TEXDATA INTERNATIONAL

Magazine

Issue No. 3 2014

Business // Finance // Market // Technology

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

There is no escaping increased automation

- ITMA ASIA + CITME 2014 Review
- Interview with: Johann Verstraete, Picanol
- Interview with: Fritz Legler, Stäubli
- Country Focus: USA & Mexico
- R&D: News from iTV Denkendorf

Content

From the editor

Dear Reader,

„The textile industry is the most international sector that there is," said Kofi Anan at the WTS 2011 in Barcelona, and the truth of this statement is borne out when one observes the recent ITMA Asia + CITME in Shanghai, even if here, in contrast to its big brother the ITMA, its main focus is clearly still on Asia. That the global village is represented in our industry, the textile industry, and with this, the textile machine industry, has long been reality. Our global sector language is English. Every so often, the technical terms we use are more familiar to us in English than in our national languages. But many people are able to read articles and technical reports in their mother tongue faster and perceive them more intensely. And this is the reason why we would like to make the access to our information for two countries and regions even easier.

For this reason, Issue 3 / 2014 of the TexData magazine appears for the first time in the Spanish and Chinese languages. We are happy about this fact, and also rather proud that we've managed to successfully publish this issue, as it wasn't all that easy. We would like the issue to make a contribution to the flow of information that continues to improve our globalized world, and that our bulletins, reports and analyses are able to better access the important markets and enterprises in the textile strongholds of China and Latin America. What we can exclusively offer here is an European view of the topics that move markets, industries and people.

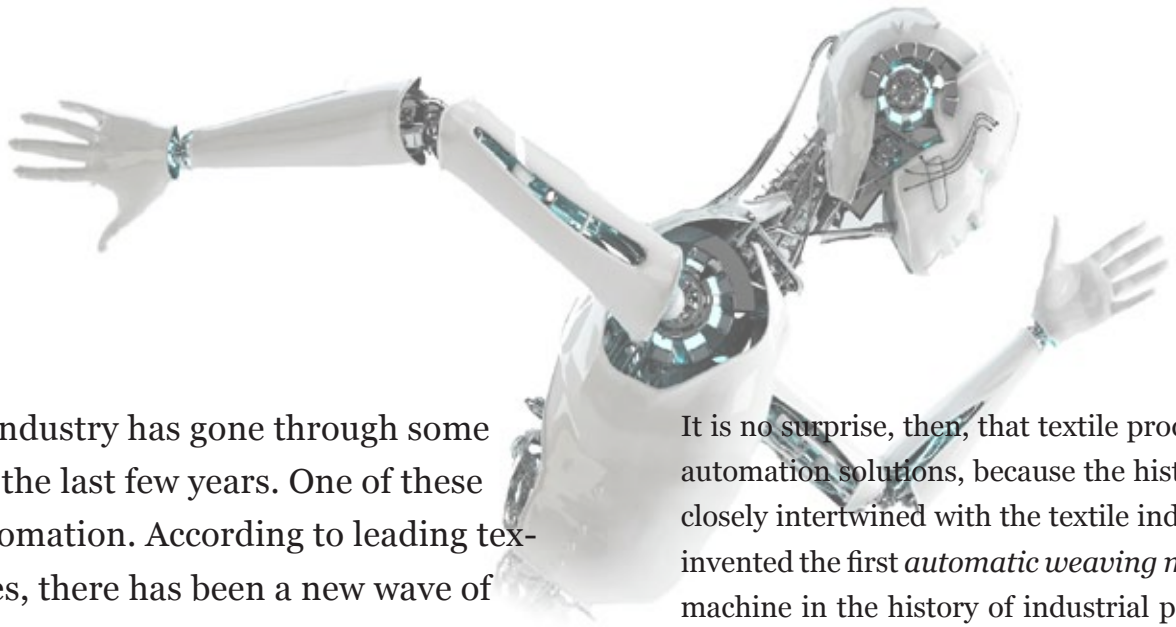
For the start of our new multilingual facility we are able to draw from the full source of inspiration. First of all there is our post-report on the ITMA Asia + CITME 2014, offering you a few subjective impressions, as well as some of the exhibition highlights. Then we have a large, dedicated report on Automation, complete with a few concrete examples. This was also, by the way, a big subject at the ITMA Asia. A new column we have prepared is called „The latest from Denkendorf", in which we inform you about research projects from this world-renowned, highly respected textile institute. In our Country Focus section, this time we report on the USA & Mexico. The issue is rounded off by some - in our opinion - very interesting interview answers from some of the personalities from the textile machine industry.

I would like to thank you all once again for your positive feedback to our top stories from the past issues of „Sustainability" and „Changes in the Supply Chain". We are very happy that you appreciate our way of reporting, and how we are able to analyze a subject comprehensively and from different perspectives. We take your praise as a stimulus to further improve our services, offering you added value for your business in many directions. Please recommend us to your colleagues and business partners, and do not hesitate to give us your highly esteemed feedback. Contact us, as always at: editorial@texdata.com.

Best regards
Oliver Schmidt

There is no escaping increased automation

by Oliver Schmidt



The worldwide textile industry has gone through some significant changes over the last few years. One of these changes is increased automation. According to leading textile machinery companies, there has been a new wave of automation within Asia and especially China. The reasons are obvious: firstly wages are increasing in major production centres, secondly well-trained skilled workers are becoming scarce and third the demands on the quality of series-manufactured products continues to rise.

It is no surprise, then, that textile production spearheads the demand for automation solutions, because the history of automation has always been closely intertwined with the textile industry. In 1787, Edmond Cartwright invented the first *automatic weaving machine* and thus the first automatic machine in the history of industrial production. Even if his machine did not provide the economic success he desired, his inventions however prevailed and are the basis of our current production in the textile industry. Interestingly, we can go back a lot further in history and discover quotes about automation in connection with textiles. "If every instrument could accomplish its own work, or anticipating the will of others, like the statues of Daedalus, or the tripods of Hephaestus, which, of their own accord began with holy work, if, in like manner, *the shuttle would weave*, chief workmen would not want servants, nor masters slaves," wrote the great thinker Aristotle who lived from 384 to 322 B.C. in his book "Politics". Our industry is of course indebted to such stories.

We care about your future

Strength and success go hand in hand – and demand the right equipment. Whatever your work involves, we are at your side – with the right technology to turn your goals, plans and visions into reality. We can supply warp knitting machines for producing every type of product, from lace, net curtains, clothing and functional textiles to technical textiles, as well as a full range of warp preparation systems for weaving and warp knitting. We have the expertise to support you in developing your own specific solutions. Let us put your ideas in motion!

KARL MAYER
Textilmaschinenfabrik GmbH
Brühlstrasse 25
63179 Obertshausen • Germany
Phone +49 6104 4020
Fax +49 6104 402600
info@karlmayer.com

www.karlmayer.com

See you at …

ITMA 2015
12 – 19 November 2015
Milan, Italy

MAYER

KARL MAYER

Therefore, this report is not so much concerned with the retrospective development of automation as with its current and future development. In our report in the last issue, we stated that automation was one of the four factors, which could influence the textile industry supply chain now and in the near future.

This time, we want to look deeper into the subject of automation and at concrete, practical solutions rather than the various reasons, which have led to increased automation within the textile industry. The great relevance of this topic was demonstrated recently at ITMA Asia. Mr Wang Shutian, President of CTMA, said in the wake of the most important textile machinery fair in Asia: "The 2014 exhibition showcased a comprehensive range of technologies from around the world.

„The 2014 exhibition showcased a comprehensive range of technologies from around the world. ITMA ASIA + CITME has now emerged as the must-visit event for Asian buyers sourcing a wide range of solutions to help them be more competitive. "

Mr Wang Shutian, President of CTMA

ITMA ASIA + CITME has now emerged as the must-visit event for Asian buyers sourcing a wide range of solutions to help them be more competitive. Hence, the products on display included those that boost automation and energy-saving features."

A look at machine manufacturing yields a similar statement. German Trade & Invest reported in March 2014 as follows: 'The prospects for the market for machinery and equipment in the PR China for 2014 are positive. Despite strengthening Chinese competition German suppliers are holding their own remarkably well. Deliveries to individual segments in China were actually increased - despite an overall decline in machinery imports. Among other things the continuing trend towards automation has had a beneficial effect'.

Ashley Kindergan reporting for Credit Suisse assessed automation from the view of the investor. Ashley Kindergan writes: „China, in particular, is set to drive significant growth in demand for robots and other industrial automation technologies. A diminishing supply of workers has finally pushed wages higher in the country, and automation is looking more and more competitive to human labor from a cost standpoint."

It is clear that other countries will follow suit, yes will have to follow suit, if they don't want to miss out on connection with China. Germany Trade & Invest reported, for example, for the Indonesian textile industry: "Indonesia's textile, clothing and shoe manufacturers must urgently modernize their production facilities and automate. The entire industry is getting pulled by strong currents in many directions at the same time. On the one hand, wages in the archipelago have risen sharply in recent years.

„Much of the work required on the roving frame is costly, time-consuming, physically demanding and ergonomically unfavorable. Automation is therefore most desirable in order to improve working conditions, to reduce errors, to prevent damage to the roving packages and to increase productivity.“

Rieter

Therefore, the first companies are flirting with a migration to so-called “real low-wage countries” such as Cambodia, Myanmar and Bangladesh. On the other hand, Chinese competitors are placing the Indonesian companies under pressure, both abroad and on the domestic market, with their efficient manufacturing processes.

Roving bobbin transport systems: Rieter SERVOtrail

The magic word in the industry is therefore automation.”

All told, the position of automation becomes clear. Companies that convert production and take advantage of the opportunities offered by automation are able to produce greater item quantities and ensure high quality. From a competition perspective, it will be difficult not to follow this trend.

Let’s take a look at the individual segments of the textile value chain and a few examples of solutions of leading textile machinery manufacturers, which were also presented at ITMA Asia. Let’s start with the spinning within spinning preparation up to winding. As well as with other sub industries, there are machines and processes in the spinning mill that have already been completely automated, those that in many parts of the market are carried out manually, but could be automated and also those whose automation is not cost effective or at least cannot be cost-effectively automated. The machine manufacturer Rieter lists in its Rikipedia (The Rieter Textile Knowledge Base) the individual processes of spinning and performs a brief analysis of the potential for automation.

According to Rieter, the greatest potential for automation solutions concerns the roving frame. Here, the Rikipedia introduction states:

“Much of the work required on the roving frame is costly, time-consuming, physically demanding and ergonomically unfavorable. Automation is therefore most desirable in order to improve working conditions, to reduce errors, to prevent damage to the roving packages and to increase productivity.” The Swiss company offers a broad portfolio of automation solutions and, for example, organised a seminar on the theme “Automation in the spinning industry” in Taiwan in the spring of 2014. A visit to the highly automated ‘Hukou mill’ was on the agenda. Rieter writes: „Since 1998 the company has adopted the fully automatic Rieter system including ring spinning machines (70 000 spindles) and rotor spinning machines (2 800 rotors).

To ensure perfect product appearance and efficiency, Far Eastern integrated the whole process from fibre preparation to stocking and delivering products with highly-automated equipment like link system between roving, ring and winding, automation transportation system for laps, sliver cans, yarn bobbin, automatic packing and stocking warehouse.” Saurer CEO Daniel Lippuner reported in the TexData interview in July 2013 on the high demand for automated solutions.

Zinser 351 2Impact FX system with automatic CoWeMat 395 F doffer with CoWeFeed

He said: „We’ve got some really great opportunities here and we’re already doing very good business in China because of this FYP. Thanks to the influence of the government and the objectives set by the current FYP, we have an increased demand for automation with linking and auto-doffing. In China this accounts for 20-25% in ring-spinning machines in 2013 and has risen sharply. Before this, almost all of the work in Chinese spinning factories was done by hand.

„We’ve got some really great opportunities here and we’re already doing very good business in China because of this FYP. Thanks to the influence of the government and the objectives set by the current FYP, we have an increased demand for automation with linking and auto-doffing.“

Saurer CEO Daniel Lippuner

Our Chinese competitors have a backlog with regard to automation, whilst we are receiving some very large orders. Incidentally, we are also seeing the same trend in other countries, such as Indonesia and India, for example." Saurer reaffirmed the high demand for automation in a message to ITMA Asia. In which he said: „The trend towards automation of the ring spinning mill continues unabated. Following Indonesia, Thailand and Korea, a real wave of automation is now engulfing China and India in Asia. Rising labour costs and more sophisticated quality requirements as well as a growing shortage of suitable staff are prompting more and more spinning mill managers to choose innovative automation solutions from Schlafhorst when making investment decisions."

Saurer Schlafhorst offers a broad portfolio of automation solutions. This includes solutions for roving frame automation, autoflow systems, creel automation and the CoWeMat doffer system. Automatic doffing is an effective tool in reducing the labour requirement in the ring spinning mill. With CoWeMat from Zinser, up to 61% of labour costs can be saved depending on the yarn count and bobbin format. At the same time, the CoWeMat reduces the staffintensive logistics outlay in the mill. The interruption-resistant, unsorted tube feed CoWeFeed guarantees frictionless processes that eliminate the need for operator intervention and reduce operator input by 66%.

The fully automated link to the winding machine, in which the spinning and winding capacity can be suitably coordinated, offers even greater benefits than this standalone solution. This increases the efficiency rating of the overall installation thanks to optimum utilisation.

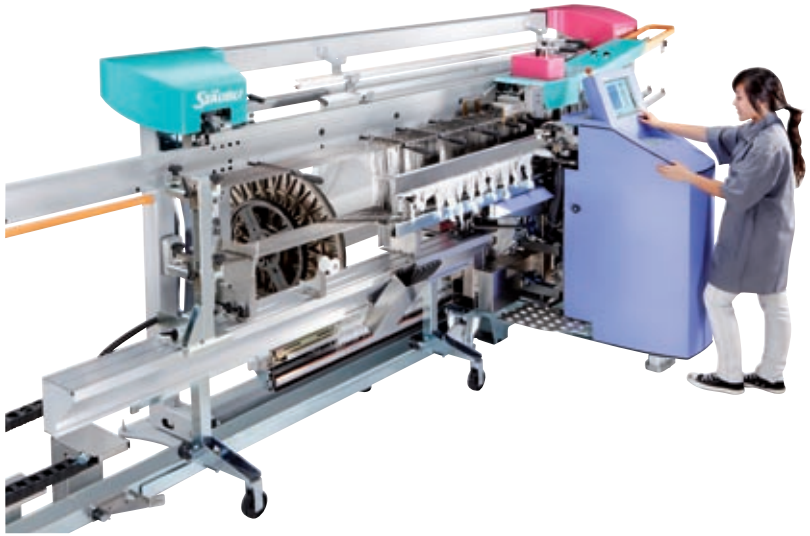
In Shanghai, Schlafhorst presented the Autoconer X5 linked to the new compact spinning machine ZinserImpact 72 which is equipped with the very efficient self-cleaning compact spinning technology, Impact FX. Autoconer X5 comes with intelligent material flow technology for large linked installations and also standalone machines like the Autoconer X5 type D, which makes it particularly easy to automate manual process sequences. Schlafhorst offers its customers made-to-measure process automation solutions, which are optimally coordinated to the profile of requirements of each market and company, with the modular machine concept of the Autoconer.

The automation highlight on the Autoconer X5 is FlowShare FX. Schlafhorst has once again fundamentally improved the logistical intelligence and process reliability of the Autoconer with a very modern and smart material flow technology. FlowShare FX is the only system on the market to balance out fluctuations in the material supply entirely independently and reliably: Vario Reserve adjusts the number of reserve bobbins to match the requirement, High-Speed Feeding uses a differentiated belt speed to ensure a supply to meet this requirement and Intelligent Bobbin Sharing exchanges bobbins between the winding positions entirely autonomously if a material bottleneck threatens. This added intelligence in the material flow increases the reliability, productivity and efficiency of the spinning and winding process.

Let's look at weaving and thus at an industry that historically has particularly influenced the development of automation. Optimized work processes with increasing production quality are essential for weaving mills to succeed amongst ever fiercer competition, i.e. by weaving cost effectively and meeting deadlines. As demands on punctuality and accuracy are constantly increasing, companies need to examine optimization opportunities in their work processes at all levels of production. Automation of the entire process chain is the answer and we are seeing hand manual drawing in and drop wires falling out of favour.

For a closely related example of an efficient automation solution, let's examine weaving preparation. Here, it is crucial that the drawing-in department can supply the required amount of fully drawn in warps (complete harness, reed) to the weaving department. The rising demand for article changes requires more and more employees in drawing in. In addition, the trend towards high-quality fabrics and the use of ever finer and specific yarns is increasing the number and complexity of threaded warps.

It is becoming increasingly difficult to find appropriate personnel for this activity as willingness to work in these areas is disappearing. The organizational effort in manual drawing in is therefore significant. If the warp threads are threaded in shafts, wires, and reeds, the drop wire must be placed later in the weaving machine. This unnecessarily increases the number of possible errors.



Stäubli Safir S30 Automatic Drawing-in Machine

The solution through automation is the use of automatic drawing-in machines. Studies show that the complexity of errors is much lower when using this process technology. Reverse crossed warps, braiding, drop wire, or pattern repeat errors no longer occur. This reduces downtime and increases the efficiency of the weaving machine. Accordingly, fabric production increases whilst the number of weaving machines remains constant. The improved running behaviour also has a positive effect on the ratio of the number of allocated weaving machines per weaver.

Stäubli, renowned specialist in weaving preparation and supplier of these high-quality drawing machines, reports that a weaving mill can improve its overall efficiency by 1 to 4% (or more) by switching from manual drawing in to automatic drawing-in machines. This figure might appears low, , but it is not be underestimated: over a year's time, it corresponds to an additional output of several hundred thousand meters of fabric, depending on factory size.

Stäubli Weaving Preparation Systems demonstrated its SAFIR S30 automatic drawing-in system at this year's ITMA Asia. This system has been enthusiastically accepted by Chinese customers and is part of Stäubli's complete product programme for automation in weaving preparation.

