# **TEXDATA** INTERNATIONAL

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Business // Finance // Market // Technology

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Interview with Mrs. Regina Brückner, Owner Brückner Trockentechnik GmbH & Co. KG

- Interview with Mrs Stefano Galucel, Santes Rimar, Goup GEO
- Interview with Mrs Mostafiz Uddin, Founder & GEO of Bangladesh Denim Expo

Shanghaitex presents innovative technology for a smarter future

### Content



Going digital

Read more on Page 5

29 Shanghaitex presents innovative technology for a smarter future

Read more on Page 29

<u>53</u>

Interview with: Mrs. Regina Brückner, Owner Brückner Trockentechnik GmbH & Co. KG

Read more on Page 53

### <u>57</u>

Interview with: Mr. Stefano Gallucci, Santex Rimar, Group CEO



#### From the editor

### Dear Reader,

The 2017 year in textiles is drawing to a close, which means its time to pause for a moment to review all that's happened, before directing our gaze to the future. In retrospect, 2017 was yet another year in which our industry proved itself to be spectacularly innovative and dynamic. This holds especially true for technical textiles: at the Techtextil trade fair in Frankfurt, these materials once again proved their potential and range of applications. Praise is also due to home textiles and clothing, which have seen numerous innovations in the areas of yarns and fabrics and which are looking to grow by means of and alongside technology.

Furthermore, 2017 has further cemented previous changes. Sustainability will remain a very important issue within the textile industry and the topic of recycling is being increasingly expanded. Likewise more importance will be placed on transparency, as the industry seeks to make sustainability plausible and even provable. Production is becoming increasingly automated and digitalisation will accelerate this change and bring about additional progress. Everything must become "smart". Digitalisation and Industry 4.0 are also focal topics in this edition. We take a look at which new approaches and opportunities have emerged over the course of the last year.

Another big change that is continuing to prove true is the fall in China's textile exports. Of all EU clothing imports, the proportion coming from China has fallen from over half in 2010 to around a third in 2017, and Bangladesh is soon set to become the biggest exporter of clothing to the EU. Bangladesh also want to become world leaders in the denim industry and Mr. Mostafiz Uddin, founder of the Bangladesh Denim Expo, explains how that can happen as part of our interview with him.

China's new focus is split between the domestic market and the production of high-grade goods of a superior quality. The upcoming Shanghaitex trade fair will



show whether the trend for high-tech products translates into high demand. We give you a preview of the trade fair and some of the exhibitors.

Another big topic covered in this edition is finishing equipment, particularly the equipment used in knitwear. Regarding this subject we are really excited about our interviews with Mrs. Regina Brückner, who tells us about the leading equipment supplier's future strategies and Mr. Stefano Gallucci, who reflects on the recent developments at the SantexRimar group.

Right now there are still a number of scenarios that could come true in the future of the worldwide textile industry. The focal point could remain in Asia, while Africa seems to be preparing for a further shift in textile production, or completely new structures and even business models could come into existence thanks to automation and digitalisation. The coming years will surely see these new avenues being explored in increasing detail.

We wish you the greatest success for the remainder of 2017, a merry festive season, and an excellent start to 2018!

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

Best regards Oliver Schmidt

### BABC CK

# A legend returns.

For many decades, Babcock Textilmaschinen embodied the values of German textile machinery production like no other company. Thanks to outstanding engineering skill and very closed to challenges of its customers, the company developed robust and reliable machines that are simple to use and extremely productive. With the acquisition of the expertise brought by Babcock Textilmaschinen and the recent transfer of ownership of the brand, iNTERSPARE is now the legitimate successor to this technology leader. For us, this is a huge source of motivation and at the same time a commitment to continue the traditions of Babcock Textilmaschinen and to offer our customers the best possible technology.

Please ask us for more information about Babcock Textilmaschinen.

Machine programme and contact information under: www.interspare.com





Still the peak in finishing machinery.

# Going aligital

Roughly one year ago, in an article entitled 'Industry 4.0' we presented this mega trend with respect to the textile industry, and in it we recommended that it would be pragmatic to pick out those elements of the overall structure that can be tackled at this early stage with a view to an integrated future. On the whole, adopting this approach seems logical because of the complexity of the issue on the one hand, and on the other hand because solutions are not always readily available. An old catchword has re-emerged to accompany this approach, which both describes the grand vision and also touches upon the necessary structured approach: **digitization**.

Photo © zapp2photo

In the classic sense of the word, digitization means the creation of digital representations of physical objects, events or analogue media. According to Wikipedia, the term refers by extension (and nowadays most commonly) to the shift towards digital processes by means of information and communication technology. References to the 'digitization' of education, business and society are synonymous with 'digital transformation' and 'digital revolution'. This has an impact on education, business, culture and politics, and on the world of industry too. Industry 4.0 describes the result of a fully digitalised industry with complete data collection and availability, intelligent systems, a high degree of automation, maximum flexibility and globally-connected networks throughout the entire supply chain right up to the point of sale.

Digitization can therefore be considered as an umbrella term for Industry 4.0, as well as for individual transformations on the path to achieving the overall objective. The management consulting firm McKinsey estimates that Germany's medium-sized companies could potentially produce up to 126 billion euros of additional value creation by 2025 through consistent digitization. Anybody who ventures into digital projects in production, sales or product development has a good chance of boosting their growth on a long-term basis. Despite this potential, many companies still show obvious reluctance: only one in two small and medium-sized companies considers digitization as an opportunity, which is the conclusion of the McKinsey study entitled 'The Digitization of the German Mittelstand'. And what applies to Germany surely also applies in a modified form and with different figures to many other countries. It is clear, then, that although the vision of Industry 4.0 is certainly still some way off realisation, digitization should nevertheless already be on the agenda of each and every company in order to unlock existing potential.

In our last article, we made reference to the fact that, in order to implement the overall objective of Industry 4.0, the textile industry must solve an additional problem that some other industries do not face: the complete automation of the textile supply chain. The obvious choke point here is sewing, which has so far proven impossible or at least extremely complicated to automate. Unlike many other industries, as a result of this large parts of the textile and clothing industries were predominantly relocated to lower-wage countries - preferably in Asia. "The caravan is moving on" is an often used phrase for the ongoing shifting of these industries. However, a significant change is now in the offing.

### Breakthrough in automation for garment production

The company who plans on turning the entire sewing industry on its head with the introduction of fully automated lines of sewing robots, is **Softwear Automation** from Atlanta, Georgia in the USA. It is SoftWear Automation's vision to disrupting the \$100 billion sewn products industry by creating autonomous sewn good worklines for Home Goods, Footwear & Apparel. The Atlanta-based machine vision and robotics startup spun out of Georgia Tech after 7 years of research and development working on projects with DARPA and the WAL-MART Foundation.

When they heard about Softwear Automation's sewbot technology many textile people asked themselves whether it is true that robots can do the job of sewing workers in an industrial scale, but with a great deal Softwear Automation was able to close in August 2017, the answer has been given.



Softwear Automation Sewbots © 2017 Softwear Automation

The company announced their premier customer partnership with TianYuan Garments Company of Suzhou to produce T-shirts in the USA using their fully automated Sewbot workline. TianYuan Garments Company of Suzhou will make 800,000 T-shirts a day for Adidas on the new production lines. The system is scheduled to be fully operational by the end of next year. TianYuan Garments will install 21 production lines. When fully operational, the system should make one T-shirt every 22 seconds and with complete automation, the personnel cost for each T-shirt should be roughly 33 cents.

Meanwhile, software automation and other forms of technology connected to the company are now all the rage, and even the president of Cematex, Fritz P. Mayer, had his say on the future of the clothing industry with a view to the next ITMA 2019 in Barcelona. He said in an ITMA 2019 press release: "The garment making industry is labour intensive and associated with low productivity. Things are set to change. Recently, there has been much publicity about 'sewbots', considered as a major breakthrough in garment automation. Manufacturers fast enough to ride the digital wave will find new opportunities and gain an edge over their competitors."

The technological breakthrough represented by sewbots may also encourage other established manufacturers of sewing machines to develop their own automation solutions for sewing in the clothing industry, or to make existing developments ready for the market. Plugging this gap in automation - a prerequisite for future Industry 4.0 landscapes - will surely also once again inspire textile and especially garment companies as well as clothing brands to be willing and ready to invest in planning and implementing digital strategies.

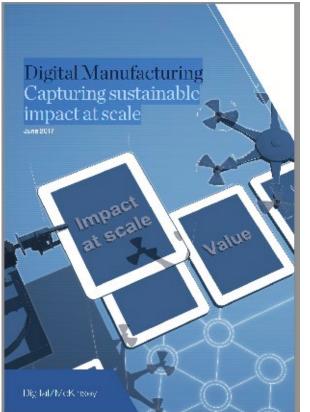
In this article, we will take another look at the state of digitization in the industry, the current recommended policies and in which areas the extremely long textile supply chain is showing promising signs of readiness for digitization. We will also provide an update on the possibilities and technologies that textile machinery and supplier companies currently offer in this regard.

#### Current situation in Europe and Germany

Let us start with some basic information about the status quo in Germany and Europe. McKinsey published two more interesting reports in summer 2017. First is "Digital Manufacturing - Capturing sustainable impact at scale" and second is "THE DIGITAL ECONOMIC MIRACLE - WISH OR REALITY? (DAS DIGITALE WIRTSCHAFTSWUNDER -WUNSCH ODER WIRKLICHKEIT?)".

The study "Digital Manufacturing" reflects the current situation in the industry. More than 400 respondents from different companies participated in the survey.

Besides Germany, the US, and Japan, respondents from China were included in order to reflect trends in emerging markets. The study says that respondents from all four countries showing a higher degree of optimism than one year ago. Detailed results are: "Optimism that the potential of Digital Manufacturing is growing. Survey respondents expect >10% cost reduction and 10% increased revenue potential over the next three years, due to Digital Manufacturing.



McKinsey report

"Digital Manufacturing - Capturing sustainable impact at scale" © 2017 McKinsey

Download: https://www.mckinsey. de/files/170628\_dm.pdf

PAGE 9

Labor and yield productivity are the most important factors – up to 40% of respondents expect cost improvements to come from greater labor and machine productivity; up to 20% expect yield improvements to be the biggest benefit. Companies are piloting solutions, but rollouts are still limited: Although more than 60% of all respondents report having run pilots of selected Digital Manufacturing solutions, only 30% of respondents report being in the rollout stage for any of the selected solutions. Companies and industries focus on different types of use cases to pilot. While, for example, approximately 30 to 35% of mechanical engineering and batch industry companies have been piloting efficiency use cases (e.g., digital performance management), just 20 to 25% pilot innovation use cases (e.g., in situ 3D printing); on the other hand, plant engineering and automation companies focus on piloting both efficiency and innovation use cases to almost the same extent (approximately 35 to 40%).

The majority of companies still face significant challenges for their transformations: While approximately 40% of respondents report having a clear view on the Digital Manufacturing use cases that will create value for them, only 30% of overall respondents report having a structured road map for how to pilot, roll out, and scale those use cases. The two big challenges for companies are: attraction, management and retention of talent (21% of all respondents), and concerns with regard to data management and security (18% of all respondents)."



#### McKinsey report

"THE DIGITAL ECONOMIC MIRACLE - WISH OR REALITY? (Only German: DAS DIGITALE WIRTSCHAFTSWUNDER -WUNSCH ODER WIRKLICH-KEIT?)" © 2017 McKinsey

Download: https://www.mckinsey. de/files/mgi\_das\_digitale-wirtschaftswunder.pdf

The report "THE DIGITAL ECONOMIC MIRACLE" focuses on Germany, but is not focused solely on the industry sector. It comes to a remarkable conclusion on how important digitization could become for Germany. It says that the increase in productivity resulting from the swift introduction of new automation technology could increase annual GDP per capita growth in Germany by up to 2.4 percentage points by 2030. This plus could offset the growth losses of 0.6 percentage points annually as a result of the aging population. As a result, Germany could maintain its historic GDP growth of 2.1 percent at about the same level. The prerequisite for this is that other productivity factors remain on course for growth. "In combination with Microsoft HoloLens we are entering a new world of Customer Services solutions with highest benefit for our customers."

Marcel Bornheim Head of Customer Services Oerlikon Manmade Fibers Segmen

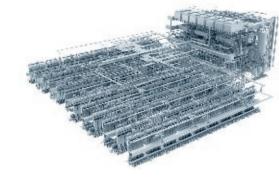
#### The Future is Now

Oerlikon Manmade Fibers Segment with its brands Oerlikon Barmag and Oerlikon Neumag again is setting the benchmark for the production of manmade fibers. The latest Oerlikon Industrie 4.0 solutions will give our customers the decisive competitive advantage.



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For further information visit us at **www.oerlikon.com/manmade-fibers** 





Furthermore it says German companies are optimistic and among the most confident in Europe. Over the next three years, they expect investment in the EU to increase by an average of 15.6 percent, compared with an average of 6.9 percent of all companies surveyed. A clear majority (55 percent) of the top managers in Germany assume that the increasing digitization will have a positive effect on their business development. Overall, German industry is well equipped to seize the opportunities. It has already taken many steps on the path to digitization and has enough resources for rapid development. For example, a recent McKinsey study concludes that nearly one-third of German companies have clearly allocated the tasks of digitizing manufacturing, and that individual companies are already developing into industry leaders in the Internet of Things (IoT).

The management consulting firm PricewaterhouseCoopers (PWC) published a report "Digital Factories 2020 - Shaping the future of manufacturing" in April 2017. They say their "research shows that leading industrial companies have moved beyond pilot projects and are already investing in rolling out digital solutions." More detailed it says "digital factories are high on the top management agenda: the results of our survey show that 91% of industrial companies are investing in digital factories. However, only 6% of all respondents describe their factories as being "fully digitized" yet. Three quarters of the survey participants who are planning further investments in digital factories name regionalization of manufacturing for better customer proximity and individualized, flexible production as main investment reasons.



**PWC** report

"Digital Factories 2020 - Shaping the future of manufacturing" © 2017 PricewaterhouseCoopers (PWC)

Download: https://www.pwc.de/de/ digitale-transformation/digitalfactories-2020-inkl-international%20 contacts-screen.pdf

A total of 93% of respondents planning further investments in digital factories intend to locate some or all of these in Germany over the next five years. 77% of all investments in the next years will be for setting up new or expanding existing digital factories in Germany and Western Europe. "

The highest potential in the sector comparison, according to the McKinsey study 'The Digitization of the German Mittelstand', lies in information and communication technology (17.2 billion euros additional value added), in the metal and electronics industry (15.1 billion euros) and in wholesale and foreign trade (14.4 Billion euro).

