TEXDATA INTERNATIONAL

Magazine

Issue No. 3 2013

Business // Finance // Market // Technology

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

Growth Market

Automotive Textiles

- Electricity: The increasingly critical competitive factor!
- Interview: Daniel Lippuner, CEO Saurer
- Review: Techtextil 2013
- Interview: StefanKross, CEO Oerlikon Manmade Fibers
- Country Focus: China

Content

From the editor

Dear Reader,

The summer break in the Northern Hemisphere is coming to an end, and work and business are picking up the pace once again. The key data is reassuring: the Euro crisis is taking a little break at least, the economy seems to be growing and we have had three stimulating and informative events, namely the ITM, Shanghaitex and Techtextil/Texprozess.

The double trade fair Techtextil/Texprozess in particular presented a very pleasant business climate and yielded many technical innovations and award-winning products. And that's not to mention the new exhibitor and visitor records, which are now simply a routine occurrence for Techtextil. We should, however, mention that in all discussions and all reports, the exhibitors were unanimously extremely satisfied with the trade fairs and reported new contacts and good business. In our report, we will present you the highlights as well as a few impressions.

The market for technical textiles remains a growth market and a market for innovative products and solutions. We will be looking in more detail at the mobile textile segment as a key topic, as this field promises extraordinary growth – at least in Europe – over the next two years.

It is certainly not altogether easy to say at the moment how the textile industry, along with the machine industry, will develop over the coming months. The mood is far from one of jubilation, but there is still cautious optimism. China, the largest producer and exporter of textile goods, remains the key factor.

Increasing domestic demand and high modernisation goals are confronted with downward economic growth and rising wages. Although the export of textiles and clothing increased by 13.5% during the first half of 2013, indications of a progressive shift in production facilities are still increasing. In our Country Focus, we want to look at the situation in a little more detail.

Something which is interesting not only for China, but also clearly for the whole world, is the major change which took place in the spinning sector at the start of July: Saurer is Saurer once again. This makes us quite curious, and we were lucky enough to find out in a TexData interview what the Saurer CEO, Daniel Lippuner, plans to do with the new Saurer.

One point that he mentioned is energy efficiency, which is also the subject of this edition. And not without reason, since energy costs are continuing to rise and investment in energy-efficient machines is either a way to compensate for any locational disadvantages, or a chance to achieve a competitive advantage in the medium term.

I hope you enjoy reading this edition and look forward to a dialogue with you. Please send any comments to redaktion@texdata.com.

Best regards
Oliver Schmidt

Growth Market ‘Automotive Textiles’

One of the stars of Techtextil was exceptionally a wrecked car. Rather more precisely, a brand new Mercedes Benz E (T model) that the German company Groz-Beckert had cut open especially for the trade fair to show everyone all the textiles used in the vehicle. The global leader in the manufacture of needles wanted to demonstrate the textile applications covered in the area of 'Mobile Textiles' produced by using Groz-Beckert products.
They also wanted to show that the uses of textiles in cars had meanwhile become quite extensive. All told there is on average 20kg per vehicle distributed among the obviously visible areas of seat covering, foot space furnishing, roof liner and seatbelts as well as those well hidden such as airbags, insulation material and filters.

This variety of applications means that mobile textiles today already form the largest segment of the total market for technical textiles at around 22 percent (Source: Frankfurt Trade Fair) and that is expected to grow strongly in the short term. Frankfurt Trade Fair) and that is expected to grow strongly in the short term.

According to the German association of textile machinery manufacturers in the VDMA around 30 kg will be reached by the year 2015 - an increase of 50% within the next 2-3 years. The European car industry alone would then generate an increase in processed textile volumes from the current 300,000 t to ca. 450,000 t according to the report of the VDMA. Textile companies are already generating revenues today of around 4 bn Euro per year as suppliers to the automobile industry according to the Frankfurt Trade Fair.

GROZ BECKERT - Mercedes cut open

Stronger EU regulation for recycling will start 2015

There are several factors contributing to this enormous increase. First of all and certainly also an overriding influence is the tightening of a legal regulation effective from 2015. The guideline 2000/53/EG of the European Parliament and the Council of 18 September 2000 relating to end-of-life vehicles regulates the recycling of material used in vehicles within the European Union (EU). This obliges the manufacturers of vehicles to accept all end-of-life vehicles of their brand from the last owner and the raise the reusable and recycling percentage of the average vehicle weight. From 01 January 2015 §5 of the regulations on disposal obligations requires that the following targets are achieved: a) reusable and recycling of at least 95% of the weight (currently 85%) and b) reusable and material recycling of at least 85% of the weight (currently 80%).
'Reusable' is defined by the regulation as those measures ensuring that end-of-life vehicle components are used for the same purpose for which they were designed, 'material recycling' is where in a production process the reuse of waste materials for the original purpose or for other purposes (use of the material properties, raw material recycling) is ensured, with the exception however of recycling energy and where under 'recycling' other specialised procedures are regulated in detail in attachment 2 of the Waste Management and Product Recycling Act (Kreislaufwirtschaftsgesetz).

Consequently a vehicle weight of 1 ton equates to 50 kg or 100 kg that needs to be included in the recycling process as from 01 January 2015. No simple task, and in order to fulfill the requirements, the automobile industry needs to closely examine every single part and to examine whether and how it may be recycled or how the part may be replaced by recyclable material. This also presents great opportunities for recyclable technical textiles and non-wovens to displace other materials. Should it only be possible to save 10% in our example of 100 kg then that would already be an increase 10 kg per vehicle as projected by the VDMA.

Besides the general ability of recycling a material it is doubtlessly also important for the automobile industry to know how easily the individual components may be included in the reusable process and subsequently at what cost. The Sandler company from Germany is therefore promoting their non-woven fabrics for the automobile industry manufactured from material of one type (100% PET) and as a result may be integrated into a closed material recycling process.

Growing demand for high comfortable car interior

The second reason for growth lies in the strong rise in customer interest in especially high quality interior fittings. Recently Bayer Material Science reported that it is the dream of an increasing number of people that the interior of their car be a comfort zone.

It should offer a similar level of comfort as their own living room with however the latest technology and high functionality. The wish for cars to be equipped with a special cockpit is interestingly independent of the class of car. Eckhard Wenz, specialist in automobile applications in the polycarbonate business area at Bayer MaterialScience comments: “Car drivers place increasing value on individually and personally orientated interior fittings. This includes lighting generating a pleasant ambience, a seamless design as well as transparent, coloured or diversely decorated surfaces. The trend is for natural materials, an expanded functionality and infotainment, all in a perfect finish and of the highest impression of quality.”

At the Düsseldorf K 2013 (Plastics Trade Fair) Bayer MaterialScience presents a complete material concept for the future design of the car interior that clearly satisfies the customer dream as well as the desire of the car industry for a more economic manufacturing processes.

Groz-Beckert also sees good opportunities for the industry in mobile textiles for vehicle interiors on the basis of growing customer requirements. They reported: “end-users attach greater importance to high quality concerning the look and feel as well as the durability of textile components. Therefore automobile manufacturers rely on the competences of the textile industry.”

The Techtextil Trade Fair in Frankfurt has already ventured a look at the interiors of the near future. Smart textiles are to provide textiles with more functionality in addition to more design and new materials.

MONFORTS ATC

monforts

Welcome to the new Advanced Technology Center in Mönchengladbach / Germany

With an all-embracing range of machines, the Monforts Advanced Technology Center offers the possibility of carrying out extensive fabric trials under real production conditions.
For absolute reliability in the finishing result and tailored machine engineering.

Services rendered at the new MONFORTS ATC

- Trials with customer fabric
- Training of operators and service personnel

Range of application

- I. Continuous dyeing
- II. Finishing of knitted fabrics
- III. Finishing of woven fabrics
- IV. Finishing of Technical Textiles

A. Monforts Textilmaschinen GmbH & Co. KG
Germany | A Member of Fong's Industries Group
www.monforts.com

GERMAN Technology
VDMA
BLUECOMPETENCE

The elaborate production and consequently costly innovative textiles have an added value that delivers a clear improvement in customer benefit which is also possible to reflect in price terms. The popular example of smart textiles in automobiles are luminous textiles which deliver a special ambiance when applied to the roof lining, door handles, seats or foot space. These have been shown by various vehicle manufacturers in concept cars at automobile trade fairs but it needs to be seen whether an interior incorporating light design are of any interest to customers. Not everything that is proven technical possible in laboratories actually develops into a killer application. A tangible innovation of practical value is certainly the idea of heated seats integrated into the upper surface of the textile. Sabine Gimpel, marketing head of the Textile Research Institute Thüringen-Vogtland (TITV) commented in this regard at the Frankfurt trade fair as follows: "Currently it is placed deep within the seat. The outer material though has an insulating effect. New materials make it possible to incorporate heating in seat covers, arm rests or door handles and so allowing a seat construction to be of a much lighter design." That sounds very promising.

The question is whether such seat heating still functions after a number of years and subsequent wear and tear and how a replacement would be managed should it be defective. Also sensitive textile panels with integrated sensor technology with a monitoring function are still searching for the optimal application. It would make sense to use a textile for the seat that only releases an airbag in an accident when it recognises that a seat is occupied.

The question then follows whether this procedure requires a textile solution as there is already a technology monitoring seat occupancy which e.g. controls the signal for fastening the seatbelt. Medical monitoring of the driver by sensors integrated into the seat textiles sounds more promising. However even such a system is in competition with sensors integrated directly in clothing and also if need be in smart watches.

The development of real killer applications for the technical possibilities still seems to have some sticking points, on the other hand the area of research in smart textiles is still young and expanding in all directions. Probably the near future will show which ideas will develop into innovative market products. Let us now return to the present day.

BMW starts mass production of carbon fibre car i3

One of the absolute flagship projects in mobile textiles combining simultaneously many of the trends discussed originates from BMW.
On 29 July the German car manufacturer presented its new electric car BMW i3 simultaneously in the three large cities of London, New York and Beijing.

The i3 is to launch the BMW strategy of 'evolution and revolution' and a new era for the BMW premium class. The i3 addresses two large mega trends at the same time: Sustainability and customer focus in mega cities.

BMW i3

A futuristic design and numerous services are to create the electric vehicle as a prototype for a new philosophy for mobility. BMW made the following statement at the premiere: The BMW i3, previously known as the 'mega city vehicle', is the compact for congested city driving. In 2025, 8 billion people will live on the planet; 4.5 billion will live in cities. There will be 1.8 billion cars on the roads.

In order to address the personal mobility needs of people living within the world's most densely populated urban city centers, BMW created BMW i – the sustainable new sub-brand whose mission is to develop visionary vehicles and mobility services."

The i3 is a true pioneer from a textile perspective as its coachwork is made of fibre-based light composite material or more precisely carbon fibre reinforced plastic (CFRP). The series production of the i3 could finally be the breakthrough for carbon fibre and deliver the promise of being the material of the future for the automobile industry.

This comes at just the right time, as SGL Carbon, the supplier of carbon fibre, split off from the Hoechst Group in the middle of the 90s, is experiencing extreme financial difficulties and was forced in July to implement a cost-saving and restructuring program that according to a company statement does not however affect the automobile sector. BMW has a direct holding of 16% in SGL Carbon, a further 28% of the shares are held by Susanne Klatten, the BMW heiress, enabling both to jointly direct and determine the fate of the carbon manufacturer.
This commitment to carbon shows the important position the automobile manufacturer places on the material in the future of its company. The reasons are admittedly obvious. The main problem of electric vehicles is as ever the range and this is extended by reducing weight. Components made of CFRP are 50% lighter that comparable components of steel and still 30% lighter than those of aluminium. Carbon is therefore of central significance in the construction of light vehicles for BMW enabling the i3 to achieve a range of 160 km before it needs to be recharged. Other advantages of CFRP are its excellent damping properties with high energy absorption in a crash and its resistance to corrosion, acid and solvent.

Let us take a look at the CFRP production process at BMW. The process is undertaken by SGL Automotive Carbon Fibers – a BMW Group and SGL Group JV. Mitsubishi-Rayon is also participating through another joint venture that is responsible for the first production stages converting ammoxidation to acrylonitrile, the subsequent polymerisation and the spinning of the polyacrylonitrile (PAN) plastic into a fibre at the Otake site in Japan.

Carbon fibers at SGL

The process then continues at Moses Lake in the state of Washington in the USA. There, at SGL ACF, the carbon fibres are produced from the PAN precursor through oxidation and carbonisation. The finished carbon fibres are then transported to Germany to the Wackersdorf site, where they are woven into CF fabrics by SGL. At this stage BMW takes over as the actual production of CFRP components has been set up as one of its core competences.

Preforming, Resin-Transfer-Moulding (RTM), milling and tempering is all done in the BMW Group plant in Landshut. BMW and SGL have invested 530 million Euro in the project and the first series production of cars built of CFRP components were celebrated at the JEC Composites Europe exhibition in March 2013 as a milestone for the entire automobile industry as well as being presented with a special award for innovation.

BMW also wants to set a standard for sustainability with the i3.

The entire product life cycle of sustainability has been planned from development through to recycling. This also affects the use of sustainable materials in the interior. In addition, water consumption has been reduced by 70% and energy consumption by 50% according to BMW. 100% of the energy comes from renewable sources. The company had the Nordex wind energy site set up at the company facilities in Leipzig for this purpose.

Increase of recycled and renewal materials

The example of BMW for sustainability in applied materials is not an isolated case. The trend is towards the use of recycled materials and renewable raw materials. Ford for example uses recycled polyester from Repreve in the new Ford Focus Electric. Repreve is a recycled fibre that contains recycled materials—including post-industrial waste and used plastic bottles. The company promotes a sustainable future and presents its own contribution on its website.
The company strikingly displays to visitors how many PET bottles have already been recycled for Repreve in the current year. Currently 409,851,000 bottles have been processed into textiles, of which 22 plastic bottles are required for the interior design of a Ford Focus Electric and 42 for the Fusion Hybrid.

Freudenberg Nonwovens also supplies in Lutraflor a carpet non-woven that satisfies a number of requirements.

Manufactured out of recycled polyester, Lutraflor acquires a high quality look and feel and high resistance to wear and tear through a velour needling process. The material excels in delivering weight savings of up to 40% in comparison to customary car carpets and provides very good shaping capability without the use of latex or other chemical binders.

Citroen provides an example of the use of renewable raw materials.
The French automobile manufacturer uses a cellulose fibre produced by Lenzing, an Austrian company for the seat coverings in the C4 Tencel. The Tencel is made of wood and is biologically degradable. Another project of the company on its way to use green materials has led Citroën to explore applications for flax-based biocomposites in cooperation with its supplier Faurecia. The specialist for seat production and car interior has developed and patented a composite material called Flaxpreg which uses natural flax fibers in a thermoset resin matrix. The sandwich panel floor besteht zu 65 % aus nachwachsenden Rohstoffen und soll zudem leichter sein als das zurzeit verwendete Material. The related flax is a tape of unidirectional natural flax fibers provided by LINEO.

The company from Belgium provides new solutions for the use of natural flax fibers in composite applications and has won the Bio-Based Materials category of the JEC Innovation Awards 2010 for a flax yarn-based prepreg.

DORNIER - The air-jet weaving machine A1 from DORNIER is able to weave tyre cord and airbag material.

Wide range of textile applications in vehicles

So much for the flagships and major trends. Let us take a more general look at those individual textiles used in vehicles currently in development and also in production. Which machines produce the high quality and durable textiles for the most demanding use?
German companies above all have adapted their portfolio of machinery sufficiently early to the requirements of technical textiles and non-wovens for the automobile industry and consequently achieved high market share in many segments if not even market leadership.

We would like to start on the ground - with the tires. It is well known that tyre cord is an important material for the running properties and stability of the tyre. Cord inserts positively influence the running, breaking and drive safety of the tyre, at the same time as reducing roll resistance and weight. Since the early 1920s tyres have been reinforced with woven cord. Today ca. 1.6 bn tyres are produced annually worldwide, and in 2015 it will be ca. 2.0 bn, a growth of 25%. Numerous manufacturers offer weaving machines for the production of tyre cord.

Manufacturing tyre cord for automobile tyres requires weaving machines that are able to process large quantities of yarn reliably and precisely in short periods.

