FOR CREASE-SENSITIVE FABRICS

Benninger presented the horizontal jet dyeing machine at Knit-Tech in Tirupur earlier this year. The SynthMaster shares key components with the FabricMaster and uses tension-free fabric transport designed to prevent compression creases. Its chamber and dewatering design support low liquor ratios. At around 4.5 metres long, the machine can be installed alongside round dyeing machines where floor space is limited.

Benninger at hall 3, booth D1F2.

www.benningergroup.com

BTMA LOOKS TO

STRENGTHEN UK–INDIA TEXTILE MACHINERY TIES

The British Textile Machinery Association (BTMA) sees India ITME 2026 as an opportunity to strengthen ties between British machinery suppliers and Indian textile manufacturers. The association aims to build on the UK–India Free Trade Agreement and the UK–India Textile Machinery Coalition (UKITMC), launched in Mumbai in May. The coalition brings machinery manufacturers from both countries together to encourage technology exchange and develop new business.

BTMA CEO Jason Kent sees opportunities for British suppliers as Indian textile manufacturers invest in automation, quality assurance and more sustainable production. Among recent developments from BTMA members, Shelton Vision has extended its WebSpector fabric inspection system to detect defects in complex patterned, printed and coated fabrics. Roaches International is automating abrasion and pilling tests with its Martindale AXYZ and measuring fabric handle with its Sentire system. VeriVide is advancing LED-based colour assessment with its UltraView light booth and digital colour management tools.

www.btma.org.uk

SWISS TEXTILE MACHINERY SEES

OPPORTUNITIES IN INDIA'S MODERNISATION

Around 20 member companies of Swiss Textile Machinery will exhibit at India ITME 2026, presenting machinery, components and services for fibre preparation, spinning, weaving, knitting, embroidery, finishing and quality control. Swiss suppliers have worked with Indian textile manufacturers for decades, supporting customers through local sales and service operations, technical training and knowledge exchange. Cotton remains a mainstay of India's textile industry, with extensive spinning, weaving and garment manufacturing capacity. At the same time, man-made fibres, technical textiles and advanced finishing are gaining importance. Rising incomes and a young population are driving domestic demand, while government initiatives aim to expand manufacturing capacity, modernise production and increase textile exports.

The association sees opportunities both in new production capacity and in upgrades to existing mills, particularly where manufacturers need more reliable quality control or want to reduce energy and water consumption. Secretary General Cornelia Buchwalder emphasises that close cooperation with customers helps Swiss suppliers tailor technology to the needs of individual mills. The EFTA–India Trade and Economic Partnership Agreement, which entered into force in October 2025, improves trading conditions for Swiss industrial suppliers.

www.swisstextilemachinery.ch

© 2026 TexData International

ITM 2026 & HIGHTEX 2026: THE NEW GEOGRAPHY OF TEXTILE PRODUCTION TAKES SHAPE

Despite challenging market conditions, ITM 2026 attracted 48,257 visitors from 105 countries. The exhibition highlighted the growing importance of Central Asia and North Africa, the continuing industrial potential of Türkiye and an increasing focus on automation, recycling and higher-value textiles



AN INTERNATIONAL MEETING POINT FOR THE TEXTILE INDUSTRY

From June 9 to 13, 2026, Istanbul once again became a major meeting point for the international textile machinery industry. Held at the Tüyap Fair and Congress Center alongside HIGHTEX, ITM 2026 brought together more than 1,000 exhibitors from 59 countries across 11 halls and approximately 110,000 square metres of exhibition space.

According to the organizers, the exhibition attracted 48,257 visitors from 105 countries, including 25,576 domestic and 22,681 international visitors. Asia accounted for 59.19% of foreign visitors, followed by Europe with 19.52% and Africa with 18.58%. Together, Asian and African countries represented almost 78% of international attendance.

These figures underline the importance of ITM as an established international industry platform. Its global reach is by no means a new phenomenon.

For many years, Istanbul has attracted textile manufacturers and machinery buyers from Europe, Asia, Africa and the Middle East. What became increasingly evident in 2026, however, was the continuation of a longer-term trend: the international character of the exhibition is strengthening, while the relative importance of individual textile-producing regions is evolving.

The exhibition itself reflected the scale and diversity of the industry. Leading international machinery manufacturers occupied impressive stands, many featuring extensive technology presentations and operating equipment. The traditional opening ceremony provided a fitting setting for an exhibition with deep roots in the Turkish textile sector. The exhibition also marked the 30th anniversary of Teknik Fuarcılık, founded in 1996 by Necip Güney. The company had already organized the Bur-Tex textile machinery exhibition in Bursa in 2002 before joining forces with TÜYAP to establish the ITM brand in 2003. Güney played a key role in developing the exhibition into one of the world's leading international platforms for textile machinery.

MODEST EXPECTATIONS, ENCOURAGING RESULTS

The economic environment ahead of ITM 2026 was far from favourable. Textile manufacturers in Türkiye and many other markets were facing weak demand, high operating costs, pressure on margins and uncertainty over future investment. Many exhibitors therefore arrived in Istanbul with modest expectations. Yet the atmosphere during the exhibition proved more constructive than some had anticipated. Although visitor traffic varied between halls and technology segments, exhibitors frequently reported qualified discussions with company owners, factory managers and investment decision-makers. Several companies described concrete project inquiries and negotiations, even if difficult financing conditions continued to delay purchasing decisions.

KARL MAYER was among those reporting a more encouraging response than expected. The company described its customer discussions as constructive and promising, with particularly strong participation from Türkiye and Egypt and an unexpectedly high number of visitors from Syria. Its management emphasized that proximity to customers, technical expertise and local support are becoming increasingly important competitive factors.



ITM 2026 impressions © 2026 TexData International

The organizers also reported machinery sales and new business agreements during the exhibition, although no comprehensive transaction figures were published. The positive assessment of ITM 2026 should therefore not be confused with a general recovery in machinery investment.

Nevertheless, the exhibition demonstrated that investment activity has not disappeared. Projects are being examined more carefully, and purchasing decisions increasingly depend on measurable economic benefits, production flexibility and long-term operating costs.

THE CHANGING GEOGRAPHY OF TEXTILE INVESTMENT

One of the most significant developments visible at ITM 2026 was the continuing diversification of textile production markets.

Established textile-producing countries such as Türkiye, India and Pakistan remained important sources of visitors and business discussions. At the same time, Central Asia and North Africa continued to gain attention.

Visitors from Uzbekistan, Turkmenistan and Tajikistan reflected the increasing importance of Central Asian textile manufacturing. Egypt, Morocco, Algeria and Tunisia represented a North African region whose industrial ambitions are becoming increasingly relevant to international machinery suppliers. Interest from Syria was also notable, with potential opportunities linked to the country's industrial reconstruction. This is not a sudden geographical shift. The development has been visible over several exhibition cycles, and ITM has long served many of these markets. However, the continued diversification of international interest suggests that the geography of textile investment is gradually changing.

Istanbul is particularly well positioned to reflect these developments. Its accessibility and established commercial relationships make ITM an attractive meeting point for manufacturers from regions where attending European exhibitions can involve greater travel costs or visa-related difficulties.

The exhibition thus offers a perspective on an increasingly interconnected textile manufacturing landscape extending across Europe, the Mediterranean, Central Asia and South Asia.

TÜRKIYE: MOVING BEYOND PRICE COMPETITION

The growing importance of other textile-producing regions should not obscure the continuing strength of Türkiye's own textile industry. Although Turkish manufacturers are currently experiencing considerable economic pressure, the country's industrial foundations remain substantial.