As one might expect, Karl Mayer, the Germany-based market leader, is offering first-class, high-tech solutions in the field of weaving preparation and warp knitting. Two very different solutions will now be presented.
The first example involves optimising the machine itself, the aim being to operate it at high speeds and change it over more quickly. The objective is to guarantee a high productivity and rapid reaction times to suit individual customer requirements. To this end, Karl Mayer's warp knitting machines have been equipped with stepper motors for delivering the yarns from pattern beams. This electromotive solution replaces the conventional system of passive control of the yarn feed, in which the yarn is taken-off as a function of the knitting process and braked. The disadvantages of this process are that it puts stress on the yarn, restricts the maximum speed and requires manual intervention: when changing over to a new pattern or when altering the yarn tension values, the relevant yarn brakes have to be adjusted exactly whilst the machine is running. The pattern beams also have to be balanced and re-balanced and their running length is restricted considerably. This German specialist company decided to take a new approach to solving all these problems and uses stepper motors instead of the passive system. In this case, the data are quickly transferred to the appropriate motor before production begins, so that the machine can operate immediately with the correct values.

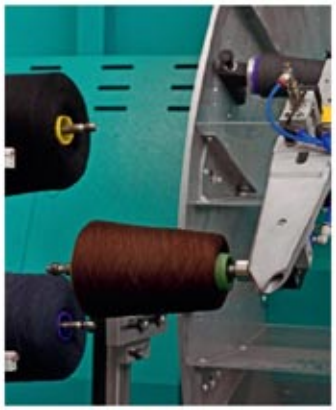
Compared to the conventional brake, active control via stepper motors greatly improves control of the yarn tension. Another big advantage of the stepper motors is that they can be braked very accurately and accelerated, whereas braking, as the name would suggest, can only decelerate the yarn. Once a one-time adjustment has been set, a wide range of different yarns can always be processed at the same setting and they are also handled gently. Yarn delivery can be adapted exactly to suit the different consumption values as a function of the pattern. This feature is even more interesting when working special effects: at a high yarn tension, the pattern is able to contract after knitting. All in all, the introduction of the stepper motor and the relevant control technology makes the machine more flexible and efficient and reduces the setting-up times considerably.

The second solution is an automation solution for a KARL MAYER sample warping machine offering highest level productivity – the automatic loading of rotary creels for optimising the doffing/donning process on a Gir-O-Matic. The Gir-O-Matic is designed for the production of multi-coloured or single-colour sample and production warps in warp lengths of up to 1,050 metres.

Depending on the number of bobbin positions on the rotary creel, this warp preparation machine is available as the GOM 8, GOM 16S, GOM 16 or GOM 24, and these are all extremely efficient, high-precision production machines. Automatic rotary creel loading is one technical solution that can be used for automating the processing sequences when changing the bobbins on KARL MAYER's sample warping machines.

This innovative system comprises a robot, which is responsible for changing the yarn bobbins and knotting-on the yarns. This robot technology was developed jointly by KARL MAYER and Primon Automazioni.

This innovative solution enables bobbins to be changed during total or partial yarn creeling. Automatic loading of the rotary creel operates with a high level of precision. The processing steps required are carried out accurately according to a predetermined plan. The pick&place device first of all removes a new bobbin from the loading trolley and the creel moves to the changing position. The robot then intervenes in the working zone of the Gir-O-Matic. It removes the bobbin that has to be changed from the creel, cuts the yarn that is left on it, rotates its arm about an angle of 180°, and inserts the new bobbin. Automatic knotting is then carried out.



GOM 24 Automation

Creel unloading and loading

Positioning in the circular creel

Knotting of yarn ends

The bobbin that has been removed is then placed in the trolley by executing another 180° movement. This operation is both accurate and fast. The complete cycle for changing the bobbins and knotting the yarns together takes just 30 seconds. If only partial creeling is required, the bobbins that have to be replaced are detected first by a laser system. The robot has been operating on the Gir-O-Matic in practice since March 2009, and has been extremely successful. At warp lengths averaging 200 m, machine utilisation has increased by 2.5 to 3.5 hours a day, so that productivity has risen by 15% and is even higher when the running lengths of the warp beams are short and the yarn changing cycles are short. This makes the robot a piece of equipment that will quickly pay for itself (ROI). Assembly automation is also available for the GV - the Karl Mayer high-performance creel in V-shape.

Autefa Solutions is a company that specialises in offering automation solutions for transport processes in textile industry as a separate business area. In filament production the requirements of the customers for an individual automation of the bobbin handling are focused. New concepts for inclusion of creeling into the transport automation were presented during ITMA Asia. And Autefa Solutions area Fiber Logistics Technology delivers fully automatic baling presses for polyester and viscose staple fibers. Together with market-leading fiber producers Autefa Solutions has developed a new generation of fiber baling presses. The Nonstop-Ultra (NSTP-Ultra) 1500 – 4000 baler is conceived for continuous bale production and is suitable for man-made staple fiber.

This single box baler is equipped with a press box at the pre-press side, which forms the bale with a pre-pressure of 80 tons. The final pressing at the main press is realised without box till to a maximal pressure of 4'000 kN. Due to the new concept AUTEFA Solutions is now able to handle 32 bales/h in manual handling and more than 45 bales/h with the fully automatic Wrapping Machine AD-WRAP. Here, the output of the automated solution is around 40% higher compared with the manual solution. One of the most important areas at the moment, is automation within the composite industry. The big goal here is to achieve reproducible preform production through automation. Preforms are three-dimensional woven or knitted fabric forms designed to conform to a specific shape to meet specific mechanical and structural requirements. "The current preforming process, which is still partially performed by hand, only fulfils the quality and throughput requirements within high-tech areas in part.

In Germany, this sector of the future, which is extremely complex due to its interdisciplinary nature, is now being tackled with concentrated know-how from research and industry experience. At the end of the development, we should have amongst others high-performance, low-maintenance textile machines that continuously produce precise preforms, in low cycle times, for further processing into lightweight elements," writes the Textil research board in its brochure 'Springboard IGF & ZIM'. The upcoming COMPOSITES EUROPE will likely as not demonstrate the current state of industrial applications. This exhibition – in conjunction with the International AVK Conference – has become firmly established as the leading German trade fair event for fibre-reinforced plastics.

Some 440 exhibitors from 25 nations are expected at the Düsseldorf Exhibition Centre from 7 to 9 October. COMPOSITES EUROPE will present a comprehensive overview of the entire composites spectrum. Automation of high-volume processes for manufacturing composites components will play a central role again this year. New lightweight construction concepts, materials and state-of-the-art production and automation solutions will be on display. So much for our examples from the different manufacturing stages of textile production.

That was certainly only a small part of the rich tapestry of the textile machinery manufacturer. However, two major trends can be identified. On the one hand, the mind-numbing and repetitive human labour is being replaced and on the other hand manual adjustment and setup time can be reduced by improved control of the machines in conjunction with modern drive concepts. Overall it will make sense for textile companies to compare the use of technology with manual labour using precise cost objects and cost centre accounting and to discuss solutions with their preferred suppliers.

The leading manufacturers have definitely done their homework and can deliver impressive solutions. And according to the rule 'no trend without exception' solutions also exists for companies, which do not want or can't automate production, to increase their competitive edge and not lose out. The Italian Savio company, for example, presented at ITMA Asia their new POLAR/E PREMIUM specifically as an alternative to automation!

As the specialist for powerful winders explained: Investment in higher productivity of individual machines is an approach that all textile companies in each sub-industry should investigate for themselves, if they are being threatened by automation from competition and they are not, themselves, able to automate. By the way - whilst the wave of fitting current automation technology is still in full swing within the textile industry, new and far-reaching changes are being announced by scientists. Research institutions including, for example, the Institute of Textile Technology of RWTH Aachen University are pursuing a vision that will bring us ever closer to fully-automatic production: the Industry 4.0. The description of a scientific paper from the institute is as follows: “The fourth industrial revolution, initiated by the Federal Government, is currently on everyone’s lips.

This automation revolution will help intelligent factories (smart factories) be created that employ automated production along the entire value added chain. This is achieved, amongst others, with the help of embedded systems, cyber-physical systems, human machine interaction and “networked production systems” and the internet of things and services.” Books such as, for example, “The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies” by Erik Brynjolfsson and Andrew McAfee promise even further potential. Whoever thought that the topic of automation in its cluster had already had its day, will wonder perhaps if, in the foreseeable future, there will be complete factories processing everything from raw materials to the finished product, in which ‘every instrument could accomplish its own work, or anticipating the will of others’.

ITMA ASIA + CITME 2014 confirm the big trends

From the 16th to 20th of June, the most important textile machine exhibition took place in Shanghai at the Shanghai New Internationally Expo Centre (SNIEC) with the ITMA Asia + CITME 2014. The fourth event of its kind, almost 1,600 exhibitors from 28 economies presented their products in 13 halls on a total of some 150,000 square metres of exhibition space.

The significance of a fair like the ITMA Asia + CITME as a parade for the preparation and implementation of investments is consistently high. And even if the investment was not in the foreground, the ITMA Asia is still a very important approach station to inspect new products and to discuss problems and solutions with experts, even in today's worldwide linked-up world of information.

Not forgetting the provision of possibility to discover new trends, the latest rumours and the chance to hold one's nose to the wind to glean that which the competition might be planning. In our post-report we want to describe our impressions and introduce some of the products presented there. The five-day show registered visitorship of around 100,000 from 102 economies - an increase of 7 per cent over the attendance recorded at the 2012 show. Over twenty per cent of the visitors were from overseas, the top economies being India, Japan, Chinese Taiwan, South Korea, Indonesia and Turkey. The countries of Iran and Pakistan were excluded, contrary to the ITMA Asia 2012.

In terms of exhibition space, Chinese exhibitors topped the list, boosted by a rapid increase in Chinese textile machinery manufacturing capacity and development. They were followed by participants from Germany, Japan, Italy and Switzerland. The biggest exhibition sector was spinning, followed by washing/dyeing/bleaching/printing/finishing, knitting and weaving. So much for the figures. Though impressive, they say very little with regard to the quality of the fair. In the preliminary fair report we speculated around the fact that the 4th event of its kind could become quite a special one. And from our point of view it fulfilled this prophesy from the outset.

This was completely due to the improved organisation; the ability to cope with the huge crush of visitors, whilst also distinguishing itself with a certain Chinese politeness, and with a certain hands-on mentality. When investment-willing visitors meet well disposed and very well prepared exhibitors, this creates the spirit which guarantees a successful fair. This spirit was unquestionably present at the ITMA Asia + CITME 2014. Mr Charles Beauduin, President of CEMATEX, said: “Most of our exhibitors were delighted with the high-quality trade visitors. The success of the show reinforces the reputation of ITMA ASIA + CITME as the most effective business platform in China and indeed the whole of Asia.”

Though the textile machine manufacturers can hardly look into the future and decline business offers, with the exception of the few sectors that suffered from the predjucial views of some exhibitors, business was good, indeed, very good. This is a little surprising because as we had previously pointed out in the preliminary ITMA Asia 2014 report, China wants to invest and must invest. The current 5 Year Plan requires this, as does the sinking number of skilled workers simultaneously requiring an increase in wages, the steadily increasing demand for better yarn and fabric quality, as well as other changes along the textile supply chain. Two factors of these changes point to the wise words that Mr. Wang had to say on the subject: “The 2014 exhibition showcased a comprehensive range of technologies from around the world. ITMA ASIA + CITME has now emerged as the must-visit event for Asian buyers sourcing a wide range of solutions to help them be more competitive. Hence, the products on display included those that boost automation and energy-saving features.”

According to a forecast by Global Industry Analysts (GIA), the global market for textile machinery is poised to reach US$22.9 billion by 2017. This is US$2.15 billion more than GIA forecasted for 2015 (+10.3%). The market is defined by a marked shift in demand from traditional machinery to more advanced technologies. Fuelled by increasing investments in textile production, the Asia Pacific region remains the greatest and fastest growing market for textile machinery.

It was striking that numerous exhibitors decided to exhibit their top products at the fair, turning the ITMA Asia + CITME into a genuine showcase event. The best example of this was Trützschler who exhibited their current flagship Card TC 11 model in addition to their Chinese-made TC8. Exhibiting top technology can have only one reason - that China wants to leave the middle segment and wishes to reinforce enquiries for high-end machines. On the other hand, the presentation will be probably also be influenced by the fact that an ITMA will take place next year, and the successors to some of these machines might already be ready. The increasingly changing Chinese setting might have far-reaching consequences with regard to intellectual property. For many textile companies it was of real advantage to use copycat methods, disregarding the patents of their textile machine suppliers to arrive at the pleasure of innovative developments without having to pay a suitable price. But remaining competitive on these terms could soon be over. In former times it was the European textile machine manufacturers who complained of Chinese plagiarism but nowadays it is the leading Chinese textile machine builder who is complaining, increasing internal pressure.

At the ITMA Asia + CITME press conference the organizers of the show's underlined their special attention to intellectual property and that there will be a rigorous protection of the rights. Charles CEMATEX President Beauduin pointed out once again to the fact that Chinese manufacturers also wish to protect their developed technology. In addition, everything at this ITMA Asia has been quite clearly regulated and all exhibitors had to sign an arrangement that they respected manufacturer's rights and undertook to display no machines which contravened this agreement.

In future, the distances might become greater between textile machine manufacturers once again, because innovation will enjoy protection. If this really does occur, performance and qualitative differences will again become evident between the textile machine manufacturers. Taken to its logical consequence, poorer quality machines will indeed have a growing effect on the textile enterprises. At the end of this process, a market settlement might be at hand. Textile enterprises, and the customers of these innovative and market-leading enterprises with their own research units, will be the winners.

In addition, the market settlement is still flanked by the fact that big companies are able to receive investment capital in China, while it is almost impossible for smaller companies to benefit from this, as reported by Edda Walraf, Rieter marketing manager.

It is also fitting that a lot of exhibitors from Europe stressed above all the quality of the stand visitors. Now, how can quality be measured here?

A qualitatively high-ranking visitor is one who knows what he wants and can also bring the necessary investment will, as well as the corresponding investment capital to the table. A visitor who makes high demands on the quality of the machine and who appears to have a clear and short-term purchase intention.

And one more development is worthy of attention. The Chinese domestic market should have a determining portion in future Chinese growth. However, the well-funded Chinese upper-classes, as well as the new upper-middle classes, are now asking for high-quality products. Fine Chinese cloth for the production of suits and costumes must now compete against the best Italian cloth, and the production of these materials is possible only on the best machines. We owe this knowledge to Florian Boch, marketing manager at DORNIER.

The German weaving machine specialists have had a hard time in the past positioning their superior weaving machines against the much cheaper machines from China, as although they are of higher quality workmanship, they also cost a corresponding amount. Of course, a huge amount of cheap clothing is produced on cheap machines and this is where the demand lies. DORNIER were able to successfully offer their weaving machines, for example the P1 rapier weaving machine or the Type A1 air jet weaving machine, in the technical textile segment because these units were able to cater for high-demand manufacturing. However, now the fight between the weaving mills to gain the custom of solvent Chinese clientele seems destined to increase in the clothing market.

For those who want to deliver top quality here, DORNIER is certainly a superior partner.

At this point we would like to acquaint you with the exhibitors and their exhibits. Amongst other things, we would like to introduce to you some of them, as well as providing you with an appraisal of the exhibitors at the fair.

Oerlikon WINGS POY 1800

Oerlikon presented solutions from **Barmag** and **Neumag** on an impressive booth. The new Oerlikon Barmag WINGS POY 1800 was first time shown at an exhibition worldwide. At a press conference in the evening Oerlikon CEO Stefan Kross and Vice President Andre Wissenberg explained their first choice solutions from melt to yarn. The company offers a comprehensive portfolio of advanced and innovative product solutions within the man-made fiber industry. Moreover, this year Oerlikon celebrates 50 years partnering with the Chinese Textile Industry.

One could clearly see that Oerlikon is standing proud on its jubilee, and just how much the Swiss company is connected with China. One man-made fibre segment employs 840 workers in 11 locations in China, and numerous Chinese people have worked for a long time for Oerlikon. In a regional balanced portfolio China is the biggest end market for Oerlikon. And nearly 80% from sales in China come from the man-made fiber segment. Furthermore Oerlikon has celebrated the 10 years anniversary of their e-save program. E-save stands for energy, economics, environment and ergonomics and is the companys promise for solutions which provide energy efficiency, less waste production, higher productivity and improvement of quality. 10 years e-save makes Oerlikon a pioneer in the field of sustainability efforts.

As usual **Rieter** offers the comfort of competence to their customers. Rieter presented all 4 spinning systems. Our darling of cause remains the J20 airjet spinning machine which has been extended to 200 spinning units. It now comes with a delivery speed of 450 m/min.
(*An article about air jet spinning machinery is available in TexData Magazine issue 9/10 2012)*

Rieter J20 Airjet

Savio presented latest innovations at a big booth decorated with the SAVIO letters and is very comfortable with the show. Savio' s highlight was the new automatic winder POLAR/E PREMIUM which is presented for the first time. It attracted a lot of visitors. The POLAR/E has a higher loading rate for feeding up to 72 spindles: the innovative twin sorting delivers two bobbins simultaneously. And it has a feeding bobbin capacity up to n° 3000 per hour: a new high-speed optical scanner reads the profile of the bobbin. All in all this innovative winder offers much more advantages and fits in total machinery layout freedom and full automation of the feeding process.

The new Savio winder POLAR/E PREMIUM (c) 2014 Savio

SSM presented a wide range of new solutions for dyeing/rewinding, air texturing, false twist texturing and sewing thread finish winding. For example the SSM TW2plus-W was shown for the first time in China.

The new formed **Saurer Group** had their premiere at ITMA Asia and held a press conference which attracted a very high number of journalists. Saurer CEO Daniel Lippuner introduced the group' s new E3 philosophy for innovation and sustainability. The three "Es" stand for energy, economics and ergonomics. All Saurer Group companies introduced their machines and services to the press. Saurer has first class machines in their portfolio like the Schlafhorst Autocoro 8, the new ZinserImpact 72, the CableCorder CC4 and Epoca 6 pro – the successful embroidery machine. An extraordinary solution for automation is the Autoconer X5, type V which has been presented for the first time with the most intelligent material flow technology FlowShare FX.

Furthermore Jan Roettgering, CEO of **Saurer Schlafhorst**, presented the Belcoro certificate to Liu Hongliang, the owner of Zouping Tongda Textile. The textile company from Zouping City employs two hundred staff producing 20,000 tonnes of weaving and knitting yarns annually in counts ranging from Ne 3 to Ne 40. Five Autocoro 8 machines are in operation in the mill.