One of the leading market suppliers is the German company Lindauer DORNIER that offers a set of rapier and air-jet weaving machines for the production of technical textiles. The whole range of extremely heavy fabrics, open mesh fabrics and very dense fabrics is produced with machines of these two different filling insertion systems. The DORNEIR air-jet weaving machine A1 is used ever more intensely in tyre cord material production. The DORNIER air-jet weaving machine A1 for tire cord fulfills these demands perfectly through high flexibility and performance ability.
Further advantages of the DORNIER air-jet weaving machine for tyre cord are: Easy operation, minimum maintenance requirement and at the same time maximum quality in productivity and fabric. The benefits of this machine mean that materials are processed faster than with mechanical insertion systems, with shorter storage times - a financial advantage.

Airbags in the car

The air-jet weaving machine for tyre cord therefore perfectly satisfies market demands which is why many renowned tyre manufacturers rely on the DORNIER air-jet weaving machine. Another exceptional development in the production of tyre cord reported in the last few years has already ensued from the manufacture of yarn. The award-winning direct cabling machine Allma CC4 revolutionized the tire cord cabling market with energy savings of up to 50 percent. For manufacturers, these are great cost savings in production. Further advantages of Allma CC4 include up to 50 percent fewer thread breaks and a considerably reduced noise level.
A textile that car drivers do not like to see but otherwise welcome in their vehicle all the more, is a textile that provides security: the airbag. According to Wikipedia, airbags used in conjunction with a seatbelt increase the chance of surviving an accident by an additional 30%.

Airbags are made of woven material that is then coated, cut to shape and then sown in a special process. Machinery from numerous word class German companies also participate in this sector.
Walter Linderer is considered to be one of the inventors of the airbag as in 1951 he registered a patent relating to the 'installation for the protection of persons in a vehicle against injury in collisions' at the German Patent Office in Munich.

The work on a practical application of airbags began in 1967 by Mercedes Benz who had their idea of a textile bag that was inflated in an accident by a pyrotechnical device within a few milliseconds patented in 1971 and then in 1980 offered the airbag as an option for the Mercedes-Benz S class. Although originally there was only an airbag for the driver, the vehicle continued to be equipped with more airbags e.g. for the front passenger, the other occupants and for protection from collisions from the side and in the foot spaces. In 2010 around 280 bn airbags were produced worldwide distributed among ca. 58 million cars. The expansion of applications has led to airbags being a standard in ever more countries and should the figure reach 400 million in 2015 this would correspond to an annual growth rate of 8%.

The DORNIER models are also suitable for the weaving of airbag fabrics - preferably on the A1 air-jet weaving machine. DORNIER had already worked with Mercedes Benz on the development of the first airbags and possesses the longest experience in optimising weaving machines for the production of airbags.

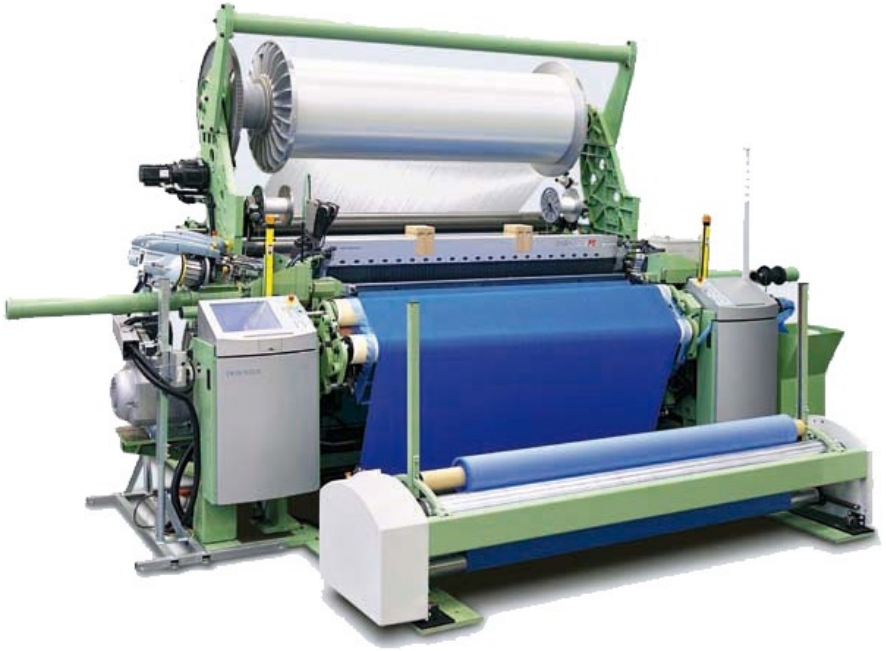
German Monforts, which by their own account are the leaders in airbag coating machinery, supplies machines for drying, coating and fixing in one complete process.

Monforts which manufactures the machinery for technical textiles in Austria, sees further opportunities of their machinery solutions in crease-free drying, ex-proof fittings for solvents and special facilities available for improvements in cleaning.

We continue with safety and address the subject of seat belts. Seat belts are textile bands produced on a special band weaving machine.
The leading industrial supplier of band and narrow fabric textiles worldwide is the Swiss company Jakob Müller which has been developing innovative technology in this market for the last 125 years.
The machines are equipped with multiple weaving heads and are capable of producing up to 222 m of belt made of standard band material per hour per head.

Seat belts are produced in a variety of different versions and quality. As an example Elastic-Berger company of Germany supplies five additional products besides the normal band versions including those made of Rukaflex and Leperflex with specially protected edges and durable elasticity. Jakob Müller machinery still achieves 156m of belt band per hour per head using Rukaflex.

Quality control is of central importance in the manufacture of seatbelts as any defects such as filament knots and broken filaments need to be excluded. Every belt is provided with an individual identification number and is as such traceable. The weaving process is followed by the colouring and cutting process. The belts can be selected from a range of more than 220 colors and are up to 4.5 m in length.



DORNIER - Rapier Weaving Machine P1

A new development by the Japanese company Takata takes the form of a belt that is augmented by the addition of an airbag. The airbag is intended to stop the belt band from pressing too deeply into the body and so assist in preventing contusions and compressions.
In view of the already existing pressure on prices within the automotive industry, the economical and efficient production of such textiles is increasingly taking center stage.

Here, Oerlikon Barmag – the market leader in the manufacture of spinning and texturing systems for manmade fibers – is able to bring diverse strengths to the table. To this end, the 8-end machine concepts, for instance, enable the highly-efficient production of high-tenacity, break-resistant PET safety yarns with titers of between 500 and 2,000 denier for seat belts and airbags.
The special SFL (Single Filament Layer) technology guarantees extremely gentle yarn paths with extremely even heating of the filaments to be drawn using five heated pairs of godets.

With regards to seat belts, the machines fulfill extremely demanding requirements such as dyeability and perfect package build, while the end product is also free of lint. “This is also verified by processing tests for the trial samples conducted in collaboration with a seat belt manufacturer”, comments Markus Reichwein, Head of Industrial Yarns Process Technology. And the system is also suitable for airbag yarns made from polyamide and polyester.

Automotive textile application at Techtextil 2013

Highly-resistant manmade fibers are becoming increasingly interesting as an alternative to polyamide, which is almost twice as expensive. “And this trend is only just beginning”, states Markus Reichwein. “Currently, our customers manufacture most airbag yarns from nylon. As a result of the ever-growing diversity of airbag applications – such as front and head-shoulder airbags, side and knee airbags and even exterior airbags for protecting pedestrians – inexpensive polyester is becoming the increasing focus of developers.”

Furthermore, Oerlikon Barmag produces – as just one of only two manufacturers – machines for HMLS (High Modulus Low Shrinkage) yarns. These upstream products made from polyester are primarily used to manufacture tire cord, as they are extremely tear resistant, while remaining highly-elastic and demon-strating great temperature and dimensional stability.

The cord, a textile fabric made from twisted HMLS filaments, is merged with the tire rubber at around 200 °C. It lies between several layers of rubber and stabilizes the entire tire when on the road. The EvoQuench HMLS concept was developed for manufacturing such challenging high-end HMLS yarns.

The radial quenching system enables the manufacture of products with extremely high numbers of filaments, improves the quality of the individual filaments and reduces the air consumption required for production by approximately 80 percent compared to cross-quenching systems. All in all, this results in considerable savings in terms of manufacturing costs. “We are currently in the process of using this tech-nology in a pilot project in China to develop new processes for the next HMLS generation with even high-er tenacities and dimensional stabilities”, adds Stefan Becker, Senior Expert for Industrial Yarns Process Development. HMLS or HT (High Tenacity) yarns are also used for fan belts and hoses.

The HT concept is deployed in the manufacture of yarns with low shrinkage values (up to 4 percent) for vehicle tarpaulins as well, while values of up to 1.5 percent can be achieved using the X-SLS (Super-Low Shrinkage) concept. Here, both concepts permit 6-end to 8-end or 12-end to 16-end systems.

Oerlikon Barmag also offers POY yarns for automobile solutions: to this end, the proven dynamic, threed-imensional mixing principle of the 3DD mixer produces textile yarns that are dyed as part of the manufac-turing process. This spun-dyed POY – usually air-textured – is used in seat upholstery, roof linings and door cladding.

Nonwovens are an inexpensive alternative

Besides technical textiles, nonwovens are used for a multitude of vehicle components.

A Mercedes E class contains for example 17 of such components which among others are for the car boot lid, the door panels, underseat padding and of course various filters. Groz-Beckert reported in its newsletter main topic on automotive textiles up to 40 different areas of application of which around 10% were located in visible areas. Included were exotic sounding applications such as brake discs, textile wheel arch liners and exhaust systems.

Reasons why more and more nonwovens are being used in cars are low weight, favourable cost-benefit ratio and the almost endless amount of variations, offering numerous technical solutions and design options. Nonwoven fabrics find applications for many different processes and products including such examples as spunlaced nonwoven materials, melt blown nonwovens, mailvlies nonwovens, chemically entangled nonwovens and needled nonwovens.

Nonwovens are made mostly from polyester or polypropylene, but can also be manufactured using natural fibers or recycled PET fibers, for non-visible parts of the car, for example. Nonwovens can also be mixed with metal and mineral fibers.
The next trump card is the relatively low price, which can be explained as follows: spunlaid products are manufactured directly from polymer, hence dispensing with any interim production phases. Here, they offer an excellent surface-to-mass ratio. Various web forming and bonding techniques permit manufacturers to achieve special functions such as high air permeability or good insulation properties. And there are also differences in the efficiency of the manufacturing processes: “Spunbond and melt-blown materials, for example, are a growing segment as a result of their less expensive production compared to needled nonwoven – and are used for the production of low-priced roof linings for compact cars, for instance”, reports Gion-Pitschen Gross, Product Manager at Oerlikon Neumag.

Oerlikon Neumag offers a broad range of nonwoven technologies and is one of the leading providers within this segment.

The Neumünster-based company has secured itself an advantage above all in the manufacture of equipment for spunbonded products made from polyester. Compared to the competition, which is more focused on polypropylene in this area, Oerlikon Neumag has a decisive edge over its competitors by using proprietary technology that permits higher polyester throughputs and hence promises cost advantages. Here, the draw unit is decoupled within the spin line. As a result, small adjustments to the draw-off unit permit a greater titer range for the manufacture of a wide variety of products.

Other processes operate with a coupled system, whereby a stable balance must be established between the supplied quenching air and the draw-off unit in the event of changes to the titer or throughput.
Particularly in the case of frequent product changes, this can result in high waste rates and a negative impact on efficiency.
Visible applications of needled nonwovens require a very high quality of finished surface. Specially structured products are often used that require a so called structuring needle. These involve two different needle types: crown needles and fork needles. The needles produced by Groz-Beckert, the German global market leader, are often in operation for this purpose. The most often used fibre type for needled automotive nonwovens is PES, alongside further types such as PP and PA. As a rule, fibre gauge lies between 1.3 and 300 dtex, whereby finer fibres are increasingly being used. Product weights used in the car amount to between 100 gsm and 1,400 gsm. The trend is moreover moving in the direction of ever finer fibres.

DILO - Crosslapper DiloLayer DL

Another trend seen by the German company Dilo, is in the use of natural materials and renewable raw materials in the manufacture of nonwovens for the automotive industry.

The DiloGroup is the premier manufacturer and supplier of complete nonwoven lines made in Germany for staple fibre nonwoven production. DiloTemafa offers a complete programme for opening, cleaning, dedusting and processing for use with natural fibres.

Dilo has always been involved essentially in the improvement of the properties of nonwovens, the optimisation the respective applications and in creating more pleasing haptics.
The inventor of the DI-LOOP structuring and patterning technology, offers all machines for applications such as floor coverings and in the automotive sector including needle looms for felts with rib, velour, high-low-structures and relief patterns.

Dilo also invented the DI-LOUR structuring technology for lightweight random velour qualities. The double structure loom DI-LOUR IV provides increased pile density and „advance“ pattern fabrics which are mainly used for automotive interiors.

Composites are a powerful growth market

Composites are seen as one of the greatest growth areas of the automobile textiles as they always lead to a reduction of weight of the component replaced (lightweight construction) while also offering even better properties. Definitions in Wikipedia state: “composites are materials made from two or more constituent materials with significantly different physical or chemical properties, that when combined, produce a material with characteristics different from the individual components.”
The large organisations or associations of the composites industry in Germany – AVK, CCeV, CFK-Valley Stade e.V. and the VDMA Forum Composite Technology conducted a marketing survey in July for their members. The question relating to the current general business climate was answered predominantly as positive or very positive. Also question regarding their own position in the overall market was assessed as positive or very positive by 75% of the participants. The composites market continues to be considered as rewarding.
Some two thirds of those questioned plan to increase their involvement in this area in the future as estimates also indicate that the automobile and aviation sectors have the greatest momentum for growth. Regional growth momentum is expected primarily from Germany and Asia.

The greatest opportunities for growth are seen by the companies on the materials side relating to CFK (carbon fibre entangled synthetic materials) and GFK (glass fibre entangled synthetic materials). The COMPOSITES EUROPE exhibition (8th European trade fair and forum for composite materials, technologies and applications) takes place from 17 to 19 September 2013 in Stuttgart which in turn will certainly provide interesting momentum for the mobile textile industry.

We presented the example of CFRP in the production of the BMW i3. This is produced on the warp knitting machines of Karl Mayer a world leader in this market segment. The company from Germany has much experience with CFRP and offers technologies to produce Non Crimp Fabrics (NCF). NCFs are distinguished in that the fibres are lying stretched inside the individual layers, which optimally absorb mechanical forces such as pressure and tension.

KARL MAYER - Multiaxial, High-tech knitting machine with several weft insertion systems for the production of multiaxial multiply and composite fabrics

An optimized layer construction reduces production time and material requirements. Karl Mayer offers Multiaxial machines, Biaxial machines and Fibre Spreading Systems. The machine developments are focused on improving the economics.

The Karl Mayer Malitronic® Multiaxial Cut & Lay is put into operation with a band width of up to 6m and productivity of up to 4.8 lin. m/min for the production of CFRP for the BMW i3. The layered NCF is mechanically bonded using the warp knit procedure. The machine produces a high reproductive quality of fabrics and can additionally be equipped with quality control systems.

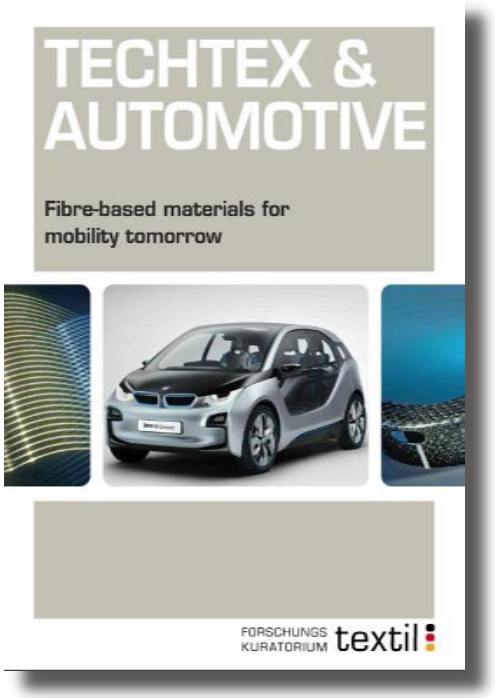
DORNIER - for 40 years a supplier of weaving technology for composites such as GFK and CFK has an excellent position as a result of the high quality of production machinery. The machine of choice for the processing of all yarns for the composite industry is the DORNIER rapier weaving machine P1 with the patented positive central transfer. This machine enables delicate materials such as glass, carbon and basalt to be processed optimally. DORNIER customers supply composites of carbon fibre for aircraft, motor sport and automobile production lines. Woven composite leaf springs with a 65% weight reduction as opposed to steel and monocoque cockpits are a good example as they enhance considerably the chances of a racing driver surviving a crash due to their high degree of stiffness.