"In order to actually take advantage of all digitization benefits, Germany must accelerate the introduction of new digital technologies", says the report "THE DIGITAL ECONOMIC MIRACLE". So far, the country only uses 10 percent of the "digital potential" - meaning the maximum possible digitization in leading sectors worldwide; numerous industries and companies are still in their infancy. Artificial intelligence is boosting digital transformation in the meantime, but Germany and Europe are lagging behind China and the US in terms of the widespread use of these technologies.

However, another challenge seems to be of a higher importance for Europe. In the "McKinsey Digital Manufacturing Global Expert Survey 2017" 21 percent of the companies answered "Attraction, management, and retention of new talent" to the question "What are the biggest obstacles your company is facing when it comes to implementing Digital Manufacturing solutions?"

Digital transformations are therefore increasingly a battle over talent. First of all, there are the 'digital talents', meaning those who possess the know-how, creativity and experience to digitalize processes, and can recognise (and create) the new added value created by digitization, so that the resulting business models can be expanded or, ideally, established afresh. In a later phase, it is also a case of finding or training the talented employees to carry out the tasks that cannot be automated. The shortage of trained professionals has already been identified as one of the biggest problems facing digitization. Francisco J. Ibáñez from the European Commission said on the "EU Textiles - Going Digital, Going High-Tech: International Conference" in October 2016 in Brussels to the 150 participants that jobs will change and many will disappear because 90% of jobs require some digital skills. Around one third of the EU workforce has insufficient digital skills and 40% of enterprises trying to recruit ICT professionals have difficulty doing so. There will be 800.000 vacancies in the EU by 2020.

The PWC report mentioned earlier highlights a further problem: "It is not enough simply to hire more staff, or train existing staff, though. Companies also need to make sure that employees feel comfortable working with new technologies. A total of 60% of our respondents feel that technologies which enable people and machines to cooperate are not yet fully developed. In our view, understanding the impact on the people in your company is at least as important as calculating the financial benefit of a potential technology. Companies need to reach out and work together with employees to shape their digital transformation. And this is where some of our respondents see hurdles: around half believe employees are not open to digital change (49%) and that their company lacks a truly digital culture (52%). Therefore, it is all the more important to actively build your people's trust in the technology."

A particular challenge of Industry 4.0 relates to the manufacturers of textile machinery, as companies must find answers to two questions raised simultaneously by any digital transformation.

On the one hand, it must be considered how they can utilise digitization for themselves, and on the other how they can support their customers as part of their digitization strategy.

#### Best practices for digitization

The PWC report portrays eight digital leaders who have already excelled in implementing breakthrough Industry 4.0 solutions. Based on a solid digital strategy, these industrial pioneers have implemented innovative digital technologies, while embarking on a complete digital transformation.

One of the pioneers is Bosch Rexroth. In Homburg (Saar), the company has established a leading plant for Industry 4.0 solutions. The site with 50 years of history and app. 700 employees re ects the company's position as one of the first movers in Industry 4.0 in Germany. Bosch Rexroth uses a wide range of innovative technologies. These include paperless active cockpits, self-guiding products, independent working cells, automatic employee and product recognition and inline quality testing. By implementing new technologies alongside maturing technologies including RFID E-Kanban and pick to light, the Homburg plant is able to improve ef ciency and output while increasing the number of variants produced at their assembly lines. By using these technologies and leveraging the increased exibility at the line, the goal is to make lot size one affordable. Other pioneers introduced in the report are for example Continental Automotive, Magna Steyr's automotive production, the WITTEN-STEIN SE "Future Urban Production" and Fujitsu's Smart factory on a digital campus.

On a VDMA meeting Dipl.-Ing. Volker Knack, Head of Marketing Germany of the solution provider for industrial automation B&R, has introduced industry 4.0 use cases in the B&R production. First is the production of the X20 control system and second the production of industrial PCs up to lot size 1.

Key features for the production of the X20 control system are:

- **ERP** connection directly to the production plant
- Recording of Overall Equipment Efficiency (OEE) using APROL process control
- Automatic laser marking of the modules (including serial number, certificates) directly from the ERP system
- Automatic, complete functional test specific to each model, type and revision level initiated from ERP
- Preventive maintenance and monitoring of the production plant with automatically generated maintenance plans

The production of industrial PCs up to lot size 1 offers more than 250 billion possible configurations.

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Kaarina Kaikkonen, "The Blue Route", clothing sculptur





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B&R also has many years of experience automating textile machines. Many well-known machine manufacturers place their trust in the innovative strength of B&R products; in doing so, they have increased their technological competitive advantage in their respective markets. B&R provides integrated automation solutions for all types of textile machines, making them the ideal partner for those seeking a complete solution.

#### How to start digitization

The next big question is how companies should act to start the digital transformation.

McKinsey suggests German companies should systematically examine all opportunities of digitization. This often requires changing existing work structures. This can be done by:

- The definition of a clear digital agenda by the top management,
- the digitization of further stages of the value chain, for example through the use of existing tools for increasing productivity in marketing and sales, production and supply chain management,
- the targeted establishment of new growth markets, especially outside of established business areas,

- the reinvestment of savings through digitization in future technologies. New technical possibilities are changing the cost structure of companies, thereby creating scope for additional investment in the future.
- Flat and agile working structures. Rigid hierarchies and methods need to be adapted to flexible working models that better fit the digital age. This makes companies faster and more mobile.

On a higher level McKinsey has published two years ago some suggestions for CEOs and stated they need to make 6 strategic decisions:

- Buy or sell business in the own portfolio?
- Lead the customers or follow them?
- Cooperate with or fight against new competitors?
- Diversify or focus and intensify the forces?
- Keep the digital business separate or integrate with existing businesses?
- Create or delegate the digital agenda?

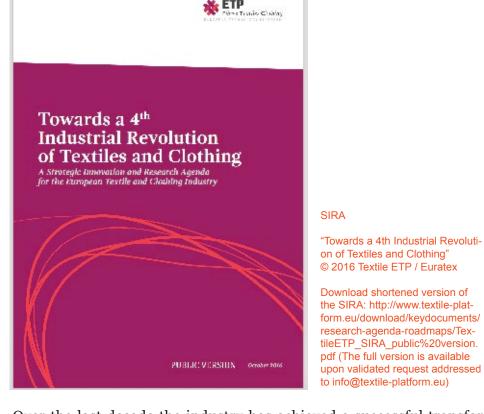
Each of these questions is of the utmost relevance and intrinsically complex.

### Digitization in the textile and clothing industry

Now let us have a closer look on the textile and clothing industry.

Some 150 participants from 24 countries attended the conference "European Textiles – going digital, going high-tech" held in October 2016 in Brussels. The key highlight of the event, organised by the European Technology Platform for the Future of Textiles and Clothing (Textile ETP), was the unveiling of the Strategic Innovation and Research Agenda (SIRA). The SIRA outlines the major innovation themes and research priorities which are expected to drive and shape the future of the textile and clothing sector in Europe over the coming decade. It has been jointly developed by over 100 textile industry, technology and research experts from across Europe.

The document is entitled "Towards a 4th Industrial Revolution of Textiles and Clothing". It expresses the conviction that the interplay of technology trends such as digitization and automation, market trends such as growing technical textile applications and more demand for sustainable fashion products and new business models such as circular and sharing economy concepts and personalized product-services, will provide a new basis for a more knowledge- intensive, growing and more profitable textile and clothing industry in Europe.



Over the last decade the industry has achieved a successful transformation towards a developers, manufacturer and distributor of high value added products for a very broad range of geographical and sectoral end markets. Today it has a turnover of € 169 billion, employs 1.7 million people and exports 26% of its products outside the EU. Research, innovation and the development of a highly qualified workforce are key success factors, as well as the transfer of new technologies and business models to the mostly small and medium-sized companies concentrated in regional clusters. SIRA will be a crucial tool to interact with policy makers at European, national and regional level to make sure support policies and programs meet the needs of the Textile and Clothing sector and further help improving its competitiveness and innovation performance. In his opening words, Textile ETP President Paolo Canonico stated "The trends we foresaw during the development of the first Strategic Agenda in 2006, of an industry that is shedding production volumes in favour of higher value-added products for niche markets have played out very strongly in the last 10 years. [...] This can continue for the foreseeable future provided research and innovation, education and training and technology transfer to the many small companies in the sector is smartly supported at EU, national and regional level."

Representatives of the European Commission detailed the policies and programs in place to provide support to the industry for more research in materials, manufacturing technologies, digitisation and new business models; a stronger sectoral education and training provision and investment in clusters and other innovation support mechanisms at regional level.

The strong presence of the textile machinery sector at the conference through companies such as Brückner, Lindauer DORNIER or PICAN-OL underlined the importance of a close collaboration between world-leading Europe-based technology developers and their local lead industry customers to exploit advantages arising from greater resource efficiency, digitisation and new material processing. The conference also featured a number of young companies exploiting research know-how and advanced technologies for revolutionary textile based products for the health (Bioserenity), construction (Lucem, Raina Industries), energy (MACO Technology) protection (Clara Swiss Safety Tech) or outdoor (inuheat) markets.

Textile consultancy Gherzi-Van Delden presented the preliminary results of a study on the competitiveness and export opportunities for European technical textile producers showing impressive growth rates and export market shares for EU producers, especially on the attractive US market. This current position of strength is based on knowledge, innovation and investment in advanced manufacturing technologies by European companies.

The Gesamtverband textil+mode (General Association of Textiles and Fashion) offers wide-ranging support in the form of various events such as 'textil+mode 4.0' and the 'Lab Tours' in order to help businesses in the textile and clothing industry develop and improve their digitization strategies.

We have already reported on the 'Industry 4.0 in Textiles and Fashion Production' information day, which was hosted jointly by the FKT (Textiles Research Board) and the VDMA (German Engineering Federation) in April 2016 in Frankfurt, and focussed on textile machinery as well as clothing and leather technology.

### HIGHTECH WITH TRADITION

"Quality creates value" – when it comes down to safety and comfort, functional textiles woven on DORNIER air-jet weaving machines are a class of its own. Whether flame resistant aramid, finest light-weight spinnaker cloth or breathable high performance fibers: The DORNIER air-jet weaving machine produces the best possible cloth quality at the most reasonable cost in all these areas.

The DORNIER air-jet weaving machine A1 raises the top level of weaving another notch higher.

Quality creates value



WEAVING

A further event took place in October 2016 and concentrated on 'Opportunities for the Industry through Digital Products'. More than 100 guests from the world of business, academia, associations, startups and the media gathered at the Microsoft Atrium in Berlin. The event was split up into two sections: inspiration and realisation. The morning was dedicated to various examples of inspiration that the participants found in research, safety at work and the startup scene. Textile sensor technology, tracking, lighting and warming functions in particular were represented in their various possible applications.

Examples of textile products with digital added value include a sensory T-shirt that monitors the vital functions of patients with heart conditions, or a wind turbine rotor made of textile which is capable of indicating autonomously when maintenance is required. In the afternoon, the focus was on realisation. During this session, the development of new and innovative business models, the transfer of research results and the challenges facing batch production were among the recurring important topics on the agenda.

And on 15th November, the Gesamtverband textil+mode hosted the Franco-German corporate conference, organised jointly with the French textile industry association 'UIT' and in collaboration with Südwesttextil and GrandEst, entitled 'Industry 4.0: Challenges for Textile and Fashion Companies', which was held in Strasbourg and featured discussions on the challenges presented by Industry 4.0. The core of the event was made up of roundtable discussions: representatives of German and French textiles and textile machinery companies, as well as research institutes, provided insights into future concepts and processes of textile production, and spoke about how products could be or would have to be changed in the future.

The subjects of discussion included 'The Textile Factory of the Future: New Organisation and New Processes', 'The Textile Factory of the Future: Smart Textiles for New Applications' and 'Sustainable and Digital Fashion: New Business Areas'.

During the Lab Tours, interested participants visit the participating textile research institutes on various dates and are provided with a compact overview of the work, results, ideas and possibilities of every aspect of research and digitization in relation to Industry 4.0, according to the motto of 'Hands-on with Industry 4.0'.

The first lab tour took place in November 2016. Approximately 30 participants from industry and science visited the Institut für Textiltechnik (ITA) of RWTH Aachen University in Aachen, Germany. The LabTour gave an overview about praxis and research concerning digitization and showed the following machines:

- The PreformCenter with manufacturing, handling and processing of fibre composite preforms from simulation to praxis.
- High productive individualised textile production with circular knitting machines.
- Self optimised cross-linked weaving machines.
- Assistance systems which show employees everything about the implementation of new working.
- Energy efficiency in the fibre transport with cross-linked sensors.



LabTour at ITA - Demonstration of assistance systems at the weaving machine © 2017 ITA

The second Lab Tour at the German Institute for Textile and Fibre Research in Denkendorf took place in June 2017.

During this afternoon, around 80 participants witnessed first-hand the expertise of the DITF in the context of Textile 4.0. The participants were presented with the following activities:

- Simulate, print & cut an integrated concept for the virtual development and production of clothing.
- Digital printing technology which focussed not only on colouring, but also on synthesising functional coatings on textiles.
- Light laboratory, in which the visual effects of various textiles with active and passive light functions and textiles with colour changing effects were developed and evaluated.
- Pneumatic textiles mechanical power transfer with cleverly designed fabrics.
- 3D weaving the latest findings from the field of multi-dimensional textiles.

The third tour will be around the Sächsischen Textilforschungsinstitut e. V. Chemnitz (STFI) (Saxony Textile Research Institute), and will be held in November 2017.

Another initiative run by the Gesamtverband textil+mode with the aim of promoting digital business models is the foundation of the textil+mode Expert Group by the Bundesverband Deutsche Startups e.V. (Federal Association of German Startups) in collaboration with six startups from the textile and fashion sector. Mareike Giebeler, the director of the Department of Political Communication and Digitization at textil+mode, explained the idea behind it as follows: 'The Gesamtverband textil+mode supports the expert group by providing a gateway to the established textile and fashion industry.



LabTour at DITF Denkendorf © 2017 Gesamtverband textil+mode



Annual ETP Conference 2017 © 2017 Textile ETP / Euratex

Together with our member associations, we offer innovative startups an industry-specific network to promote collaboration and support innovative launches, thereby protecting SMEs in the textile industry. We are delighted to have established a shared platform with the Federal Association of German Startups, which we must now develop further.' The six startups are Betterguards, Fast Forward Imaging, Fit Analytics, INSELBERG, LUNATIVE ELECTRIC APPAREL and PERMETEX.

There are also a couple of promising research projects relating to digitization. The Annual ETP Conference 2017 was dedicated to the exploration of textile related research across the major European Research and Innovation Programmes including HORIZON 2020, COSME, LIFE+ and INTERREG. The 28 projects were divided in parallel sessions according to the four topics of the Strategic Innovation and Research Agenda (SIRA) presented in October 2016: Smart, high-performance materials, Advanced digitised manufacturing, value chains and business models, Circular Economy and Resource Efficiency, Highvalue added solutions for attractive growth markets.