Schlafhorst Autocoro 8

Trützschler SPINNING presented some of its top products like the card TC 11 and two machines that have not yet been introduced at a trade fair. The first one comes from the cooperation with Toyota and is the Truetzschler-Toyota SUPERLAP TSL 12. This machine for combing preparation delivers laps of the highest quality. Due to the multi-drive system, the speeds of the individual elements can be optimised with utmost sensitivity and precision. The result is a very uniform lap with perfect unwinding behaviour at the comber. The second introduction was the new Integrated Draw Frame IDF 2. Trützschler Head of Marketing Hermann Selker told us that the revision was based on the experience with thousands of first generation integrated draw frames on the market and that at the very heart of IDF 2 is a completely new drafting system. The first installations in rotor spinning mills show that today the use of an IDF system is vital for yarn counts up to Ne 30. Direct spinning of slivers from the machine combination Card TC11 and IDF 2 saves considerable costs and provides a higher yarn quality.

Trützschler Truetzschler-Toyota SUPERLAP TSL 12

Everybody knows that **DORNIER** offers excellent weaving machines. DORNIER presents a rapier weaving machine type P1, of model PTS 8/S20 C, nominal width 220 cm, with a high density filter fabric and an air-jet weaving machine type A1 of model AWS 8/S12 G, nominal width 190 cm, with a complex awning fabric. Both machines were equipped with the innovative FT (Fast-Ethernet-Technology) control system which guarantees high reliability and efficiency in woven fabric production as well as the new, patented, DORNIER drive concept SyncroDrive®. An electrical control line to a separate drive replaces the mechanical connection between weaving machine and shedding device.

Dornier Rapier P1 PTS 8/S20 C

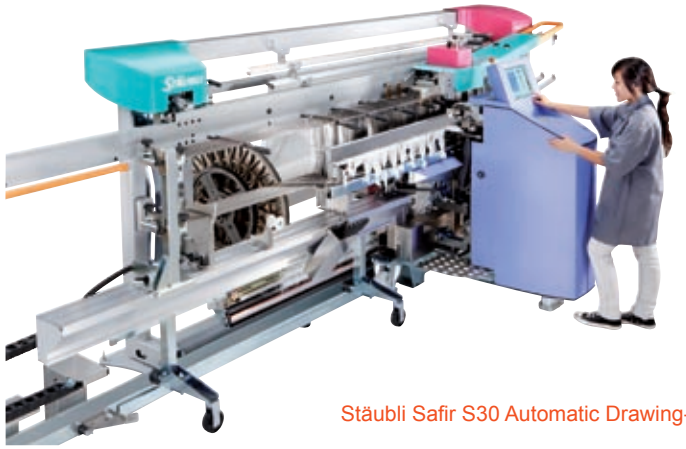
Realization of the dynamic change of close of shed when the machine is running also meets the requirements of demanding weavers. And this long-standing, Asian customers constantly benefit from these technical continuous developments. The demonstrations of cause addressed the DORNIER customers for technical textiles, where DORNIER is a market leader. However, the rising demand for quality of the fabrics stimulates the demand for DORNIER machines also in the home textile and apparel sector.

The **ITEMA** booth presented itself in a very modern and futuristic ambience. Mrs. Profir, Marketing and Communication Manager told us, that ITEMA started with two big deals in the show. Maybe one reason why the mood of the ITEMA people has been very enthusiastic. ITEMA presents two new airjet weaving machines: the A9500p and the A9500e. Group Sales & Marketing Director Mr. Fulvio Carlo Toma (left) is very comfortable with business at the show.

As Oerlikon also **Picanol** celebrated the weaving machinery expert's 50 years in China on a special press conference. Picanol Managing Director Mr. Luc Tack and Vice-President Weaving Machines, Marketing, Sales & Service, Mr. Johan Verstraete gave us an introduction to the impressing Picanol machines. One highlight was the Picanol OptiMax 4-R 190 weaving a fancy denim fabric. Greatest attraction has got the GTMax-i 4-R 190 weaving a seersucker fabric. This rapier machine is shown for the first time and is a further development of the existing GT-Max. The main highlights are the reinforced gripper system and heavier machine drive, which allows higher production speeds. Also the dobby and undermotion have been completely redesigned.

Picanol GTMaxi

Stäubli presents its most modern products. The installation equipped with a type LX3202 Jacquard machine with 12,288 hooks and Stäubli harness weaving tapestry and upholstery fabric on a 180 cm wide rapier weaving machine has been an eye catcher for many visitors.



Stäubli Safir S30 Automatic Drawing-in Machine

Fritz Legler, Vice President Marketing & Sales, explained us the SAFIR S30 drawing-in machine, a solution for automatic drawing and showed for example the S3060 electronic rotary dobby. Another weaving machinery engineer, **Toyota**, shows an impressive range of machinery, too.

Van de Wiele' s Communication Manager Danny Bourgois was very enthusiastic about the company' s new solutions for weaving. He thinks that Van de Wiele 's full electronic control is the future not only in carpet or velvet weaving.

The Texcar of **Groz-Beckert** seems to be a fair highlight whereever it is exhibited. The Mercedes is cut open and shows all textiles which are used in a car. And it has also been a brilliant idea of Groz-Beckert to demonstrate the needle work with the help of a glass knitting machine. In the center of the German needle specialist' s information stood an increase of productivity thanks to the perfect interplay of convincing products. And the company introduced a completely redesigned version of its app "myGrozBeckert", an informative and helpful application for the textile industry . The app is available in Google Play Store or Apple App Store in German, English and Chinese.

The **Karl Mayer** booth always has been full of people and the warp knitting world market leader is comfortable with the fair in particular with the higher number of visitors from outside China, told us Karl Mayer Vice President Sales and Marketing Oliver Mathews.

The new version of the myGrozBeckert app

As usual Karl Mayer presents latest innovations from their factories in China and in Germany. Great interest found the premiere of the HKS 2-M - a high performance trickot machine with an optimised cost:benefit ratio.

The new Karl Mayer HKS 2-M

The two-bar, high-speed tricot machines can now produce plain warp-knitted textiles even more efficiently. It is i roughly 20% faster than its predecessor. At a working width of 180", the HKS 2-M can reach maximum speeds of 3,200 min-1. The version with a width of 210", which can operate at up to 3,000 min-1, is setting new standards. This increase in speed has been achieved by optimising the knitting motion and making the bars even lighter. The HKS 2-SE is one of the models equipped with lighter knitting elements and was unveiled at the ShanghaiTex trade fair last year.

In addition to increasing the speed, KARL MAYER's engineers also focused on reducing the cost. Thanks to a number of clever modifications to the construction, the HKS 2-M is being offered at an attractive price.

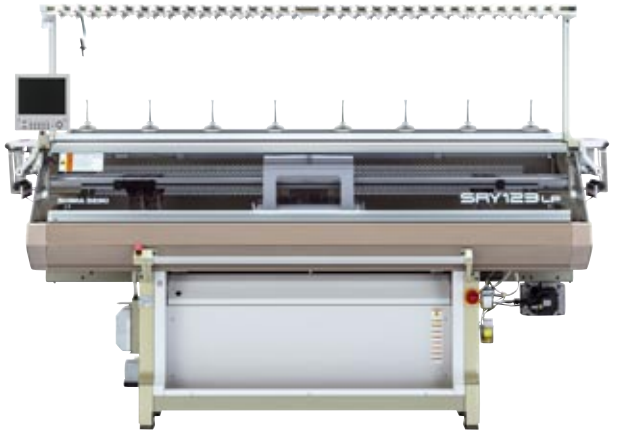
The 210”-wide machine is likely to be particularly well received by the market, thanks to its perfect cost:benefit ratio. This flexible, medium-stroke machine is especially suitable for producing non-stretch fabrics with a low stitch number, loose yarn running, and gauges of up to E 32. These mainly include technical and semi-technical textiles, for example, mattress covers, velour fabrics for the furniture industry, nets, sports goods, shoe fabrics and printing grounds. But tulle, stylish, open mesh fabrics and plain fabrics for the clothing sector can also be produced on the HKS 2-M. This all-round machine is also user friendly and operates reliably and accurately. This is due to its well-thought-out construction and its tried-and-tested components, such as the KAMCOS® computer platform, electronic speed control of the main drive, and electronic systems for controlling the fabric take-down and yarn feed.

Mayer & Cie presented a range of their circular knitting machines. The “glass booth” attracted many visitors and the stuff was so busy that they hadn’ t the time to talk with us.

Shimaseiki presented a lot of knitted goods on their neat booth and of cause new machinery, too. Marketing Manager Mr. Karasuno presented innovative fabrics made on the brand-new knitting machine SRY 123 LP.

The SRY 123LP machine features two loop presser beds mounted above its conventional needle beds for performing inlay and other techniques for producing unprecedented knitwear with woven textures, and fabrics for industrial textiles as well.

With the Benninger-Küsters DyePad the Swiss **Benninger** presented one of their top products for dyeing. CEO Gerhard Huber explained us the advantages of the machine and told us that the Küsters rolls are still unbeatable concerning perfection of the dyeing process. The demand for this machinery type is growing fast. “Copies of the machine are cheaper, but the dyed fabrics produced on it will not match the expectations of the buyers for quality”, Huber said.



Shima Seiki SRY 123 LP

BRÜCKNER Area Sales Manager Markus Nienhaus and his colleague presented the German manufacturere’ s solutions for finishing with the help of models like two years ago. Brückner had a lot of visitors right from the beginning of the fair and is very comfortable with the fair business.

Benninger-Küsters Dye Pad

Great interest has been for the BRÜCKNER VNE6 multi-layer stenter which is especially designed for all woven fabrics made of wool, cashmere, pure new wool, alpaca etc, told us Mr. Nienhaus. With a total of six fabric passages highest production speeds can be achieved on minimum space. The machine can be handled by one person since entry and exit are on the same side. Depending on the desired production speed the line can be supplied with two or three zones. Mr. Nienhaus said that their valued customer Shandong Nanshan Fabric & Garment Company, Ltd. is very satisfied with the performance of the recently installed multi-layer stenter of this type VNE6. With a yearly production of about 30 million metres, Nanshan is one of the biggest worsted woolen producers in China.

The German **Jagenberg** had its premiere at the ITMA Asia. The new German company is going to produce KÜSTERS textile machines in Germany and started in May. Under the umbrella of the Jagenberg Textile Division, Jagenberg develops, constructs, produces and sells not only foulards but also a wide range of textile machinery, e.g. for the dyeing, bleaching and mercerising of textiles.

Monforts from Germany presented an innovation form the company' s TechTex Division. The new modular coating system Montex-Allround ensures ease of adapting to the coating method required. The new patented concept provides the solution to integrate a wide variety of coating, printing and other innovative application techniques. The machine features individual modules for knife and slot die coating as well as modules suitable for flexo, gravure and rotary screen printing. Integration of special modules such as powder scattering and spraying is also possible. The modules are carried, cleaned and moved with a specially-designed trolley which provides easy access to the side of the stenter infeed with the minimum downtime.

Monforts Montex Allround

Santex Group have been presenting energy saving systems and also uses small modells to explain their huge finishing installations.

Leading dyeing machinery specialist **Thies** has decorated the booth with many textiles and is introducing its newest yarn dyeing machine in Shanghai. iCone consolidates highest ecological standards with technological intelligence to achieve tremendous savings in water and electricity consumption. Following the very successful introduction of the iMaster H2O, the next Thies star product will be the iCone, according to manager Mrs. Verena Thies, letting us know that demand is quite high. The big advantage of the Thies dyeing machines lies in the fact that the cloth can be dyed on just one side, saving large amounts of water and energy.

Thies iCone

Mrs. Lang and Mr. Heinz from **XETMA Vollenweider** introduced their new warp float cutting machine. XETMA Vollenweider has taken over the product range of the Austrian manufacturer Hämmerle.

Erhardt+Leimer Product Manager Bernd Wildegger told us that the company had excellent business in China in the last two years.

The world market leader for nonwoven production lines **DiloGroup** offers first choice quality made in Germany. Investing in high quality machinery is a must for Asian nonwovens producers if they want to boost their exports in nonwovens and want to close the gap to the leading producers in Europe. A major focus of DILO' s new equipment is also to improve operation efficiency, web quality and uniformity with positive effects on all staple fibre bonding processes.

DiloGroup presented its lines made in Germany and provided information about the various machines and services offered by its companies – DiloTemafa, DiloSpinnbau, DiloMachines and DiloSystems – to a large public, not only from China, but the complete Asian region as well as Australia and the Middle East. Considering rising energy and raw material costs, all visitors were interested in energy and raw material saving possibilities. In recent years DiloGroup has concentrated on developing new equipment to improve operation efficiency, web quality and uniformity with positive effects on all staple fibre bonding processes. All these elements are part of the "Dilo – Isomation Process" and aim at an even web mass for reduced fibre consumption as raw material is the biggest cost factor in textile production.

Dilo Needling Line

Andritz welcomed visitors from China and also many from other Asian countries. They told us that those contacts offer good opportunities to boost their nonwovens machinery business in Asia.

Mrs. Soell from **Autefa Solutions** told us that the nonwovens market is not growing so fast as it should. Business analytics are expecting rising demand for nonwovens from different industries in China like automotive.

Autefa Solutions Nonwovens Technology delivers turn-key lines as well as individual machines for nonwovens manufacturing, for example a balling press and the crosslapper Uniliner CL 88.

As two years ago the Chineses **CHTC** rent the complete hall 1 for all of their enterprises. Although this underlines the power and dimension of CHTC as the world' s largest textile machinery producer and probably brings synergy effects it could be better to divide the single companies to different halls concerning to their industry segment.

Uster CEO Dr. Geoffrey Scott gave u a very special insight talk about Uster and Jossi Systems. Later he explained the 'total contamination control' and the 'Jossi VISION SHIELD'. With Jossi Uster closed the gap of fiber cleaning and can now offer first choice control systems from ginning to yarn clearing.

TexTechno' s General Manager Sales, Mr. Marcus Hardelauf, is very comfortable with the development of his company in the last years. Together with the in 2004 aquired Lenzing Instruments TexTechno offers a wide range of testing and control equipment.

The President of the French textile Machinery association **UCTMF**, Bruno Ameline, told us at an informal press meeting that their member companies are very satisfied with the business in the last two years and also have good expectations for 2014.

At the **ACIMIT** press conference about latest News from the Italian textile machinery, President Raffaella Carabelli introduced the ACIMIT GREEN GUIDE. 110 exhibitors from Italy presented their machines at ITMA Asia.

At an ITMA evening event **CEMATEX** President Charles Beauduin gave a brief overview about the ITMA next year in Milano. He introduced the ITMA Sustainable Innovation Award and told the audience that there will be another World Textile Summit to be held on 13 November 2015. With music from Verdi and Puccini presented live by opera singers the evening offered a brilliant accommodation for the ITMA in Milano.

Conclusion

How could our conclusions be different than that of Mr. Charles Beauduin, President of CEMATEX and Mr. Wang Shutian, President of CTMA? We also found satisfied and very contented exhibitors who all mentioned the higher numbers of visitors from Asian countries, in addition to the positive quality of the visitors. All-in-all, the mood was even better than at the ITMA Asia + CITME 2012, or so it seemed to us, something completely understandable against the background of the last two years, which have been rather positive for most textile machine builders, and business at the fair seemed to echo this fact.

As for the textile industry, the ITMA Asia brings above all the knowledge that China is determined to strengthen and develop its position as the largest producer and exporter of textiles worldwide. And there's more. China strictly works on achieving the aims of the current 5 Year Plan: The construction of a high tech industry using the most modern machines and integration of automation solutions taking into account environmental issues and aspects like water and energy consumption.

This should not be a surprise really, but what is surprising is that the aims and directives of these Plans are so wide-ranging and effective.

From an economic viewpoint, the competition in China will become much harder during the coming years.

Varied access to capital and the implementation of intellectual property rights point to the fact that the gaps will become greater between the textile companies. If one speculates here, it is thinkable that this development is also a part of the plan. As a worst-case scenario, it improves the chances of settling companies in the hinterland using new incentives to create new jobs there and to fight against poverty.

Against this are the expectations that better quality could emerge from China and become available on the world market soon, maybe a little predictable, particularly as other Asian states could also invest in quality, that quality subsequently flowing into the Chinese domestic market.

However, that's enough gazing into the crystal ball. At the latest at the next ITMA Asia + CITME we will all know more, and, of course, when the new, 13th FYP for 2016-2021 is published.

All the participants have already say goodbye to the exhibition centre in Pudong, by the way. The ITMA Asia + CITME 2016 exhibition will be held at the new National Convention and Exhibition Centre in the Hongqiao business district of Shanghai from 24 to 28 October 2016.

Impressions ITMA ASIA + CITME 2014

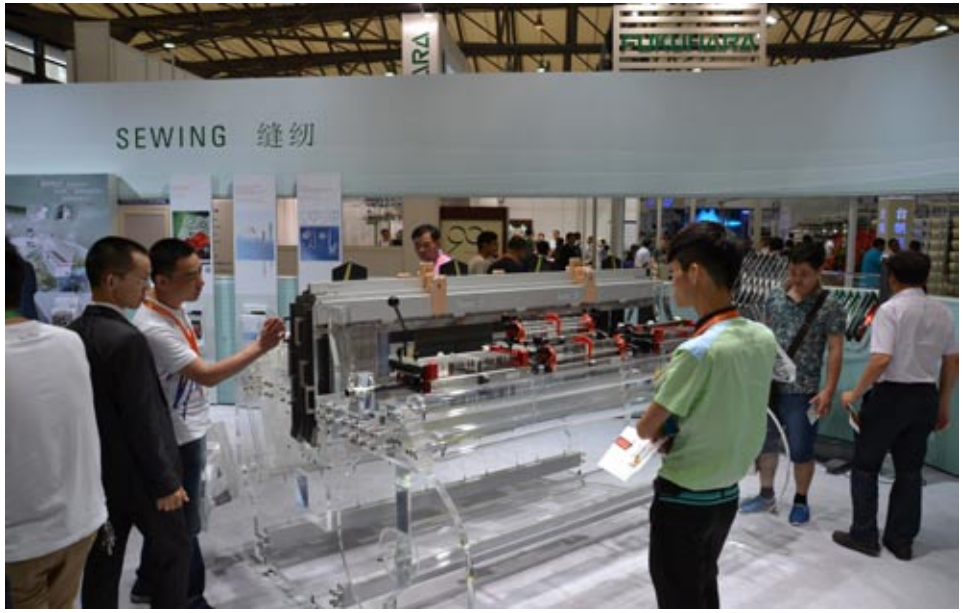
Oerlikon introduced the new Oerlikon Barmag WINGS POY 1800.

