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9-10/2016

English edition



The international premium magazine for the textile chain

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TRENDSeminars 

The key to happiness

If there's one thing fabric fair Munich Fabric Start does well is, it's always having a surprise up its sleeve! Rather than staging a big celebration to mark its 20th anniversary (yes, it's been going for 20 years!), event owners, the Klinder family, are once again setting out on their own (creative) path. This time, they've managed to pull two new halls out of the hat in time for the autumn fair.

Hall 5 – opposite the M,O,C, and otherwise known as the Keyhouse – isn't just a regular exhibition hall, although this certainly would have been conceivable, given the long waiting list. But then again, that would've been far too easy, too unimaginative and, in truth, it just isn't how they roll. Indeed, the "Keyhouse" is all about inspiration and encouraging the industry to think outside the box. Announced as the "Think Tank for technical expertise on textiles, individual product placement, strategic cooperation between companies, resource man-

agement and the merging of cross-industry technologies", the Keyhouse looks set to blossom into a centre of innovation and creativity during the three days of the trade fair (p. 11 and in our online magazine).

And it all makes perfect sense, not least because the fashion and textile industry is having to deal with fundamental changes both in and outside the marketplace. A "keep calm and carry on" approach would be irresponsible and so it is that companies are looking for new ways forward, and are defining different profiles and communication concepts. In doing so, communication and synergies have a key role to play in the successful launch of innovative products and solutions, now and in the future.

The new name "Keyhouse" is therefore very well chosen and is synonymous with having a fine feel for emerging themes and with using one's imagination and creativity to deliver pioneering ideas.

In his book "The Art of Creativity", American author and psychologist Daniel Goleman cites the American jazz musician and composer Benny Golson: "The creative person is prepared to take risks. The creative person always walks two steps into the darkness. Everyone can see what's in the light. They can imitate it, applaud it, change it, reshape it, but the true heroes delve in the darkness of the unknown."

So how about trying new ideas and delving into this darkness? The Keyhouse will certainly encourage and help us to discover and venture down this untrodden path.

Personally, I really can't wait!
Wishing you an enjoyable read

Yours

Iris Schlomski



Iris Schlomski,
editor-in-chief



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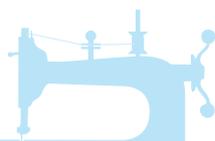
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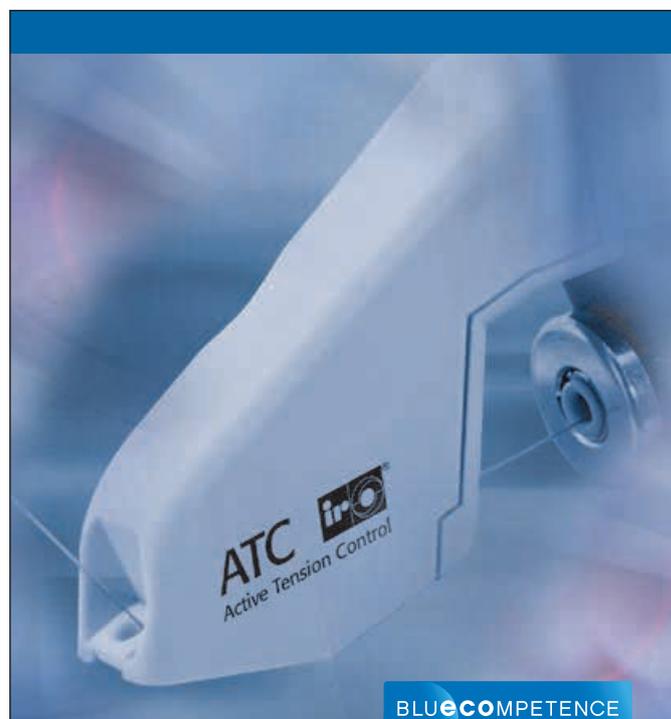


