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Sustainability - The implementation is gathering pace!

- **Interview with Dr. Gerd Müller,** Federal Minister for Economic Cooperation and Development (BMZ) Germany
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Content

Dear Reader,

2017 is now a few weeks old and is already beginning to present itself somewhat as a year of confusion. The USA has a new President since the 20th of January, Donald Trump, who keeps the world in suspense via Twitter. The past years had at least the appearance of constancy and a clear allocation of roles whereas now the number of those who have no idea of what the future holds is growing.

We are not political in nature but have taken up the topic for the sole reason of the textile industry being such an international network and so globalised. The reasons for this are simple. The textile industry still consists of a very high proportion of 'cut, make and trim' conducted by people and therefore focuses on the benefits provided by low-wage countries despite the advent of mechanization and automation. It is of importance for these countries as the textile industry is often one of the cornerstones supporting the gross national product and exports. Do we want or are we able to reverse globalization? While one person may consider it a possibility others try to make it fairer and more sustainable. For example Germany, Holland and Denmark have established textile associations which gather a large part of the garment industry together and define objectives and rules such as how worldwide fairness and ecological equitability towards future generations, commonly referred to as environmental protection, should be achieved. The topic of sustainability has increased momentum in the past year and - as ever at the beginning of the year - we present the essential milestones along the textile value added chain.

We are very pleased also to have two very special partners in an interview on the topic of sustainability. La Rhea Pepper from the NGO Textile Exchange, who has characterized the topic in the textile industry like no one else, provides insights into her aims and personal hopes. Then also the German Federal Minister Gerd Müller, father of the German textile assocoation, tells us the basis of his motivation and aims for sustainable textile production.

The fact that the textile industry is able to accept the offshoring of jobs to low-wage countries and where many companies are able to find production niches in high-wage countries due to the excellent quality of work, show two upcoming, extremely successful trade fairs very clearly. The Index 17 is one of the most important industry trade fairs for nonwoven materials where all indicators point to continued growth in the industry. In our preliminary report we present numerous innovations for your consideration. The leading trade fair of the world for technical textiles, the Techtextil, is our comprehensive special feature in the next issue.

Both sectors share constancy as a common subject. Constancy with regard to innovation, quality, flexibility and productivity. What remains in the end is with great probability also the characteristics that guarantee success. Where markets are closing, new ones are opening. Where cash cows collapse, new star products arise. There are more disruptive industries than the textile industry and textile machinery construction, neither of which the world is able to forego. On the contrary. A growing world population needs more clothing and technical textiles and nonwovens continue to have - also as composites - a great deal of potential to move forward into new fields of application.

On this note we wish you a most successful and healthy New Year!
We are as always looking forward to your comments and suggestions to redaktion@texdata.com.

Best regards
Oliver Schmidt

Sustainability - The implementation is gathering pace!

by Oliver Schmidt

At the beginning of last year, on the subject of sustainability we stated that it could be a very special year. A turning point with an incipient phase of methodical action for continuous increase in sustainability along the textile value-added chain. In our this year's report we want --as usual-- to present crucial improvements, especially in terms of sustainable materials and eco-friendly technical processes, and, furthermore, examine whether there are any initial significant outcomes of the action phase.

Photo © malp

In the interests of consistent terminology, we wish to start, however, by reiterating our definition of the word “sustainability”, as it is often used in a vague sense. Our definition conforms with the one formulated by the Brundtland Commission of the United Nations on 20 March 1987: “sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Sustainability along the textile value-added chain therefore means the sustainable production of fibres, starting with the extraction of raw materials using a minimum of resources, the energy-saving, resource-efficient and eco-friendly production of yarns, and the manufacture of textiles, such as home textiles, clothing and technical textiles, based on moderate working conditions, decent wages and eco-friendly processes.

Preferred fibers and materials

Let us begin as usual with the fibres. The simplest solution for increasing sustainability when using fibres and threads is to follow the “preferred fibres and materials” strategy of Textile Exchange. This strategy was also the focus of the 2016 annual conference in Hamburg. „Preferred Fibers and Materials“ are fibers and materials that have beneficial environmental and social attributes compared to their conventional counterparts.

For instance, organic cotton and even BCI cotton is clearly more sustainable than conventionally grown cotton and recycled polyester is more sustainable than virgin polyester. Textile Exchange has various publications that provide a comprehensive list of the “preferred fibres and materials”. We have presented most of these materials in our previous issues and, therefore, they need only be touched upon here.

Apart from organic cotton that is produced following strict guidelines, programmes such as Cleaner Cotton, Bayer e3, Cotton made in Africa, (CmiA) and the Better Cotton Initiative (BCI) are also a part of sustainably-produced cotton. Other sustainable natural materials include organic and recycled wool, organic silk and down, provided they comply with the standards approved by TE.

For organic cotton TE has launched a new website http://aboutorganiccotton.org which offers current information. The statistics provide the following data for the year 2015. The data for 2016 is not available as yet. In 2015 112,488 metric tons of organic cotton fiber have been produced on 350,033 ha organic certified land by 193,840 organic farmers. The yield was 321kg/ha.

After seeing a 10 percent rise in production of organic cotton last year, 2014/15 saw a slight downturn of 3.8 percent. However, production looks set to increase again in 2017/18 when a number of in-conversion programs in India reach certification. It takes three years for convetial farmers to convert their land to certified organic.

In total there are currently 19 countries growing organic cotton, though the top five growing countries (India, China, Turkey, Kyrgyzstan and USA) account for more than 92% of production. India alone accounts for 67%. According to ICAC the whole cotton production for the 2014/2015 season was 26.12 million tons what means that organic cotton has a total share of about 0.5% of world production.

The Better Cotton Standard System is a holistic approach to sustainable cotton production which covers all three pillars of sustainability: environmental, social and economic. The production principles and criteria lay out the global definition of Better Cotton, by upholding the 6 principles. Better Cotton is produced by farmers who minimise the harmful impact of crop protection practices, use water efficiently and care for the availability of water, care for the health of the soil, conserve natural habitats, care for and preserve the quality of the fibre and promote decent work.

The system is designed to ensure the exchange of good practices, and to encourage the scaling up of collective action to establish Better Cotton as a sustainable mainstream commodity. With strong support from more than 1000 BCI Members, the Better Cotton Initiative wants to change the game for more sustainable cotton.

According to the BCI Annual Report, globally, Better Cotton was produced in 21 countries over 5 continents, reached 1.6 million farmers, was grown on 3.4 million hectares, producing 2.6 million metric tonnes of Better Cotton lint. More than 461,000 metric tonnes of Better Cotton lint were procured by 54 BCI Retail and Brand members in 2016. The leading BCI Retail and Brand Members sourcing Better Cotton globally were: H&M, IKEA, adidas, Nike, Inc, Levi Strauss & Co, C&A, Marks and Spencer,JACK & JONES, BESTSELLER, VF Corp and Tommy Hilfiger. BCI Retail and Brand Members are setting their sights on doubling their 2016 performance this year to 1,000,000 metric tonnes sourced as Better Cotton lint.
BCI cotton has a total share of about 10% of world cotton production.

textileexchange.org

www.aboutorganiccotton.org

www.bettercotton.org

What is apparent here is the large gap between the BCI cotton produced, i.e. 2.6 million tonnes, and the cotton utilised, i.e. "only" 0.46 million tonnes. At a certain point, the excess cotton that is not demanded by the BCI members goes into the supply chain as conventional cotton. On the one hand, this is good because more "preferred fibres" are used in the market than what is apparent; on the other hand, it is a pity because a "preferred fibre" should be given appropriate prominence over its conventional counterpart. Better Cotton is not sold at a premium – BCI takes a "price neutral" stance, and the market influences the price.

Why is the entire crop of BCI cotton not demanded by the members? We asked Morgan Ferrar, Communications Officer Better Cotton Initiative this question. He pointed out various factors for this. First he mentioned that BCI is very young. The first cotton harvests took place in 2010/2011. In this implementation phase, it was BCI's intention to build supply first. Demand is only now just starting to pick up and members need to learn. His second point is the total number of brand and retailer members which is 66 at this time.

The third reason may be the price of Better Cotton which is up to market forces. And last but not least brands and retailer members have to pay a a volume based fee to BCI. It is paid to fund the field implementation of the Better Cotton Standard System and is based on the amount of Better Cotton the member procures.

Our own speculations suggest the possibility that brands and retailers meter out the demand in such a way that price stability is ensured through continuous surplus supply. On the other hand, a demand exceeding the supply could rapidly lead to increase in prices. It is, in our opinion, perhaps also a strategy of retailers to not shift to the "sustainable" aspect in their product range too radically, as otherwise consumers could begin to undervalue the "non-sustainable" products in the range. Also, consumer attitude towards sustainable products could have its own momentum, which the retailers' products may not able to keep up with at short notice. Therefore, drastic changes can also be expected in the product range. So much for the topic of cotton.

Man-made fibres can initially be classified into petroleum-based, biobased sugar and biobased cellulosics. Sustainable petroleum-based fibres include recycled polyester and recycled nylon, offered e.g. under the brands Repreve, Eco Circle Fiber or ECOPET by manufacturers like Unifi und Teijin. Lycra® 162R by Invista, PTT [poly trimethylene terephthalate] under the brand Sorona by Dupont and PLA [polylactic acid] under the brand Ingeo by NatureWorks, etc. belong to the biobased sugar fibre category.

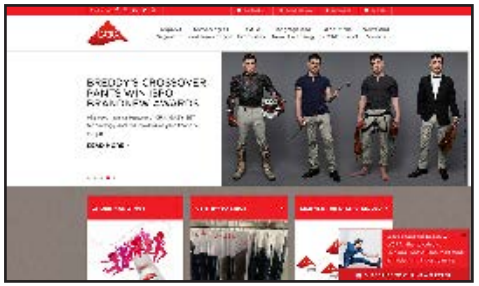
Lycra® 162R by Invista has been introduced to the market in 2014 and offers the first globally available bio-derived elastane. It is a general purpose elastane for knit and woven fabrics. Approximately 70% by weight of this fiber comes from a renewable source made from dextrose derived from maize. Use of this fiber requires no reengineering of fabrics or processes.

In 2015 LYCRA® T162R fibre has been nominated for the Innovation Award “Bio-based Material of the Year 2015” at the “8th International Conference on Bio-based Materials”. Further information about the fibre is available on the B2B website https://connect.lycra.com. Here, Lycra writes that the introduction of LYCRA® BIO-BASED technology reflects the commitment of INVISTA to its sustainability program, called Planet Agenda, which touches every aspect of our apparel fiber business. Planet Agenda has been launched in2008 by INVISTA to communicate its environmental, health, safety and community commitments.

However, in our opinion, this more sustainable fibre is not promoted well enough on the website and a visitor does not get the impression from the website that s/he should opt for this fibre. The visitor must already come with this intention.

DuPont Sorona is a breakthrough, versatile and high-performance Biopolymer. The renewably sourced fiber is proof of DuPont’ s commitment to create innovative solutions that help reduce dependence on fossil fuels and reduce greenhouse gas emissions. By using glucose from corn starch as the basis for Bio-PDO™, a bio-based monomer, DuPont created a renewably sourced ingredient for bio-based fibers, like Sorona. A $100 million dollar Bio-PDO™ plant was built in Loudon, TN as a joint venture between DuPont and Tate & Lyle.

Sorona allows mills and designers to combine the benefits of renewability without sacrificing the need for a versatile material that offers high performance and design freedom across applications. Sorona contains 37 percent annually renewable plant-based ingredients. Even better is its environmental footprint. Producing Sorona uses 30 percent less energy and releases 63 percent fewer greenhouse gas emissions compared to the production of nylon 6. Compared to nylon 6,6 Sorona production uses 40% less energy and reduces greenhouse gas emissions by 56%.



connect.lycra.com

www.dupont.com/products-and-services/fabrics-fibers-nonwovens/fibers/brands/dupont-sorona.html

www.lenzing-fibers.com/en/tencel

Sorona biopolymer is used in residential and commercial carpets, apparel and automotive mats and carpets. With the highest bio-based content in the synthetic carpet fiber market, Sorona offers durability and stain resistance.

For biobased cellulosics the brand Lenzing TENCEL should be mentioned before any other.

The lyocell fiber is of botanic origin, since it is extracted from the raw material wood. Fiber production itself is extremely ecofriendly, due to the closed loop system. Lenzing says that on the day that the fiber TENCEL® was invented, a new chapter was written in the history of fibers. Textiles of TENCEL® are more absorbent than cotton, softer than silk and cooler than linen.

In July 2016 Lenzing has launched a new TENCEL® fiber made from cotton waste fabrics to drive 'circular economy' solutions in the textile industry. The new generation of lyocell fibers combines cotton waste recycling with Lenzing's pioneering closed-loop TENCEL® production on a commercial scale. Lenzing is the first manufacturer worldwide to offer such cellulose fibers incorporating recycled materials on a commercial scale. Lenzing beleives that TENCEL® from cotton waste fabrics will further build Lenzing's reputation as a leader in the field of environmental technology and will push new solutions in the textile industry towards circular economy by recycling waste.

The fiber is not sold directly to yarn or fabric manufacturers. It is exclusively offered to leading retailers and brands that in turn could produce their garment collections in the most sustainable way by engaging the right value chain partners. This ensures close co-operation and transparency in the entire textile value chain.

In February 2017 the new fiber from cotton scraps left over from cutting operations and wood has been introduced to the market with name Refibra.

In December 2016 Lenzing announced the investment in new State-of-the-art 90,000 tons TENCEL® fiber plant to be built in Mobile, USA. The Lenzing Group currently has a worldwide production capacity of 222,000 tons per year of TENCEL® fibers. The new plant in Mobile plus the already announced debottlenecking projects at the other TENCEL® fiber sites will increase the total TENCEL® fiber capacity by more than 50 percent by 2019. The decision to build this plant in the US was supported by the good infrastructure at the Mobile site and attractive energy costs.

Lenzing Viscose® and Lenzing Modal® fibers including all their product families were awarded the Biobased Product Label granted by the U.S. Department of Agriculture (USDA). The prestigious certification is further proof that all standard types of fibers produced by Lenzing are fully derived from the natural and renewable raw material wood. The company's Lyocell fiber TENCEL® has already been certified as 100 percent biobased content since 2011. Lenzing FR® has now also been certified as 99 percent biobased.

The residual amount is for material used to make the fiber fire-resistant.

So much to the fibers.Let us briefly go back again to the Textile Exchange Conference 2016 and the conference motto: „Preferred Fiber and Materials - Creating Material Growth“. The event featured progressive sessions led by the world's foremost thought leaders and included hands-on learning and networking opportunities. Over 400 people representing 258 companies from 39 countries participated in the Conference and the Organic Cotton Round Table to be inspired and equipped to influence change and produce positive impacts in their respective regions around the world.

The conference motto essentially describes the bottom line for the year 2016 as well as for 2017. The aim now is to implement sustainability along the textile supply chain not only in flagship projects but also comprehensively and in an integrated manner. In the last few years, Textile Exchange has created ideal prerequisites for brands and retails for this purpose: these include standards, certifications, best practices, materials, strategies, and a benchmarking system to allow self-classification and setting of goals. Among other things, information about the following changes has been provided in the supply chain track: there is a paradigm shift in the industry to a more holistic approach towards sustainability and this approach found in a corporate culture includes ecology, working conditions, fair trade relations, sustainable production and sustainable consumption. The conceptual thinking includes all supply chain partners and does not end at the employee-level or customer-level. Reputation and innovation investment is more “sustainable” than just risk management and auditing. And transparency along the supply chain requires management systems as well as monitoring systems (two-fold, social as well as environmental).

To improve their sustainability companies should increase certified materials as they can be a tool for mapping the supply chain to trace products back to the raw material and they shold track progress and be honest to themselves because figures will not match at the beginning. Furthermore they should work on “strategic supply chain” as a midterm goal and should be prepared to find risks further down the supply chain. It is good to focus on key materials and key supply chain partners first.

For textile companies within this sustainable supply chain it will be essential on the one hand to identify and retrace sustainable materials and, on the other hand, to have a sustainable production technology, particularly in the area of dyeing, washing and finishing.

Sustainable textile machines

This brings us to the production of yarns and textiles and hence to machines. Sustainability continues to be an important topic in the textile machinery sector after the ITMA. A number of innovations for improving sustainability were presented again at the ITMA Asia. Apart from occupational health and safety, sustainability in textile machine construction mainly implies a reduction in energy consumption and, in wet areas, water conservation as well as eco-friendly dyeing, coating and drying processes.

China continues to expand the infrastructure construction sector, accelerate urbanisation and increase awareness of the environmental protection under the government's 13th Five-Year Plan period (2016-2020). And, therefore, ITMA Asia was also a yardstick to gauge the willingness of Chinese and Asian textile firms to generally invest more in sustainability. And the results were impressive. Featuring the largest showcase in the series since its launch in 2008, the ITMA ASIA + CITME 2016 textile machinery exhibition received a very strong response from visitors.

The topic of sustainability was on the top of the agenda in almost all companies and associations. A few examples are as follows.

On the occasion of the **VDMA** press conference on the opening day of ITMA ASIA, Fritz P. Mayer, chairman of VDMA Textile Machinery and Associate of Karl Mayer Textilmaschinenfabrik emphasised that German technology can play a major role in efforts to make the environment cleaner, to increase the energy efficiency and so the competitiveness of textile producers. "For some time now, VDMA member companies have been focusing on the issue of sustainability for their products, in order to satisfy the demand for efficient technology solutions that effectively cut back on consumption, and consequently on production costs" explained Mayer. New technology is the number one key to better products and competitive production. And, technology is one precondition for resource and energy saving, he explained. Professionally investing customers are happy to pay for sustainable technologies and improved energy efficiency. VDMA calls this „Sustainability meets profit", Mayer concluded.

www.itmaasia.com

www.machines-for-textiles.com/home

www.green-label.it

VDMA started its sustainability initiative Blue Competence, to which over 40 textile machinery companies have adhered, already back in 2011. Instead of scientific certification experiments and theoretical approaches, VDMA always focused on best practice examples. First to mention is an analysis by VDMA experts that examined the energy saving effects over the entire production chain of five textile products: A cotton T-Shirt, a functional T-Shirt a textile billboard, an architectural textile and a hygienic nonwoven. The result of this in-depth analysis is impressive: In the production of these products up to 30 percent energy can be saved with German technology of today compared to the one available 10 years ago. Details of this analysis are available as a brochure at the VDMA.

The Italian textile machinery association **ACIMIT** reported that the Chinese market is the primary destination for Italian exports. In the first half of 2016, the value of Italian machinery exported to China totaled 152 million euros (+11% over the previous year), around 17% of Italian total exports. The other main destinations of the area for Italian companies are India, Bangladesh, and Pakistan. The demand for machinery in Asia focuses mainly on machines capable of combining savings in production costs with respect to environmental issues.

Around 40 Italian machinery manufacturers have signed up to ACIMIT's "Sustainable technologies" project, committing themselves to supplying increasingly sustainable machinery, both from an economic and environmental standpoint.

The project is an initiative supported by the Ministry of Economic Development and by the ICE-Italian Trade Agency and is documented on the new website www.green-label.it presented during the ACIMIT press conference at ITMA ASIA. "A website is an additional tool made available to textile operators," comments ACIMIT's President, "aimed at providing a better understanding of what we want to achieve in terms of sustainability."

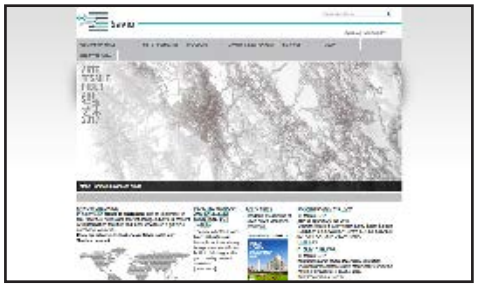
One of the ACIMIT members supporting sustainability is **Savio**. Savio showcased the new Eco PulsarS automatic winder in China for the first time. EcoPulsarS, with its innovative platform can save up to 30% power bill, reduce yarn waste, air conditioning costs & noise inside the spinning room. Eco PulsarS, with its sustainable eco-green advantage, replies to the market demand of energy saving, together with improved production performances, high quality packages and utmost flexibility.