And Oerlikon celebrated 50 years partnering with the China Textile Industry.

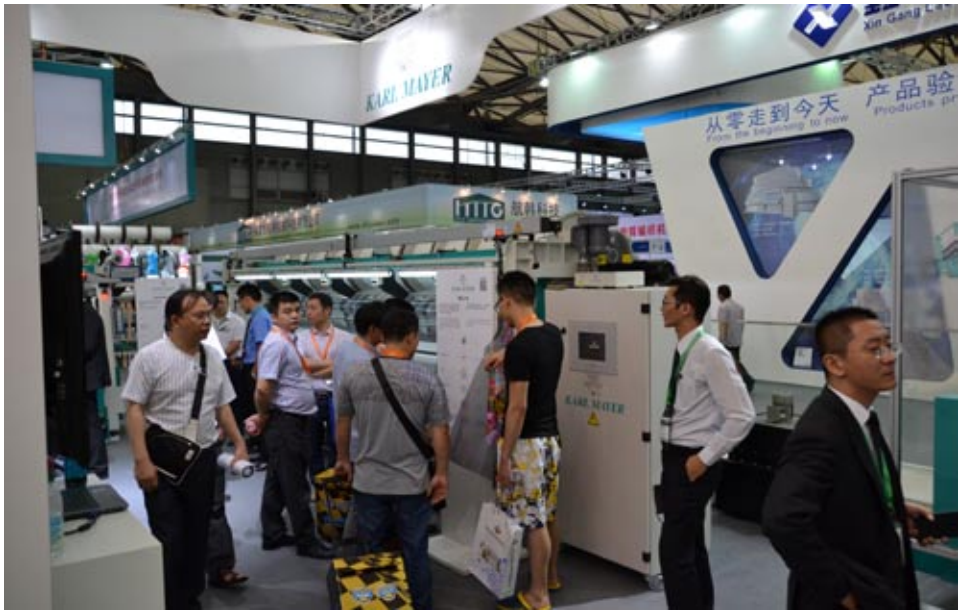
Savio‘ s highlight was the new automatic winder POLAR/E PREMIUM.

The new formed Saurer Group had their premiere at ITMA Asia and held a press conference to introdude the single companies and latest innovations.

Truetzschler introduced the Truetzschler-Toyota SUPERLAP TSL 12, a machine for combing preparation and the new Integrated Draw Frame IDF 2.

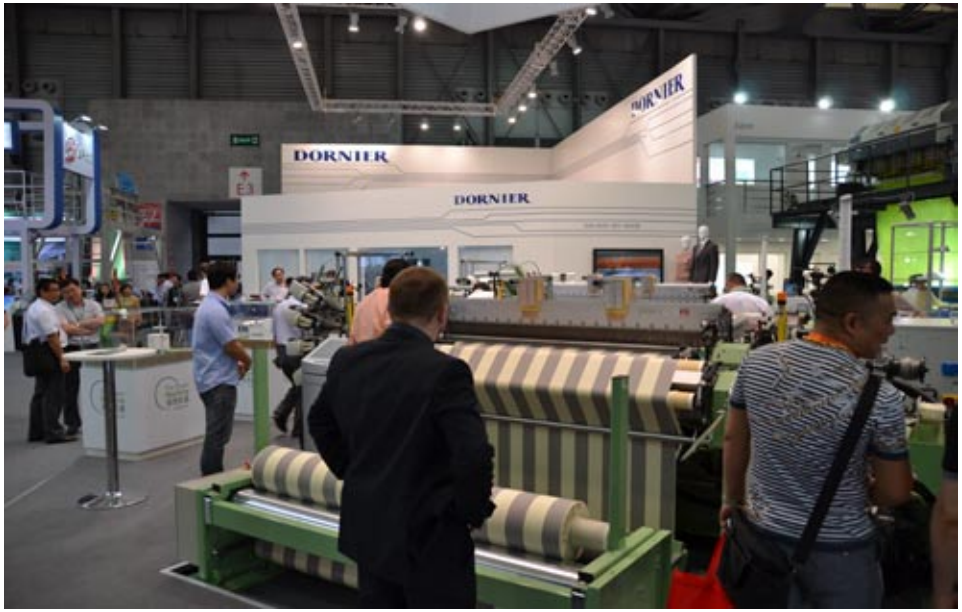


Groz-Beckert had the brilliant idea to demonstrate the needle work with the help of a glass knitting machine.



The Karl Mayer HKS2-M got a lot of attraction.

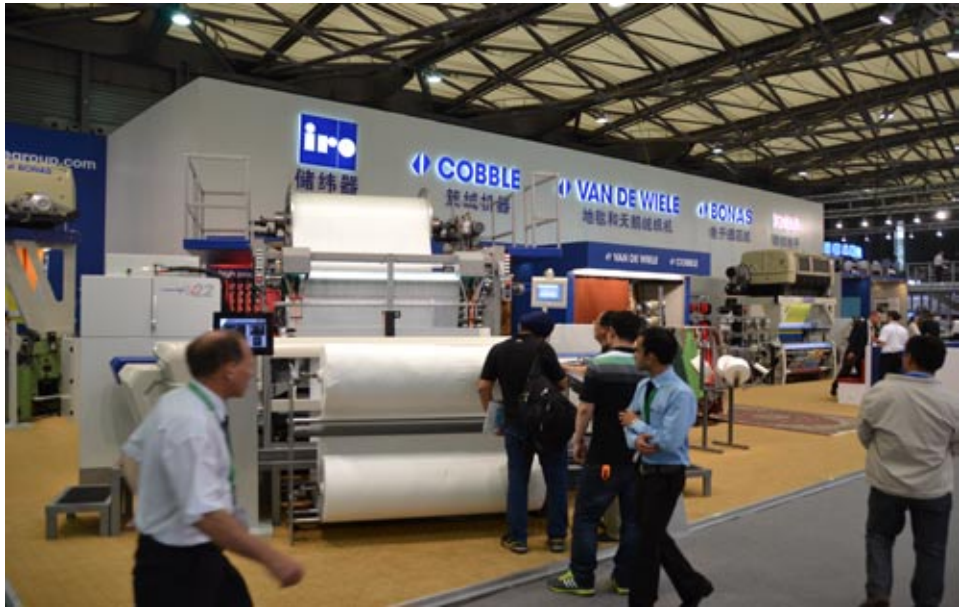
Itema Group Sales & Marketing Director Mr. Fulvio Carlo Toma in front of the A9500p.



Lindauer DORNIER presented its excellent rapier weaving machine type P1 and airjet weaving machine type A1 in different installations and configurations.

Picanol presented the new rapier machine GTMax-i 4-R 190 weaving a seersucker fabric.

Stäubli Vice President Marketing & Sales Fritz Legler explained the SAFIR S30 drawing-in machine.



Van de Wiele presented significant changes in carpet weaving technology.

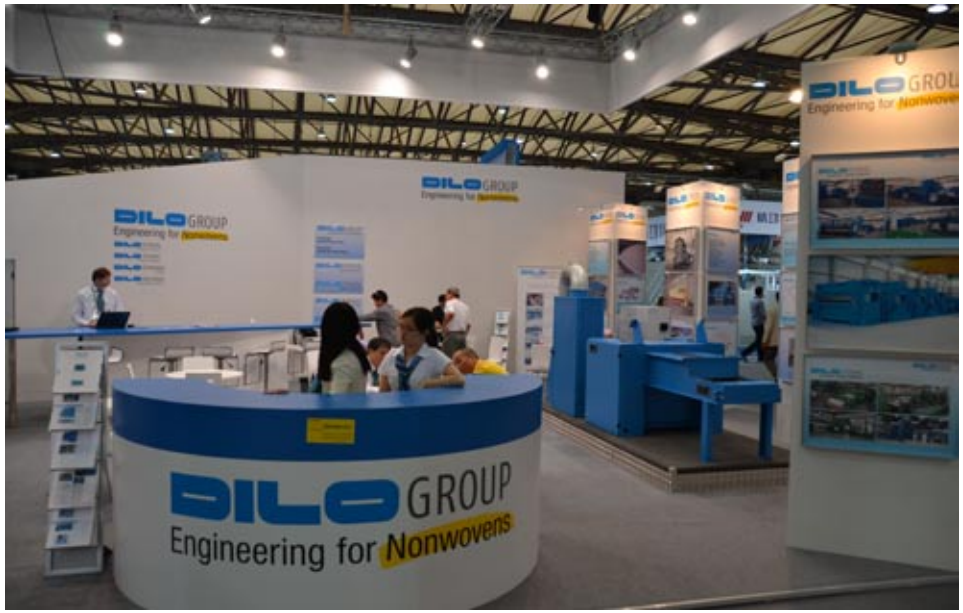
With Benninger-Küsters DyePad the Swiss Benqninger presented one of their top products for dyeing.

Brückner Area Sales Manager Markus Nienhaus (right) and his colleague presented solutions for finishing with the help of models.

Monforts presented the new modular coating system Montex-Allround.

Thies introduced its newest yarn dyeing machine iCone.

Autefa Solutions Nonwovens Technology explanied its turn-key lines as well as individual machines for nonwovens manufacturing.



The DiloGroup engineers answered a lot of questions regarding MultiFeed, MultiCard and the Hyperpunch needling mode.

Uster CEO Dr. Scott explained the ‚total contamination control' and the ‚Jossi VISION SHIELD'.

Erhardt+Leimer Product Manager Bernd Wildegger told us that the Company had excellent business in China in the last two years.

Interview with:
Fritz Legler

Vice President Marketing, Sales & Service Stäubli

"Our dobbies are an integral part of a weaving system."

You are Vice President of Marketing & Sales at Stäubli. What fascinates you about the weaving industry?

Fritz Legler: I have been in this industry for a while! The fascination of weaving is that it covers almost any aspects and complexities of forming a fabric. The outcome is that we pride ourselves of what we wear – „fine feathers make fine birds“ – or we use woven structures in 3D applications in aviation, for composite materials, finest blood filters, in agriculture, road building, erosion control and so forth. Weaving is one of the most complex disciplines in machine building or textile manufacturing. Furthermore, the fact that there are many process improvement opportunities in and around weaving, keeps me going and fully motivated. You probably know the saying: „Once in it – always in it!“ What would fashion be without woven structures!

Stäubli has roots in Switzerland and France. Is the secret of your success a combination of Swiss precision and French creativity? What, in your opinion, does Stäubli stand for?

Fritz Legler: It certainly holds true that the two mentioned cultures go well together. There is a refreshing cross-fertilization taking place between the two nations and we are close in all aspects of co-operation, communication and the common wish to satisfy our customers.

Having said this, it goes beyond the two countries mentioned by you – Stäubli is a „multi-culti“ set up – we have our own companies and Stäubli teams in some 25 countries, thus bringing together many different cultures, religions and languages in all time zones. Employees of our company make sure that there is respect for each other, fairness in our dealings with each other and above all sustainability in what we do. Precision, creativity and aptitude are some of the ingredients for our success.

At ITMA Asia, 60 dobbies and cams were at work at numerous stands of many global brands within the frame weaving area. Do you actually face competition in this area or is the biggest sales hurdle for your new machines their tried and tested predecessor?

Fritz Legler: We were very pleased that so many weaving machine manufacturers worked together with us during ITMA Asia in June 2014. However, there is clearly a competitive situation in areas of dobbies and cam motions. We still have a lot of work to do to convince everybody of our active warp control systems like dobbies, cam motions but also jacquard machines for that matter. We keep working on innovative solutions which fulfill customer expectations in areas of mechanical performance, longevity, ecological footprint or TCO (total cost of ownership) aspects.

At ITMA Asia, 60 dobbies and cams were at work at numerous stands of many global brands within the frame weaving area. Do you actually face competition in this area or is the biggest sales hurdle for your new machines their tried and tested predecessor?

Fritz Legler: We were very pleased that so many weaving machine manufacturers worked together with us during ITMA Asia in June 2014. However, there is clearly a competitive situation in areas of dobbies and cam motions. We still have a lot of work to do to convince everybody of our active warp control systems like dobbies, cam motions but also jacquard machines for that matter. We keep working on innovative solutions which fulfill customer expectations in areas of mechanical performance, longevity, ecological footprint or TCO (total cost of ownership) aspects.

Your latest products in the rotary dobbies sector is the S3060/3260 series, now in the 3rd generation. When and how should one invest in this area?

Fritz Legler: The simple answer would be: „Always!“ Our dobbies are an integral part of a weaving system. As such, the change into a new generation of dobbies is decided and implemented together with our OEM customers based on machine configurations, like weft insertion principles, textile - as well as mechanical performance requirements. Our end users will profit from an even more secure selection of heald frames through an improved locking system on our S3000 dobby series.

On top of this, there is a new electronic reading-in system thus bringing about a superior reliability at highest machine performance. Other important aspects are better TCO (total cost of ownership over life-cycle), less noise, hardly any vibration or a reduced size of the dobby itself.

You understand the weaving industry perfectly. What are the major challenges facing your customers currently and which solutions do you offer?

Fritz Legler: Some of the most adverse challenges of our customers right now are finding a market and being in a position to make money once they have found a market! Stäubli can help through flexible and upgradable technology, reasonable initial investment costs coupled with low maintenance and service costs over life-cycle of machines (TCO), active customer support and training as well as with solutions for automation and process control (e.g. enabling our customers to produce perfect warp beams thus increasing weaving efficiency and so forth). Furthermore, application and textile know-how can be shared with our end users.

A general problem of the textile industry, which also affects weaving, is a decline in the number of qualified skilled workers and coupled with a simultaneous rise in wages, it is obvious that the global trend is moving towards greater automation. It is generally thought that Stäubli has anticipated this as you offer a whole range within automation, for example, in weaving preparation.

What particularly impressed the weavers here at ITMA Asia?

Fritz Legler: You are hitting the nail on its head! Non-availability of trained and low-cost labor is one of the big topics in our industry across the globe. Automation and process control are therefore major aspects and existing and prospective customers took some considerable time during ITMA Asia to acquaint themselves with latest solutions offered by Stäubli. Some of the key points were drawing-in of very fine and very dense warps using highly transparent filament yarns where it would be hard for even trained persons to e.g. see warp ends from each other when trying to separate from a warp sheet to manually draw in into heald eyes and reed dents. Our SAFIR S30 can do this very reliably 24/7 drawing well over 200`000 ends in 24 hours. Other points were about automation in color detection of running colors of different shades in same warp and how to effectively select those warp ends for subsequent drawing-in at highest accuracy and speed.

What makes the SAFIR S30 mobile automatic drawing-in machine particularly interesting for your customers and how and when should they invest in it?

Fritz Legler: As hinted at above, the SAFIR S30 drawing-in machine for filament applications distinguishes itself through extreme performance in most delicate drawing-in jobs. We talk about a performance increase of up to factor 10 compared with manual drawing-in.

Substitution of labor, production of perfect warps and hence utmost weaving output as well as highest performance are key to get quick returns on investment.

And in which of your product areas do your major customers also invest in and what should medium-sized and small business look into, in order to remain competitive?

Fritz Legler: What we have not highlighted yet is the area of our Jacquard machines or complete carpet weaving systems under the brand of Schönherr. Another area would be our company Deimo offering state-of-the-art drive concepts for textile machines. All areas offer innovative solutions for our customers enabling them to stay ahead of the curve.

Technical textiles represent a big growth market. Do you recognize demand in this area and which specific solutions do you offer?

Fritz Legler: Looking at the total global per annum production of woven textiles, the field of technical and industrial textiles is growing the most year in, year out. It is suggested that annual growth rates would be anywhere between 2 – 5 %. The share within the cake of all woven textiles is supposed to be already 15 % or so. Woven technical / industrial textiles need a warp in most cases (unless woven off a creel instead of a warp beam).

Per definition, Stäubli should be present in all areas of technical textiles with warp preparation solutions – be it with warp tying equipment, leasing machines or drawing-in solutions. Furthermore, looking at the 12 categories as per Techtextil`s terminology (i.e. from Agrotech, Buildtech, Indutech through to Medtech or Sporttech etc), those woven constructions need shed forming technologies like dobbies, cam motions or Jacquard machines from Stäubli. On top of this, Stäubli offers complete weaving solutions for this area as well.

Which developments should the weaving industry keep an eye on in the future?

Fritz Legler: They must keep their machinery running flat out – it is like a plane on the ground costing too much – planes have to fly to bring in a profit! Keep weaving machines running at highest possible output with Stäubli technology inside. Prepare the best possible warps to avoid unnecessary weaving machine stops – keep looking at active warp control solutions from Stäubli.

Interview with: Johan VERSTRAETE

Vice-President Weaving Machines, Marketing, Sales & Service, PICANOL NV

“Teaming up with Picanol is the best guarantee for weavers...“

At the ITMA Asia 2014, you celebrated over 50 years „Picanol in China". What has made your relationship with China so special during this long period of time and what advice can you give entrepreneurs to be successful in China?

Johann Verstraete: Picanol has always had a very close relationship with the Chinese textile industry. As far back as the 1950s, we sent our first pioneers to explore this promising land of textiles. This was the period when Picanol sales managers, who at the time were still based in Ypres, travelled throughout China to present our weaving machines at a large variety of exhibitions and technical seminars spread all over the country. However, further success was dependent on the newly-installed machines being supported by a local service infrastructure. To this end, the Picanol Service Center was established in Shanghai in 1987. This saw local technicians providing installation services for new machines, together with the supply of spare parts and a local repair service for electronics. In 1994, Picanol set up PST - Picanol Suzhou Textile Machinery Works - and in doing so commenced our role as a local Chinese textile machinery manufacturer. This was particularly unique as we were the first foreign company of this kind in China. The People's Republic of China has always been a market of great strategic importance as we have installed tens of thousands of weaving machines at Chinese weaving mills. In recent decades, both thanks to and in tandem with our Chinese customers, we have constantly pushed our limits with regard to weaving machines. And it was also thanks to the confidence and belief of our Chinese customers that Picanol has been able to grow into the world leader that we are today.

The advice I would like to give to entrepreneurs going to China is that the main driver to set up a venture must be the local market potential rather than the attractive cost structure – as the latter is rapidly changing due to rising Chinese living standards. Next to that, always try to find the right mix between the strengths of your products and organization on the one hand, and the adaptation to the specific requirements of the Chinese customers on the other hand. The better you find this balance, the more successful you will be.