#### Here are some of them:

- The vision of the **1D-NEON project** (H2020) is to create outstanding added value for the textile manufacturing industry. This will be accomplished by developing fibre-based smart materials along with an integrated technology platform for the manufacturing in Europe of new products enabling applications in sensing, lighting, energy and electronics. http://1d-neon.eu/
- The **ETexWeld project** (H2020) leads to knowledge transfer among partners in order to develop innovative e-textile products for interactive protective clothing and footwear using welding technologies by bringing experts from different countries, sectors and disciplines together to focus their effort in innovative e-textile product designs.
- **eBIZ 4.0** (COSME) is the new step to digitise the European fashion supply chain. The aim is to move forward with digital data exchange, traceability, the fight against counterfeiting and more. http://www.ebiz-tcf.eu/
- The project FALCON (Feedback mechanisms Across the Lifecycle for Customer-driven Optimization of iNnovative product-service design) (H2020) aims to deploy user experiences and user data collected via the Internet of Things (IoT) and social media for improvement of product-service systems (PSS). http://www.falcon-h2020.eu/

- The goal of **NIMBLE** (H2020) is to develop a federated, multi-sided and cloud services-based business ecosystem that supports:
  - B2B collaboration for industry, manufacturers, business and logistics
  - ICT-based innovation of products and evolution of traditional business models
  - federated, competitive yet interoperable instances of the platform https://www.nimble-project.org/
- myShopNET (COSME) is a project whose focus is on personalizable, design driven, consumer goods: any kind of good, not mass-produced, that require the collaboration of the final customer as co-designer of the product, like for example footwear, clothes, glasses, furniture, clocks, toys, etc. https://www.myshopnet.eu/
- TCBL (H2020) aims to renew the European Textile & Clothing sector. It explors new ways to design, make, and work together. It invents new business models to open up attractive markets. http://tcbl.eu/

#### Who can help?

The Federal Ministry of Education and Research (BMBF) has developed a funding instrument which provides support to small and medium-sized enterprises (SMEs) in order to help them adapt to digital processes and to research and develop new digital products. The SMEs are granted supported access to pilot facilities and demonstration factories in accredited Industry 4.0 test environments.

In February 2017 ITA has been declared as official industry 4.0 test environment for small and medium-sized enterprises. The ITA was selected to provide an official Industry 4.0 test environment due to its extensive machinery pool and its experience with Industry 4.0 developments. Not just companies from the textile industry, but also from other sectors can test their 4.0 products and services at the ITA. Any company that is interested in implementing Industry 4.0 can obtain information about the possible projects and applications from the ITA and the funding authorities.

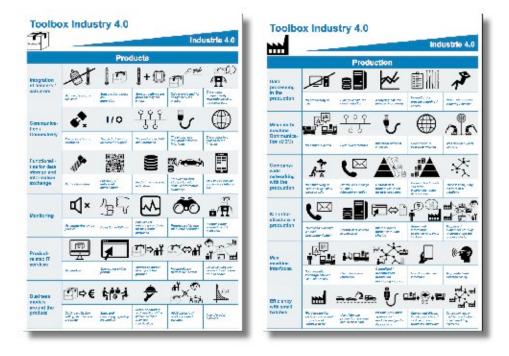
Companies will also get support by the 'Mittelstand 4.o-Kompetenzzentrum Textil vernetzt' (Mittelstand 4.o Networked Centre of Competence). It began work at its offices in Berlin on 1st November. The consortium made up of the Gesamtverband textil+mode and the research institutes in Aachen (ITA), Denkendorf (DITF) and Chemnitz (STFI), as well as Hahn-Schickard in Stuttgart, was awarded a contract to set up the initiative by the Federal Ministry of Economics and Technology (BMWi). 'The aim of the initiative is to provide small and medium-sized businesses with information about the opportunities afforded by digitization, to raise awareness and above all to make practical assistance available in order to help SMEs bring about changes', explained the General Manager of the Gesamtverband, Uwe Mazura.

#### VDMA Guideline Industry 4.0

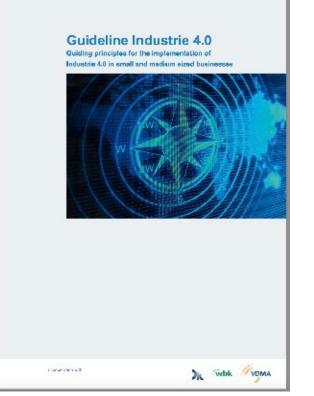
A considerable amount of guidance in the "digital jungle" of Industry 4.0 is also given by the textile machinery department of the German Engineering Association (VDMA). A large amount of information for getting to grip with the concept can be found in the VDMA's publications "Advances in Productivity through Industry 4.0" and "Guideline Industry 4.0 - Guiding principles for the implementation of Industrie 4.0 in small and medium sized businesses". For particular the "Guideline Industry 4.0" is an excellent paper and tool to start and manage the digitization process. The introduction given by Prof. Dr.-Ing. Reiner Anderl and Prof. Dr.-Ing. Jürgen Fleischer says: "This guideline should support small and medium-sized businesses of the German mechanical engineering industry in rapidly introducing business models for Industrie 4.0. For this purpose, the guideline describes a procedure model that takes into account the visions around Industrie 4.0 and reduces them to viable stages of development. The application of these development stages in one's own company helps in finding ideas for new business models, innovative products and improved production. The conception of business models will be carried out in workshops within the company. The guideline presents the structure and the procedure of such a workshop."

The guide describes itself as follows: "The guideline is divided into five sections: preparation, phase of analysis and creativity, evaluation and implementation of the developed business models. The core forms the realization of an in-house workshop. Its proceeding and methods are presented in detail in this guide- line. The objective of the workshop concept for the companies is to develop their own approaches of business models in the context of Industrie 4.0 with the help of creativity techniques. Core ele- ments are an analysis of the company's initial situation in relation to Industrie 4.0 and the so called "Toolbox Industrie 4.0". The toolbox illus- trates different application levels of Industrie 4.0 approaches and breaks them down into single realizable development stages. To support generating ideas in the company, the toolbox is divided into the parts "Products" and "Production".

The workshop concept sees the use of the tool- box in connection with established creativity techniques for generating ideas and business models. Interdisciplinary teams from the respec- tive company develop their own ideas around Industrie 4.0 in individual and group work, assess these and further develop them to create company-specific concepts for business models. It concludes with the transfer of these concepts to projects which can be worked on as part of an individual Industrie 4.0 strategy." The guide is available in German and also English language.



Toolbox Industrie 4.0 © Source: VDMA "Guideline Industry 4.0"



VDMA "Guideline Industry 4.0" © 2016 VDMA

Download: http://industrie40.vdma.org

## Digitization solutions by textile machinery and software companies

There are also new solutions from the textile machinery industry.

For example the Italian **Savio** offers a Winder 4.0 and names it a ,smart industry solutions for textile mills'. Savio writes in a press release: Once composed solely by mechanical and electrical parts, now winding machines have become complex systems that combine hardware, sensors, data storage, microprocessors, software and connectivity. These smart machineries can increase the efficiency of the spinning mill and perform predictive maintenance avoiding breakdowns and downtimes." Savio winding machines can be equipped upon request of Smart Industry Solutions for connectivity, data management, remote machine set up and operator real-time interactivity. Savio Winder 4.0 represents an important step towards a wide digitization process, being a solution for intelligent networking of machines in the spinning/winding room. This data management system is a very modern and important management tool, relieving mill management staff of time-consuming routine work. The mill manager can have the winding room live monitoring directly from his/her desk. Thanks to data analytics, a wealth of data are available, allowing to manage the different production phases in the best possible way and to monitor all significant parameters anytime and anywhere, making use of mobile devices. All these features enable Savio customers to control overall equipment effectiveness, increase workforce efficiency, and maximize quality and working time.

**KARL MAYER**, the market leader in the fields of warp knitting, warp preparation and machinery for technical textiles, celebrates its 80year anniversary this year and organized various in-house shows for their business partners, giving them an insight into the future of textile development and production technology. Among other things KARL MAYER showed introduction of digitization into the textile industry value-chain by expanding the application of its new automation platform KAMCOS® 2. This new automation platform, which is based on the latest industry standards, offers a man/machine interface with the same sort of operating functions that are used in smartphones and tablets all over the world nowadays. This makes learning how to use it as easy as child's play. KAMCOS® 2 also offers advantages in terms of its well-thought-out solutions for system integration. For example, the Laserstop system of yarn monitoring has been completely integrated into the new platform. Yarn breakages are detected instantly in the sensor and evaluated by the machine control system. A newly developed camera monitoring system for inspecting the textile web has been integrated into the new KAMCOS® 2 system, and makes all the relevant information available to the user.

The machine's new lighting system with status indicator function is also controlled via KAMCOS® 2. For example, by switching to red when there is a problem, a signal is sent to the user, even some distance away in the production hall, which provides information on the operating status of the machine. As a control centre, KAMCOS®2 also provides an optimum basis for all the functions, so that they can be accessed via the new KARL MAYER CONNECT smartphone app. This enables data to be accessed via mobile devices and represents an entry into the world of mobile communication. The data are still protected and only available to authorized users.



KARL MAYER's KAMCOS® 2 awarded the iF DESIGN AWARD 2016 © 2017 Karl Mayer

**Oerlikon Manmade Fibers** has introduced first solutions for making use of digitization at ITMA Asia last year. This year the company will give a presentation at the coming Shanghaitex 2017 with the motto ,Digitization = Future & Innovation'. The presentation is entirely focused on the digital age. Interesting keynote speeches and presentations on current issues around Oerlikon's Industrie 4.0 solutions will be held several times a day at their multifunctional booth in hall E1, B19.

For the fashion and garment industries one big thing to save costs by digitization is sampling. Annually, \$6-8 b is spent on samples and 75% of those can be handled digitally at a fraction of the cost, Gerber Technology announced at the Texprocess fair.

**Human Solutions** announced in 2017 digitization is creating real opportunities for the apparel industry. They say: "Now is the time to exploit the benefits of digitization to the full – not in individual phases of product development, however, but throughout the entire process chain right down to the finished product in the store." Current fashion trends are changing rapidly, and the demand for individualized products is rising – these are the challenges faced by apparel manufacturers today. Digitization is currently occupying the industry across all sectors. "Digital working is electrifying the fashion industry," says Dr. Andreas Seidl, CEO of the Human Solutions Group. "There's a heady feeling of sweeping change and optimism in the air. Current conversations with our customers and partners are making it apparent that digitization is no longer being challenged and doubted – companies are now getting actively involved and paving their own routes to digitization."

The question is how do you reap the benefits of working digitally during the different phases of a product and connect this to information in such a way as to create added value? "I'm convinced that a continuous process chain is the key to success when it comes to developing clothing quickly and cost-efficiently for specific target groups," says Dr. Seidl. The prerequisite for virtual reality solutions is that clothing is simulated three-dimensionally. Human Solutions has created the world's first Virtual Reality Room, specifically developed for the fashion industry. There collections can be virtually coordinated with partners from all over the world. Dr. Seidl says: "3D is the key to more speed. We offer a simulation that is so close to reality, that you think you can touch the garment. Vidya can replace physical prototypes and the drafts can also be used for order and webshops."



Collection coordination in the Human Solutions VR-Room © 2017 Human Solutions Group

In 2017 **Gerber Technology** has launched apparel matching solution and product updates to make it easy to "Embrace Your Digital Reality". Gerber's Digital Solutions, a full suite of industry leading end-to-end integrated products, are helping companies collaborate and go from initial design to production and shipment with greater speed, quality and visibility throughout the process. Gerber says, "the fashion and apparel industry spends billions of dollars each year on physical samples." At CISMA, Gerber highlighted how their AccuMark® 3D can be used to validate patterns and simulate virtual garment samples so realistic that there's no need for designers to spend the time and money cutting and sewing "real" ones.



Gerber partners with Avametric to unlock the reality of 3D © 2017 Gerber Technology

Mohit Uberoi, CEO of Gerber Technology, said, "The time has come for our industry to embrace digitization, to leverage connected technology by eliminating manual processes, and to improve quality, efficiency and cost structures, all in a socially responsible way." Gerber has focused on a theme of "Embrace Your Digital Reality". According to Uberoi, "The 'Your' in 'Embrace Your Digital Reality' is critical. Everyone is in a different place in their journey toward digitization."

And also **Lectra**, a world leader in integrated technology solutions dedicated to industries using fabrics, leather, technical textiles and composite materials, offers solutions for the digital future. In June 2017 Lectra gathered more than 100 industry professionals to look at how Industry 4.0 is shaping and transforming the global fashion and apparel business. Lectra launched Fashion PLM 4.0, proof of its commitment to empowering its customers with the best technology possible as they take their first steps towards Industry 4.0.

#### Conclusion

To sum up, this time we would like to take a quote that describes virtually everything about the importance of digitization and was taken from the McKinsey article "Digital America: A tale of the haves and have-mores". It says: "Digitization is changing the dynamics in many industries. New markets are proliferating, value chains are breaking up, and profit pools are shifting. Businesses that rely too heavily on a single revenue stream or on playing an intermediary role in a given market are particularly vulnerable. In some markets, there is a winner-take-all effect. For companies, this is a wake-up call to use their digital transformation to reinvent every process with a fresh focus on the customer."

The bi-annual signature event of the textile industry in China - the 18th International Exhibition on Textile Industry will be held at Shanghai New International Expo Center, Pudong, Shanghai, PR China on 27-30 November, 2017. Based on the sound achievement accumulated in the previous editions, ShanghaiTex 2017 will unveil a parade of "Textile for Smarter Future" with over 1,200 anticipated exhibitors.

AURE

hanghaitex presents innovative

or a smarter future

Photo © www.shanghaitex.cn

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With an exhibition area of more than 100,000 square meters and 9 halls, ShanghaiTex 2017 expects the participation of over 50,000 professional buyers for commercial exchange. The show will present a high-end innovation feast integrating the textile and cross-boundary technology for buyers to preview the future technology and trend of the industry and it will unveil a parade of "Textile for Smarter Future" with the foothold on China and global vision.