Another "Supplier of Sustainable Technology" and certified with ACIMIT' s GREEN LABEL is the weaving machinery manufacturer **ItemaGroup**. It is Itema' s commitment to making its weaving machinery ever-more efficient and climate-friendly, and, as a result, helping its customers reduce the environmental impact of their end products. One example of this commitment is the premium rapier machine R9500p first seen at ITMA in Milan. Running at real production speeds of 750 rpm, the R9500p offers the ultimate and unmatched solution in terms of machine speed, performance, efficiency and fabric quality. A new main motor with oil cooling enables heat recovery thanks to the reduction of the motor temperature, making the R9500p more efficient. Last, but not least, the R9500p, like its sibling

R9500, is the most compact rapier loom on the market, saving from 12% up to 27% floor space compared to competition – a significant advantage enabling textile companies to maximize the weaving space by installing more Itema machines.

Saurer has introduced its E³ strategy in 2015 and has explained at ITMA Asia 2016 that E³ also means "zero waste" and Saurer has been moving consistently in this direction. Saurer said that the desire to minimise resource consumption has caused all sectors to rethink their priorities. Sustainability is in demand and the new target in the textile industry and elsewhere is: zero waste. With its E³ strategy, Saurer has been moving consistently in this direction for some years. One example. The target of zero waste in the winding process is realised by the Saurer Schlafhorst Autoconer 6 more effectively than any other automatic winding machine.

It consumes up to 20 % less energy than its predecessor, reduces yarn waste and saves on compressed air. Schlafhorst consistently exploits potentials to achieve feasible savings. The key variables on the route to zero waste are: volume of yarn waste, energy consumption, compressed air consumption and personnel input. The E³ development philosophy of Saurer also has the aim of saving resources in downstream processes. And Schlafhorst continues to work intensively on the issue of sustainability since the various aspects of resource consumption are increasingly significant factors in purchasing decisions and have immense importance for the day-to-day use of textile machinery.



www.saviotechnologies.com

www.itemagroup.com

www.saurer.com/en/e3-triple-added-value

Karl Mayer presented the new LOW ENERGY OPTION (LEO) at ITMA Asia. LEO is KARL MAYER's new energy-efficient technology. Based on a well coordinated interaction of drive technology, oil viscosity, thermostable machine components and operating temperature, this innovation results in the reduction of energy consumption. Key aspect of this sophisticated technology is the use of extremely energy-efficient main motors and machine components which, after certain modifications, enable the machine to run at a higher operating temperature than before. If the operating temperature increases, the viscosity of the oils, and thus the friction and the resulting energy demand decrease. Despite the higher operating temperature, the well-known gauge accuracy of the tricot machines remains stable, thanks to KARL MAYER's CFRP bar technology.

Lightweight components have already been used in KARL MAYER machines since 2007. The new self-developed technology LEO has been used since February 2016. LEO features as standard on all the HKS machines scheduled for delivery from 1. February 2016 onwards.

As a globally oriented family-run company, KARL MAYER takes its responsibility for future generations particularly seriously. Sustainability is not only an important strategic issue for KARL MAYER, but they actively implement it in different specific projects. For its warp knitting machines and warp preparation units, KARL MAYER develops and produces technical solutions with ecological benefits.

Continuing its aim to ensure energy savings and other sustainable benefits, **Monforts** presented a wide range of new products and solutions at ITMA Asia. The company presented its latest developments for heat recovery and exhaust air cleaning following the trend towards further reduced energy consumption and the growing demand for exhaust air purification. The new Eco Booster is also available as a retrofit version for installation on existing stenters or as an integrated version into the new Montex 8500 stenter.

Low maintenance and no standstill times, due to automatic cleaning processes, are the key benefits for Monforts Eco Booster. An exhaust air cleaning unit can be directly linked to the Eco Booster heat recovery unit. Smell and visible particles in the air will be extracted by this system. VOC`s (volatile oxygen compounds) can be filtered out with an additional UV-C system. We have already presented one of the most sustainable machines in the coating area, the Monforts Eco-Applicator, in the previous issue.

Continuous research and development efforts have made **BRÜCKNER** machines today even more efficient and increased their service life and support the customers in minimizing their ecological footprint. Only one example: an indirect gas heating system has been developed particularly for the finishing of knitted fabric, which saves in combination with a special heat-recovery system energy and prevents the yellowing of the fabric. This is of particular importance in case of sensitive fabric containing elastane.

If a company does not want to invest in a completely new line, BRÜCKNER offers a modification of the heating system for example from oil to indirect gas heating.

And BRÜCKNER developed a new minimum application unit. This application unit works with a minimum liquor tank of approx. 2.5 l for each m of working width. The minimum application quantities require in the following processes (for example drying or curing) clearly less water evaporation which has a positive effect on the energy requirement at the respective dryer. In addition there is no waste or prodigality of chemicals and no expensive disposal is required since the contents of the liquor tank can be used almost completely.

iNTERSPARE Textilmaschinen offers textile companies using Artos (Babcock, Famatex), Krantz and Stentex branded finishing machines for their production the excellent opportunity of being updated on innovative modifications to their installations. There is a 5-digit number of existing systems from the Artos, Babcock Krantz, Stentex, Hacoba, Müller und Famatex product lines at textile companies in 116 countries. A lot of these systems, installed by Artos, Krantz, Deutsche Babcock Textilmaschinen and Moenus over the past 50 years, are still used for drying and finishing textiles. Based on a growing need for productivity as well as sustainability, managing director Polchow sees a greatly increasing demand for new systems and upgrades in the near future. A consequence of a modification is for example improved energy efficiency. Not only is greater economy attained but also an improved ecological performance - very important for sustainability strategies by textile producers and the satisfaction of the demands of larger brands and retailers.

www.karlmayer.com/en/

www.brueckner-textile.com/en/

monforts.de/index.php?L=0

iNTERSPARE sees its range of latest machines on a very high level. Already in their basic construction the shrink dryer Krantz Syncro as well as the stenter frames Krantz K30 and Artos Unistar are designed to use energy in a very efficient way and therefore save a lot of energy. One example is the patented Econ-Air energy saving system which routes the used air target-oriented through the stenter frame and with only one central exhaust fan a lot of energy can be saved. Up to 15-20% of energy compared to conventional processes may be saved with this airflow.

Thies Textilmaschinen offers a new 2016 version of its soft-TRD SIII. The construction of the soft-TRD SIII combines the perfect running conditions of the famous soft-TRD SII with the latest short liquor ratio technology. With liquor ratios starting as low as 1:5 a variety of sensitive fabrics can still be treated gently and at the same time economical. Together with a high-performance temperature control system it makes the soft-TRD SIII even more ideal for polyester fabrics.

soft-TRD SIII has been specifically developed to meet the requirements of stringent international and local environmental protection regulations with simultaneous consideration of its economic efficiency.

These examples taken from the various different processing stages along the textile value-added chain illustrate the enormous diversity of the various solutions for enhancing sustainability and the huge energy and water-saving potential that has been exploited in recent years by focusing attention on this particular area. The availability of innovative solutions and above all the exhibitors' unison in stressing their commitment to the cause, coupled with high demand on the part of visitors, demonstrates that a comprehensive modernisation of technology in the interests of enhancing sustainability in the textile industry is already underway also in China and Asia.

www.interspare.com/home.html

www.thiestextilmaschinen.com/

www.truetzschler-spinning.de/en/products/t-data

Sustainable production means fulfilling the highest possible demands with respect to all processes and hence requires every single supplier in the supply chain to utilise the most advanced production processes. This is resulting in high investment pressure. Brands and retailers want to manufacture in accordance with sustainability criteria, with the result that their suppliers are having to toe the line. As strikingly underlined at the ITMA 2015 and ITMA Asia 2016, this is the approach currently being adopted and first-mover status has been and gone. The theme is already being addressed by the vast majority of market players forming the global backbone of the textile industry, and will have permeated the entire industry in a few years' time, especially in the light of further developments which are likely to accelerate the trend.

Certified plants and factories

Let us take a look at an entirely different aspect of textile machinery--i.e. as a part of a plant or factory that wants to get certified as sustainable. Such certification is required, for example, if a plant or factory is involved in the production of GOTS [Global Organic Textile Standard] certified textiles. All processing and packing companies as well as wholesalers (= dealers involved in B2B business) within the supply chain of a textile product that is sold, labelled or presented as GOTS-certified have to be certified by GOTS.

An annual on-site inspection at the processing, packing or trading company by independent and specially authorised certification bodies forms the basis for their GOTS certification. The central elements of the inspection protocol include retracing the goods flow of the bio fibres, evaluation of all materials and tools used, verification of the environmental management system and, in particular, the waste water disposal system, compliance with social criteria, and implementation of a residue analysis based on risk assessment.

The number of facilities certified to the Global Organic Textile Standard (GOTS) kept on growing last year, increasing from 3,663 facilities in 2014 to 3,814 facilities in 2015. GOTS certified facilities are now located in 68 (63 in 2014) countries around the world. Growth is evenly spread across all market segments including the mass market and the big brands. GOTS is recognized worldwide as the leading processing standard for textiles made with organic fibers, and GOTS certification enables consumers to purchase items that are certified organic from field to finished product.

Countries or regions with the largest increase in GOTS certification in 2015 are (in order by rank): India (+74), Europe (+58) Turkey (+27) and Bangladesh (+21). The Top Fifteen countries in terms of the total number of GOTS certified facilities are: India (1,441), Turkey (489), Germany (306), Bangladesh (210), China (201) Pakistan (142), Italy (141), Portugal (89), South Korea (80), Japan (65), USA (60), France (56), UK (49), Austria (49), and Denmark (41).

The organization also announced in February 206 that to-date, the GOTS accredited independent certification bodies report 847,749 people working in 2,799 (out of the actual 3,814) GOTS certified facilities. The number is likely to reach one million when the final figures are received.

By the way: the revision process of GOTS Version 4.0 has commenced. Announced at the Certifiers Council meeting in February 2016, a first revision draft for GOTS Version 5.0 has now been released to stakeholders for their inputs and comments, beginning in April 2016. 23 External Stakeholders, 18 Approved Certifiers and 4 constituent organisations are requested to submit their contributions to the GOTS Technical Committee through a revision blog.

Just as certified raw materials, certified plants are certainly a key criterion for ensuring transparency and compliance with sustainable textile production. In order to make these comparable within the framework of continuous improvement in sustainability, it will, however, be necessary as part of carbon footprint analysis to also have precise knowledge of the energy and water consumption of the machinery and to allocate this to the respective textiles. This begins in the spinning mill itself and the required technology is already being provided by machine builders. For example the quality and production data system Trützschler T-Data for spinning mills processes more than just the regular data. Trützschler sensors are used to determine neps in the card sliver, distances of carding elements and also actual energy consumption of the machines. The web-based T-DATA ensures mobile availability of all these data.

The organisation which has made it its objective to provide to the consumers precisely this kind of information about carbon footprint, water consumption and usage of chemicals on wash symbols in the near future is Sustainable Apparel Coalition.

Wash symbols for consumers with sustainability aspects

The Sustainable Apparel Coalition is an industry-wide group of 189 leading apparel, footwear and home textile, brands, retailers, suppliers, affiliates, nonprofits/NGOs, and academic institutions working to reduce the environmental and social impacts of products around the world, we have introduced to you shortly after their start in 2012. In 2016 the SAC made a big step forward reaching its ambitious goals. In June the SAC and the Outdoor Industry Association® (OIA) have signed a new memorandum of understanding, signifying another step in their five-year-old partnership to drive environmental and social best practices in the global apparel, textile and footwear supply chain. Both want to ensure broad adoption of and alignment around the Higg Index as the “go-to” supply chain sustainability management tool for the companies in the industry sectors in which it applies, starting with apparel and footwear. More shared objectives are to avoid duplication of efforts among groups and serve as a model for other industries as a collaborative effort and catalyst for change, to see significant progress toward a fully networked/connected supply chain, sharing common environmental and social performance data and to demonstrate

reduction of adverse environmental and social impacts across global supply chains. The new agreement includes specific Higg Index adoption targets set by OIA for its members, as well as a commitment from the SAC to provide OIA members with access to the Higg Index web tool through 2017 and beyond.

In August the SAC has opened use of the Higg Index to non-member small and medium-sized (SME) brands and retailers. SME companies may take advantage of a special license for full access to the Higg Index at www.higg.org and join the industry-wide approach towards increased supply chain sustainability and transparency. The Higg Index is the Coalition's suite of tools that provides a common approach for measuring and evaluating supply chain impacts. By increasing the number of small and medium-sized companies participating in the Higg Index, the SME Access program will also bolster reporting and impact from a wider spectrum of the supply chain, increasing overall insight and value.

The SAC developed the Higg Index 1.0 in 2012 and released Higg 2.0 in November 2013 to its members and non-member manufacturers to include more enhanced content and further enable the industry to scale the use of the index through a web-based tool. As of July 1st, 13,427 Higg Index assessments have been posted by 6,319 companies to empower brands, retailers, and facilities to measure their environmental and social and labor impacts for a holistic overview of sustainability in the industry.

With this next step the SAC wants to increase access and adoption of a common measurement standard and basis for sustainability improvements within the global apparel, footwear and home textile industries. By increasing the number of small and medium-sized companies participating in the Higg Index, the SME Access program will also bolster reporting and impact from a wider spectrum of the supply chain, increasing overall insight and value.

In July the SAC has launched the Materials Sustainability Index (MSI) Contributor, a new addition to the Higg Index suite of tools that allows material suppliers and experts to submit apparel, footwear, and home textile material data into the Higg MSI. The MSI Contributor will allow SAC to expand data around materials sustainability to inform design, development and sourcing decisions for its members. And In November the SAC released a new and improved version of its Higg Materials Sustainability Index (Higg MSI). The Higg MSI is a ground-breaking cradle-to-gate material scoring tool that measures and communicates the environmental performance of thousands of materials used in creating apparel, footwear and home textile products. The publicly available tool allows design teams and global supply chain participants to select more sustainable materials during product design and development.

"The new materials database/MSI represents a leap forward in standardizing the way apparel companies profile materials, sustainable or otherwise," said Barruch Ben-Zekry, VF Corporation's Director of Sustainable Products and Materials.

"This provides the type of certainty in interpretation that will help guide our industry toward better materials choices. At VF, we've already begun to integrate the MSI into our internal systems of product impact measurement and we will continue to advocate that others do the same."

In December, the SAC launched the Higg Index Design and Development Module (DDM). The Higg DDM empowers product designers and developers to make sustainable choices at the earliest stage of apparel, footwear and textile prototype design. "Product designers and developers' choices can influence over 80% of the environmental impact created by a product," said Jason Kibbey, CEO at the Sustainable Apparel Coalition. "Empowering them with credible information to make better choices in the early stages of product creation can benefit the people and communities where the products are made, consumers, and our environment as a whole."

Designers have the most freedom to minimize eventual environmental impacts of the finished product at the earliest stage of the design process. The data collected through the Higg DDM, which replaces Higg's Beta Rapid Design Module, helps steer them toward selecting lower impact materials, using more efficient construction techniques, and considering the complete life cycle of the product. After completing a simple product assessment, the Higg DDM provides members with a single design score, making it easy to compare design concepts and make quick decisions before production.

The Higg DDM provides useful benchmarking and analytics that allow users to compare products or defined groups of products to each other, to company averages, and to industry averages. Using the Higg DDM encourages continuous improvement by teaching designers and developers where they have the most control over the impact, and by giving rapid feedback on how to improve their score.

Efforts of governments and in politics

And what is the situation in terms of stepping up the efforts of governments and in politics? The German Textile Partnership [Textilbündnis] has grown further in the previous year and had a total of 188 members in November. At the end of 2015 itself, with 160 members almost half of the German textile economy (almost 50 percent market coverage as per turnover) was united with politics and civil society. In November 2016, the Textile Partnership agreed upon the next steps for the implementation of the Partnership's objectives by the members. With this, it followed the recommendations of the specialised working groups, in which in 2016 close to 300 experts had contended for the implementation requirements for the year 2017. All members will now presented their individual objectives by early 2017, the first review of the progress will be conducted in 2018. Each member will enter the new year with a concrete implementation plan. The measures will be mandatory and will be verified by external agencies. This will render the progress transparent and verifiable.

With that, the Partnership will come a great deal closer to fulfilling its objective of achieving more sustainability in the textile supply chain--e.g. through living wages, better occupational safety, or by avoiding the use of toxic chemicals.

The Federal Minister of Economic Cooperation and Development [Bundesentwicklungsminister] Dr. Gerd Müller commented on the initiation of the implementation as follows: "The Textile Partnership shows that our development policies are concretely geared towards the challenges of globalisation. In many areas, our consumption decides what the living conditions will be of the people in Africa or Asia. Therefore, it is a quantum leap in terms of development policies that we are sending out a strong message with close to 200 members: economy, civil society, trade unions, standards organisations and politics have come together to organise their responsibilities in the 21st century according to the needs and challenges of globalisation. Ingeborg Neumann, President of the Confederation of the German Textile and Fashion Industry [Gesamtverband der deutschen Textil- und Modeindustrie], added: "If every member of the Textile Partnership sets 14 objectives for itself, then by end of 2017 we would have achieved more than 2500 individual improvements in the living and working conditions of people in the producer countries. I call this a success!"

However, there was also criticism against the Textile Partnership in 2016. In June 2016, members of the chemicals group of the Partnership had agreed upon the adoption of regulations from the "list of prohibited harmful substances in manufacturing", MRSL, and the "initiative towards eliminating hazardous chemicals", ZDHC. However, the environmental organisation Greenpeace did not find this list comprehensive enough according to a report in the German television channel Tagesschau.

www.global-standard.org

apparelcoalition.org/the-higg-index

www.textilbuendnis.com/en

The channel quoted the statement by Kirsten Brodde of Greenpeace: “There are many more companies that are already way ahead. These are minimum standards at best.” Both the decision of the Textile Partnership and the criticism by Greenpeace are understandable. As an environmental organisation Greenpeace has to set high and highest requirements, while the Textile Partnership has to define targets that can be implemented by all members and that are also mutually agreeable to all parties involved.

Greenpeace is itself struggling with the “detox” campaign since 2011 for a ban on all hazardous chemicals in the textile industry. The widely used PFC are mainly the focus of the campaign.

The campaign has already been able to obligate 76 international fashion brands, dealers and suppliers to implement detoxification. In February 2017, Greenpeace was able to chalk up yet another win in its detox campaign on the ISPO. Gore Fabrics, supplier to major outdoor gear brands such as North Face and Mammut, will no longer use any hazardous perfluorinated carbons (PFC) in their consumer product lines. “This is a tremendous step in the transition of the outdoor gear industry to a more eco-friendly production”, said Manfred Santen, chemicals expert at Greenpeace. “With this decision of the market leader there will be many more products that do not leave behind toxic residues in the environment. We also welcome the endeavours of Sympatex, manufacturer of a PFC-free membrane. Both projects show the dynamics with which the industry wishes to resolve the problem.”

Furthermore, in June 2016 Greenpeace evaluated the sustainability commitment of the fashion industry by means of a new high score list. The independent environmental organisation reviews 19 leading fashion brands on its online platform “Detox Catwalk” (www.detoxcatwalk.de) mainly on the usage of toxic chemicals. According to Greenpeace, Inditex (Zara), H&M and Benetton are trendsetters in cleaner textile production. Esprit, Nike, LiNing and Victoria’s Secret continue to use hazardous chemicals in their manufacturing according to the Greenpeace verdict.