For exactly 20 years now, you have also been producing textile machinery in China for the Asian market, specifically the upper mid segment. Under what conditions would you advise a customer from Europe to buy a machine produced in China?

Johann Verstraete: Our machines made in China are not really targeting the European market: they were mainly designed for the Chinese and other emerging markets. They combine the Picanol robustness and quality, guaranteed by a high content of imported parts from Europe and a focus on quality management in our Suzhou plant, with a performance and feature level adapted to specific needs of the emerging markets. The European weaver usually has higher performance expectations and more needs for tailoring the machines – which he will find in our OptiMax, OMNIplus 800 and OMNIplus Summum ranges made in Belgium.

Your marketing slogan is „Fit to win“. In sports, you know exactly who the number one is because there are competitions. With technology, it is more difficult. You say that you can guarantee your customers that they are getting the absolute best looms that will turn them into winners. On what criteria are you basing that statement?

Johann Verstraete: Picanol weaving machines are a synthesis of technological know-how and experience built up over nearly 80 years and more than 300,000 machines built. Picanol today proudly has more than 130,000 weaving machines running in some 2,600 weaving mills worldwide. That is a lot of fabric, to say the least. And to stay ahead in this highly competitive industry, Picanol has always highly valued innovation. R&D, technology and continuous innovation are core tenets of Picanol's business philosophy. With R&D efforts aimed at creating the best solutions to its customers' weaving challenges, the company has been the first to introduce many revolutionary concepts in the weaving industry. The company currently holds more than 800 patents worldwide. Picanol will continue to expand its role as technological market leader by increasing the product range of its weaving machines and by offering applications for new market segments. The main challenge remains to strengthen the (weaving) performance, quality and cost competitiveness of the customer.

Is that a common trait of your customers? Do they want to be winners?

Johann Verstraete: Picanol has always had one main objective: to make our customers "fit to win." We aim to give them all the tools they need to be successful in their market: the machines and services, the know-how and dedication of our people. Our machines and services focus on being fast, reliable, flexible and cost-efficient in order to help our customers to win. And of course, when they win, we win too – as their business will expand and they will need more machines.

And what would you say it is that your customers appreciate about Picanol looms above all others and why is that?

Johann Verstraete: Teaming up with Picanol is the best guarantee for weavers of being competitive and profitable – now and in the long term – as our machines have always been focusing on performance, quality and versatility. It has always been the tradition of Picanol to be frontrunner in technological innovation of weaving machines. We keep investing in Research & Development with the focus on customer benefit along our five base lines: help our customers to get the maximum out of their market (flexibility and versatility), time and people (performance, reliability and ergonomics), and at the same time reduce waste and energy consumption.

What does a weaver have to do today strategically to succeed tomorrow? Just buying Picanol is not enough, is it?

Johann Verstraete: It might not be enough, but it will certainly help a lot... But indeed, we realize that just buying the best machine is not enough: training, service and support are as crucial to get the maximum out of your investment. This is why we have training centers in Belgium (which just moved to a brand new building with top class facilities), USA and China, allowing our customers to get dedicated training for their machines and challenges. We of course also offer on-site training at the customer's mill as well. Moreover, we have local sales- and service centers in the bigger markets, as well as local service technicians in smaller textile countries trained at least once a year in Belgium. This approach allows us to have a qualitative technical support close to every customer. Combined with a quick response spare parts supply, and the extensive range of "Weave Up" upgrade packages, the customer is geared with a high performance solution for all his current and future needs.
One of the main challenges which a weaver needs to take into account nowadays is the low visibility and predictability of his market: today's success does not guarantee tomorrow's success. To this extent, Picanol offers a wide range of machines: airjet and rapier (positive and negative), reed widths ranging up to 540 cm, high and mid segment machines, all characterized by a more than average flexibility and versatility. The modular building concept of our machines allows them to evolve along with the shifting needs of our customers' markets.

In June 2010, you celebrated the delivery of the 300,000th loom. This is a more than impressive number and means that on average 4054 units annually or 11 units daily were sold since 1936. In addition, you invest strongly in research and development. Can the technological development capabilities of the machines maintain such numbers both now and in the future? Or is the technological leap not really expandable even with significant R&D investment?

Johann Verstraete: Well, this is even an underestimation, as the 300,000 machines were all made in Ieper (Belgium), so the production of our plant in Suzhou (PRC) was not even included. Since 1936, the company has constructed more than 300,000 looms. Since the first Omnium in 1936, Picanol has launched over 15 new models. We can still produce better machines and develop better technology – our engineers are all too happy to take on the challenge – even after having been for 75 years in this business they still see a lot of opportunities for further innovation and improvement.

At the ITMA Asia 2014, you presented a total of 7 machines - 4 airjets and 3 rapiers. You have a total of 9 machines in your portfolio, 4 of which are built in your factory in Suzhou, China. You recently extended the factory with a 4000 square meter warehouse. Do you see the future of weaving as being in Asia or can Europe and America catch up particularly in the clothing sector with ultra-short time-to-markets?

Johann Verstraete: No doubt that quick response retail systems - which are the most successful retail models in Europe and the Americas - are a challenge for the Asian weavers and an opportunity for the American and European weavers. In a lot of cases, however, we tend to overlook the growing importance of Asia as a key market for fabrics: the fast growing middle class in Asia already has the same requirements as the Western customers: fast fashion, immediate availability (including internet trade) and an abundance of choice. So we see opportunities for all players in the market, as the total market for fabrics will continue to grow – a simple consequence of the worldwide growth of people moving from poverty into middle class. We do not see it as an 'or-or', but as an 'and-and' story, where both Western and Asian weavers will win – if at least they make the right choices for the future.

4,000 GT MAX rapier looms were delivered in 2011 and 5,000 looms by May 2012. At the ITMA Asia, you presented the successor, the new GT-MAX-i. What does the „i" stand for and what is new compared to the GT Max?

Johann Verstraete: This new weaving machine is a further development of the existing GT-Max. The main highlights of the GTMax-i are the reinforced gripper drive system and more powerful machine drive, which allows higher production speeds. In addition, the dobby and undermotion have been completely redesigned to cope with the higher performance. The 'i' stands for intelligence, interactivity, and 'increased performance'.

How do you help your customer when choosing a machine, if he would like to produce a very specific, let's say a technical, fabric?

Johann Verstraete: Everything indeed starts from the fabric specifications and 'environmental' parameters like type and quality of yarns, power- and labor cost, size of the set up etc. Based on the mix of these parameters, we will propose a machine – or a mix of machine types – which responds in the most efficient way to the needs of our customer. The fact that we have a wide product portfolio allows us to really come forward with the optimal solution for the customer without any bias imposed by a 'missing link' in our product portfolio.

Let's stick with technical textiles. "Picanol has always been a forerunner in adapting its weaving machines to enable them to weave industrial fabrics like tarpaulins and conveyor belts. Also today, Picanol is still focusing on technical textiles," says a press release. In your opinion, will the market for woven technical textiles become greater than the classic market for clothing and home textiles?

Johann Verstraete: Picanol has always been a forerunner in adapting its weaving machines to enable them to weave industrial fabrics like tarpaulins and conveyor belts. Since the very start of Picanol in 1936, Picanol has been involved in technical textiles.

In the beginning this was mainly with reinforced fly-shuttle-machines producing canvas-tents, tire cords and glass-fibers Today, Picanol is developing and selling weaving-solutions that cover most of the (many) segments in Technical Fabrics, thereby combining its state-of-the art technologies, made possible by the strong innovative focus that brought it to the top in apparel and household weaving, combined with strong R&D and services teams that adapt the weaving machines to the specific needs of the technical weavers. Technical fabrics will for sure grow in absolute volume and in relative market share.

Whether it will become a bigger market than apparel and household may not be the right question – as we are of the opinion that the borderline between technical and non-technical will become less clear: in 'mainstream' clothing, e.g., we see more and more technical fabrics or aspects of technical fabrics sneaking in, providing more comfort for the person wearing them. Fabrics which were used only for e.g. military applications find their way to the consumer market and thus become more mainstream fabrics.

The supply chain is changing. Sustainability, automation and fast fashion are referred to here as factors of change. Where do you feel these changes? Which of your products address these changes?

Johann Verstraete: Concerning sustainability, Picanol has always preferred to confirm in the facts rather than using slogans: we were the first to move to the direct drive for weaving machines with our SUMO drive concept in 1996, of which over 60,000 are running successfully worldwide right now. Not only the power consumption of our SUMO is substantially lower than traditional drive concepts, it also reduces maintenance and service cost dramatically. At the same time it offers customers the ease of use needed to run each article at its optimum speed – with even the possibility to automatically adapt the speed within the article in order to use every pick at the optimal performance/consumption ratio. Other features like Airmaster (allowing real time air consumption monitoring and leak detection) and ARVD+ (adapting relay valve timing to the speed of the yarn and to adjusts the timings within the pick) are just some examples of our long term dedication towards a sustainable textile industry, saving the scarce resources of our planet.

Concerning automation: all entrepreneurs looking at the future see the raising cost and lower availability of labor as an impetus to invest in automation. More than five years ago, we concluded an important order with an Indian customer who went as far as going for maximum automation 'as a matter of principle, even without calculating' – as he was convinced that this was the way to go. Time has proven he was absolutely right. In the meantime, also weavers in emerging markets are more and more interested in the automation possibilities on our machines.

Concerning ‘fast fashion’: already in the nineties we launched our (still) unique Quick Style Change system, allowing customers to handle short production runs with a minimum of machine downtime. Since then, many customers have bought and successfully used the system – some of them even go as far as saying that this is the main reason of their success in the nowadays’ markets, where reaction speed is key.

You have been with Picanol and active in weaving for several years. What do you particularly appreciate about Picanol as a company and what joy does weaving bring to your life?

Johann Verstraete: Picanol is simply a fantastic company to work for. Since many decades, we have been living together in close communication with our customers. This allowed us to bring innovative products and services in function of their existing and future market needs. Customer orientation at Picanol is not a theoretical concept – it is our reason of being. This also implies that our shareholders allow us to work for the long term, and not just for the next quarter. Even in the deepest crisis years, they insisted on investing the same amount of resources in research and development as in the good years. In such a context, all associates can work as a team on the same project: develop, build, and install the best weaving machines in the world. And support them with the best service, in order to grow our customers’ success – helping them to be ‘fit to win’. Being a part of this team, and being in the privileged position to meet our numerous happy and successful customers is my biggest joy.

Reading fabric appearance: the yarn tells the story

by Uster Technologies

Total customer satisfaction is every spinner's goal and reputations depend on it. Every critical yarn parameter must to be tested to ensure that the resultant fabric meets expectations, whatever level of the market is being supplied. All the evidence confirms it, from the world's most successful yarn producers, and from detailed practical analysis.

There are two main types of yarn user: those committed to weaving or knitting high-quality fabrics, and those which serve 'commodity' applications. Both groups have their own specific requirements – and it's essential that spinners understand these needs and how to meet them. What is clear, though, is that yarn testing is fundamental to customer satisfaction, in every case.

Major customers, demanding requirements

The PALLAVAA Group is a successful spinning company in India, specializing in Viscose, MicroModal, Modal, Polyester, Bamboo, Supima and its blends, and pure cotton. Established in 1995, the group has built a market-leading position, today supplying big-name brands. “We are proud to be a supplier of NEXT, Marks & Spencer, H & M, Victoria’s Secret and others,” says Durai Palanisamy, Executive Director of PALLAVAA Group. Of course, PALLAVAA is not alone in its desire to work with major retailers. And the group is quick to acknowledge that its ambitions in this direction depend on efficient quality control which meets the requirements of demanding yarn buyers. In fact, long-standing customer relationships, based on high standards, call for a whole range of yarn quality parameters to be controlled: evenness, imperfections (neps, thin and thick places), hairiness, remaining defects and foreign fibers. Measurements from the USTER® TESTER 5 provide reports and analysis on evenness, imperfections and hairiness, while remaining defects and foreign fibers are covered by the USTER® CLASSIMAT 5. Quality-conscious spinners have trusted in these two instruments for decades for reliable and accurate data. These laboratory testing instruments’ data can tell the yarn quality story – and even predict how the final fabric will look.

Every quality parameter matters

It’s also true that some spinners, mainly serving the lower end of the market might believe that evenness (CVm) testing could be sufficient for their needs. But that view is mistaken, says Gabriela Peters, Product Manager for Yarn Testing within Uster Technologies: “CVm is indeed a relevant yarn quality parameter, but to predict the final fabric of a yarn it is essential to test other parameters too.”

Comprehensive testing at the Uster Technologies laboratory in Switzerland has shown that yarns with comparable CVm values can produce fabrics with obvious differences in appearance. In the tests, Ne24 cotton yarns from 10 different suppliers had insignificant differences in their CVm values, which could lead wrongly to the conclusion that the fabrics would look the same. Further test data from the USTER® TESTER 5 showed results for neps which were close in 8 of the 10 cases, in which the yarns had a nep value below the 25 USTER® STATISTICS Percentile (USPTM). But one of the yarns had a much higher nep value, even exceeding 50 % of the USTER® STATISTICS value.

“We know from experience that fabric knitted from yarn with a nep level over 50 % will show little pilling on the surface,” says Peters. The yarns were also tested for hairiness – and here the test results varied even more widely.

Values ranged from below 25 % USPTM to above 95 %.
"Fabric made from yarns with such different hairiness values will never ever look the same, and as these test results demonstrate, spinners testing only yarn evenness are making a potentially serious error. They would clearly be wrong to place any confidence in producing yarns to meet customer needs under these circumstances."

Common practice or best practice?

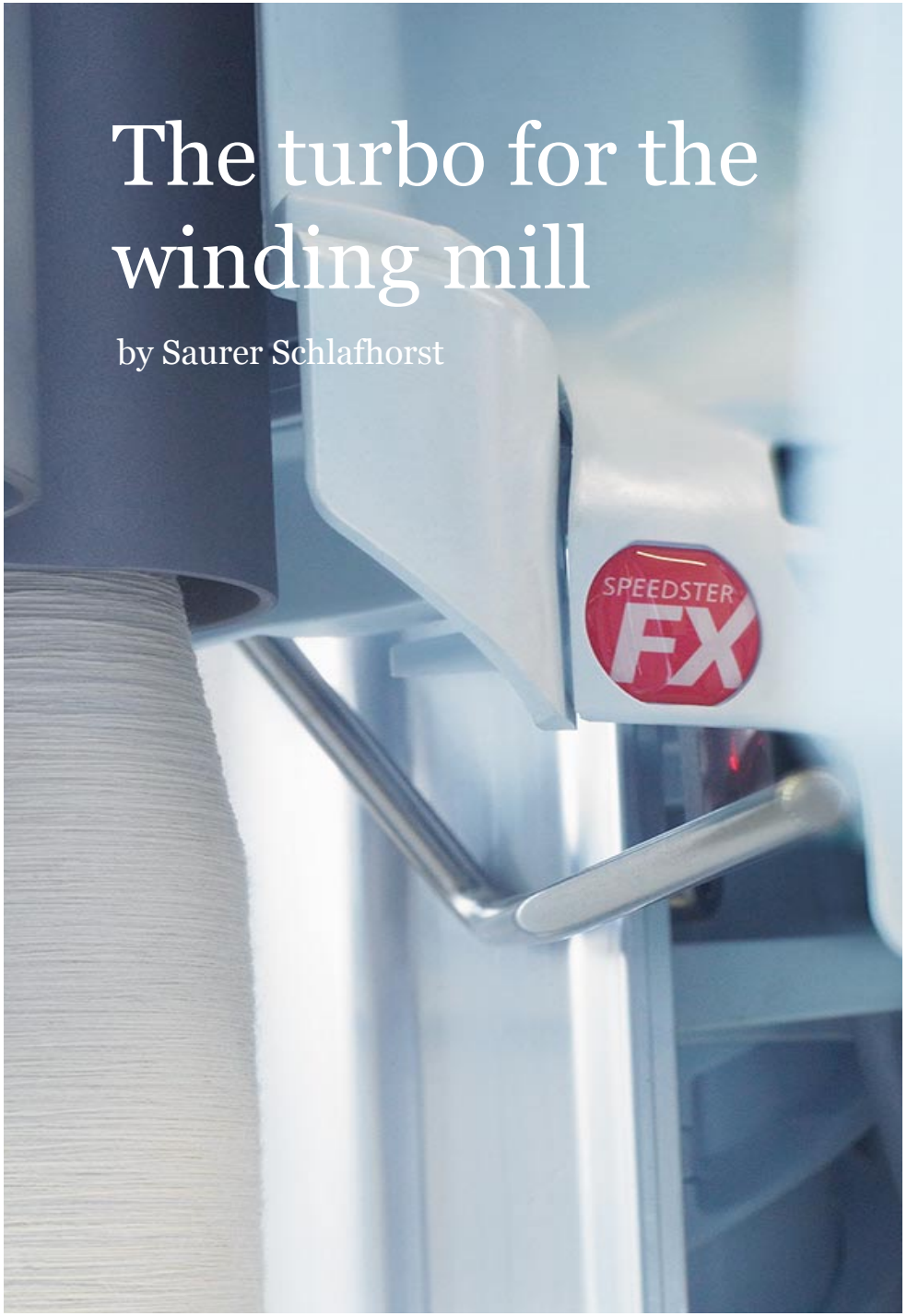
Some yarn users have developed a policy of taking sample packages from a yarn lot and 'testing' them by running the yarn through their weaving or knitting machines. "The effort of knitting or weaving a fabric can be reduced to the minimum or eliminated if you have a yarn test report containing reliable information relating to fabric appearance," says Peters. "The USTER® TESTER 5, the heart of textile quality control, provides testing data which can predict exactly how a fabric will look and feel. The USTER® CLASSIMAT 5 identifies the number of disturbing thick and thin places, helping to assess fabric defects."

Together the parameters measured by USTER® TESTER 5 and the USTER® CLASSIMAT 5 can help to assess fabric appearance issues and downstream performance. Both instruments correlate all quality parameters to the USTER® STATISTICS value, for easy comparison.

Understanding yarn quality control is crucial if spinners want to develop and maintain a customer base to be proud of. That will only be possible when consistent quality is guaranteed by hard facts and reliable data, not left to chance or based on half-hearted testing. Spinners without an efficient quality control concept risk losing a lot more than just the odd customer – they are putting the good name of their entire business on the line, as Durai of Pallavaa Group underlines: "We are obliged to the customers, but also to our own reputation, to make sure that fabric made from our yarns leads to satisfaction. A comprehensive quality control is the least we can do."