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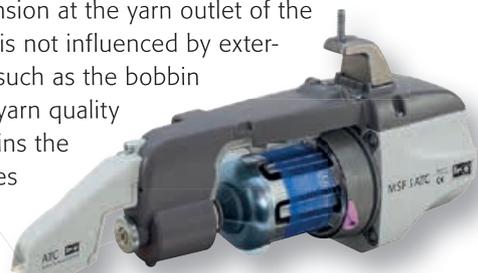


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Turkey

Turkish suppliers plagued by uncertainty

The foiled military coup, provoking the implementation of martial law, a clamp-down on civil rights and the abolition of constitutionality, has sent shockwaves of uncertainty through Turkey's textile industry. The attempted coup was preceded by a series of bomb attacks including the most recent one at Ataturk international airport in Istanbul. Perhaps not surprisingly, this instability is deterring some trade buyers from travelling to Turkey at the present time. Rating agency Standard & Poor's has downgraded the land on the Bosphorus to "high risk". Even prior to this, investors had been warned of what was termed a "fairly

high risk". Indeed, the climate in the Turkish textile industry was relatively gloomy even before the failed coup, struggling as it was to deal with severe losses on traditional markets such as Syria, Iraq and Russia. At Texworld New York in mid-July and Heimtextil in Frankfurt, Turkish textile exhibitors were making a conscious effort to forge contacts in "new" markets, with a predilection emerging for Asia and North America. Isa Dal, CEO of Evtteks, which is based in Denizli and manufactures bed linen and terry towels, is not particularly concerned about the situation in Turkey and is optimistic about the future. His products are among the "three most important brands" in the country. When asked whether his customers were still prepared to travel to Turkey in the current climate, he replied: "We've agreed some deals here in New York."

Oyku Akyil, Sales Director of Adana-based Oguz Tekstil, commented: "We export around 40 percent of our output, selling 60 percent on the domestic market." He conceded that the-

Turkey ranks as Europe's biggest apparel producer. Many of the major brands such as Esprit, H&M, Hugo Boss, S.Oliver, Adidas, Nike and Zara have their products made up in Turkey. Figures released by the Turkish export association in Denizli peg the value of terry towelling and home textiles exports at around US\$ 2.5bn. Turkey's total textile exports totalled approximately US\$ 14bn in 2015; the overall value of home textiles amounted to roughly US\$ 3bn.

re had indeed been market losses caused by the political uncertainty that has Turkey so firmly in its grip. He noted that exports to the US had become far more "complicated", continuing, "we send our fabrics to China to be further processed first. The finished products are then shipped to the US." The enterprise produces around 3 million metres of polyester fabric every month. During a conversation with textile network in New York, Yasar Karabel, Managing Director of Aker Tekstil, Istanbul, which predominantly specialises in woollen cloth, explained that the firm was trying to forge new contacts in Russia, Syria and Egypt. The Turkish government has set an export goal of US\$ 500bn by 2023. "If Russia starts buying more, it

will help us. We also want to tap into the South-East Asian markets organised within ASEAN. North America is still considered an interesting market. American buyers that order with us want us to ship their fabrics to China or Vietnam first for further processing," Karabel confirms.

Osman Canik, Chairman of the Uludag Turkish Exporters' Association and Vice President of Elvin Tekstil San Vetic A.S., based in Bursa, hopes that the civil war in Syria will soon come to an end. The war will doubtlessly be followed by a period of intense reconstruction, including hotels, housing estates and other building projects, which in turn will fuel demand for home and household textiles.