DORNIER has also been working for many years in the aircraft industry in the field of composites being for example involved in the development of the Alpha Jet, the first production aircraft with break flaps made of synthetic material with entangled carbon fibre.

German industry is supported by first class research

There are two institutes that have provided outstanding scientific support for the field of German mechanical engineering. The Institute of Textile Machinery and Textile High Performance Material Technology (ITM) of the Technical University Dresden under the management of Professor Dr.-Ing. habil. Dipl.-Wirt. Ing. Chokri Cherif works with over 100 staff on topics such as composites, light structures and energy technology, development and production of economical carbon fibres as well as construction, testing and simulation of textile materials and semi finished products in general for almost all areas of application. Univ.-Prof. Prof. h.c. Dr.-Ing. Dipl.-Wirt. Ing. Thomas Gries heads the Institute for Textille Technology (ITA) of the RWTH University in Aachen and is conducting research on a number of textile solutions for the automotive industry.

RWTH is the global leader in research in the automotive field with around 350 scientists and great variety of participating institutes.



Brochure “Techtex & Automotive” by Forschungskuratorium Textil
(http://www.textilforschung.de/pdfcat/TechtexAutomotive2012en/)

The Institute examines questions for example on lightweight design with composites, fibre material for innovative structures, smart textiles with integrated functionalities and recycling of high-performance fibres. ITA is also involved in a project on the resource and cost-efficient production of carbon fibres for a wide application spectrum with the objective of increasing production speed, increasing capacity of new production plants, lowering power demand and new customised sizing.

For example, scientists are working on a combination of single and multi-step preforming which means converting tailored non-crimp fabrics (TNCF) and tailored braid into near-netshape preforms.

Research in light construction has led to CAMISMA (carbon fibre/amid/metal based interior structure components used in multi-material systems) a carbon nonwoven that is to replace steel and sheet metal in automobiles. An finally ITA is also researching the field of ambient light and in cooperation with the automotive interior centre working on thermo management and improved acoustics in vehicle interiors.

The Textile Research Council (Forschungskuratorium Textil) in cooperation with associations, research facilities and organisations of the German textile industry which includes ITM and ITA supports technology transfers in the companies within the textile and clothing industries as well as other affiliated industries and areas of application with the results of research development programs. The Council strives to strengthen the cooperation between the textile industry, machinery constructors and the automobile industry as well as taking responsibility for enabling innovations from the technical textile field to transfer to the automobile industry by the quickest possible means. Recently the Council issued a related brochure that presents numerous examples of how technical textiles are to find their way into the automobile both at the present time and in the future.

It is somewhat surprising in the light of the numerous textile applications that there is a company involved in almost all textile production for the automobile industry.

We refer to Groz-Beckert with a total of 70,000 different archived product types for the production of textile surfaces and bonding techniques and who have also a large portfolio available in this segment that is continually being driven forward by innovation. The company as an example supplies warp knitting needles for woven mesh materials in the seat, felt needles for ceramic brake discs, sewing needles for the seat seems as well as heald and heald frames for seatbelts and airbags.

Then you would also be permitted to cut open a brand new automobile in order to demonstrate this broad portfolio. Even though for most people their heart would break at the thought. ■

Interview with Daniel Lippuner

CEO of Saurer

„Our employees identify with Saurer and are all highly motivated“

(by Oliver Schmidt)

The new Saurer Group came into being on 4 July with you as the CEO. Allow us to offer our congratulations. The separation process from Oerlikon took more than six months. How well do you think the new Saurer is positioned today?

I believe the new Saurer is exceptionally well positioned. We are a leading global company in spinning and twisting natural fibres, and we have some excellent brands and machines at our disposal. As a market leader, we operate in the areas of carpet yarn manufacturing, tyre cord and Schiffli embroidery. The successful components business is another of our areas of competence.
Added to this is the fact that, together with the companies Heberlein, Temco and Fibre Vision, we can provide high-quality, distinguished components for the man-made fibre segment. We, Saurer, have taken on all of the employees of the Natural Fibres business unit of Oerlikon. Half a year ago, when it became clear that we would be entering the market under the name of Saurer once again, the staff were genuinely pleased, as they all identify with Saurer and are all very motivated. We were able to seamlessly take on the customer relationships that had built up, the high level of organisation, the distribution network and thus the proximity to our customers. So, yes, we are very well positioned.

4 July is, of course, also known as Independence Day. Is this just a coincidence?

Yes, it is a coincidence in fact, but it does make me chuckle a little. I was in Indonesia on that day, and American Independence Day is not so significant there. It is a very nice coincidence though.

In which markets will your overall priorities lie? Will everything remain as it was, or will there be some changes, too?

We don't have any specific focusses, but rather we go where our customers are, and they are all over the world. All markets and all customers are important to us. Based on sales figures, our main markets are in countries such as China, India and Turkey. Indonesia, the USA, Brazil and Central Asia also offer great potential.
And how about the production sites? Will there be any medium-term changes here?

No, there are no plans there. Overall, we are taking a decentralised approach at Saurer, with the individual companies taking responsibility and making decisions. This flat hierarchy enables us to maintain excellent proximity to our customers and facilitates a swift decision-making process accordingly.

According to the current FYP, China wants to modernise and automate. The goal of Mr Du Yuzhou, the President of the China National Textile & Apparel Council, is to develop into a high-tech country. Do you see any significant opportunities for the new Saurer here?

Yes, I do. 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. 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.

It is actually progressing even faster in India, where already 80% of spinning machines ordered have a high degree of automation. Although wages in India have not risen by very much at all, it is becoming more difficult to find qualified skilled workers.

In your press release, Mr Pan spoke about increasing the resources for R&D in Germany and Switzerland. Can you estimate the scale of this increase?

No, unfortunately not. But that's not because I don't want to, but rather because there isn't a fixed plan for this. We would like to invest heavily in research and development – but it isn't as simple as that. To clarify, we are looking for skilled engineers, both young and experienced, to recruit. If you, the reader of this interview, belong to this category, then apply for a job with us!

We also have a high demand for qualified engineers in the short term and we offer a very interesting working environment. A globally operating company and highly motivated colleagues look forward to welcoming you. In the long term, we will also further expand our cooperation with universities.

It is precisely R&D that has brought you a lot of renewed success recently, with outstanding technological innovations such as the new Autocoro 8, the Autoconer and the Allma CC4. What is your opinion on the risk of these machines being copied and you not being able to sufficiently monetise the findings of your research?

There is already a latent danger that we may be copied. Just like most companies, we protect our products with patents. The expenditure on R&D for some of these products is in the range of tens of millions. Of course, it is important to recoup the costs here, in order to be able to continue to develop such innovative products.

On the other hand, with highly complex products such as these, there is no real danger of being copied because, for one thing, a great deal of expertise goes into even being able to build such a machine and, for another, the components used in the machines are of a quality and precision that quite simply cannot be recreated without these parts. In the rotor spinning machine sector and for winders, attempts are made now and again to copy us, but this does not in any way constitute any real competition.

And for the more simple machines, patents and lawsuits, or the precision already mentioned, come into play. As an example: the TexParts pendulum arm for ring-spinning machines is manufactured fully automatically in Fellbach near Stuttgart, without any operator intervention. This pendulum arm cannot be manufactured with the same level of precision using a manual process.

What do you think of the major trend towards more sustainability in textile production? Isn't it playing perfectly into your hands, since Saurer has an exceptional machine portfolio with regard to energy efficiency and thus CO2 reduction? Are you already feeling this trend in your customers' decision-making processes?

The contribution that we can make to sustainability with our machine sector is included in the area of energy saving, as we don't actually have any other processes which may be harmful to the environment. And you're right. In terms of energy savings, we really are excellently positioned. Energy efficiency has always been a cost issue for spinning mills.
And electricity costs are rising in all countries except in the USA. In the twisting process, for example, the energy costs account for around 50% of the overall cost. So let me mention as an example our latest tyre cord machine, the Allma CC4. We call it an "energy-saving wonder", as our engineers have managed to reduce its energy consumption by 40%, even at the high level of energy saving that we have been reaching for many years already.

Developments like this make Saurer a company that supports and promotes sustainability.

You were previously personally responsible for the Textile Components sector. Now you are at the helm of the entire SAURER Group and thus have responsibility for the whole business. What attracted you to this task and how are you approaching it?

Well, it is, of course, a task which I take great pleasure in and which I find very fulfilling. I also feel a great responsibility for our 3,800 employees and our customers. At the moment, around 80% of my work consists of travelling around our markets. I am holding discussions with our customers, getting an idea of the production facilities on site and processing complaints.
I am currently in China, before that I was in Indonesia and India, and next I'm heading to the USA and Thailand. As I lived in various Asian countries for six years, in Delhi, Hong Kong and Thailand, I love being in Asia and always feel at home there. The work gives me great satisfaction.

Your chairman of the board of directors, Heinrich Fischer really is an old hand or, to put it another way, a unique personality in the textile machine industry. How would you describe the collaboration between the two of you? How does he help you and in what aspects to you seek his advice?

You might be surprised to learn that Heini Fischer and I first met only around six months ago. We hit it off straight away, which is a rare occurrence in life, and I would almost say that we were kindred spirits. We speak exactly the same language and are constantly having discussions, every day almost. Over time, we have noticed that we also have a few things in common professionally, too. Before he was the Saurer CEO, he was already at Oerlikon and is a member of the administrative board of the Hilti Group, the company where I worked for eight years. He is simply a role model and a man for whom I have the greatest respect and whose advice and support I value greatly.

Mr Lippuner, thank you very much for this interview, we wish you the best of luck and every success, both personally and for Saurer.

Short history of Daniel Lippuner

Daniel Lippuner, 41 years old, has a long and broad based general management experience. Before he became the new Saurer CEO he was head of the components business of Oerlikon Textile since 2010. Before that he had the position of Head of Corporate Controlling at the Oerlikon headquarter.

Lippuner joint the Oerlikon group in 2006 and he supported the strategic development and colead the operative restructuring of the Oerlikon Group with emphasis on Oerlikon Textile.

Before he came to Oerlikon, he was CFO Europe, CFO Asia and CEO Southeast Asia of the Liechtensteinbased Hilti Group and Controller at Rieter Automotive in Switzerland.


Electricity: The increasingly
critical competitive factor!

Energy efficiency and resource saving:
Sustainability meets profit.

Success stories on www.machines-for-textiles.com/application-reports

an initiative of VDMA

BLUECOMPETENCE
Textile Machinery

Engineering a better world

Hardly any other economic factor is being so hotly discussed worldwide as energy costs, especially of electricity. Electricity costs intensify the competition between regions and countries since industrial and production site as well as electricity costs often lead to a competition between industry and citizens, whose varying rates and price increases then lead to conflicts. The electricity prices are rising steadily in all countries, with a few exceptions, such as e.g. some states in the USA or Sweden, and in the light of the worldwide energy requirement, which is expected to rise by almost 40% by 2030, this development will probably continue. Increased demand, declining fossil fuels resources and high-risk nuclear power. This means that a lot of hope is set on renewable energies. However, they too will probably lead to further price hikes in the short-term. For some industries it will prove difficult to produce profitably at the respective site.

In this article, we wish to examine what electricity costs today in the different textile producing countres, address the future requirements briefly and look at the current strategies of some countries. At the same time, details on electricity prices have a certain fuzziness - all too soon the sources become obsolete and the rates change. In addition, there are the currency fluctuations. That is why we are mainly interested in answering the question whether the difference of electricity costs in individual countries and regions is likely to increase and which solutions are available to counteract rising energy costs.

The most inexpensive electricity in the OECD countries is probably to be had in the US state Washington, in picturesque Grant County to be more precise. There Grant County Public Utility District operates two hydroelectric dams on the Columbia River that provide low cost, readily available electricity to Grant County businesses. The industrial average power rate is 2.5 US $ cents per kilowatt hour. Even if there appears to be even cheaper electricity availble in non-OECD countries (e.g. Kuwait is listed in some Internet sources with 1 US $ cent), we want to make the Grant County electricity price into a kind of reference value and use it to compare the prices in other countries. (-> table)

Energy cost comparison

The special electricity price in Grant County already demonstrates that there is no single nationwide electricity price in the USA. The EAI states the lowest value 4.04 cents for Washington state and the highest at 13.34 cents for Massachusetts (without Alaska and Hawaii) for the Average Retail Price of Electricity (Industry rate). The following are under 6 cents: Illinois(5.72), District of Columbia (5.59), Kentucky (5.82), Oklahoma (5.92), Montana (5.62) and Oregon (5.88). The average price across all states is 7.13 US $ cents. Meaning that Washington electricity costs a mere 72% of Montana electricity, that of Grant County even just 45%.

Country	Price Households US $ Cent	Price Industry US $ Cent	In % Industry / Households	In % of Grant County price
Grant County, USA		0,025		
Bulgaria	0,11	0,082	75%	
Romania	0,14	0,096	69%	329%
Finland	0,20	0,097	48%	
Luxembourg	0,22	0,097	45%	
Estonia	0,14	0,100	72%	400%
Sweden	0,26	0,101	39%	
France	0,19	0,101	54%	
China		0,104		
Turkey		0,112		
Slovenia	0,20	0,113	56%	
Poland	0,19	0,114	61%	
Greece	0,17	0,117	68%	
Netherlands	0,28	0,119	43%	499%
Hungary	0,21	0,125	59%	
Ireland	0,27	0,125	47%	
Latvia	0,17	0,126	74%	
Denmark	0,39	0,127	32%	
United Kingdom	0,20	0,129	64%	
Belgium	0,30	0,129	43%	
Spain	0,25	0,129	51%	
Czech Rep.	0,19	0,130	67%	
Portugal	0,24	0,131	54%	
Lithuania	0,17	0,139	84%	
Germany	0,34	0,148	44%	594%
Austria	0,26	0,154	59%	
Slovakia	0,22	0,158	70%	
Italy	0,28	0,188	67%	751%

Source: energy.eu, EUROSTAT / Electricity Price for selected countries in 2012/2013

There are also clear differences in electricity costs of up to 10 cents within the EU. Bulgaria has the lowest electricty price, about 40% cheaper than the mid-field with France and Sweden, and only half that of Slovakia. At the top end are Belgium, Spain, The Czech Republic, Portugal and Germany. Italy has the highest industrial electricity price within the EU with approx. 19 US $ cents. In contrast, household electricity in Italy, at 28 US $ cents, is distinctly cheaper than, for example, in Germany at 34 US $ cents. Here, Italy has smaller differences in the rates at the expense of industry and thus the economy. Easing the citizen‘s burden could thus become a burden for industry due to a weaker competitive ability. Denmark pursues a different philosophy. The rather moderate 13 US $ cents for industry are in the mid-filed, while the 39 US $ cents for the household electricity is the peak value.

Compared to Grant County, no EU country is competitive, because the electricity is at least 3-times as expensive, compared to Germany and Italy even 6-7-times. And electricity in Europe is expensive also compared to the other states in the USA where especially cheap electricity is provided. Electricity in France is cheap in comparison to Germany, Italy and Spain, but it is still about 70% more expensive than industrial electricity in Oklahoma. A survey performed by the gtz (German Association for Technical Cooperation, now called giz) from the year 2010 on electricity for the G20 and N11 countries lists Argentia, Bangladesh, Canada, China, India, Indonesia, Nigeria, Pakistan, South Korea and Vietnam among the countries with moderate electricity costs between 2 cents and 7 cents/KWh.

According to the survey, the countries with very low electricity costs are Egypt, Iran and, at the top, Saudi Arabia with only 1 cent/KWh. Individual comparisons are difficult because there are very many different rates in many countries. For example, there are so many different regional and day/night rates in China that even domestic experts have trouble producing a comprehensive list. It can, however, be said that the electricity prices of some countries are equivalent to the reference value Grant County and that factors between 2 and 19 can be applied for the EU countries.

