



TEXDATA
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Business // Finance // Market // Technology

Yarn // Fiber *Spinning *Weaving *Knitting *Dyeing // Finishing // Washing // Drying *Nonwovens // Technical Textiles *Textiles // Apparel // Garment

CINTE Techtextil expects a lot of growth

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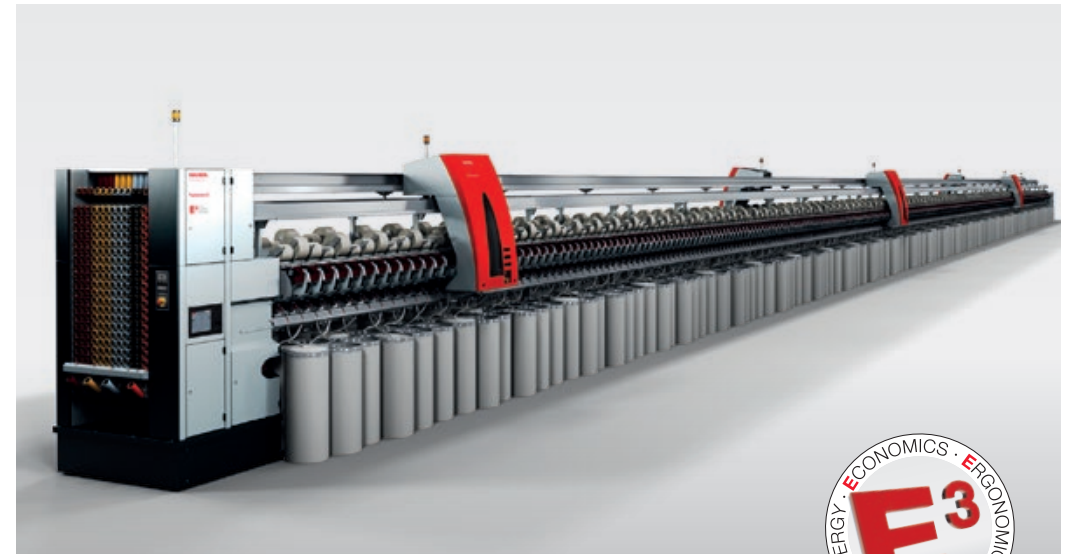
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Dear Reader,



do you sometimes also think it is becoming more and more difficult to balance the current day-to-day business with strategic thoughts and actions for the future?

Sure, big changes, today referred to as megatrends, have always existed in history. What is perhaps new is the enormous quantity. To name a few without claiming completeness, these would be aging / demo-

graphics, millennials, gender shift, globalization, individualization, urbanization, sustainability, digitization, mobility, automation / robotics, big data, artificial intelligence, (cyber) security, connectivity, immigration and climate change.

Incidentally, in terms of change in the future, neither quantity nor duration are decisive, but the impact of the influence. That sounds logical, but it does not make it any easier, since many of the above trends certainly have a lot of impact. For example, automation and robotics could stop further industrial growth in developing and emerging economies, as their benefits in terms of labor costs no longer exist.

A closer look at the textile and textile machinery industries makes the analysis hardly easier. Especially here a lot of change can come. For us, this means providing you with even more targeted information about all the developments in megatrends in our industries, so that you are always up to date with very little time commitment. Of course, we will not neglect the current topics and will present you our new concepts very soon. You already have a thematic taste in this issue. We are currently watching two important trade fairs, the CINTe Tectextil and the increasingly important CAITME, reporting on the past DENIM year and dedicating ourselves to the future with topics on automation, digitization and advanced materials.

We are as always looking forward to your comments and suggestions to redaktion@texdata.com.

Best regards
Oliver Schmidt



***CINTE Techtextil expects
a lot of growth***

***Increasing demand in many sectors gives
additional impetus to trade fair***

There is hardly any other sector in textile business that can boast of having a dynamic and innovative power as impressive as the technical textile industry including the nonwovens sector. And now it's showtime. The 2018 edition of Asia's leading biennial trade event for the entire technical textiles and nonwovens sector, Cinte Techtextil China, will take place from 4 – 6 September in halls N1 – N3 of the Shanghai New International Expo Centre. As the daughter show of Techtextil in Germany, Cinte Techtextil China covers twelve application areas which comprehensively span the full range of potential uses of modern textile technologies. The full coverage of product groups and applications enable the fair to become the tailor-made business solution for the entire industry.

The 2016 show saw a record-breaking 480 exhibitors from 26 countries and regions reviewed the exhibitors are highly confident about China. It goes without saying that the upcoming 2018 edition should break these records once again. For the exhibitor side, the goal will certainly be achieved. Some months before the exhibition will open its doors the organizers have announced the participation of more than 500 exhibitors. In all likelihood, it will not look the other way for visitors, since growth and new technical possibilities of individual sectors of industry, along with new exhibitors, naturally also attract more companies and new target groups on the customer side.

Outlook for the market for technical textiles

Let's have a detailed look at some of the latest forecasts for the sectors to make a link between the market opportunities and the presented products. In April 2018 Markets & Markets published the report „Technical Textile Market by Material (Natural Fiber, Synthetic Polymer, Metal, Mineral, Regenerated Fiber), by Process (Woven, Knitted, Non-woven), by Application (Mobitech, Indutech, Protech, Buildtech, Packtech), and Region - Global Forecast to 2022 „. It estimates the technical textile market at USD 165.51 Billion in 2017 and projects it to reach USD 220.37 Billion by 2022, at a CAGR of 5.89%. It says the market has grown exponentially in the last few years, and this trend is expected to continue.

The growing awareness about the superior functionality and application of technical textile encourages the higher consumption of technical textile and related products. In addition, growth in the automobile, construction, healthcare, packaging, and various other sectors has generated new opportunities for this textile. Furthermore, it says based on process, the woven segment is expected to be the fastest-growing during the forecast period. This growth can be attributed towards factors such as easy production and low cost. Woven technical textiles find wide application in various sectors such as construction, clothing, automobiles, and others. Thus, with the growing demand for technical textile in these industries, the demand for the woven segment will also increase. Additionally, advancements in weaving technology such as 3D weaving are also expected to drive the technical textile segment during the forecast period.

Based on application, the mobiltech segment is expected to grow at the highest CAGR between 2017 and 2022. Mobiltech covers technical textile used in automobiles, aircraft, railways, and shipbuilding such as nylon tire cord fabrics, seat covers, seat belts, cabin filters, tufted carpet, upholstery, and others. The automobile sector has been improving its existing market share and creating innovative products through new developments, consequently increasing the demand for technical textile. Therefore, the growth in the automobile sector will drive the market for technical textile during the forecast period.



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With regard to regions the report estimates the Asia Pacific region to account for the largest share of the technical textile market in 2017 due to rapid urbanization and increase in disposable incomes in the emerging economies of China, India, and Indonesia. The report suggests the Asia Pacific technical textile market is driven by technological advancements in the medical, automobile, and construction industries with respect to new equipment, machinery, and materials. Among all countries in this region, the market in China is projected to grow at the highest CAGR during the forecast period.

Another report , published in April 2017 by Future Market Insights and titled „Technical Textiles Market: Global Industry Analysis and Opportunity Assessment, 2017-2027,“ projects that Asia-Pacific will be observed as the world’s largest market for technical textiles during the forecast period, 2017-2027. The report values the global technical textiles market at little less than US\$ 166 Bn, and anticipates it to reach US\$ 260.3 Bn by the end of 2027. While the global market for technical textiles is projected to grow at below average pace and register a value CAGR of 4.6%, the demand for technical textiles is likely to gain traction across Asia-Pacific countries such as India and China, among others. In terms of consumption, the market shall incur a promising growth, exhibiting a volume CAGR of 5.3%. By the end of 2017, more than 34 million tonnes of technical textiles will be consumed across the globe. And, this number is likely to reach 57 million tonnes by 2027-end.

Market prospects for nonwovens

Just like that or even better it looks in the nonwovens sector. The research „The Future of Global Nonwovens to 2022“, published by Smithers Pira in 2017, projects the global market for nonwovens will grow 6.3% annually. According to the study „Global Nonwoven Fabric Market Analysis, Growth, Trends & Forecast 2018-2023“, presented by ResearchAndMarkets.com, the global nonwoven fabric market is expected to witness a CAGR of 7.3% during the forecast period, majorly driven by the growing demand for nonwoven fabric from the automotive and construction industries of emerging economies in Asia-Pacific. Nonwoven fabrics are required in the construction sector for applications in house wraps, roofing materials, and geotextiles. With the increase in spending on construction activities in developing regions, such as Asia-Pacific, the demand for nonwoven fabrics has witnessed an increase. This is majorly due to the rapid economic growth in China and India. Additionally, rising disposable incomes and willingness to spend on disposable and healthcare products further augment the nonwoven fabric market. Especially with the large application base of nonwoven fabric in the healthcare sector, the market for nonwoven fabric is expected to grow at a great pace, especially owing to the rising hygiene and health concerns. Furthermore, the study suggests in terms of consumption and production of nonwoven fabric, in 2017, China held the largest share, globally. It accounted for nearly 27% share of the global consumption of nonwoven fabric.

Additionally, rapid increase in investments and advancements in the Indian healthcare sector shall further augment the growth of the non-woven fabric market in the region during the forecast period.

The research “Non-woven Fabrics Market by Technology (Dry-Laid, Spunmelt, Wet-Laid), Material (PP, PET, PE, Rayon, Wood Pulp, BICO), Application (Hygiene, Construction, Wipes, Upholstery, Filtration, Automotive), Function, and Region - Forecast to 2022” projects that the non-woven fabrics market size is projected to grow from USD 24.26 Billion in 2017 to USD 34.85 Billion by 2022, at a CAGR of 7.51%. More detailed the report says the non-woven fabrics market is witnessing considerable growth due to the growth of modern health-care in developing markets and rise in awareness of environmentally friendly fabrics. This market has immense opportunities due to increase in the importance of geotextiles and proliferation of new technologies. In addition, regulatory frameworks are promoting the usage of non-woven fabrics.

Factors such as volatility in the price of raw materials and complexity of the supply chain are the major challenges faced by the non-woven fabric market.

It is always difficult to predict in advance of a trade show which will be the highlights in the products and applications, as many exhibitors traditionally wait until the fair starts with the announcement.

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The organizers, for example, cite Buildtech and Mobiltech as potential growth drivers for the number of visitors, as huge investments are being made in China in both areas.

In general, one thing must be clear: technical textiles and nonwovens give rise to many new materials and applications that offer significant added value compared to the „classics“. This can be durability, environmental compatibility, recyclability or biodegradability, rigidity, strength, flexibility, or simply price. These alone are good reasons to visit CINTe Techtextil to see first-hand how these new materials are transforming current and future business models. And of course, it is also important for Chinese and Asian entrepreneurs to look at the latest developments from Europe and the US. Let's take a look at some highlights which have been announced.

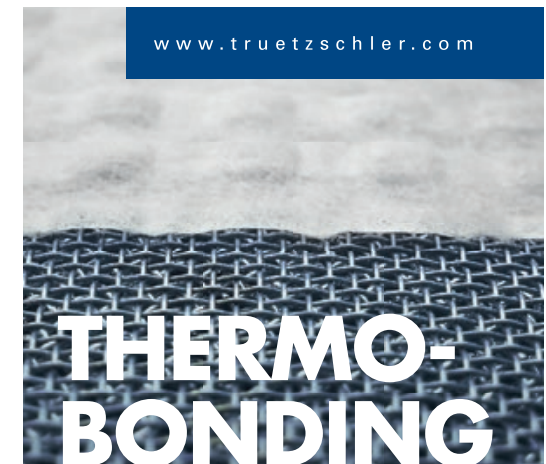
A must view for visitors will be the European Zone where around 30 exhibitors from eight countries, including Austria, Belgium, the Czech Republic, France, Italy, the Netherlands, Sweden, Switzerland and the UK will show their latest developments.

While China retains its edge in terms of technical textiles and nonwovens production capabilities, in the eyes of Chinese buyers, European suppliers are still the leaders when it comes to technology and innovation. This was widely reported by European exhibitors at the previous edition in 2016. Exhibitors from eight countries have already confirmed to participate in the fair's European Zone. They join an expected 500-plus total exhibitors from around the world.