Let us quickly go back to politics again and take a look at another EU country. On 9 March 2016, a broad coalition of industry organisations, trade unions, civil-society organisations and the Dutch government presented an agreement on international responsible business conduct in the garment and textile sector. In this agreement, these parties combine forces in an effort to achieve practical improvements in and ensure the sustainability of the international garment and textile supply chain. For example, they want to address problems such as dangerous working conditions and environmental pollution.

The next steps in this process will be to secure funding of the agreement and have it signed – in June – by at least 35 companies in the sector, who together represent at least 30 percent of sales in the Netherlands. The parties to the agreement will then also sign it. The agreement has been drafted under the guidance of the Social and Economic Council of the Netherlands (SER). (textilepact.net)

In June 2016, the European Parliament published a briefing “Improving global value chains key for EU trade”, which described the need for implementation of all aspects of sustainability in global value chains (GVCs) and mentioned a number of national initiatives.

And last but not least the OECD has developed a Due Diligence Guidance for Responsible Supply Chains in the Garment and Footwear Sector. This Guidance, developed through an intense multi-stakeholder process, supports a common understanding of due diligence and responsible supply chain management in the sector. OECD says that the Guidance is really a global instrument, contributing towards a level playing field for responsible business conduct. The OECD Guidelines apply to all companies operating in or sourcing from the 46 adhering countries, but they are likewise relevant for any company operating in their global supply chains.

The Guidelines are relevant for a Bangladeshi factory that sells to companies in the US, even while Bangladesh itself is not an Adherent, just as they are relevant for cotton producers in Pakistan exporting to EU markets. OECD, demonstrating the global reach of the OECD Guidelines in the garment sector alone.

Following the recommendations from the Due Diligence Guidance for Responsible Supply Chains in the Garment and Footwear Sector, developed by the OECD, the new project Social & Labor Convergence Project (SLCP) has been launched. SLCP is an initiative led by the world’s leading manufacturers, brands, retailers, industry groups, (inter)governmental organizations, service providers and civil society organizations, has secured more than 100 signatories in the year since it launched. The mission of the SLCP is to develop a common assessment framework and data collection system, dramatically increasing industry efficiency and reducing audit-related costs.

www.textilepact.net

mneguidelines.oecd.org/responsible-supply-chains-textile-garment-sector.htm

slconvergence.org

The framework, which is designed to replace proprietary solutions, includes a standard-agnostic tool and verification methodology to collect relevant and essential data on critical issues including child labor, forced labor, occupational health & safety, and wages. The participating organizations will benefit from reduced duplication, opportunities to measure continuous improvement, and increased transparency. Additionally, the SLCP framework enables participating organizations to invest resources previously designated for compliance audits into the improvement of social and labor conditions. Organizations including Arvind Mills, G-Star, Gap Inc., H&M, Hirdaramani, Intertek, OECD, SGS, Solidaridad, VF Corp.-Timberland, and WRAP were early SLCP signatories. With now more than 100 participating organizations, the SLCP launched a new project website (slconvergence.org) to provide additional information and opportunity for engagement.

And that covers politics. Finally, let us take a look at two of the biggest names in the retailer and brand circle.

Brands and Retailers

H&M has adopted the idea of sustainability in the textile industry and has set very high objectives for itself. The progress of the implementation is documented annually in a sustainability report. In the report for 2015--the 14th of its kind--published in April 2016, the H&M CEO Karl-Johan Persson gives an account of the progress and the objectives regarding sustainability.

He talks, e.g., about the biggest challenges faced by H&M and the fashion industry as a whole with regard to sustainability: „It is all about closing the loop by reusing textile fibres, suppliers paying their employees a fair living wage and the ambition to increase transparency so customers can make informed choices. We have taken several important steps towards a more transparent fashion industry. First, we have invested significant resources in developing our suppliers and building strong long-term relationships based on mutual trust and transparency.

Second, we were amongst the first fashion companies to publish our supplier list to which, as the first fashion company, we have now added the second-tier suppliers. Third, this year's reporting on our work related to human rights has been carried out in accordance with the UN Guiding Principles Reporting Framework. We are also committed to transparent reporting on our sustainability performance. One goal is to develop a consumer labelling system that allows customers to compare products' sustainability performance, including between different brands. This work is done in collaboration within the Sustainable Apparel Coalition, SAC. This will make it possible for customers to influence companies to a much greater extent than today."

Anna Gedda, Head of Sustainability, describes the objectives of H&M as follows: "We want to use our size and scale to lead the change towards fully circular and truly sustainable fashion." The objective "fully circular" still seems extremely visionary these days, but H&M has already successfully begun to collect and recycle clothing in its shops.

Since 2013, more than 22,000 tonnes of garments have been collected in the stores. That's as much fabric as in about 100 million t-shirts. In 2015 it was 12,341 tons (+60%). And the vision is shared by others. For example by Fortune. The economic magazine has selected H&M in August 2016 as one of seven World-changing companies to watch and stated: "[..]"100% circularity," doing business exclusively with renewable energy and materials. Skeptics laughed, but H&M, which has already reduced its environmental footprint, has the size, scale, and cachet to change the clothing industry's planet-punishing style."

Let us take a look at another concrete objective and its implementation status. By 2020 H&M wants to use only the cotton obtained from sustainable production in its product range. This means certified organic cotton, Better Cotton (BCI) or recycled cotton. In 2015, the company increased this percentage to 31.4% as against 21.2% in the previous year. This is an addition of 10.2% and corresponds to a 48% increase. If this increase of 48% can be maintained, the company may well achieve its target by as early as 2018.

However, this level of implementation is still not visible in shops. At the end of February 2017, if on online shops one were to select Germany, Sweden and the USA respectively as the country with the key word "conscious" items for ladies, one would get 413 items out of 5371 (7.7%) in Germany, 374 out of 4937 (7.6%) in Sweden and 262 out of 3745 items (7%) in the USA. Out of the 5371 items in German shops, 2755 are made of cotton, which is 51.3%.

If all "conscious" items were made of cotton, the percentage in German shops would then be 15%.

This small analysis shows a discrepancy between the percentage of "conscious" items, i.e. 31.2%, in the year 2015 as stated in the sustainability report and that of the merchandise in shops in February 2017, i.e. approx. 15%. There could be many reasons for this and the analysis is also only a very small extract. However, the transparency in this regard could still be improved. Especially in the times when "greenwashing" is insinuated very quickly by critics, this becomes rather of utmost importance.

On the other hand there a lot of more good news from H&M. In January the company has achieved its goal to only have down from farms that are certified according to the Responsible Down Standard in their products. In March they have been named as one of the world's most ethical companies in 2016. The World's Most Ethical Companies program honors companies that excel in three areas – promoting ethical business standards and practices internally, enabling managers and employees to make good choices, and shaping future industry standards by introducing tomorrow's best practices. In April 2016 H&M scored a top rating in the Fashion Transparency Index showing how retailers – from luxury brands to high-street brands – deal with transparent reporting on their sustainability work. The index, created by Ethical Consumer and Fashion Revolution, is based on how much brands know about their supply chains, what kind of policies they have in place and how much information they share with the public about their practices and products.

In September they made their global framework agreement with Industriall and If Metall permanent.

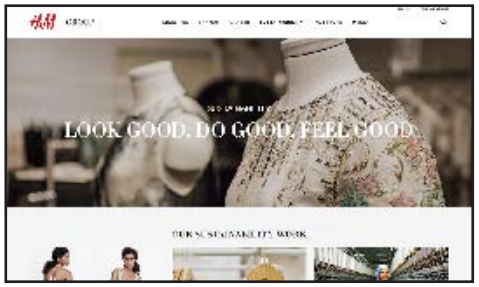
In January 2017 H&M signed a joint letter to the Government of Bangladesh together with more than 20 brands where they shared their concern about the situation. H&M writes in a press release: “In the joint letter to the Prime Minister of Bangladesh we requested that the Government takes steps to ensure the protection of the workers’ rights, with special attention to the legitimate representatives of the workers who were arrested.[...] For H&M group it is important that our products are manufactured under good working conditions, in all production countries. This is addressed through our global framework agreement with IndustriALL and the Swedish trade union IF Metall. The goal is to create a good dialogue between the parties on the labour market, collective bargaining agreements and peaceful conflict solution.

Our global fair living wage strategy – aiming for fair living wages in the textile industry – is also an important contribution to this work, for example through demands on annual wage revisions. “

Overall, H&M is certainly a company that has taken on a leading role in promoting sustainability in the fashion industry. Another such company is Inditex, even if the overall approach is different. Inditex, one of the world’s largest fashion retailers, has more than 7,000 stores in more than 90 markets worldwide and already operates in 29 online markets. It owns other concepts: Zara, Pull&Bear, Massimo Dutti, Bershka, Stradivarius, Oysho, Zara Home and Uterqüe. In 2015 the turnover has been 20,900 million Euros.

Inditex was the best performer in Greenpeace’s Detox Catwalk 2016 and obtained the best score in all the three criteria, namely “Detox 2020 plan”, “transparency” and “PFC elimination”.

www.greenpeace.org/international/en/campaigns/detox/fashion/detox-catwalk



about.hm.com/en/sustainability.html

www.inditex.com/sustainability

In a 2015 press dossier Inditex writes that the company views social and environmental variables as a strategic vector for its management system. Sustainable growth, which customers and society in general increasingly demand, is a value they at the company share and apply to their supplier relationships. This sustainability strategy is managed in the social responsibility sphere through the Internal Code of Conduct and the Code of Conduct for External Manufacturers and Suppliers, and in the environmental field it is defined by the Environmental Strategic Plan. All of Inditex's actions in the field of corporate responsibility are audited by external agents in order to provide greater objectivity.

In the 2015 annual report, too, it shows very high transparency. Inditex states achievement of greater sustainability as its company objective: „Inditex has strengthened its sustainability commitments to protecting human rights in all of its activities by embracing the route to sustainability proposed by the UnitedNations in its seventeen Sustainable Development Goals. During the historic summit on 25 September 2015, the United Nations member States approved the 2030 Agenda for Sustainable Development with 17 Sustainable Development Goals (SDGs) to transform the world."

And in the approximately 100-page document Inditex shows how it plans to achieve this objective. Here, "traceability of the supply chain" and the subsequent "integrity of the supply chain" play a major role. In addition, the company has compiled a list of all 1725 suppliers and the associated 6298 factories and has categorised them.

It works with audits and best practices to bring them all up to the highest standard A, upon which the supplier is certified as "complies with the Code of Conduct". For this, Inditex describes the methodology and its numerous applications extremely comprehensively. So far, in 2015, 725 suppliers were in Category A, an increase of 46 and 42% of all suppliers. The company also examines the materials used and provides the numbers in a very transparent manner. For example, in the case of organic cotton: „During 2015, we placed 34 million items of clothing using certified 100% organic cotton onto the market. This translates into a consumption of 4,219 tonnes of organic cotton and represents an increase of 318% by weight from last year." If one divides the quantity of clothing by the weight, one arrives at an average weight of 125 g per garment. Since a normal T-shirt weighs approx. 200 g and a Jeans 600 g or more, a large proportion of baby and kids items would reduce the average value here.

Another topics are "Recycling", "Efficient use of resources", "Advances in the evaluation and control of wet processes", "Advances in the Forest Products Policy" and "Animal welfare policy".

The high transparency is seen even in the disclosure of greenhouse gas (GHG) emissions. In 2015 the Group had 22,996 t CO2 eq direct emissions and 622,879 t CO2 eq indirect emissions from all the Group's facilities. Inditex released 1,177,784,343 garments on the market which leads to an emmission of 548.38 g CO2 eq per garment. This is a minus of 126 g or 19 percent compared to the previous year.

If one sets the 34 million garments made of organic cotton in relation to the total quantity, it gives a value of approx. 3% in the total product range.

Sustainable items are labelled at Inditex with company seals and names. „Right to Wear+" is the technical standard that identifies their most sustainable items, produced with raw materials such as organic cotton or TENCEL ® Lyocell; with recycled materials or with technology that uses renewable energy, or processes that use water and energy efficiently. At Zara, these items are identified with the Join Life label.

This glimpse at two of the largest retailers in clothing business should serve our purpose. Both companies show in their own way that they take the job of manufacturing sustainably very seriously. They set high objectives for themselves and have clear plans to implement them. Critically one could observe that sustainability cannot be implemented without sustainably-produced textile fibres, and despite great efforts and many ideas there is still a lot to be done in this area. The untapped potential of BCI need to be highlighted. The annual reports for the year 2016 will also show whether the implementation tempo will be adequate to achieve the self-imposed objectives.

One must, however, take an extremely critical view of those companies whose sustainability efforts are considerably lower or simply non-existent. Obviously, these companies can speculate that there will always be customer groups for whom price takes precedence over everything else and who have no social or ecological conscience whatsoever.

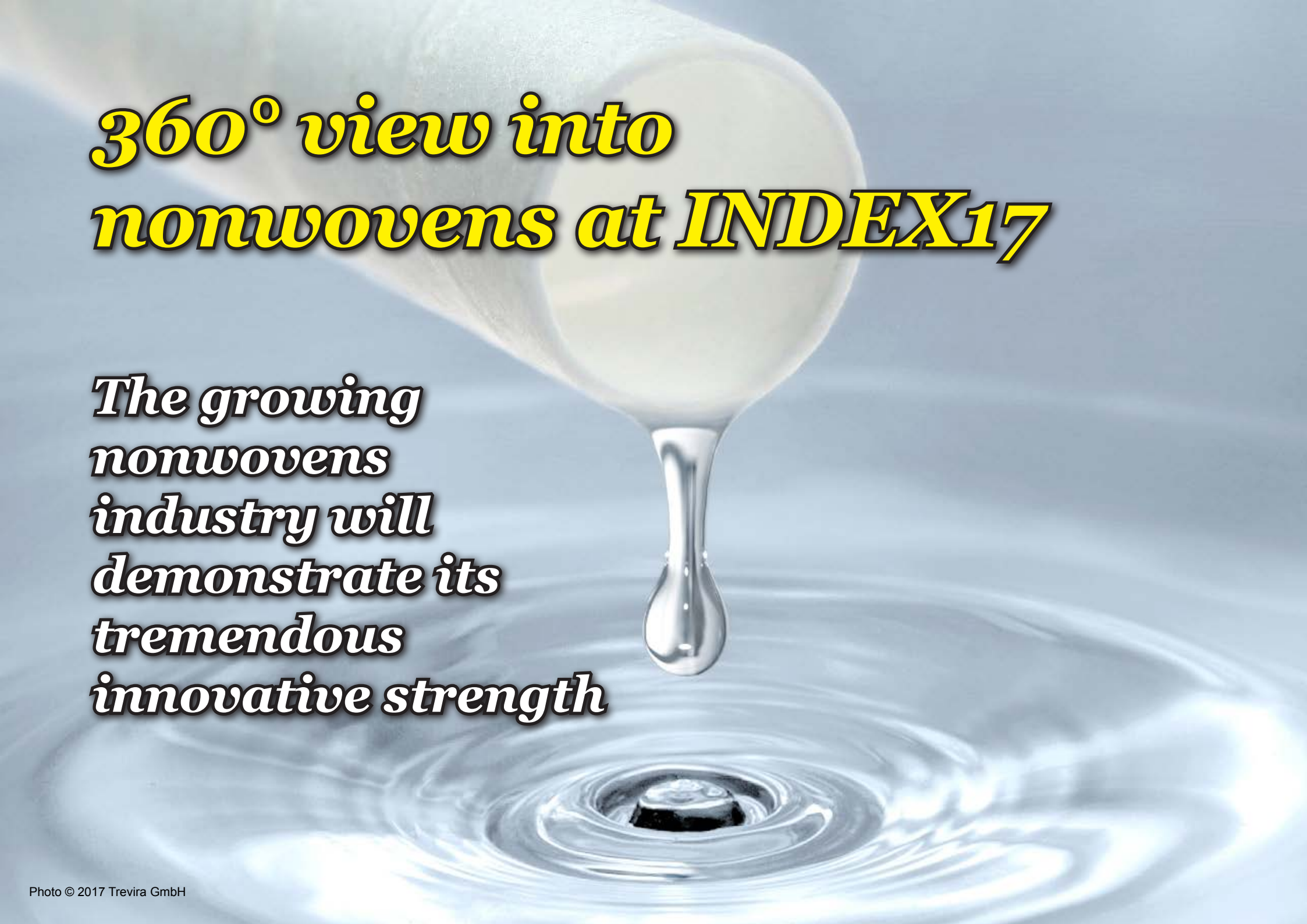
However, political efforts show that the air will get thinner in this segment and all business models that want to exclude sustainability will face problems. Furthermore, the intended wash symbols could lead to the consumers making more aware and conscious decisions in the future. This awareness will be further fuelled by an increasing sustainable product range by companies such as mentioned above.

And when one day a majority of the population would prefer sustainable fashion, it will be difficult to change the business model in that situation of crisis. The actual knowledge of the one's own supply chain is the very basis here, there will be no way around it for any company. It also remains to be seen whether with the increasing awareness the consumer will accept the company seals of brands and retailers. Until now, the Oekotex 100 seal was the trademark for health safety and GOTS the trademark for sustainable and, thereby, ecological production. In the age of e-commerce, such products can be quickly and easily found on Google. This could create competition with own sustainability brands of the companies and/or these brands would not be displayed in the search results for recognised certifications.

Conclusion

As in the previous years, a number of developments have taken place during the period of review of this report towards improving sustainability along the textile supply chain. And the answer to the question we posed at the beginning--whether the action phase had gathered pace--is a definite yes. Many companies and initiatives have joined in in this phase. The main positive development is that sustainability is no longer viewed as an afterthought by leading companies, instead it is integrated as a “holistic approach” in the company.

On the other hand, the news on the materials front is only partially happy. The “preferred fibre strategy” of Textile Exchange is so simple and self-explanatory, yet it does not seem to get through to all companies. This might have to do more with the ‘will’ than with the ‘skill’, because e.g. BCI is open to new members and it is expected to continue showing growth in production. The surpluses of BCI are a thorn in the side, as they do not quite fit in with the very loudly proclaimed sustainability strategies of thousands of companies. Therefore, with all the positive developments mentioned there is still a lot of “greenwashing” in the market, which should now be washed out on its own in this phase, in which the action will replace the word. Sustainably, of course.



From April 4 to 7, as per scheduled after a three-year break, the INDEX will once again take place on the Palepo site in Geneva, Switzerland. Although this sounds quite common it is a very significant news because the INDEX is one of the most important, if not the most important, trade fairs in the international nonwoven industry.

Bringing together key players from every dimension of the innovative world of nonwovens, the INDEX is the largest global meeting place for the nonwovens market, its suppliers and customers. Taking place only once every three years, this dynamic event likely brings together over 12,500 trade visitors from over 100 countries to see the products and services displayed by 659 exhibitors (an increase of 30% on the previous edition), from 41 countries, in more than 22,000m2 net of stand space.

At INDEX senior industry professionals from around the world come together to seek competitive insights, learn about the latest technologies, and network, for four days of intensive and rewarding business activities. Four days in which to discover new commercial opportunities, identify new markets and applications and exchange experiences with like-minded professionals, focusing exclusively on the very best that the nonwovens industry and its suppliers have to offer.

INDEX17 will be the 12th consecutive edition of the exhibition to be held in Geneva and will be accompanied by a compelling programme of activities, including special events, interactive workshops and training courses. The first Index started 33 years ago in 1974 and it is an old Switzerland saying that a multidigit number with all digits identical brings always luck. Maybe this gives additional boost to the Index17.