This brief comparison agains demonstrates that, in addition to labour costs, the cost of energy was always a crucial factor for selecting a production site and it will become even more significant in future. The more mechanical and automated the production, the more decisive the electricity costs. If we take, for example, an energy-intensive production process from spinning, where the energy used can account for up to 50% of the total costs, the table shows that certain fibers could be produced in Grant County for 60% of what it would cost to produce them in Germany. Now that is a significant difference.

World energy demand is rising

Let us now risk a look ahead. The development of the electricity prices in the next years depends on numerous factors. Above all, the increased energy requirement worldwide.

The US Energy Information Administration (EAI) sees the following increases: „In the IEO2013 Reference case, world energy consumption increases from 524 quadrillion Btu in 2010 to 630 quadrillion Btu in 2020 (+20%), to 730 quadrillion Btu in 2030 (+39%) and 820 quadrillion Btu in 2040 (+56%). More than 85 percent of the increase in global energy demand from 2010 to 2040 occurs among the developing nations outside the Organization for Economic Cooperation and Development (non-OECD), driven by strong economic growth and expanding populations. In contrast, OECD member countries are, for the most part, already more mature energy consumers, with slower anticipated economic growth and little or no anticipated population growth.” India and China have the largest increase in energy demand. “Since 1990, energy consumption in both countries as a share of total world energy use has increased significantly; together, they accounted for about 10 percent of total world energy consumption in 1990 and nearly 24 percent in 2010. From 2010 to 2040, their combined energy use more than doubles in the Reference case, and they account for 34 percent of projected total world energy consumption in 2040. China, which recently became the world‘s largest energy consumer, is projected to consume more than twice as much energy as the United States in 2040”.

Change in energy generation

A further factor is the change in energy generation. Some countries have explicitly decided to phase out nuclear power after the Fukushima catastrophe (Germany, Switzerland, Belgium, Spain), other want to remain free from nuclear power (such as, e.g. Italy or Ireland). In contrast, Great Britain, France, Poland, the Czech republic, Hungary and Lithuania want to retain nuclear power or reintroduce it. The affected country Japan had decided to phase out nuclear power by 2040, however, this decision has recently been qualified. Opting out of nuclear power increases the share of electricity generated by fossil fuel power plants. However, these resources, above all coal, are becoming scarcer and the extraction costs are rising. Today, coal has the second highest share in energy generation after liquids with 155 btu, and according to the EAI forecast, will increase by 34 per cent to 208 million btu in 2030. Nuclear power increases its share of 5% with 26.8 m btu to 49.5 m btu (+85%) and increases its overall share to 7%. The expansion of reneable energies is to rise worldwide.

In Germany, the electricity costs will rise due to the energy turnaround and the associatedEEG levy [Renewable Energy Act], a levy on the electricity price to finance the compensation paid for feeding „green electricity“ into the grid. The EU energy commissar Günter Oettinger assumes that the electricity price will continue to rise: He expects price increases of about 10 per cent per year.

This estimate would mean that the costs per KWh will already have doubled after 7 years. Electricity-intensive companies (electricity consumption over 1 GWh/a) are partially exempt from the EEG levy and could even profit from the drop in basic prices for electricity on the electricity exchange, however, this exemption could be toppled by the EU as a prohibited state subsidy.

The amount of energy generated from renewable sources in Italy doubled between 2007 and 2012 and Italy is investing substantial a sums in building up an intelligent electricity grid. Based on the EU climate protection objectives, Italy has pledged to cover 17% of its primary energy comsumption with energy gained from renewable sources by 2020. The goal has been raised by the government, in the meantime it aims at a ratio of about 35% of electricity generation.

Also Japan is on the way to becoming a solar power. Reports the renowned Germany newspaper „Die Zeit“ in April 2013. With 29 US $ cents compensation per kilowatt hour of solar energy produced, Japan currently pays the highest compensation worldwide and, according to forecasts by IMS research, could install an additional five gigawatts of solar capacity and so double its installed capacities compared to the previous year. In the end, however, Japan could end up like Germany and the counter-financing of the attractive support could lead to a significant electricity price increase.

Electricity was heavily subsidised in China and was therefore very cheap. China has a lot of coal and a lot of coal power stations.

Coal alone provides 70% of China's electricity and non-renewable, carbon-intensive fossil fuels in total account for almost 90% of China's entire energy production. But the electricity price has become far more expensive over the past years also in China. In 2010 the tariff for non-residential use was pegged at 0.74 yuan (US$0.12) and for major industrial use at 0.61 yuan (US$0.1). The average user-end rate was 0.58 yuan (US$0.094) and should reach 0.7287 yuan per kilowatt-hour (kWh) by 2015, a 27.6-percent increase from the 2010 level, according to the latest forecast by China Electricity Council (CEC), reported ChinaDaily.com in March 2013. This price rise represents an annual growth rate of 5 percent. However, the yuan has also dropped 10% in value to the dollar in the last three years. China's commitment to renewable energy is the focus of its 12th Five Year Plan, setting ambitious targets that could see the country as the world's number one consumer of energy from renewable sources. To ramp up support for renewable energy projects the China National Development and Reform Commission issued in August 2013 new subsidy standards for distributed solar power generation projects, fixing a 0.42 yuan (7 cents) subvention for every kilowatt-hour of electricity produced by PV power units.

In Turkey, energy price increases in 2012 caused anger and outrage, after the household rate for gas was raised by 20% and by 10% for electricity. Industrial electricity also rose by 8.7% in the course of this price increase.

In Indonesia, the government announced price increases in 2012 of around 15% for electricity starting in 2013, in order the expand the infrastructure of the energy supply.

Ade Sudrajat Usman, chairman of the Indonesian Textile Association (API), said the electricity price rise would put pressure on the nation's textile exports, which are already grappling with slowing global demand.

Since 2008, Russia has seen a rise in electricity prices that has mostly been determined by the rise in gas prices and by large investment programs on the part of distribution grid companies. According to the Ministry for Economic Development, in the mid-term, both trends will remain. Thus, in the 2013–2015 period,tariff growth will be 10–14 percent per year.

In the USA, the electricity price has only risen slightly overall, in some states it has even fallen bucking the worldwide trend. Due to the oil and gas reserves discovered in shale in the USA and the possibility to extract them using innovative, allbeit environmentally controversial methods such as horizontal drilling and hydraulic fracturing, the USA could become one of the largest oil and gas suppliers and so keep energy prices „down" in the long-term. The German newspaper FAZ reports that that is how President Obama aims to reindustrialise the country. Since the investments in renewable energies are based on increasing prices for fossil fuels, as well as the worlwide will to achieve more sustainability, a stagnation in this area could cause a distinct increase in electricity prices in those countries that focus especially on investing in renewable energies.

The few examples demonstrate that the gap bewteen the energy costs, easpeically the electricity costs, will continue to widen, and that electricity is increasingly becoming the cost factor that makes the difference.

This means that it is even more important to consider future energy price increases in long-term investment decisions. For new investments for textile machines, this means now essentially considering the energy consumption as well as the one-off machine costs and the productivity, when making the decision. To make this visibly transparent, the Italian association for textile machines ACIMIT has introduced the green label, a sticker that advertises directly on the machine that the machine is especially energy-efficient. The German association VDMA says this is taking it too far. „A textile machine is not a refrigerator," the association announced. The machines' areas of application were too varied and the consumption too dependent on the machine's operation. The VDMA focuses on information and best practice, i.e. it shows certain use cases where the electricity consumption was distinctly reduced by implementing modern, energy-efficient machines.

Energy efficient machinery

There are a lot of examples concerning this use cases in the field of saving energy. Some of them are based on similar technical concepts and others are very special solutions for concrete problems. We now want to introduce a few of them. Lets first have a look at a particularly power intensive process, the entire tire cord cabling process.

For this process energy costs are the greatest cost pool and account for 30 to 50 percent for plants with write-down requirements, and even for 40 to 80 percent for machinery already depreciated.

The Saurer Allma CC4 allows for energy savings of up to 50 percent, depending on the yarn count and spindle type. For that innovation the Alma CC4 has been awarded in 2011 with a 'Tire Technology Award for Innovation and Excellence 2011' at the „Tire Technology Expo" in Cologne.

SAURER - The Saurer Allma CC4

www.brueckner-tm.de

BRÜCKNER
be first in finishing

Quality makes the difference!

- Intelligent machine systems for textiles, technical textiles and nonwovens
- High quality products and technology made in Germany
- Tailor-made solutions in close cooperation with our customers
- Family-run and worldwide acting company with more than 60 years of tradition

In the field of weaving DORNIER developed an intelligent control unit FT-control which achieves considerable compressed air savings during filling insertion at the DORNIER air-jet weaving machine A1. The challenge was to find a way to permanently determine the actual position of the thread tip during the filling insertion, so as to open the individual valves right on the point for the onward transportation of the filling thread. The solution results in a considerable 12 % reduction of compressed air consumption and consequently in substantial energy savings. In the field of warp knitting LIBA' s aim of the work was the reduction of energy consumption of fast running tricot machines. To achieve the solution the company investigated a machine regarding energy consumption and heat emission by measuring the power consumption with a consumption measurement device and the heat with an infrared camera and temperature sensors.

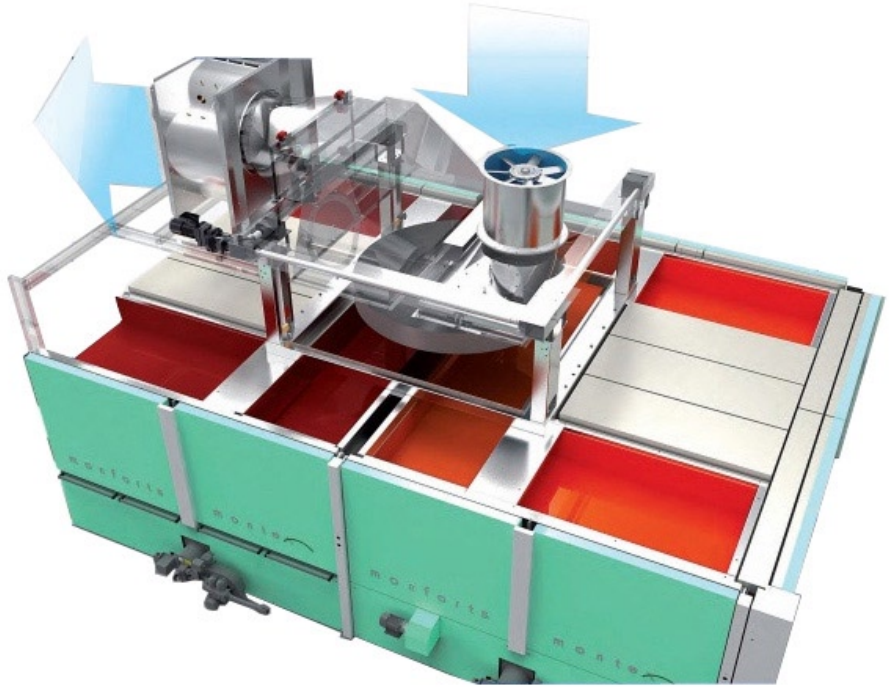
As the result LIBA changed the machine beds and the drive for its ECO machine generation and offers the possibility to save up to 35% of energy.

In the field of knitting Groz-Beckert developed the litespeed ® needle to reduce the frictional heat which is generated by the movement of the needles and as one result the litespeed ® needle also increases energy efficiency of the machine. The world leading needle expert optimized needle shank geometry due to partial reduction of the needle shank thickness in circular knitting needles and reduced the needle weight. With litespeed ® needles friction against the trick walls is reduced and less energy is required for needle movement. Up to 20 % lower energy consumption of the machine is possible and there is less energy required to lower the room temperature.

In the field of finishing Brückner developed the new relaxation dryer POWER-RELAX 3 which increases the production capacity and reduces at the same time the energy consumption. Because the moisture of a textile fabric web is a considerable factor of influence for the energy consumption in the drying process it was the company' s aim is to optimize the drying process in view of flow and energy. The idea was a new flow concept and the solution the development of a relaxation dryer which comprises three fabric passages which lay one above the other. The moist fabric is introduced into the dryer in the top fabric passage. In this passage the fabric is heated and pre-dried by using the hot exhaust air from the medium and lower passage without using additional energy. The POWER-RELAX 3 reduces the required air flow for the drying process and thus the energy consumption up to 25%.

In new Monforts ranges, the principle of heat recovery is offered as standard. And the company went a step ahead and made thoughts about older ranges that many customers still have in operation. Monforts developed the "Energy Tower" and the "ECO Booster" retrofit modules to increase energy efficiency. The "Energy Tower" is a stand-alone air/air heat exchanger. The module draws in the exhaust air from the drying process and returns it via heat exchangers to the range so that the air is preheated to around 90°C and only has to be heated to 150°C. The high drying temperature is thus reached more quickly and the energy consumption is reduced. The Eco Booster HRC can also help to minimise the energy costs when using stenters. The Eco Booster permits a computer-controlled adaptation of the heat exchanger performance to the prevailing waste air stream.

This optimised efficiency further reduces the process costs. An Eco Booster HRC on an eight-field stenter, nominal width 200 cm, 150 g/m_ woven fabric, fixing process and 6000 operating hours per year even enables 35 per cent of the energy costs to be saved.



MONFORTS - The Eco Booster

And last but not least we have to talk about Oerlikon and their energy efficience strategy which started in the mid-1990s: with the e-save energy efficiency program the company gave energy-aware processes and efficient production special significance. One example for Oerlikon Man Made fibers efforts in energy efficince are Barmags energy savings in the field of producing industrial yarns (IDY). A conventional IDY/low shrinkage system consumes around 6.4 million kWh of electricity per year to produce 10,000 tons.

The main energy consumption generally relates to the following components: extruder drive (21 percent of overall consumption), spinning section (15 percent), take-up drive (25 percent) and godet heating (35 percent). The extruder drive offered considerable savings potentials and Barmag reduced this consumption by using motors made from superior materials and with an increased copper ratio and hence higher conductivity and optimized ventilation technology. An Oerlikon Barmag 17E10/24D (175-mm ø) type extruder can save 3.6 kW per hour this way. The energy consumption of the SP8X spinning beam was even reduced by 45 percent iIn a comparison with a competing system because of the construction with round instead of the market-standard rectangular crosssection. Oerlikon Barmag's patented Godet Heating System uses induction technology with up to 10 kHz and only generates heat where it is actually required. Hence, HF multi-zone godets consume around 25 percent less energy.
Summarizing the total savings for the IDY system generates an interesting calculation for the production of 10,000 tons of yarn annually. Energy savings of 0,8 million kWh of electricity per year are possible.

Conclusion: detailed analysis of energy costs

The given examples show us that the textile purchaser for machinery must become more and more of an energy expert, because a non-standardised label or the output details on the machine do not tell him anything or at least not a lot about the actual. Here, he has to look at the concrete use case and ask the textile machine manufacturer to break down the energy advantages of the machine precisely for his desired production using references, accurate models or simulations.

The decision is perhaps easier to make regarding large, international projects for new products where production site is freely selectable.
This situation gives companies the possibility to choose machines with low energy consumption and bring them for particularly energy-intensive production processes to the cheap electricity, so to speak. Almost perfect, if the energy is also even „green". That's how BMW and SGL go about it for the new BMW i3. According to a BMW Group press release: „The decision to build the carbon fiber plant in Moses Lake was based primarily on the availability of renewable, clean hydropower and competitive energy costs." Moses Lake, doesn't sound familiar? Now, Moses Lake is a town in the US state of Washington, to be precise: in Grant County. ■

Techtextil 2013 with double-digit rates of growth on exhibitor and visitor sides

When the Techtextil 2013 closed its doors after three more than interesting days one had to come to the conclusion that there has been a deeply satisfied exhibition organisation team, excited visitors, delighted exhibitors and a good mood in the sector.

Let us start with some facts. The worldwide flagship fair for technical textiles and nonwovens sets unequivocal new records on both the exhibitor and visitor sides. 1,322 exhibitors from 48 countries (2011: 1,199), an increase of ten percent over the last event, presented new products for all product groups and areas of application for technical textiles and nonwovens. Around 27,500 visitors (2011: 24,915) from 97 countries, also an increase of ten percent, ensured busy exhibition stands and numerous contacts throughout the fair. “Techtextil has once again been able to expand its unique position as the world’s leading trade fair and a must for the sector”, said Detlef Braun, Member of the Executive Board of Messe Frankfurt GmbH. “Together with Texprocess, we see a bright future for Techtextil. The records set by both fairs confirm the seminal concept of this combination of technical textiles and textile-processing technologies.”