Woven and knitted fabrics exhibitor highlights

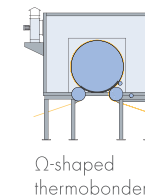
Kuangda Technology Group from China will present their automotive interiors, including interior fabrics, seat covers and cushions. They having supplied products for global brands such as Volkswagen and Audi.

Shanghai Shenda (ShanghaiTex Group) from China is specialized in automotive interior textiles.



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Here, they manufacture a full range of products including grey car carpet, moulding car carpet, head liners (warp-knitting and nonwoven), seat belt, seat fabrics and more. They are suppliers for Mercedes-Benz, BMW, Volkswagen and GM.

Swisstulle from Switzerland will have a range of products on offer for automotive, rail and aviation, including sunshade materials, nets, tube reinforcements and new possibilities for luggage compartment covers.

Windel Textile Far East from Germany, with production in China, offers textile greige, half-done and finished materials as well as nonwoven, knitted & woven fabrics (substrates) and glass fibre solutions. At the fair they will showcase substrates for adhesive tapes / wire harnessing tapes, and Maliwatt- and coagulated microfibre fleece for covering vehicle interiors.

Nonwovens exhibitor highlights

J.H. Ziegler from Germany with over 150 years' expertise and their own production plant in China, they offer products for acoustic absorption in automotive interiors and exteriors, nonwoven foam composites for leather lamination, needle-punched nonwovens, foam nonwoven composites, laminated nonwovens and natural-fibre nonwovens.

Johns Manville from the US will showcase their polyester spunbond, PP & PBT meltblown, glass fibre nonwoven, micro glass fibre nonwoven, hybrid nonwoven, glass fibre needle mat and glass microfibre product lines among others.

Kingsafe from China have specialised in the production of fusible interlining and nonwoven fabrics for high-end garments.

KOBE-cz from Czech Republic is also a new exhibitor to the fair. Their nonwoven fabrics, mainly made from glass fibre with temperature resistance up to 800°C, are used for high-temperature isolation in the automotive, marine, energy and building industries. They also have isolation materials made from natural fibres including hemp, wool, cotton and flax.

TDF Nonwovens from China is one of the leading domestic brands. Their specialties are polyester spunbond geotextiles, polyester filament roofing carriers, filter nonwovens, high-strength coarse denier polypropylene spunbond geotextiles and medical & health nonwovens

Yarn & fibre exhibitor highlights

Arkema from France with brands including PMMA Altuglas, Rilsan, Pebax, Kynar PVDF and Bostik, will present polymer resin for fibres and yarns, which apply to a wide range of applications.

Barnet from Germany will display several finished products (nonwovens, spun yarns and fabrics) made with their specialty fibre, including OPAN, para-aramid and carbon filament fibres. The application of their specialty fibre in flame retardant and anti-cut gloves and felts will be shown at their booth for the first time.

Cordenka from Germany are producers of industrial rayon. Their product range covers rayon tire cord, yarn, single-end dipped cord, short-cut fibre and more.

EMS-Griltech from Switzerland will showcase a range of technical fibres & yarns and thermoplastic adhesives at the fair.

Lenzing from Austria is going to showcase its new VEOCEL nonwovens specialty brand at the fair. First announced in June this year Lenzing's new VEOCEL brand is billed as a premium range of nonwovens fibres for daily care, which "provides the nonwovens industry with fibres that are certified clean and safe, biodegradable, from botanic origin and produced in an environmentally responsible production process."

Products in this range can be applied to a multitude of uses including baby care, beauty and body care, intimate care and surface cleaning, under the VEOCEL Beauty, VEOCEL Body, VEOCEL Intimate and VEOCEL Surface brands. Furthermore, exhibiting for the first time at the fair with their Plastics division, Lenzing will feature their technical la-

minates for building industries, roofing membranes, vapour barriers, isolation facings and barrier packaging.

Lenzing Plastics is a leading manufacturer of polyolefin and fluoropolymer products, such as Thermoplast and PTFE products.

One of their core competencies lies in the monoaxial stretching of films and filaments, and they offer special solutions in the fields of construction & insulation, medicine & hygiene, packaging and cables, as well as automotive and technical textiles. They will highlight their PRO-FILEN® PTFE product. With its extreme durability and very smooth surface it is highly valued in many niche applications in the technical and medical sectors.

Perlon, global group of companies specialized in the manufacture of synthetic filaments in diverse areas of application with a production site in Haining, China, will inform about the latest Perlon® developments.

Exhibiting in the **German Pavillion (N1-A36)** the Perlon group will highlight its QualiFil®-Range for paper machine clothing (PMC) and Advanced Technical Textiles (ATT). Here, Perlon offers a wide range of quality monofilaments made from various polymers. In the diameter range 0.05mm – 6.00mm, customers can choose from a variety of technologies, in each case with customized properties.

Furthermore, Perlon will feature their PET based monofilament, High-Grip, which guarantees long-lasting efficiency of conveyor belts. It is available in various types with different tribological characteristics.

Sateri from China is a global leader in viscose rayon made from 100% dissolving wood pulp and the largest maker of viscose fibre in China.

Their natural and high-quality fibre, made from trees grown on renewable plantations, can be found in textiles and skin-friendly hygiene products.

SKS Group from Sweden will showcase high performance single end yarn for automotive and industrial hoses, and single end cord for automotive and industrial belts.

Coated textiles & solutions exhibitor highlights

Abifor from Switzerland focus at the fair on products designed for automotive, construction and other technical applications, in particular their specialty hot-melt powders. The company has its own production unit in Shanghai and reports that an increasing number of domestic customers are starting to focus on more sophisticated products.

CHT Group (Hall E7 / Stand A42), worldwide company group focusing on special chemicals used as function generators, auxiliary materials and additives for industrial processes, will inform about latest solutions for technical textiles and nonwovens. One example is flame protection. With the product line APYROL the CHT Group offers a large range of flame retardants for multiple use: whether for technical textiles, ink-jet printing, the automotive sector or other industrial branches APYROL combines high effectiveness with ecological compatibility.

Dakota Coating from Belgium are specialists in thermoplastic and thermosetting adhesives. Their polymer products, based on polyethylene, polyolefin or mixtures, ethylene vinyl acetates, co-polyamides, polyurethanes and co-polyesters, are suitable for automotive, building, heat transfer and sound insulation uses.

FPC Technical Textile from Saudi Arabia is another first-time participant at the fair. They will showcase a range of high-end specialty fabrics including PVC coated fabrics and fibre glass PTFE fabrics.

Protechnic from France is leading manufacturers of hot-melt adhesives and plastic printed films and will showcase hot melt thermoadhesive nets, webs and films, as well as laminating process in automotive and other industrial applications.

ROWA Lack is a new exhibitor from Germany. They will present their special lacquer systems and top coatings.

Stahl from the Netherlands will present new products from their water repellent and flame-retardant ranges at this year's fair. According to the company, as the Chinese government continues its efforts to clean up the environment, eco-friendly chemicals remain in strong demand in the country.

Sioen from Belgium will showcase sign materials, truck tarpaulins, tents, membrane fabrics, apparel products, chemicals and specialty products such as inflatable boat fabrics and pool liners.

Trelleborg (Hall N1 Booth C45) from Sweden, a world leader in engineered polymer solutions that seal, damp and protect critical applications in demanding environments, is a new exhibitor.

They will display engineered textiles, especially in the fields of outdoor, medical, protective and automotive. On the same booth **Trelleborg Coated Systems** from China will present their latest products. They produce high-performance, engineered coated fabrics and offer a wide variety of substrates – from Kevlar® to silk – with a choice of weaving methods.

Zhejiang Jinda New Materials from China is known for its coated textiles for industrial, transportation and building uses, as well as warp knitted geo-synthetic materials and printable coated materials for advertisements.

Further leading companies from Europe can be found in national pavilions from Belgium, the Czech Republic, Germany and Italy. In the German Pavilion, for instance, at least 32 German companies will take part as an exhibitor.

Ms Ping Chen, General Manager of IBENA Shanghai Technical Textiles said in a press information that it is important for them to be in the German Pavilion as this signals to buyers that they have quality products, and it attracts more attention. She commented: "In the Chinese market, buyers want good quality products, so overseas companies, and products with recognised quality certifications, have a lot of potential."



DILO Compact Line © 2018 DILO

Machinery for technical textiles and nonwovens

Like Techtextil in Frankfurt, CINTE Techtextil is also becoming increasingly important as a trade fair for the textile machine manufacturers because they exhibit here together with their customers and can immediately support them by answering visitor's questions about machinery and production processes for new products and innovative materials. Therefore, it is not surprising that all well-known European textile machinery manufacturers will be represented at the fair. Let's take a look at these exhibitors and their innovations.

Dilo (Hall N1 / Booth D08) from Germany, leading supplier for needlefelt production lines, says Asia is one of the most important

markets for needled nonwovens and therefore CINTE Techtextil is of growing importance. The DiloGroup, consisting of DiloSpinnbau, DiloTemafa, DiloMachines and DiloSystems, offers machinery for complete production processes and will present its products and latest developments. It is well known that in its 116 years of history, the company has always set new standards

in regard to machine performance and efficiency. Innovative technologies like DI-LOUR, DI-LOOP and Hyperpunch have created new markets for the nonwovens industry and have contributed to continuous growth. This strong commitment to innovation the company also will demonstrate at CINTE. They will feature examples of recent developments in the machinery: the Hyperlayer, Feeder VRS-P and the DILO Compact Line.

The HyperLayer was designed on the principle of the camelback crosslapper and completely revised. The kinematic solution of this crosslapper transports and lays down the web very precisely and is especially suited for very light webs, layering only few layers. It realizes highest production speeds (web infeed speed up to 200 m/min) at a precise laydown with a minimum of draft.

The new card feeder VRS-P combines the principles of a volumetric, precisely charged feeding with the characteristics of a vibration chute feeder and saves a conventional large trunk. This results in a better and more homogeneous distribution of the flocks and the ceiling height of the building is no more a limiting factor. A vacuumed delivery apron condenses and homogenizes the fibre flock matt. Additional control flaps homogenize the fibre distribution over the working width. On the whole this results in a significantly better flock matt and consequently in a better felt quality.

The Dilo Compact Line (DCL) was first presented 2015 and has since then been successfully used in industry and research. It meets the requirement for the production of small amounts of high quality felts made from special fibres like carbon fibre, ceramic or Teflon. Very interesting topics like the recycling of carbon fibres are already researched on these lines in various projects. With a working width of the compact carding machine of 1.1 m and a layering width of 2.2 m, only 60 m² of space is required for the installation.



Autefa Solutions Needle Loom Fehrer StylusONE © 2018 Autefa

Autefa Solutions (Hall N1 Booth A14) wants to underline its expertise as a full line supplier for carded- crosslapped needlepunch lines, aerodynamic web forming technology, spunlace and thermobonding lines. Their nonwovens lines meet customers' requirements for quality

web formation, bonding, active weight regulation and minimal maintenance.

The Autefa Solutions V-Jet is a new hydroentanglement system which saves up to 30% of the hydraulic energy required for the Spunlace process. The patented jet-strip design enables a pressure reduction while keeping the product quality constant in comparison to a standard jet-strip. The

Spunlace process is optimized with the Square Drum Dryer SQ-V, which has significantly better energy efficiency and drying performance than a common Drum Dryer – at the same footprint.

The Crosslapper Topliner CL 4004 SL is characterised by a high infeed speed of up to 130 m/min and a precise weight distribution.

Further machines are the Automatic Needle Exchanger 2.0, the new Non-wovens Card Web Master FUTURA and the HiPerTherm Thermobonding oven with the proven double nozzle system.

There is also a growing interest in high speed through air thermobonding lines for hygiene products such as acquisition and distribution layers (ADL). These materials are used in baby diapers, sanitary napkins and adult incontinence products. The key strengths of the Autefa Solutions belt dryers are uniform airflow and the precisely adjustable temperature distribution, the ability to maintain loft or to create high densities.

For the needle nonwovens process, Autefa Solutions offers the Needle Loom Fehrer Stylus ONE, a machine for all needling applications. StylusONE covers the needs of the market for a reliable and economic machine. With a performance of max 1200 strokes/min the Needle Loom StylusONE distinguishes itself through productivity, guaranteed longevity and maintenance free gear boxes.