At last Index14 exhibitors shared their delight with the quality of the attendees visiting the show, alongside feedback from visitors who were pleased with the breadth and depth of the exhibitors on offer, covering the entire chain from machinery and raw materials producers to converters and providers of added-value treatments and processes. And Pierre Wiertz, general manager of EDANA, said in his conclusion: “Since INDEX™ first appeared in Geneva, our industry has evolved. Nonwovens and related materials are replacing traditional fabrics or plastic composites in vehicles, and in building and construction projects, showing that nonwovens offer high-tech fluid management solutions for not only hygiene and medical purposes, but with cross fertilisation – in many other applications as well. Looking ahead to INDEX™ 17, we are reminded of how both resilient and innovative the nonwovens industry really is.”

Now the time has come and for sure INDEX17 will demonstrate both attributes to the visitors again. It will provide a 360° overview of the very latest developments in nonwovens and is the ideal opportunity to experience the market first hand, and to enjoy the enriching professional and personal experience that a visit to INDEX can bring.

Learn of the latest developments, observe the competition and market trends, broaden your knowledge of the market and be part of the this dynamic industry community.

What the INDEX makes unique in its ability is the 'verticality' of the event to bring together all levels of the industry – this means exhibitors as well as visitors. Over 650 exhibitors will present their solutions- from all continents. China accounts for the largest number of exhibitors - an impressive 173 - followed by Italy with 101 and Germany with 98. From nonwovens producers and converters, to raw materials suppliers, brand owners and machinery manufacturers, all come together in Geneva to show their products and services, and to learn and network. Visitors attend INDEX from a broad range of industries such as the automotive, filtration, packaging, building, civil engineering, composites, hygiene or medical and wipes sectors. They came from a diverse range of sectors looking for innovative alternative solutions, from all levels of the value chain, ranging from raw materials purchasers to brand owners, auto interior designers to high street retailers. Furthermore the industry's leading innovators, upcoming designers, and thinkers will all be there. So whether you are a researcher or a designer, a category manager or specifier of materials, INDEX™17 guarantees that you will find creative solutions to your business issues.

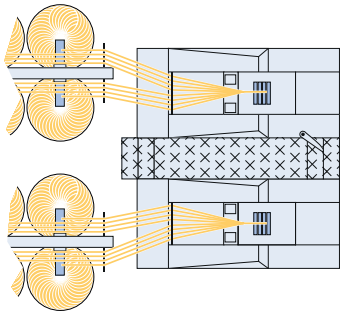
The applications are divided as usual in seven different sectors: cross-fertilisation, transportation, construction & housing, hygiene & cleaning, medical & healthcare, packaging and filtration.

However, there are no special halls or zones for the single sectors.

Let's have a look at the venue. Palexpo has been the home of INDEX for the past 11 editions, and has welcomed the event to Geneva since 1984. Its 108,000 m2 of modular and flexible exhibition space is situated at the heart of the major communication arteries leading to Geneva and within ten minutes' reach of the town centre and its 180 Swiss quality hotels. This affordable exhibition and conference destination boasts 1'500 hotel rooms within 1km of the complex, across all star categories, and 7,500 rooms within a 5km radius.

The Congress Centre, which reopened in March 2009 following a major refurbishment, offers excellent conference facilities to all participants. 20 meeting rooms of various sizes can accommodate from 20 to 2,500 delegates each in comfort and style. EDANA and PALEXPO, the organisers of INDEX17, are pleased to offer a rich programme of special features free-of-charge to all participants. For example there will be "Continental briefings" for "Europe and Asia", "Europe and North America" and "Europe and China", tutorials and seminars for the single sectors and also a large number of "Exhibitor Product Presentations".

For the very first time, FILTREX will be held in the Palexpo Conference Centre, adjacent to INDEX, the world's leading nonwovens exhibition! FILTREX conference and tabletop exhibition will highlight future growth in the filtration area and bring together expert attendees from technical specialists and business management to test and research institutes.



Due to its intelligent concept, the TWIN version is compact and requires little space.

Is it possible to achieve maximum economic efficiency and reliability in the smallest of spaces?

The answer is a definite Yes when it comes to our new TWIN breaker Draw Frame TD 9T. It is a twin draw frame, but also available as single TD 9 version. Thus it is possible to implement each even and uneven number of drawing heads.

For the first time in short staple spinning, it also features a new can format: JUMBO CANS with 1,200 mm diameter reduce the number of can transports and significantly improve the efficiency of the downstream machines.

Getting fibers into shape – since 1888.

TRÜTZSCHLER SPINNING

As an added advantage, all FILTREX™ delegates will have a free access to INDEX from the 4th until the 7th of April. Furthermore, the tabletop will be opened to all INDEX visitors and exhibitors entirely free-of-charge. All INDEX exhibitors related to the filtration industry can book a free tabletop at FILTREX. One of the highlights and of course a well-established part of the INDEX exhibition will be the INDEX17 Awards which stand for "Excellence in the nonwovens and related industries". Open to all INDEX exhibitors and EDANA members, the Awards aim to reward innovative, cooperative, creative and sustainable achievements in nonwovens.

The INDEX17 Awards jury met in January to select the nominees, if any, in each of the 8 Awards categories, and to choose, from this group, the winner which will remain undisclosed until the Awards Ceremony. Keeping up with the highly demanding selection criteria, the jury has decided to nominate candidates in only 6 of the 8 Awards categories.

Nominees in the category "Nonwoven Roll Goods" are **Atex** for the 3D Scrubbing Spunbond, **Berry Plastics** for NuviSoft™ and **Jacob Holm & Sons** for SoftFlush®, a unique, paten-pending dispersible wipe material. In the category "Finished or composite products made from, or incorporating nonwovens" the nominated companies are **Glatfelter** for Dreamweaver Gold™ 20 microns, a separator for lithium ion batteries, the **"Nonwovens Innovation & Research Institute**" for its "Surfaceskins", which brings anti-bacterial protection to hospitals and clinics and the **TWE Group** for Amphibia, an all-in-one core combining an ADL with the absorbent.

In the category "Raw materials or components (e.g. fibre, binder, polymer, tape), of special relevance to the nonwovens industry and related converted products" the nominees are **H.B. Fuller** for Conforma™, an adhesive with unique stretchable features, **Henkel** for the hot melt adhesive Technomelt® and **Magic** for Spongel, a biodegradable and compostable absorbent component. Nomianted in the category "Innovation in machinery of special relevance to the nonwovens industry" are **Autefa Solutions** for its V- Jet Injector, a new hydroentanglement system which saves up to 30% of the hydraulic energy required for the Spunlace process, and **GDM** for "Rear Wing Zero Waste", a process resulting in savings of raw materials.

Index Award

In the “Sustainable Product” category there is only one nominated company: the **Hassan Group** for their “Self Sufficient Relief Tents”. And finally in the “Sustainable process or management practice” the nominated companies are **Mobi-Air** for Mobi-Chill, a zero energy heating, ventilation and air conditioning technology which will be introduced at Index17 and **Suominen** for their “Blind Hiring recruitment process”, which ensures equal opportunities because the hiring managers receive and assess candidates’ applications and resumes without any personal data on them.

EDANA says that INDEX17 Awards are the highest accolade for the best examples of excellence in the industry, highlighting creativity and innovations from businesses of all sizes, and from all parts of the nonwovens supply chain. The Awards ceremony will take place on the EDANA stand at 10 am on Tuesday 4th April, the opening day of the exhibition.

Exhibitors and their innovations

This brings us to the most important aspect of the fair: the exhibitors and their products. We are able to provide you with some up-front information about a few of the exhibitors in our INDEX17 preview, including the exhibits to be displayed or at least the subclusters featuring innovations. We will start with fiber producers, go on with nonwoven producers and will end with a special focus on the manufacturers of nonwoven machinery.

Polyester fibre specialist **Trevira** (booth #2119) is presenting its comprehensive programme of products for the wide range of technologies and applications in the non-wovens sector. Besides new products and customized fresh developments, the focus is on further developing and optimising existing fibre types servicing this important segment.

A new offering in biopolymer fibres (Ingeo™) is a siliconized PLA hollow fibre for use in fillings. In response to customer demand in terms of product functions and material properties, the comprehensive product range for airlaid applications is being continuously enhanced. This also applies to special fibres for the carding sector and shortcut types for the paper industry; where the focus in on improving dispersion.

With regard to the increased need for fibres with additional functionalities and to the use of fresh combinations of raw materials, capacities in bico-fibres are being expanded. For both the polyester and the PLA programme, Trevira has also developed modified fibres for the hygiene sector (e.g. for wet wipes), where these stand out due to their particularly soft handle.

Emphasis is also being placed on finishes for fibres that must meet food industry standards, likewise on antimony-free polyester fibres, the aim here being to enhance product safety. At Index 2017 Trevira will again participate in a joint presentation with sister companies from the Indorama Ventures parent group.

Viscose speciality fibre manufacturer **Kelheim Fibres** (booth #2415) presents a mixture of new and well-established – and further enhanced – products. Flushability remains one of the most important topics. With their flat short cut fibre, Viloft®, Kelheim Fibres offers the first viscose fibre for rapidly disintegrating wet wipes.

Nevertheless, the Bavarians do not rely on the performance of the fibre and their experience of more than 10 years in this area alone - quite the opposite in fact: together with the local wastewater authorities and renowned pump manufacturer WILO, comprehensive tests on products containing Viloft® were conducted in 2016. In contrast to traditional (spunlace) wipes, which led to clogging and blocked pumps, wipes made of Viloft® have passed the test with flying colours. In addition to their rapid disintegration, which eases the load on the pumps, wet wipes made of Viloft® and wood pulp are compostable: they consist of 100% cellulose and are fully biodegradable. Hygienic fibres remain another important topic for the world-leading manufacturer of viscose fibres for the tampon industry. Their patented, extra absorbent speciality fibre Galaxy®, highest hygiene standards as well as a deep understanding for their customers' needs enable long-lasting peer-to-peer partnerships. The "External Business Partner Excellence Award 2016",recently received from P&G, is proof of this. Nevertheless, the innovative fibre experts step up to new challenges, too: Kelheim Fibres' in-house R&D has developed a new fibre named Electra, which can be used in a wide range of applications for the dissipation of static charges. Currently, Kelheim is testing the possible use of this fibre in connection with sensitive electronic components.

Beaulieu Fibres International (booth #1340) , a leading European polyolefin fibre supplier, will unveil a pioneering new fibre-platform Meralux at Index. From May 2017, Meralux fibres will be added to the Meraklon product portfolio. First test results show that nonwovens made with the new Meralux fibre combinations have a higher loft/bulk. Meralux's coverage is unique and provides nonwovens with a very closed surface, without containing additives like TiO2. With the higher loft and unique coverage, softness will be provided by the choice of raw materials. Equipped with all these features, Meralux allows basis weight reductions without losing performance.

In line with the further diversification of its products, Beaulieu Fibres International is set to produce short cut fibres for hygiene application as of summer 2017. These will be available in cut lengths of 3-24mm in polypropylene (PP) mono and BICO.

To add to its new products for 2017, the Meraklon portfolio will expand further with the launch of new polyester (PET) core BICO fibres. They will come on stream with Meraklon's new state-of-the-art, long line at the company's site in Terni, Italy. The EUR 30 million investment to extend production capacity is currently underway and is scheduled to commence operations during this year.

Sandler (booth #2431) will present a „catwalk" of innovations which bridge the gap between people and technology in the hygiene sector. Comfort, protection, safety and sustainability are keywords for the exhibits.

The new multimedia booth design reflects that modern hygiene products should support our individual lifestyles.

„Stretch your limits“—is the motto with the collection for elastic applications. Manufacturers are provided with an assembly kit of materials featuring different degrees of elongation to choose the ideal nonwoven for their respective use. From „basic stretch“ to „premium stretch plus“ it holds the right product for everyone. These nonwovens support an optimum fit, thus increasing wearing comfort.

Comfort is also the watchword when it comes to innovations for topsheets: A new design for these materials visually provides a sense of lightness in daily hygiene: Subtle butterflies make this product a veritable eye-catcher. A new “canyon” structure for topsheet materials combines visual differentiation and optimised functionality: This special surface renders the topsheet bulkier and even softer; increases stability, and simultaneously supports fluid handling.

Sandler’ new nonwovens for intake layers take this function one step further. They quickly transport fluid away from the body and efficiently distribute it onto the entire surface, for optimal utilization of the core’s storage capacity. The nonwovens also function as an interim storage layers, preventing rewet and protecting the skin. The company designs these nonwovens in line with the product requirements: softness and flexibility can be individually adjusted; embossing designs provide visual highlights.

The latest development for soft topsheets proves that hygiene products do not only enhance the user’s comfort: These nonwovens are made from the lactic-acid-based polymer PLA—natural raw materials for sustainable product solutions.

With sawatex® classy silk and sawatex® lace-o-paque Sandler will showcase wipes substrates which add that certain something to cosmetics applications and babycare. sawatex® classy silk features excellent cleaning efficiency and above all an extraordinarily silky touch, rendering every use into a wellness-treatment. sawatex® lace-o-paque will win over with its softness and high bulk, offering gentle care for little explorers.

The new embossing design „square“ captures the attention of another market segment: Small squares render the substrate bulkier and increase its surface—for even better results in cleaning applications. With a „double action“ substrate for cleaning wipes Sandler gets to grips with stubborn dirt. The multi-layer nonwoven features a coarser side for efficient cleaning and a smooth side for gentle polishing and grooming the cleaned surface.

All of these nonwoven substrates receive their particular properties from the special fibre blends used. Selected raw materials bring about not only excellent functionality, but also enable a reduction of the basis weights—for less raw material usage. Embossed motifs for visual individualisation of your wipes also more detailed.

Sandler's range of nonwovens for disinfection wipes now encompasses an additional highlight: Coloured product variants in various pastel shades enable a visual differentiation of various application areas.

Rounding off Sandler's trade fair participation, nonwoven innovations for technical applications will also be showcased—for the transportation industry, the filtration sector and the construction industry.

Suominen (booth #1522) announced that they will showcase their broadest range of innovation ever designed for wipes, hygiene products and medical applications. They will present their latest innovations for household, workplace, as well as flushable wipes while introducing new freshness to the baby segment. Suominen booth visitors will also have a chance to discover the company‘s approach to sustainability and how they continue to be pioneers in terms of environmental and social responsibility. Suominen made no statements about specific products but they introduced some innovations on their website. For example they recently announc the launch of FIBRELLA® Ultrasoft, a new nonwoven material for baby wipes that delivers unmatched softness for consumers and easy convertibility for Suominen's customers. FIBRELLA® Ultrasoft takes advantage of the widest range of fibers, from cotton to viscose to polyester, and Suominen's uniquely modified production process, creating the softest nonwoven substrate in the market. For wipes converters, FIBRELLA® Ultrasoft offers easy, standard spunlace-like convertibility, but is beyond conventional spunlace nonwovens in its softness.

Another new product from 2017 is AIRLACE™ for Workplace. It is designed for general purpose wiping in the most demanding work environments.

With its strength, durability and absorption capabilities, AIRLACE™ for Workplace enables working conditions that are safe and healthy for both employees and customers. Wipes converters, on the other hand, find value in its easy convertibility, consistent quality and reduced lead times.

Furthermore Suominen‘s Blind Hiring recruitment process is nominated for INDEX17 Award.

USTER (booth #4418) believes that its technology which is already well known and appreciated in cotton spinning will attract wider interest at the exhibition from manufacturers of bleached cotton and other quality-critical nonwovens products.

Uster knows that many applications are seeing a return to pure cotton as the favored option, particularly where allergenic issues such as skin reddening and irritation are possible. Japan plays a leading role in manufacturing goods for medical and cosmetic applications, as well as food packaging materials and Japan is growing as a market for USTER® fiber cleaning systems, thanks to these nonwovens applications.

Manufacturers of nonwovens for these demanding end-uses now require an efficient contamination control system, guaranteeing a zero-tolerance standard – for defects bigger than 1 mm – in their products.

In nonwovens, fiber cleaning is the only way to control contamination and Uster will inform at Index about the USTER® JOSSI VISION SHIELD 2 and USTER® JOSSI VISION SHIELD T systems, which are using multiple detection principles to eject all polypropylene particles. Practically all types of foreign matter, including polypropylene and polyethylene, are eliminated by USTER® JOSSI MAGIC EYE, with a minimum of waste. A total of 3,500 worldwide installations of Jossi fiber cleaning systems – now produced by USTER – is proof of the unbeatable effectiveness, detecting and removing foreign matter from cotton.

USTER JOSSI VISION SHIELD

Trützschler Nonwovens (Booth #2331) will give an answer to the question what the decisive criteria for successful nonwoven manufacturing are and focusses on is high-quality webs and low conversion costs.

A major point at the show will be carding concepts for creating perfect webs for hygiene and other applications. Many end products require distinctive web characteristics therefore Trützschler Nonwovens continuously extends its range of fiber treatment, carding and web forming machinery. They invite for discussions on airlay cards, random cards and the various configurations of their proven standard roller card. For the bonding process, where often a different type of challenge arises when productivity and efficiency become an issue, they will introduce a new machine for chemical bonded webs. The new Trützschler High-Speed Foulard for the application of liquid binding agents addresses line speed: various optimizations on rolls (patent pending) and sub-components allow for increasing the production speed of lightweight webs by up to 50%.

Hydroentangling and drying are a third focus point because these processes are always worth a detailed discussion. For decades both the AquaJet and the multi-drum dryer have been on top of Trützschler Nonwovens' R&D agenda. Trützschler Nonwovens is looking forward to discuss the various configurations, new features and the most efficient spunlacing and drying processes.

Trützschler High-Speed Foulard for binder-bonded webs

With the motto „Discover our Technology for Next Level Nonwovens“ **Reicofil** (Booth #2531) will present their latest innovations for spunbond and meltblown production. The company says that visitors at their booth can discover the new standards in quality, output, uptime, efficiency and machine intelligence.

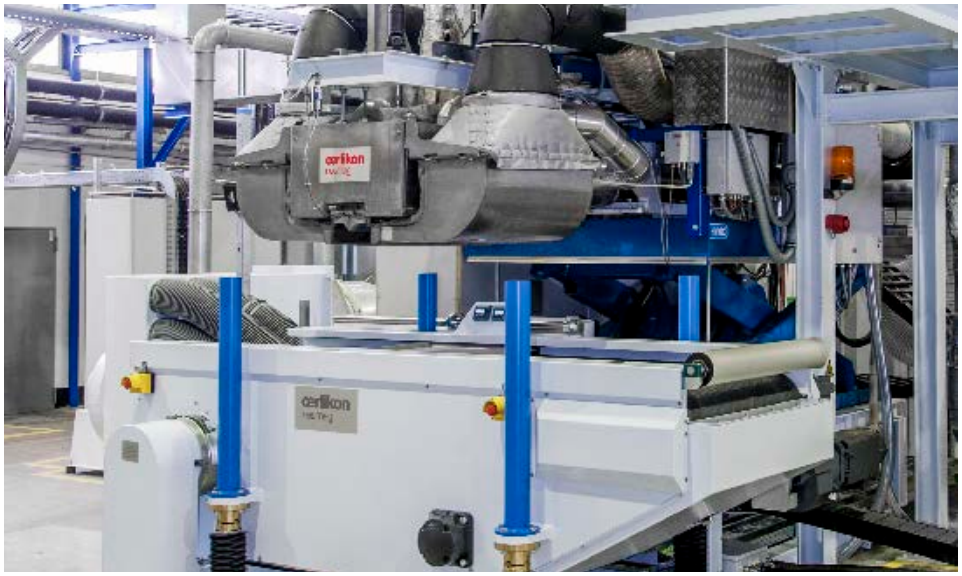
Oerlikon Neumag (booth #2314) will present a broad technology portfolio targeted at the efficient manufacturing of nonwovens. The Oerlikon Neumag experts will be showcasing process solutions for industrial applications such as filtration, roofing, geotextiles and automotive as well as medical and hygiene applications. The trend in the technical applications sector – particularly within the construction industry – is towards utilizing spunbond in place of the staple fiber or glass fiber products deployed to date. Among other things, this is due to the fact that the – in this case – one-step production process for these nonwovens generate cost optimization potentials. The strength of the nonwovens is hugely important in industrial applications. They need to be extremely tear-resistant and often simultaneously very extensible.