Decades of manufacturing experience, an extensive and vertically integrated textile supply chain, modern production facilities and skilled personnel provide a strong basis for future development. Türkiye also benefits from its proximity to the European market. Short transport distances, established business relationships and the ability to respond quickly to changing customer requirements offer significant advantages, particularly for brands seeking flexible sourcing arrangements and shorter delivery times. Nevertheless, the competitive environment is changing.

As lower-cost production locations, particularly in North Africa, become more important, competing primarily on price is becoming increasingly difficult for many Turkish textile manufacturers. The challenge is therefore not simply to reduce production costs, but to create additional value. Higher product quality, technical expertise, sophisticated textile constructions, functional properties, flexible manufacturing and dependable delivery can provide differentiation that extends beyond the lowest unit price.

The growing textile industries of North Africa also represent opportunities for regional cooperation. Rather than a straightforward relocation of production, a more differentiated manufacturing network may develop around the Mediterranean, with individual locations contributing different industrial strengths.

For Türkiye, maintaining competitiveness will increasingly depend on using its established manufacturing capabilities to move towards more specialized and higher-value products.

ADDED VALUE BEGINS WITH THE TEXTILE

Beyond machinery performance, ITM 2026 provided insights into the types of textiles manufacturers are increasingly interested in producing. Sportswear, athleisure, recycled materials, technical textiles and sophisticated fabric constructions featured prominently in the presentations of several leading machinery suppliers.

KARL MAYER highlighted lightweight performance fabrics, structured warp knits and innovative applications for fashion and upholstery. **Mayer & Cie.** reported growing interest in five-thread interlock constructions for sportswear and technical apparel, while **SHIMA SEIKI** demonstrated the potential of seamless garment production and digital sampling.

In weaving, developments from **Stäubli**, **Picanol** and **Vandewiele** illustrated the importance of complex structures, differentiated surfaces and greater design flexibility. The recurring focus on sportswear and functional apparel is particularly revealing. Comfort, elasticity, freedom of movement, lightweight constructions and consistent performance are essential characteristics that place additional demands on textile machinery and production processes.

Recycling was another important theme. **Trützschler's** work with recycled fibres and **Uster's** newly introduced Recycling Opening Index demonstrated that circular textile production increasingly depends on reliable industrial processes and measurable material quality.

The challenge is no longer simply to incorporate recycled fibres, but to process them consistently and economically into commercially viable products. For textile manufacturers, these developments offer opportunities to move beyond standardized products and develop textiles with distinctive technical or functional characteristics. For Türkiye in particular, such capabilities could become an important competitive advantage in a market where low-cost mass production alone offers increasingly limited prospects.

TECHNOLOGY HIGHLIGHTS: AUTOMATION AND INTELLIGENT FIBRE PROCESSING

Automation, energy efficiency and flexibility in processing different raw materials were among the dominant technological themes at ITM 2026. Across spinning preparation, man-made fibre production and yarn quality control, machinery manufacturers presented developments aimed at improving productivity while reducing operating costs and manual intervention.

Rieter continued to advance its Vision 2027 concept for the fully automated spinning mill, combining automated material handling, digital process monitoring and integrated production systems. Among the machinery developments was the OMEGAlap E 40 combing preparation machine, with a production capacity of 800 kilograms per hour, representing a 33% increase according to the manufacturer.

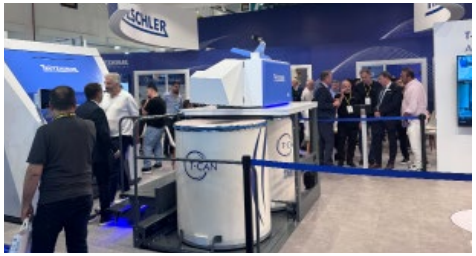
ITM also provided a special setting for Rieter and Barmag, appearing together following Rieter's acquisition of Barmag. Their neighbouring stands were physically connected by a bridge, symbolizing the integration of two major machinery businesses with complementary expertise in staple-fibre spinning and man-made fibres.

Barmag and **Neumag** combined significant technological innovations with an impressive exhibition presentation. The WINGS POY 2.0 winder incorporates automatic string-up technology, reducing operator intervention and waste. The eFK EvoSmart texturing machine offers potential savings of up to 25% in specific energy consumption, while Neumag's FiberGuard BCF combines sensor-based yarn tension monitoring with automatic process adjustments. A particular highlight was Barmag's virtual reality presentation, which allowed visitors to explore the WINGS POY 2.0 technology and its practical advantages in an immersive environment. The experience attracted considerable interest and was very well received by visitors.



The bridge between Rieter and Barmag. Virtual reality to learn more about WINGS POY 2.0. Interview with former Rieter CEO Thomas Oetterli © 2026 TexData International

Trützschler emphasized automation and recycled fibre processing. Its T-CAN system uses autonomous guided vehicles for automated sliver can transport, while the combination of the TC 30i card and IDF 3 integrated draw frame offers greater efficiency in direct spinning, with card productivity improvements of up to 40% claimed by the manufacturer. The company's recycling activities were also illustrated by T-shirts featuring **RE&UP** branding, produced by customers processing recycled material. These applications provided a tangible example of how recycling technology is being connected with industrial textile production.







Trützschler T-CAN system. T-Shirts with Re&Up fiber branding. truecycled process demonstration. © 2026 TexData International

Uster officially launched its R Recycling Module for the AFIS 6 fibre testing system at ITM 2026. Its central innovation, the Recycling Opening Index, quantitatively assesses how effectively cotton fibres have been opened during mechanical recycling. By evaluating the relationship between opened fibres and remaining yarn fragments, the system helps spinners assess recycled raw materials and optimize fibre blends. Additional measurements provide further information about processability and potential yarn quality. The development illustrates how objective measurement is becoming increasingly important for the industrial use of recycled materials.







Uster booth highlighting the R Recycling Module for the AFIS 6 fibre testing system © 2026 TexData International

Saurer focused on production flexibility and mill automation. Its Autocoro 11 rotor spinning machine features Duo Sliver Feeding, allowing two slivers to be blended directly at the spinning position. The Hunter S1 autonomous guided vehicle addresses automated transport of sliver cans between production stages.





Saurer Autocoro 11 with Duo Sliver Feeding © 2026 TexData International

In synthetic filament production, **Heberlein**, together with its Turkish representative **Bozok**, highlighted technologies designed to reduce compressed air consumption. Its APe series of air interlacing jets offers potential air savings of up to 15%, while the PolyJet-TG-3 generation focuses on uniform interlacing density and consistent yarn performance.

Other manufacturers addressed specific aspects of yarn production and quality assurance. **Mesdan** introduced EVENEXT, a new generation of evenness testing equipment for yarns, slivers and rovings. **BB Engineering** presented its ValuePack spin pack with two-stage filtration and melt homogenization, while **Savio** highlighted the Phoenix Assembly Winder, capable of winding speeds of up to 1,000 metres per minute.











Heberlein PolyJet-TG-3. Savio Phoenix Assembly Winder. Mr. xxx presenting the Mesdan EVENEXT tester. © 2026 TexData International

Together, these developments illustrated how higher productivity is increasingly being pursued through automation, precise process control and more efficient resource utilization rather than simply higher machine speeds.

WEAVING AND KNITTING: GREATER FLEXIBILITY AND NEW TEXTILE STRUCTURES

In weaving and knitting, technological developments reflected the demand for production flexibility, greater design freedom and improved resource efficiency.