Oerlikon spunbond technology © 2018 Oerlikon

Oerlikon and its business unit Nonwovens will showcase spunbond solution lines for the production of polypropylene geotextiles as well as other applications. According to the company, spunbond geotextile applications are on the rise as the market is increasingly demanding more efficient processes and products, which means the product requirements are often the same or greater, but with a lower raw material input. Spunbonds are progressively replacing classical carded nonwovens due to their technical and commercial benefits.

Trützschler Nonwovens & Man-Made Fibers

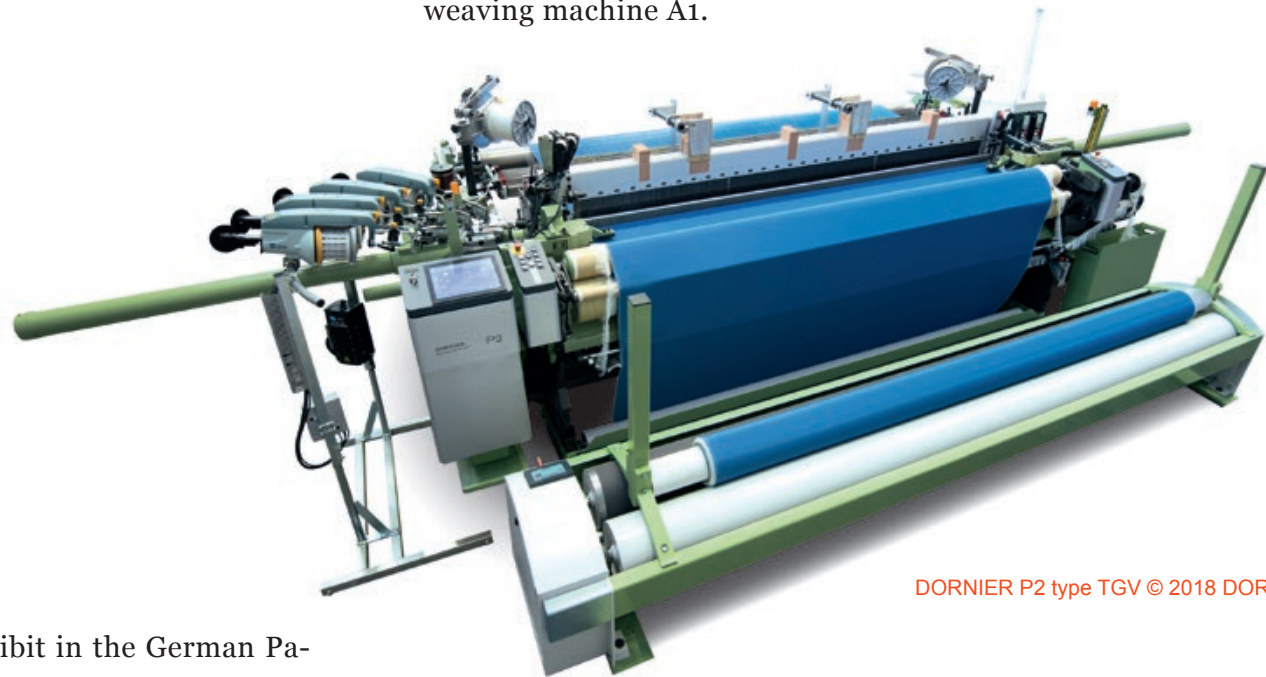
will concentrate on solutions for producing a broad range of hygiene nonwovens including wipes. Furthermore, they will focus on thermobonding & spunlacing processes and the respective machinery, from fibre preparation down to winding.

Thermobonding in drum ovens results in excellent product qualities at low investment costs. Since energy efficiency is an important aspect in oven technologies, the heat losses of Trützschler Nonwovens belt and drum ovens are reduced to the lowest level by means of a perfectly calculated insulation. Trützschler drum ovens offer a couple of advantages in the thermobonding sector.

With the largest working width, highest speeds and highest evaporation capacities they are particularly suitable for lightweight and medium-weight webs. Furthermore, Trützschler Nonwovens invented an exchangeable structuring shell for the thermobonder drum (patent pending). Now bonding and structuring the web is performed in one step. The shell produces permanent, distinct 3D patterns while maintaining both softness and bulkiness.

Lindauer DORNIER from Germany will exhibit in the German Pavilion this edition. DORNIER offers market-leading machine concepts for the production of highly sophisticated fabrics in compliance with DORNIER's basic principle "Quality creates value". This family enterprise from Lake Constance, which manufactures all its machines exclusively in Germany, presents comprehensive solutions for sustainable technologies.

DORNIER wants to unlock this potential of weaving solutions for a more sustainable world together with its customers. Newest DORNIER machines are the rapier weaving machine P2 Type TGP (introduced on ITMA), the P2 Type TGV (introduced on ITMA Asia + CITME), the rapier weaving machine P1 in a latest version and the air-jet weaving machine A1.



DORNIER P2 type TGV © 2018 DORNIER

The P2 is a further development of the DORNIER rapier weaving P1 machine with positive controlled center transfer. At the ITMA this machine produced a high-density filter fabric in super heavy design with a nominal width of 320 cm and two warp beams.

For this width, this kind of fabric could, up to now, only be produced by means of special machines. The extremely high density is achieved by a specially developed cloth take-up, an absolute uniformity of the filling density and a reed impact force of 5 tons. Such a high reed impact force requires to regulate the warp tensions with the warp let-off and cloth take-up at a constant value. In order to master this warp tension, the DORNIER SyncroDrive® with its stable speed is crucial for the shedding. The load peaks in the whole shedding motion are minimized. And the produced uniform fabric has always the same mesh number per cm².

The new P2 type TGV combines the reliability of the previous P1 PTV model with the future-oriented modular P2 machine concept. With a reed impact of 3.7 tons, a special reinforced cloth take-up in sturdy design and absolute filling insertion evenness, the new weaving machine generation shows its technical superiority, especially when producing high density filter fabrics. The fabrics produced maintain constant mesh counts per cm² and are therefore completely homogenous.

On the latest version of DORNIER's rapier weaving machine P1, complex functional fabrics can be produced from different materials. The wide application spectrum of the P1 ranges from high value silk fabrics up to carbon, glass or coated lattices with coarsest yarn counts in warp and filling, and densities of 0.5 threads/cm or even lower.

The style spectrum of the versatile A1 for technical textiles ranges from spinnaker silk to airbag and conveyor fabrics up to Jacquard car upholstery. The air-jet weaving machine type A1 can produce an airbag fabric "one piece woven" as a hollow body. This very special demand is mastered optimally by the Jacquard weaving machine with its very high flexibility. 12,228 lifting hooks are used here. The machine has the patented DORNIER SyncroDrive® fitted as standard. During Jacquard weaving with the DORNIER SyncroDrive®, the weaving machine and Jacquard machine have separate drives and servomotors whereby the cardan shaft is not required.

The presentation of technical textiles focuses mainly on fabrics that cannot be produced on weaving machines of other manufacturers with regard to quality and economic efficiency providing thus a unique selling point for the weavers. Examples can be found in all application areas of technical textiles from environment and geotextiles to construction textiles, industrial and 3D textiles up to the automobile and aircraft industries as well as aerospace.

Italian weaving machine manufacturer **Itema** will make its debut at the fair and will highlight the broad range of machines as well as the technical advantages and latest innovations. Itema is a leading supplier of weaving machines for technical fabrics production and the only manufacturer offering the top three technologies for weft insertion.

The continuous roll-out of customized special versions tailored for technical applications, including OPW Airbag, Fiber Glass, Bolting Cloth, among others, the wide weaving width up to 540 cm, as well as new and advanced devices make the R9500 by Iteima the perfect machine for the manufacture of the full range of technical textiles, including ones with the finest monofilament yarn, multifilament yarn with high tenacity, and multiple pick insertion fabrics.

Technical fabrics are the specialty of the legendary and unique projectile P7300HP due to the unparalleled versatility and reliability of its weft insertion system.

The unmatched uniqueness of the positive weft transfer consists in the single insertion driven by the projectile, which catches the weft and carries it directly with no exchanges, providing unmatched efficiency.



iteima P7300HP © 2018 iteima

The P7300HP continues to harness great interest from projectile weaving aficionados and represents an unbeaten and unbeatable benchmark for those looking to weave the very widest fabrics – up to 655cm weaving width – and high-specialty materials, such as agrotextile, geotextile and carpet backing fabrics. When it comes to weaving tape yarns, the Iteima projectile weaving machine provides the highest performance compared to all the other insertion technologies in the market.

Recently at ITM 2018 in Istanbul iteima introduced the ground-breaking new technology iSAVER that eliminates the waste selvage on the left side of the fabrics thus leading to big savings.

Picanol will use its leading position as manufacturer of weaving machines for other textile products to expand into machines for woven technical textiles. The basis is the modular design of their machine platforms which allow them to serve different industry sectors effectively. Furthermore, they heavily invest in state-of-the-art technology.



Picanol Optimax 4 – 540 © 2018 Picanol

Picanol offers the airjet weaving machines OMNIplus Summum in different widths from 190 up to 400 cm and OMNIplus 800 TC for weaving tire cord with a width of 190 cm. In the sector of rapier weaving the offer the OptiMax in widths from 190 up to 540 cm for wide weaving. Up to 360 cm, guided and Free Flight grippers are interchangeable. From 380 cm upwards, OptiMax machines are offered with guided rapiers only.

OptiMax rapier machines can be equipped with Optileno, a high-speed leno system. This range of machines gives weavers the possibilities to weave a large number of different technical fabrics from light filament fabrics to heavy canvas.

Brückner offers a wide range of different machines, e.g. the POWER-FRAME stenter for technical textiles. Of course the stenter is the heart of textile finishing. Brückner says it develops more and more into a multi-purpose line for the production of technical textiles and other web-shaped materials.

Depending on requirements BRÜCKNER offers a multitude of different dryer types. And all imaginable types of fabric transport systems are available. Several thousands of BRÜCKNER stenters are in use all around the globe. Every day they are stentering, drying, heat-setting, functionalizing and coating in-countable meters of the most different fabric

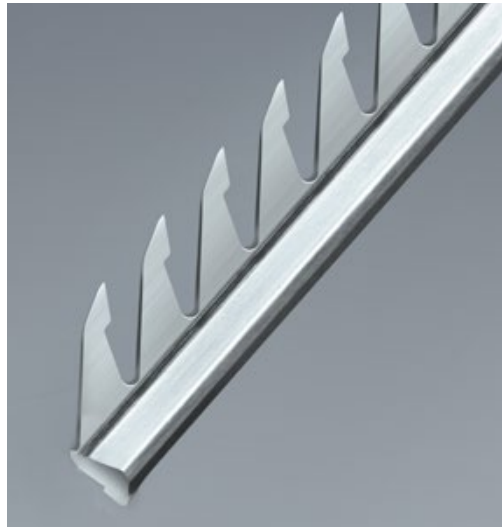
types. Since many decades BRÜCKNER stenters stand for highest quality and performance and are producing sustainably and energy-efficiently. In June 2018 Brückner has inaugurated their brand-new facility in Germany to offer never seen possibilities to the market. For example the possibility of producing components with a height of up to 12 m and a working width of up to 8.80 m offers us great potential for the future. CINTE is a chance to get some first-hand information.

Mahlo, leading German machine builder for automatic weft straighteners and online quality control systems will inform together with its China representative Frank Fei about the latest developments in measuring and controlling of quality critical parameters within the running web. The centerpiece, almost everything revolves around at the Mahlo booth, is the web gauging system Qualiscan QMS-12. The tool gauges parameters such as basis weight, thickness or moisture across the entire width.

To achieve this, up to five sensors are traversing simultaneously on sturdy scanners, constantly collecting data and transmit them to the interface. In use are radioactive sources as well as infrared, laser, microwaves and air permeability sensors.

Furthermore, Mahlo anticipates a strong interest in their infrared sensor Infrascopie NIR. Particularly for nonwoven producers in the spun lace industry – an emerging sector in Asia – the sensor is the ideal tool. It measures the absorption of infrared energy while identifying basis weight and moisture at the same time. Those important parameters can be measured and controlled precisely in a spun lace unit. Due to a very high spectral resolution, the sensor can distinguish between components with very similar IR absorption. This capability allows the highly selective individual measurement of a specific component or layer in the web without interference from other components. And all without the use of radioactive isotopes. With the Qualiscan QMS, not only the product quality is improved but also raw materials can be saved.