More information on how yarn quality can affect fabric appearance is provided in the USTER® NEWS BULLETIN No. 49.

Write to info@uster.com using the subject `UNB49´ for your free personal copy in a pdf-format.



The turbo for the winding mill

by Saurer Schlafhorst

Competition is tough in the growing market for denim. To stay ahead of rival companies successfully in this fiercely contested market, optimally configured machines offering maximum productivity are a must. The Autoconer is the firm favourite for the most efficient winding process giving the best technological value in denim production.

In an extremely large-scale comparative study, the Schlafhorst Technology Center worked out the maximum productivity potential of PreciFX and Speedster FX, thus successfully demonstrating their superiority. More than a tonne of denim yarn was processed under real conditions. The results exceeded all expectations: the winding speed was increased by 25% compared with rival machines with drum winding systems that were included in the study, while the package weight was augmented by 17%.

Fierce competition in the growing denim market

Two years ago, the production of denim wovens broke through the magic barrier of 7 billion yards per annum. Global annual sales of denim jeans are estimated at over USD 66 billion. Whether as standard or premium applications, as „classic“ cotton grades or increasingly as a blend of cotton with an elastane core giving more comfortable wear attributes, denim garments are still in growing demand. For years Schlafhorst has been the preferred supplier for many large and small manufacturers of denim yarns worldwide.

For Schlafhorst customers, increasing their competitiveness through greater productivity, optimised process sequences and reduced machine downtimes in downstream processing are key factors in prevailing in this demanding mass market.

Extensive laboratory tests demonstrated the top yarn quality

1 tonne of yarn wound

The Schlafhorst textile technologists had more than a tonne of denim yarn on bobbins at their disposal in this practical study. The yarn in question was a single weaving yarn of 100% cotton for warp and weft with a count of Ne 7. The task on the one hand was to fully utilise the productivity potential of the Autoconer X5 in combination with PreciFX and Speedster FX without diminishing the yarn quality. On the other hand, focusing on maximum efficiency in the downstream process, a package design was developed that guarantees improved unwinding behaviour in downstream processing on the warping creel and in the weaving mill.

The practical values obtained on a rival machine with conventional drum winding, the capacity of which had already been fully utilised in a customer‘s mill through maximum optimisation, were used for comparison purposes.

Winding speed increased by 300 m/min

Thanks to an optimal configuration of reduced yarn tension and a variably adjusted number of turns, the Schlafhorst experts attained a winding speed of 1,500 m/min. This is 300 m/min or 25% more than on the competitor‘s drum winding machine, which was already operating at the technological limit of 1,200 m/min for this yarn. In addition to the increased winding speed, the Schlafhorst technologists also recorded fewer yarn breaks, because Speedster FX reduces the yarn tension especially in the critical final third of the bobbin, thereby considerably reducing the number of tension breaks. In consequence, fewer machine stoppages and higher winding speeds lead to a huge boost in productivity in the winding mill.

Better yarn quality compared with the rival machine

In spite of the much higher winding speed, the quality of the yarns wound on the Autoconer X5 was better compared with the yarns from the rival machine. Decisive contributory factors to this are the 30% lower yarn tension and the gentle yarn detachment from the bobbin by Speedster FX. As well as the reduced IPI values, the increase in hairiness was lower following winding on the Autoconer X5 as on the conventional drum machine.

17% more yarn on each package

Another result of the marathon study is striking in two respects. Thanks to the unique digital yarn traversing technique of PreciFX, it proved possible in combination with Speedster FX to increase the package weight by 17% for the same diameter. A higher weight for the same volume means 17% more yarn in the transport container, a significant advantage in the face of rising logistical costs. The reduction in transport and storage costs achieved thereby directly increases competitiveness. The second important advantage of this higher package content is the much longer package runtime. This yields attractive benefits in downstream processing, such as a lower staff outlay due to less package handling and higher efficiency ratings on account of fewer downtimes caused by a package change.

Machine	Rival Machine	Autoconer X5 PreciFX + Speedster FX
Winding speed [m/min]	1,200	1,500
Yarn tension [cN]	74	50
Angle of wind [°]	30	Variable, linear
Package format	cylindrical	cylindrical
Package weight [g]	3,950	4,600
Package diameter [mm]	320	320

The better package comes out on top

Yarn quality and costs are not the only criteria that are decisive in the highly competitive market for denim yarns, however. In downstream processing, the unwinding behaviour of the package and the take-up speed it facilitates count above all. Here the power of PreciFX can be exploited to the full. For example, a higher take-up speed can be achieved with a round package flank on the flank side in the take-up direction, which is not possible with drum packages. The variable number of turns and thus the variable angle of wind over the entire package build also reduce the yarn break rate in the normally critical diameter range up to 130 mm.
These are unique advantages for Schlafhorst customers.

An impressive demonstration of technological superiority

The extraordinary outlay on this study of technology and productivity was worth it. The Schlafhorst team of experts was able to demonstrate the technological superiority of PreciFX and Speedster FX, and thus the outstanding superiority of the Autoconer, in an impressive manner. The optimal combination of these two aggregates opens up the maximum quality and productivity potential.

PreciFX and Speedster FX ignite the productivity turbo in the winding mill and offer a reliable guarantee of the desired yarn and package quality. More metres per minute, more yarn per package and excellent yarn quality - this is how sales spinning mills achieve decisive advantages in competition. In addition, PreciFX ensures that every package becomes a sought-after branded product with outstanding attributes in downstream processing.

The results can be applied to other yarn counts. Elastic core yarns of cotton and elastane, with more comfortable wearing properties that are especially valued, should be mentioned in particular here in the denim field. For yarns of the count Ne 8 (CO / EL) the Schlafhorst technologists achieved comparable increases in winding speed and also higher-quality package formats. However, PreciFX and Speedster FX also offer ring spinning mills distinct competitive advantages in other applications in any yarn count. The Schlafhorst Technology Team is always ready to demonstrate this.

New design, large format: the highly economical PreciFX package makes a convincing impression

Autefa Solutions is growing in the future market „composites“

by Autefa Solutions

Airbus' third A350 XWB flight-test aircraft featuring a distinctive "Carbon" signature livery to reflect its primary construction from advanced materials (c) 2014 Airbus.
(The photo has no programmatic link to the article.)

The machine manufacturing group Autefa Solutions reports a good business situation and increasing employment. The reason mentioned is the growing demand for its machines for the production and recycling of composites, especially in connection with carbon fibers.

Composites are bonded materials which have better properties, such as higher rigidity (stiffness) or elasticity compared to the basic material. Composites often are replacing steel, in particular for the purpose of saving weight or avoiding corrosion. Whereas composites from glass fibre reinforced plastics are well known and have been used in automotive industry, aircraft industry and boat building industry for many years, composites from carbon were a niche product for a long time due to their high production costs.

This should change now. Due to the know-how and the competence in automation solutions of companies like Autefa Solutions, the processing of composites from traditional methods to industrial maturity is increasingly being developed.

Recently this milestone was impressively demonstrated by the German automotive manufacturer BMW.

The chassis of the electric car BMW i3 is made of light carbon fiber reinforced plastic (CRP), which is well known for its high rigidity. The series production of i3 could thus facilitate the breakthrough of carbon fibre and keep the promise to be the automotive industry's material of the future. Components made of CRP are up to 50% lighter than the same parts made of steel and up to 30% still lighter than aluminium parts. Thus carbon is of essential importance for the lightweight design of electric vehicles. Previously carbon fibre reinforced plastic (CRP) was only used in formula 1 cockpits. This is a start signal for the industry, Autefa Solutions also benefits from.

Autefa Solutions headquarter in Friedberg, Germany

The German company has begun very early to develop advanced technology for the production of composites in order to achieve a leading position in this future segment.

In cooperation with several key customers and universities the in-house research and development has improved the machines and manufacturing processes over several generations and can now profit from the growth of the market thanks to the high level of competence.

Dr. Stefan Schlichter, managing director of Autefa Solution hereto explains:"We are very happy with the development in the composite market and we expect that the demand for our customized solutions in this segment will continue to grow at a high level. We have invested a lot in this project and have acquired a very high competence, which results in a great demand for our state-of-the-art technology "Made in Germany".

Since 2007 Dr. Stefan Schlichter has been acting as managing director for Autefa Solutions and affiliated companies and heads the Autefa Solutions Group with its headquarters in Friedberg and locations in Italy, Austria, Switzerland, USA and China since 2011.

The 57-year-old doctor of engineering concentrated his interests on the application possibilities of Composites already while he was a student and has consequently set up a network of international specialists since then. Today he enjoys an excellent worldwide reputation and is an acknowledged expert at congresses such as the forum Composites Europe, which will take place in Duesseldorf in October.

There he will give a lecture on the topic: ” Automation of logistics processes in composites production” and hereby integrates the automation technology as a further business field of Autefa Solutions. Beyond the interests of Autefa Solutions Dr. Schlichter also takes over a lot of responsibility to establish this still young industry.

Autefa Solutions Thermobonding & Drying Oven

In May he was elected as the speaker of the Forum Composite Technology of the German Engineering Federation (VDMA). Since August 2014 he represents the forum on the management board of Composites German Trade Association, which is a common umbrella organisation for four associations and organisations of the German fiber composites technology.

Purpose of the umbrella organisation, founded in August 2013, is to strengthen the German composites-industry and –research, to determine common positions and to pursue overall interests.
In its four business fields and thus large portfolio comprising machines and production lines for nonwovens, logistics solutions for fibres, machines for wool and worsted yarns and automation solutions, Autefa Solutions offers different solutions for carbon composites.

These are machines and lines for the precursor production, for carbon fiber production, as well as for carbon fibre recycling and further processing to nonwoven products.

For precursors – in this case it is a PAC tow – Autefa Solutions produces special layering devices. In the carbonising plant the tow is further processed to carbon fibres which are approx. a tenth of the diameter of a human hair. For carbon fibre production itself Autefa Solutions offers solutions for the automation of the bobbin handling. The concept comprises the fully automation of the entire process chain, which is bobbin transport and disposal, creel automation and palletizing of the bobbins.

A topic especially in demand is the recycling concept for carbon-composites production waste, developed for the automotive industry, which includes the further processing to nonwoven products.

Autefa Solutions CEO Dr. Stefan Schlichter

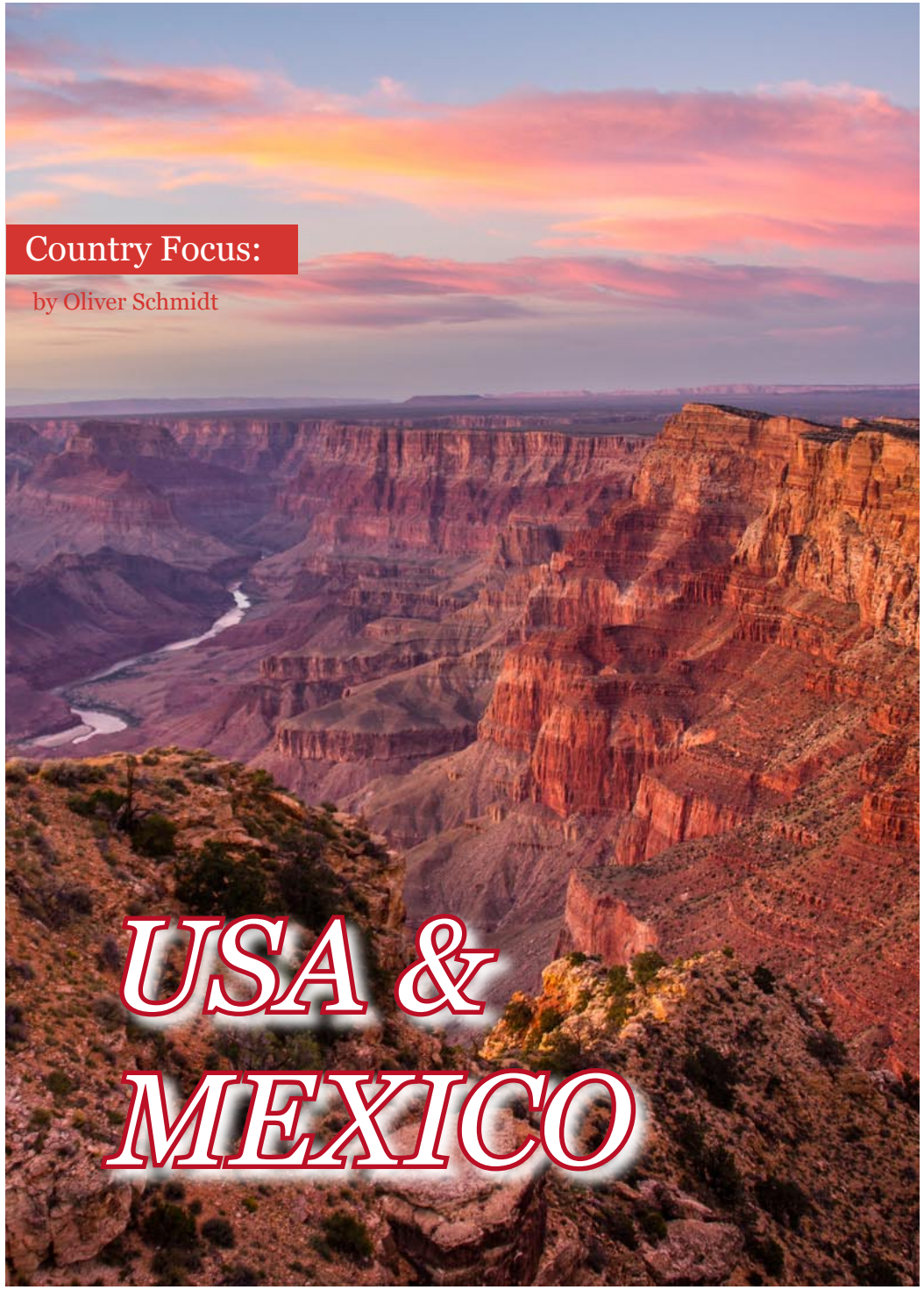
It starts with the processing of dry and resinified production waste and continues with fibre separation and fibre opening on modified tearing machines or hammer mills. Next step is web formation on product lines with machines especially equipped for carbon fibre processing with web forming machines with different requirements on fibre orientation, fibre opening and web weight. The final step is web bonding, which additionally to mechanical bonding on modified needle looms also can be realized by thermal bonding or the direct feed to coating- or laminating lines. Although the procedure is complex and special, it also can be seen as prototype, as it can be transferred for other industries and materials with fibre content.

One of Autefa Solutions' great competitive advantages is to use synergies by combining the existing knowhow of the several business fields. With reference to this fact Dr. Schlichter explains:

"Usual automation suppliers without textile experience frequently have problems to achieve typical textile properties such as missing shape stability or drape ability. Precisely in these essential processes we prove our strengths".

Especially the readers of Dimitry Glukhovsky's bestseller can imagine which importance Composites could have as material. His Europe of distant future in his novel "Future" only knows this one material. But also in the nearer future, far away from science fiction, there are serious arguments for a disproportionate growth. A recent study, the Composites market survey 1/2014 of the Composites Germany Association, views the actual situation as positive and even very positive. More than 90% of the members partially share this opinion. Germany is considered to be the regional market with the significant growth impulses. Carbon reinforced plastics (CRP) will remain the most powerful growth driver.

According to Autefa Solutions' success in the future markets the signs point to growth. In the last years the number of employees has continuously grown. At present Autefa Solutions has more than 300 employees with a very high proportion on engineers –even for the industry.



Country Focus:

by Oliver Schmidt

USA & MEXICO

After concentrating on the southern part of America in our country focus series, we now want to look this time at the northern part, and have a closer look at the textile industries of the states within the USA and Mexico. The United States is the fourth largest country on the planet, (after Russia, Canada and the People's Republic of China), with a surface area of 9.83 million square kilometres, and after China and India, it has the third-largest population of about 314 million inhabitants.

Due to the immigration of people from a huge number of countries, the United States is one of the most ethnically varied and multicultural countries on Earth. The southern neighbour of the USA, the federal republic Mexico, officially called The United States of Mexico, is the fifth largest country in the Americas with a total area of 1.97 million square kilometres. Worldwide, the country lies in fourteenth place. Mexico has about 120 million inhabitants, putting it in eleventh place on the worldwide leaderboard.

The USA has approximately five times more surface area than Mexico, and about 2½ times its population. Let's look at their economies.

According to the World Bank, the GDP of the USA in 2013 was the largest in the world at 16,800,000 USD, followed by that of China, which, at 9,240 billion amounts to a little more than half that of the USA. The EU as a whole can easily excel the GDP of the USA with its 17,351 billion USD. The US economy grew by a moderate 1.9% in 2013, compared with 2.8% in 2012 and 1.8% in 2011.

Mexico had, according to the World Bank, a GDP (PPP) of 2,014 billion USD and a GDP (nominally) of 1,260,915 million USD in 2013. On the 2013 international leaderboard, Mexico lay in 15th place, just behind South Korea, Spain and Australia. Following their high 5.1% growth rate in 2010, their figures have dropped, amounting to 4.0% in 2011, 3.9% in 2012, and only 1.3% in 2013. For 2014 a growth of 3.5% in GDP has been forecasted on the back of a recovery in external demand and an upturn in domestic demand. However - at May 23th 2014 Mexico's government cut its 2014 growth forecast to 2,7% after the economy recovered less in the first quarter (+1,8%), held back by weak export demand and a tax increase that sapped consumer confidence. Mexico is the fifth largest of emerging markets, behind China, Brazil, Russia, and India, and is a member of the MIKT group (Mexico, Indonesia, South Korea and Turkey), the four most prominent countries in the Next Eleven. At the end of 2011 these countries made up 73 percent of all Next Eleven GDP.

With regard to the standard of living, measured by GDP per capita, that of the USA is more than three times higher than that of Mexico, with 53,143 USD, compared to 16,463 USD.

As neighbours, Mexico and the USA are important trading partners for one other. In 2013, Mexico exported goods to the value of 380.189 million USD around the world, and of this, 299.583 million (79%) was to the USA. The USA exported goods to the value of 1.579.593 million USD, and of that, 226.031 million (14.3%) was to Mexico. With regard to imports, Mexico has a total of 390.965 million USD and the USA an incredible 2,329,060 million USD. While Mexico has a rather well-balanced balance of trade, the USA has run up a deficit of -749.467 million.