[Manik Mehta]



Photo: Manik Mehta

Isa Dal is optimistic about his company's prospects in spite of the current situation



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IN THE HANDS
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TEXWORLD ISTANBUL

Expo cancelled

Messe Frankfurt has responded to the current instability in Turkey. Texworld Istanbul, which was scheduled to run at the Lutfi Kirdar International Convention & Exhibition Center in Istanbul from 19 to 21 October 2016, has been cancelled. In a statement, the management said, "There is currently not enough market demand for a fair in Turkey at this point in time." A survey among poten-

tial visitors, also from Asia, had revealed that the situation is considered too unsafe, giving rise to insufficient demand. These events will not in any way affect Heimtextil, which will open its doors from 10 to 13 January 2017. In a further statement, Messe Frankfurt gave reassurances that: "The Turkish exhibitors are still coming."

[www.messefrankfurt.com]



Photo: fotolia

Messe Frankfurt cancels Texworld Istanbul

TECHTEXTIL 2017

Trade fair continues to grow

85 per cent of the total exhibition area used in 2015 has already been booked nine months ahead of Techtexsil 2017, which is due to take place from 9 to 12 May 2017. This figure is said to have exceeded all expectations. Commenting on the fair, Olaf Schmidt, Vice President Textiles and Textile Technologies at Messe Frankfurt, stated: "Technical textiles rank among the biggest drivers of growth in the textile business. The fact that so many companies have already registered for Techtexsil 2017 shows quite clearly how dynamically the industry is developing." So far, 750 exhibitors from 39 countries have submitted their bookings, including market leaders such as Forster Rohner, Freudenberg, Groz-Beckert, Lenzing, Mehler

Technologies, PHP Fibers, Sandler, Schoeller Textil, Sioen Fabrics and Trützschler. Several countries will also be represented at national pavilions. Belgium and Italy are expanding their spaces, whilst confirmed bookings have been received from China, France, the UK, India, Canada, Portugal, Spain, Taiwan, the Czech Republic, Turkey and the USA. Running concurrently with Techtexsil, Texprocess, a leading fair for the processing of technical textiles and nonwovens, provides visitors with valuable insights into all aspects of textile processing, including finishing and digital printing. Messe Frankfurt has revealed that Texprocess is also recording excellent registration levels.

[www.techtexsil.messefrankfurt.com]

OUTDOOR

Functional clothing for many activities

Fine feathers make fine birds: This can also be said for the leisure world and the great outdoors. When it comes to outdoor clothing, versatility is key. Be it hiking, mountaineering or shopping, the right jacket can meet all these needs.

Functionality is still a hot topic for manufacturers, with fabric blends featuring more strongly than ever. At the same time, T-shirts, trousers and jackets are all becoming lighter and more breathable. Outdoor, a leading trade fair in the field, took place from 13 to 16 July in Friedrichshafen near the lake

constance, unveiled what men and women will be wearing next season. Accordingly, jackets that can be used for all activities are definitely on trend. In terms of sustainability, it simply does not make sense to buy or sell a different jacket for each specific use. Of course, this does not necessarily apply to the more extreme sports, such as climbing or backcountry skiing, which require a fit specifically designed for the task in hand. For 2017, manufacturers are channelling their innovative energy into lightweight garments, extreme

comfort, fabric blends and cuts, with blends of high-tech and natural fibres still very much on the advance. Be it high-tech fabrics combined with organic cotton and a waxed finish or merino wool with eucalyptus wood fibres, the outdoor industry is finding an abundance of creative solutions for improving and expanding functionality. Outdoor clothing has many strengths, among them authenticity, fit, versatility, functionality, comfort and low weight, and is also starting to reflect the latest fashion trends.

[www.outdoor-show.de]

Outdoor clothing is lightweight, offers many different functions and is becoming trendier



Photo: Outdoor



Intertextile Shanghai – impressions

INTERTEXTILE SHANGHAI APPAREL FABRICS

Autumn Edition 2016

As the world's most comprehensive apparel fabrics and accessories event, Intertextile Shanghai Apparel Fabrics has never failed to offer a wide range of sourcing options.