Groz-Beckert (Hall N1, Booth D 01), the leading worldwide provider of industrial machine needles will be represented at CINTe with its extensive product portfolio and range of services in the fields of felting and carding.



SiroLock® © 2018 Groz-Beckert

As a development partner, Groz-Beckert has expanded its application consulting services with the staple fiber needle punch line. The line is available in various versions to customers and partners for tests and joint projects in both needle and textile development. Visitors will have the opportunity to experience the technology line live. The 3D print model in scale 1:18 of the original line in the Textile and Development Center (TEZ) at the Groz-Beckert headquarters in Albstadt, Germany, impresses with its wealth of technical detail.

Groz-Beckert will also be focusing on special needle solutions for good surface quality in pre-needling. The GEBECON® felting needle offers improved stability compared with a conventional standard felting needle – combined with good needle flexibility. Groz-Beckert will be highlighting this and other advantages in a live demonstration on a miniature needling machine and a man-high needle model. In addition to the EcoStar® felting needle and the new Groz-Beckert® dur needle, the company will also be presenting the HyTec® P jet strip – its latest product for hydroentanglement.

As well as improved handling properties, the innovative jet strips also feature significantly higher hardness, which has a positive effect on all mechanical properties such as scratch resistance, bending strength and service life.

The Carding division will be presenting its extensive product range for the nonwovens industry. This includes optimal specifications for a wide range of applications. A selection of card clothing will be available to view on a roller top card model made from acrylic. The focus here will be on increasing performance and saving raw materials: Thanks to the improved fiber control, the EvoStep® high-performance worker and doffer wire distributes the fibers more uniformly in the web and helps to achieve the nonwoven properties more efficiently. This means that the use of raw materials can be reduced to a minimum. The SiroLock® high-performance worker and doffer wire also offers opportunities to save on raw material – mainly through the more uniform web quality. It also offers increased performance thanks to the higher achievable delivery speeds and web weights. Alongside the increased performance without fiber fly, SiroLock® also offers improved blending of the fibers.

Graf + Cie will inform about their huge portfolio of products and services as a global leading supplier of metallic card clothings, flat clothings, combs and related products. Qualified specialists provide customers with competent consultation and support in the selection of card clothings to meet their particular needs more individually. A special emphasis will be given to Hipro metallic card clothings.



Graf Hipro metallic card clothing © 2018 Graf + Cie

They can be used on high-performance roller card systems as well as on conventional machines and are suitable for all standard man-made fibers in the nonwoven sector and also for wool.

They can be used on the following rollers: doffer, worker, stripper and condenser rollers. These excellent, robust clothings are available with normal profile and as interlinked clothings.

Conclusion

CINTE Techtextil is the most important trade fair for the Chinese and Asian technical textile and nonwovens industry. Furthermore, it has also developed to an important fair for corresponding textile machinery manufacturers. Already two years ago an exhibitor told us CINTE has become as important as ITMA Asia + CITME for his business in China.

Everything is now in place for the big event for the sector, and slowly but surely anticipation will be growing at the exhibitors and visitors of CINTE. New products and processes are the key to improved quality, productivity and flexibility, which in turn are the decisive factors for a growing business and the ability to withstand international competition. Here, the CINTE will for sure be the place where latest solutions will be shown. For our part, we look forward to seeing some flair and innovations and, as always, will be keeping you up to date with all the latest news from the event.

DCC in Aachen makes Industry 4.0 easy



Industry 4.0 and digitization belong to the dominant themes of our time and are therefore grouped into the megatrends, those topics that will shape and comprehensively change industries and economies over the years and decades. This makes them topics at the top on the agenda of manufacturing companies due to their influence on business models.

The vision is firmly outlined: the fourth industrial revolution stands for fully automatic and highly flexible production, which is totally connected by an efficient network (internet of things). The wishes and needs of the end user can be taken into account individually and the lot size for production planning and unit costs no longer really plays a role. Sensor technology, control systems and artificial intelligence continuously optimize the production processes as well as the corresponding logistics. The future factories run autonomously.

That sounds like nightmare or sweet tooth country - depending on the point of view of the individual viewer. In any case, it sounds like a big challenge with many big and small changes that will be gradually overcome in the next few years. Yet the topic is too complex for companies to solve alone with their research departments and experts – for particular small and medium-sized ones. Fortunately, they do not have to.

Help comes on such a big topic that captures entire economies, of course from politics, associations, universities and the big consulting houses. Investment and expertise drive solutions and make them applicable. Flagship initiatives and beacon projects offer possibilities to observe the ongoing development continuously as well as to launch own projects.

DCC - Digital Capability Center

Such a flagship initiative for the textile industry and the corresponding textile machinery industry is certainly the „Digital Capability Center“ launched in Aachen, Germany, last year as a joint venture between top management consultancy McKinsey & Company, the ITA Academy GmbH, and leading technology companies including software provider PTC.

Visit on site

During the summer we had the opportunity to visit the DCC and make an impression on site ourselves. We were accompanied by Mr. Markus Beckmann, the managing director of ITA GmbH, which establishes the connection to the industry for the institute and its research results. In addition to the DCC, we also took a tour of the ITA universe and Mr. Beckmann showed us the many individual departments and laboratories. Over 350 people work at ITA, most of them scientists.

We have been impressed. Both from the topics as well as the size and equipment.

„The DCC is one of our recent activities,“ said Beckmann, „and certainly one of our most important and interesting projects. Our goal is to make the complex subject of digitalization in all its facets clearer and thus simpler with the DCC. We want to give textile companies and also textile machinery manufacturers the opportunity to learn and to test and implement their own ideas together with the DCC and ITA staff, all experts in their fields.“

DCC services

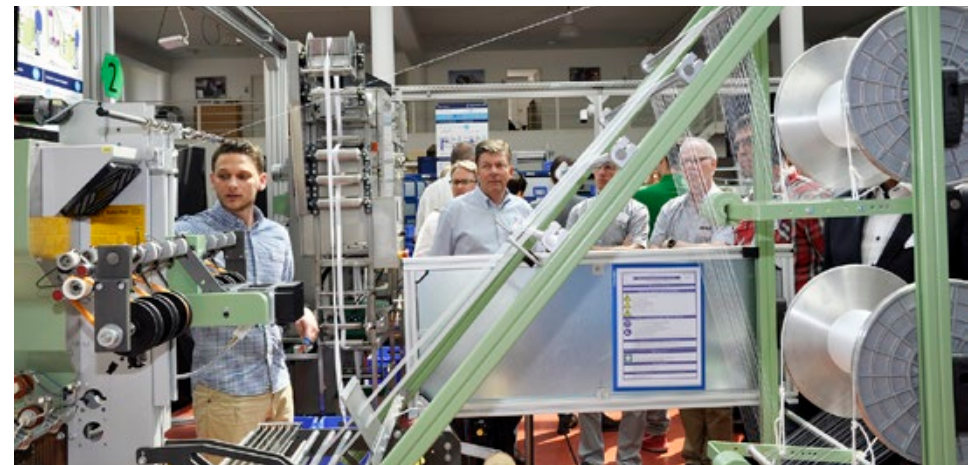
As a central service, the DCC offers a variety of workshops. A distinction is made between basic training, innovation training and customer-specific training. Hands-on workshops at the DCC help companies take a systematic and targeted approach to discovering Industry 4.0. They learn where and how to deploy the latest technologies along the entire value chain – from initial customer inquiry through development, production and delivery, to follow-up service. It also addresses challenges faced by management and those relating to empowering employees, as well as general acceptance of the changes brought about by a transformation.



Nicolina Praß (ITA Academy) shows Juliette Melzow (BMW, first from left) and other participants digital assistance systems



ITA Project Manager Alisa Foit and ITA Institute Director Prof. Thomas Gries at the showroom opening of 'Textil vernetzt' in the Digital Capability Center Aachen, Germany

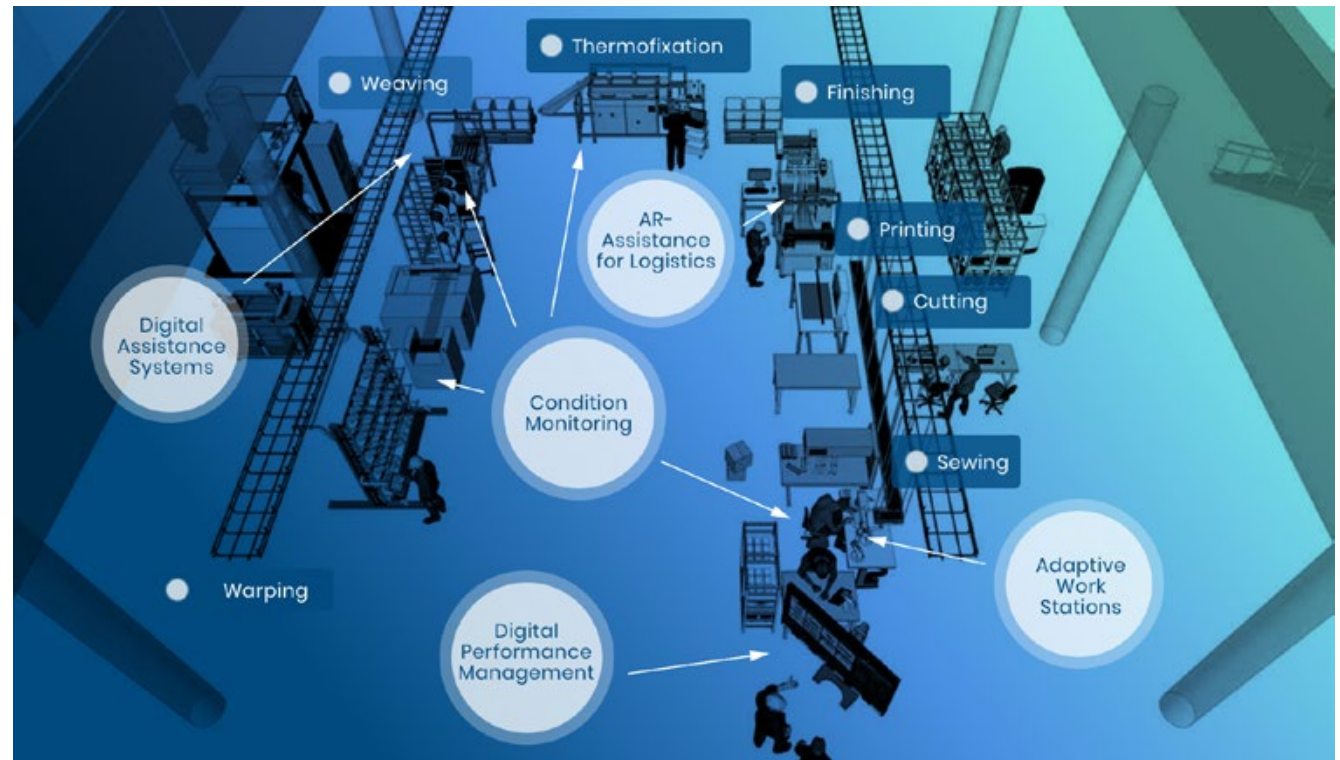


Marco Saggiomo (ITA Academy) explains the advantages of digital solutions, on a ribbon weaving machine © Pictures ITA

Workshop participants develop specific solutions to tackle challenges they face in their own businesses and gain insights into key digital solutions and technologies, such as real-time diagnostic tools and big data analytics, predictive maintenance, digital performance management, 3D printing, and collaborative robots.

„What the DCC has to offer helps companies realize the concrete value add of digitized production,“ said McKinsey Senior Partner Christoph Schmitz to journalists during the opening ceremony. McKinsey founded the global DCC network in response to the question of what Industry 4.0 means for companies in practice and how a digital transformation can be successfully realized.

McKinsey calls the DCC a new kind of learning factory focusing on Industry 4.0. Manufacturing specialists and managers as well as engineers can explore this realistic factory environment and use the tools they need to drive their own company's digital transformation. The motto: Explore – Try – Apply.