Mexico has, over the last two decades, placed a clear emphasis on a free trade strategy, and is the country with the most trade agreements in the world. They have trading agreements with more than 40 countries. Amongst the most important agreements are the NAFTA agreement, which came into force in 1994 with the USA and Canada, the free trade agreement with the European Union, dating from 2000, the EFTA agreement of 2001, as well as agreements with numerous South American states.

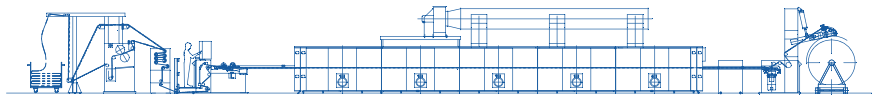
Access to the Asian markets has been opened as a result of Mexico's membership in the APEC (Asia-Pacific Economic Cooperation) with the signing of a selective trade agreement with Japan (2005). Mexico has also initiated a related membership with MERCOSUR and concluded free commercial treaties with the economic alliance of the Central-American states CAFTA in 2011. Ratification of this agreement is still pending with some individual states. In 2012, Mexico formally joined the Trans-Pacific Partnership negotiations.

627

patents have led to the success of our products, over the course of the last 5 decades. The patents are based on the engineering skills of the employees at Krantz and Artos who have made it their aim to develop a solution in such a way that it can no longer be improved upon. These excellent and protected ideas are what make our products unique and techno-logical market-leaders. We are happy to describe to you examples of the advantages of our machine design. Please contact us.

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

INTERSPARE
TEXTILMASCHINEN
ARTOS Krantz



Still the peak in finishing machinery.

An important plus that Mexico has is its export-oriented industry which has originated from these numerous agreements. Mexico is meanwhile the fifth largest vehicle exporter in the world. In 2012, Mexico's leading export items were crude petroleum oil, passenger motor vehicles, flat panel screen TV's, mobile telephones, and vehicles for the transportation of goods. The leading import items were gasoline, parts for flat panel screen TV's, mobile telephones, and passenger motor vehicles. Billions of dollars of investment flow into the country. More than half a million Mexicans work in manufacturing and with suppliers. Many electronics groups are also present in the country and an aviation industry is growing.

Mexico's economy contains a mixture of modern and outmoded industry and agriculture, increasingly dominated by the private sector. In the last years Mexico has built up its infrastructure to enhance trade. In 2012, Mexican telecommunications czar Carlos Helu was the world's richest man. His company is nearly a monopoly, controlling 70% of mobile phones, 80% of home phone lines, and 70% of broadband. Mexico is the world's tenth largest producer of oil, exporting nearly three million barrels per day. This is less than Iran, China and Canada, and nearly the same than the United Arab Emirates and Venezuela, but more than Kuweit and Nigeria. President Enrique Peña Nieto took office in December 2012 for a six-year term. During his first year in office and with the majority of votes in Congress, he has acted swiftly to pursue overdue structural reforms, in the areas of labor market regulation, education, telecommunication and competition policy, financial sector regulation, energy, and fiscal policy.

In December 2013, Congress passed the new President' s bill to partly privatize Mexico's oil industry to attract the foreign direct investment needed. Foreign oil companies could share in any profits from oil recovered from new wells. This will allow exploration of Mexico's rich deep-water oil fields and its natural gas reserves.

As well as the impetus offered by an export-oriented industry, access to energy reserves may bring another form of impetus to Mexico.

The USA also experiences this impetus in spite of multi-layered problems. With fracking, the controversial mining of shale gas and shale oil, the USA is becoming more and more independent from energy imports. Output from this source increased by leaps and bounds after many years of decline from over 11 million barrels in 1985 to scarcely over 8 million in 2008, and then to over 12 million barrels a day over the last 5 years. Along with this comes a reassessment of total energy reserves to over 30 billion barrels at the moment. This is a value which was last confirmed in 1980, steadily decreasing with time until 2009. According to the e.i.a., the USA is, in 2013, the biggest oil producer in the world. This change in fortunes enables permanently low energy prices and additionally lures many investors into the country. President Obama spoke even of a re-industrialisation of the country.

And with this point, we can begin to analyse the textile industry, starting with the USA.

According to WTO statistics, in 2013 the USA imported textiles to the value of 27,056 million USD. This is a plus of 4.2% compared with the 2012 figures of 25,956 million USD, making the 2013 figure an increase of 41% over a period of five years in comparison to 2009 with 19,211 million USD. In 2012, 6.2% of these imports came from Mexico, corresponding to a value of 1,615 million USD. Mexico was in fourth place in 2012, behind China, India and the European Union, even coming in front of Pakistan, amongst the countries that provided textiles for US importers. This value corresponds to about 16% of total Chinese imports.

In 2013, Mexico imported textiles to the value of 6,180 million USD, a plus of 3% when compared with 2012 (6,003 million USD). All together, Mexico's imports have risen by 47% since 2009 (a figure of 4,197 million USD), i.e. a little bit more than in the USA. Additionally, 61% of these 2012 imports came from the USA, a value of 3,669 million USD. This was followed by China with 15% and the European Union with 7.1%. Something that is noteworthy is that the imports from the USA are four times higher than those from China. As a rule, China is the most important exporter of textiles for most countries.

As far as exports go, the USA lies behind China, the European Union and India in the 4th place, exporting a goods value of 13 billion USD, 4.7% of world exports. Remarkably, this figure was 7.1% in 2000, and in 1990 a rather similar 4.8%. We'll analyse these figures more closely later in the report. Mexico still achieves 2 billion and a 0.8% portion of world exports to be in the top 15 most important textile exporters in the world.

There are also some interesting figures with regard to the import and export of clothing.

With regard to the export of clothing in 2013, the USA (with 5,859 million USD, 1.3%) and Mexico (4,530 million USD, 1.1%) lie close together. In comparison: China exports clothing to the value of 160 billion USD, more than 25 times as much as the USA, and about 40 times as much as Mexico. In 2012, Mexico exported clothing to the value of a total of 4,449 million USD, and of this, 3,970 million USD to the USA and 325 million to Canada. Exports to the EU amounted to 88 million, to Japan merely 20 million and to the rest of the world around 46 million. A proud 89% of Mexico's clothing exports were to the USA, and when one includes Canada too, a total of 97% of all exports went to North America.

When it comes to imports, the differences between Mexico and the USA are huge, as one would expect. The USA is, after the EU, the biggest importer of clothing in the world, amounting to a value of 87,957 million USD in 2012 and 91,028 million USD in 2013 (+3,5%). This means that 20% of all exported clothing articles find their way to the USA. Against this, Mexico only imported clothing to the value of 3,231 billion USD in 2013, amounting to a small portion of 0.7%. Indeed, Mexico had a high growth of 9% in comparison to 2012 (2,965 million USD). Mexico imported 946 million USD worth of clothing, i.e. about 30%.

The figures impressively show that the Mexican textile and clothing industry is bound very strongly to American outlets.

Imports into the home market are, according to some opinions, manufactured in China, then re-labelled in the USA so that they can be more cheaply imported into the Mexican market.

In February 2014 the newspaper US Today announced that the US textile industry comes back to life, especially in South. They wrote: "Decades after many people thought the U.S. textile industry was dead, the industry generated $54 billion in shipments in 2012 and employed about 233,000 people.

Business is on the upswing as Southern states, in particular, woo textile companies with tax breaks, reliable utilities, modern ports and airports and a dependable, trained and nonunion workforce."

But let us start at the beginning. According to the American Apparel and Footwear Association, in 1991, American-made apparel accounted for 56.2 percent of all the clothing bought domestically. 20 years later, in February 2011, abcnews posed the question: "Made in America: Where Can You Find American-Made Fabrics?" The researchers came to the conclusion that there was no longer anything in the US that one could buy that was actually 100% made in that country. In the article it said: „According to business owners, it's almost impossible to create textiles from start to finish with 100 percent American-made materials. The textiles and apparel Americans use are increasingly foreign-made. According to data from the 2010 Census, nearly 100 percent of all apparel Americans use is imported."

The reasons for the decline of the complete textile production in the USA are, as expected, a lack of competitiveness during the course of globalisation. The first wind of change originated from the lost customs duties within the scope of the "North American Free Trade Agreement" in 1994. The next collapse followed in the late 90's with the financial crisis in Asia which made imported products cheaper by 30-40% than those comparable American ones. All the while, China advanced with their entry into the WTO in 2001 and the discontinuation of the textile quotas in 2005, quickly becoming a textile powerhouse on the world stage. Simultaneously, it was all downhill for the US production companies at nearly the same speed. According to Bureau of Labor Statistics data, the textile and apparel subsectors of American manufacturing lost 76.5 percent of their jobs, or 1.2 million, between 1990 and 2012.

There are different opinions as to whether this long-term trend has been successfully halted over the last few years. Media sources such as USA Today, the NYT and Daily Finance report that the US textile industry is on the up once again. SelectUSA writes: "The United States is a globally competitive manufacturer of textiles, including textile raw materials, yarns, fabrics, apparel and home furnishings, and other textile finished products. Our strength is in cotton, manmade fibers, and a wide variety of yarns and fabrics, including those for apparel and industrial end-uses." For example the Los Angeles Times reported, 'that the American Apparel & Footwear Association found that only 2.5 percent of American clothing purchases came from domestic production in 2013. That's up .05 percent from 2012.'

'That half of a percent could be a sign that American apparel production is on the uptick', wrote Daily Finance at 25th of August 2014.

On the other hand, Michaela D. Platzer, Specialist in Industrial Organization and Business, wrote in her "U.S.Textile Manufacturing and the Trans-Pacific Partnership Negotiations" report regarding the Domestic Textile Production: "U.S. textile output has not recovered from the severe downturn in 2008 and 2009. Production at textile mills remains about 25% below the 2007 level, and production at textile product mills is approximately 30% less than in 2007. The value of shipments totaled nearly $57 billion in 2013, a 5% increase over 2012. This amounted to 1% of total U.S. manufacturing shipments." And she continues: "Although the National Council of Textile Organization (NCTO) reported in recent congressional testimony that "the textile industry has invested over $3 billion in new technologies, machinery, and manufacturing facilities since 2010," the most recent data, for 2012, show a continued drop in the number of establishments producing textiles." However, the contradiction described here doesn't have to exist, because modernisation can clean out the market on the one hand, and on the other hand, it can provide the latest equipment with vastly increased productivity that requires a fraction of the space.

However, it's a little contradictory that the 2013 value of shipments figure is 57 billion USD. If one compares this value the accumulated textiles and clothing imports from 2013 of around 115 billion USD, the situation seems much less dramatic than described.

Let's look at a few individual factors that speak for a re-strengthening of the US textile industry. Initially one has to look at the access to raw materials and energy and their corresponding prices. In addition, the level of production automation, the strength of the skilled workforce, as well as their wages, must also be taken into consideration.

Let's have a look at the example of cotton. In the 2012/2013 cotton season, the USA generated about 3,703 million tonnes of cotton. This is about half of the production of China and about 15% of global cotton production. However, only 740,000 tonnes (20%) were processed in the USA. 2,656 million tonnes were exported. This figure amounts to about 32% of global cotton exports, making the USA far and away the greatest cotton exporter in the world, in front of Australia and India. An interesting point here is that no raw materials have to be imported into the cotton segment and their own strong textile industry. For textile people this isn' t a news. In addition, the Bremen Cotton Exchange informs us that the USA is the biggest market for cotton, as far as the end user is concerned, per capita as well as with regard to overall consumption.

The net home consumption of cotton at the end user level registered at 3.8 million tonnes in 2011, a drop of 15% compared to the year before. 12.3 kg per head was the figure arrived at, in comparison to 14.5 kg. Therefore the portion of cotton within the entire textile consumption arena also decreased in the USA, from 40.9% to 37.5 % in 2011. However, the increase in production of man-made textiles in the USA would not drop due to a lack of raw materials.

Let's also take into account another big advantage that US industry has; energy. Electricity and gas prices are very favorable in a global comparison. Prices vary from state to state, coast to coast. They are quite high in some of the New England states, averaging 11.54 cents per kwh, whilst in California the cost is 12.59 cents. The South Atlantic states have a much better deal, for example, 5.94 cents in West Virginia, or 6.24 cents in South Carolina. Best value overall is in Washington with 3.98 cents. (all figures from July 2014). Additionally, electricity prices can vary within a state itself, and individual counties can have much lower prices, for example, Grant County in Washington.

In modern, highly automated spinning and weaving mills, the cost of raw materials and energy are the most expensive factors to consider with regard to the production of yarns and textiles. With regard to these costs, the textile industry in the US has the best conditions for a re-emergence. From a market view, the quick time-to-market of the ever-changing collections (fast fashion), and above all the increase in consumer environmental awareness are additional reasons for this.

In reality, today's strengthening is taking place on quite a low level. USA Today reports: "In the past few years, major designers and retailers such as Brooks Bros. and Saks, as well as dozens of smaller companies, have moved some production from foreign countries to the U.S., creating perhaps 1,000 jobs. That's minuscule compared with the 800,000 jobs lost to foreign clothing factories since 1990.

Yet it's raising hopes that the trend will grow, even though garment production remains highly labor-intensive and U.S. manufacturers still face stiff competition from low-wage countries in Asia and elsewhere."

Domestic textile production is primarily located in the southeastern states and in California, although every state has some textile manufacturing. In 2013, more than one-third of all textile jobs were located in Georgia and North Carolina. As well as the high initial investment in the most modern factories and weaving mills, which may even have reached the 100 million mark, an insufficient ROI and high clothing production labour costs could stand in the way of a clear stimulation of the US clothing industry.

It is here that closer links with Mexico could turn out to be very useful, because Mexico clearly has lower labour costs than the USA. However, we ought to look first at the Mexican textile industry, before we follow this up.

Mexico generated 208 million tonnes of cotton in the 2012/2013 season. Compared to the USA this is a small amount although still of high value in comparison to cotton producing countries worldwide. This figure exceeds those of well-known cotton producing countries like Egypt with 111 million tonnes and Syria with 188 million tonnes, and is second only to Brazil whose 1,443 million tonnes is the highest value in Latin America. Mexico processes 390 million tonnes of cotton in its own country and additionally imports nearly 200 million tonnes.

The textile and clothing industries also have a long history in Mexico and today they constitute an important factor with regard to employment and exports. According to Mexican Apparel Chamber (CANAIVE) these Industries account for 4.7% of Mexico's manufacturing GDP (Textiles 1.3%, Apparel 2.5%) and for nearly 20% of all manufacturing employment in Mexico.

The Mexican textile and clothing industry is complicated in its structure and distribution. It is mainly middle-sized and small companies who manufacture about 85% of the entire produce, and they are spread across the whole country. The clothing industry is concentrated in the central and north eastern of part of the country. According to CANAIVE there are about 8-10,000 clothing manufacturers.

Some well-known textile enterprises are, for example, PYOSA and Scappino. Intimark, Flexi, Milano and Vicky Form.

Much of the growth in the last four decades was spearheaded by "maquiladoras" or manufacturing plants along the northern border, which can import raw materials duty-free to make exportable products. It is precisely here that problems could arise due to tax revision measures. Mark Rosmann's GAIN report "Cotton and the VAT Tax in Mexico's Maquiladora Industry " from December 2013 says of Mexico and the 'Maquiladoras': "According to Reuters, Mexico's economy is expected to grow 4.25 percent to 4.75 percent in the next ten years and will surpass all other Latin American countries and Brazil.

This economic growth has been spurred by rapid expansion in the maquiladora industry in the last twenty years especially in the tax/duty free region of Mexico along the border with the United States. " Indeed, the report sees this growth also threatened by competition and above all the tax revision measures: „Shifting trends in cotton production, coupled with Chinese sales of its massive stockpiles, growing competition in textile production from emerging economies such as India, and fluctuating prices could require significant adjustments for Mexico's maquiladora industry, as well as for U.S. cotton exporters. However, a more pressing and challenging issue facing the industry is the tax restructuring recently enacted by Mexican President Enrique Peña Nieto and his administration. Such overhauls could be burdensome for manufacturers and could reduce U.S. cotton exports based on new regulations."

The tax reform brings numerous changes including the repeal of the flat-rate business tax (IETU) and the cash deposit tax (IDE), the introduction of a more progressive income tax, with its top rate increased from 30% to 35%, a 10% tax on stock-market capital gains and a new 5% levy on the sale and import of high-calorie, non-staple foods. The GAIN Report sees these reforms not positive. Here it is stated: "The maquiladora industry is worried about these changes and many believe that the new tax laws will hurt businesses. [...]

Corporate tax rate to be set at 30 percent and individuals with annual income above 500,000 pesos will have to apply a new rate of 32 percent.

Additionally, the corporation (either domestic or foreign) will pay an additional 10 percent tax on dividends in distributing its profits to domestic or foreign shareholders, and the reform limits salaries and benefits maquiladoras can deduct from income taxes and changes price-transfer regulations between parent company and subsidiaries."

The future of the Mexican textile economy, according to ProMéxico, lies above all in the creativity of the Mexicans. ProMéxico is the federal government agency responsible for coordinating strategies aimed at strengthening Mexico's participation in the international economy, supporting the process of exporting firms established in the country and coordinating activities aimed at attracting foreign investment. In the Novmeber 2012 issue of the magazine 'Negocios' published by ProMéxico Jesús Estrada Cortés highlights the following sentence in his article : "Traditionally a factory house for foreign goods, Mexico's textile, clothing and footwear sectors have embraced design and innovation and are coming up with strategies to impress global industry leaders."

The greater aim is self-owned, globally-known fashion brands which also proclaim a Mexican style. Additionally, the market for Mexican clothing should be developed domestically. Mexico has a large and creative designer scene. Since 2012, the Mercedes Benz Fashion Week takes place in Mexico City. Pilar Aguilar of Fashionbi, a fashion marketing company, describes in her contribution "The Truth about the Mexican Fashion Industry" precisely what the problems of such a strategy are.

She writes: „ However, designers need to take into account not only the artistic side of the fashion world, but also the part that many designers ignore: the business ". And further: „The reality is that only a small percentage of the Mexican population understands and is willing to pay a piece made by a designer in their country, this is due to the existing mindset that a national product can not compete with international markets."