The 2016 Autumn Edition is no exception, with a number of new suppliers from around the world enriching the product diversity this year. From 11 to 13 October, nearly 5,000 exhibitors from more than 25 coun-

tries and regions will showcase an array of products in 10 halls at the National Exhibition and Convention Center (Shanghai), occupying more than 260,000 sqm exhibition area.

As well as first-time participants, the returning features of the fair play a key part in its product diversity. Intertextile Shanghai's showroom for premium products – SalonEurope – will be located in hall 6.2 this year, and its long-term members, including the Milano Unica Pavilion from Italy as well as France, Germany and Turkey pavilions, are set to return with a broad range of premium European-made fabrics and accessories.

Also housed in SalonEurope are two product zones – Premium Wool Zone and Verve for Design. Both of these zones will introduce new exhibitors that

extend the fair's product selection. This year, the Premium Wool Zone will feature new and returning exhibitors from France, Japan, Peru, the UK and elsewhere. The new Japan participant Ichinomiya Fashion Design Foundation will exhibit outerwear items made from unique top-dyed yarn, double cloth, dobby and fancy tweed from the Bishu area of Japan, while another new exhibitor Harris Tweed Scotland Ltd from the UK is highlighting their colourful hand woven Harris Tweed fabrics for outerwear and accessories.

Besides the country and region pavilions, eight Group Pavilions led by some of the industry's largest firms including Dupont, Hyosung, Invista, Lenzing and Oeko-Tex, as well as the Korea Textile Trade Association.

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LIGHTWEIGHT TECHNOLOGIES FORUM

New forum for modern multi-material systems

The new Lightweight Technologies Forum, which will be held in Dusseldorf as part of the Aluminium and Composites Europe trade fairs will reflect the trend towards modern multi-material systems. In several application-focused modules, experts will present their real-world experiences with issues revolving around material composites in the automotive, aerospace and architecture segments. Also on the agenda will be cross-industry thematic blocks, emphasising manufacturing and production technologies such as the joining and combining of different materi-

als. Featuring fibre-reinforced plastics, aluminium and magnesium, Düsseldorf will, from 29 November to 1 December 2016, be transformed into the largest trade fair marketplace for lightweight construction challenges in the automotive sector, aerospace, mechanical

engineering, the sports and leisure industry, wind power, and the construction sector. Aluminium and Composites Europe are a successful trade fair duo expecting a combined total of approximately 1,300 exhibitors and 35,000 experts from industry, research and development.



Dusseldorf

Both trade fairs showcase new pioneering solutions for more efficiency in the production and processing of aluminium and composites – from raw materials to semi-finished goods to finished products from user industries. With the new, jointly organised Lightweight Technologies Forum, Composites Europe and Aluminium have managed to further enhance the supporting programme of their trade fairs, which already includes events such as the International Composites Congress (ICC) – hosted by the trade association Composites Germany. [www.composites-europe.com]


KEYHOUSE
HIGHTEX AWARD

MUNICH FABRIC START

Two new halls

The new Keyhouse as an innovation and creative centre and Catalyzer as an additional denim section are sending a clear signal: At Keyhouse progressive suppliers and global players from a variety of sectors will stage an epicentre of creativity and innovation: smart textiles, future fabrics and technologies with a high degree of integration in textile products and high fashion. In the context of cross-sector macro trends new technologies and pioneering showcases will be in the spotlight alongside sustainable developments, expert workshops and trend seminars. At Catalyzer denim heritage and blueprints will be showcased with a focus on sustainability and innovation. [www.munichfabricstart.com]

Texprocess Americas

“Technology is critical to our industry”

Dave Gardner, Managing Director of SPESA and a long-time observer of the apparel industry, believes the recent resurgence of textile and apparel manufacturing in the US is a bona fide trend. Among the factors he cites are textile firms from India and China investing in US facilities. Commenting to a group of journalists as the recent Texprocess exhibition and symposium was about to begin in Atlanta, Gardner said, “Techno-logy is critical to our industry. The biggest newest thing for our show is automation and robotics.”