KARL MAYER demonstrated the versatility of modern warp knitting technology with its HKS 4-M EL ECO, exhibited at ITM 2026. An accompanying textile innovation show highlighted applications ranging from upholstery fabrics, velour and corduroy to lightweight sportswear, terry warp knits and technical textiles. The company also reported strong interest in automated warp preparation, particularly its MULTI-MATIC sampling machines, as well as the PRODYE indigo dyeing system.







KARL MAYER booth. © 2026 TexData International

Stäubli presented developments covering weaving preparation, shedding and Jacquard technology. The SAFIR PRO S47 automatic drawing-in machine can process up to 190 ends per minute and features Active Warp Control 2.0. The S1792 cam motion is designed for high-speed weaving, reaching up to 1,400 rpm in selected applications, while the SX PRO Jacquard technology supports complex fabric constructions.







Stäubli booth and SAFIR PRO S47 automatic drawing-in machine. © 2026 TexData International

Itema emphasized the relationship between weaving technology and finished fabric quality. Its textile gallery showcased sophisticated constructions produced by customers worldwide, while the MEC-T mechanical tucking system supports reliable selvedge formation.

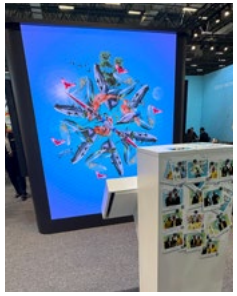






Itema booth, loom and textile gallery. © 2026 TexData International

Groz-Beckert demonstrated how component-level innovations contribute to production efficiency. Its LCmax circular knitting needles feature a wave-shaped shank geometry designed to reduce friction and energy consumption. The SAN TT and SAN FY needle types address demanding knitting applications, while the modular KnotMaster tying machine offers greater flexibility in weaving preparation.





Groz-Beckert offered visitors the opportunity to capture a special memory of their visit with a personalized photo taken at the stand. Alongside its needle innovations, the company also showcased its latest KnotMaster tying machine. © 2026 TexData International

Picanol focused on weaving performance, energy efficiency and digital connectivity. Its Ultimax rapier weaving machines demonstrated applications including denim fabrics incorporating recycled yarns and lightweight voile constructions. The OmniPlus-i Connect airjet platform incorporates EcoBoost technology to reduce energy consumption, while PicConnect offers production monitoring and AI-supported functions.

In carpet and velvet production, **Vandewiele** presented its VSi23 and VSi33 cut-and-loop velvet technologies for sophisticated pile structures and greater patterning flexibility. The company also introduced the Bonas JiM Jacquard model, covering configurations from 6,144 to 7,680 hooks.

SHIMA SEIKI presented an integrated approach to knitwear production, combining advanced machinery with digital development tools. Its MACH2 XS153 WHOLEGARMENT machine enables complete garments to be knitted in one piece, reducing subsequent linking and sewing operations. The APEXFiz platform supports virtual sampling and digital product development, while N.SVR and N.SSR flat knitting machines extend the company's production capabilities.

Mayer & Cie. Global used ITM 2026 for its first major international appearance following the company's restart. The manufacturer exhibited two OV 3.2 QCe

circular knitting machines representing its established premium interlock technology. While development and production of premium machines will remain in Germany, cooperation with Huixing will enable the company to offer solutions for additional market segments.

TEXTILE FINISHING: EFFICIENCY, CONTROL AND MODERNIZATION

In textile finishing, rising energy costs, environmental requirements and pressure on investment budgets are driving demand for more efficient processes and intelligent control systems.

Monforts continued to emphasize energy-efficient drying, heat-setting and coating technologies. Its Montex stenter and Thermex continuous dyeing systems address established industrial finishing requirements, while heat recovery solutions such as the Energy Tower and Eco Booster offer opportunities to reduce energy consumption and improve the performance of existing installations. The company's coating technologies also support applications in technical textiles.



Manfred Havenith of Monforts told us about the challenges facing the textile finishing industry and the growing importance of energy efficiency and process optimization. © 2026 TexData International



Andreas Boss of Brückner shared his perspectives on current developments in textile finishing and the importance of innovative technologies for more efficient and sustainable production. © 2026 TexData International

Brückner is pursuing greater energy efficiency, process flexibility and digital optimization in textile finishing. Its POWER-FRAME SFP-2 stenter offers a cost-efficient alternative for drying and heat-setting processes, while the POWER-DRY PD-1 relaxation dryer combines high evaporation capacity with energy-saving heating options for knitted fabrics. A particularly interesting development is ExperTex, an AI-supported simulation tool that allows manufacturers to evaluate drying and heat-setting processes before production begins.

Mahlo is addressing the demand for intelligent process control and cost-efficient modernization with its Orthopac RVMC-20 plus weft straightening system. The technology combines two scanning units with AI-supported control. Feed Forward Control detects fabric distortions before they reach the straightening rollers, while Closed Loop Control continuously monitors the result and makes automatic corrections. Existing Orthopac RVMC-15 systems can be upgraded without requiring complete machine replacement.

SETEX highlighted the role of digital production management and quality control in modern textile finishing. Its OrgaTEX X3 manufacturing execution system supports integrated production planning and monitoring, while FabricInspector Portable and CamCOUNT address optical fabric inspection and quality assurance. These developments reflect an important shift in finishing technology. Improvements are increasingly being achieved not only through new machinery but also through digital process optimization, intelligent control and modernization of existing equipment.

LOOKING AHEAD: ITM 2028 BRINGS THE LATEST ITMA TECHNOLOGIES TO ISTANBUL

The next ITM will take place from June 13 to 17, 2028, at the Tüyap Fair and Congress Center in Istanbul. Its timing promises to be particularly attractive for the international textile industry: less than a year after ITMA 2027 in Hannover, ITM 2028 will provide a major platform for presenting the latest generation of textile machinery and technologies to manufacturers from across the region.

Innovations introduced at ITMA 2027 are expected to take centre stage in Istanbul, giving textile producers from Türkiye, Central Asia, North Africa, the Middle East and South Asia an opportunity to experience the latest technological developments at close range. For many companies, ITM 2028 will offer another chance to examine new machinery concepts, compare solutions and discuss specific applications and investment projects directly with manufacturers.

This combination of technological innovation and regional accessibility has long been one of ITM's strengths. The 2028 edition will build on that position, bringing together international machinery suppliers and textile producers at a time when automation, digitalization, resource efficiency and higher-value textile manufacturing are becoming increasingly important.

For Türkiye's textile industry in particular, the exhibition will provide an opportunity to explore technologies that can support its transition towards more competitive, flexible and value-added production. At the same time, manufacturers from the growing textile markets of Central Asia and North Africa will be able to assess the latest developments on a major international stage.

With the innovations of ITMA 2027 reaching a broader regional audience, ITM 2028 will once again demonstrate its importance as one of the world's leading textile machinery exhibitions and reaffirm its role as a major technology showcase for the industry across this dynamic manufacturing region.

www.itmexhibition.com

AACHEN PRESENTS MONOFILAMENT TECHNOLOGIES: **FUNCTIONALITY AND CIRCULARITY BUILT INTO THE FIBRE**

AUTHORS: DR.-ING. FRANZ PURSCHE,
UNIV.-PROF. PROF. H. C. (MGU) DR.-ING. THOMAS GRIES

Finishing adds a great deal to a textile: colour, coating, hand feel. Some functions, though, have to start earlier. When a textile needs to conduct light, sense pressure, change its shape or be recycled cleanly at the end of its life, that behaviour has to be built into the fibre itself, at the moment the polymer is spun. This is where the Monofilament Technologies group at the Institut für Textiltechnik (ITA) of RWTH Aachen University works.