A designer who is proceeding along this route is Miguel Angel Rodriguez with the label "Ay Guey!". With his T-shirts, with their very expressively coloured Aztec motifs, he wants to offer Mexicans high-quality clothing "Made in Mexico". He's been selling this line since 2013, and even in the USA via an online shop. Indeed, according to his own statements, Mexicans living in the USA are amongst his customers.

Lawrence Wollschlager, the President and C.O.O. of contract manufacturer, MFI International., sees a totally different way forwards for a prospering Mexican textile economy. It is his opinion that Mexican textiles industry is making a comeback because of its superior safety and labor record.

"We've never had a fire, serious accident, or labor strike during the 30 years that MFI has manufactured textiles products in numerous industries for American companies in northern Mexico," said Wollschlager. "MFI ensures that our workers are completely safe and adheres to Mexico's safety and labor laws, which are far stricter than the laws in Asia and Bangladesh."

Wollschlager noted that MFI offers its American partners numerous other benefits, including high-quality products, costs that are competitive with the costs of the less reliable Asian textiles plants, a location that is so close to the United States that MFI's lead-time can range from one to six weeks, in a low-risk and ethical business environment. Intimark has successfully operated a similar development strategy since 2009. According to Intimark executives, the company's geographic location still offers an advantage in a global economy. As its main customers –including Chico's, Cool Water Creek and Limited Brands that include Victoria's Secret and Pink- are in the US, Intimark can deliver small consignments of goods every 30 to 45 days based on demand. In contrast, Asian suppliers offer lower costs, but North American buyers must agree to purchase large quantities of goods to justify shipping.

María Cristina Rosas, Professor and researcher in the Political and Social Sciences Faculty, National Autonomous University of Mexico (UNAM) described the challenges and opportunities of the Mexican textile and apparel industries as follows in a 'Negocios' article: "There are also opportunities to be had in the area of product design, development and differentiation, the promotion of foreign investment and the introduction of modern technology to yarn and textile production processes. In addition to supplying the domestic market and increasing its share of the international market, the industry needs to implement more efficient manufacturing processes, reduce costs, integrate operations with other companies in the value chain and develop competitive, integrated regional clusters."

This opinion is one we can happily concur with. The NAFTA agreement and the regional proximity to the USA could, against the background of rising environmental concern and the growth of "fast fashion", offer a great chance to become the extended workbench of the US textile industry and to integrate vertically into existing large-scale textile enterprises, or to become a preferential partner as a contract nearshore manufacturer.

A reminder: At the moment Mexico does not provide even a twentieth of US clothing, even if almost their entire exports go to the USA. Would it not be therefore be a sensible aim for Mexico to provide a tenth of US clothing within the next 5 years and to nearly double their own exports? This could be achieved with a 15% increase in annual growth. This is a challenge that we know that the Chinese are masters of. China thinks big and acts in a large fashion, and this makes China, amongst other countries, so successful.

And close collaboration and cooperation with the Mexican clothing industry would also be a factor that would strengthen the US textile industry, providing great opportunity. Mexico offers the wage level which US industry requires in order to offer competitive prices.
80% of Americans said in a survey that they are ready to pay more for clothing "Made in the USA". Whether they would actually do that is quite another matter, as we know from many market surveys. But the US textile industry could also better take advantage of low energy costs and the high availability of raw materials, creating a very viable cluster.

What is additionally required is a strategy, a vision which does not celebrate mediocre success, but aims to achieve relevant shares of the market, a strategy subsequently driven by committed companies.

It requires the clarification of the question as to whether the USA and Mexico see themselves as a “textile countries”. It would require large-scale investment in innovative machines in order to modernise and develop their industry. There is already much investment in Mexico. Statistically, Mexico is in 22nd place worldwide regarding direct foreign investment, amounting to a figure of 133 billion USD. Indeed, at the moment the textile industry does not appear to belong on the preferential future industry list.

Maybe the conclusion carried out by Prof. Rose is valid for both countries. She writes: „In short, if the footwear and textile industries can continue to adapt quickly to the needs of the domestic and international markets, and turn competition from abroad into an opportunity for innovation, the outlook for both will be rosy.”

T-Shirt Ayguey © 2014 Ayguey

Professor Gresser heads new Institute at the University of Stuttgart

On the 4th of June 2014, Professor of Dr. Götz T. Gresser held his inaugural lecture at the University of Stuttgart. In December 2013 he took over the Chair of the Institute of Textile Technology, Fibre-based Materials and Mechanical Textile Engineering“, which is connected with the management of the Institute of Textile Processing Technology (ITV) in Denkendorf. Since December, Gresser has also headed the newly-founded, University of Stuttgart-based Institute of Textile Technology, Fibre-based Materials and Mechanical Textile Engineering which is a participant in the DFG German Research Council supported Transregio 141 Biological Design and Integrative Structures“ special research project.As head of the ITV Denkendorf, Gresser brings a rich vein of experience from both research-based and empirical worlds.

Prof. Gresser

The ITV is a part of the German Institute for Textile and Fibre Research (DITF), the largest textile research institute in Europe. Ideas for marketability are brought here because the Denkendorf pilot factory and the ITV Denkendorf Produktservice GmbH are in the position to be able to practically implement these ideas immediately. For this reason, Gresser consciously places the main focus of his teachings on processes, clearly describing the varied application ranges.

In this way, textiles can be also used in lightweight fibre-based construction, for example, in multifunctional passenger car undertray modules. “Component supervision sensors for vehicle climate control, as well as electronics for charging batteries and other mechanical functions – everything can be easily integrated into the undertray component“ explains Gresser.

Together with partners from industry and science, amongst them the DITF, the University of Stuttgart is developing visions for the car of the future. ARENA2036 is the name of the research campus which Prime Minister Winfried Kretschmann opened at the beginning of June 2014.

Another of Gressers' research fields is bionics. The DFG German Research Council supported Transregio 141 "Biological Design and Integrative Structures" special research project will academically examine design models from Nature itself, studying their characteristics, and thereafter implementing the research results with engineering skills. This unit forms a part of the research team at the University of Stuttgart's newly-founded Institute of Textile Technology, Fibre-based Materials and Mechanical Textile Engineering (ITFT), a team led by Gresser. Here basic research is carried out into textile technology and textile machinery.
Special areas are new high-performance fibres for lightweight fibre composite materials for the automotive and astronautics sectors, as well as applications in the areas of medicine, energy and the environment.

Nearly all existing textile technologies and mechanical, chemical and biological testing methods are covered by the Institute's workshop, together with the extensive facilities on offer at ITV Denkendorf. The cooperation between ITV and ITFT, under Gresser's management, offers the best conditions for research into raw materials, right up to the product stage. Gresser has many research ideas, for example, it's never been possible to produce silk fibres artificially.

"Silk itself is a high-strength, highly elastic material. Combining these qualities in an artificial fibre is a great challenge."

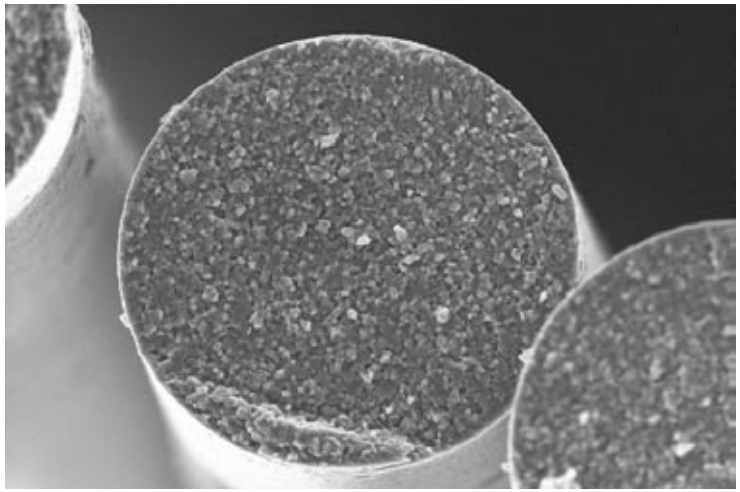
New process management makes defined structural changes in ceramic fibres possible

With the opening of the High Performance Fiber Center in the ITCF in May 2014, the field of research into ceramic fibers also took a great leap forward.
The completely original spinning processes are evident even in the minute and specialist segment of ceramic fibre production, and are something rather special: "Now many parameters which determine the structure, and with it the qualities of the ceramic fibres, can be decisively steered directly during the spinning process for the first time ever", explains project manager and acting director of the ITCF Institute, Dr. Bernd Clauss. "To facilitate this, the process involving the spinning tower was technically modified in such a way that the freshly spun fibres can pass through the physical processing steps even before they are wrapped on a reel for the first time."

This has the effect of providing researchers with a huge number of new possibilities for examining and optimising the structure of ceramic fibres. Ceramic fibres are generated in a two-stage process: The basic material is a viscous liquid spinning pulp which is exposed to a dry spinning process. Green fibres are initially spun. This stage of the process is followed by a ceramic sintering process.

As well as the processing and technical characteristics of the operation, the chemical source composition of the spinning solution is of fundamental importance. It determines not only the type of resultant ceramics. Using defined chemical compositions, the characteristics of the fibres can be controlled, such as the creep resistance of the oxidic ceramic fibres – an important value which describes the mechanical behaviour of the fibre under load and temperature fluctuations.Another development objective is the improvement of the material's temperature stability. At this stage the ceramic fibers already exhibit high strength values and good mechanical qualities at temperatures far above 1000°C. Even small progressive steps can be crucial and are still vital in many technical high-performance uses and in the improvement of the material's physical properties.The main operational area of ceramic continuous filament fibres is in the production of strengthened ceramic fibre ceramics, so-called CMCs (Ceramic Matrix Composites). By the imbedding of ceramic fibres in ceramic matrixes one obtains materials which have not only all of the positive qualities of conventional ceramics, (e.g., high temperature and corrosion resistance), but at the same time are damage-tolerant, non-brittle and extremely resistant to temperature change.

Ceramic textile pulp for the manufacture of corundum fibres



Corundum ceramic fibres, fibre diameter: 10_m

ITV Denkendorf develops freely structurable sandwich or spacer fabrics for curved light fabric construction elements

Light fibre-reinforced fabric structures have not only excellent material qualities with regard to firmness and stiffness, but they increasingly fulfill new free design demands for curved construction elements. Scientists at ITV Denkendorf have created a breakthrough using new processes, turning the standard plane-parallel spacer fabric into double-curved fabric structures. New uses in the construction of vehicles, in aviation, or in civil engineering require increased design options which can be integrated using three-dimensional fabric structures into the components.

At Denkendorf, scientists have recently created one-piece, light sandwich and hollow structures with different multi-length spacing using a weaving machine. For bearing very light and at the same time stiff fibre group materials they can be formed into, for example, lenticular curved structures without undue manufacturing.

In general, a sandwich structure with an increasing distance from the weight-bearing outer layers is more rigid. This was the initial development objective. Changeable spacing provides a further degree of freedom for curved designs. A model of this is derived from Nature itself. The bowl-shaped skeleton of the sandy dollar, a type of sea urchin, has an arched outer bowl with thin inner struts.

It is therefore very light but can withstand huge pressure charges. It was possible to copy this increase in output specific to weight in the case of curved spacer fabrics.

Processing and technical changes using a double grip arm weaving machine with spacer-retaining pile threads formed the base structure for this additional technological weave development.

The overriding aim was to considerably increase the distances between the covering fabric layers without decreasing the given pressure stability factor.

Depending on the connection, the self-erecting sandwich or hollow structures can also be used for other functions, for example, to affect climate control, rear ventilation or the flow of liquid materials. The conditions for freely formable curved surfaces were created by the transition from plane-parallel to variable fabric distances in both fill and warp directions in both of the fabric covering layers.

The methods being researched can be implemented in several versatile ways. A variety of wave or cushion-shaped structures can be created in which the outer covering is adapted to the demands of the respective construction body. In many cases, the spacer struts are vertically arranged with single unbendable monofilaments connected to the covering layers. When the thread strut angles are curved, this pattern can provide for a highly stable structural resistance factor. The spacer threads can resist additional pressure when spaced at greater distances, for example, when an additional hardened weave is integrated. In a similar manner, ribs, channels or chambers can be woven in, creating extra integrated component functions. In this way, self-erecting spacing of over 80mm were achieved, as well as the creation of spherical curved sandwich or waved contours in the surface.

It's amazing how many such versatile spacer fabrics can be created. It was possible to consistently and reliably reproduce the production conditions for these complicated curved spacer fabrics and their own individual requirements on the weaving machine. This means that the tailor-made components can be fabricated at the weaving machine stage.

Now the doors are open to scientists for other concrete uses, for example, hardened profiles for wing shells or fuselage coverings, right up to light supporting structures in civil engineering. Elastic components like automotive shock absorbers which serve as an impact protection for pedestrians are now also viable.

A further application range is in active solutions in which actuators in a textile muscle in Denkendorf are performing lifting operations very efficiently. In the "Polar bear's house" on the institute campus, spacer textiles are being tested for long-term application. A double textile spacer structure in the exterior surface catches solar radiation in a similar way to that which a polar bear's fur performs the same operation. The external spacer layer insulates, whilst in the inner spacer layer, the air is being warmed and passively moved for energy storage. Other projects are being planned with architects in which spacer structures form the outer membrane of temporary constructions which can be speedily erected and dismantled, making them self-supporting, as well as providing them with their own high, efficient insulation.

Speedy and easy refurbishing with a textile base layer

New textile products are being developed in the Denkendorf workshop of the future – even for sectors that do not immediately spring to mind when one thinks of textiles. An example of how textile innovation in apparently non-textile industrial sectors can take hold and lead to successful new products is the Okalift SuperChange of Kiesel Bauchemie GmbH & Co. KG.

This product is an intermediate textile layer on which wall layers and floor coverings can be easily attached and removed. The double-layered fabric is situated, for example, under tiles or parquet. During subsequent renovation, the upper cover and layer can be separated quickly and cleanly. The lower fabric layer forms a level surface which can be worked on immediately. The high-strength polyester system is constructed so that it is simultaneously easy to remove and reinforcing too. Cracks and different length expansion can thereby be compensated. The idea for this resumption system was born in the Denkendorf workshop of the future under the direction of Christoph Riethmüller. The workshop of the future is an offering from the ITV Denkendorf, the Institute of Textile and Process Technology, to enterprises from every sector in an effort to compile methods for textile solutions with which standard materials are improved. At the beginning of the process there is a Workshop in which scientists and enterprise representatives with a variety of creative technologies develop ideas for the future. In addition, the methods are individually tailored to the requirements of the project itself. Subsequently, suitable prototypes are provided in the research facilities and colleges of technology at ITV Denkendorf.

Following detailed trials and experiments carried out on test surfaces at the Kiesel company, at ITV Denkendorf, and at the material testing institute at the University of Stuttgart, a new product is created. The industrial manufacturing is implemented together with a weaving mill in Baden-Wuerttemberg.

The Okalift SuperChange is of great interest to the professional world. A professional renovation expert can removes a surface of up to 60 square metres of wall layers and floor coverings every hour. How this works is explained in a Kiesel company video which can be seen on YouTube: http: //www.youtube.com / watch? v=0H6oSxiMnps.

Research and Development on Energy Efficient Clothing Textiles

The climate influences a person's well-being and their efficiency too. Hence, at ITV Denkendorf, the transfer of heat energy within a human clothing environment is being studied in detail. This includes the heat energy input due to sunlight or fire (from 0.3 to 3.0 µm wavelengths), and the thermal radiation created by the body (10 µm wavelengths), as well as airflow and perspiration evaporation.

A sort of electric hot plate is used for these experiments, the so-called Guarded Hotplate measuring procedure. Scientist Dr. Boris Bauer shows how, under different conditions, the loss of human thermal radiation can be simulated in the lab. Body heat is electrically generated and the dry loss of heat (vasomotion), as well as the loss of heat due to perspiration (sudomotion) is measured.

The current ISO 11092 Guarded Hotplate measuring procedure was developed from the point of view that human vasomotion and sudomotion must both be equally considered when dealing with the human thermal condition.

“The great advantage consists in the fact that all energy transfer subprocesses can be measured in Watts and can be drawn into the equation“, explains Bauer.

On the basis of the research results, new textiles can be developed which can be used anywhere that a well-balanced thermal environment is important. It is not only that occupational clothing has to be pleasant to wear, but the fact that this also increases the wearer‘s concentration ability and efficiency, for example, in the operating theatre, in the police force, or in the military, is also of importance. Another operational area is motor sport. Motorcycle clothing must protect against fire and crashes, but it should also be pleasant to wear in summer and winter. „The research at ITV Denkendorf is always product and process-oriented“, says Bauer emphatically. “The knowledge gleaned from the Guarded Hotplate measurements can be implemented directly in the colleges of technology at the Institute.“ The Guarded Hotplate at ITV Denkendorf: Experiment set-up without specimen and with spacer fabric. The adjusted loss of heat due to vasomotion can be clearly visualised with the IR camera.

Topics of the next issue 4 /2014

TOP STORY:

Textile Industry review 2014 and outlook 2015

Interview

Country focus: *Portugal*

Nonwovens & Technical Textiles:

„Carbon fibres and new applications“

Review CINTE Techtextil China

Fashion & Retail news summary

Textile Machinery:

„Nonwovens“

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

Hard facts:

Founded:
1997

Website:
free of charge & registration

Unique Visitors:
80.665 /month (May 2013)

Visits:
>255.177 /month (May 2013)

Page Impressions:
>1.845.780 /month (May 2013)

Infoletter & Magazine:
no fee, registration required

Best magazine downloads:
53.175 (issue 2/2013)

New Subscribers in 2013:
1.077 new subscribers in 2013

Estimated readers:
75.000 (accumulated according to analyses: some companies put the Infoletter in their Intranet and a couple of readers forward it to colleagues)

Publisher

deep visions Multimedia GmbH
In der Masch 6
D-22453 Hamburg
Germany

Tel. +49 (0)40 57 00 4 - 800
Fax +49 (0)40 57 00 4 - 888
E-Mail: info@deepvisions.de

Editorial

TexData International GBR
In der Masch 6
D-22453 Hamburg
Germany

Tel. +49 (0)40 57 00 4 - 900
Fax: +49 (0)40 57 00 4 - 888
E-Mail: redaktion@texdata.com
editorial@texdata.com

Technology and Typesetting

deep visions Multimedia GmbH
In der Masch 6
D-22453 Hamburg
Germany

Tel. +49 (0)40 57 00 4 - 800
Fax +49 (0)40 57 00 4 - 888
E-Mail: info@deepvisions.de