The objective is to achieve these properties with the smallest running meter weights and optimum raw material input.

Here, the Oerlikon Neumag spunbond technologies save more than 5 percent of raw materials, something that have been demonstrated by a benchmark comparison with standard products in Europe. And Oerlikon Neumag also stands out with regards to energy consumption: the new generation of the Oerlikon Neumag spunbond systems cuts energy consumption by virtually 20 percent. For its meltblown technology products, Oerlikon Neumag will be premiering two further innovations: the new forming table for the Oerlikon Neumag meltblown systems is characterized by its integrated multifunctionality and its simultaneously considerably reduced footprint. It can be moved horizontally and vertically under the nozzle and has various storage areas, which can be multiply-segmented and custom-adjusted. This enables extremely high formation flexibility and hence increased product diversity.

The new FAUS system control and operating unit enables the comprehensive automation of meltblown systems and ensures a considerable increase in their productivity and reliability.

In its expandable delivery state, FAUS comprises five different modes of operation with a total of eight different programs, which guarantee that future high-end meltblown nonwovens can be manufactured even more efficiently.



Oerlikon Neumag's multifunctional forming table for meltblown systems with a considerably reduced footprint and a shortened wire length that reduce maintenance costs. (c) 2017 Oerlikon

In airlaid technology, the Oerlikon Neumag solutions have been further optimized with the aim of catering to the demands of the market. In addition to the high flexibility of the forming technology that enables the production of simple wipes, wet-wipes and flushable wipes all the way through to particularly high-end tableware, hygiene and medical nonwovens, there is today a special focus on commercially-attractive production speeds and system throughputs.

The Oerlikon Neumag airlaid technology achieves these as a result of its new forming head, with which extremely high requirements-appropriate consistency of the fiber laying can be carried out homogeneously even in the case of extremely thin nonwovens.

A. Monforts Textilmaschinen (booth #4035) will be highlighting its recently introduced 7m working width Montex XXL stenter which has been specifically designed to meet demand by the technical textiles and non-woven industries, such as, for example, geotextiles for finishing wider width fleece and fabrics. Heat distribution is a key engineering element of the Montex XXL requiring even temperature distribution over the full 7m width and the distance from the fabric entry into the stenter through to the fabric exit.

Monforts CADstream nozzles for wide width working have been computer designed and ensure the best even temperature distribution and the highest homogeneous airflow over the full width. The new Montex stenter is also equipped with the proven Monforts TwinAir system for individual adjustment of lower and upper nozzle pressures.

For heavier weight fabrics a supporting belt can be fitted between the upper and lower nozzles of the stenter for mark-free fabric transport through the stenter.In keeping with Monforts commitment for sustainability and energy savings the Montex XXLfeatures the integrated heat recovery system, fitted as standard on all new Montex stenters. The system comprises a compact, air-to-air heat exchanger, which is installed within the roof structure of the stenter. The heat exchanger uses energy from the exhaust gas to preheat up to 60% of the incoming fresh air entering the stenter. Dependent on the production conditions, this provides energy savings of 10-35%.

Monforts Montex XXL

DiloGroup (booth #2010) will inform in detail about its machine program from fibre preparation to finished needlefelt. DiloGroup with its units DiloSpinnbau, DiloTemafa, DiloMachines and DiloSystems offers tailor-made production lines from one supplier for almost all applications. DiloTemafa offers new possibilities for the gentle opening of longer fibres at high throughput speeds using several opening stages. The VectorQuadroCard by DiloSpinnbau, first presented at the ITMA 2015 show in Milan, Italy, combines different types of card within one card by a simple and fast changeover of the intermediate section.

The newly designed delivery system is also flexible to allow the production of parallel, random or condensed webs. The new card feeding system Unifeed that combines the principles of a volumetric system allowing fine dosing with the advantages of an open vibration chute feed is also adapted to this new card. The newly presented horizontal crosslayer DLSC 200 from DiloMachines sets new standards in crosslapping technology with an electro-mechanical web infeed speed of 200 m/min depending on the fibres used.

The new needle module technique of DiloMachines embeds 22 needles in a plastic support and is used in needle boards with very high needle density. These modules result in a fast and precise filling of needle boards. They are used in Variopunch needling technology where bad spots in stitch distribution are eliminated by variable needle arrangements thus creating a more homogeneous and higher surface quality.

This needle module technology was first used in the compact line presented on the ITMA 2015 in Milan, Italy. This compact line is designed for the production of high quality needlefelts from special fibres such as carbon.

It completes our portfolio that includes not only small production lines for laboratories and large needling lines for papermachine felts but all machines for the production of needlefelts from staple fibres.

Horizontal crosslayer DLSC 200 by DiloMachines

DiloGroup has delivered more than 300 production lines to the nonwovens industry worldwide and thus has the required know-how and a complete range of machines to supply the optimum production line for your requirements.

These highly modern and innovative production lines are the result of continuous engineering development work and steady product development in our own textile research centres.

DiloGroup recently announced that Huafon Microfiber has placed orders for a total of 10 complete, most advanced and high capacity needling lines with DiloGroup for its new plant in Qidong, Jiangsu Province, China since 2015.

As one of the leading producers of finishing and thermal treatment lines for the nonwovens and textile industry, **BRÜCKNER** (booth #1580) will show why belt dryers are on the rise.

In the nonwovens sector the BRÜCKNER portfolio comprises all types of application systems, thermal treatment lines, dryers as well as cutting and batching units. On the occasion of this year's INDEX trade fair in Geneva BRÜCKNER wants to present their customers and prospective clients the new developments and improvements in the field of belt dryers, a type of dryer which gained compared to conventional drum dryers more and more acceptance in the last years.

The design of the high-performance dryer SUPRA-FLOW BH, which had been particularly developed for the air-through drying of light hydroentangled nonwovens, has been optimized.

The BRÜCKNER SUPRA-FLOW BH air-through dryer

This type of dryer is characterized by its particularly high evaporation capacity, a high energy efficiency, the gentle material transport and an excellent drying homogeneity. It is thus clearly more than an alternative for the use of an air-through drum dryer and offers many benefits for the user. Another new development is the SUPRA-FLOW BE-ADL belt dryer developed for ADL products for thermo-fusion of card nonwovens. In the design of this dryer particular attention was paid to a gentle fabric transport, a high temperature accuracy and a precise air control. The air circulation in this dryer follows also the air-through principle.

In the last decades BRÜCKNER supplied many lines and dryers for the international nonwovens industry.

The final use of the nonwovens is manifold and range from the construction trade to the garment and automobile industry to medical textiles, cleaning or care articles and filter materials. Very different application systems are used for these articles, screen printing and slop-pad coaters, coating machines, flocking units, powder scattering units, spray booths or foam impregnation units or padders.

Depending on the purposes BRÜCKNER offers also different dryers matching the customers' individual needs and processes. BRÜCKNER's portfolio comprises among other systems also flat dryers with one or several fabric passages, vertical dryer, cylinder dryers, drum dryers, airlaid dryers, infra-red radiation dryers, high temperature dryers and combinations thereof.

Particularly in case of lines with large working widths BRÜCKNER gained a very positive reputation in the last years. Many very large lines are in operation worldwide, the largest has a working width of more than seven meters and has been designed for the heat-setting of geo nonwovens.

Autefa Solutions (booth #4035) will present latest innovations which stand for best possible Total Cost of Ownership (TCO). The machines offer high productivity, the flexibility for various nonwovens products and low maintenance costs.

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 S-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. These advantages are very important especially for lightweight applications in spunlace lines. The lapping of the web layers is continuously monitored, which minimizes rejects and saves material. For the production of flushable wipes Autefa Solutions and Campen Machinery plan and realizes complete hydro laced airlaid process lines. The concept hits the specific need for medium and small size Airlaid production solutions.

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 presents 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.

Autefa Solutions delivers turn-key lines as well as individual machines for nonwovens manufacturing. Application fields are the production of artificial leather, filter products as well as paper-machine felts, automotive felts, geotextiles, floor coverings, felts for insulation and nonwovens for the hygiene industry. The product range includes fiber preparation machines, nonwovens cards, aerodynamic web forming machines (Airlay), crosslappers and needle looms. The product range additionally includes equipment for thermobonding, drying as well as cutting-, winding- and festooning- technology.

Autefa Solutions Needle Loom Fehrer StylusONE

As one of the world market leaders in advanced technologies for spunlace, thermobonding, air-through bonding, wetlaid, needlepunch, and spunjet, as well as excellent service, **ANDRITZ Nonwoven** (booth #2114) offers customized and unique solutions to requirements from individual customers and will be presenting its proven nonwovens technologies.

By combining the state-of-the-art TT card web forming and JetlaceEssentiel hydroentanglement units, ANDRITZ is forging ahead in responding to specific market demands by streamlining and adding value to integrated installations with high production speeds. And the neXcal twin calender family, which is especially designed for highest flexibility and improved uptime, is now available for the complete range of production capacities.

ACIMIT and ICE-Italian Trade Agency have organized a Meeting Point (booth #4145), where 6 Italian machinery manufacturers involved in the production of machines for nonwovens will show their innovative solutions.

Among these companies ACIMIT members are Aigle, Durst, Testa, Ugolini and Unitech. For particular the participation of Durst sounds very interesting, as the company is a leading provider of digital printing technology. Probably Durst will advise on how its technology can be used for nonwovens.

According to Durst their digital inkjet technology provides the solution to the current challenges faced by the textile industry: increased flexibility, greater productivity, higher efficiency, better print quality, more designs, more colors and a greater margin as a result. At the same time, Durst inkjet technology reduces production costs, production time, the amount of energy required and the burden on the environment. Durst inkjet technology is an economical and ecological evolutionary step and offers greater added value in comparison to traditional production methods.

Conclusion

This brings us to the end of our preview of the INDEX17, including a few exhibitors and products. Organisation, innovation, conferences and dialogue will undoubtedly make the INDEX17 an event which meets the expectations of exhibitors and visitors alike. And it will be another three years before we have a renewed opportunity to find the same concentration of expertise from the nonwovens industry spread over such a small area. Whatever your goals, the fair is certainly worth a visit.

Interview with: Dr. Gerd Müller

Federal Minister for Economic Cooperation and Development (BMZ) Germany

by Oliver Schmidt

"Our textile association has triggered off a profound change of attitude."

Achieving change in a world of economic globalization is certainly much more difficult than most people imagine. You cannot lay down the law to sovereign states. Measures such as laws have a direct or indirect effect on jobs. Why was the 'German textile association' the best idea for generating change?

Dr. Mueller: The fire in the Rana Plaza textile factory in Bangladesch in April 2013 was a man-made catastrophe. The building where the seamstresses worked was dilapidated, lacked fire protection and the escape routes were locked. 1000 people died as a result at the time.

We cannot leave the seamstresses in the lurch. We wear the clothes sewn by them daily - and as a result also bear some responsibility. Our objective was and is still not just to improve the working conditions of the seamstresses themselves. We want improvements along the entire supply chain: This means from cultivation in the cotton fields, the dyeing of the fibres through to the sales operation.

As national law-making sets our limits we have decided to forge another path that has aroused great interest also internationally: the founding of the textile association three years ago. Membership of the association for sustainable textiles is voluntary - but still we have achieved a high degree of commitment: Whoever joins commits to a clearly regimented plan of undertaking. All members declare how they intend to do justice to the commonly defined requirements.

The particulars are reviewed by external service providers. Should an association member inadequately comply with their objectives set then a sanction process comes into effect.

However the textile association still attracts a great deal of criticism. It is sometimes said that it is only the 'light version' of the original plan and Greenpeace considers that the aims set regarding chemicals do not go far enough etc. On the other hand a lot of momentum has been generated by the textile association where there was previously only stagnation and simultaneously provides a blueprint for use by other industries. Is it likely that after ten or twenty years of existence the textile association will be viewed from a completely different perspective, i.e. as a decisive turning point?

Dr. Mueller: It is already noticeable that a transformation is underway. There have never been so many fashion brands advertising clothing made from fairtrade cotton or sustainable production, including discounters. Our textile association has triggered off a profound change of attitude. This is also reflected in the membership numbers. Nearly three years after its foundation there are almost 180 members with around half of the German retail textile trade represented - after all its the largest market for textiles in Europe.

There have already been hundreds of concrete improvements all along the supply chain each year which would not exist without the association's efforts - from sustainable water use in cotton production and better management of chemicals through to secure minimum wages in the spinning factories.

The German government also naturally wants to set a good example. The target is that by 2020 at least half of all textiles produced for the German Republic - e.g. the Federal police uniforms and the armed forces - are to be from sustainable sources.

The association contributes to create fairer globalization. We are not however satisfied with the successes achieved so far. Our aim is to continue growing. Both with regard to the market coverage in Germany as well as internationally. This is the basis of our ongoing discussions with the European Union and other EU countries.

What will be the effect of the 'German textile association' change in the medium term for the textile producers, our readers? What should you be prepared for?

Dr. Mueller: No company wants to share responsibility for a catastrophe the like of Rana Plaza. The question that every producer needs to ask themselves is therefore: Do I face up to my responsibilities? What can I do to avoid a repetition of such a catastrophe?

A company may implement specific measures alone - or shoulder to shoulder with other participants. The textile association offers in exchange a reliable framework which survives from the exchange of experiences between companies, the trade unions, organizations and associations responsible for setting standards all pulling in one direction. It is simpler for these companies to implement the targets they set themselves when trade unions and non-governmental organizations are all together in one boat.

A specific example: The textile discounter KIK, victims and surviving dependants of the fire at the Pakistani textile factory Ali Enterprise have wrangled over the amount of damages - without success. Only through the mediation of the textile association and the support of the ILO and the governing trade union organization IndustriALL Global Union could a satisfactory result be achieved for all participants a few months ago.
Anyone who has already experienced difficult negotiations knows how important trust is in creating the right atmosphere for concluding successful negotiations. The textile association is known for its work in this area. I am therefore convinced that membership in the association clearly adds value - for the companies as well as for the seamstresses in the factories.

What sort of feedback do you get from politicians and companies located in textile producing countries? There are people in some countries of course that are neither one thing or the other.

Dr. Mueller: We receive a lot of positive feedback. Wherever necessary it is also a subject of sharpening the awareness of fair working conditions. As a result our activities are resolutely integrated in development work in cooperation with producing countries.

Also the following applies locally: Mainstream and sustainable improvements are not achieved when acting alone. Waves of strikes such as those that have enveloped Bangladesh in the past months clearly prove how important a role structured conflict resolution plays when taking all parties into account. At times dozens of factories were closed and hundreds of workers were dismissed or arrested.

As a consequence we therefore invited in March a delegation from Bangladesh to come to Germany - worker representatives and work inspectors right up to ministers. For example during the visit inspectors were able to accompany their German colleagues in their work. Numerous seminars tackled the topics of work safety, worker participation and conflict management.

In the end producers, suppliers, traders and employers are equally affected in that: Social peace requires social dialogue. Reliable economic relations require fair and secure working conditions. The value-added chain therefore always needs to be the respect for a chain of values.

Making changes really big requires the international stage but initially one could start within the European Union. Some member countries might however have other topics ranking higher on the agenda. How do you proceed regarding your partners within the EU?

Dr. Mueller: There is hardly any economic sector set up more international than the textile sector. If we are to deploy greater force then what is really needed is European and international action. International coordination of activities is however also important in unifying standards.

Our support for the foundation of the EU Garment Initiative by the European Commission has been essentially within the European Union. I expect the Commission also to announce some concrete progress in the not too distant future. We are in close communication with EU member states which have developed sustainable initiatives in the textile industry - e.g. the Netherlands and their Agreement on Sustainable Garments and Textiles.

We, during the German presidency in office, submitted paper on the topic of sustainable global supply chains to the G7 in 2015 in Elmau and decided on specific implementation programs for work, social and environmental standards in textile supply chains. Also during our current presidency of the G20 group of states we have addressed the issue and promotion of sustainable supply chains.

There are of course unscrupulous people lacking any ecological or social conscience where profit and the maximization of profit is the uppermost aim. Is the textile association sufficient to eliminate these from the global supply chain or will they always be able to find their channels of distribution? Alternatively does the textile association also promise in the medium term to tighten the laws in the textile producing countries?

Dr. Mueller: Germany is one of the largest markets for fashion and textiles. Incorporating environmental and social standards in the supply chain means: We do not simply have a great deal of responsibility but also many opportunities. When the German textile businesses in the textile association group together and demand higher environmental and social standards from suppliers in producing countries then that is leverage that needs to be taken seriously.

Consumers however also need to do their share. Every purchase at the checkout must be a decision as to whether you support the standard of working conditions in the producing countries.

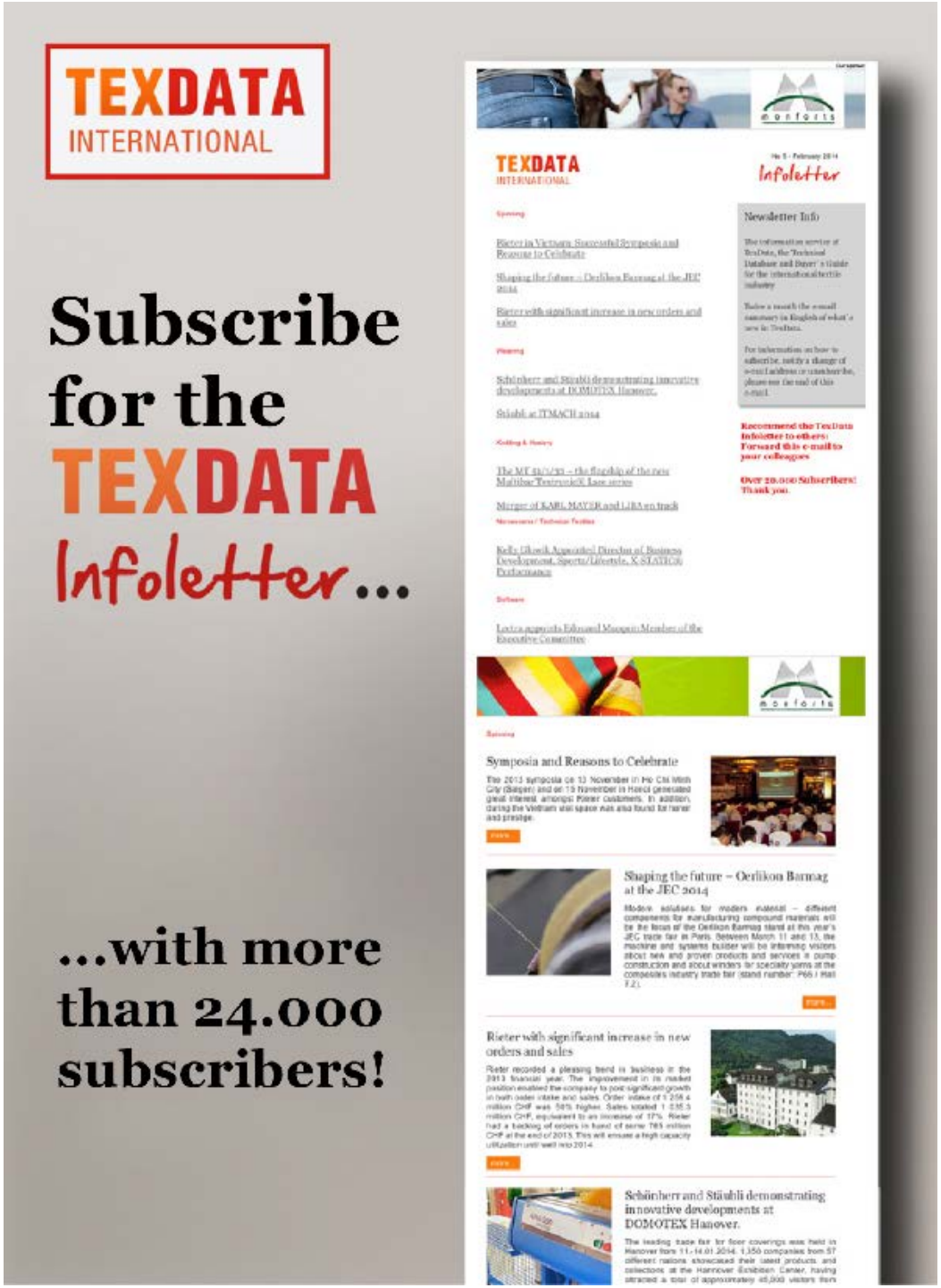
This requires even more transparency and clear seals of approval - for example ‘a green button’ that immediately shows the consumer: This pair of trousers were produced in compliance with fair conditions. The greater the demand for fair trade clothing, the greater the demand will be. As a successor to the eco-revolution we now need a fair trade revolution.