Three examples show the potential: a polymer optical fibre needs a cladding with a refractive index below that of the core, and it needs to reach that index step without fluorinated compounds as substitution pressure on PFAS grows across the EU. A textile that changes its shape in response to heat needs that behaviour written into the polymer's molecular network, not applied to a finished yarn afterwards. And a fibre that is to go back into the material loop needs a single polymer build from the start, because a coating or blend added later works against recycling.

MELT SPINNING OF MONOFILAMENTS

The group sits between polymer producers upstream and brands or component manufacturers downstream. Because a fibre's function depends on material composition, process parameters and spinning equipment together, the group treats these three aspects jointly and always takes the requirements of the final product into account.

The monofilament format opens up the design space this requires. Filament diameters between roughly 0.1 and 3 millimetres set the upper limit for what can be carried inside the fibre. As a rule of thumb, additive particles and agglomerates should stay below five per cent of the fibre diameter, which puts functional fillers, pigments and conductive particles within reach that finer filaments cannot accommodate without loss of spinnability. After extrusion, the filament is quenched in a water bath and drawn over godets, which sets orientation and tenacity. The process is monitored and adjusted continuously online.

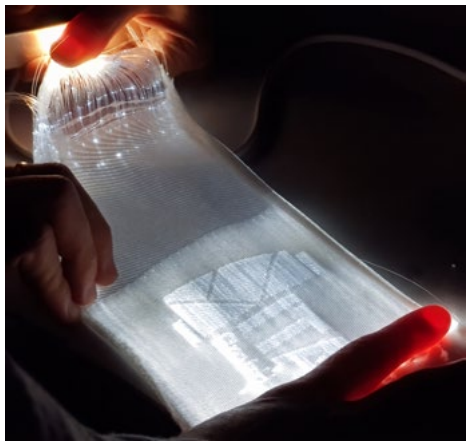
Each function draws on a different part of this space. Light guidance requires a defined core-sheath geometry with a controlled refractive index step. A shape-memory response is written into the polymer's molecular network and set through the formulation. A sensor signal depends on a stable electrical contact along the filament. The three examples that follow show how the group builds each of them in at the spinneret.



From granulate to tested filament in one building © ITA/RWTH Aachen – process-chain graphic, redrawn from internal source material

PFAS-FREE LIGHT GUIDING FIBRES

A polymer optical fibre (POF) guides light because its cladding has a lower refractive index than its core. Fluorinated polymers in the cladding provide that index step reliably, which is why they are the current standard material in conventional POF. POF are conventionally produced in continuous extrusion. The group instead meltspins POF, which opens the cladding to alternatives such as fluorine-free siloxane coatings. Melt-spun POF developed at the ITA reach an optical attenuation below 2 dB per metre, a heat resistance of 120 °C and a tenacity of 10 cN/tex, with an optical laboratory connected directly to the spinning line so that light transmission can be measured on the same site where the fibre is made. A parallel line of work examines alternative core materials, aiming at a fibre built from a single, recyclable polymer system. Target applications include interior lighting and short-distance data transmission in vehicles, and solar concentrators.



Side-emitting polymer optical fibre spun at the ITA Photo: Mark Pätzel © ITA/RWTH Aachen

FILAMENTS THAT MOVE AND MEASURE

Shape-memory polymer filaments developed at the ITA can be triggered to change from one geometry to another and back, with the reversibility and the trigger adjustable through the polymer formulation. In the SmartShade project, the same filaments make a textile that folds or unfolds on its own as solar heat load changes, without electronics or manual adjustment.

The same filament technology is being developed for compression bandages and sportswear, where a garment needs to behave differently depending on activity or temperature.

A second filament type, sensor fibres, carries pressure sensing directly in the fibre, using a standardised method to connect it electrically to read-out electronics, so it behaves like any other yarn until it is wired into a measurement system. Applications range from respiratory-monitoring chest straps in sportswear to geotextiles detecting sinkholes in infrastructure and condition monitoring in hydrogen pressure tanks for vehicles.



Shape-memory textile before and after thermal triggering © ITA/RWTH Aachen

SUBSTITUTING HAZARDOUS CHEMICALS AND DESIGNING FOR CIRCULARITY

Two further examples show that the substitution of hazardous chemicals and circularity can likewise be addressed in the spinning process. A pest-protection textile from the BMEL-funded SilNet project replaces pesticides with a textile solution: rather than applying a pesticide to the crop, the textile keeps pests away itself by means of integrated repellents. With effective insecticides increasingly available only under time-limited emergency authorisation and strict conditions, a sustainable alternative is worth testing in the field.

The second example runs across two projects. In BioTurf, funded by the BMBF within the BIOTEXFUTURE innovation space, the group together with partners developed an artificial turf system made from bio-based polymers that needs no infill material at all, a direct answer to the EU ban on microplastic granulate in artificial turf taking effect in October 2031.

Replacing the latex backing with thermobonding of the tufted textile makes the system almost fully recyclable. The turf meets FIFA quality requirements and has been in regular play at the RWTH university sports centre since 2023. The follow-up project ZirKuS extends this from the material to the system, adding monitoring, cascaded reuse and a recycling route for the existing stock of multi-material turf.

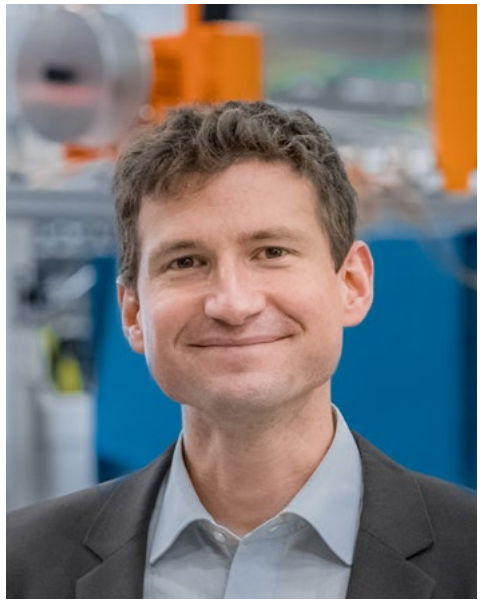
FROM A FEW GRAMS TO A TESTED AND ENGINEERED PROTOTYPE

A collaboration often starts with as little as 20 grams of a customer's polymer for a trial on the micro-extruder and scales up on the same site: around 200 grams on the laboratory extruder in continuous operation, at least 2 kilograms on a bicomponent pilot spinning line and at least 20 kilograms at industrial scale. Polymer and additives are compounded on a twin-screw compounder. Standard characterisation is carried out by DSC, TGA and rheometry, and for optical fibres additionally in the adjoining light laboratory. In 2025 a DMA was added, along with online process instrumentation and a new tensile tester. Polymer, compounding, fibre formation and analytics are therefore available under one roof, and development typically continues through to a functional demonstrator in the ITA pilot plant. The team combines materials science, chemistry, mechanical engineering, production engineering, electrical engineering and computational engineering.

WORKING WITH INDUSTRY

These capabilities allow us to work with industrial partners at very different starting points. A company whose polymer has so far only been processed in lab scale can commission spinning trials and receives a detailed report on its processability and industrial readiness. Companies and brands looking for new product functionalities benefit from equipment close to industrial scale and from the option of producing application-oriented product prototypes in the ITA pilot plant.

.