#### Major themed zones are:

- Sports Textile Technology
- Technology for Automotive Textiles
- Knitting & Hosiery Machinery
- New Materials, Technology & Designs
- Printing, Dyeing & Finishing Machinery & Textile Chemicals
- Digital Printing Machinery
- Spinning & Techtextile Machinery
- Spare Parts and Accessories for Textile
- Weaving Machinery

## "Plan A 2025" Business Forum to promote industry sustainability

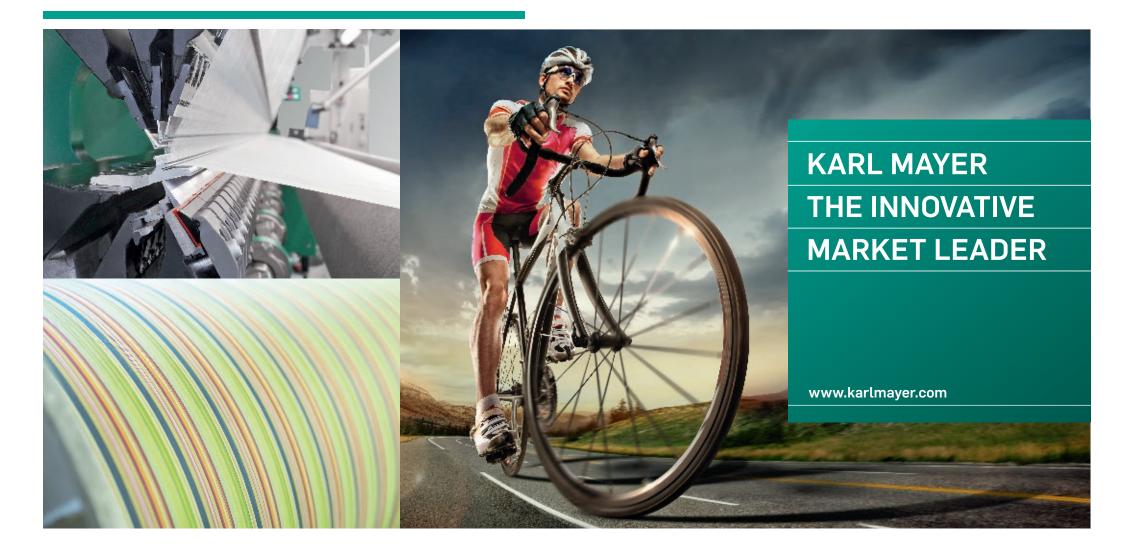
Stepping into its 33rd year, ShanghaiTex 2017 has collaborated with Marks & Spencer to conduct a trendsetting forum – "Marks & Spencer - Plan A 2025". "Plan A" indicates the core value of Marks & Spencer in directing the strategy to help protect the planet, by sourcing responsibly, reducing waste and helping communities. With £200 million investment, Plan A set out 100 environmental and social commitments covering five general realms, most of which have been achieved with awards. And in 2014 M&S introduced Plan A 2020 which consists of 100 new and modified commitments to achieve by 2020, with the ultimate goal of becoming the world's most sustainable major retailer.

The organizers have invited Mr. Toiny Pang, Technical Sustainability Manager, Quality & Compliance from Marks & Spencer to share more details about Plan A 2025 during the show period. Mr. Pang joined M&S in 2012 and now leads Environmental and Chemical Policy (ECP) across global supply chain in Far East Region. He's also fully engaged into the development of internal auditing tools, environmental compliance systems, online self-audit platform & supplier grading system.

Attendees of the event could stay tuned with the latest development of Plan A and discuss green solutions with other top-notch industry players.







Furthermore to achieve its ambitious goals in eco and social responsibilities, Marks & Spencer needs to invest in its supply chain and work with the right partner. Therefore, industry practitioners are welcome to attend this business forum (28 November 1:30-3:00 pm at Hall E1 Smart Factory Conference Zone) to discuss the latest green manufacturing solutions with M&S, and to improve sustainability of textile and apparel industry.

### "Sports Arena" unleashes the latest textile technology in sports

With the increasing health awareness among people and unceasing development of fitness boom, coupled with the rise of "Athleisure" trend, wearing yoga clothes and sportswear out into fashion has never been so popular. Nowadays, sport textiles take good care of not only users' skin sensation like keeping warm and comfortable, but also their muscle and performance, with functions such as supporting movement in specific sports to strengthen training, reducing injuries and speeding up recovery. Featuring the world's latest smart textile technology, ShanghaiTex 2017 will focus on sports knitting technologies that create high performance sports wear for sports lovers. The ShanghaiTex 2017 concurrent event "Sports Arena" at Hall W1 will look into three hot topics: sports bra, wearable technology and shoe technology. And one of the world's leading 3D printing innovators, Materialise, will display 3D printing technology and give a speech at Sports Arena.

#### Extensive digital printing applications

With high precision, flexibility and energy efficiency, digital printing has gained the attention from various industry players. With a focus on short production cycle, low-volume and on-demand production, ShanghaiTex 2017 will unleash the latest digital printing technology and application under the customization trend, bringing its great development potential towards industry 4.0. With the technology development over the past few years, the applications of digital printing have extended and are no longer limited to fashion and garment. Digital prints are also found in shoe upper design, luggage, home textiles, car interiors and accessories, etc. During the show period, the organizer will host a seminar The Latest Digital printing, and discuss hot topics regarding customization and sustainable solutions. The organizer will also collaborate with Intech Digital Technology for onsite display and activity, where visitors will be able to learn more about the use of digital printing on denim.

Following its popularity from the last edition, the ,Digital Printing Machinery Zone' will expand to cover 3 halls, and has received substantial support from renowned exhibitors such as Zimmer, Mimaki, Konica Minolta, Durst, Epson, MS Specialty, EFI Reggiani, Toshin, Meijia, SPG Prints, Fujifilm, Atexco and Human Digital etc.



#### At Home in the Textile World

Rooted in the region and at home worldwide – that's Groz-Beckert. As a leading international supplier of industrial machine needles, precision parts, precision tools and systems, we place the highest standards on quality and precision where our products and services are concerned. With around 7,700 employees and approximately 70,000 product types for the knitting, weaving, felting, tufting, carding and sewing sectors, we're the ideal partner in the textile industry. We help our customers achieve their goals – and have done so since 1852. www.groz-beckert.com



ShanghaiTex 2017

Shanghai, China 27–30 November, 2017 Hall W1, Booth A40

#### **GROZ-BECKERT®**

KNITTING | WEAVING | FELTING | TUFTING | CARDING | SEWING

#### Denim machinery theme zone

It's getting more and more important for denim manufacturers to introduce new technologies, equipment and auxiliaries to achieve the green transformation.

ShanghaiTex 2017 will unleash the latest and sustainable denim manufacturing technology and application under the wind of industry 4.0 and will newly feature a special denim theme zone – "Eco-Denim Centre". A series of new and greenovation technologies including dyes, additives, textile chemicals; denim finishing equipment; and laser processing, tailoring equipment will be showcased. The new denim zone has received substantial support from the renowned exhibitors including GBOS, Kasu, Suwei, DaFang, XinXiangLian, Jhx, KingFull, etc.

In addition to machinery display, a special display gallery – "Denim Chic" will also be found at the show with the latest applications of new technologies from denim clothing enterprises. High-caliber experts from around the world are also invited by the show organizer to share their insight at the seminar – "Denim Masterminds" on the challenges and opportunities of the denim industry and introduce the latest technology, eco-friendly and fashionable production solutions.

# Proven success.



FOR SUSTAINABLE SOL

The Monforts range combinations for denim finishing are now even more cost-efficient and eco-friendly: The Monforts ECOApplicator is now used for liquor application. Drying, stretching and skewing functions for the denim fabric are performed by a modified Thermex-Thermo-Stretch unit. This configuration allows fabric speeds of up to 40 m/min to be achieved with 14.5 oz/yd<sup>2</sup> denim on the "single rubber" version.

The "double rubber" version comprises two compressive shrinkage units and two felt calenders in line. Together with the innovative Thermex stretching unit, fabric speeds of up to 80 m/min can thus be achieved with 14.5 oz/yd<sup>2</sup> denim.

On both range versions, the denim fabric is stretched and skewed far more gently than with conventional range combinations. Ask our denim technologists. We will be happy to advise you.

A. Monforts Textilmaschinen GmbH & Co. KG Germany | A Member of CHTC Fong's Industries **WWW.MONFORTS.COM** 

#### **Functionalized** Denim 4.0 by Monforts

GERMAN **Technology** 



### Wearable Technology X Textile design competition

Featuring the world's latest smart textile technology, ShanghaiTex 2017 cooperates with Hong Kong Polytechnic University, Shanghai University of Engineering Science, Zhejiang Sci-tech University, and well-known wearable technology company to organize a "Wearable Technology X Textile Design Competition", aiming to achieve the integration of technology, fashion and creativity. With the theme of "to design a piece of smart textile product that can improve the life of the people, through integration of wearable technology and textile", the competition intends to encourage designers to combine original ideas with high-tech textile.

The evaluation criteria will mainly focus on six factors: integration of wearable technology and textile product, application of smart technology, market potential, functionality, aesthetics, and innovation.

Worldwide students and designers of or under age 30 from textile, fashion, product, electronics, engineering or other related fields have been invited to take part. The final assessment and award ceremony will be held on show opening day and the 5 finalists will present and showcase their work on-site.

#### C2M Smart Factory Experience Zone

ShanghaiTex 2017 will demonstrate a brand new C2M Smart Factory Experience Zone in order to share the most cutting-edge marketing information and bring a revolutionary interactive experience to visitors. A series of concurrent seminars will also shed lights on forecasting C2M trend in the coming 5 years to bring more practical solutions to interested industrial players.

C2M is a new business model, with one end connected to customer and the other to the manufacturer. All those links in between like inventory, logistics, sales and distribution, etc., could be omitted to save the unnecessary cost, so that customers can buy high-quality goods with rather lower price.

Composed by a range of selected leading companies, the C2M Smart Factory Experience Zone at ShanghaiTex 2017 will showcase various advanced production technology. The Zone will gather the world's latest 3D body scanning and virtual fitting technology, ERP/MES system, as well as e-commerce platform to simulate the operation of a smart factory. Visitors will definitely get inspired through hands-on experience of the equipment and technology that involved under C2M.

#### 3D printing

In recent years, 3D printing has been gradually applied to garment field. Brands like NIKE and New Balance have already made use of 3D printing technology to customize sport shoes for athlete. This year, ShanghaiTex will introduce the hot 3D printing technology. Visitors will be able to experience how 3D printing has eliminated the need for tailoring and sewing processes, and how it can accurately complete complex and multimaterial designs.

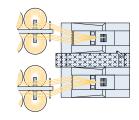
#### Exhibitors

So much for the situation in the run-up to the fair and the event organisation. Let's now take a look at the key elements – some of the market leading exhibitors and their machines.

With its brands **Oerlikon Barmag** and **Oerlikon Neumag**, **Oerlikon** (**Booth E1 / B10 )** is a world market leader with products like filament yarn machines, texturizing machines, BCF carpet yarn machines, synthetic staple fiber machines etc. As the supplier for engineering services, it provides comprehensive solutions for textile value-added chain.

**Saurer Group** (Hall E1 / Booth F01) will proudly present its full range of new technologies in fiber processing from raw material to a multitude of yarns. The product range further includes different finishing processes.





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 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.



For **Saurer Group** (Hall E1 / Booth F01) it will be yet another opportunity to present the group as the partner of choice along the textile value chain with its full product range. Saurer is present with its machinery brands; Schlafhorst, Zinser, Allma, Volkmann, Saurer Embroidery and Components brands; Accotex, Daytex, Fibrevision, Temco, Texparts and will proudly present its full range of new technologies in fiber processing from raw material to a multitude of yarns. The product range further includes different finishing processes.

Ring spinning machines from **Zinser** stand for a new level of efficiency in the commodity segment. At a length of 2,016 spindles, the **Zinser 72** ring spinning machine breaks the 2,000 barrier and sets new standards for efficiency in the commodity segment.



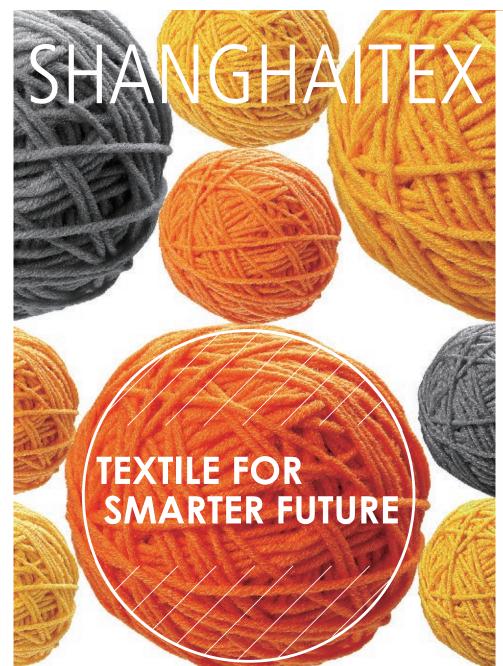
ZinserImpact 72 compact spinning machine (c) 2017 Saurer

The new both-end TwinSuction system, combined with the sensorcontrolled OptiSuction yarn break suction system, achieves an energy saving during suction. The ZinserImpact 72 compact spinning machine is equipped with the self-cleaning Impact FX unit and guarantees top productivity and optimal raw material utilisation. Zinser ring spinning machines offer maximised production, consistent yarn quality, a range of different automation options and excellent profitability thanks to their proven and highly regarded cutting-edge technology.

The rotor spinning segment at **Schlafhorst** is sustainable and futureoriented. The fully automatic Autocoro 9 using individual spinning positions technology sets new standards for productivity, efficiency and quality. The unmatched rotor speeds, machine lengths and take-up speeds reduce the spinning cost and energy consumption considerably by a twodigit percentage value.

Intelligent automated processes and Lean Maintenance reduce the maintenance costs. This increases the user-friendliness and saves on personnel costs. Nevertheless, the Autocoro 9 achieved constant high performance with any raw materials and under all operating conditions. Flexibility and automation turn the Autocoro 9 into the production platform of the future.

The new semi-automatic BD 7 machine is also in a league of its own, producing impressive packages in Autocoro quality in all package sizes up to 320mm in diameter.



## The 18th International Exhibition on Textile Industry



www.ShanghaiTex.cn

### 2017 • 11 • 27 - 30

Shanghai New International Expo Centre, Shanghai Pudong, PR China

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Saurer Schlafhorst Autocoro 9 (c) 2017 Saurer

The BD 7 reduces spinning costs and increases profitability by optimized, reduced energy consumption, rapid take-up speeds on all lengths and an improved space utilisation.

The winding machines from Schlafhorstare also the benchmark for winding efficiency. 2.5 million delivered Autoconer winding units – this unparalleled record in the sector sends a clear message: the Autoconer is the synonym for efficient package winding for more than 50 years. The Autoconer 6 with E3 sets now again standards regarding energy, economics and ergonomics. Additionally with its quality packages and leading automation solutions the Autoconer offers measurable benefits both during winding and in downstream processing. Innovations such as LaunchControl, SmartCycle, SmartJet or Eco-Drum-Drive system as well as intelligent sensor technology, smart pro- cess control and autocalibration functions have proven their worth in textile practice.

With the innovative **SUN - SERVICE UNLIMITED** service concept, Schlafhorst and Zinser offer their customers support in their day-to-day operations. Over 500 service staff in 20 service stations and 3 technology centres advise customers all over the world with regard to productivity and quality increases as well as energy savings. Intelligent life cycle management means that the service experts support customers proactively with preventive maintenance.