The textile association currently has about 180 members which covers ca. 55% of the textile industry in Germany. Apart from being the majority and signifying a great success, 45% of market participants in Germany still do not support the association. They do not therefore commit themselves to anything and as such theoretically are able to continue with business as usual. Won’t that inevitably lead to a problem sooner or later and how should it be resolved when efforts at persuasion are not sufficient?

Dr. Mueller: Our aim till the end of the year is to achieve market coverage of 75%. I am confident that we will succeed. Some companies with significant turnover have signaled that they still wish to wait to see how the direction of the association develops, how it is perceived and whether it generates victories. We are in close communication with these companies and are convinced that many of them will join the association in the coming months. Naturally membership presents a challenge. On the other hand if you are not a member the question arises as to why not? Certainly attention will then become focused on these companies accompanied by critical enquiries generated by increasing awareness in public and civil society.

The continual discussion of the topic 'sustainable textiles' generates a lot of knowledge while changing the way we think and behave , one would conclude. How are you as a consumer affected? Do you and your family behave differently as a consequence of 'sustainable fashion'?

Dr. Mueller: Definitely. On a trip to Bangladesh I met survivors of the Rana Plaza catastrophe who told me of their work and the collapse of the building. A person does not remain unscathed by such an event. The salespersons must take into account that when shopping in Bavaria or Berlin that I will ask where the garment originated and to what extent the production conforms with fairtrade. The answers do not satisfy me by a long way. It gives me confidence however to see how much has already been achieved in our development work in cooperation with textile producing countries. For example regarding the work inspectors in Bangladesh, or the progress made in topics such as work safety, minimum wages and the use of toxic chemicals. We are therefore able to present a wide range of examples of how local conditions have improved positively for the seamstresses or the cotton pickers.



Interview with: Mrs. La Rhea Pepper

Managing Director Textile Exchange

by Oliver Schmidt

"The current system rewards the pollution of rivers and degradation of the eco-system."

You co-founded Organic Exchange in 2002. The Organic Exchange focused on facilitating the growth of a global organic cotton industry. Your long term goal in 2002 was to build a global organic cotton industry that satisfies 10% of the world's demand for cotton fiber within the next ten years. You haven't quite been able achieve your ultimate goal, but have nevertheless made a big difference. Looking back, how would you assess the company's development, and why is it so difficult to increase the proportion of sales for organic cotton?

Mrs. Pepper: Fifteen years ago, we were a group of optimists believing that organic cotton would bring about positive impacts to reduce poverty and increase bio-diversity and increase food-security. Our optimism has not faded, instead it has been joined with strong determination because we now know these positive impacts of organic cotton to be the case because of the current LCA's (Life Cycle Analysis) and data we have collected at the farm gate through Key Performance Indicators.

The difficult part is that the system we're operating in is broken; this was true in 2002 and it is still true today. Instead of rewarding organic production that reduces poverty and has positive impacts on bio-diversity, food security, and on farmers and their families lives in general - the current system rewards the pollution of rivers and degradation of the eco-system. The problems are systemic and deeply embedded – in the business model and in cultural practices.

Farmers have been in survival mode with many of them living below the poverty line for years and to change their cultural practices from chemically intensive agriculture to a system that implements biodiversity and supports food security is a multi-faceted change that requirees external investment.

In the beginning we knew we could grow organic cotton, thinking it would simply be adopted in the market place, but the systemic barriers are just too deeply entrenched. There is no easy fix and this kind of change is not a simple reconfiguration of the current process. Over time, the truth about the current system and options that preferred fibers, including organic cotton, provide as long term solutions will prevail and Textile Exchange will continue providing the data that proves these positive impacts.

In 2010, Textile Exchange emerged from Organic Exchange, and you broadened your activities from promoting sustainability with regard to cotton fibers to promoting sustainability across the entire textile chain. What brought about this decision? Was it because you wanted to know that your fibers would be in safe hands further down the supply chain?

Mrs. Pepper: The primary shift for the focus to expand to Preferred Fiber and Materials was partly driven by lessons learned in organic cotton. These lessons include the need for strategy, transparency, and the adoption of materials with integrity. The marketplace doesn't just use one fiber.

As a result, there was an awakening that not only did brands, retailers and consumers need to address their cotton portfolio, but their entire portfolio of materials.

The demand for organic cotton is on the rise. Some companies already only use 100% organic cotton in their collections and are members of your 100% Club, while others want to follow this path too. A considerable number of large retailers and brands also want to expand the amount of clothing in their ranges that are made using organic cotton. In 2015, 112,488 metric tonnes of organic cotton fiber were produced. That's about 0.5% of global production, or just about 600 million t-shirts. Are we about to see a huge discrepancy between supply and demand, or will the proportion of organic cotton in your members' collections remain fairly low instead?

Mrs. Pepper: Clear market signals will drive growth. We are seeing brands that are experiencing slower growth and brands that are experiencing double-digit growth around their organic cotton programs. Where we are seeing stable growth is where brands have figured out their supply network, their pricing models, and business strategies. Clear market signals will build the right kind of demand but it's going to have to be targeted - not just general growth, but it has to be linked with projects. We advise projects not to grow unless you have a market partner. The linkage in the supply network, where brands are sending the clear market signal is where we are seeing success and growth. It is a process and does take time.

Markets regulate discrepancies between supply and demand through prices. Will organic cotton become a luxury commodity, and wouldn't that be good for increasing cultivation?

Mrs. Pepper: Market demand signals do play an important role, however, there is market confusion in the difference between a „premium" and „fair price." Many times „premium" is used in connection with organic, when what is really happening is that the chemically intensive system is built upon a broken business model that is actually creating poverty and creating pollution.

I do not see organic cotton being a luxury fiber as much as a fiber of choice because it delivers such meaningful impacts. How do you put a value on bio-diversity, food security, resilient communities and carbon sequestration? All of these things are produced in an organic production system.

We need to re-educate people on a paradigm shift that must happen. We are truly talking about market transformation where organic cotton becomes a catalyst and a tool to bring about much needed change.

Your objective with TE is to make the global textile industry more sustainable along the entire value chain. This affects numerous sub-industries. Can you briefly explain your strategy to us, and say why it is the right one to follow?

Mrs. Pepper: Engaging the full supply network from the field to the retailer is a focused strategy, because it truly takes everyone working in partnership to create transformative change. Because the whole model needs to be addressed, trying to fix only one piece of it really doesn't address the problem.

The strategy also includes convincing brands and retailers to use "preferred fibers and materials". These are fibres and materials that have beneficial environmental and social attributes compared to their conventional counterparts. Why is such a clear concept not a sure-fire success?

Mrs. Pepper: Brands, retailers, and consumers all understand and support the concept of reducing negagtive impacts. The barriers of growth that I mentioned earlier - societal, cultural, and business models - continue to be the barriers to adoption. The brands that have figured this out are driving adoption of Preferred Fiber and Materials and ultimately, the transformational change. When the dollars captured in environmental profit and loss (EP&L) are valued and able to be recognized by the marketplace then one of the signifcant barriers to growth will have been eliminiated.

Textile machinery manufacturing industry has many initiatives for sustainability too, and its processes have a large influence on the sustainability of a textile, even where dyeing and textile finishing is concerned. Why are machine manufacturers not TE members? And why should they be?

Mrs. Pepper: It's been refreshing to see the development that's been happening around greener chemistry as well as machinery and other initiaves across a broad range of the textile industry. Manufacturers, mills, and brokers make changes when the market demands it. We made a choice to invest our time influencing the people that make those market decisions. That in turn will encourage and support innovation that we see happening now. Manufacturers are always welcome to join TE Membership; we're an open and inclusive network.

The consumer is the key factor when it comes to achieving the greatest possible degree of change. It's not always easy, though, to recognize genuinely sustainably produced clothing, as a new seal promising excellent sustainability is created almost every day. How much does it annoy you when one of your members uses their own seal rather than an established one that is recognized for sustainability, such as the GOTS certificate?

Mrs. Pepper: Building consumer confidence is a core component of driving and building integrity in the marketplace. Standards and certfication to those standards is one of those tools that protects the intrinsic value in products and conveys meaning to the consumer. Many brands may start with an internal guide or policy, which is a great first step in building conusmer engagement and confidence. Moving along the continuum from a self-governing policy to an industry standard that is widely recognized, elevates industry best-practices towards continuous improvement and verified by an independent third party will ultimately build the most confidence with consumers.

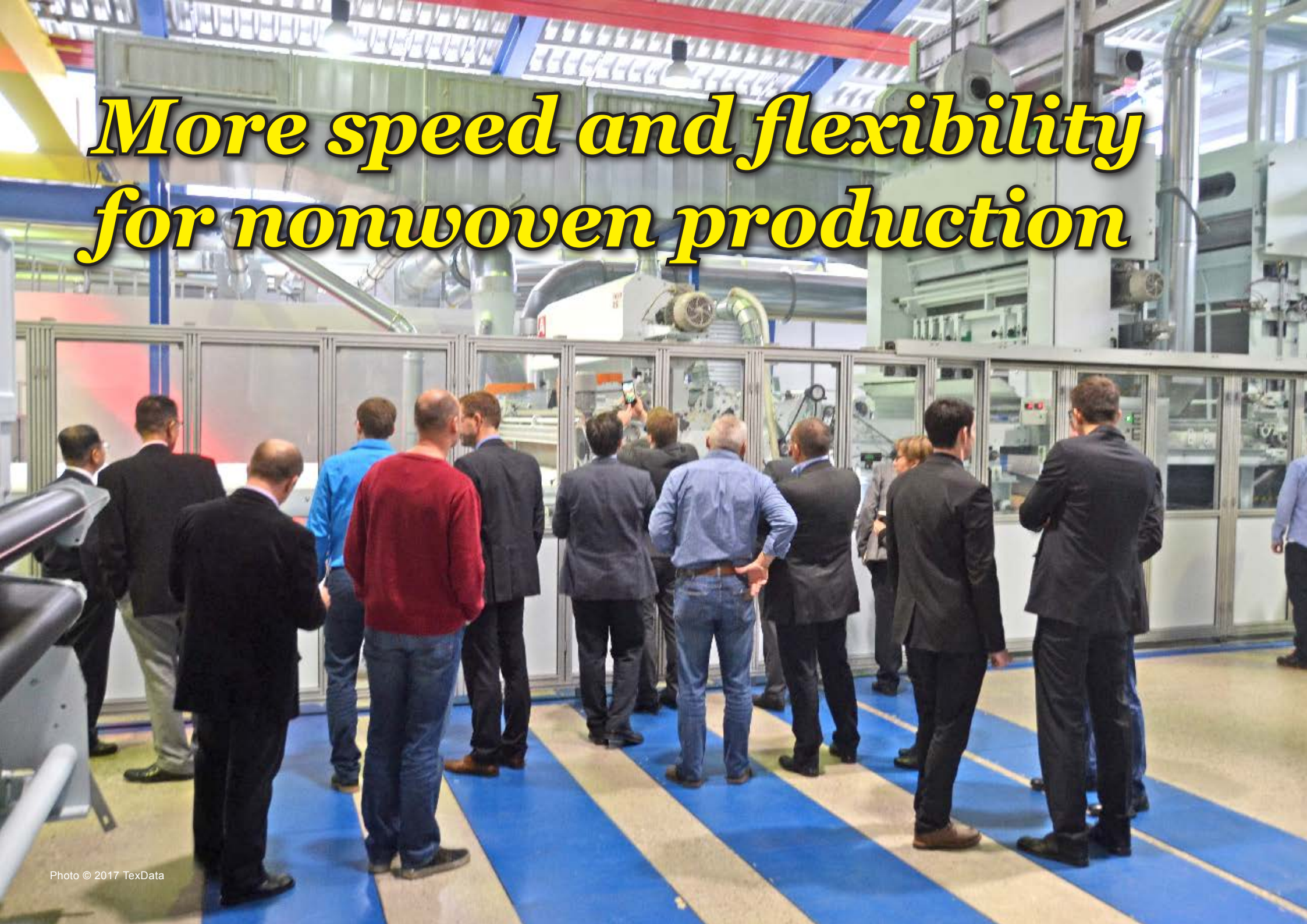
So how much more sustainable has the textile value chain become in practice over the last 15 years? And where can we see the greatest differences?

Mrs. Pepper: We use two barromoters to capture change, the adoption of Preferred Fiber and Materials and the adoption of standards to ensure meaningful change in the process. Speaking from a personal perspective, it's incredibly rewarding to go from three producer groups and four brands in 1991 to well over 300+ brands and retailers, over 80 different farmer groups and projects around the world – we are impacting well over a million farmers and their families. That being said, as you pointed out, this is still only the beginning of change. The number of brands, retailers, and their supply network partners that are more engaged in the adoption of preferred fiber and materials says a lot for how far the industry has come and has ultimately led to more product choices for consumers! The greatest differences are ultimately at the farm gate level – eliminating pesticides and improving water quality and livliihood, creating farming communities that are resilient and able to cope with an ever-changing world.

And how sustainable will it be in another 15 years' time? What are your goals and aspirations?

Mrs. Pepper: From a personal perspective, my goals have been to change agriculture believing that organic production systems provide the most benefit. It's not only about organic, but the influence we've had with other more sustainable cotton initiaves like the Better Cotton Initiative (BCI), Cotton made in Africa (CmiA), and the CottonConnect REEL program. All of these initiatives have been born out of a desire to reduce the negative impacts of cotton – an awareness that would not have existed if we had not raised the issue 25 years ago. Looking to the future, it would be my desire that all brands and retailers would begin a journey along a more sustainable cotton continuum, with a movement toward the adoption of best practices that, in my opinion, leads to organic production systems. Not only is this in a consumers interest, but we also have more brands and retailers making more agressive long-term commitment, and doing so in a way that connects them to their supply network, sending those clear market signals. We expect greater growth to happen over the next 15 years than we have seen in the past.

More speed and flexibility for nonwoven production

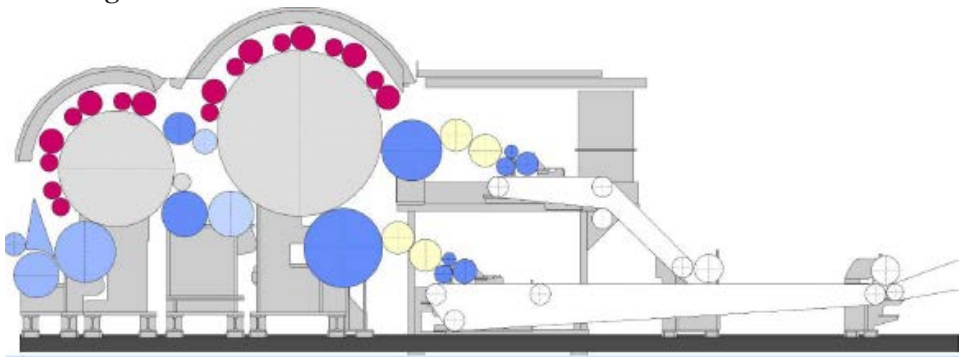


With reference to Index17, the leading trade fair for nonwovens, we want to have a closer look at some of the latest developments from leading nonwoven machinery manufacturers. The main focus is on machines that increase productivity through higher speeds and on machines that improve the flexibility to produce different applications with short changeover times. Additional selection criteria are modularization, energy saving and use of recycled materials in order to take account of the big trend of improving sustainability.

DiloGroup with its units DiloSpinnbau, DiloTemafa, DiloMachines and DiloSystems continues to be a major innovator in the field of machinery for forming staple-fiber products and offers tailor-made production lines from one supplier for almost all applications. At ITMA in Milan DiloGroup introduced a wide range of new developments to the market. Two of these new machines we would like to give our special attention.

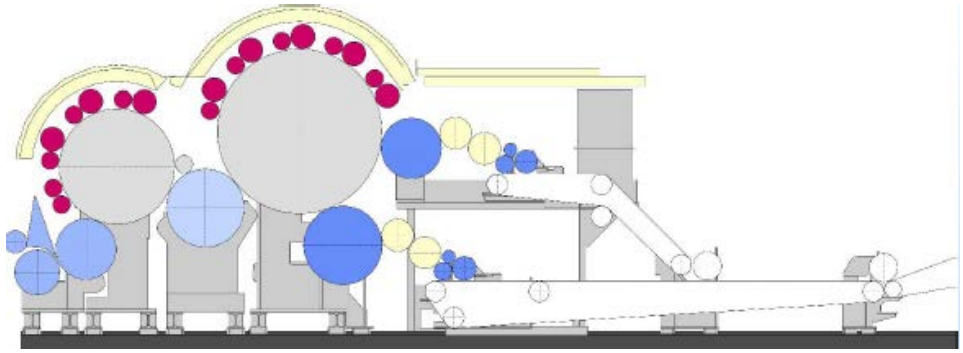
The new **VectorQuadroCard** by DiloSpinnbau is a nonwoven card for universal applications and for production lines with crosslappers or "direct lines". The working width is from 1000 up to 4000 mm and the web speed is up to approx. 220 m/min. The standard execution bases on an overhead feed plate. The card can handle a fibre fineness of approx. 0,8 – 88 dtex and the strength ratio is up to approx. 3:1 if random rolls are applied. The conveyors are either closed or vacuumed.

The main attraction of the VectorQuadroCard is that it combines different types of card within one card by a simple and fast changeover of the intermediate section. The carding machines in the "VectorQuadroCard" series have been completely redesigned. Although still based on existing components, they have been completely reconfigured by means of a variable intermediate transmission module. This allows Dilo to modify the carding machines within the space of 1 to 2 hours and configure them in a way that optimises either the quality of the fabric or throughput or even a combination of the two. The breast section has a roll diameter of 1050 mm and 4 worker and stripper pairs. The diameter of the main cylinder is 1500 mm. The main section has 5 worker and stripper pairs as well as 2 doffers and 2 roll-take-off with cleaning roll. Let' s have a look at the different configurations of the intermediate section. The Type VQC-Q has 1 doffer and 1 transfer roll at the top and 1 doffer and 1 transfer roll at the bottom. This arrangement as a double transfer between pre-opener and main cylinder with two doffers and two transfer rollers to the main cylinder is the "Quattro group" which improves web evenness and fiber blending.