At the leading trade fair for the sector, visitors had the chance to discover innovations in all areas of application for technical textiles. The products on show took account of the latest trends, e.g., lightweight construction, functionality, sustainability and mobility. The novelties included sensory systems for apparel, extremely light textile reinforced concrete and natural-fibre-based composites for automobiles.

In addition to the great innovativeness of the sector, synergistic effects generated by the range of products at Texprocess were very much in evidence, as reflected by the statistics on visitors from Texprocess, which reveal that around 5,400 trade visitors of the leading trade fair for textile-processing technologies took advantage of this unrivalled opportunity to attend Techtextil.

96 percent of visitors rated their visit to Techtextil as having been good to very good (2011: 96 percent). The values on the exhibitor side are similar. 90 percent of exhibitors said they had achieved their goals for the fair (2011: 90 percent). Speaking on behalf of the German industry, Werner Zirnzak, Deputy Director of the Association of the Yarns, Woven Fabrics and Technical Textiles Industry (Industrieverband Garne - Gewebe - Technische Textilien e.V. – IVGT), said, “Our member companies are unanimous – this was the best Techtextil ever. The increased number of exhibitors attracted more visitors to the fair. The first day of the fair was particularly good. Visitor quality was also excellent.”

Besides the growth in visitor numbers, there was also an increase in the proportion of visitors from outside Germany to 57 percent (2011: 55 percent), which enabled Techtextil to consolidate its position as the world’s foremost meeting place for the sector.

After Germany, the biggest visitor nations were Italy, France, Turkey, Great Britain, The Netherlands, Belgium, Switzerland, Spain, Poland and the Russian Federation.
There were also significantly more visitors from China, Japan, Taiwan and the USA.

13 countries (2011: 11) made presentations in national pavilions. In addition to Belgium, China, France, Italy, Canada, Portugal, Spain, Taiwan, the Czech Republic und the USA, Great Britain, India and Croatia were represented. On behalf of the French pavilion, a satisfied Pascal Galli, Technical Textile Project Manager of Ubifrance, said, "Nearly all the 73 companies of the French pavilion had very good meetings with many visitors, mainly from Europe. Techtextil 2013 was very good."

Delighted exhibitors

The significant increase in visitor numbers was also noticed by Oliver Klein and Sören Klein, General Managers of Elmatex GmbH, in Hall 3.0: "Techtextil 2013 was super! On occasions, we had so many visitors at the same time that we could certainly have doubled the number of sales representatives on our stand". The Institute for Textile Technology (ITA) of RWTH Aachen University, which was represented on the Elmatex joint stand, was also very pleased with the quantity and quality of contacts made: "The number of visitors in the hall was excellent. We held discussions with the industry, associations, institutes and students, and made good use of the Job Wall for job offers", said Marketing Manager Viola Siegl.

Numerous exhibitors used Techtextil as a platform to present their products to all target groups including customers, suppliers and journalists. Thomas Petzel, General Manager of Freudenberg Nonwovens (Germany) was very pleased with the results of his company's participation in Hall 3.1: "Our press conference on Tuesday was very well attended. We met numerous customers, suppliers and potential partners from the industry and conducted many important discussions. For us, Techtextil is an important opportunity to present Freudenberg Nonwovens as the world market leader with its innovations and technologies, and a supplementary medium for initiating the dialogue with customers, suppliers and business partners."

With its eleven product groups and twelve areas of application, the concept of Techtextil once again attracted visitors and exhibitors from all parts of the textile industry and areas of application. Confirming this, Christina Kreuzwieser, Head of Marketing Communication at Lenzing (Austria), which was positioned in Hall 4.1, said: "For us as fibre manufacturers, Techtextil was a highlight of the trade-fair season. The whole textile chain was represented by visitors from all sectors. Particular emphasis was given to the network idea and this will certainly give a boost to many of tomorrow's innovations. Techtextil is the right place to meet interesting, innovative companies and to promote new products."

Let us have a look at the exhibitors producing technical textiles and nonwovens and their innovations on the show.

Amann presented applications made of their impressive and broad range of threads. Especially the techX Performance Threads series offers a diversity for techtex and automotive textile solutions. Examples are A-tech CS for heat protective clothing, NC-tech, a Nomex DuPont meta-aramide continuos filamentfor airbags and Xtreme-tech with Dyneema, a special sewing thread with maximum strength and minimum weight for freight containers, climbing gear abd fishing nets.

Freudenberg Nonwovens presented its broad spectrum of product innovations in all market segments, from the latest generation of Viledon® battery separators and the steady stream of new applications for Evolon® microfilament technology to the new Vildona® Airliner 2.0 in the footwear industry. Evolon® is a revolutionary chemical free fabric for anti allergy bedding, the microfilament structure provides outstanding cleaning and lint free properties which makes Evolon a perfect cloth for high-tech wiping, the scratch free characteristics of the fabric offer the best surface protection for the transport of sensitive parts like for example in the automotive or electronic industry. And with 300 times more breathability than conventional membranes, Vildona® Airliner 2.0 has exceeded all expectations as a shoe insole. The technology is based on a substrate, in this case a spunlace nonwoven, in which a superabsorbent polymer is anchored using a chemical reaction.Exhibits werde presented in noble glass cases.

Many visitors at the **Gerber Technolgies** booth. Gerber demonstrated automation solutions for fashion and Technical Textiles.

Nonwoven specialist **Sandler** presented its extensive range of nonwovens and showcased new developments for the automotive industry, filtration, the construction industry, hygiene and wipes applications.

ContiTech presented their new ideas to make diving suits safer. A new coated fabric for diving suits provides protection and safety in and under water.

schoeller tech informed about their outstanding water and mud repellent technology ecorepel. The outstanding water and mud repellent technology is not only free from fluorocarbons and biodegradable but also wash permanent and highly abrasion resistent.
And the company demonstrated its solar+ technology. Textiles with solar+ efficiently absorb the heat rays of the sun. Even thin fabrics can provide more warmth and the wearer comfortably warm. The new textile finish is effective on many types of fibres and blends.

Warmx offers functional apparel textiles like heated underware. The company demonstrated the products to the press during the setup of the fair.

alphafit develops and produces pressure sensitive textiles for health and sport applications.

Francois Simard from **ENCORE3** (Canada) introduced the company's invention Monark(TM). Extracted from the native plant asclepias syriaca and transformed through an ecofriendly process Monark is a high performance fibre which behaves like cotton but feels like silk.

Qmilk introduced its fiber made from casein, a milk protein. The Qmilk fibre can be applied in a variety of applications among apparel, home textiles and technical textiles. The fibre is gentle and soft and gives the feeling of wearing silk. Proprietor Anke Domaske said: "We had a great fair and were overwhelmed by inquiries. Our expectations have been more than fulfilled. There was such a crowd on our stand that we were grateful for the information stand because we could also take customers there. Our visitors came from all segments including apparel, home textiles, automobiles and medicine."

Beaulieu International Group has won a techtextil innovation prize for their first OK compost-certified biodegradable and compostable woven agrotextile Ökolys. The fabric protects young plants against weeds in an ecologically responsible way. To boost the chances of survival and growth, this innovative agrotextile creates the optimal microclimate at the foot of the plant. After three years Ökolys starts to break down and is converted into humus, water and CO2.

OEKO-TEX(R) informed about all their certification standards and launched the official market introduction of the new OELKo-TEX(R) certification for Sustainable Textile Production (STeP) with the presentation of the Sustainability Award. We will present all winners on the TexData website.

In hall 3 the textile machinery companies presented their solutions and innovations for technical textiles and nonwovens and discussed with visitors and exhibitors from the textile industry ideas and concepts for new fabrics and optimized production processes and of cause about business.

ANDRITZ presented the three companies ANDRITZ Asselin-Thibeau, ANDRITZ Küsters and ANDRITZ Perfojet. ANDRITZ offers state-of-the-art technologies for the nonwovens and technical textiles sectors. ANDRITZ offers high-speed, integrated production lines. For technical fibers and durable products, such as automotive or filtration substrates, the neXline spunlace with Jetlace Evolution hydroentanglement unit provides efficiency over a wide range of industrial applications, either for high capacity or for bonding power. Another highlight was the wetlaid technology for the development of innovative products from natural and man-made fibers, for example carbon, microglass, aramid, and many more.

AUTEFA Solutions introduced a new concept for fiber recycling. Dr. Stefan Schlichter, Managing director explained: “The core components of our recycling line are high-performance fiber balers as well as a compact tearing machine. Our customers need efficient systems, which enable an economic fiber recycling in order to refeed the high quality fiber material in the production process”.
AUTEFA Solutions are AUTEFA in Friedberg (Bavaria), Austria-based Fehrer in Linz and the Italian company F.O.R. in Biella as well as the newly founded companies AUTEFA Solutions North America and AUTEFA Solutions Wuxi (China). Marketing manager Mrs. Soell told us, that the new “Automatic Needle Exchanger” CU4Motion which the company showed on their booth attracted a lot of attention. The machine is efficient and equipped with an adapted software system, so that reproducibility and safety at every needle exchange are most important. CU4Motion can be universally used for all practicable applications required from Autefa Solutions customers and does not only cover inserting needles into new needle boards.

Brückner presented their lines for the production of technical textiles with the help of little mock-ups and informed visitors about their newest developments in the field of saving energy. For a great variety of technical materials Brückner has developed the innovative TECHNO-LINE COATING. These lines allow among other things direct coating on textile webs and foils, reverse coating on transfer paper, impregnation and submerged coating as well as dry and wet lamination of membranes and textile webs.

AUTEFA - Needle Loom Stylus DZ-D

A particular highlight is a new application unit for the direct coating of bi-elastic knitted fabric which is integrated in the stenter entry. In addition a new application unit for the coating of the lower side of the textile web has been developed. Both units in combination allow a simultaneous coating of the upper and lower side of the textile web in one dryer passage.

BRÜCKNER lines provide for an intelligent exhaust air system which charges the exhaust air with solvents up to the maximum acceptable limits. Thus, enormous energy savings can be achieved by reducing the exhaust air quantity.

For Nonwovens specialist **Dilo** the Techtextil was a real home match. Mr. Dilo informed visitors about complete production lines and taylor made solutions for specific industries. With the companies **Dilo Systems, Dilo Machines, Dilo Spinnbau** and **Dilo Temafa** the Dilo group offers the most comprehensive portfolio for complete nonwoven lines. Latest innovations of the company are the DiloSpinnbau – MultiFeed card feeder, the crosslapper DiloLayer DL by DiloMachines and the dosing opener DON manufactured by DiloTemafa which includes a fine opening stage. A major focus of the new equipment is 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 one of the big cost factors in textile production.

Lindauer Dornier is very active in the field of technical textiles and offers high-precision weaving technology. Dornier customers can produce on the rapier weaving machine P1 all types of difficult fibres like carbon, glass and basalt. Florian Boch, Central Marketing & Communication at Lindauer DORNIER was comfortable with the show: "The visitors came to find out about the latest machines and equipment and took advantage of our company's many years of consultancy experience and expertise in the field of technical textiles. We were particularly pleased with the interest shown not only in our new products, such as closed and linear fabric structures, but also in our existing products.

DILO - MultiFeed

When it comes to textile processing, the new, grid-like, multi-axial structures and 3D jacquard fabrics show the way forward. The resulting high-performance products are only possible if all stages of the production process interact with maximum precision."

Groz-Beckert presented one of the highlights on their amazing booth. The market and quality leader for needles demonstrated the diversity of textiles on the basis of a Mercedes Benz E-Class car which was cut open at all crucial parts.

It showed at which parts in a modern car nonwovens, knitted or woven fabrics or tufted products play an important role and should demonstrate how Groz-Beckert products can help producing the fabrics. It is a well known fact that Groz-Beckert is the world's leading provider of industrial machine needles, precision parts and fine tools as well as systems and services for the production and joining of textile fabrics. The products and services support the fields of knitting, weaving, felting, tufting and sewing. The presentation was made perfect with the fact that the T-Model stood on a platform made of textile-concrete – another field of Groz Beckert 's competence.

KARL MAYER presented two new innovations. The Warp Knitting Business Unit presented acoustic-damping, warp-knitted spacer textiles by integrating it effectively into the design of the stand. This spacer textile with its acoustic properties is 35 mm thick. A monofilament yarn is used in the spacer layer and the outer surfaces are made from a textured yarn – a clever construction that provides effective sound absorption.

The Technical Textiles Business Unit showed a new sun-screening system, which is designed primarily for greenhouses but can also be used in the home.

The solar textile is marketed under the name of OMBRA-DLS®. OMBRA-DLS® comprises an elastic, warp-knitted grid-like textile, which combines elastic warp yarns with slit-film yarns that are inserted from a magazine weft insertion unit. And Karl Mayer informed about their market leading solutions for the production of technical textiles.

Our highlight is the Karl Mayer machine for manufacturing multiply fabrics of heavy-duty yarn materials such as e.g.: fibreglass, carbon, aramid or HD-PE for fibrous/plastic composites is the Malitronic MULTIAXIAL – the machine for layer stabilisation. Multiaxial multiply fabrics are surface structures fixed via a stitch system consisting of one or several parallel and stretched yarn layers with different orientations.

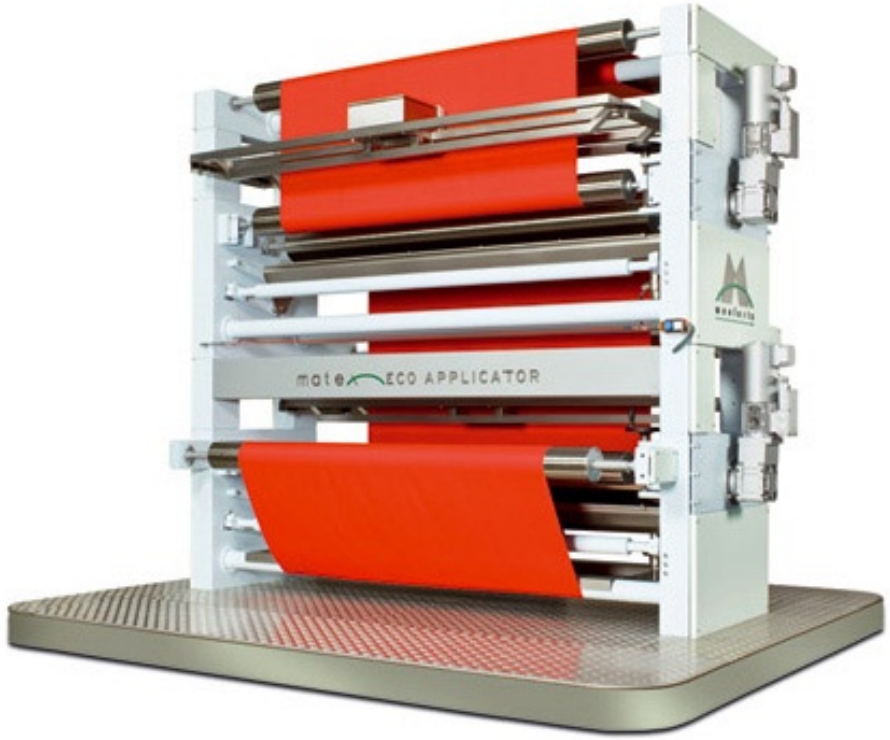
Fibrous webs, unbonded chopped glass strands, film tapes, foams or other materials can be integrated. Optimal conditions of weft insertion and layer fixation permit high production speeds along with excellent fabric uniformity. For the processing of carbon fibres Karl Mayer offers the Malitronic MULTIAXIAL "Cut & Lay" Carbon.

Mahlo offers tailored quality control solutions for the Nonwovens market from wide geotextile lines to diaper components to filter media and household wipes.

Mr. Jürgen Hanel, technical textiles specialist at **Monforts**, told us that Monforts is the market leader in coating lines for airbag production. The company introduced its latest, second generation, Eco Applicator system for the application of liquors or functional chemicals and designed for a wide range of technical textiles applications: complying with the VDMA's Blue Competence sustainability initiative. The Eco-Applicator soft coating process offers significant energy savings with reduced liquor for a wide range of applications such as felt finishes, coated materials and medical textiles including Nano coating, water repellancy, softeners, flame retardency and insect repellancy.