Impressions
Texprocess Americas

are generally uninterested in factory work making robots the next logical step to fill this skills gap.

Reddy said symposium attendees were surprised to learn that many robotic solutions to apparel manufacturing needs are available now, not research projects that are five to 10 years away.

“The feedback at our booth mirrored this same thinking,” Reddy said. “Attendees were shocked to see that flexible, lightweight robotics are available now for multiple sewing operations.”

Henderson Sewing Machine Co., an Andalusia, Ala.-based supplier of industrial sewing machines, may have had the most robotic stand in Atlanta. The company displayed several

These industry-changing technologies were clearly evident during the three-day event held in Atlanta in early May, both in the exhibit hall and the Symposium rooms. One of the Texprocess Americas Symposium sessions focused on robotics and other forms of automation. One of the presentations came from K.P. Reddy, CEO of Atlanta-based Soft-Wear Automation, a robotics and computing firm that specializes in technologies targeting apparel manufacturing and the sewn products industries.

“There is a huge need for automation in the apparel sector,” said Reddy. “Outside of the obvious ethical reasons around eliminating sweatshop labour, the biggest force driving manufacturers to automate their processes is the lack of skilled labour. Globally, it has become increasingly difficult to find, train, and retain skilled seamstresses. As the more skilled workers begin to retire there is no talent pool to replace them whether you are in the US or Bangladesh. Millennials the world over are moving to city centres and





examples of the use of robotics in various types of sewing. Frank Henderson, the company's CEO, was also a symposium panelist. He believes the evolving apparel industry is ripe for robotics.

"Robotics are more affordable than ever," Henderson said. "Repetitive motion manufacturing jobs are ones that can be automated today."

Edward Gribbin, President of apparel industry consultancy Alvanon, participated in a symposium session on how technology is implemented to increase productivity in apparel manufacturing. There is a great need for speed to market and technology is the answer. He said he takes a holistic approach to automation.

"Technology is helping retailers not only produce more effectively, but also to buy the right products, even to understand what the consumer wants almost before they want it. There are tons of analytic programs out there that help companies make smarter buying decisions and produce smaller quantities. In some cases, RFID technology is helping people manage inventories over multiple locations."



Gribbin noted that the developing technology of 3D virtual product development is bringing products to market much faster, even quartering or halving the normal 12 to 18-month development process.

One of the continuing themes on the exhibition floor at Texprocess Americas was the effect of the preference for Made in the USA products. It's somewhat anecdotal and not everyone is benefitting, but clearly some companies are. They include Hickory Brands, a North Carolina firm that specialises in shoelaces and braiding. Tucked away in a small booth at the end of an aisle, Hickory Brands was one of 38 firms housed in the Supply Chain USA pavilion, and may have had one of the busier booths. Hickory Brands supplies the major sporting goods chains as well as shoe manufacturers.

"We've been busier than the previous two shows," said Richard Schaftlein, Hickory Brands' Vice President. "A lot of it has to do with Made in America."

Schaftlein said US firms have the advantages of proximity and efficiency. He held up a piece of braiding and said, "See this piece of braid? I am going to ship 700,000 yards of it this week. That's probably 600,000 more than I usually ship and this company used to by it from China."

The apparel industry now has a new consultancy, or at least venerable consulting services under a new name. Will Duncan & Associates formed about six months ago when long-time TC2 consultants Will Duncan and Douglas Adams bought the consulting business from TC2. Adams, the company's chief opera-

ting officer, said the move has been successful. He was also pleased with the level of attendance at Texprocess Americas. The new consultancy advises apparel manufacturers on how to take costs out of their businesses through lean manufacturing "We show them how to take lost to capacity out of their operation," Adams said. "Through this process, no one is every idle on the shop floor. Companies have been coming to us specifically here (at Texprocess) to help them reduce costs. It's a matter of changing the culture of how they have been operating." Adams said Will Duncan Associates typically sets up one pilot line at a factory by teaching employees of clients their process. The consultancy now has clients across the U.S. and in Mexico, Central America and South America.