Clever updates and upgrades provide solutions for integrating new technical features into existing machinery. The e-commerce platform SECOS 2.0 guarantees minimum response times in the delivery of original spare parts. And in SUN-PLAN Schlafhorst has developed a service concept that is unique within the textile industry: Individual service at a fixed price.

Allma and Volkmann are the world's leading manufacturers of twisting and cabling machines and will be presenting the CompactTwister – Highperformance Two-for-One twisting machine for staple fibre yarns, and the CableCorder CC4 – Direct cabling machine for high quality tire cord. Both products are characterized by low energy consumption, high economic efficiency and machine productivity as well as high operating convenience and have been certified with the Saurer E3 label for their triple added value. Visitors will be also informed about innovative products and solutions in the companies' other segments: carpet yarns, industrial yarns and glass filament yarns. **Saurer Embroidery** presents the latest innovative embroidery system Epoca 7, which impresses with its increase in productivity and its embroidery speed of up to 700 RPM. The setting options of the 'pro' version are unique and encompass new technologies on the needle side such as an individually con- trolled thread guide and thread delivery. Thus, embroidery technology has been reinvented and fulfills future market demands. The new thread monitors and the new thread-cut guarantee trouble-free production of high quality embroidery.

**Savio (Hall E1 / Stand B11)** will exhibit the Polar Evolution winding machine: a high performance, energy saving and less labor-intensive product for the Chinese customers. Polar winding machines have been recently developed to the Evolution series, gathering all the innovative solutions in terms of technology, efficiency, quality output and maintenance. A further step for Polar family to catch the world of I.T. connectivity and the new fibers applications. The machine on display will be a freestanding fully automated one, provided with new features to process bobbins produced by ring frames not equipped with automatic doffing device.

"Premium" winder is a solution for processing yarn bobbins whose formation is not originally "favorable" to reach efficiency, for example bobbins with tangles, entanglements and misplaced yarns tail. The newly designed hopper "Pace Sorter Feeder" will optimize the bobbing feeding for a fast and smooth bobbin flow.



SAVIO Polar Evolution M/L (c) 2017 SAVIO

In addition, special solutions have been engineered for automatic devices (bobbin preparation, transport, etc.) present in the fully automatic winder models to control and process springy elastic yarns. A special "Lycra kit" is available for yarn end finder station of fully automatic winding machines, in order to grant the highest efficiency for the bobbin preparation in presence of single or dual core yarns.

In downstream processing, the unwinding behavior of the package and the take-up speed facilitate process to be more efficient and geared to benefit. Savio has now a full range of grooved drums to cover all yarn types, counts and downstream processes. The EVO drums offer new capabilities to optimize both the unwinding speed of the packages and the package yarn content, through variable number of turns with different winding angles.

The package shape is optimized in order to obtain advantages for a better unwinding ratio in the downstream process, for homogeneous package density and for lower rewinding breaks.

The Polar Evolution winding unit is equipped with splicing and tension control devices for ensuring perfect joints and perfect package shape.

Air and Moistair® splicers boasts a Duo Air Feeding system, for yarn tail preparation and splicing. This splitting allows the individual setting of the most appropriate value of air pressure, and makes these splicers able to easily process any different fibers and blends combination.

Furthermore Savio will present the **Savio Winder 4.0** – Smart industry solutions for textile mills. Once composed solely by mechanical and electrical parts, now winding machines have become complex systems that combine hardware, sensors, data storage, microprocessors, software and connectivity. These smart machineries can increase the efficiency of the spinning mill and perform predictive maintenance avoiding breakdowns and downtimes. Savio winding machines can be equipped upon request of Smart Industry Solutions for connectivity, data management, remote machine set up and operator real-time interactivity.

Savio Winder 4.0 represents an important step towards a wide digitalization process, being a solution for intelligent networking of machines in the spinning/winding room.



#### SAURER E<sup>3</sup> – TRIPLE ADDED VALUE. SCHLAFHORST AUTOCONER 6. THE BEST ORIGINAL EVER.

Introducing the new Autoconer 6 with E<sup>3</sup>: offers maximum energy savings with highest kg/m<sup>2</sup> output and smart sensor technology for more ergonomic operation. The Autoconer package remains the benchmark for quality and added value in downstream processing.

Energy: Up to 20% less energy

Economics: Up to 2x6% more productivity

Ergonomics: More intelligent and simpler workflow

saurer.com

WE LIVE TEXTILE.



This data management system is a very modern and important management tool, relieving mill management staff of time-consuming routine work. The mill manager can have the winding room live monitoring directly from his/her desk. Thanks to data analytics, a wealth of data are available, allowing to manage the different production phases in the best possible way and to monitor all significant parameters anytime and anywhere, making use of mobile devices. All these features enable Savio customers to control overall equipment effectiveness, increase workforce efficiency, and maximize quality and working time.

The Swiss based **SSM Schärer Schweiter Mettler (Booth E1 / A70 and E1 / D30)**, the inventor of the electronic yarn traverse system, will show their newest textile machines on the booth of their agent Union Trading as well as on the booth of Rieter Components.

After the successful introduction of the XENO-platform in Asia in 2016, SSM has put the focus on the X-Series this year. With the latest application for cone-to-muff and muff-to-cone winding, SSM offers a highly flexible and economical system. To maintain a high residual elasticity of elastic Polyamide (PA) and Polyester (PES) draw textured yarns (DTY) after dyeing, the muff dyeing process with integrated SSM leading yarn winding technology is the best solution. The new SSM PWX-CTM enables the preparation of low-density muffs, while maintaining the highest possible elasticity of the yarn throughout the dyeing process.



For the highest flexible and productive rewinding, the SSM PWX-MTC offers the proper solution; regardless whether muffs, hanks, dye packages on dye tubes or coreless dye packages are to be rewound. Besides the displayed applications, SSM provides a wide range of renowned textile machines.

**BTSR** will present **ULTRAFEEDER2**, which they name a radical evolutionary step in Yarn Constant Tension Feeding Technologies stateof-art and innovation process. It comes built up with the most advanced materials (aluminium, magnesium, carbon fiber) which guarantee unique features in terms of lightness, strength and small-size dimensions. The updated design and accurate ergonomics (i.e. upper positioned display for easy reading, optimized space around the wheel for easy yarn threading, ...) guarantee utmost features in terms of user-friendly operations. The new powerful processor and updated electronics in combination with the advanced built-in materials provide unique performances in terms of response time and yarn tension reading accuracy.

ULTRAFEEDER2 comes with further improved motor а torque allowing new applicative possibilities and enhanced performances in feeding yarns with high selections dynamics. The new smart yarn input accessory set and the double coil separator system provide this device with unique advanced features and applicative benefits to machine operator. It is designed for the most demanding needs in socks/ hosiery, seamless, knitting, several looms applications and sewing machines. It works with any kind of yarn in many different applications, with thin



BTSR ULTRAFEEDER2

bare, covered and interlaced elastomers (11,13,15 Dtex), nylon, cotton and technical fibers. ULTRAFEEDER2 represents a high-profitable investment for textile operators who will implement this solution in their factory. Every Production Manager will be able to measure the correlated fast 'Return on Investment' (ROI) in terms of production efficiency, cost-saving and machine maintenance. **Fadis**, who says it is the only company in the world to be able to offer the most appropriate machine range to prepare yarns, in the form of Packages, Fapp<sup>™</sup>, Muff and Hanks, will present the **SINCRO M.** This is a new concept of winding machine with precision crossing and electronic yarn guide which can reach speeds up to 1.750 m/min, it is possible to produce FAPP<sup>™</sup> low density packages (FAdis Precision Package), which allow for wide retraction margins of the yarn during the dyeing phase, thus keeping a high residual elasticity percentage of the elasticized yarn. Therefore, with this widely tested technological system, and the possibility of unwinding the FAPP<sup>™</sup> with the **SINCRO RFM SW** rewinding machine with its "on-line" tension control, it is possible to obtain qualitative results quite similar to hank dyeing but with the same simplicity and economy typical of yarn package dyeing.



Thanks to an historical experience matured in the winding field, especially with the SWIFTENS tension controlled hank winding system, aware of the difficulties connected to the unwinding of low density packages, Fadis was the first to develop the SINCRO RFM SW rewinding machine with precision crossing and electronic yarn guide with a tension controlled motorized unwinding device with "à la déroulé" system to unwind the "FAPP™", "MUFF", "BOBBINS" and "HANKS" on their various feeder supports with the "à la déroulé" system at a speed of up to 1.400 m/min meaning three or four times faster than any other existing technology.

Leading Italian producer of electronic yarn feeders, LGL ELECTRONICS (Hall W1 / Booth W1D10) will be showcasing a range of advanced and sustainable yarn feeding solutions for knitting and weaving. The feeders for knitting product range includes the SPIN 1, ECOPOWER, ECOMPACT and the MINI series that includes **MINI+ and MINI CB** made in LGL HANGZHOU and suitable for all types of knitting machineries. MINI feeders have built an excellent reputation in the market where they are successfully performing in many different applications like SEAMLESS, SOCKS, LARGE DIAMETER, FLAT KNITTING and more.

Feeders for weaving are the ECOSMART, PROGRESS VECTOR, TECNICO and ECOWINDER which is the latest model made by LGL HANGZHOU, introduced for the first time at ITMA ASIA 2016. The ECOWINDER features a new design with reduced dimension and weight (4.8 kg) as well as a remarkable reduction of power consumption compared to other feeders in market.



LGL ELECTRONICS ECOWINDER & MINI CB

It comes with a new optical sensor on the feeder drum for input missing yarn and winding count. And is is also available in the version with 3 optical sensor controlling for input missing yarn, winding count and yarn reserve. There is a smoother yarn angle inside the feeder, to reduce yarn stress and a maximum torque at both high and low speed.

**Prosino Borgosesia Rings (Hall E1 / Booth B599)**, a market leader in the production of spinning and twisting rings since more 70 years, will celebrate the success of the **Steelhawk flange ring** and present several case histories testifying its top performance. Furthermore they will present the **Steel Conical Rings 4+4** for fine yarn worsted application and the Sintered Metal ring Nylon 4 and Nylon 5 for fiber glass application. The company mission is to help spinning companies to get the most from their ring frames, for any type of fibre used, as well as achieve the highest speed rates while maintaining a high standard of yarn quality. Current annual production exceeds 9 million rings with a global market presence since 1946.



Prosino Borgosesia Rings

PROXIMA AUTOMATION will present the new Bigagli selfacting mule model B7DD. It is composed by two sections completely independent. This improvement brings more flexibility, more production and a reduction of downtime. In addition the new installed electronics and software allow an important energy saving. The new Bigagli selfacting mule can work with the most vast range of yarn counts without any mechanical adjustment (from varn count 4000Nm up to 46000Nm - meter of yarn per kilo) and is completely programmable. Every yarn detail can be stored for future use. As the faults are minimal (almost zero) it does not need any maintenance. Furthermore it does not need compressed air and it does not produce graphite powder (all brush-less motors). PROXIMA AUTOMATION says it produces the best carded yarns from natural fine fibres, it has the most competitive price (for the same production quantity and it has the lowest energy consumption with 290Wh and reactive power ( $\approx$  0) with Cos  $\phi \approx$  1 per 1 Kg of pure cashmere varn count 15000Nm with 300 twists/meter.



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Bigagli B7DD
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The global market leader and trendsetter in the production of warp knitting and warp preparation machines, **KARL MAYER**, is celebrating its 80th anniversary in 2017, and is marking this milestone by holding a series of special events with in-house shows held at its different subsidiaries. An event in this demonstration of progress to mark the company's anniversary is an in-house show to be held at KARL MAYER (China) in Changzhou from 23 to 25 November shortly before Shanghaitex.

During this technical presentation, the new **TMJ 4/1-T terry warp knitting machine** in a gauge of E 24 will be showing its features whilst producing patterned towels. Alongside this machine, an **RDJ 5/1 double-bar raschel machine** with piezo jacquard technology, also in a gauge of E 24, will be producing a spacer textile with an innovative multicoloured design for use as a shoe fabric. A brightly coloured ground surface is combined with a discreetly coloured cover face with a mesh pattern to produce this striking look.



The coloured spots showing through create a butterfly-like pattern. All the main pattern elements of the final shoe are incorporated in the mirror images of the two halves of the design. The unveiling of a new machine will also be celebrated at the in-house show in Changzhou - the successful LACE.EXPRESS family is being extended by a new family member.

In the field of warp preparation for warp knitting the DS OPTO will be introduced as a flexible direct warping machine for rigid filament yarns for production from short and sample warp beams to standard block color warp beams. For those visitors involved in weaving preparation, KARL MAYER will be showing the **ISOSIZE** as a conventional sizing machine based on a modular design, which can cater for every market demand. Also available to view will be the beaming machine, the size box, and the drying unit as important components of the line.

KARL MAYER will also be demonstrating efficient, high-precision technology for the denim sector in the shape of its **LONG CHAIN BEAMER**. This tried-and-tested machine is used in rope dyeing for converting ropes to yarn sheets of exceptionally high quality.

**Monforts (Hall W5 / Booth A11)** will be placing special emphasis on its latest Denim finishing technologies including the innovative ThermoStretch skewing unit avoiding the expensive need for steamoperated cylinder dryers. The new ThermoStretch skewing unit from Monforts offers new and improved features for Eco friendly denim finishing avoiding the excessive use of 'expensive to generate' steam that was previously necessary for the cylinder dryers; thereby replacing the need for steam-operated cylinder dryers. It also provides a much gentler treatment of the denim fabric during stretching than was previously achievable together with an optimised fabric hand.

The ThermoStretch unit also continues to be available as a 'long stretch' unit but without heating properties for the fabric. Monforts has in depth 'knowhow' in high speed processing ranges for denim finishing with the 'double rubber' twin compressive shrinking unit working in tandem for working speeds even above 80 metres / minute.



Monforts ThermoStretch

The larger fabric content of the ThermoStretch unit in combination with the 'double rubber' twin compressive shrinking unit ensures minimum residual shrinkage values and highest production speeds which could not be achieved before.

In the denim industry, this concept is making a significant contribution to higher productivity and lower energy consumption and the company has references in Vietnam and Mexico. Denim technologists will be at the exhibition to offer detailed advice to visitors on the latest denim finishing processes.

Monforts will also highlight its texCoat coating processes and finishing of technical textiles, especially airbag materials at the show. Monforts is the only manufacturer that can offer completely integrated coating lines from a single source with the coating machine tailored to the subsequent Monforts drying technology. The Monforts system has the shortest fabric path from the coating unit into the stenter and offers all variations of coating application systems, such as knife over air, knife over roller, magnetic knife or printing head. All of these options are also available in wider widths, with the engineering from a single source. Special equipment for heat recovery and innovative exhaust air cleaning will also be on display.