Individual stages of production at DCC © ITA

ITA showroom

In May 2018, the DCC's offer has already been expanded and the ITA showcase „New social infrastructures of work, qualification and lifelong learning „ has been ceremoniously put into operation. „ The focus in our showroom in Aachen is on the digital support of people's work in production. Work processes and procedures are optimised through assistance systems and learning close to the workplace“, said ITA Institute Director Prof. Dr. med. Thomas Gries at the opening ceremony.

DCC Aachen revolves around the production of a smart wristband that can be individually customized by the workshop participants (key phrase: lot size of 1). Furthermore, it shows how machine downtime can be avoided and what digital possibilities exist to increase entrepreneurial productivity. The production line itself maps a typical brown-field scenario comprising a mix of older and modern machines, each with different controls and interfaces. The insights gained can be very easily translated to almost any practical application in a wide range of industries.

Markus Beckmann explains to us the individual stages of production and points out the special features. Let me give you an example from the first station. A warper prepares the single yarn for use in the weaving machine by transferring 96 monofilaments to a warp beam. In this process, node and thread tension sensors monitor the quality of the input product. At the production output deviations can be recognized early on the warp beam by a vibration sensor.

There is a great deal of sensor technology in use, which permanently measures all essential production parameters and transmits them to PTC software, which then evaluates, optimizes and, in turn, controls the machines. Monitors display the settings, readings and changes. There is also something extreme to experience, such as an augmented reality system for work support. This makes actual work processes visible to the machine operator, for example via a tablet PC, and enriches them with virtual instructions for action.

This expert manual allows even laymen to carry out repairs independently without the help of a technician, which in turn leads to less machine downtime and an increase in productivity.

According to calculations by the Digital Capability Center Aachen, up to 75 % machine downtime is avoided and work output is increased by 50 %. That sounds like a lot, but first it is a maximum value and secondly the values probably base on the sum of the individual optimizations and especially on the optimized interaction. Not to forget, the systems represent a development, with which a revolution is associated.

„And what are the requirements companies have to meet in order to experience the advantages of the DCC?“ I concluded my visit with this crucial question. „Simply contact us,“ replies Markus Beckmann. „We won't bite and are looking forward to all sorts of topics and requests!“

dcc-aachen.de

ita-gmbh-aachen.com

industry4 #digitization



SPEARHEAD DENIM

The sector remains a pioneer in adapting the latest technology

We already have mentioned last year how the denim industry used its new self-confidence to become a pioneer in many areas of the textile industry. Sustainability, transparency, creativity and the consistent use of innovations in machines and yarns have been listed here. And all these points have developed very promisingly in 2018 as well. Denim remains a winner. The offensive launched by the global denim industry a few years ago is continuing in the current year, seemingly without slowing down. The industry is still characterized by innovative product ideas, the will to change and a clear spirit of optimism.

This very good mood can easily be illustrated by a quote from Sebastian Klinder, Managing Director of MUNICH FABRIC START. He said in his conclusion about 2018 Munich Fabric Start exhibition: “The current BLUEZONE (30 to 31 January 2018) closed after two days as the best Denim Show since its inception. The growing interest from international brands in product innovations, modified finishes and new production processes was very apparent.” Please note. He didn’t speak about fashion, he spoke about innovation and change.

The same came from Gülfem Santo from denim heavyweight company Orta. He said: “The BLUEZONE is far more than just a platform for collection presentation. It is also trendsetting marking a significant change in direction, especially in conjunction with KEYHOUSE as a complementary centre of innovation.”

“The current BLUEZONE closed after two days as the best Denim Show since its inception”

Sebastian Klinder, Managing Director of MUNICH FABRIC START

Panos Sofianos, denim curator BLUEZONE, brought the words of his boss to life: “A clear signal of the importance of BLUEZONE and its timing were the numerous market launches and product developments presented here for the first time. For instance, Candiani Denim with their biodegradable denim development Re-Gen, alongside Kitotex® and Indigo Juice®. Or Orta with Exoart and the new Denim Tech line. Kassim Denim presented the new Premium-Sustainability line ‘Made in Germany’ in cooperation with German universities. Calik Denim showcased the lines ‘Smart Stretch’ and ‘Fly Jean’. SAAT launched their ‘Dyneema Capsule Collection’ in cooperation with BMW Motorcycles and Naveena Denim.”



BLUEZONE © 2018 Munich Fabric Start

Let's have a further look on some examples characterizing innovation and change in the denim industry. It should be noted, however, that there are so many and they affect as many different areas that only a modest excerpt can be presented here. Already in 2017 exciting innovation news from denim came from the MUNICH FABRIC START. A photocatalytic denim that binds air particles via sunlight thanks to its special finish made Kassim Denim the winner of the exclusive innovation prize HighTex Award. At the award ceremony Qasim Ahmed highlighted the wholistic innovative and sustainable approach focused on by Kassim Denim with its new developments.

In February 2018, at Intertextile Shanghai Apparel's Beyond Denim zone Orta Anadolu presented BIOCHARGE, which, according to the company, is the world's first denim fabric for muscle wellness. Infused with minerals, Orta state that BIOCHARGE is medically proven to refresh muscles, relieve muscle tension and optimise body balance. Furthermore, Orta introduced BIOWARE denim which is enriched with mineralized volcanic ash to create an odour absorbing effect.

This technology captures and absorbs odour compounds that would normally pass through the fabric, neutralizing bad bacteria while retaining the helpful bacteria that common deodorizers, which contain harsh substances, normally eliminate. This leads to a more environmentally friendly product that is better for the user's skin.

US Denim Mills showed enhancements for well-being. They presented 'Flex 360' bi-stretch denim with a slight cross-bias freedom, and 'Modern Stretches' with a higher stretch range for intense comfort. For a soft wear they highlighted advanced finishing treatments for superior soft touch from natural fiber blended yarns and softness-selected weaves.

To demonstrate the multiple sustainability efforts of the sector we have chosen a handful examples from leading brands. One of them is Kipas Denim because its multi-faceted program to address environment protection is one of the most comprehensive in the denim sector. Its recycled yarn initiative includes recycling waste yarn from the production process, while it also takes waste cotton yarn and blends it with REPREEVE® fibers to create an eco-friendly denim fabric.

Kipas also uses BCI cotton and organic cotton, and targets each to be 15% and 5% of total consumption, respectively. Furthermore, their Conservablue technology aims to reduce the environmental impact of the dyeing process by eliminating the use of rinsing overflow boxes before and after the indigo dye boxes, as well as ensuring 100% of applied dyestuff remains on the yarn in the rinsing bath.

Another REPREVE® project comes from Cone Denim and Unifi. Already in November 2017 they had introduced their advanced stretch technology - S GENE® with REPREVE®. The partners combined the advanced stretch technology of S GENE with REPREVE recycled polyester fiber, and announced the newest S GENE denim offers the most advanced sustainable dual-core stretch denim on the market.

Another big brand, G-Star RAW, had introduced a new capsule collection of denim colored using Archroma's EarthColors, a range of dyes made from recycled plant waste at the end of 2017. EarthColor came to public attention for being the Gold Winner of the OutDoor Industry Award 2017, Sustainable Innovations category. EarthColors are a line of patented plant-based dyes, sourced from up to 100 percent renewable resources.

ISKO, a leading, global denim ingredient brand, showcased the future of responsible denim at the Copenhagen Fashion Summit, 2018. They unveiled its third ISKO Earth Fit™ collection for the first time, the pinnacle of its responsible innovation strategy, bringing the total number of fabrics to 49. ISKO is the only denim mill in the world awarded with the prestigious Nordic Swan Ecolabel and EU Ecolabel for its expanding ISKO Earth Fit™ collection.



Beyond Denim © 2018 Messe Frankfurt

With its LOW IMPACT DENIM (LID) collection the JACK & JONES brand, which belongs to the Danish company BESTSELLER, also wants to set the new standards in the field of environmentally friendly jeans manufacturing by highlighting the holistic sustainable approach of LOW IMPACT DENIM covering the complete manufacturing process. Energy and water savings as well as environmentally friendly bleaching, dyeing and washing methods make the LID concept of JACK & JONES a pioneer on the DENIM market. The CHT Group and its innovative organIQ technology is a fundamental part of this trendsetting LID collection.

In addition to the individual work of the leading companies there are also events to stimulate sustainability in the sector and make best practices available to smaller players. For example, in June, in London, the stage was set for “Doctor Visits” an event-workshop organized by Alliance for Responsible Denim focusing on the dissemination and promotion of best practices for sustainable manufacturing. The meeting was dedicated to six selected denim brands, which had a chance to meet the greatest experts in the finishing of indigo fabric. Garmon Chemicals made available its inimitable experience as technical partner for finishing, as well as conducting team sessions with the Jeannotia staff. The six brands brought the finishing recipes of their Never out of Stock styles, to receive support and recommendations from the experts about the most innovative alternatives in terms of sustainability. The goal was to show the brands new possibilities to migrate towards more responsible finishing, improving their recipes as well.

This was a way to reaffirm how ecodriven innovations can also increase finished product quality.

Generally, promoting sustainability in the denim sector has been put on the agenda of all suppliers from textile chemistry. In November 2017 DyStar introduced Cadira Denim, its 6th Cadira solution. DyStar says Cadira Denim combines the most eco awarded Indigo in the world, DyStar Indigo Vat 40% Solution with the ecological advanced reducing agent Sera® Con C-RDA. This combination allows a salt free dyeing with a strong effluent load reduction and it additionally reduces substantial waste quantities from the ETP's (effluent treatment plants) because no additional salt is created.

In May, Archroma has presented an aniline-free* denim indigo dye at the Planet Textiles 2018 Conference in Vancouver, Canada. The Denisol® Pure Indigo 30 dye is the latest in a long line of sustainable innovations for denim started in 2009.

Another topic that is gaining influence in the textile industry is digitization or industry 4.0 - like sustainability called as a megatrend. Now there are first approaches in the denim industry. In March Levi Strauss & Co. announced Project F.L.X. (future-led execution), a new operating model that ushers denim finishing into the digital era. Developed by the inventor of the blue jean, Project F.L.X. digitizes the design and development of denim finishing and enables a responsive and sustainable supply chain at an unparalleled scale.

By replacing manual techniques and automating the jeans finishing process, LS&Co. is able to radically reduce time to market and eliminate thousands of chemical formulations from jeans finishing. “Our goal was to tackle two predominant industry challenges — being able to respond quickly to changing consumer trends while making the manufacturing process more sustainable,” said Chip Bergh, president and CEO of Levi Strauss & Co. “We are addressing both agility and sustainability without compromising the authenticity our consumers expect from us. This is the future of jeans manufacturing, and LS&Co. is well-positioned to lead the way.”

“This is the future of jeans manufacturing, and LS&Co. is well-positioned to lead the way.”

Chip Bergh, president and CEO of Levi Strauss & Co.

The company, which has been leading the way in recent years for changes in the denim industry, is undoubtedly Jeanologia. The Spanish company is well-known for developing disruptive technologies for the garment finishing industry. Today, 35% of the 5 billion jeans produced every year are made with Jeanologia technology.

In March 2018, Enrique Silla, CEO at Jeanologia, with a view to the upcoming World Water Day, highlighted that using a combination of their technologies “in 2025 all jeans in the world could be 100% water free”.

“In 2025 all jeans in the world could be 100% water free”.

Enrique Silla, Jeanologia CEO

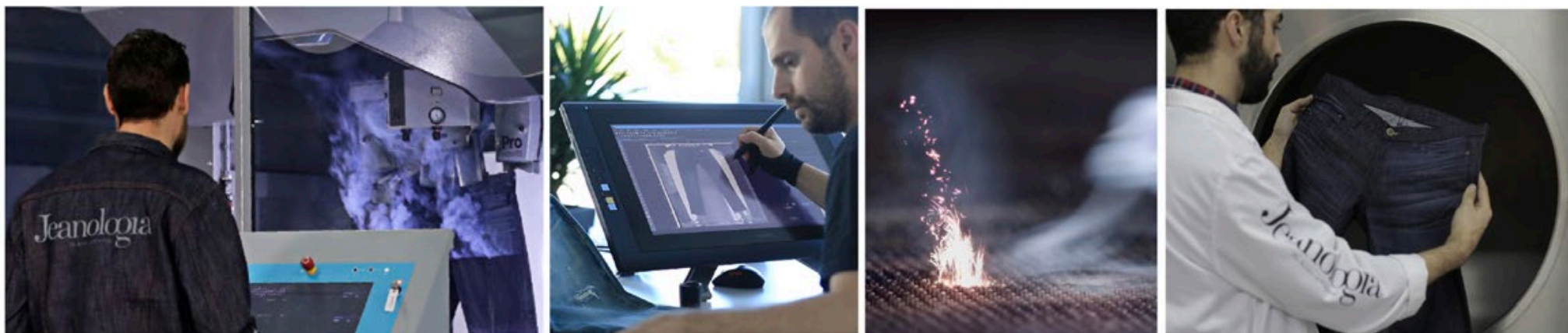
In May 2018, Jeanologia, started the next step by introducing a new operating model that will bring the jeans industry to the digital era, by reducing the environmental impact and optimizing the time to market. Jeanologia says, today, it is entirely possible to speak about the digital transformation of the finishing industry as a reality. They state that using a combination of Jeanologia’s technologies, laser, eco and e-Flow, it is now possible to produce jeans in a sustainable way at an industrial scale, automating and simplifying processes through the use of eco-efficient technologies in the garment finishing process.