It has been designed to apply a liquor to one side of the fabric; to apply a liquor to both sides of the fabric; to apply different liquors to either side of the fabric; or to apply two different liquors consecutively to a single side of the fabric. The system is also suitable for finishing narrow fabrics such as bands and ribbons. Of cause also on display was the latest Twin Therm chamber of the Montex 8000 stenter, designed with a number of features and options that are particularly suited for nonwoven and technical textiles applications.

These include a heat recovery module incorporating a fully automatic cleaning system for its integrated heat recovery system; new rotating disc type 'fluff-sieves' and a vacuum system for efficient cleaning; and two parallel integrated exhaust ducts in each chamber. Monforts presented themselves on a joint stand with **FONGs**.



MONFORTS - The Eco-Applicator

With its **Oerlikon Barmag** and **Oerlikon Neumag** brands, **Oerlikon** Textile – since the 4th of July **Oerlikon Manmade Fibers**- showcased its total solution for the production of spunbond for roofing membranes and geotextiles and systems for the processing of aramid and carbon fibers. With systems and equipment for manufacturing bitumen roofing membranes, underlay-roofing membranes and geotextiles, Oerlikon Neumag offers the complete spunbond process from a single source – from polymer granulate all the way through to rolled goods.

The lines and processes were presented in a fantastic 3D cinema. The company's in-house nonwovens expert, Dr. Ingo Mählmann emphasized the benefits of the Oerlikon spinning machines: "In terms of the system width, our machines are not just able to produce up to four times more material. They also help cut operating costs for energy and maintenance and save on operating staff costs."

OERLIKON-NEUMAG - Airlaid technology

The majority of industrial spunbonds are manufactured from polyester. For processing this polymer, Oerlikon Neumag is able to draw on many years of comprehensive know-how from the staple fiber production." Spunbonds are increasingly also being used in geotextiles. Oerlikon Barmag's answer to the rising demand for high-tenacity specialty fibers such as aramids, UHMWPE and carbon fibers is WinOro, one of the winders from its range.

It has been designed especially for winding viscose yarns, fibers made from aramids and polyethylene or similar materials and has been adapted to the respective requirements. Depending on the design, the automatic precision take-up head for specialty yarns winds – at a speed of up to 1,000 m/min – baler twine of up to 25,000 denier, PVC-coated multifilament yarn for various industrial applications and also textured artificial turf filaments.

Thies has been for the first time at Techtextil and offered expert advice on dyeing aspects of technical textiles.

Trützschler presented the most comprehensive machine program of the trade fair for the production of nonwovens and technical textiles. **Trützschler Nonwovens**, **Trützschler Card Clothing** and **Trützschler Man-Made Fibers** provided information on complete plants, machines, card clothing, individual components, as well as services.

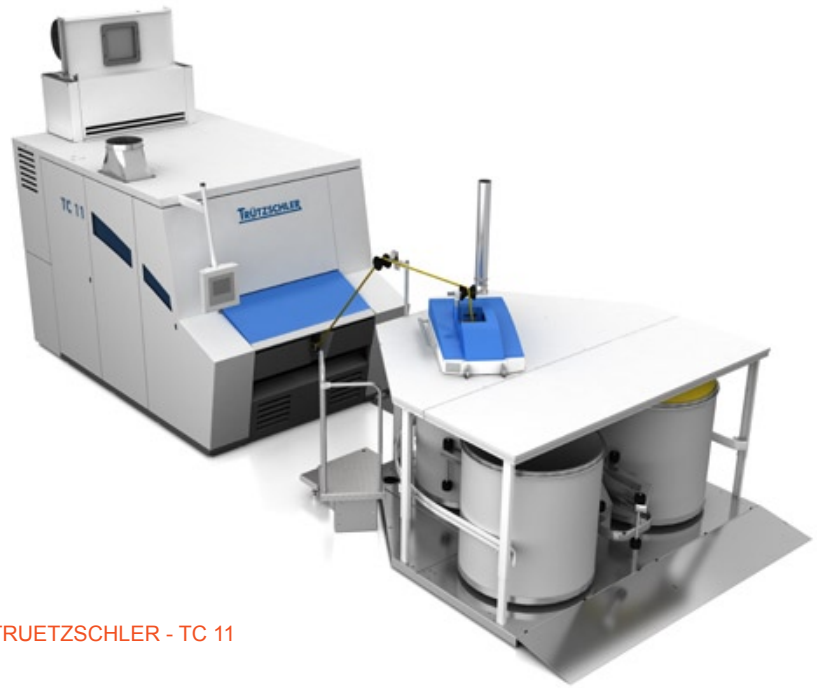
THIES - iMaster H2O

On the second day of the trade fair, the Walter Reiners-Stiftung (Foundation) of the German Textile Machinery Industry awarded the Trützschler Nonwovens Director of Engineering in Dülmen site, Dr. Heiko Schenuit, the prize for best dissertation. His work in the field of energy efficiency provides textile manufacturers and textile machinery manufacturers with a method for energy-specific process optimisation. In part, the results relating to air-jet weaving can be directly applied by weaving mills to save compressed air.

The Techtextil was another important milestone in linking the traditional Bastian brand with the name of Trützschler Nonwovens. The appearance was a demonstration to the nonwovens industry that the reliable Bastian technology will remain available, undergo further development, and has the support of a strong group.

Trützschler ‘s complete solution for the production of wet-laid and hydroentangled nonwovens inspired producers with business ideas; the exhibited material for flushable wipes was very well received by nonwovens manufacturers and converters from a variety of industries.
And the market requirements for smaller spinning capacities for special applications were met in particular by the solution presented by **Trützschler Man-Made Fibers** for size and performance optimised, one-stage staple fiber installations.

Verdol presented a running CP 20 for processing different types of Tire Cord. Marketing Manager Gerald Alligros was very comfortable with the number of visitors. The new version of the CP 20 has a complete new design from the frame to the textile equipment, among other advantages such as a better efficiency thanks to combined labor saving solutions together with a higher spindle number per square meter, the swiveling motion spindle, the effortless cradle, the very low profile creel, the energy saving thanks to the ecoTex® spindle.



TRUETZSCHLER - TC 11

Picanol and van de **Wiele** presented themselves on a Belgium joint stand which was decorated with some aircraft construction exhibts.

Wumag introduced their innovations in the field of texrolls. With a monthly production capacity of more than 250 cylinders, WUMAG TEXROLL is the leading manufacturer of thinwalled steam or thermooilheated drying cylinders and cooling cylinders with water circulation. These cylinders are used in sizing machines, nonwoven production ranges as well as in textile and technical fabric finishing ranges. The WUMAG TEXROLL Cylinder Dryer is separated from hall ambient by a special encapsulation and equipped with the new developed WUMAG TEXROLL SteamPlus and AirPlus performance systems.

With the help of this innovation the overall energy consumption of the cylinder dryer was reduced by up to 30 %.

Zimmer informed visitors about solutions in digital printing and showed a MagnoJET slot coating device ideal for coating non-wovens, heavy structured textiles and very sensitive garments.

Textile Chemistry companies explained their solutions for technical textiles, coatings and sustainability. **BASF** informed about thier solutions concerning polyurethane (PU) for everyday life.

Clariant's Head of Technical Services, Jochen Schmidt, introduced new solutions for technical textiles to promote processes and products with improved environmental benefits.

Huntsman with a colourful stand concept informed about their high quality dyes and chemicals. One of the latest developments is the PHOBOTEX® range for stain management and durable water-repellent products.

DyStar had a focus on top dye solutions for workware. The company offers for example the Evo Top KD series to produce ecological coatings for high-tech articles, wellness effects and work safety.

Ten of Germany's young and innovative companies made presentations at the joint stand sponsored by the Federal Ministry of Economics and Technology (Bundesministerium für Wirtschaft und Technologie – BMWi) in Hall 3.1. Particularly pleased with the results of their participation in this promotional area was, for example, **ras materials**.

"Techtextil was a great success for our company", said Florian Soldner, Key Account Manager. "At the fair, we find exactly the right contacts for our products. With regard to visitor quantity and quality, Techtextil seems to get better from time to time. This year, we welcomed three times more visitors to our exhibition stand than expected."

Good mood in the sector

The very good mood at the fair was not affected by the current economic situation. 79 percent of exhibitors and 85 percent of visitors rated the business climate in the sector as good (2011, 86 and 91 percent respectively). According to a study by Germany Trade&Invest, the sector will continue to expand in future thanks to no small extent to the intensive research and development activities. This was confirmed by Dr Wolf-Rüdiger Baumann, Director General of the Confederation of the German Textile and Fashion Industry (Gesamtverbandes der deutschen Textil- und Modeindustrie): "Today, technical textiles account for 50 percent of the turnover of the German textile and fashion industry.

Our member companies rank among the world leaders and, with their presentations at Techtextil, leave no doubt that they deserve this position.

The future belongs to innovative textile products and Techtextil is growing continuously in significance for the sector on both the national and international planes." Thus, investments in innovations and the presentation of new products are and will be an increasingly decisive factor for the success at the fair.

In view of the large number of discussions, the high visitor quantity and quality and the huge product spectrum on show, many exhibitors said they would be in favour of a fourth day for Techtextil. Responding to this proposal, Messe Frankfurt's Detlef Braun said, "We must firstly await an exact analysis and the results of further discussions before making a final decision."

Complementary programme and special shows very popular

A comprehensive complementary programme showed the latest trends from the fields of technical textiles, nonwovens and functional apparel textiles. At the Techtextil and Avantex Symposiums, over 400 participants heard about current trends in the sector. In 66 lectures and presentations, renowned speakers offered insights into new ideas, projects, products, materials and technologies.

The Techtextil and Avantex Innovation Awards were presented on the Monday evening before the fair opened (10 June). From 85 entries, the jury of experts selected nine developments for an award and one project for an honourable mention. There were also ten winners, including two special mentions, in the 'Textile Structures for New Building' student competition organised by Messe Frankfurt in cooperation with the international Tensinet association. The special shows in Halls 4.1 and 3.1 presented the award-winning products in an impressive and aesthetically pleasing way.

Techtextil 2015

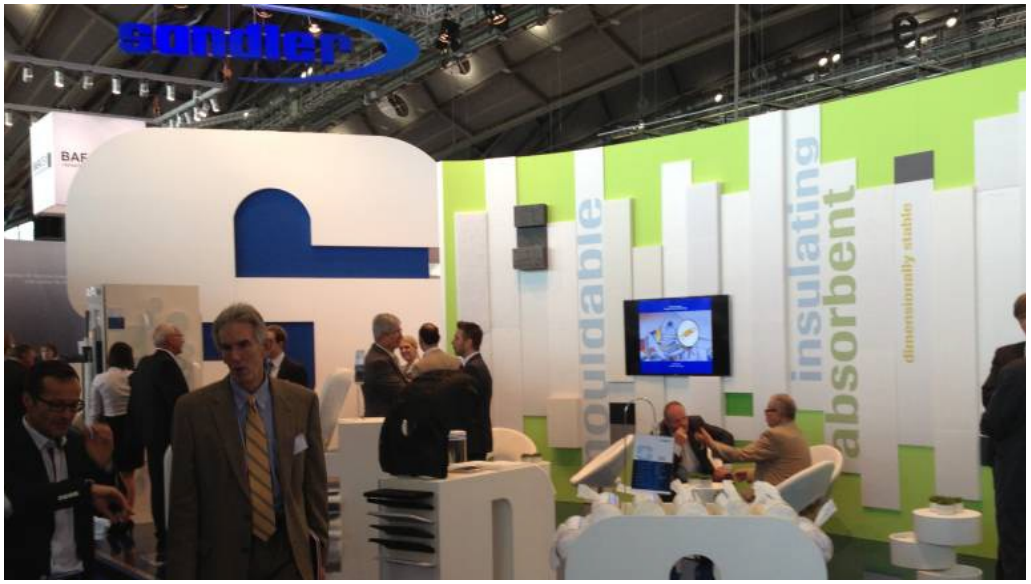
It is planned to hold the next Techtextil from 5 to 7 May 2015, concurrently with Texprocess (4 to 7 May 2015).

Some impressions from Techtextil

Techtextil and Texprocess 2013 took place in Frankfurt from 10th to 13th June with 1322 exhibitors from 48 countries.

Amann presented applications made of their broad range of threads.

Sabine Duttenhofer from Freudenberg Nonwovens explained the wide product range of the group for the textile industry. Exhibits werde presented in noble glass cases.



Nonwoven specialist Sandler presented its extensive range of nonwovens and showcased new developments for the automotive industry, filtration, the construction industry, hygiene and wipes applications.

ANDRITZ presented the three companies ANDRITZ Asselin-Thibeau, ANDRITZ Küsters and ANDRITZ Perfojet. ANDRITZ offers state-of-the-art technologies for the nonwovens and technical textiles sectors.

Mrs. Soell from Autefa Solutions told us, that the new “Automatic Needle Exchanger” which the comapany showed on their booth attracted a lot of attention.

Brückner presented their lines fort he production of technical textiles with the help of little mock-ups and informed visitors about their newest devvelopments in the field of saving energy.

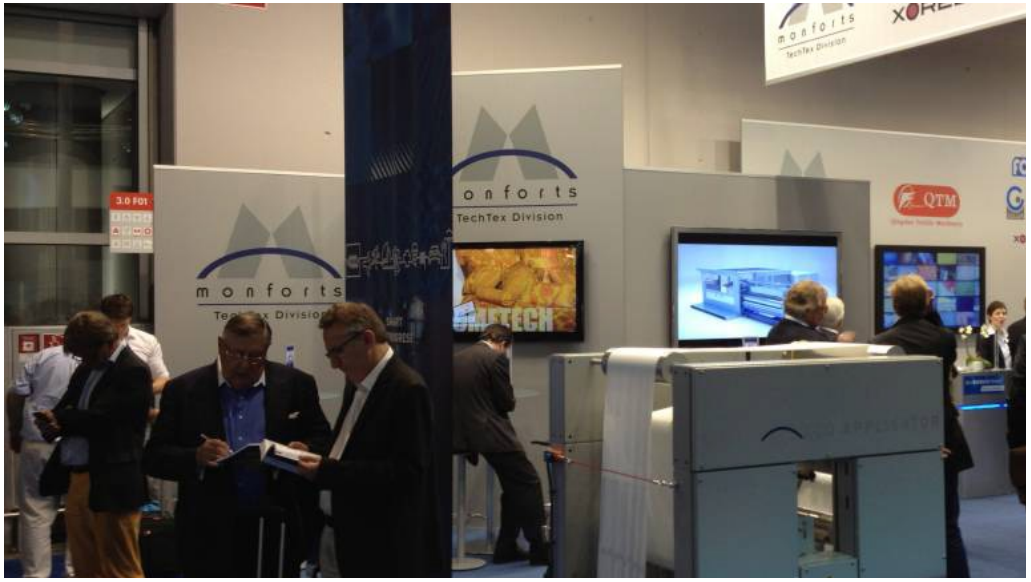
For Nonwovens specialist Dilo the Techtextil was a real home match. Mr. Dilo informed visitors about complete production lines and taylor made solutions for specific industries.

Some impressions from Techtextil

Dornier is very active in the field of technical textiles and offers high-precision weaving technology.

Groz-Beckert presented one of the highlights on their amazing booth.

Karl Mayer informed about their wide range of solutions for the production of technical textiles.



Mr. Jürgen Hanel, technical textiles specialist at Monforts, told us that Monforts is the market leader in coating lines for the airbag production.

Some impressions from Techtextil

Truetzschler presented themselves on a large booth with space enough for dialogue and business.

Qmilk introduced its fiber made from casein, a milk protein. The Qmilk fibre can be applied in a variety of applications among apparel, home textiles and technical textiles.

The large booth of Humann Solutions was the eye-catcher of the Tex-process fair and was always full of visitors.

You will find more picture impressions at our TexData Website:

http://www.texdata.com/48.techtextil-texprocess-2013.html

Interview with Stefan Kross, Head of the Oerlikon Manmade Fibers Business Unit

„Technical textiles have immense potential“

Where are manmade fibers being used today?