Dr.-Ing. Franz Pursche © ITA/RWTH Aachen

CONTACT

Dr.-Ing. Franz Pursche
Head of the Monofilament Technologies Department
Institut für Textiltechnik (ITA)
RWTH Aachen University

E-Mail: franz.pursche@ita.rwth-aachen.de

Phone: + 49 (0)241 80-232680
Fax: + 49 (0)241 80-22422
Web: ita.rwth-aachen.de

BIOACTIVE, BIO-BASED COATINGS FOR FUNCTIONALIZED MEDICAL TEXTILES

AUTHORS: DR.-ING. CHRISTOPH MELCHER, KARL SCHNEIDER M.SC., UNIV.-PROF. PROF. H. C. (MGU) DR.-ING. THOMAS GRIES

MEDICAL TEXTILES

Medical textiles for intracorporeal applications are used to e.g., join tissue, replace blood vessels or support the regeneration of the body's own tissue. For many applications, autologous grafts, i.e., grafts from the patient's own body, are considered the gold standard, as they match the properties of the injured tissue as closely as possible.[1]

Medical textiles, on the other hand, currently fulfil their function mainly through the mechanical and structural properties of the textile, while bioactive functions are typically less pronounced. To enable application-oriented research into the incorporation of bioactive substances into medical textiles, a small-scale fiber coating system was developed at the Institut für Textiltechnik of RWTH Aachen University. This allows the process of coating synthetic filaments with bio-based and bioactive substances to be investigated economically.

FUNCTIONALIZATION THROUGH COATING

Most intracorporeal medical textiles consist of synthetic polymers, as these offer a good combination of good mechanical properties, good processability and biocompatibility. However, these polymers are usually biologically inert. This means that they do not positively influence the surrounding physiological environment, although such an influence may be desirable depending on the application.

This raises the question of how bioactive functions, such as targeted cell interactions or antimicrobial behavior, can be added to the established textile structure without adversely affecting the properties of the textile. A bioactive coating acts directly at the interface between the fiber and its surroundings. It can either be intrinsically bioactive or incorporate bioactive substances and release them in-situ.[2]

Established applications such as surgical sutures with antimicrobial coatings3 or hernia meshes with anti-adhesive coatings4 demonstrate the possibilities and advantages of such coatings.

RESEARCH QUESTIONS AND EXPERIMENTAL APPROACHES

At the start of the development of functionalized implants, there are often several coating formulations, fiber materials and bioactive substances to choose from. Comparative experiments are initially needed to assess their potential and their interactions. However, biological substances of particular interest can be expensive or available only in small quantities. If simply filling a coating bath requires a large amount of material, this limits the opportunities to test different approaches.

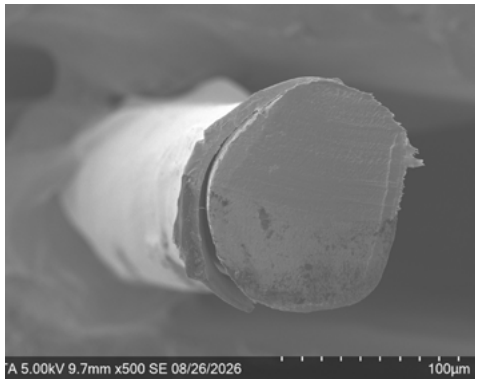


Fig. 1: Scanning electron microscopy (SEM) image of a PET monofilament coated with alginate. The visible delamination of the coating is an artifact caused by sample preparation.
(Source & Copyright ©: ITA/RWTH)

This is where the small-scale fiber coating system developed at ITA comes in. Its design is geared towards gaining insights into the coating process using as little material as possible. This is intended to make coating experiments feasible even with substances for which extensive experimental designs would be difficult to justify economically. The low material requirement is therefore a key advantage for research: it makes it easier to examine several combinations and then pursue the promising approaches in a targeted manner.

A new surface function can first be investigated on the fiber before more extensive experiments on textile structures or larger commercial systems follow. Early development can thus begin at a stage when it is still unclear which fiber and which substance are compatible with the intended function.

EXPERIMENTAL SYSTEM DESIGN AND INITIAL RESULTS

In the system developed, the fiber passes vertically through a pre-wetting bath and a small-volume coating bath. The sensitive coating is then initially crosslinked before it fully cures in a final crosslinking bath. The vertical arrangement of the system reduces changes in direction and frictional contact in the sensitive coating section. This is important because the freshly applied layer can already be subjected to stress or removed again through changes in direc-

tion and mechanical contact. Small bath volumes of less than 25 mL and gentle fiber guidance thus complement each other in the system design.

For testing, melt-spun poly-ε-caprolactone (PCL) and polyethylene terephthalate (PET) monofilaments were coated with alginate and with alginate loaded with bovine serum albumin (BSA) (figure 1). BSA was chosen as a model protein to emphasize the economical investigation of the coating process.

This system can be used to investigate whether a protein-containing layer can be applied and whether subsequent protein release occurs. The work to date shows that such alginate layers can be produced and that protein can be released from them. The influence of the BSA loading of the alginate on the coating process also became apparent. This example forms the basis for targeted investigations of further substances and polymer fibers.

FROM FIBERS TO TEXTILE STRUCTURE

Investigation the coating process on the fiber allow fundamental questions of layer formation, such as the influence of surface pretreatment, process control and loading, to be examined using a simple geometry. This allows relationships between the fiber surface, coating formulation and processing to be investigated before the complexity of a textile structure is added. Early experiments using simple geometries and small quantities of material are of particular interest in this search for suitable coating formulations.

This enables a research approach in which different ideas can first be tested using limited amounts of material.

When subsequently transferring the findings from individual fibers to textile structures, the requirements of the respective product must be taken into account. If a fiber is coated before further textile processing, the coating must withstand this processing. When coating a finished structure on the other hand, questions arise concerning distribution at fiber crossings or the preservation of required pores. The results obtained on the fiber must therefore be verified on the eventual textile product. A coating suitable for this purpose must combine the intended surface function with the mechanical and structural requirements of the overall system.

PROSPECTS FOR NEW MEDICAL TEXTILES

Possible applications range from surgical sutures and textile implants to textiles for local drug delivery. The medical question determines which function is appropriate. On this basis, development can select suitable materials and examine whether the desired effect can be achieved through a coating.

Further investigations are required before use as a medical device. The work to date demonstrates feasibility at laboratory level; the intended biological effects must be demonstrated separately for each specific application. This provides the textile industry with a tangible starting point for new developments: established polymer fibers can be investigated with regard to additional surface functions. A small-scale coating system makes it easier to explore these possibilities using different substances and to turn an initial idea into a concrete research question.

References:

[1] Seifu DG, Purnama A, Mequanint K, Mantovani D. Small-diameter vascular tissue engineering. Nat Rev Cardiol. 2013;10(7):410-421. doi:10.1038/nrcardio.2013.77

[2] Wang H, Gao Y, Zhang C, Du L, Ma X, Wu J. Research Progress on Implantable Medical Textiles and Their Surface Functional Coatings. Journal of Polymer Science. 2025;63(5):1070-1085. doi:10.1002/pol.20240986

[3] Jalalzadeh H, Timmer AS, Buis DR, et al. Triclosan-Containing Sutures for the Prevention of Surgical Site Infection: A Systematic Review and Meta-Analysis. JAMA Netw Open. 2025;8(3):e250306. doi:10.1001/jamanetworkopen.2025.0306

[4] Liu H, van Steensel S, Gielen M, et al. Comparison of coated meshes for intraperitoneal placement in animal studies: a systematic review and meta-analysis. Hernia. 2020;24(6):1253-1261. doi:10.1007/s10029-019-02071-y

CONTACT

Dr.-Ing. Christoph Melcher

Institut für Textiltechnik (ITA)
RWTH Aachen University

E-Mail: christoph.melcher@ita.rwth-aachen.de

Phone: + 49 (0)241 80-23400
Fax: + 49 (0)241 80-22422
Web: ita.rwth-aachen.de

LEGAL NOTE

TEXDATA
INTERNATIONAL

TexData International GBR
Adlerhorst 3
22459 Hamburg
Germany

Phone: +49 40 5700 4-900
Fax: +49 40 5700 4-888
email: info@texdata.com
www: texdata.com