With their new concept of Laundry 5.0, they want to attain authentic products of the best quality, in a sustainable way and without increasing production costs. In this new cost neutral model, what matters is not only the product itself, but also the way it has been made. That is part of the DNA of the product.

They say, sustainability then becomes an additional decision factor besides the look and price. This is a very important statement as well as a keen idea. However, researchers always like to highlight customers are not about paying more money for sustainable fashion. But what will happen if there is no difference in prices between both products.

Jeanologia continued the idea and presented at Bangladesh Denim Expo as well as Denims and Jeans India a new capsule collection, based in the concept 'from analog to digital'. This concept consists of showing two identical garments face-to-face. In the first one, a real running style is reproduced by traditional methods (analog), while in the second one, the same style is achieved through the most advanced technology (digital).

So much on innovation and change. Let's glance at fashion. Here, Denim Première Vision, once again was a spot of new concepts and branding. Over the last 10 years, Denim Première Vision has adapted to the transformation and innovations in the denim industry. In 2018 the show has changed its format – and more specifically its location, its positioning and its team. Guglielmo Olearo, International Exhibitions Director for Première Vision has also taken over the management of Denim Première Vision, Fabio Adami Dalla Val is the new Show Manager. The aim is to encourage proximity with fashion and design markets while offering the sector new sources of inspiration. The first edition of 2018 was in Paris in May, followed by a second edition in London in December.



Jeanologia offers a broad range of technology for becoming more sustainable and efficient © 2018 Jeanologia



Amsterdam and New York Denim Days are the annual mecca for professionals and denim heads from all over the globe - all united by the love of indigo © 2018 Denim Days / Kingpins

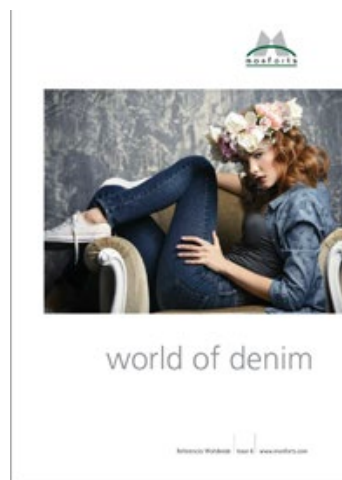
Henceforth the show will alternate between the Paris event and another European destination. Focused, user-friendly and business-oriented, the redesigned first edition of Denim Première Vision marked the turn of the show towards a highly fashionable and contemporary positioning. The bigger idea behind this change is, more than ever, denim today plays a key role in the fashion industry. Therefore, Denim Première Vision has broadened its fashion approach and moved into new fields of inspiration and new markets, with re-imagined fashion information and spaces, a creative collaboration with designer Lutz Huelle and new seminars adapted to the changing fashion and denim markets.

Maybe the concept and ongoing big success of KINGPINS and Denim Days has also inspired the people from Denim Première Vision to renew their concept. Anyway – Amsterdam Denim Days was again a big success and in September the New York Denim Days festival will connect denim professionals, designers and brands to denim consumers. “With its mix of denimheads, the best brands and retailers and the most forward fashion, New York is the perfect home for Denim Days.

We are thrilled to be back this year and will be shining an even bigger spotlight on the jeans industry,” said Andrew Olah, one of the New York Denim Days organizers and founder of the Kingpins Show, the global denim sourcing trade show.”

Following the NYC event, Denim Days will return to its original home in Amsterdam for a festival, from October 22-28. Included in the programming is a week-long City Center happening featuring sales and events hosted by denim retailers; the two-day Amsterdam Blueprint festival, with a denim market, seminars, workshops, installations, brand activations, music, expos and more. New to the Denim Days event schedule, Nashville will be home to a two-day festival, from November 10-11.

There is also exciting news from the textile machinery for the denim sector. The last year was again a hotbed of technical innovations. To round this up there were also a couple of sales news showing the new solutions and machines have found their way to the customers.



Installations of Monforts Eco Line for denim at Tavemex in Mexico and TCE in Vietnam. Latest WOD magazine issue 6 © 2018 Monforts

For example, Monforts' Eco Line for denim has been installed by customers from Asia and South America. The line features two key technology advances – the Eco Applicator for minimum application of the selected moist finishing chemicals and the ThermoStretch, which carries out the skewing (weft straightening), stretching and drying in a continuous process. Monforts Vice President Sales and Marketing Klaus A. Heinrichs is happy about customers estimating the continuous Monforts efforts to improve the finishing processes for denim and is looking forward in doing another step in innovation.

“As a result energy savings of up to 50% are being achieved.”

Monforts Vice President Sales and Marketing Klaus A. Heinrichs

He said: “Due to these innovations, the Eco Line system reduces energy requirements and losses, increases thermal transfer and keeps the drying energy on the textile material longer. As a result energy savings of up to 50% are being achieved.

We will be introducing a number of new innovations for denim in the near future, including a solution for the introduction of two-way super stretch into denim in a single processing step.” Monforts is deeply engaged in the denim sector and publishes a “World of Denim” magazine. The latest issue no. 6 is available for download on the Monforts website.

In February 2018 KARL MAYER made clear they believe in a bright future of denim. The specialist for dyeing and sizing machines for the production of uniformly dyed and sized warps took over from MASTER patents, trademarks, projects and dyeing technology for machines model: IndigoFlow, IndigoRope and IndigoGenius. MASTER – pioneer and leader in the continuous dyeing with indigo and other dyestuffs, after the delivery of currently ordered machines, will stop the manufacturing of these kind of machines and will focus its activity to develop and manufacture new machines for packages and hank dyeing. KARL MAYER - in its center of excellence for denim sector, KARL MAYER ROTAL, will further develop the Nitrogen technology, by integrating it into its current product range PRODYE-S and PRODYE-R.

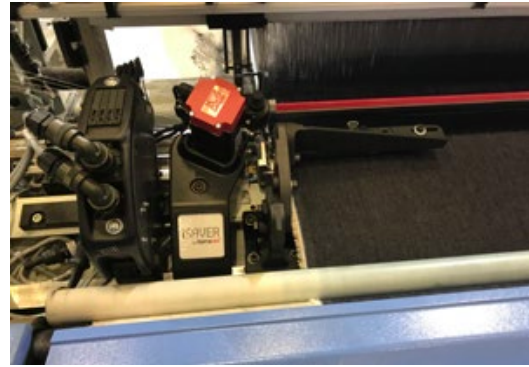
At ITM 2018 in Istanbul Italian weaving machinery manufacturer Iteima introduced the second generation of the company's denim-dedicated rapier weaving machine, the R95002denim. The R95002denim is set to define a new benchmark in denim weaving delivering extraordinary, yet tangible benefits to denim weavers guaranteeing unparalleled cost savings, superior fabric quality and outstanding user-experience. The weft insertion system achieves here the highest performance levels in terms of fabric quality and components wear resistance, both key targets when it comes to denim weaving. The new SK UltraLight Rapiers, specially designed to meet specific indigo fabric needs, feature a revolutionary design which ensure their reduced dimensions and maximum lightness. Redesigned and optimized, the tape-hook system provides the remarkable benefit of significantly extending components' lifetime.

The new Iteima tapes developed by Lamiflex, an Iteima Group company specializing in composite materials, feature an innovative configuration with a triple layer of carbon fiber leading to maximum reliability and represent the first result of the research and development cooperation between the two companies after the acquisition of Lamiflex by Iteima. Saving is the crucial point of the R95002denim. The machine is equipped – in world premiere – with a revolutionary, never-before-seen in the industry device that eliminates the waste selvage on the left-hand side of the fabric thus leading to unparalleled savings. Designed and developed by IteimaLab, the iSAVER™ combines the most innovative mechatronic principles.

Also, at ITM the new indigo dyeing technology of EFI Mezzera made its worldwide debut. It gives textile companies a way to eliminate the excess water usage, chemistry waste and high operating costs of denim production.



Karl Mayer PRODYE installation, PRODYE model presentation at ITM, Master Indigo Genius machine © 2018 Karl Mayer



itema presentation of innovations at ITM, speech of CEO Carlo Rogora, iSaver © 2018 TexData International

EFI partnered with denim producers and manufacturers from around the globe to create the new Mezzera LOOP SLASHER product, which gives users a more sustainable process, reducing environmental impact with lower water consumption and operating costs. The new product uses nitrogen sealed chambers to improve indigo performance and preserve chemicals. Compared with other denim production technologies, the EFI Mezzera LOOP SLASHER has a 35% smaller footprint and uses 50% less indigo liquor. It also limits the total amount of chemicals needed in denim production, preserving 30% to 40% of hydrosulphite needed in the process for re-use.

Now, coming to an end, we want to give you the latest forecasts from studies to roundup the picture of the future of denim in the long term. In July 2018 Global Info Research suggests in its latest study, the worldwide market for Denim Jeans is expected to grow at a CAGR of roughly 0.8% over the next five years, will reach 60200 million US\$ in 2023, from 57400 million US\$ in 2017.



Bangladesh Denim Expo is becoming more and more important © 2018 Bangladesh Denim Expo

However, another report “Denim Market by Product, by Segment, by Consumer Type, by Distribution Channel, by Geography – Global Market Size, Share, Development, Growth and Demand Forecast, 2013 – 2023”, published by Prescient & Strategic (P&S) Intelligence, draws a brighter picture of denim future. According to this report, denim market size was valued at \$57,312.5 million in 2016, and it is forecasted to grow at a CAGR of 6.4% during the forecast period.

According to Dhaka Tribune, as of now, Bangladesh is the largest exporter of denim products to Europe with a 27% market share topping China, the largest exporters of clothing products to both Europe and the US. According to Eurostat, the European Commission’s statistics directorate, Bangladesh in 2017 exported denim products worth of €1.30 billion – a plus of 0.54% from €1.29 billion in 2016. Bangladesh’s closest competitor Turkey grew by 4.36% to \$1.12 billion. Looking at the US, Bangladesh now is the third largest exporter of denim products with a 14.20% market share, following Mexico and China. Bangladesh grew by 9.55% and earned \$507.92 million exporting denim products to the US markets in 2017, according to data from the Office of Textiles and Apparel (Otexa) in the US.

Last but not least, we do not want to conceal from you there is also good news in the field of education. In July 2018 the Denim School of Milano was founded by Gianni Fontana, Principal of Milan Style Academy, and Cristian Murianni, owner of the Denim Boulevard event.

The school has started by offering two weeks workshops and seminars and wants to add a one-month short course and a 1-year full course from the next year. Teacher and lecturers are all deep experts in the denim world, according to the school’s website.

This was our little snippet from the huge denim world. And in the end, in a small conclusion, you can actually repeat only what you had already stated in the beginning: The industry is on the move. Unrestrained creativity, the courage to embrace new ideas and proximity to innovations create a spirit of optimism that could at best catch the entire textile industry.



Autoconer X6 takes step towards industry 4.0

Autoconer X6

The machine represents a future-orientated direct link to the ring-spinning process with the integrated online quality monitoring system SPID.