Stefan Kross: Manmade fibers are now primarily used for functional clothing and home textile products. But the importance of so-called technical textiles is growing. This area includes such products as safety clothing, seatbelts, airbags and filters in the automotive industry, sails and fishnets as well as straps, conveyor belts and hoses. Currently, particular emphasis is being placed on geotextiles and other textiles used in the construction industry, including spunbond, which is especially well suited for use in roof insulation because of its exceptional thermal insulation properties. Fiber-reinforced concrete will also play a crucial role in the future.

Which innovations Oerlikon presented at Techtextil 2013?

Stefan Kross: Our brands Oerlikon Barmag and Oerlikon Neumag showcased solutions for efficiently manufacturing innovative yarns for special applications at the trade fair. At Techtextil in Frankfurt, Oerlikon Neumag also premiered a new nonwoven production process as a total solution for the production of roofing membranes and geotextiles. With this innovation, we now offer a single-source solution for the complete spunbond process – from granulate to finished products.

What trends do you see in technical textiles?

Stefan Kross: Demand for high tenacity special fibers will continue to grow while energy consumption, space requirements and efficiency will gain significance for manufacturers. Winding special fibers such as aramid requires specialty yarn winders tailored to meet specific requirements, like the WinOro produced by Oerlikon Barmag. Another trend can be found in carbon fibers, which are used in applications requiring low weight and extreme tenacity. With WinTrax, Oerlikon Barmag has developed a special winder that can economically manufacture high-quality carbon fibers.

Why is Oerlikon the ideal partner for manufacturers?

Stefan Kross: As global leaders in the industry, Oerlikon Barmag and Oerlikon Neumag have decades of valuable experience in the development and manufacture of highly productive and innovative equipment and solutions for textile manufacturers. Our broad range of products and services extends from spinning systems for manmade fibers and equipment for the manufacture of nonwoven products to production solutions for carpet yarn. Located in Remscheid, Germany, the Oerlikon Barmag R&D center is the largest of its kind in the world. Here, more than 100 engineers and technicians develop technologically leading products for the future.

Texprocess expands its international position and offered a full spectrum of innovations

„This outstanding result represents full confirmation of our concept for Texprocess, i.e., holding it concurrently with Techtextil and focusing on cutting-edge technology are fully in line with the needs of the market", explained Detlef Braun, Member of the Executive Board of Messe Frankfurt to the fact that Texprocess 2013 achieved a 16 percent increase in the number of visitors.

"This outstanding result represents full confirmation of our concept for Texprocess, i.e., holding it concurrently with Techtextil and focusing on cutting-edge technology are fully in line with the needs of the market", explained Detlef Braun, Member of the Executive Board of Messe Frankfurt to the fact that Texprocess 2013 achieved a 16 percent increase in the number of visitors.

Over 12,100 trade visitors from 98 countries (2011: 10,463 trade visitors from 86 countries) plus more than 8,100 trade visitors from Techtextil (2011: 6,448 trade visitors from Techtextil) attended the leading international trade fair for processing textile and flexible materials. This also represents a significant jump in the number of Techtextil visitors going to Texprocess to find out about the products and services available there. The growth in visitor numbers was spread evenly in domestic and international terms.

More than 50 percent of trade visitors travelled to Texprocess from outside Germany. The top visitor nations after Germany included Italy, Turkey, Romania, Great Britain, France, the Russian Federation, Poland, the Czech Republic, Switzerland and Portugal. 330 exhibitors from 38 countries (326[1] exhibitors from 40 countries) presented their innovations at Texprocess, which was held concurrently with Techtextil 2013, International Trade Fair for Technical Textiles and Nonwovens, from 11 to 13 June. Altogether, 1,652 exhibitors and around 40,000 international trade visitors attended the two fairs.

For VDMA Garment and Leather Technology, the conceptual partner of Texprocess and representative on the exhibitor side, the second edition of the leading international trade fair was a great success. Director General Elgar Straub said, “In particular, the big increase in the number of visitors from outside Germany and the high level of visitor expertise generated new impulses for export-oriented companies. In fact, a surprisingly large number of orders were placed during the fair. Thus, Texprocess has been able to expand its position as the leading international trade fair for processing textile and flexible materials. The twin pack of Texprocess and Techtextil represents a unique platform from which our manufacturers can reach both the apparel industry and technical-textile processing companies.”

The comprehensive spectrum of products at Texprocess stretches from design and cutting, via sewing, joining, embroidery and knitting, to finishing, textile printing, logistics and IT.

With the ‘Source it’ procurement platform, Texprocess also offered an overview of the main sourcing countries. At 94 percent, the high degree of visitor satisfaction underscores the great quality of the range of products to be seen. Speaking for the visitor side, Francesco Marchi, Director General of EURATEX – European Apparel and Textile Confederation – said, “Texprocess 2013 confirmed the upward trend of the concept proposed by Messe Frankfurt and turned to be a successful event despite the overall somewhat depressed economic situation faced by the industry throughout the world. Our members showed a big interest in the innovations presented in particular, but not only, in the Design, cutting room, CAD/CAM, IT and quality control area. In conclusion Texprocess was considered a big help by our members present.”

Let ‘s have a look at some innovations from leading exhibitors.
DÜRKOPP ADLER has been awarded with a texprocess innovation award for their self-learning grading software for inserting sleeves in men’ s jackets for example with the optimized work station 650-16. Normally, sleeve setting without pre-ruffling is a challenging task for manufacturers and entails “trail and error” methods. The new software contains automatic grading with a correction mode and self-learning program optimization and it can automatically allocate sections within the seam. Sewing is therefore simplified and performance and quality are improved.

Grafis presented their CAD solution for advanced pattern design. It offers creation and modification of pattern pieces, grading and output to printers and plotters as well as export of the finished pattern in several data formats.

The main advantage of this solution is the interactive construction and the product comes with an attractive price.

The large booth of **Humann Solutions** was the eye-catcher of the Texprocess fair and was always full of visitors. The specialist for a broad spectrum of CAD, ERP and PLM solutions introdurced a couple of innovations to the market - for example the new fashion cloud PLM software GoLive. GoLive is a breakthrough in worldwide collaboration by sharing content and working togehter at designs and collections in the cloud. Another highlight at the booth was a 3D-cinema for the presentation of the latest version of the software Vydia 20.13. Visitors watched the visualization from the first idea to the catwalk.

Lectra presented on a big booth their software solutions like Lectra PLM and Modaris® 3D.

Another texporocess innovation award went to **brother** for their bonding machine BM-1000. Managing Director Mr. Valerio Scotti explained the advantages of the world's first bonding system, applying the originally developed glue and pressing in just one process. Higher productivity will be realized compared to tape systemshich needs attach and peel off tapes and then press materials.

Macpi demonstrated latest innovations in the field of finishing and ironing.

Pfaff has won an innovation award for their first control system for a standard industril sewing machine using a consumer-type tablet and a downloadable app. The system is capable of controlling the entire sewing machine, and offers the customer a range of new opportunities in terms of operation, maintanance, service, remote control, ERP connectivity and evaluation.

Tajima showed a prototype for embroidery: the TUMX-C1501.

Yamato presented latest developments of their sewing machines.

topcut-bullmer showed one cutter for all materials: PREMIUMCUT. The cutter is modular, easy to handle and versatile. Textiles for different kind of applications like apparel, upholstery, automotive and even composites can be handled thanks to multifunctional tools. PREMIUMCUT has a large working width of 5200 mm, two motor drive systems which makes it robust. Furthermore it is fast with speed of up to 120m/min, modular and tools can exchanged within seconds.

Star on the **VEIT** booth was the FX Diamond. With the motto 'technology meets design' veit wants to take fusing to the next level. "We are setting standards with our new VEIT DIAMOND fusing machine series", said Group President Günter Veit. Indeed - this new generation of fusing machines achieves a high fusing quality.

With the further improvement of temperature control and the new development of the pressure system with the COPRA compression roll (COnstant PRessure Appliance), the two fusing parameters temperature and pressure can be maintained at a constant level over the entire width of the machine. The innovative Contactless Belt Control CBC eliminates belt edge wear and tear through contact-free belt detection. Easy touch-screen operating and a thoroughly conceived, easy-access service concept add to the package. For their innovative shirt ironing machine with automatic moisture control veit won a texprocess award. The machine has a sensor which measures the shirt ‘s dryness and switches the machine off as soon as a pre-defined degree of fryness has been reached.

VETRON presented their award winning 5374 hot air welding machine. This VETRON machine combines a new air heater and a newly designed air nozzle to reduce heat losses. Also, energy losses are reduced as a result of the use of nanoporous thermal insulation and optimization of the air channel. A potential of 90 per cent energy saving compared with previous systems are possible.

Trends, innovations and IT

The focus of this year’s Texprocess was on process acceleration, automation, increased process safety and resource efficiency. Manufacturers presented high-tech solutions distinguished by smart control and documentation systems, ultra-modern sensory systems and user-friendly design.

Many of the innovations shown offer a great potential for saving energy and materials.

The snowballing integration of software applications in production processes was one of the mega-trends of the fair and companies presented their latest solutions within the framework of the IT@Texprocess market place in Hall 4.0. Very popular at present are cloud applications and fully integrated IT systems that not only simplify the communication of fashion labels with manufacturing plants around the world but also permit authorised users to access data from anywhere. Sophisticated 3D simulations that, for example, can replicate movements realistically bring the dream of virtual fashion design a step closer.

Production-country presentations

Rounding off the range of products to be seen at Texprocess was ‘Source it’, the presentation area for production countries. The new concept for ‘Source it’ – with the focus on national presentations and the new location in the middle of Hall 5.0 – was given a very good reception by both visitors and exhibitors. For Dhyana van der Pols, External consultant of the Centre for the Promotion of Imports from developing countries (CBI), The Netherlands, taking part in ‘Source it’ was a great success: “We were visited by high profiled brands and clients like Hugo Boss, Escada and Tommy Hilfiger amongst others and the average duration of each visit was with 10-15 minutes surprisingly longer than on regular trade shows.

It appeared those buyers make use of "inverse sourcing": allocating the right machine suppliers and obtaining sourcing intelligence by being informed in which factories and countries those machines have been installed. A new way of sourcing intelligence and identifying the right factories." At 'Source it', CBI represented Egypt, Bolivia, Pakistan, Peru, Tunisia and Vietnam. Separate presentations were also made by Egypt, Bulgaria, Hong Kong, Kenya, Lithuania, Poland, Portugal, Romania, Senegal and Tunisia. A focus of 'Source it' was on East Europe and North Africa. As a result of the growing costs of production in China, many apparel manufacturers are now looking for new sourcing countries. Closeness to the consumer markets offers a number of advantages, such as shorter production times and lower energy costs.

Conference at Texprocess

No less than 1,556 trade visitors attended the Texprocess Forum, the conference at the leading international trade fair at which experts discussed subjects of topical interest to the sector, such as sourcing, sustainability, new technologies, quality management, logistics and social standards. The Texprocess Forum programme was compiled by Dialog Textile Apparel Association (*Dialog Textil Bekleidung – DTB*) in cooperation with the GermanFashion association, EURATEX – European Apparel and Textile Confederation – and the International Apparel Federation (IAF). Susanne Pass, DTB Director General was impressed by the results:

"We received many positive comments from visitors before the fair was even over. They praised not only the quality of the lectures and speakers but also said how pleased they were with the fair as a whole. The speakers were also delighted with the large number of visitors to all Forum lectures. We are very happy with the way this event has developed within the framework of the fair."

The next Texprocess will be held in Frankfurt am Main from 4 to 7 May 2015 concurrently with Techtextil (5 to 7 May). ■

Interview with Dr. Seidl, Managing Director of Human Solutions Group

(by Oliver Schmidt)

Dr. Andreas Seidl

Managing Director of
Human Solutions Group

Human Solutions had an impressive booth and evidently a lot of visitors at the Texprocess in Frankfurt. How successful was the Texprocess for you?

It was a great success for us. We are very pleased with the customers' and prospective customers' response to our products and solutions, from home and abroad. With the focal topic of 3D, we have captured the essence of what our sector needs – and the Fashion Cloud was received with great interest, especially by the larger companies in the apparel industry. Our strategy worked and we're convinced that the Texprocess has established itself as the leading trade fair.

One of your highlights at the fair was the 3D Cinema with which you introduced the new version of your 3D software, Vidya 20.13. Can you tell us what this software does compared to similar products and why designers and the fashion industry should opt for Vidya?

Used properly, our software Vidya provides important competitive advantages in time, costs and quality. If models can be directly assessed on the customer, then technology is getting ever closer to the dialog between customer and tailor – but without losing sight of time-to-market and the demands of the mass market. And let's not forget the productive gains in the associated areas like production and marketing. For pattern professionals, 3D is far more than just an image.

It gives them the world of reality in the computer, which itself is becoming part of a closed process chain. That's why 3D with Vidya doesn't only affect the creation of ideas in design, it also has an impact throughout the whole company – right through to the finished garment. So with the release of 20.13, we've upped the ante again in the simulation of humans, materials and patterns.

Does each of your customers have to operate a 3D cinema to be able to assess the models optimally?

No, of course not. At Texprocess we more or less showed a 3D movie about 3D. Vidya 20.13 is the result of the last few years of intensive fundamental research by the Human Solutions Group. And many new features make using the software more enjoyable and efficient.

In addition to 3D with Vidya, you also offer Cad.Assyst, a 2D program for pattern construction. That seems a little outdated when you consider that you can now do the same thing in 3D. If your customers want to carry out state-of-the-art pattern construction, which program should they go with?

The 3D simulation program Vidya requires 2D patterns. 2D and 3D go together and the boundaries between these programs are gradually blurring – they will soon mesh seamlessly. Nothing is done in pattern construction nowadays without CAD. Vidya is the downstream software.

In 2D CAD you can now see the pattern as a (not yet sewn) 3D model on the scanatar (scanned avatar) of your choice – even before it goes to the actual simulation. This helps when checking sewing information for instance.

Where do you see the future trends in the CAD of the fashion industry?

3D is a key competitive factor for apparel companies that visualize their products with a high degree of quality and want to optimally integrate their digital models into their business processes. To achieve this, the Human Solutions Group offers an integrated 2D/3D portfolio. Cad.Assyst 2013 provides market-leading operating efficiency in pattern construction. And in terms of speed and cost, it also offers many advantages like CAD management, collaboration, automation and system integration – these are the new major tasks for the CAD systems of the future.

Another Texprocess highlight was your Cloud solution. Solutions like that offer some advantages such as location independence and, above all, the fast linking of new participants through a web solution. Companies want to use Cloud software to increase their collaboration capabilities, further improving their time-to-market. Exactly what solutions do you offer in this respect?

Exchanging data with partners is easier in the Cloud and less error-prone. The development department in Germany and the production partner in Asia can access the same pattern, for example... but in real time.

So our Fashion Cloud GoLive gives you flexibility and process security at your fingertips – both inside and outside the company.

And how do you see the best possible scenario for cooperation in the Cloud for the fashion industry?

When we developed GoLive, one main issue was in the foreground: How does Cloud technology make sense from a business perspective? Fashion needs shorter processing times – and the GoLive Cloud makes a major contribution to this. When functions are available on demand, it's no longer necessary to install tedious licenses on fixed computers at peak times. All it takes is one access code for the Cloud and the user can start working. Exchanging data with partners is easier in the Cloud and less error-prone. The Cloud means major IT for all – businesses can implement this innovative technology, try it out and expand it if they like it – and all within a very short timeframe. In each case, the infrastructure is developed according to the current load and fixed costs become variable costs with the Cloud. Full versions of PLM, iSize, Automarker and Autocost are all available in the Cloud today.

The fashion industry is totally international. How international is Human Solutions as a German mid-tier company? Can you tell us something about markets and market shares?

The Human Solutions Group has more than 200 employees at two locations in Germany and subsidiaries in Italy and the USA. We currently distribute our products worldwide, either directly or through partners in around 50 countries such as Turkey, China and Russia.

In addition to your software products, you also offer databases and fashion manikins, both of which are derived from your serial body measurement surveys carried out using bodyscanners, like SizeGERMANY for instance. On your website you say that fashion companies can better determine the size & fit of their customers using the iSize data. To us, a key criterion is that fashion has to "fit". How much do the old standards deviate from the data you obtained?

The body proportions of the German population have changed significantly in recent decades – on average, we're bigger and stronger than our parents and grandparents were. As a result, more and more people have trouble finding perfectly-fitting clothes in a retail store. The solution was a representative survey of current body measurements – and we tackled this in the "SizeGERMANY" project, with the support of the apparel industry, the apparel retail trade and the automotive industry.