Published by:
deep visions Multimedia GmbH
Adlerhorst 3
22459 Hamburg
Germany
HRB 64964 Hamburg, Germany

Managing Directors:
Mr. Stefan Koberg (Dipl. Industrial Engineer)
Mr. Oliver Schmidt (Dipl. Industrial Engineer)

Editor in Chief:
Mr. Oliver Schmidt (Dipl. Industrial Engineer)

Graphics & Layout:
Mr. Christian Pollege

Editors:
Mr. Jan Meier, Mr. Wilko Schlenderhahn

Translators:
Mr. Rafael Plancarte, Mexico
Mr. Yi Xin, China
Max Grauert GmbH, 21465 Reinbek, Germany

Advertising Director:
Mr. Stefan Koberg (Dipl. Industrial Engineer)

Copies (Digital PDF):
50.000 Downloads (Average)
113.441 Issue 2 / 2023 (ITMA 2023) / Status: May 2024

Frequency of publication:
4 times a year

© 2026 TexData GBR, All rights reserved.
Lectures, reprints, translations or duplication as well as reproduction and distribution of parts requires the publisher's express permission. The provision of the complete work as a digital PDF under consideration of the prohibition of any reduction and change is allowed in internal networks.

Please send your press releases to editorial@texdata.com!

MECHANOPHORE-DRIVEN EARLY DAMAGE WARNING COATINGS FOR PERSONAL PROTECTIVE EQUIPMENT

AUTHORS: TRUC NGUYEN M.SC., DR.-ING. LEONIE BEEK, PROF. DR. ROSHAN PAUL , UNIV.-PROF. PROF. H. C. (MGU) DR.-ING. THOMAS GRIES

Protective clothing is designed to protect – but when it fails, it often fails silently. Overstretching, abrasion or repeated strain can weaken fibres long before any damage becomes visible. At the Leibniz-Institut für Interaktive Materialien (DWI) and Institut für Textiltechnik (ITA) of RWTH Aachen University, researchers are developing coatings based on so-called mechanophores, molecules that turn mechanical overload into a visible colour change or fluorescence. The result could be an early damage warning system built directly into the fabric.

HIDDEN DAMAGE: A SAFETY GAP IN PROTECTIVE TEXTILES

Firefighter turnout gear, cut-resistant workwear, high-visibility clothing and safety harnesses share one fundamental limitation: they are passive. A conventional textile cannot report what it has been through. Fibre breakage after overstretching, local overloading at seams or fatigue from repeated loading remain hidden until the fabric visibly tears, or until it fails in use.

Replacement decisions are therefore based on quality checks at fixed intervals or by visual inspection. Both are imprecise: equipment is either discarded too early, causing unnecessary cost and waste, or used for too long, putting the wearer at risk. The only solution are self-reporting textiles that sense damage and monitor their own condition – ideally without batteries, electronics or wiring.

MOLECULES THAT REACT TO FORCE

Mechanophores offer exactly this capability. They are molecular units that undergo a defined chemical transformation when a mechanical force acts on them [1]. Built into a polymer chain, they act like a predetermined breaking point at molecular level: when the chain is stretched, the force is transmitted along the backbone to the mechanophore. Depending on its design, the molecule responds with bond cleavage or a conformational change, which in turn produces a measurable signal – a visible colour change, fluorescence or crosslinking (Figure 1).

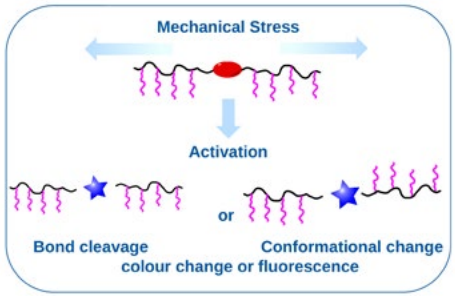


Fig. 1: Working principle of a mechanophore under mechanical stress (Source & Copyright ©: ITA/RWTH)

The concept has its origins in polymer chemistry of the 1990s. In the 2000s, mechanophores with diverse responses were developed, and from around 2010 they were integrated into polymer fibres and filaments by blending, grafting and coating. Since about 2016, the first force-responsive yarns, fabrics and nonwovens have been demonstrated, and the focus is now shifting towards self-sensing textiles with adaptive and multi-stimuli functionality. Multicoloured mechanofluorophores can even indicate quantitatively how many covalent bonds have been broken in a polymer [2].

WHY TEXTILES ARE THE IDEAL PLATFORM

Textiles are particularly well suited as carriers for mechanophores. They sustain large and repetitive deformation – exactly the stimulus needed for mechano-activation. Their high specific surface area allows high loading with functional molecules and efficient interaction with them. Fibres, yarns, fabrics and nonwovens make the approach scalable and versatile. As textiles are in direct contact with the body, they enable real-time monitoring of the wearer. Potential applications range from sports and fitness monitoring, medical and healthcare textiles and smart composites for structural health monitoring to protective clothing. The focus of this article are synthetic polymers, In this case polyester.

FOUR HURDLES ON THE WAY INTO THE FABRIC

First, the mechanophores must be attached durably and must resist leaching and washing – a decisive criterion for personal protective equipment (PPE), which is laundered regularly. Second, force transfer must be efficient: the stress applied to the fabric has to actually reach the molecule. Third, the signal must be clearly visible, whereas responses are often weak or non-uniform across the textile. Fourth, the coating must be uniform and cost-effective on an industrial scale.

THE APPROACH: PLASMA-ACTIVATED FIBRE SURFACES

To address durable attachment and force transfer at the same time, the research team created reactive sites on the textile surface that allow covalent bonding of the mechanophores. The process chain comprises four steps (Figure

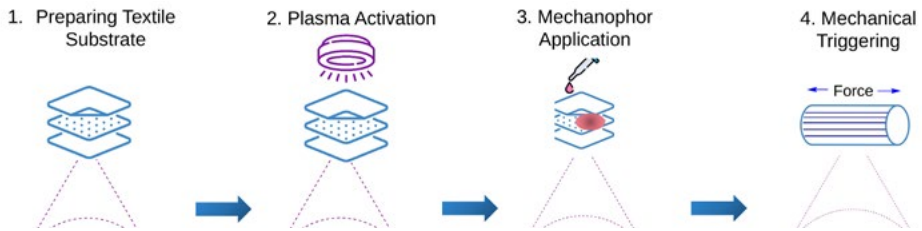


Fig. 2: Process chain from plasma activation to mechanophore coating (Source & Copyright ©: ITA/RWTH)

2): the textile substrate is prepared (1.), plasma activation introduces radical and oxygen-containing groups such as carboxyl groups onto the fibre surface and increases its reactivity (2.), the mechanophore polymer is applied and bound to these sites (3.), finally, mechanical loading triggers the optical signal (4.).

The mechanophore polymers were synthesised by Köhler and Dittrich at DWI – Leibniz-Institut für Interaktive Materialien in Aachen. The design builds on the principle of mechanochemical bond scission described by Huo et al. [4]: a disulphide bond in the centre of the polymer chain acts as the force-sensitive unit. In its inactive state, the molecule does not fluoresce.

When the chain is stretched, the disulphide bond breaks, and the resulting thiol group triggers an intramolecular reaction that releases a fluorescent coumarin dye. The polymers are produced by controlled radical polymerisation from PEG acrylates and acrylates with amine or epoxy side groups. The PEG units ensure water solubility, while the reactive side groups promote good adhesion to the activated fibre surface.