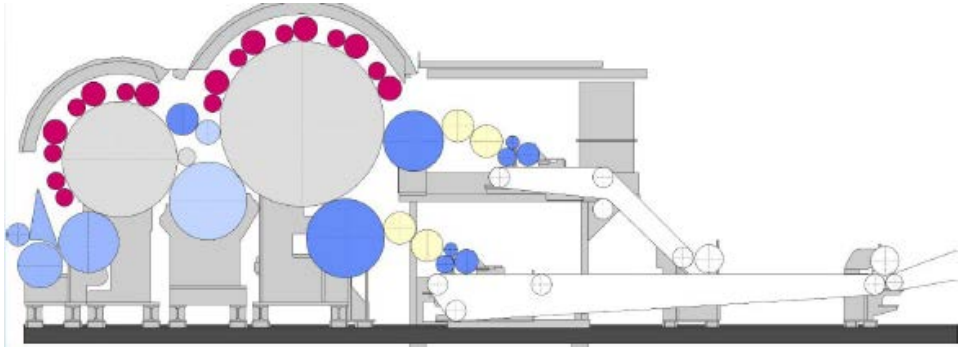
VectorQuadroCard VQC - Q

The type VQC-V comes with a top doffer together with a transfer roller and a lower transfer roller. This is the „Vector-System" which increases the throughput by using the doubling effect between pre-opener and main cylinder.



VectorQuadroCard VQC - V

And the type VQ-T has only one transfer roller between pre-opener and main cylinder. This "Transport-System" configuration stands for cost-effectiveness and supports a wide range of fibers.



VectorQuadroCard VQC - T

And there are even more options because the delivery system is also very flexible and may be combined in different variations with two doffer rollers and respective parallel delivery system or with pairs of doffer rollers and condenser rolls top and bottom or as random card with random rollers, doffers, condenser rolls and take-off rollers.

The VectorQuadroCard represents a very flexible modular system. With the VectorQuadroCard Dilo is able to offer the full spectrum of carding technology in a single system comprising variable components to suit all applications. This is a cost-efficient option for the manufacturer, and also offers significant benefits for customers who want a universal machine that can be used for a range of special purposes.

The Dilo VQC exhibited at ITMA had a working width of 3.2 meters and was feeding the new crosslapper "Super-DLSC 200", which brings is to the next machine.

The **"Super-DLSC 200"** can be used with a wide range of fibre types and can reach electromechanical infeed speeds of around 200 m/min depending on layering width and web infeed width. Crosslappers historically have been the bottleneck because the carding machine could operate at a slightly higher speed, as could the needle loom. The necessary design modifications within the DLSC model series are increased power by dual drives, a system for improved web guiding even under the influence of disadvantageous aerodynamic currents and a further stabilization rolls to reduce apron vibrations. Rolls can be moved via auxialiary carriages.

Dilo crosslapper Super-DLSC 200

At the crosslapper infeed DILO has installed the proven “CV1A” web regulation system for an improved evenness of the needlefelt with a great potential for fibre savings. This very high web infeed speed has been made possible by a further increase of the drive power within the “3-apronlayering technology”. All drives for the aprons and the layering carriages are direct watercooled torque motors to improve the acceleration with reduced gear wear. In addition, Dilo has taken special measures to eliminate and reduce apron vibrations in order to achieve an exact web overlapping (lap joints). Furthermore, they have installed a “web guiding system” (FLS) to avoid wrinkles for example at the speed change of the upper carriage.

All models of the DLSC „Vector“ 200 series are designed for card web infeed widths of 2.00m to 3.50m. The maximum lay-down width can be adjusted in 500 mm increments up to 10 m. Maximum web infeed speed can only be realized at maximum lay-down width. If a narrower lay-down width is chosen and depending on the drafts, the actual web infeed speed is slower.

Let us have a look at another full line supplier for needlepunch nonwoven lines and its latest developments. **Autefa Solutions**, representing the former companies Fehrer, F.O.R, AUTEFA, and Strahm, is also a leader in innovation. At ITMA Asia 2016 Autefa introduced the Solutions V-Jet, a new hydroentanglement system which saves up to 30% of the hydraulic energy required for the Spunlace process. This V- Jet Injector is nominated for an Index Award Nomianted in the category “Innovation in machinery of special relevance to the nonwovens industry”.

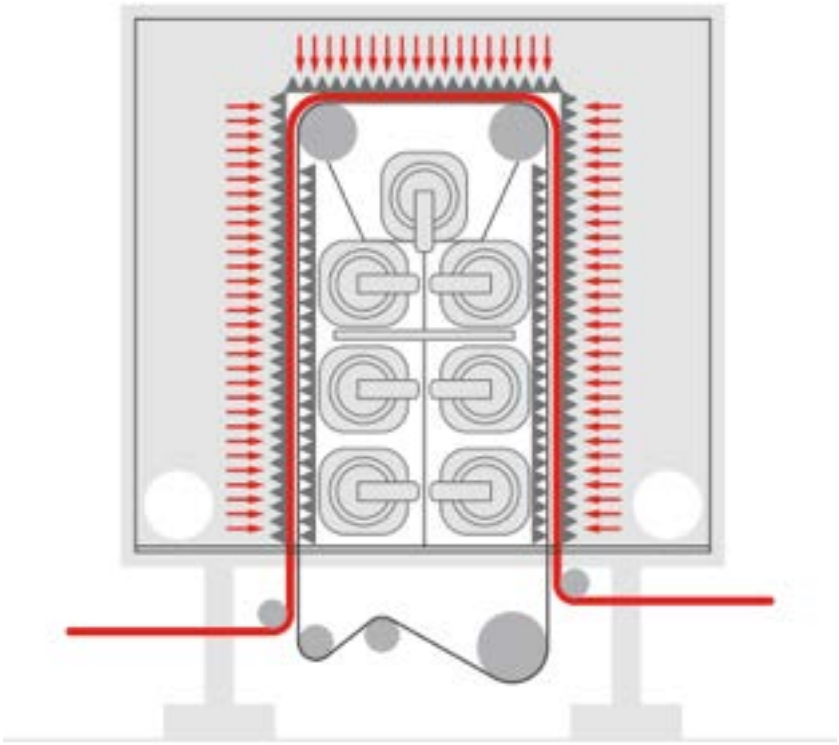
While developing V-Jet the Autefa R&D clearly focused on reducing the energy consumption of a spunlace line while still offering a perfect product quality. There are mainly two points where a significant energy saving is possible: the distance between nozzle and material and the drying process. In classic systems, the minimum distance from nozzle to material is around 30 – 35 mm. Over that distance, the water jet loses energy by friction with the air and additionally widens. AUTEFA Solutions improved this situation by using a V-shaped jet-strip, so the exit of the nozzle is less than 1 mm away from the outer edge of the injector instead of 20 – 25 mm.

The Spunlace process is optimized with the Square Drum Dryer SQ-V. In standard drum dryers, there is only one heating zone. The material is dried with the same properties independent of its local humidity. And the heat capacity of the air can never be fully used and energy is wasted through the exhaust. The AUTEFA Solutions Square Drum Dryer SQ-V includes the special heat recovery systems EnRec, optimizing the energy consumption of the dryer. The air flow through the dryer is from material inlet to outlet and the air, establishing a counter flow which is known to be most efficient in heat exchange processes. This is supported by the at least 4 heating zones which can be independently controlled, meaning the optimal temperature for the local humidity of the material can be chosen. Furthermore, the AUTEFA Solutions Square Drum Dryer SQ-V includes uses the proven air nozzle systems which allow a perfect adjustment of the air flow to the material properties. In total, this allows energy savings of 30% or more in comparison to standard drum dryers.

The SQ-V combines the best of both worlds: The low foot print of a drum dryer and the superior performance of a belt dryer.

Another new Autefa machine for the needle nonwovens process, is the **Needle Loom Fehrer Stylus ONE**, which is part of Autefa's LineOne. With the LineOne Autefa Solutions is extending their range of applications: it stands for European technology and standards and strong and reliable machines.

The Fehrer Stylus ONE is a machine for all needling applications in the medium weight range. It is 100% made in Europe and covers the needs of the market for a reliable and economic machine. The longevity is guaranted by the heavy frame and a low vibration. There is no resonance in the range.



AUTEFA Solutions Square Drum Dryer SQ-V

AUTEFA Solutions Needle Loom Fehrer Stylus ONE

The standard configuration offers a working width of 2,6m and 4m and has a performance of max 1200 strokes/min, 40 - 60mm as down stroke or up stroke with 10000 or 15000 needles/m depending on the working width. Depending on fiber type, fineness and blend nonwovens up to 1800 gsm can be produced on the Fehrer Stylus ONE. And last but not least the StylusONE comes with a maintenance free closed oil cooling gearbox system.

Alltogether the Needle Loom StylusONE distinguishes itself through productivity, high flexibility and guaranteed longevity. In addition the compact design offers a very good price/performance ratio.

Another company which is always innovative is **Trützschler Nonwovens**. The company is one of the few providers in the world that can offer four different bonding processes and more than ten types of roller cards from a single source.

One of the latest innovations of Truetzschler Nonwovens introduced at ITMA 2015 is the new **Trützschler High-Speed Foulard** for the application of liquid binding agents.

Eveybody in the nonwovens business knows that applying binders to the web often is a limitating factor for a chemical bonding's line speed. The web has to be saturated homogeneously with the binding agent – which increases the risk that the web sticks to machine components. Trützschler Nonwovens' new liquid foulard improve this process step.

Compared to conventional technologies, it increases the line speed during the production of light-weight webs by up to 50%. This significant speed advantage has been achieved by various optimizations on rolls (patent pending) and other sub-components. The rolls have a new geometry and a very special surface. As the result the liquid binder is absorbed by the roller and passed on to the web in a much more homogeneous way. The high-speed foulard is designed for high-performance installations. According to Trützschler in particular the production of hygiene products becomes as economical as never before.

An interesting new development in this context is a flexible installation configuration that allows thermo- as well as chemical bonding of light-weight webs. In thermobonding, bicomponent fibers are used; in chemical bonding, the application of liquid bonding agents is performed by the high-speed foulard.

Another new machine to the Trützschler portfolio of web forming machines is the **Trützschler High-Speed Card**. This new roller card is specifically tailored to spunlace installations with speeds up to 300 m/min. Core elements are an enlarged pre-cylinder as well as dual transmission to main cylinder.

The new design increases the carding area, thereby ensuring maximum web qualities even at high speeds.

Trützschler High-Speed Foulard for binder-bonded webs

Conclusion

This brief survey of selected machines has shown the enormous potential which the technical improvements still have to increase productivity and to reduce energy – even at the high technical level at which the solutions are at present. And it points to the hunger for innovation which the suppliers require in their attempts to react to the constant advancements and increasing demands of new applications. We are all looking forward to the INDEX17 and Techtextil 2017. Further innovations and developments are surely just around the corner.

Heimtextil 2017 trends are more materiality, digital printing and sleeping

Inspiring, touch-focused and close to the industry: this was the 2017 edition of Heimtextil. In spite of the snow, ice and storms, particularly on the first and last days of the trade fair, almost 70,000 trade visitors (2016: 68,277) from across the world attended the leading trade fair for home and contract textiles and were won over by quality and variety of the exhibited products as well as the trends of the new season. Growth was driven primarily by Brazil, China, the United Kingdom, Italy, Japan, Russia, the USA and United Arab Emirates. A total of 2963 exhibitors from 67 countries (2016: 2864) presented their new textile products and designs across 20 halls and appeared to be highly satisfied by the orders they received and business contacts they made.

Detlauf Braun, CEO of Messe Frankfurt, highlighted the positives following the end of the trade fair: “The figures speak for themselves: Heimtextil grew once again in 2017 in terms of its visitor and exhibitor numbers. But it’s no longer about quantity and hasn’t been for a long time. I am especially pleased about the high quality of the products exhibited as well as the intensity of discussions between purchasers and exhibitors. Frankfurt is the international meeting place and beating textile heart of the interiors industry.”

Also positive: overall, visitors consider the sector’s economy to be in a better place even than last year. representative for most of the exhibitors Juan Carlos Villanueva, Managing Director Pepa Pastor stated: “We see a clear signal that the industry is recovering.”

Visitors from Germany in particular consider the situation to be good (40 per cent). Wernfried Fesenberg, Managing Director of Schlau Einkaufs GmbH, visited Heimtextil to get “a focused overview of the new products and trends in the individual product ranges. Given that they are exhibitors, it is possible to meet essential suppliers here and exchange ideas about trends, concept ideas and business possibilities.”

Textile design: the eye feels too

It is not just the feel of a material that determines its appeal – something that was also obvious at Heimtextil with the great interest shown in textile design. The colourful fabrics and varied designs by well-known designers and young talent were very popular and attracted a lot of attention: “For me as a designer, Heimtextil is extremely interesting, in particular because I can see myself designing bed linen, pillows and other home textiles in future in addition to wallpaper,” says star designer Michael Michalsky, who presented his new wallpaper collection at the trade fair. “At the world’s leading trade fair, competitors are present in great numbers. Here, I can experience marketing of products at close quarters and get direct feedback on my own new products.”

And it was not just designers that showed great interest in the globally unique design offer at Heimtextil. Exhibiting companies also used the creative hotspot to acquire new designs for their upcoming collections.

Trend towards more materiality

An end to bare walls and cold floors: home textiles are celebrating their comeback in private homes. Curtains, carpets and decorative cushions are decorating people's own four walls and lending them a personal note. "We can also confirm the trend towards more materiality. In addition to our new wallpaper products, we have seen an increased interest from visitors in our new fabric collections," says Andreas Zimmermann, CEO Zimmer + Rohde.

Eye on the future: "Theme Park" and digital printing

The heart of the event and guidepost for important future-oriented themes in the industry was once again hall 6.0 with its visionary "Theme Park" trend area. There, the trends cultivated by a team of six international design studios were showcased under the title "Explorations". For Heimtextil 2017, the depiction of these themed worlds was the responsibility of French trend office Carlin International under the aegis of Exalis.

From the design to the finished product

This hall was also the location for suppliers from the product group "digital print technology" for the first time. In a special new presentation, the "Digital Textile Micro Factory", they depicted what is considered state of the art in the digital printing segment in an impressive fashion and showed what possibilities this development offers for all areas of the textile value creation chain.

The seamless digital networking of the production steps within the Micro Factory ensures optimal material consumption, quicker processing time for orders and the highest level of flexibility to enable producers to react to market needs in a short space of time. Visitors walked through the Micro Factory following a specified path with various different stations portraying the manufacturing steps undertaken in textile production. Experts were on hand to explain technical details and answer questions. Visitors were able to experience a complete digital production chain live, from the design, digital printing and finishing to automatic cutting and confection.

The starting point was the design area where the workflow starts with the selection and preparation of the design. In partnership with the German iTV Denkendorf (Institute for Textile and Fibre Research) and CAD/PLM software provided by Human Solutions Group, visitors were able to experience a complete digital production chain live, from the design, digital printing and finishing to automatic cutting and confection.

The next step showed how the textiles are printed using the digital printing procedure. Manufacturing orders can be combined and printed in a colour binding way using various parameters. The specific know-how has been provided by hardware and software partners Mimaki, Ergosoft and Multiplot.

The digital cutting of the textiles was realised at the next station. One of the biggest challenges of this production step is the automatic identification of the orders in order to be able to cut various materials in accordance with their specific characteristics and to the best standard of quality.

In the last production stage, the cut textiles were sewn together using automatic identification. The latest machine developments, the recognition of textiles and categorisation as well as the digital networking of sewing machines were presented by the experts at Heimtextil partner Juki.

Upholstery and décor materials experiencing ever greater popularity

One of the other drivers of growth at Heimtextil is the product group upholstery, which has flourished in terms of growth over the past three years. It includes décor and upholstery materials as well as upholstery and artificial leather.

In 2017, this segment was considerably expanded at Heimtextil. 150 additional exhibitors have joined this segment in the past few years, most recently from Italy, Spain, Poland and Turkey in particular. Halls 4.0, 4.1 and 3.0, which present primarily décor and upholstery fabrics, were fully booked in 2017.

Sleeping as a lifestyle

After nutrition and fitness, sleeping will be the next big lifestyle theme. This was also proven by the numerous innovations seen in the bed segment. Mediflow from Hamburg, for example, presented an improved version of its water pillow capable of full adjustments for firmness and supportive effect. Robert Kocher, European CEO of Mediflow: “This year, we had lots of new customers at our stand who had heard about us and wanted to know more about our products or even ordered them directly. Visitors came primarily from the Middle East, China, the eastern European region and Scandinavia. We also enjoyed intense discussions with American and German customers.” At the sleep campaign stand, visitors and exhibitors alike were able to inform themselves about the four things that can influence sleep. Heimtextil will continue to focus on the topic of sleeping over the coming years.

Bed linen and accessories – a highly promising combination

In keeping with the current topic of sleeping, the product group "bed" experienced a growth in exhibitors even before the trade fair opened its doors. The high-quality sleep worlds on offer in hall 11 were also complemented by accessories and decorative items such as lamps, baskets and bathroom items at many stands.
These offer dealers interesting ways of expanding their product ranges. At the trend spot Retail in hall 11.1, specialist dealers were able to get some inspiration and find some concrete design ideas for presenting products at the POS. And one thing that this showed is that categorising products according to colour or style world, combining items with matching accessories and having knowledge of your own target group are just some of the ingredients to ensure success in the trade.

Sustainability: many trade visitors searching in targeted manner for green themes and products

"Visitors are now heading straight for us. Our stand is becoming ever more well known," says Tina Stridder, Managing Director of "Aid by Trade Foundation" which had a presence in the "Green Village", the expert centre for seal awarders and certifiers in hall 8.

"We made lots of new contacts and quite literally met the whole world at our stand as well as the entire textile chain, from weavers to producers. We're inspired."

The topic of sustainability has a long tradition at Heimtextil and many exhibitors have noticed that trade visitors are now making more concrete enquiries given that it is a topic that is becoming more relevant to end consumers.

Under the title "Sustainability.Mindset.Responsibility", Heimtextil provides a comprehensive offer comprising a special exhibitor directory, the "Green Directory", guided tours, the "Green Tours", and a varied programme of talks in the "Green Village", a presentation area that also provides a supportive environment for discussions with certifiers and various industry experts. One of the themes at "Speaker's Corner", the presentation area of "Green Village", was digital printing and the opportunities it presents to produce in a way that saves resources and is environmentally-friendly.

The next Heimtextil, international trade fair for home and contract textiles, will take place from 9–12 January 2018 in Frankfurt am Main.

Conference space (c) Messe Frankfurt Exhibition GmbH / Pietro Sutera

Green village (c) Messe Frankfurt Exhibition GmbH / Jens Liebchen

Theme Park, Eva Padberg, Detlef Braun (c) Messe Frankfurt Exhibition GmbH / Pietro Sutera

Themepark (c) Messe Frankfurt Exhibition GmbH / Pietro Sutera

Carpets made from “green” and effect yarns have been the big trends at Domotex 2017

Photo © 2017 Deutsche Messe Hannover

After four action-packed days, DOMOTEX 2017 drew to a close, chalking up considerable growth in terms of its exhibitor lineup and the total amount of space booked, and with an even higher percentage of exhibitors and visitors from abroad. A total of 1,409 exhibitors from more than 60 countries showcased their latest innovations to a global audience at the Hannover Exhibition Center, once again impressively highlighting the innovative spirit and high performance capability of the floor coverings industry.

"Thanks to its strong exhibitor lineup, myriad innovations and unparalleled international scope and reach, DOMOTEX has impressively underscored its reputation as the international floor covering industry's leading marketplace and showcase for innovations," remarked Dr. Andreas Gruchow, the Deutsche Messe Managing Board member in charge of DOMOTEX. Attendance was on a par with the last comparable DOMOTEX, staged in 2015. Around 70 percent of visitors were from abroad, with the majority (43 percent) coming from EU countries. There was a considerable increase in visitors from the Near and Middle East (up 9 percent) as well as East and Central Asia (up 16 percent). Appreciably more visitors came from the U.S. and the United Kingdom, in particular. Around 90 percent of the show's attendees were decision-makers who came to the show with firm purchasing intent. Not only that, but DOMOTEX also attracted more information-seeking interior designers, contract business professionals and decorators.