The **Arioli Group** which was established in 2012 with the merger between Arioli, Brazzoli and MHM, is globally recognized as the technological references in their respective fields of application.

The integration of the three companies has enabled the Arioli Group to broaden its competences by designing and launching new technical solutions on the market, ranging from finishing to digital printing, from rope dyeing to printing finished garments, satisfying market demands. Brazzoli is globally recognized as a major landmark in high technology rope dyeing machinery, offering customers a solution for every type of product and need.

At Shanghaitex the Arioli Group will highlight the next new **Brazzoli** technology of **Ecologic Plus** for rope dyeing machines. Thanks to this Brazzoli has recently registered a significant increase in sales and is consequently establishing a fruitful collaboration with the leading worldwide fabric manufacturers.



The innovations introduced in the new Ecologic Plus machine increase even more its total automation. Equipped with the highest production and quality standards, the Ecologic Plus is able to guarantee high performance thanks to its mechanical reliability and reduced maintenance time, meeting various customer demands.

Brazzoli has created the new O.P.S. (Optimized Performance System) to replace the traditional system W.S.S., allowing an even better liquor recirculation control. The fabric handling system has been revised to increase the fabric speed, avoiding pilling and crease mark problems even on the most delicate fabric. The machine solidity has reached an even higher level, while the maintenance process has been changed drastically reducing down times and consequently optimizing production cycles.

**Carù**, the Italian company considered a market leader in high quality machines in textile finishing focused on developing and producing all kind of sueding and corduroy machines, will present the new model **S330 Pattern Sueding** machine. Caru' Pattern Sueding technology, with the very latest technical features combined with modern control equipment and electronics, provides the technical process conditions that are expected of such a process today. Whether richly patterned dress or tie fabrics, upholstery fabrics, damask fabrics, sportswear, labelling or sophisticated technical textile, with Caru' machines textile companies can produce a creative and profusely diverse assortment of high quality woven and knits of both and synthetic fibers.



**MATEX (Hall E1 - B55)**, since 1973 an important player of the wide sectors of synthetic leather, splits leather and technical textile, will inform about its lines for coating, impregnation, lamination and embossing. The machines can treat solvent and solvent less compounds and MATEX has experience in water based chemicals as well. The production ranges from pilot to wide width equipment. Focused on creating long lasting relationship, MATEX supports customers in all steps of the project, till start-up and after-sale service.



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MATEX line
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MCS DYEING & FINISHING MACHINERY will present STARWASH, which they call the new groundbreaking washing box. Modular and compact in size, it allows both knitted and woven fabrics to be processed, owing to the OVERFLOW & BUBBLE patented system. The fabric is conveyed through two internal motorized large sized drums, three return rollers on which load cells and a squeezer are mounted.

The internal recirculation of the liquor in forced counterflow and the absence of spray nozzles provide a powerful washing impact as well as a gentle action on the most sensitive fibres. It is the ideal washing cycle for synthetic and natural fibres, suitable for washing both after traditional and ink-jet printing, after wool fixing and bleaching and/or mercerizing.



**Tecnorama (Hall W4 / Booth B25)** will highlight its **Dos&Dye**<sup>®</sup>. This is a completely automatic system composed by a Dosorama dispensing machine and a Dyrama robotized dyeing machine able to work autonomously 24 hours a day, 7 days a week. Conceived and manufactured by Tecnorama, it can manage and perform all laboratory dyeing cycles increasing the productivity both for laboratory and bulk.

In the laboratory, it reduces the dyeing trials to obtain the exact recipe thanks to the complete reproduction of dyeing cycle exactly as in the bulk machines in preparing, dyeing, soaping and washing. The right first time result grants the exact recipe coming from the laboratory in order to drastically reduce the corrections after dyeing and the re-dyeing into bulk machines with a huge saving of the time dedicated to a production batch and the increase of the whole productivity of the dye house.



MCS STARWASH

Thanks to the optimization of production processes and to the overcoming of those limits inherent manual management of the laboratory, the system allows to reduce water and energy consumption for an environment friendly approach and for a considerable saving of time and money.

**Unitech Textile Machinery** based in Prato - Tuscany, active in sale and manufacturing of textile finishing machines since 1955, will show some important machines from its huge machinery portfolio. One highlight will be a scale model of Unitech single layer stenter **RED EVO7**. This latest innovation confirms its success on the international and Italian markets thanks to its well-known high quality standards and low energy consumptions.



Among its unique features, Unitech stenter machine stands out for patented air circulation system, tension-free fabric feeding and gentle fabric takeoff. Other highlights will be the heat recovery system SMART - RC and the X6 Double Drum Raising machine. The SMART - RC is the new heat recovery system, which does not cause oil or wax condensation and uses water to air heat exchangers inserted in a close loop system. No cleaning and washing is requested. The X6 Double Drum Raising machine is available with a large series of additional components and raising wires to find the best configuration for processing knitted fabrics (open width and tubular), woven fabrics, warp knits, technical textiles, upholstery fabrics, velvet, as well as other fabrics or material subject to the raising treatment. Unitech approach is to offer single or combined machines as well as a complete range of machinery. Unitech offers single and multi layer stenters, relax dryers, equalizing and stabilizing tenter frames, coating heads, complete coating lines and bonding dryers for wet finishing processes as well as raising, shearing, tigering, sueding, brushing and polishing machines for dry finishing processes.

**Durst (Hall W5 / Booth B50)**, manufacturer of advanced digital printing and production technology, will highlight its new **Alpha series** for industrial digital textile printing. The Alpha Series is designed to solve the current challenges of the industrial textile finishing sector: It features a sustainable and eco-friendly print technology and is designed for economic productivity and efficient processes, it minimizes warehousing by just-in-time production and produces top print quality with unlimited color and design complexity.



Durst Alpha 330

The **Alpha 330** is Durst ´s flagship for the industrial production of home textiles; with a maximum printing width of 330 cm, households and decor products such as duvets, linen, table cloths, curtains and drapes, as well as advertising materials such as flags and banners can be printed in their full width. And with the new **Alpha 190**, Durst offers, especially for the fashion sector, various configurations in the entry and exit units to print on super-elastic knit fabrics. The fabric management allows very fast changes of the feeding roll. Depending on the number of print heads, the production output can vary: fully configured with 64 print heads the Alpha 330 produces up to 460 running meters per hour and the Alpha 190 up to 620 running meters per hour.

Furthermore durst will inform about the new reactive ink system **Alpha Ink R HD** which fulfills strict **GOTS 5.0** guidelines for sustainable textile production. Durst is one of the first inkjet printing system manufacturers to offer a GOTS 5.0 certified reactive ink system for the digital production of home textiles, clothing, accessories and furniture upholstery. The newly formulated Alpha Ink R HD reduces ink consumption by approx. 30% compared to Durst's existing reactive ink system.

#### Conclusion

This brings us to the end of our preview of the Shanghaitex 2017. With the very future orientated events of the organizers as well as the innovative solutions of the exhibitors, we expect a very interesting exhibition. The exhibits demonstrate that the machine builders are well prepared for the transformation of the Chinese textile industry and that there is a degree of expectation on their part that the transformation is about to gain momentum. We hope all those attending the fair will gain maximum benefit from their visit and be impressed by the innovations on display.

## 2018 İSTANBUL **34<sup>th</sup> INTERNATIONAL TEXTILE MACHINERY EXHIBITION** 14-17 APRIL 2018 www.itm2018.com #onthewaytosuccessitm



"This Fair is organized with the audit of TOBB (The Union of Chambers and Commodity Exchanges of Turkey) in accordance with the Law No.5174"

## **Глан Макерикан Сарана Сар Сарана Саран Сарана С**

## "We are proud of our quality "Made in Germany"

Like almost no other German textile machinery producer, BRÜCKNER stands firm for Germany as production location. Your head office with R&D and with the Departments for Engineering, Administration, Sales and After Sales is located in Leonberg, Baden-Württemberg, in the South of Germany. Your production site is in Tittmoning, Bavaria. Many companies moved to Eastern Europe and Asia in order to produce at a lower cost. But not you! Why are you so successful, because of or despite this decision?

**Mrs. Brückner:** We are that successful because we can trust in the huge experience and the knowledge of our employees at our sites in Leonberg and Tittmoning. We sell many special machines, designed and dimensioned particularly for our customers, in most cases as a lot size 1 machine. Our employees are indispensable for this kind of production, their experience is our greatest asset and even if the production and the engineering departments are located at different sites - we work with the same CAD system, meetings can be arranged on short term in order to develop directly on site new ideas and concepts. For this reason we never even thought of moving our production abroad. In addition, we feel responsible for our employees and we are proud of our quality "Made in Germany" – and this is what we will rely on also in future. For our customers this is on the long run more economical than machines from other production sites which cannot reach by far the sustainability of our products.

In Leonberg you opened and put into service a completely new technology centre in 2013. Why was this a very important investment and how do your customers react and accept it?

**Mrs. Brückner:** The markets for textiles and mainly for technical textiles demand highly innovative products. The requirements regarding the functionality of textiles are increasing. In our Technology Centre we can offer our customers not only the expertise of our technologists but also a wide range of different processes which they can use to make tests and develop new products. We do not only sell machines but we accompany our customers in the development of new products and production processes.

You are currently managing a by far larger building project. In September 2016 the construction works for your new production site began. Since there was not enough space for an extension of the existing site you decided to build a completely new production site at the border of Tittmoning on a lot comprising 80.000 m<sup>2</sup>. In total you are investing 40 million Euro in estate, buildings and machinery. What is the reason for this considerable investment and what possibilities do you expect?

**Mrs. Brückner:** Our actual plant became too small and too narrow and in addition our machines are getting larger and bigger. We are very satisfied with our site in the Bavarian town of Tittmoning, where we are producing since 1960 and we extend our production just in this location in order to use the experience of our employees also for the enlargement of our production site. We lose nobody of our employees and we will be able to produce with a highly motivated team more and bigger machines with shorter periods of delivery.

In a publication you mentioned that mainly the BRÜCKNER customers will benefit from this new production possibilities. What is it your customers can look forward to?

**Mrs. Brückner:** We will not only be able to react more flexible on our customers' wishes but we can offer also shorter delivery periods and we can produce bigger and heavier components than before. This has clear benefits particularly for special purpose machinery or extremely high lines. Machines with working widths of more than seven meters can be installed without problems, heavy components can be transported more easily. The generous space offers new chances for growth and development. New constructions and line parts can be assembled and intensively tested anytime. Interested customers are welcome to visit the production site and to follow the production progress of their own line.

*The completion was planned for the end of 2017. Is everything right on schedule?* 

**Mrs. Brückner:** Everything goes according to plan but of course a building project of this dimension cannot be scheduled down to the minute.

We are well on track, the building is finished, the new production lines are currently being installed and we will move to the new production site in the first quarter of 2018.

Such an investment suggests that you are looking into the future with great confidence. Why is this so and what do you think of the demand for finishing machinery in the next years? Do you think that many of your customers want to or have to modernize or extend their production? Or do you want to gain new customers as well?

**Mrs. Brückner:** Of course one or the other of our customers has to modernize or extend the production. The market for textiles and mainly for technical textiles is in continuous growth. Above all the functionalizing of textiles and the marriage of electronics and textiles is just at the beginning and there is still a very great potential. In parallel we will gain new customers who estimate our technology and the productivity of our lines. But we are particularly proud on long-term customers who buy on a regular basis and who operate already some BRÜCKNER machines in their plants.

Let's have a look at your machines. Looking at your portfolio shows rapidly that you have a great number of different machines. Is it a factor of your success that you are able to offer a solution for any textile challenge? **Mrs. Brückner:** It is one of our very strong points that we can together with our customers find a solution for almost any problem. Here beats the heart of our employees who let go only when the customer is really satisfied. Our engineers are looking forward to challenges and to new line concepts. And of course the experiences can be transferred from one sector of finishing to another and this is a benefit for our customers!

Technical textiles, which are not only booming in Germany, have other and higher demands on the finishing equipment and process. On Techtextil in May in Frankfurt you made this a topic and you presented beside the large scope of application examples for technical textiles also your special machines for very special requirements. How do you see your market position in this sector and what makes your machines so special?

**Mrs. Brückner:** First of all, not the machinery but an experienced staff prepares the success: competent technologists and specialists for technical textiles. We give detailed and competent advice and we find tailored solutions together with our customers. Our customers appreciate this and they are ready to set off together with us on a development journey which achieves its end with an innovative line. Exactly this is our strength in this market.

You are by tradition very strong in the finishing of nonwovens - which is also a growing market. With Index17, the worldwide leading trade fair for nonwovens took again place in Geneva. What makes BRÜCKNER a preferred partner of the nonwovens industry and which of your innovations did convince the visitors of Index17 in particular?

**Mrs. Brückner:** Also on this fair we could convince with the variety of dryers and with tailor-made solutions. We always try to bring into accordance a high productivity and a reduction of the consumed resources. In the projects with our customers we consider in detail and very specifically their special demands.

You are also very active in the VDMA as chairperson of the Textile Machinery Association. How do you see the future of the German Textile Machinery engineering in a world which continues to change strongly with the big issues of sustainability and digitalization?

**Mrs. Brückner:** We are facing major challenges. As long as we stay innovative and curious and as long as the quality of studies and education in Germany remains on a competitive level we will be able to cope with textile machinery producers from Asia or other countries. Sustainability and resource efficiency are in Germany a major issue - as pioneers we can offer intelligent approaches and concepts for our customers all over the world. Digitalization can help us to cooperate closer with our customers because geographical distance is getting less and less an argument. This offers big chances in the service and the efficient use of the lines and I am convinced that many German machinery engineers will benefit on the long run.

### Interview with: Mr. Stefano Gallucci Santex Rimar, Group CEO

by Oliver Schmidt

## "We like to define ourselves as ,One Provider for Thousand solutions',



Almost two years ago you have renewed the Santex Rimar Group and organized it in divisions (Textile finishing, Technical textile, Nonwovens, Weaving and Greentech) and brands (Cavitec, Isotex, Santex, Smit, Sperotto Rimar, Solwa). Furthermore you have concentrated services that have a strategic importance and are recognized as values by your customers. In hindsight, how would you evaluate the reorganisation of the Santex Rimar Group? What have been the positive results for the Santex Rimar Group and its customers?

**Mr. Gallucci:** Santex Rimar Group keeps growing with the aim of providing the largest and most comprehensive offering of the textile and technical textile business to deeply understand and fulfill global customers' needs during the whole production process. With this goal, different knowhows and cultures are united under high standards of quality, efficiency, advanced technology and reliability for customers.

The Group makes customized machines and provides solutions for the textile and technical textile industry. We like to define ourselves as ,One Provider for Thousand solutions', because we have been manufacturing machines for over 100 years and we can provide solutions to many different projects. Our vision is to look at the textiles production as to an integrated process that connects all the machines from weaving the yarns to finishing fabrics and to coated fabrics. Today Santex Rimar Group offers to Customers many different applications and solutions from its large portfolio, presenting itself as a customized machinery manufacturer and in some cases a consultant of materials and processes.