The new Autoconer X6 represents a quantum leap in process automation. With its revolutionary Bobbin Cloud material flow system based on radio frequency identification (RFID) technology, the Autoconer X6 takes a definitive step towards Automation 4.0 in the winding field. This E³-certified machine is distinguished by even lower resource consumption and increased production. With its outstanding winding technology, the Autoconer is and remains the globally recognised benchmark for quality yarn and package production. At ITM 2018 exhibition in Istanbul Schlafhorst together with Zinser presented their innovative linked winding solution for ring spinning to the global public for the first time. They showed a Zinser 72XL highly productive ring and compact spinning machine linked with Autoconer X6 and of course have got a lot of interest by visitors engaged in spinning business.

Automation 4.0 with Bobbin Cloud, a revolution in material flow

Characteristic features of the Bobbin Cloud include the decentralised processing aggregates and the material flow designed in a round loop. Like during a pit stop in Formula 1, the bobbins and tubes automatically move to the processing aggregates positioned along the guideways. In order to increase cycle speed and capacity, several bobbin preparation stations, which operate in parallel, can be installed. The winding units are supplied reliably with prepared bobbins directly from the Bobbin Cloud. The entire circuit functions as a material storage area. The new optical tube inspector with infrared sensor is another important feature necessary for increased process reliability. Through non-contact scanning, it reliably detects single yarns and all yarn structures even at high cycle rates. Bobbin Cloud and RFID technology form the basis for a future-orientated direct link between Autoconer and ring spinning machine. A key feature is the integrated online quality monitoring system SPID. This means every spinning mill now has the opportunity to establish its quality level at the highest standard. Optimum machine networking and more intensive process automation are becoming the new standard.

Energy: up to 20% lower resource consumption

A comparison between the performances of the 5th and 6th Autoconer machine generations highlights the impact of process automation. The Autoconer X6 also offers attractive energy consumption reductions of up to 20%, which is mainly due to its high energy efficiency. All components and functions have been optimized in terms of this. These measures include improved aerodynamics in the airflow, state-of-the-art drives with high efficiency levels and the unique Power on Demand vacuum control.

Energy Monitoring, which continuously monitors compressed air and energy consumption online, helps the operating personnel to optimise winding processes in an energy-efficient manner and thus reduce costs.

But above all, the Autoconer X6 conserves the most valuable resource, the yarn, through perfectly coordinated winding and cycling processes. Here, Schlafhorst achieves unique improvements with a complete comprehensive solution. The upper yarn sensor, aerodynamically optimised suction nozzle, SmartCycle with intelligent cycling sequence and SmartJet in the doffer work in perfect harmony.



Bobbin Cloud and radio frequency identification technology mean unique material flow management and maximum process reliability.



Functional design, smart technologies – for ergonomic use of personnel and high-performance, resource-saving production capability.

Economics: up to 6% higher productivity

The Autoconer X6 has been consistently designed for maximum economy. Extra-long machines with up to 96 winding units increase productivity per square metre. The Bobbin Cloud reliably supplies all winding units along the entire length with material at the highest cycle rates.

Benefit from the quality benchmark

Autoconer packages are considered the benchmark for package quality in the textile industry – both in commodity and special applications. Even in its basic configuration, the Autoconer ensures high-quality packages with many functional details; the package build offers high process reliability and thus higher benefits in downstream processing. With innovations in splicing technology, the Autoconer X6 offers interesting possibilities for successfully processing modern, sophisticated yarns. The machine represents a future-orientated direct link to the ring-spinning process with the integrated online quality monitoring system SPID. Bobbin Cloud and radio frequency identification technology mean unique material flow management and maximum process reliability. Functional design, smart technologies – for ergonomic use of personnel and high-performance, resource-saving production capability.



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The background of the slide features a close-up, slightly angled view of the Uzbekistan flag. The flag's design is visible, including the blue upper section with white stars, the white middle section, and the green lower section, all separated by thin red lines. The flag appears to be waving, creating a sense of movement.

CAITME 2018 WILL INSPIRE UZBEKISTAN'S TEXTILE INDUSTRY GOALS

**FROM 5TH TO 7TH SEPTEMBER, 2018
THE 12TH CENTRAL ASIAN INTERNATIONAL
TEXTILE MACHINERY EXHIBITION,
CAITME 2018, WILL TAKE PLACE AT NEC
„UZEXPOCENTRE“ IN TASHKENT,
THE CAPITAL AND LARGEST CITY
OF UZBEKISTAN.**

What sounded like a marginal note for the textile world 10 years ago has blossomed into a very interesting piece of news, because the textile industry in Uzbekistan stands for very high growth and strong investments. This fact becomes even more important if you remember Uzbekistan is in the top 10 of cotton producing countries and has the potential to become a heavyweight in textile business. This year, the event will fill the dozen and with this little anniversary there will also be promising expansions.

However, first let's take a closer look at some fundamental data of the country's situation in textile business to understand why CAITME is becoming more and more interesting as a textile machinery show. The textile industry of Uzbekistan is not only one of the fastest growing segments of the economy, but also a leader in attracting foreign investments and exporting products. Uzbek textile workers want to become part of the fashion industry. In recent years, the textile industry has developed dynamically. According to the State Statistics Committee, in 2016 the industry occupied 26.2% of the total industrial volume of the country, its share in GDP was 3.8%, and in the volume of production of non-food consumer goods over 44%. The annual growth in the industry's output in recent years has amounted to approximately 18%, and exports have been risen by 10%.

The annual capacity of the enterprises of the industry is about 480 thousand tons of yarn, 290 million square meters cotton fabrics, 101 thousand tons of knitted fabric, 275 million pieces of knitted garments and 2,100 tons of silk. Enterprises also produce medical products, nonwoven materials, cotton products, special working and uniforms as well as terry products.

Now in the country about 30% of cotton of own manufacture is processed. In the future, according to the Program for the Modernization of the Cotton Industry, it is planned to increase the volume of domestic cotton fiber processing from 44% at present to 70% in 2020 and the corresponding increase in the export of textile products - from 800 million dollars to 1.5 billion US dollars. The task was set in the long term to abandon the export of cotton fiber.

Export should at least double by 2020

According to the results of the implementation of development programs over the last 5 years, industry enterprises doubled their exports, which in 2016 amounted to 1.15 billion US dollars. Until 2020, it is planned to increase the export potential of the industry to \$ 2.5 billion. At present, Russia, China, Kazakhstan, Turkey, the countries of the European Union are major consumers of textile products of Uzbekistan. In total, the export deliveries of the enterprise are carried out in 55 countries.

If in early 2017 there were 293 exporting enterprises, then by the end of the year their number had reached 350. In addition, the growth of export indicators was facilitated by the activity of 64 trading houses opened in foreign countries.

Recently, a decree of the President of the Republic of Uzbekistan Shavkat Mirziyoyev „On the Program of Measures for the Further Development of the Textile and Clothing and Knitting Industries for 2017-2019“ has opened new opportunities for improving the industry. The Program identified 132 new investment projects worth more than \$ 2.2 billion. In addition, foreign investments in the textile industry of Uzbekistan for the last 3 years amounted to \$ 575.3 million. Over 80% of attracted foreign investments fall to the share of countries such as South Korea, Switzerland, Singapore, Britain, Germany, India and Turkey.

Investments do not stop

And this party goes on. There is almost every month a news about big foreign investment. For example, Saudi Sheikh Azhlan Muhammad Abdulaziz intended to invest over 2 billion dollars in projects in Uzbekistan.

The Sheikh, chairman of the board of Ajlan & Brothers Group, is planning to build factories for processing raw cotton and silk in Bukhara, Andijan and Samarkand regions. Ajlan & Brothers Group produces ready-to-wear garments and fabrics, has 45 branches and over 200 outlets in the Middle East. She runs her business in Saudi Arabia, the United Arab Emirates, Bahrain, Qatar, Kuwait, Yemen, Syria, Jordan, Libya and Egypt.





Impressions from Caitme 2017 © 2018 Caitme / Iteca Exhibitions



In July 2018 the press service of the Association „Uzbekstilprom“ informed Uzbekistan and China committed to expand their cooperation in the textile industry. The leadership of the Association „Uzbekstilprom“ held a meeting with the Ambassador Extraordinary and Plenipotentiary of the People’s Republic of China to the Republic of Uzbekistan, Ms. Jian Yan. The parties noted that due to the reforms carried out in Uzbekistan, there is an increase in the flow of Chinese investments into the textile industry of Uzbekistan, the amount of which exceeds \$ 200 million. Furthermore, issues of development of cooperation between Uzbek and Chinese textile associations, large textile companies, expansion of investment activities of Chinese companies in the Republic of Uzbekistan have been discussed.

A special emphasis in the development of the textile and apparel-knitting industry is aimed at improving the quality of finished textile products by introducing a quality management system and certification of textile products based on international standards. So, in the period April-May this year negotiations were held with the German research institute Hohenstein and the Korean test-laboratory scientific institute KATRI on the creation of laboratories for certification of products in

the territory of Uzbekistan. With the implementation of these projects, the volume of export of products to foreign countries will increase, which in future will be exported under the unified marking „UzTextile“.

In 2018, a textile educational and research technopark worth \$ 15 million will be opened in Tashkent, created with the cooperation of the Uzbekstilprom Association and the Ministry of Trade, Industry and Energy of the Republic of Korea.

A cotton country becomes a textile country

The figures and measures make it clear that Uzbekistan is moving forward, which would be the obvious way for many cotton-producing countries to expand the economy around an essential raw material. They are expanding the supply chain, improving the quality of their products, and deepening trade relations for their new goods with potential trading partners to become an exporter of high quality finished products instead of an exporter of raw materials.

The strategy multiplies the value of exports, creates jobs and thus builds sustainable structures, because the source of raw cotton will barely dry up and demand will rise per se by the global population growth.

Fashion and textiles supplement textile machinery

This brings us back to CAITME and the 2018 innovations. In April 2018, the Iteca Exhibitions International Exhibition Company and the recently reorganized UzTextilProm started to a new high-level partnership and signed a memorandum on the joint holding of CAITME and the of the 1st “International Uzbek Textile and Fashion Industries Exhibition - UzTextile Expo”.

The vast business programme will also include the Tashkent International Textile Conference dedicated to development of the textile industry, the roundtables, B2B and B2G sessions, exhibitors’ presentations and many more.

It is expected that this partnership will give a new impetus to attracting professional buyers and fans of environmentally friendly textile products “MADE IN UZBEKISTAN”, foreign investments, new technologies to Uzbekistan, as well as will bring up trade relations to a new level.

The event will demonstrate the latest achievements and innovations of the textile business and fashion industry of Uzbek and world leading manufacturers along the entire production chain - from yarn to ready-made clothing.



To assist local manufacturers in expanding their exports abroad, the Special Buyer Program will be organized once again within the framework of the exhibition. Over the years, more than 500 major buyers from Russia, Ukraine, Belarus, Kazakhstan, Turkey and other countries participated in this Program.

World-famous exhibitors show their leading machines

This is a great addition to CAITME, which in turn will increase in terms of the number of exhibitors. The organizer expects over 400 well-known companies and brands as exhibitors which are going to demonstrate innovation trends and new achievements in textile machinery engineering. In 2017, 353 companies from 22 countries participated in the exhibition, which was visited by more than 9,000 professional visitors. CAITME 2018 will host the Spanish National Pavilion, large expositions of Italian, Turkish, Chinese, Indian, Swiss and South Korean textile machinery manufacturers.

Germany participates with a “German Pavilion” offering a professional brokerage service to help to establish contacts with German companies and comprehensive information on Germany as an important business location.

The German Federal Ministry for Economic Affairs and Energy (BMWi) in cooperation with the Association of the German Trade Fair Industry (AUMA) are once again after 2013 supporting a German group participation, giving 17 companies the platform to present their excellent products and to offer their renowned services to key players and decision makers from all over Central Asia. VDMA Textile Machinery Association has initiated the German participation and will be represented on-site for providing professional advice.

Exhibitors at the German Pavillon are ANDRITZ Küsters, Brückner Textile, Lindauer DORNIER, ERBATECH, Groz-Beckert, KARL MAYER, Neuenhauser Maschinenbau, Oerlikon Barmag & Oerlikon Neumag, Pleva, Saurer, Stäubli-Group, H. Stoll, Terrot, TEXTIMA, Thies, Xetma Vollenweider. More well-known exhibitors presenting at CAITME are A. Monforts (Booth D35), Mayer & Cie. (Booth D70) and Trützschler Group (Booth D30) from Germany, itema Group from Italy, Picanol from Belgium Rieter (Booth D70), SSM (Booth B75) and Uster (Booth C78) from Switzerland as well as Zimmer Austria (Booth B62).