STRETCHED CHAINS BREAK MORE EASILY

Current work focuses on optimising the solvent mixture for the coating step. Acetonitrile-water, pure water and alcohol-water mixtures are being investigated. The goal is a polymer that is fully dissolved, with chains that are not tangled. Chains bound to the fibre surface in a stretched conformation take up the load directly when the fibre is strained, which increases the probability of chain scission and thus of signal generation (Figure 3).

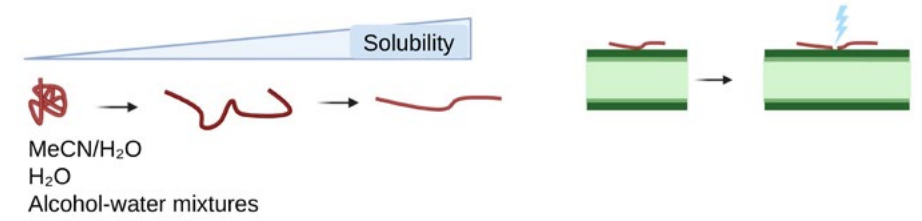


Fig. 3: Stretched bound polymer chains improve force transfer (Source & Copyright ©: ITA/RWTH)

WHAT THIS MEANS FOR MANUFACTURERS AND USERS OF PPE

For the textile industry, the approach opens up an innovative functional finish. A protective garment that visibly indicates where it has been overloaded could support condition-based replacement, instead of rigid intervals: damaged equipment is taken out of service in time, while intact equipment remains in use longer. This combines higher safety for the wearer with lower costs and less textile waste. As the signal is generated chemically within the coating, no sensors, cables or batteries are required. Plasma activation followed by a coating step also builds on process technologies that already existing in the textile finishing sector.

FUTURE PERSPECTIVES

Plasma activation offers a promising route to stronger surface bonding and improved activation efficiency of mechanophore coatings. Future work at the ITA will therefore concentrate on force transfer, signal visibility and the transfer to real-world textile applications – with protective clothing as a particularly promising field. Companies interested in testing the technology on their materials are welcome to get in contact.

ACKNOWLEDGEMENT

The authors thank J. Köhler and B. Dittrich, DWI – Leibniz-Institut für Interaktive Materialien, Aachen, for the synthesis of the mechanophore polymers, and the team of ITA, who is involved in the research project.

References

[1] Raisch, M.; Genovese, D.; Zaccheroni, N. et al.: Highly Sensitive, Anisotropic, and Reversible Stress/Strain-Sensors from Mechanochromic Nanofiber Composites. Advanced Materials 30 (2018) 39, 1802813. https://doi.org/10.1002/adma.201802813

[2] Baumann, C.; Stratigaki, M.; Centeno, S. P.; Göstl, R.: Mehrfarbige Mechanofluorophore für die quantitative Anzeige kovalenter Bindungsbrüche in Polymeren. Angewandte Chemie 133 (2021) 24, S. 13398–13404. https://doi.org/10.1002/ange.202101716

[3] Krifa, N.; Zouari, R.; Miled, W. et al.: Atmospheric Plasma Technique Assessment for the Development of a Polyfunctional End-Use Polyester Fabric. Fibers and Polymers 22 (2021) 10, S. 2782–2791. https://doi.org/10.1007/s12221-021-0847-7

[4] Huo, S.; Zhao, P.; Shi, Z. et al.: Mechanochemical Bond Scission for the Activation of Drugs. Nature Chemistry 13 (2021) 2, S. 131–139. https://doi.org/10.1038/s41557-020-00624-8

CONTACT

Dr.-Ing. Leonie Beek

Institut für Textiltechnik (ITA)
RWTH Aachen University

E-Mail: leonie.beek@ita.rwth-aachen.de

Phone: + 49 (0)241 80-23288
Fax: + 49 (0)241 80-22422
Web: ita.rwth-aachen.de

BETWEEN LOOM AND CHAINSAW: HOW MILEI'S REFORMS ARE CHANGING ARGENTINA'S TEXTILE MARKET

AUTHORS: MATTHIAS FRONING M.SC. , PROF. DR. PHILIPP BAGUS, PROF. DR.-ING. MESUT CETIN,

INTRODUCTION

Since December 2023, the Milei government has slimmed down the state, cut tariffs and dismantled import barriers. Clothing prices have since fallen in real terms against the general price level, while the textile industry uses less than half of its capacity.

In February 2026, Argentina's Economy Minister Luis Caputo said on the radio that he had never bought clothes in Argentina „because it was robbery". The remark outraged the industry, but it captures the core of the development: the government is opening a market protected for decades, consumers buy more cheaply, and domestic industry comes under pressure to adjust.

THE THEORY BEHIND THE CHAINSAW

Javier Milei invokes the Austrian School of economics. Carl Menger founded it in 1871 with a subjective theory of value, Ludwig von Mises rejected state intervention (the interventionist spiral), and Friedrich August von Hayek saw prices as carriers of dispersed knowledge and wanted to leave the supply of money to competition. The opposing position of today's prevailing economics comes from John Maynard Keynes: the state must offset shortfalls in demand, on credit if need be. Professor Philipp Bagus counters that such programs kindle „traditional Keynesian flashes in the pan" with „negative long-term growth effects". Murray Rothbard carried the school's classical liberal line as far as anarcho-capitalism: private providers, he argued, could deliver state services, courts included, "more efficiently as well as more morally".

That is where Milei places himself, as a philosophical anarcho-capitalist and, in practice, a minarchist: at the WEF in Davos in 2026 he explicitly aligned himself with Rothbard. With the minimal state as a compromise, he stays largely within the Austrian School and remains able to win majorities in a Congress where he depends on other parties' votes: the central bank persists, the peso has not been replaced by the US dollar, and capital controls partly remain.

REFORMS AND RESULTS SINCE DECEMBER 2023

In December 2023, Milei took over a country with annual inflation above 200%. Imports ran through a state licensing system, and importers, according to the government, sat on unpaid invoices of around US$60 billion. For textile-processing companies this meant that intermediate inputs arrived only with official approval.

The new government devalued the peso by more than half, replaced the licensing system with a simple notification requirement and, by August 2026, cut more than 50,000 jobs in the national public administration, more than a fifth. The new Ministry of Deregulation counts more than 17,000 articles in laws and regulations amended or repealed by September 2026, and nine state-owned companies, Aerolíneas Argentinas among them, are up for privatization. An exchange rate band followed in April 2025, and most currency controls fell.

The budget has run a surplus since 2024, with debt serviced in full, for the first time in more than 100 years. Monthly inflation fell to 1.7% by August 2026. The recession ended in April 2024 and strong growth followed: 4.4% in 2025. The OECD and the IMF expect growth of just under 3% to 4% in 2026 and 2027. Annual inflation is set to fall to around 7.5% by 2028, according to the IMF. The economist Jenny Joy Schumann describes the distribution of the reform effects: the gains go to the broad mass of consumers, the challenges are concentrated in previously protected sectors. The textile industry is a textbook case of this logic.

TARIFFS FALL, PRICES DROP: THE CONSUMER'S VIEW

Deregulation Minister Federico Sturzenegger offers a rule of thumb: wherever you deregulate, prices fall by 30%. Rents in Buenos Aires show it, as does the national drink, yerba mate, whose price, according to his ministry, has fallen around 44% in real terms since the state institute stopped setting raw material prices. In March 2025 the government cut tariffs on apparel, fabrics and yarns to pre-2007 levels (Table 1). The Ministry of Economy justified the step with a price comparison: a T-shirt from an international brand costs US$41 in Argentina, US$10 in Spain and US$21 in Brazil. The mandatory declaration of fiber composition, which had generated a million forms a year, had already gone in 2024.