From our point of view, the integration of Smit within the Santex Rimar Group has been very successful. How would you summarise this process? Is Smit well on its way to regaining its former strengths, and in doing so, has it already become a very strong member of the Santex Rimar Group? How would you judge that objectively?

**Mr. Gallucci:** The entrance in Santex Rimar Group has been an essential element of the Group's strategic development and has allowed SMIT to use a vast sales and support network worldwide to open up new opportunities and to provide a higher level of know-how for customers. A few weeks ago our Group President Ferdinando Businaro pointed out that SMIT production in Trissino is growing very fast and supplying customers throughout the world. The achieved synergy between SMIT and Santex Rimar Group allows customers to rely on a global service network, high quality products, deep technological heritage and above all on an integrated technology provider for all production processes, from loom to finished - natural and technical – textiles.

In January 2017 you have announced that Turkish HAS Group enters in Santex Rimar Group with a worldwide agreement of premiere distribution: Santex Rimar Group will distribute and market all HAS products globally. That was very surprising for many of our readers. Can you tell us about the background to this and its advantages for the Santex Rimar Group? **Mr. Gallucci:** Has Group enters in Santex Rimar Group with a worldwide agreement of premiere distribution bringing new competences, sound know-how and long-term experience expected to become new significant value-added solutions for Santex Rimar Group portfolio. Has Group is a manufacturing excellence with relevant know-how in textile finishing process and inter alia in stenter machines production. It will globally leverage on Santex Rimar Group distribution network, sales and marketing expertise. Thanks to this premiere distribution agreement, we will streamline our combined technical capabilities and expertise to build value-added solutions for customers throughout the world.

Santex Rimar Group keeps growing with the aim of providing the largest and most comprehensive offering of the textile and technical textile business to deeply understand and fulfill global customers' needs during the whole production process. With this goal, different know-hows and cultures are united under high standards of quality, efficiency, advanced technology and reliability for customers.

Are HAS machines able to fulfil the high requirements and tackle the particular challenges of the technical textiles and nonwovens industry? Or is distribution limited to the classic textile markets instead?

**Mr. Gallucci:** Santex Rimar Group Technical Textile and Nonwovens Divisions offer thousands of solutions thanks to the Group renown brands Isotex, Cavitec, Santex Nonwovens and Smit. The HAS Ram-X machinery is suitable also for technical textiles.

One example is the automotive industry. Final applications are included in a huge range of sectors, such as mobiltech, indutech, sporttech, geotech, protech and medtech. With our brands and HAS we offer substantial advantages such as up-downstream process expertise and integrated products/process service support. Customers appreciate personalized products with premium properties. Today they can focus on what they need and we can provide them the solutions.

A very interesting project of Santex Rimar Group is the FUTURE TEXTILE ROAD. It is a dialogue between Xinjiang, China and Europe, a Forum which retraces the Silk Road to open a new dialogue between the Asian continent and the Mediterranean Sea. Santex Rimar Group jointly organized the Forum together with "Leading Group Office for Development of Employment-Centered Textile and Apparel Industry in Xinjiang Uygur Autonomous Region" and "China Textile Information Centre". What is the idea behind this and what brought about this initiative?

**Mr. Gallucci:** The Forum retraces the Silk Road to open a new dialogue between the Asian continent and the Mediterranean Sea. The aim of the event is to build an innovative platform for the future development of the global high-end textile industry and the long-term construction of the cooperation system between different Countries aligned with The Belt and Road Initiative.

FUTURE TEXTILE ROAD represented a unique opportunity for Santex Rimar Group to join from the inside and promote a Chinese National strategic initiative: for the first time, an Italian machine manufacturer has gathered some of the most important global players of the textile industry to explore the future of the industry in a booming area that might change the borders of the world as we know them today. One Belt One Road (OBOR) is a China-led project that aims to become an interconnected network of ports, roads, railways, air routes and even resource pipelines, ultimately connecting Asia with Europe and East Africa. Thanks to existing global supply chain networks, the knock-on effect has the potential to impact economic corridors worldwide. Rail transport is expected to grow rapidly over the next decade, potentially taking market share from ocean transport in the process. As of 2017, approximately 90% of the fast fashion giant's goods were transported by either sea or rail, including those headed to China from the company's European suppliers.

Forum contents shifted from Ikea commitment to sustainability and new materials to Bonotto example of producing high quality fabrics for the most important fashion brands of the world; from cutting-edge Chinese textile companies such as Ruyi and Huafu to the high-performance applications of recycled materials of Miniwiz.

Gao Yong, China Textile Industry Federation Party Secretary and Secretary General; Yang Zhaohua, Vice president of China Textile Industry Federation, China Chairman of the China Textile Industry Association; Peng Yanli, Deputy Secretary-General of China Textile Industry Association; Qiao Yanjin, President of China Textile Industry Association, Director of Productivity Promotion Department of China Textile Industry Association, Director of China Textile Information Center were among the almost 200 people who attended the first day of the Forum.

The Forum pursues Santex Rimar Group strategy, based on development of reliable relationships and cooperation agreements with local stakeholders, customers and suppliers, boosting the future development of textile industry, through reliable partnerships based on dialogue and intercultural cooperation, as well as open innovation and new technologies implementation.

Zhao Qing, Xinjiang Uygur Autonomous Region Vice Chairman said at the Forum that according to the ten-year plan, by 2023, Xinjiang will build China's largest cotton textile production base and the western region largest garment export processing base. The industry output value is planned to increase from 30 billion RMB in 2014 to 400 billion RMB in 2023. These objectives are remarkable, and signal that the textile industry in Xinjiang is becoming an extremely important market for textile machinery manufacturers. Do you feel that by undertaking this engagement, you are one step ahead of your competitors? And could you tell us a bit more about your objectives and plans for Xinjiang? **Mr. Gallucci:** Xinjiang has become one of the most competitive and rapidly developing textile zone in China, even compared with Vietnam and other regions of Southeast Asia. Xinjiang is the nearest region of China to Europe with the shortest and less expensive transport time: international freight train through Xinjiang takes only 12 days to Germany. By 2023, Xinjiang will become the largest cotton textile industry base of China and the most important clothing export base in Western China.

Santex Rimar Group fits Xinjiang National Strategy and is ready to sustain it providing technology, bringing its know-how together with high-level network system. The Silk Road Action Plan and the Xinjiang National Strategy represent a great change; it's a project involving a whole system and other countries, fostering development and cooperation, removing every unnecessary bottleneck with collaboration and the use of cuttingedge technology.

Santex Rimar Group wants to join this project and help implement this strategy. In the spirit of the Silk Belt tradition we would like to bring our expertise developed in more than 100 years offering tailor made solutions. We can foster the development of Xinjiang in the textile industry helping projects that transform yarns into high quality fabrics, from terry towels to denim – from shirting to home textiles. The future of Xinjiang region also concerns other industrial sectors, where Santex Rimar Group can join to exchange know-how and open different dialogues.

In the sector of technical textiles and nonwovens Europe is also a very large market, and this is where two important trade fairs were held this year. You exhibited at Techtextil and Index17. How would you sum up both trade fairs?

**Mr. Gallucci:** At Techtextil Frankfurt Santex Rimar Group Technical Textile Division presented the full range of potential uses of textile technologies and demonstrated the Group is a customized machinery manufacturer and a process consultant which offers to customers many different solutions and applications from our large portfolio. Furthermore we have shown that we offer substantial advantages such as up-downstream process expertise and integrated products/process service support.

INDEX was the occasion to promote Cavitec Hotmelt Coating and Laminating as well as to present the new release of the SANTATHERM machine, which has been designed to cope with the needs of all nonwovens processes. The machine can be used for thermobonding as well as for drying, meeting every requirement in terms of speed or width, thanks to its modular design. Moreover, the availability of different nozzle systems allows the adaption to the respective process requirement, making the machine suitable for Airlaids, Wetlaids, Airlay, Direct Carded, Card Crosslapped and also Spunmelt processes. At Techtextil you focused on the "automotive" sector and the achievements of your individual brands. Why automotive? Is this a sector in which you have traditionally been well positioned and in which you have many customers, or do you see the greatest sales potential in this area? And how was demand specifically in this area?

**Mr. Gallucci:** We presented HOLOCAR, an automotive-oriented virtual tour of the technical textile portfolio applications and solutions using a 3D augmented reality tool. This co-marketing event has been developed to highlight the OPEN INNOVATION approach of Santex Rimar Group. We created the HOLOCAR automotive-oriented virtual tour to highlight the technical textile portfolio applications and solutions in the automotive sector.

Santex Rimar Group automotive applications include many solutions. There are the Isotex coating lines (transfer coating line), lacquering and embossing line -all specifically designed to meet the requirements of the automotive industry- for airbags, door panels, headliners, steering wheels, sun visors, protective films and seat covers. The Cavitec lamination, coating, impregnation solvent free lines for carpet coating, trunk and parcel shelf, structure and cosmetic parts carbon. The Sande Nonwovens thermobonding solutions for heating and floor insulation, air filtration, wheelhouse and batteries. And last but not least the SMIT technical fabrics weaving lines for airbags, car protection and covering, seats and seat belts as well as carbon fibre components. We promoted this concept starting from a market analysis and Santex Rimar Group brand positioning on the mobiltech industry, where we have very good references. We started from our customers' needs in this area, from their specific requests and supply opportunities. The global automotive textile market is projected to witness a promising growth from 2015 to 2020, owing to growing global vehicle production volume and increasing use of textile in vehicles due to growing demand for lighter and more fuel efficient vehicles.

Asia-Oceania is estimated to be the largest market for automotive textile: China, India, Japan, and South Korea are the main contributors to the automotive textile market in Asia-Oceania.

### Interview with: Mr. Mostafiz Uddin Founder & CEO of Bangladesh Denim Expo by Oliver Schmidt

## "Innovation is the ultimate game changer that will make real difference in future."

DUISUTURIA MA

You are on the way to become one of the most important people in worldwide denim business. You are a businessman, a denim factory owner Furthermore you are the founder of Bangladesh Denim Expo. What is the idea to establish a fair dedicated to denim in Bangladesh?

**Mr. Uddin:** Bangladesh is one of the largest exporters of denim in the world. Its position in the European Union is even before China. So, one of the objectives of mine behind establishing the Bangladesh Denim Expo was to create a buzz in the global marketplace about Bangladesh and explore the role of Bangladesh in the global denim scene. I wanted to create a one-stop platform in Bangladesh for entire denim supply chain from fabric to finishes so that it becomes a rendezvous of brands, buyers, suppliers and denim professionals.

After completing your education you joined a small foreign garment buying house in Chittagong as a trainee officer with a monthly salary of US\$30. In a short one year, you were promoted to executive director. How shaping was this experience of being so close to the workers for your personal development and professional career?

**Mr. Uddin:** It enables me to understand the emotion and priorities of workers better than a hereditary owned entrepreneur. In my factory Denim Expert Ltd you will find me working on sewing floor, at the finishing room, at laundry area, at design and development studio neck to neck with my people not as an employer but as a team member.

As a result, I have a very motivated team. My experience also helped me to have clear knowledge on every process of the denim production. At my factory Denim Expert Ltd. all are like members of a family.

Bangladesh Denim Expo is a nonprofit organization & Why do you think denim business can improve the working conditions and lives of Bangladesh's huge fashion workforce?

**Mr. Uddin:** Denim is an important apparel sub-sector of Bangladesh. About one sixth of the total apparel export value of the country comes from this sub-sector. The scope of value addition in denim is higher than a shirt, trouser or other commodity apparel due to the sophistication and scope of value addition. So, there is better opportunity for getting higher price of a denim product. Higher price means the manufacturer could spend higher amount of money for improving the working conditions and workers' welfare.

So I see a bright prospect of the Denim industry in coming decade, if we can achieve the desired level of innovation in the industry we can significantly transform lives through Denim. In fact the well being of our workers and the society and sustainability are part of our business philosophy.

#### How would you describe the development of Bangladesh Denim Expo since its first edition in 2014?

**Mr. Uddin:** Since its inception in 2014 over the time Bangladesh Denim Expo has become a much-awaited show in international denim calendar. Now it has become one of the largest global occasions for the key denim stakeholders to get together. The unique themes of its editions like sustainability, transparency etc have also resulted in far reaching positive impacts on the dynamics of global denim market making it more responsible, while the expo contributed to increase Bangladesh's share in global denim export in the years in between.

Next edition of the Bangladesh Denim Expo is from 8th to 9th November. Why should people - buyers, designers, creative people, press and orderwriters - come to Bangladesh and to the fair?

**Mr. Uddin:** Some of the reasons for why should people - buyers, designers, creative people, press and order-writers - come to Bangladesh and to the Bangladesh Denim Expo may be it is a one-stop denim sourcing platform of the entire denim value chain where globally renowned companies from across the world are exhibiting. It is the most important expo of denim industry in the region and a hub where key denim industry players congregate and exchange views. For visitors it is an opportunity to discover everything that's new in denim and to explore the latest technology, equipment and materials for use within the denim industry.

Each edition of the Expo contains distinct theme in aligned with vision of sustainability. And last but not least there are first-choice seminars and knowledge sessions hosted by international experts.

The Expo will highlight the importance of the need for transparency within the entire denim development chain. Why do you think transparency is an important topic for the denim or textile industry and what will change with more transparency?

**Mr. Uddin:** Yes, the theme of the upcoming 7th edition of Bangladesh Denim Expo is 'Transparency'. Transparency enables people to know who make their products – from who stitched them right through to who dyed the fabric and who farmed the cotton etc. When companies are working in a transparent way, this also implies openness, communication and accountability across the supply chain.

As we are all committed toward a sustainable earth, transparency is essential for ensuring progress. The expo will highlight the importance of the need for transparency within the entire denim supply chain.

There are many trends in denim business like sustainability and the innovation of denim through technology. What is your vision for the future of Denim?

**Mr. Uddin:** There is no denying that we could not do business keeping the existence of earth at threat. So, practicing sustainable business model is not only a need, it's our responsibility too. On the other hand, innovation is the ultimate game changer that will make real difference in future. So, my vision is to nurture innovation and spread the power of innovation in the industry.

To this end, I myself has established a denim innovation center. I have also a plan to establish a denim university in Bangladesh in future.

### And are there any new plans you would like to implement concerning denim and/or Bangladesh?

**Mr. Uddin:** One of my aims is to help the apparel and denim industry of Bangladesh equip with modern and latest technologies. To this end, under the platform of Bangladesh Apparel Exchange (BAE) I am going to organize Bangladesh Fashionology Summit on 12th February 2018.