The costs involved in analyzing body dimensions and adapting patterns have always been high – until now, because iSize enables interactive evaluation in real time.

In line with international standards, the innovative online portal guarantees the comparability of the serial measurement data of different countries and provides interactive functions for practical data analysis for management, product development, sales and marketing. And when used together with Cad.Assyst and Vidya, a seamless process is created, one which simplifies the sizing and fitting optimization of basic patterns.
In addition to a significant time and experience edge in the market, the advantages for companies are the optimal adjustment of their own sizetables for current body dimensions and a seamless, semi-automated process.

Yes, but does that not mean that a lot of textiles are going to be produced, which either won't sell well or not at all due to a lack of correct sizing & fitting?

ISize users can at least ensure reliable forecasts and a significant risk reduction in the development of new markets and the sizes stocks.

How exactly is the data filtered for a target group in order to offer a market-driven size & fit – and what can iSize do in this regard?

iSize offers access to sizetables, body dimensions, socio-demographic information, population figures and market shares. Serial measurement information on more than 90,000 test persons is available in iSize.

This means you can not only address 2D dimensions during systematic sizing and fitting optimization, you can also take body shapes, proportions and the correlation of sizes into account. This is why the data from various different sources can be combined for the analysis – and it's also possible to compare the data with country-specific size systems or in-house sizetables. So information such as country, gender and age group can be infinitely combined with other data.

The portal also has a creative side... our customers can view results as 3D scanatars or 3D fashion manikins (with dimension lines!). And there's another completely new feature too – iSize now contains the data of babies and small children. And it also supports various analysis targets – customers can determine the size & fit-related market potential of an existing, individual sizetable, or quantify their market potential for specific countries or regions. The objective is always to capture the largest possible share of the market. The various countries' standard sizetables available in iSize can be efficiently adapted to the age groups of a company's own collection.

Finally, please give us a glimpse of the future as you see it... where will your company be five years from now?

Sooner or later, we want to be number one in product development in 3D. We have already laid the groundwork and we exceeded the twenty million sales mark last year. That's an important milestone on our road.

We are growing significantly faster than the competition and it should stay that way.

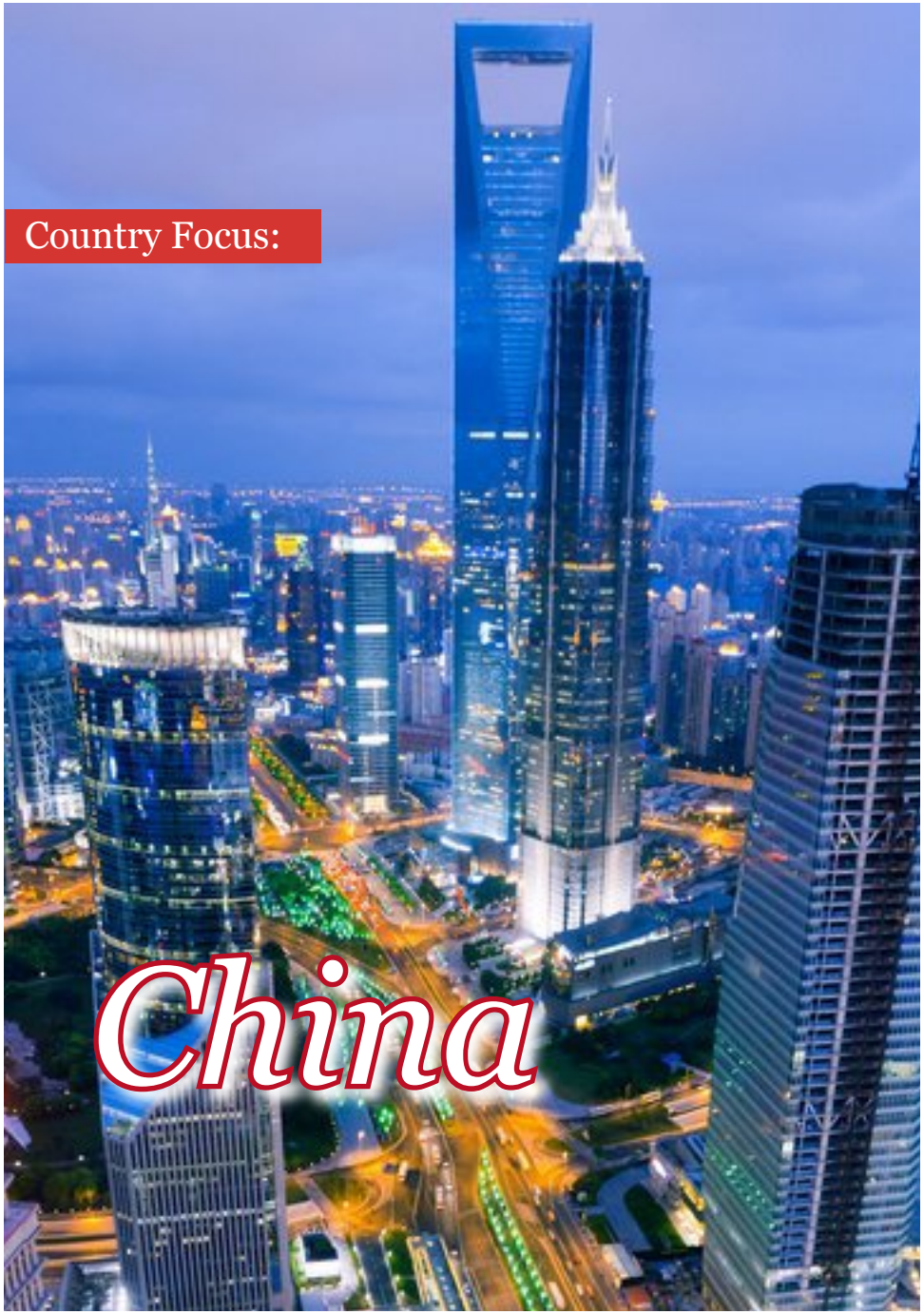
We wish you a big success and thank you for the interview.

Short history of Dr. Andreas Seidl

Dr. Engr. Andreas Seidl (born 1963) studied electrical engineering and cybernetics in Graz and Munich.
In 1994, the Bavarian Dept. of the Interior awarded Dr. Seidl the Ströbl Prize for his scientific achievements.
He has published over 60 articles on ergonomics, human modeling and body scanning.

Since its founding in 2002, Dr. Seidl has headed the Human Solutions company, which develops products for the fashion and automotive industries.

He received the "Entrepreneur Finalist 2005" and the "Innovative SME 2006" entrepreneur awards.



China is leading the world in exports and is the worlds number two for imports. This makes China the second largest trading nation of the world behind the USA. Since 2001 when China joined the WTO the country's share in global trade has doubled and for many countries China is rapidly becoming their most important bilateral trade partner.

It is well known that the growth in the Chineses economy in last 30 years is like an economic miracle and that growth rates of more than 15% were no rarity. The average growth rate between 2000 and 2011 was 10 percent and the world's largest producer of manufactured goods doubled the country's GDP per capita over the last decade. The world's most populous country is the largest global energy consumer, and the world's second largest oil consumer behind the United States, according to the International Energy Agency (IEA).

Where are the news you may think, but we want to start our country focus as usual with some economic facts. China shouldn 't be an exception here and in this manner we continue with latest statistical data about China and the Chineses industry.

In 2012 China's exports in total merchandise trade was 2048 bn US $, a plus from nearly 8 per cent compared with 2011 (1898 bn US $). In the same year China imported merchant goods with a worth of 1818 bn US $ which was 4.3 per cent more than in 2011 (1743 bn US $). The real gross domestic product (GDP) grew at 7,8%, the slowest growth rate since 1999, and reached 51.93 trillion yuan (US $8.28 trillion).

The economy‘s fourth-quarter growth quickened to 7.9 percent from 7.4 per cent in the third quarter and ended a seven-straight-quarter slowdown. The government pared the full-year growth target for 2012 to 7.5 percent from 8 percent in early 2012 and announced in March 2013 the same rate for 2013. A target which has been matched so far with a growth of 7.8 per cent in the first quarter and exactly 7.5 per cent in the second one. Many analysts are not optimistic that economic expansion will rewin momentum over the coming months and there are a couple of economists who said, that there is a 30% chance that growth will fall below 7% in the second half of the year. GDP has been closely watched in China for decades with highest importance as it provides the most complete portrait of the world‘s second largest economy, and government officials always used it as a benchmark to gauge performance. However, there are signals that this policy could change. “We don’t think 6.5 percent or 7 percent will be a big problem,” answered Chinese Finance Minister Lou Jiwei on a press conference at U.S.-China Strategic and Economic Dialogue in Washington to a question on whether there’s a limit on slower growth that officials will tolerate. This kind of answer sounds like China is prepared to allow a further slowdown.

Let ‘s have a look at the textile industry. Since 2002 China ist the worldwide number one country in production and in exports of textiles and clothing with record breaking results in growth. For example the country has centupled its production of man-made fibres between 1978 and 2008. In 2011 China’s exports of textiles and clothing increased by 20% to 94,4 billion US$ for textiles and 153.8 billion US$ for clothing.

In 2012, China textile and apparel industry was in its transformation stage, leading to the slowdown of industrial growth. As a result the export value of textile and clothing increased only by 2.8 % year-on-year. Exports to Germany even decreased by -19.4 % and to France by -11.7 %. Italy (-23.5%), Spain (-9.0%) and the Netherlands(-13.0%) disappered from the list of China ‘s top 10 export countries for textile and clothing. On the other hand exports increased to Russia (+18.9%), Vietnam (+34.4%) and United Arab Emirates (+14.3%). Most of the Chineses textile exports to a single country are still going into the USA (+3.3%). The biggest region for textile imports from China is the EU with 74740 million US $. In 2013 the exports recoverd and Russia (+35.8 %) and Vietnam (+55.75 %) passed Germany in the top ten list. From January to June the exports of textiles and garments grew by 12% in the first half of the year to $127 billion, despite rising domestic wages and tepid global consumption.

Today, however, the world’s second-largest economy faces new challenges as economic growth slows, while wages and other cost factors like energy rise. We want to take a closer look at Chinese economy and the changes in government strategy forming the country from a people’s work orientated mass production facility into a modern highly automated and sustainable industry mastering the challanges of urbanization, financial reform, global competitiveness, social development, energy supply and last but not least environmental sustainability. Far away from an export-led capital investment, the task now is to master this characteristics of a modern economy: replacing capital with productivity, encouraging domestic consumption and redesign the manufacturing value chain.

The latest FYP which is effective through 2015, has been a big surprise for many economy experts even with a special focus on China. It contains five objectives: to restructure the Chinese economy by stimulating domestic consumption over exports; to shift toward higher value-added manufacturing; to develop the service sector; to save energy; and to clean up the environment.

Stimulating the domestic consumption is a target which is obvious. The Chinese market is a big growth market. The rising exports to Russia, Vietnam and United Arab Emirates also show us that Chinese exports now targeting emerging markets. With rising wages and spending power not a few analysts see a rising upper middle class in China in 2020 – something that was unimaginable 20 years ago. Overall the signs for achieving this target are not bad, but there is the risk that Chinese people spend their money for western brands.

Saving energy and getting "greener" pledges that China will have 15% of its energy from non-fossil fuels by 2020, almost double the share of 8% in 2009. The National Energy Administration suggests the Chinese target of 11.4% non-fossil fuel by 2015 will be a challenge, but its one they have accepted and are steaming ahead.

At the World textile Summit in Barcelona in 2011 Mr. Du Yuzhou, President of China National Textile & Apparel Council, explained his vision of converting the manufacturing in China.

He planned that the East Coast, responsible for a profit in textiles of 1.56 trillion US$ in 2010 and where approx. 90% of the Chinese textile industry is currently located, shall be expanded into a textile high-tech region. This plan is to be realised using a two-pronged strategy which will simultaneously solve further problems.

On the one hand the production relying on manual labour will be gradually but completely moved to the Chinese hinterland. This will create new jobs for the previous underdeveloped regions but still pay very low wages at this time which are competitive compared to other low income countries. The sustainability of these production facilities would be guaranteed in China whilst poverty will be reduced at the same time.

On the other hand the coastal industry will experience a significant upgrade through increased investments in science & technology and human resources. This upgrade is based on the idea of producing higher quality consumer products and to take over a leading, or preferably the leading role, in research.
And the upgrade is based on the idea of buying some of the most reliable textile machinery companies of the world. In July the Chinese Jinsheng Group closed the deal taking over the Natural Fibre and Components businesses from Oerlikon. Last year CHTC, now the number one textile machinery company of the world, bought the leading finishing machinery company Monforts and one of the leading companies for nonwovens machinery Autefa Solutions, both from Germany. The Chinese companies are investing in know-how and leadership.

China will guide domestic enterprises to develop overseas investment and cooperation. To create internationalized marketing and sales channels and famous brands, support will be given to leading enterprises in the manufacturing industry. In July 2013 Jiang Hui, Chairman of China Chamber of Commerce for Import and Export of Textile and Apparel delivered a speech on China‘s Textile Industry‘s Going Global Conference concerning the „Going Out“ strategy mentioned in China‘s Twelfth Five Year Plan. “Going global is the ideal solution to deal with the current excess capacity, reduce the comprehensive costs through allocation of global resources and enhance the international recognition of their brands”, he said and Chen Jian, former Vice Minister of Commerce, adds: “Government will support enterprises that want to upgrade their technology, improve management and deal with the risks linked to overseas investments”.

McKinsey sees in an analyses about China’s future in manufaturing four big challenges. First is the country’ s viability as a low-cost manufacturing center. Most multinationals that produce labor-intensive goods, like textiles and apparel, are actively seeking to diversify beyond China to reduce costs and mitigate political and supply-chain risks. Second is a rising consumer sophistication. The “new upper middle class” already demand innovative products that require engineering and manufacturing capabilities many local producers do not yet adequately possess. Third is the rising value-chain complexity. Greater affluence and rapid urbanization require product makers to manage, make, and deliver an array of increasingly diverse and customized products to increasingly remote locations. And as the fourth McKinsey named the heightened volatility.

The uncertain global economic environment since 2008 has complicated life for manufacturers everywhere. Volatility at such levels makes planning difficult for China’s manufacturers. The consulting enterprise suggests three imperatives for China’s manufacturers: achieve manufacturing excellence; look upstream; and tame supply-chain complexity. The analyses ends with the following conclusion. “For Chinese-owned and multinational manufacturers alike, the imperatives now are to boost productivity, refine product-development approaches, and tame supply-chain complexity. Those that do so can create an enduring competitive edge.”

Talking about China’ s challenges and future should not end without remembering that at present time many market leading companies have invested in China and make good business. One example.

For the internationally active Freudenberg Group, 2012 was yet another record-breaking financial year in China. Compared with the previous year, sales rose by about 11 percent to 4.07 billion Yuan (2011: CNY 3.67 billion). The successful trend continued in the first quarter of 2013 with growth in Mainland China of about 13 percent. In 2012, the number of associates in China increased by almost 600 to a total of 5,684. “The share of China in the overall sales of the Freudenberg Group is growing continuously. We are further expanding our production capacity and sales channels and rely on the innovative power of our associates in the country,” said Hanno D. Wentzler, Regional Representative of the Freudenberg Group in Asia and CEO of Freudenberg Chemical Specialities, at a press conference in Beijing. ■

Topics of the next issue 4 /2013

TOP STORY:

Recycling

Interview

Social Media

Man-made fibres

Country focus: *Russia*

Nonwovens & Technical Textiles:

„Medical Textiles“
„Carbon fibres and their application“

Textile Machinery:

„Testing and Quality Control“
„Nonwovens and technical Textiles“

Advertise here?

Please contact:

Mr. Uwe Köhler
Tel.: +49 2103 232 92
E-Mail: info@koehler-adservice.de

Mr. Stefan Koberg
Tel.: +49 40 5700 4 - 913
E-Mail: sk@deepvisions.de

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

Hard facts:

Founded:
1997

Website:
free of charge & registration

Unique Visitors:
72.114 /month (October 2012)

Visits:
>224.754/month (October 2012)

Page Impressions:
>1.230.089/month (October 2012)

Infoletter & Magazine:
no fee, registration required

Subscribers:
26.535

New Subscribers in 2013:
205 (2013-04-30)

Estimated readers:
50.000 (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