Flooring trends

The latest trends revealed a strong focus on sustainability and natural-looking designs. There is strong demand for eco-friendly designer products. Carpeting in the form of tiles and planks continues to gain in popularity. In terms of color, carpets in subdued sand and stone hues are trending, as are vibrant colors and sophisticated patterns. In addition to standard structured surfaces and patterns, carpets with exceptionally soft surfaces for the home and carpet tiles for professional use continue to enjoy popularity.Innovative floor laying systems are creating opportunities for simple, flexible and environmentally friendly application techniques.

Apart from showcasing trends for the upcoming season, DOMOTEX also offered an exciting look at the future of floor design. The new Young Designer Trendtable gave up-and-coming designers from five European countries the chance to formulate and present their visions for the flooring of tomorrow. With individually designed spaces, these talented creators brought their visions to life in a brand-new kind of showcase. They showed how traditional skills can contribute to modern manufacturing processes, how hard and soft materials can be combined to great effect, and how temporarily used rooms can be approached from a fresh angle. In Hall 17, innovative designers such as Creative Matters, Hossein Rezvani, Rug Art, Rug Star Wool & Silk Rugs and Zollanvari presented their sumptuous hand-made carpet creations, setting new standards and pointing the way to future trends.

The Carpet Design Awards were presented for the world's finest designer carpets and rugs. Offered for the twelfth time at this year's DOMOTEX, this international award is considered the "Oscar" of avant-garde carpets.

Textile machinery industry presented latest innovations

As usual, leading textile machinery manufacturers used the short distances of Domotex to present their innovations for the production of carpets and carpet yarns. Among them were Allma Volkmann, Brückner Trockentechnik, Dilo Systems, Groz-Beckert, Oerlikon Neumag and Oerlikon Barmag, Stäubli, Trützschler and van de Wiele. We visited some of them and have captured some personal statements.

Groz-Beckert displayed the Cut Pile Looper with Loop Control® for working with soft-fiber yarns. The Loop Control® option securely holds each loop in the cutting area and cuts it in one stroke. The result is a uniform rug surface. Furthermore Groz-Beckert presented its proven tufting system for the manufacture of carpet tiles. The synchronized components achieve a uniform fabric appearance and moreover provide one-of-a-kind price/ performance ratio.

To produce soft-as-silk carpet surfaces, soft-fiber yarns with extremely fine single filaments (low DPF yarns) are used.

These soft-fiber yarns place high demands on the cutting performance of tufting tools—standard tools are not up to the task. Groz-Beckert presented the appropriate customized solutions.

Stäubli presented latest machine woven carpet trends and the way how to produce them while always respecting highest quality standards. Visitors learned more about the carpet weaving system ALPHA 500 SINGLELOOP, the specialist for low pile applications, such as old looking carpets well worn, and faded carpets with the pile worn down almost to the back. Furthermore Stäubli presented samples of the latest carpeting with multiple ground bindings and effects, such as the Magic Shadow Effect that provides interesting aspects to mono-coloured carpets.

Oerlikon Neumag presented state-of-the-art system concepts for BCF carpet yarn productionand its new "IPC 4.0" (Intelligent Plant Control) customer services. Oerlikon Vice President André Wissenberg told us that the demand for multicoloured carpets has grown significantly, with the market seeking a wide spectrum of colour separations in tricolour yarns. Therefore Oerlikon' s special focus was on highly efficient tricolour yarn production with Variomelt, CPC and RoTac . The Variomelt concept is synonymous with the highly flexible production of large and small batches of mono- and tricolour yarns: the unit can be modified from tricolour to monocolour production with three single colours in less than 45 minutes.

With the CPC (Color Pop Compacting) unit from Oerlikon Neumag, strongly separated yarns can be manufactured efficiently.

And thanks to the Rotac tangling option, uniform tricolour results that cannot be produced in conventional tangling units are achieved even at high speeds. Mr. Wissenberg was very comfortable with the fair and reported a number of very interested visitors and ecellent discussions.

Trützschler Man Made Fibers presented some very interesting innovations. The fine dpf BCF is a yarn with a luxurious soft touch effect thanks to the low single filament titer. It is available for PP, PA6, PA66 and PET. The yarn comes with an ecellent crimp and crimp stability. Trützschler says that this stable efficient process is the ideal solution to produce fine dpf yarn. Furthermore Trützschler presented the ecoFLEX technology which stands for a broad range of exciting colour effects from classic mélange to vividly sprinkled. The tri-colour effect yarns are produced in one easy to handle step and the colour characteristics are adjustable and reproducable. Rotrofitting on existing symTTEC T-20 systems is possible.

And of course Trützschler also presented its new one step solution for R-PET BCF which has been developed in cooperation with EREMA. The new system directly links EREMA's VACUREMA® technology with Trützschler Switzerland's symTTex BCF machinery. The EREMA part consists of a vacuum reactor, a directly linked single-screw extruder and a high-performance filter. Washed R-PET flakes are dried and decontaminated in the reactor, melted in the extruder and then forced through a large area filter of variable fineness. After that the high-quality melt is transferred to the Trützschler spinning system.

Mrs. Stehr from Trützschler Man Made Fibers was comfortable withe the show and for particular with the visitor' s high interest in the new solutions.

Major enhancements to take shape in DOMOTEX 2018

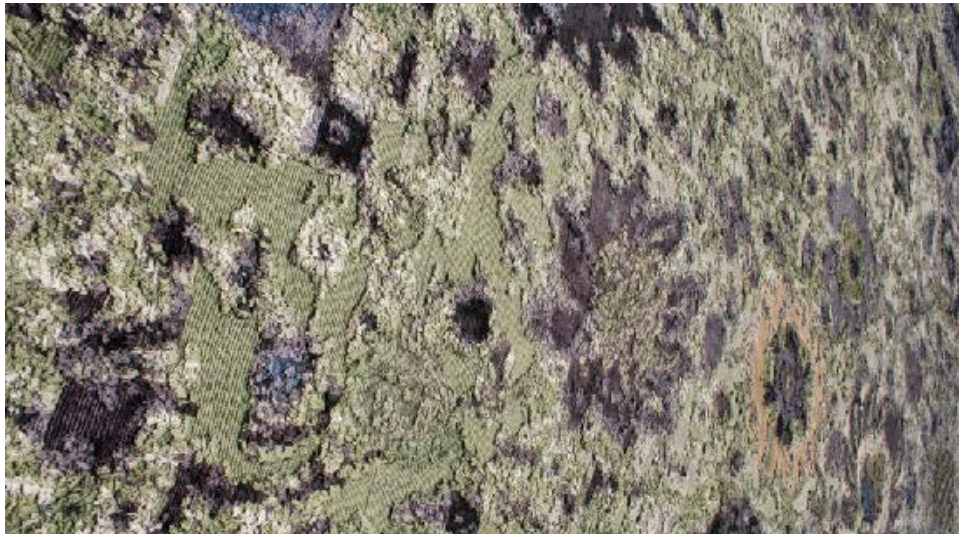
DOMOTEX is gearing up to be more attractive than ever, with a host of major enhancements to go live in 2018. The changes are in response to market shifts and changing requirements, and will also help improve the flow of visitor traffic. This involves changes to the physical layout of the exhibition in an effort to make it more transparent for trade visitors and provide a clearer overview of the market as a whole. Product categories will be restructured as well. And each year there will be a new keynote theme to place even stronger emphasis on trends and innovations. The keynote theme for DOMOTEX 2018 is "Unique Youniverse", revolving around the sweeping trend towards individualization. The keynote theme will be specially framed in a highly immersive, multi-faceted set of environments in Hall 9 aimed at giving visitors a central magnet and a rich source of inspiration. Brand- and lifestyle-oriented firms will be contributing to this brand-new showcase.

As of 2018, DOMOTEX will run from Friday to Monday rather than from Saturday to Tuesday as in the past. The DOMOTEX will be staged from 12 to 15 January 2018.

01 Best Studio Artist Design
„Vlisco Recycled“ by Simone Post
The jury‘s verdict:
Deep colours and innovative approach to texture.
A clear story and a fresh perspective on recycling in rugs.

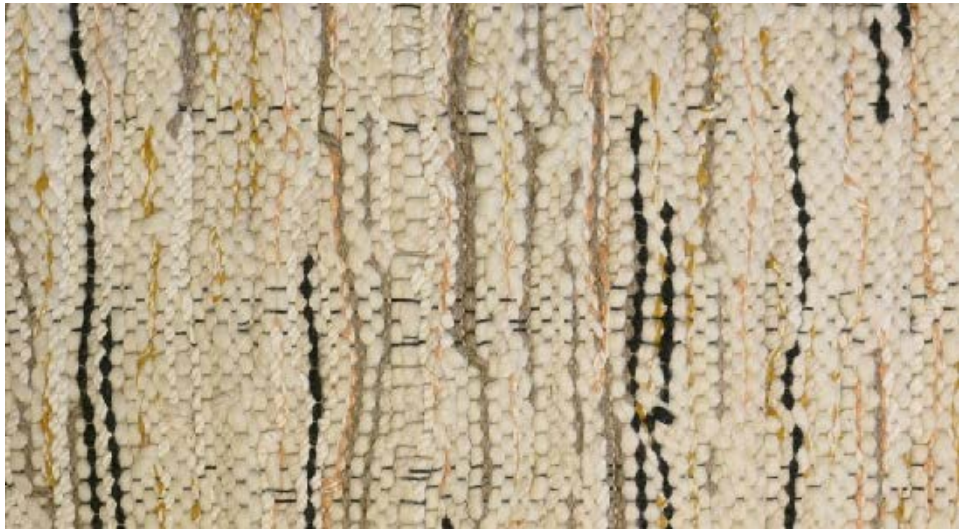
02 Best Modern Design Superior
„Super Moon“ by Sterling Rugs
The jury‘s verdict:
The vision of its design, simple colouring and its fine technique.
The way it could be used in both a modern and a traditional setting and will stand the test of time.

03 Best Modern Design Deluxe
„Summit“ by Wool and Silk Rugs
The jury‘s verdict:
Its evocative design and subtle colouring.



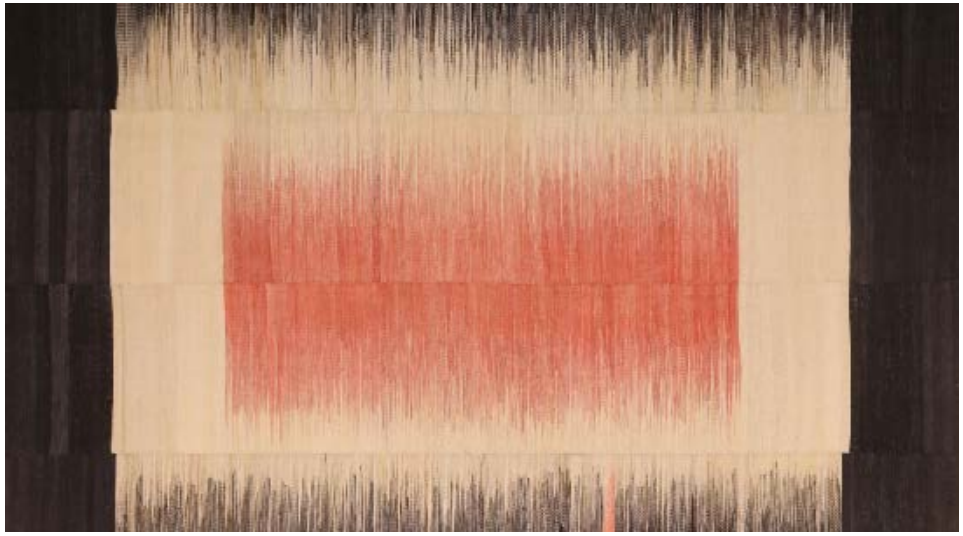
04 Best Traditional Design
„Vase Green“ by Ayka Design
The jury‘s verdict:
Organic and fun design that plays with form and focus.
Tactile nature, the richness of its material and its unique palette.

05 Best Transitional Design
„Shiraz Sabz“ by Hossein Rezvani
The jury‘s verdict:
Fine weave, rich materials and delicate colour.
For its vision and dynamic colours.



06 Best Flatweave Design
„Scandinavian Flatweave 2“ by Rug & Kilim
The jury‘s verdict:
A lot of design, thought and texture.
Highlights both material and technique beautifully.

07 Best Modern Collection
„Unstring by Kavi“ by Jaipur Rugs
The jury‘s verdict:
Contemporary colour combination with a well conceived design.
Suitable for simply any interior.



08 Best Transitional Collection
„Alasht Collection“ by Edelgrund
The jury‘s verdict:
Praised for its scale, texture and timeless colour combinations.
Classic and modern at the same time.

Favorite by DOMOTEX visitors Rapture 4 – The Kundan Pure Silk Collection, Zollanvari CH)
DOMOTEX: Alasht Collection, Edelgrund GmbH

Winner 2017

DITF event „Textile digital“ presents study „Knitting 4.0“

On April 27, 2017, the German Institutes for Textile and Fiber Research Denkendorf (DITF) are organizing a seminar on the topic “Textile Digital - The Future of textile production using the example of the Knit-Cluster Baden-Württemberg “ in cooperation with the Ministry of Economics, Labor and Housing and Südwesttextil. As part of the event at the DITF in Denkendorf, the study “Knitting 4.0” will be presented. This study mentions areas of action a company has to work in order to achieve a successful digital transformation of its business segments.

https://www.suedwesttextil.de/veranstaltungen/textil-digital-20170224

Aachen-Maastricht Institute for Biobased Materials officially opened

On the 9th of December, the “Aachen-Maastricht Institute for Biobased Materials” (AMIBM) has officially been opened. The AMIBM opens 1500 m² of new laboratories on the Brightlands Chemelot Campus and presents new installations (eg. wet spinning line) and initiatives such as the launch of the BioTex Fieldlab. Within AMIBM, Maastricht University (UM), RWTH Aachen and Fraunhofer form a unique collaboration for research into modern biobased materials.
www.ita.rwth-aachen.de

The installation of “MFW-48” is making progress in January 2017

Murata Machinery, Japan, is introducing the new Multi Filament Winding (MFW) technology MFW-48 to the market. To establish MFW as innovative and economic production technology for composite structures in the German and European market, Murata and ITA started collaboration. The installation work of the machine MFW-48 at ITA commenced in January 2017. The new technology MFW-48 has the capability to process 48 fibres simultaneously. It offers the potential to produce structures for composite applications with outstanding mechanical properties in a highly productive way.

Engineers from Murata and ITA successfully commissioned MFW-48 ITA
www.ita.rwth-aachen.de

ITA won first prize at RWTH Innovation Award, Aachen, Germany

The scientific employees Dr. Valentine Gesché, David Schmelzeisen and Kristina Simonis of Institut für Textiltechnik (ITA) of RWTH Aachen University under the leadership of Prof. Thomas Gries won RWTH Innovation Award for their project „4D textile – additive manufacturing ofhybrid materials for temporarilyshape shifting applications" on 8 February 2017 in Aachen, Germany. In this project, microstructures were printed in textiles using a 3D printer. The composite system reacts to external influences with deformation.

Prof. Thomas Gries, Kristina Simonis and David Schmelzeisen with the RWTH Innovation Award (from left to right) (c) Andreas Schmitter

ITM research project awarded the 2016 German Raw Materials Efficiency Award

On February 16, 2017, the ITM research project "Raw materials-efficient exploitation of recycled carbon fibers by developing a technology for the industrial production of hybrid yarns for use in high-load-bearing CFRP components" was awarded the 2016 German Raw Material Efficiency Award in the category "Research". The ceremony took place at the Federal Ministry of Economics in Berlin within the conference entitled "Using raw materials efficiently - successfully on the market".

Scientists of the ITM, under the leadership of Dr.-Ing. Anwar Abdkader, research group leader at ITM, succeeded in further developing and optimizing the process steps for the preparation and processing of extremely brittle carbon fibers for new composites. A process chain for the development and implementation of novel yarn constructions from recycled carbon fibers (rCF) is currently being developed together with renowned industrial partners at the ITM.

Using a special carding machine, the recycled fibers are dissolved, singled out and combined into a wide, even band. Subsequently, based on different spinning technologies novel hybrid yarn constructions can be produced from uniformly mixed recycled carbon and thermoplastic fibers.

https://tu-dresden.de/ing/maschinenwesen/itm

On the award ceremony (from left to right): Prof. Ralph Watzel (President of the Federal Institute for Geosciences and Natural Resources), Martin Hengstermann (prizewinner - research assistant and doctoral student at the ITM), Dr. Anwar Abdkader (prize winner - research group leader at ITM), Prof Chokri Cherif (Prize Winner Institute Director) and Uwe Beckmeyer (Parliamentary Secretary of State) © BGR / Fotothek

5.5 million euros for a joint research project

The Ministry of Science and the Arts is supporting the project “Saxon Alliance for Material and Resource Efficiency Technologies - AMARETO” with 5.5 million euros from 2017 to 2020 using “EU Structural Fund” funding. On 30th January 2017, Dr. Eva-Maria Stange handed over the subsidy grants to the project managers of the TU Dresden, the TU Chemnitz, the TU Bergakademie Freiberg and the Fraunhofer Institute for Machine Tools and Forming Technology IWU.

The funds are used to finance the joint research project for the next four years. This will be supplemented and reinforced by the acquisition of third-party funding from subsidy programs and the industry.

The ITM of the Dresden University of Technology, under the direction of Prof. Dr. Chokri Cherif, will, in particular, contribute his competences in the field of manufacturing and machine technologies, including scale-spreading simulation models, to direct, single-stage production of load-balanced, functionalized 2D and 3D preforms.

Composite materials from renewable biomaterials

As a Public-Private Parnership (PPP), a European research project for the development of lignin-based carbon fibers for use in fiber composite materials has started. In addition to renowned companies and research institutes from across Europe, the ITCF Denkendorf is also participating in the project. The goal of the so-called LIBRE project (Lignin Based Carbon Fibers for Composites) is the development of new, biobased composite materials: lignin from pulp and paper production should provide the raw material for high-strength carbon fiber composites.

French Secretary of State Sirugue visited DITF Denkendorf

On 9 February 2017 the French Secretary of State for Industry and Digitization, M. Christophe Sirugue, visited the German Institutes for Textile and Fiber Research Denkendorf (DITF). Together with a delegation he visited companies and research institutes headquartered in the Stuttgart areawhich are leaders on the subject of industry 4.0.

This also included the " Zentrum für Management Research DITF-MR ", led by Professor Meike Tilebein.

This fourth industrial revolution also opens up new perspectives and possibilities for the textile industry. An example of this is the "Digital Textile Microfactory", which has been presented in January at the Heimtextil trade fair.

"In European research projects, we are continually working successfully with French partners in science and industry, as in the recently completed SET (Save Energy in Textile SMEs) project, "Tilebein said. State Secretary Sirugue underlined the intensive cooperation between France and Germany in the alliance for the industry of the future - the platform for industry 4.0.

State Secretary Christophe Sirugue (4th from left) with his delegation and DITF board Peter Steiger (3rd.f.l.), Prof. Meike Tilebein (Head of DITF-MR, 5th.f.l.) and Prof. Michael Doser (Deputy Head of ITV, r.)

Topics of the next issue 2 /2017

TOP STORY:

Technical Textiles

Technical Textiles: Introduction of new machines
Nonwovens: Introduction of new machines
Technical Textiles:
Latest in yarn and fabrics

Special: Digital Printing Machines

Interview

Preview: Techtextil & Texprocess 2017

Textile Machinery Focus:
“Challenges and solutions for weaving & knitting technical textiles”
Jacquard
Filters
Flat knitting
Research: Technical Textiles
News from Textile Research Centers

TexData is the smart and inexpensive way to reach your customers.

Hard facts:

Founded:
1997

Website:
free of charge & registration

Unique Visitors:
97.323 /month (April 2015)

Visits:
>297.824 /month (April 2015)

Page Impressions:
>1.960.133 /month (May 2015)

Infoletter & Magazine:
no fee, registration required

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85.862 (issue 4/2015)

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