The summit will bring together the latest technologies and innovations of the fashion world under one roof. Moreover, in the evening of the first day of 7th Bangladesh Denim Expo on 8th November, we are going to organize the 'Denim Innovation Night' to highlight the capability of Bangladesh in innovative design and creative presentation of denim wears which will bring new addition of global denim fashion & trend. Pacific Jeans, the largest manufacturer of premium denim in Bangladesh, is presenting it.

### *Collecting denim trousers is your hobby. What makes denim so exciting to you?*

**Mr. Uddin:** I am driven by passion. The position of denim in my heart is like blood in veins. I see that a huge number of people of my country are employed in the sector and realized that through meaningful changes in the sector it is possible to make their lives more dignified. The best way to make the change is to put examples. So, I am trying to make examples so that people understand it is possible to work in sustainable ways and be successful in business. This goal always drives me.

#### External Doctoral Candidate of ITM receives the Handling Award 2017

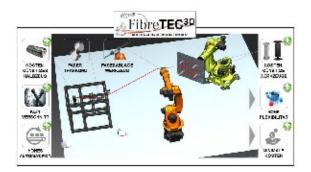
On 10th October 2017, Mr. Niklas Minsch (M.Sc) was awarded the top prize in the "Handling and Installation" category at the 2017 Handling Awards, held at the "Motek" trade fair in Stuttgart. Mr. Minsch is an employee of Daimler AG and an external doctoral student in Information Technology at the Technical University of Dresden, and received the prize for his developments surrounding "ultra-lightweight manufacturing equipment made from generic fibre-reinforced composites - FibreTEC3D".

With FibreTEC3D, Mr. Niklas Minsch presented a modular design system for grippers and manufacturing equipment and was awarded first place in the "Handling and Installation" category. FibreTEC3D is a newly developed manufacturing process for synthetic carbon fibre composites.

A three-dimensional coreless winding method is essential for this process, developed in the Daimler tech factory during the course of Mr. Minsch's PhD studies, in cooperation with the Department of Information Technology at the Technical University of Dresden. This generative production process enables tool-free, flexible arrangement of carbon fibre strands in a space that allows a maximum lightweight grade to be achieved at minimum cost and maximum flexibility.



Awardees and Eulogists (f.I.t.r.): Edgar Grundler (Trading journalist), René Khestel (WEKA BU-SINESS MEDIEN, Publisher handling journal), Niklas Minsch (Daimler AG, Project Manager FibreTEC3D), Patricia Till (Daimler AG), Matthias Müller (Daimler AG), Prof. Dr.-Ing. Chokri Cherif (ITM, TUD), Prof. Dr.-Ing. Jörg Franke (Institute for Factory Automation and Production Systems of University (FAU) Erlangen-Nürnberg) © M. Hauptmannl





## Thesis of Dr.-Ing. Martina Bulat successfully defended

On 27 September 2017, at a meeting chaired by Prof. Gude from the Institute for Lighweight Construction and Polymer Technology, Dr. Martina Bulat successfully defended her thesis, entitled "Analysis and assessment of the production of braided hollow profiles from fibre-reinforced composites by means of blow moulding within the RTM process", undertaken at the Institute for Textile Machinery and Textile High-Performance Material Technology at the Technical University of Dresden.



Mrs Dr.-Ing. Martina Bulat together with the examination board © Nusser

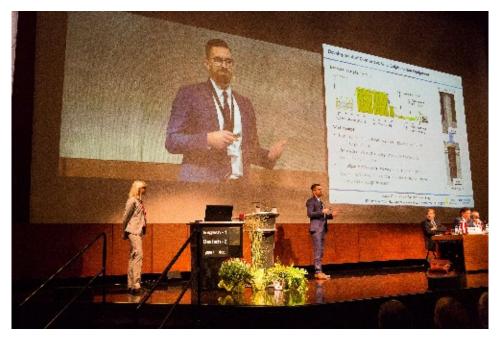
#### Dr.-Ing. Mohammad Kamruzzaman receives the Bangladesh Bank Remittance Award 2016



Bangladesh Bank Remittance Award 2016 © Ministry of Finance and Planning of Bangladesh

On September 19, 2017 Mr. M.Sc. Mohammad Kamruzzaman has been awarded the "Bangladesh Bank Remittance Award 2016" for its entrepreneurial merit in his home country by the Ministry of Finance in Bangladesh.

#### Two ITA post-docs receive ,Paul Schlack Man-made Fibers Prize'



Dr Wortberg and Dr De Palmenaer within their presentation © 2017 L&M Marketing

#### **Drastic price reduction of carbon fibres**

On September 13, 2017, two ITA post-docs - Dr Gisa Wortberg and Dr Andreas De Palmenaer - received the prestigious Paul Schlack Man-made Fibers Prize. The award ceremony took place during the opening ceremony of the MFC Dornbirn in Dornbirn, Austria. Dr Wortberg and Dr De Palmenaer have worked on the development of polyethylene-based carbon fibres as part of their doctorate at the Institut für Textiltechnik (ITA) of RWTH Aachen University. Within the framework of their dissertations, it was possible to reduce the cost of carbon fibres drastically, which goes far beyond existing research efforts. Dr Wortberg focussed on the development of polyethylene-based carbon fibres for thermochemical stabilisation, while Dr De Palmenaer worked on the conversion of the polyethylene-based precursors.



Award presentation Paul Schlack Man-made Fibers Prize and Paul Schlack Honorary Prize; f. l. t. r.: Prof. Dr Gunnar Seide, Dr Andreas De Palmenaer, Dr Gisa Wortberg, Dr Markus Beckers, Prof. Dr Thomas Gries (all ITA) © 2017 L&M Marketing

#### News from Textile Research Centers

As an alternative precursor material, polyethylene was chosen for carbon fibre production, which is spun in the melt spinning process and sulphonated, in order to be finally converted into carbon fibres. Dr Wortberg and Dr De Palmenaer have demonstrated the technical feasibility, the controllability of the process chain as well as the economic basic potential of the approach. In contrast to other research efforts, precursor development on an industrial scale and sulphonation and carbonisation is continuously.

#### Mission accomplished: drastic cost reduction of carbon fibres

The targets of the automotive industry with respect to price (5 - 12 C/kg) and carbon fibre properties (tensile strength: 1.730 - 2.800 MPa; E-Modulus: 155 - 190 GPa) were fully met with this approach. The goal of implementing a possibility for cost reduction using an alternative precursor material has been fully achieved.

#### Young Talent Award "Fibers Our Future"

On September 22, Prof. Dr. Kai Klopp, chairman of the sponsorship society for the promotion of the Institut für Texiltechnik of RWTH Aachen University bestowed the "Fibers – our Future" Young Talent Award upon ITA student Kira Heins. The prize, which is jointly funded with the Aachen Maastricht Institute for Biobased Materials (AMIBM), is awarded for the best ITA graduation thesis in the field of biobased materials. In her bachelor thesis "Antibacterial properties of biopolymers in electrospun wound pads", Ms Heins researched the antibacterial properties of chemically altered biopolymers. Using the electric spinning process, wound pads are produced by coating its fabric with nano-fibres. This way, it's possible to improve the pads' hydrophilic qualities significantly.

The Aachen Maastricht Institute for Biobased Materials (AMIBM) aims to promote excellent applied and transnational research by improving synergies and fostering intensive cooperation between industry and academia. The cross-border research institute was founded jointly by Maastricht University and RWTH Aachen University.



f.I.t.r.: Prof. Dr Kai Klopp (Heimbach GmbH & Co. KG), Benjamin Weise (ITA), awardee Kira Heins, Prof. Dr Thomas Gries (ITA) © ITA

## ITA visit to South Korea crowned with success

Together with a delegation of political representatives, of RWTH Aachen University, and of businesses under the leadership of the Business Network Aachen, Professor Dr Thomas Gries of the Institut für Textiltechnik (ITA) of RWTH Aachen University visited the South Korean cities of Seoul, Ansan and Songdo from 4 to 9 September, 2017. The visit started on 4 September, 2017 in Seoul with the participation at the "4th Industrial Revolution: Shaping the Future Industry" conference, organised by acatech and the Korea Institute of Industrial Technology (KI-TECH) where Professor Dr Gries participated by joining a panel discussion on "Smart Manufacturing". Another highlight was the reception of the delegation from Aachen by the German ambassador Stephan Auer in his Seoul residence.



"4th Industrial Revolution" conference on 4 September, 2017 in Seoul, South Korea © NAEK / ITA



Tape-cutting ceremony at the opening of the Smart Textronics Centre on 6 September in Ansan, South Korea  $\circledcirc$  KITECH / ITA

#### News from Textile Research Centers

Another highlight followed on 6 September, 2017 when the Smart Textronics Centre was opened in Ansan, together with the Korea Institute of Industrial Technology (KITECH) and Sungkyunkwan University (SKKU). This unique global cooperation brought the outstanding competences of the partners and their respective countries together, to allow them - in cooperation with small and medium-sized enterprises from both countries to mass produce smart textiles and to start an international R&D program. The attendance of several high-level figures such as the mayor of Aachen, Marcel Philipp and the mayor of Herzogenrath Christoph von den Driesch underscores the outstanding importance of the grand opening. ITA already opened the Smart Textronics Centre in Aachen on 16 November, 2016.

"The visit to South Korea was a great success!" Professor Gries exclaimed happily. "It facilitates the continuation of the successful research and cooperation between Germany and South Korea."

## Important achievement in the area of fuel cells for ITA Augsburg

The Institut für Textiltechnik Augsburg gGmbH (ITA Augsburg) is honored with the f-cell award 2017 in the category research and development with it's contribution "textile carbon fibre electrodes for microbial fuel cells (TexKoMBZ)". Beside the known fuel cells which are used as an alternative drive system for automobiles there is a new and very interesting application of the technology in the environmental area. The MFC contains special microorganisms which are able to produce electrical energy out of organic material through their metabolism. A prime example is the paper manufacturing industry which invests large amounts of energy to clean waste water every year. The usage of the MFC can save up to 50 % of the energy costs which is shown by a study of the "Papiertechnische Stiftung".

The main tasks of the electrode material is to provide as much growth area as possible and to fill out the reaction volume to a maximum degree with the productive microorganisms. Those are the aims of the research project TexKoMBZ (Nr. 031B0087A) which is supported by the Federal Ministry of Education and Research within the idea contest "new products for the bio-economy".

Like no other carbon based material for electrodes textile surfaces can be customized to match the needs of the MFC.

ITA Augsburg is responsible within the project for development and production of the 3D-electrode and for the improvement of the electric discharge. The evaluation of different types of weaving and production parameters as well as a large variety of electrode topographies in model reactors is building the foundation for the subsequent usage of up scaled electrodes in a MFC reactor. The outcome of the project will be a material that can be manufactured repeatedly and precisely concerning the porosity, the mechanical stability and flexibility as well as the electrical characteristics. "We consider it a major success for the ITA Augsburg, which was founded two years ago, to be honored with this prestigious award for one of the very first projects", said Professor Stefan Schlichter (Head of ITA Augsburg).



Left to right: Secretary of Environment Franz Untersteller, Liesa Pötschke (Institute of Applied Microbiology RWTH Aachen) Georg Stegschuster (ITA Augsburg) © 2017 Peter Sauber Agentur / Emmerling

#### Popzyk and Klein win in worldwide voting

Marie-Isabel Popzyk, Scientific Assistant at Aachen University and Dr. Roland Klein, Group Manager at the Fraunhofer-Institute in Germany, were selected through a process of on-line voting by participants in more than 100 countries to win the 1st Discover Natural Fibres Initiative (DNFI) Innovation in Natural Fibres Award on October 12, 2017.

Their submission, "Reduction of the moisture absorption of natural fibers and production of non-twist yarns for use in structural components," showed that up to 100% bio-based, natural fibre reinforced plastics (NFRP) with low moisture absorption can be developed and brought to application in structural components. The researchers noted that natural fibres, such as bast fibres, are becoming increasingly important in technical applications such as composites. Natural fibres are inexpensive, environmentally friendly and characterized by low density and high mechanical properties. Compared to the production of glass fibre reinforced plastics (GRP), approximately 30% less CO2 is emitted by NFRP and energy consumption is reduced by approximately 40%.

#### News from Textile Research Centers



Experimental setup fibre pretreatment (c) 2017 Fraunhofer Institute for Structural Durability and System Reliability LBF

#### "Alliance of Textile-reinforced Lightweight Design" concludes contract for cooperation

After six years of successful partnerships within the Alliance of Textile-reinforced Lightweight Design (ATL), this cooperation has now been consolidated in a contract.

On the 26th September 2017, representatives from the participating organisations came together to sign the agreement. The group comprised spokespeople from the Institute of Lightweight Structures at the Technical University of Chemnitz, the affiliated Cetex institute (Institut für Textilund Verarbeitungsmaschinen gGmbH/Institute for Textile and Processing Machines) and STFI (Sächsisches Textilforschungsinstitut e.V./Textile Research Institute for Saxony), and Fraunhofer's new STEX research centre (Systeme und Technologien für textile Strukturen/Systems and Technologies for Textile Structures) operated by the Fraunhofer Institute for Machine Tools and Forming Technology (Fraunhofer-Instituts für Werkzeugmaschinen und Umformtechnik/IWU).

The collective goal is the further development of Chemnitz as a centre of excellence for resource-efficient lightweight design within large-scale production.

#### News from Textile Research Centers



The directors of the participating partner organisations conclude the contract with their signatures (from left): Prof. Dr. Lothar Kroll (IST), Andreas Berthel (STFI), Hans-Jürgen Heinrich (Cetex), Prof. Dr. Welf-Guntram Drossel (Fraunhofer IWU). Foto: Diana Ruder

#### 40 years of service in the development of nonwovens - EDANA honours Wolfgang Schilde

On the 25th October 2017, Wolfgang Schilde, head of the STFI's nonwoven centre of excellence, received a special accolade. He was honoured at EDANA's Nonwoven Innovation Academy, a branch of the STFI with attendees hailing from across the world. EDANA's Secretary General, Pierre Wiertz, presented Wolfgang Schilde with an honorary prize from the association and in so doing commended Schilde's 40 years of uninterrupted service in the engineering of nonwovens.



Wolfgang Schilde and Pierre Wiertz (rechts) © STFI

#### 13. Colloquium "recycling for textiles"

The Textile Research Institute for Saxony e.V (STFI) invites you to the textile recycling industry's 13th ideas exchange, to be held on the 6th and 7th of December 2017 in the Chemnitzer Hof Hotel, Chemnitz.

www.stfi.de

# Topics of the next issue 1/2018

#### TOP STORY:

Sustainability

Sustainability – review 2017 and outlook

Transparency Resource efficiency Circular economy

Interview Preview ITM 2018 Preview INDO INTERTEX 2018

VDMA Symposia USA & Mexico Review Domotex 2018 Review Heimtextil 2018 Review

Textile Machinery Focus: Weaving & Knitting Research Focus: Recycling

News from Textile Research Centers

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