The effect is measurable. Since December 2023, clothing has become 36% cheaper relative to the general price level (Figure 1). In August 2026, clothing prices rose 11% year on year, the overall consumer price index 33.5%. The poverty rate fell from a peak of 53% in early 2024 to 28% at the end of 2025.

Product group	Tariff before the decree	Tariff after Decree 236/2025	Cut in percentage points	Cut as % of previous rate
Apparel and footwear	35%	20%	15	43%
Fabrics	26%	18%	8	31%
Yarns (12, 14 or 16% depending on yarn type)	18%	12 to 16%	2 to 6	11% to 33%

Table 1: Import tariffs back at pre-2007 levels. © ITA; data: Ministerio de Economía

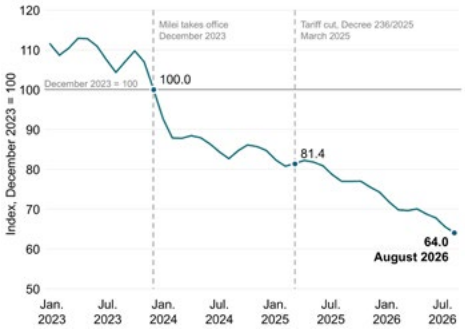


Figure 1: Clothing keeps getting cheaper relative to the price level. © ITA; data: INDEC

The apparel chamber CIAI counters that the real price drivers are taxes and financing costs, and calls for further cuts.

PRODUCTION, EMPLOYMENT, IMPORTS: THE INDUSTRY'S VIEW

For manufacturers, the same development reads as a slump. INDEC measures a decline of around 40% in textile output since December 2023, and just under 3% for industry as a whole (Figure 2).

For apparel, it cites falling domestic demand and growing import competition. The textile industry used just over 45% of its capacity in July, down from 55% in 2023, while industry as a whole stands at just under 60%.

The adjustment hits employees first: since Milei took office, the textile, apparel, leather and footwear industries have lost more than 28,000 formal jobs, almost a quarter, by the federation FITA's count, and 770 companies have disappeared on a net basis.

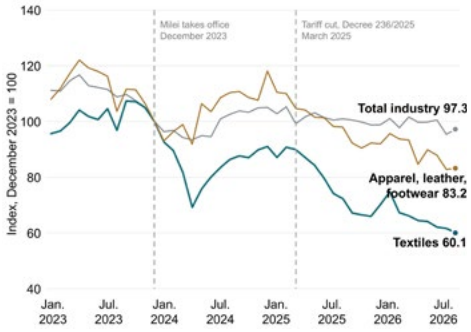


Figure 2: Textile output down sharply, total industry almost stable. © ITA; data: INDEC

Hilado S.A., core company of the largest textile group, TN Platex, filed for creditor protection in February 2026; the knitwear maker Textilana followed in April. FITA general manager Celina Pena demands „conditions that make it possible to sustain production and employment in Argentina". What the federation's representative calls conditions is a call for renewed protection: dodging market pressure, avoiding adjustment. Schumann describes this pattern: protection for a few companies is paid for by the broad mass of consumers.

Meanwhile the import mix is turning. By FITA's figures, imports of yarns and fabrics fell by around half from January to July 2026, while finished apparel rose 60%. Already in the first half of 2025, according to the chamber CIAI, more than half of apparel imports came from China. The shift from intermediate inputs to finished goods hits the country's textile-processing industry.

OUTLOOK: MACHINERY, SUPPLIERS, EU-MERCOSUR

For textile machinery manufacturers the market is smaller for now: according to FITA, Argentina imported US$78 million of textile machinery from January to August 2026, almost a third less than a year earlier. Germany generally ranks among Argentina's important supplier countries, and Dr Hans-Dieter Holtzmann, head of the Friedrich Naumann Foundation for Freedom's South America office, who contributed his assessment from Buenos Aires for this article, still sees a very good reputation for „Made in Germany". The EU-Mercosur agreement, provisionally applied since May 2026, phases out tariffs of up to 20% on EU machinery over ten years, and on textiles over eight. Demand is falling in the short term; the tariff cuts take effect only in the medium term.

Argentines are backing the reforms: in the 2025 midterm elections Milei's party won around 41%. Further steps lie ahead: a tax system with more than 155 taxes and levies, pension reform, capital controls. Argentina is not a libertarian state, but under Milei it is on the long road to a minimal state. The 2027 presidential election will show whether the citizens have the staying power. Until then, which textile companies hold their own in an open market will be decided. Or, in Milei's words: „¡Viva la libertad, carajo!"

References:

The complete bibliography is available online at **www.texdata.com/news/Research&Development/23378.html**.

CONTACT

Matthias Froning M.Sc.

Institut für Textiltechnik (ITA)
RWTH Aachen University

E-Mail: matthias.froning@tum.de

Phone: -
Fax: + 49 (0)241 80-22422
Web: ita.rwth-aachen.de

1 / 2027

Publication date:
2027-02-23

TOP THEME:

THE NEW RULES OF THE TEXTILE INDUSTRY

What has changed – and what comes next


© 2026 TexData International


© 2026 European Commission


© 2026 European Commission



© 2026 JEC World

Regulatory Roadmap 2025–2028

- EU Strategy for Sustainable and Circular Textiles
- Ecodesign and ESPR
- Digital Product Passport
- Green Claims and greenwashing
- Extended Producer Responsibility (EPR)
- Textile waste, collection and recycling
- Unsold textiles and product destruction
- Traceability and supply-chain data
- Circularity and recyclability
- **Selling textiles into Europe: What non-EU manufacturers need to know**

Research articles from ITA

In Conversation

Beyond the usual questions.

All pictures above © 2026 TexData International



Interview

European regulatory perspective –

Current developments, practical implications and what comes next



Interview

Brand/Retail –

How companies are implementing the new requirements in practice

ROAD TO ITMA 2027

Automation, AI and the textile mill of the future

- Automation along the textile production chain
- The road towards the fully automated spinning mill
- AI and data-driven production
- Productivity, flexibility and efficiency
- First technology trends ahead of ITMA 2027

JEC WORLD 27 PREVIEW

IDEA 27 PREVIEW



CEO Interview

Textile machinery -

Challenges and the road to ITMA

EVENTS

VIATT,
February 26 - 28, 2027, Vietnam, Ho Chi Minh City

DTG Dhaka
February 2027 (t.b.a.), Bangladesh, Dhaka

IDEA Nonwovens
March 23 – 25, 2027, USA, Missouri, Kansas City

JEC World
March 02 - 04, 2027, France, Paris

INDO INTERTEX
April 14 - 17, 2027, Indonesia, Jakarta

Gartex
Texprocess India
May 06 - 08, 2027, India, Mumbai

Texprocess Americas &
Techtextil NA
May 11 - 13, 2027, USA, Georgia, Atlanta

ITMA 2027

16–22 SEPTEMBER 2027
MESSEGELAENDE HANNOVER
GERMANY
www.itma.com

Co-creating **the future of textiles**

Business materialises at ITMA 2027 -
where innovation meets investment and collaboration.



Apply now to secure a stand space
at your product sector.

Show Owner CEMATEX

CEMATEX Associations
ACIMIT
AMEC AMTEX
BTMA
GTM
SWISSMEM
SYMATEX
TMAS
UCMTF
VDMA

Show Organiser ITMA SERVICES

Connect with Us

Find Out More


TEXDATA
INTERNATIONAL