All in all, CAITME 2018 promises to become an extraordinary event that should continue to give a boost to a nascent textile region in Central Asia.

News from Textile Research Centers

Composites

Thermoplastic Composites research consortium (IRG CosiMo) launched



F.l.t.r.: Rob Blackburn (Solvay); Guillaume Morales (Faurecia); Reinhard Schaefer (Faurecia) -; Helge von Selasinsky (ITA); Kim Gingras (Solvay); Jochen Scholler (Premium AEROTEC) -; Prof. Dr.-Ing. Stefan Schlichter (ITA); Dr.-Ing. Daniel Hartung (Premium AEROTEC); Joachim Nägele (Premium AEROTEC); Johannes Treiber (Solvay)

Premium AEROTEC, Faurecia Clean Mobility, and Solvay are proud to launch IRG CosiMo (Industry Research Group: Composites for Sustainable Mobility), the industry's first private consortium focusing on the development of materials and process technologies that will enable the high volume production of thermoplastic composites for both the Aerospace and Automotive markets.

Through a 3 year commitment, Premium AEROTEC, Faurecia Clean Mobility, and Solvay will bring together their expertise, capabilities and resources to hit the R&D milestones set to meet the industry's growth expectations and offer solutions for sustainable mobility. Composite adoption, industrialization and accelerating automotive and aerospace ramp rates are all key focus areas that will be addressed by the IRG CosiMo consortium.

Premium AEROTEC, Faurecia Clean Mobility and ITA Augsburg are also part of an upcoming large project consortium in the Campus Carbon 4.0 program of the Free State of Bavaria, Germany. This public sponsored consortium (CC4.0 CosiMo) is going to develop new materials and processes for in-situ polymerization of Caprolactam to Polyamide 6 for high volume applications in automotive. IRG CosiMo, an extension of this consortium, aims to focus on a wider range of thermoplastic materials and processes. As a partner of IRG CosiMo, the Institute of Textile Technology Augsburg gGmbH (ITA Augsburg) will host and project manage the consortium, coordinate the scientific research program and operate the equipment used for processing new materials into tape and web based thermoplastic composites. All machines will be installed in the Technologiezentrum Augsburg (TZA), the core infrastructural element of Augsburg Innovationspark. In collaboration with IRG CosiMo Premium Partners, all installed equipment can also be used by companies interested to benefit from the network.

www.ita-augsburg.de

Collapsible double bass for mezzo-forte



Looks good and sounds good: a double bass made of carbon

Scientists at the Institute of Textile Technology of the RWTH Aachen University have developed a carbon double bass together with the specialist for string instruments mezzo-forte. However, not only the material is innovative, but also the design, straight and without embellishments. It was the idea not to imitate wood with a new material. Surprisingly the focus of the work at the institute was the dismantling of the instrument. Thanks to the carbon connectors, the bass can be dismantled without affecting the sound. Well, does it sound? Yes, says manufacturer mezzo-forte. And that with volume, warmth, brilliance, and overtone wealth. Furthermore, it is of importance that unlike

wood, the material carbon does not react to temperature fluctuations and moisture. In April, the musical instrument was presented at the Musikmesse in Frankfurt. Now also the string quartet of the RWTH Aachen is to be equipped with carbon instruments.

www.ita.rwth-aachen.de

Technical textiles

Kick-off workshop of the ABE innovation group „Textile Building“



Managing Director and Speakers © 2018 Sabine Schmidt, das-design-plus.de

On July 3, 2018, AACHEN BUILDING EXPERTS e.V., together with the Institute for Building Research (ibac) and the Institut für Textiltechnik (ITA) of RWTH Aachen University and the TFI - Institut für Bodensysteme an der RWTH Aachen e.V., organised a kick-off workshop of the ABE innovation group “Textile Building”. In their group, the participants actively exchange ideas on the subject of textile building. Together with the 42 participants of the event, the workshop hosts promoted the versatile application of technical fibres in the construction industry through intensive exchange between experts from industry and universities and developed common ideas for research projects and the most important aspects of the key topics lightweight construction, sustainability and digitisation.

www.ita.rwth-aachen.de

Aachen textile facade reduces nitrogen oxide pollution and urban heat



Photo montage of the Aachen Central Bus Station after the introduction of green.fACade ITA

Aachen researchers have developed the adaptive textile facade green.fACade, which was presented on 2nd August 2018 in the Aachen Faculty of Architecture of RWTH Aachen University, Germany. green.fACade is installed in front of a building like a second skin and can permanently reduce nitrogen oxide pollution in cities.

The researchers achieve the reduction of harmful nitrogen oxides (NO and NO₂) by coating the facade with titanium dioxide. Titanium dioxide acts as a photo catalyst and enables the oxidation of nitrogen oxides to form washable nitrate (NO₃⁻). Since the facade is also greened, it contributes to the conversion of carbon dioxide into oxygen by photosynthesis. In addition, a green facade creates an optical resting point in the cityscape and reduces urban heat through evaporation cooling. The enclosed pictures demonstrate how the introduction of green.fACade can have an effect. The picture above shows the Aachen Central Bus Station after, the picture on the right before the possible introduction of green.fACade.

green.fACade is part of the innovative research project “adaptive textile facades”, which uses the special properties of textiles. Thanks to its design, textiles can let sunlight and air through, thus contributing to a modern, aesthetic building design. A new feature of the research project is that further elements such as the titanium oxide coating or sun protection elements are integrated into the textile facade and placed in front of the existing building facade. The adaptive textile facade acts independently and thus reduces energy consumption through the positive climatic effects on the building facade.

www.ita.rwth-aachen.de

Smart Textiles

Sensory gloves lighten the load of everyday work in logistics



Moving heavy loads without physical strain using SensHand. Photo: DITF

In spite of advances in automation, many items in warehouses are moved still by hand. Even for lightweight stock of fewer than 12 kilograms, the physical strain on warehouse operatives gives rise to health problems such as back pain. As part of the SensHand project sponsored by the German Federal Ministry for Education and Research (BMBF), the German Institutes of Textile and Fiber Research Denkendorf (DITF), as well as their research partners, have developed a sensory glove that supports warehouse operatives when they are lifting loads.

www.ditf.de

ITA at the Wear It Festival in Berlin



The Wear It team on the main stage of the fair © Wear It Berlin, Michael Wittig, Berlin

Which Smart Textiles can go into series production and when - this is the topic of the “SmartStage Smart Textile Platform” project presented by the Institut für Textiltechnik (ITA) of RWTH Aachen University at the Wear It Festival in Berlin from June 19-20. The platform should help to accelerate the multitude of good product ideas that exist for smart textiles and bring them into series production by cooperation of different partners.

The Wear It team on the main stage of the fair © Wear It Berlin, Michael Wittig, Berlin

News from Textile Research Centers

To date, there are only the first collaboration platforms that do not take full account of the value-added chain. In this platform, ITA complements the modularisation of Smart Textiles and the evaluation of Smart Textiles in the process and value chain. Since there is a great need here, the project is funded by the Federal Ministry of Economics and Energy (BMWi).

The platform is aimed at the players in the wearables sector - textile, clothing and electronics industry, app developers or data scientists and also involves end consumers.

www.ita.rwth-aachen.de

Minister Strobl visited Denkendorf



Karsten Neuwerk explains the functions of an actuator protective vest to Minister Strobl Photo: DITF

On the occasion of a run under the motto “Digitization is running!” which combined sport and information and was organized by marathon runner and former Vice World Champion Jürgen Mennel, Baden-Württemberg’s Interior Minister and Deputy Prime Minister Thomas Strobl visited the ITF Denkendorf. The sports event was a part of the digitization strategy of the state government of Baden-Württemberg.

During the run, the sensory T-shirt developed in Denkendorf was used, which recorded the vital parameters of runners. The subsequent evaluation of the data on the screen made it clear how the heart rate and ECG of the high-performance athlete Mennel differ from the values of a “normal” amateur athlete.

The smart textile can not only be used in sports, but also for elderly people living alone or in protective clothing, for example for firefighters. Intelligent technology alerts help in an emergency. The possibilities in which textiles sensor technology is integrated are manifold. A glove checks blood pressure, oxygen saturation, heart rate, respiration and body temperature and triggers alarm. Sensory socks warn diabetics when pressure on individual regions of the foot becomes too great, preventing pressure ulcers. Wound dressings equipped with intelligent technology monitor and influence the moisture in the wound, combat infections and promote the regeneration of the tissue.

News from Textile Research Centers

Another topic of the Denkendorf researchers presented to the Minister are textile switches. When touched with a finger, the electrical resistance changes, which is electronically detected and used as a switching signal. Sensors in fiber composite materials, such as those used in vehicles or modern buildings, can detect deformation and damage at an early stage.

www.ditf.de

Industry 4.0

Opening of the DITF showcase Digital Engineering



Christoph Riethmüller explains the exhibit on „Textile lightweight construction for room lighting“. Photo: DITF

On May 15, the DITF showcase with a focus on “Digital Engineering”, which was set up as part of the SME 4.0 Competence Center for Textiles, sponsored by the BMWi, was officially opened. Professor Götz T. Gresser, Speaker of the Board of DITF, warmly welcomed the guests from research, politics and business. Above all, this showcase supports textile SMEs in recognizing the opportunities and potential of digitization.

The main topics are “Simulate, Print and Cut for Clothing Production”, “Textile Lightweight Design for Room Lighting” and “Smart Textiles”. In addition to the showcases, the Competence Center offers a variety of events aimed at both beginners and specialists.

On November 15, 2018, the symposium “Textil goes digital: Digitization in Practice” takes place in Denkendorf. All offers are free.

www.ditf.de

People

Retirement of Prof. Dr.-Ing. habil. Hartmut Rödel on March



Prof. Dr.-Ing. habil. Hartmut Rödel © 2018 ITM / TU Dresden/ Christian Hüller

Professor Rödel became Head of the Chair of Ready-made Technology in 1993. At that time, he could already build on numerous years of practical and theoretical experience gained at the Institute of Textile and Clothing Technology, as it was formerly known. He considered it a great privilege to support talented and highly motivated national and international students on their career path, whether it led to a career in research or in industry. Thanks to Professor Rödel's great commitment, the Chair of Ready-made Technology – characterized by a conceptual orientation that is unique among all German universities – was firmly anchored in the national and international research landscape.

tu-dresden.de/ing/maschinenwesen/itm

Dr.-Ing. Monireh Fazeli Zoghalchali awarded



Dr.-Ing. Monireh Fazeli Zoghalchali with the examining board © 2018 ITM / TUD

Dr.-Ing. Monireh Fazeli Zoghalchali from the ITM is awarded the Innovation Prize of the Industrieclub Sachsen 2017 for her dissertation “Technology Development for Woven Knot Structures with Complex Geometry in Integral Design for Fiber Composite Applications.” The prize is worth EUR 5,000 and is awarded annually to a TU Dresden graduate.

tu-dresden.de/ing/maschinenwesen/itm

Dr.-Ing. Iris Kruppke honored with the Manfred Hirschvogel Prize 2018



Award ceremony of the Manfred Hirschvogel Prize (f.l.t.r.): Prof. Dr.-Ing. habil. Dipl.-Wirt. Ing. Chokri Cherif (ITM, Institute Director), Dr.-Ing. Iris Kruppke (ITM, prizewinner), Armin H. Maudrich (board member of the Frank Hirschvogel Foundation) and Prof. Dr. med. Fritz Aldinger (member of the board of trustees of the Frank Hirschvogel Foundation) © Christian Hüller

On June 16, 2018, Day of the Faculty of Mechanical Engineering, Dr.-Ing. Iris Kruppke, research assistant at the ITM of the TU Dresden, has been honored with the Manfred Hirschvogel Prize. The prize is worth EUR 5,000 and has been awarded annually since 2013 to all TU9 universities - the nine leading technical universities in Germany - for the best doctoral degree in the field of mechanical engineering in the past year.

As part of her dissertation “Development of methods for the realization of tailor-made adhesion properties of fiber-based high-performance materials for composites”, Dr. med. Kruppke has worked on oxyfluorination as a surface treatment method. This highly efficient process, which is used for surface functionalization, in future will be used in particular for the development of new tailor-made carbon fibers.

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