[www.texprocessamericas.com]

[John W. McCurry]



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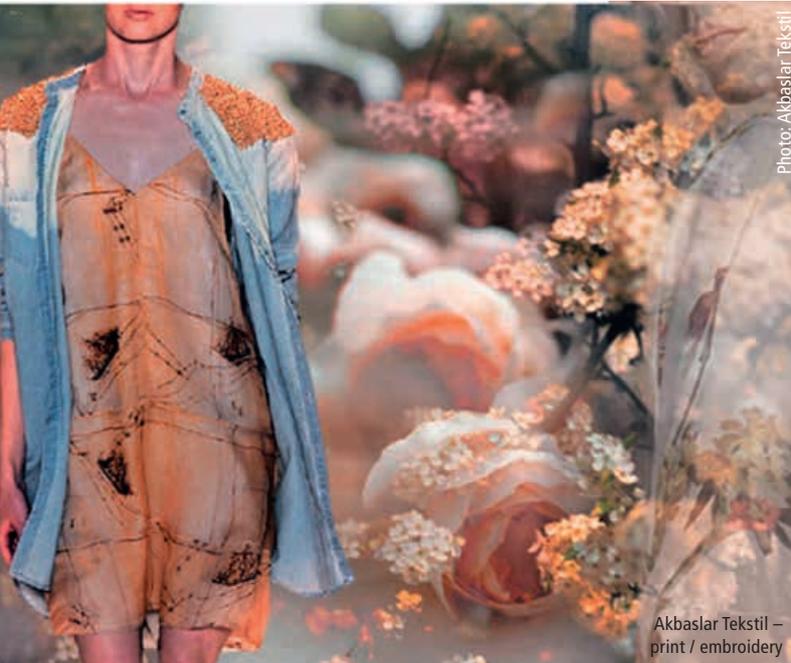


Photo: Akbaslar Tekstil

Akbaslar Tekstil – print / embroidery



Photo: Schoeller Textil Technik

Schoeller Textil – silver coating

On the pulse of Autumn/Winter 2017/18

Feel connect – more feeling, more communication

In collaboration with fourteen experienced designers from the field of design and management, the German association of fashion and textile designers VDMD identifies important social and mega trends. Exclusively for textile network, the Trend-Research-Team has explored how their findings are reflected in the colours, shapes, materials, surfaces, patterns and print designs of a diversity of products appearing next season.

“How is a mega trend visualised in new products? And how does it manifest itself in the seasonal themes for autumn/winter 2017/18?” Examining the issues and topics currently foremost on the minds of everyday people as well as the emotional needs arising from them, the Trend-Research-Team identified the following social needs as being the most prominent: “Having time, slowing down, clarity, security, expressing one’s feelings, trust, humaneness, self-value, appreciation, being there, tolerance, patience and warmth.” This yearning for feeling and human encounters is reflected in the four themes dubbed urban, nature, culture, young.

An urban theme – texture

The inspiration for this theme arises from the desire to slow down and

appreciate closeness. The anonymity of the big cities bows to a consciously lived emotionality. The focus shifts to city districts where everyone knows everyone else, just like in a village setting. Shopping, chatting and bumping into neighbours at the corner shop has become fun again. Designer grocery stores start popping up, which suggest recipes and stock the products according to these recipes. The colour spectrum is neutral and reserved, with a puristic radiance shining through, becoming softer, more subtle and powdery, and giving way to a delicate rosé, the new urban colour. Materials have a simple basic texture or are lent a third dimension through 3D printing. A variety of shapes and textures are layered on top of each other, giving rise to animated surfaces.

Textured weft and coarse knits feature more strongly. A new approach to technology supports our most human needs. Technology is made visible or even transparent. Surfaces and textures are subtly accentuated. Embroidery is most definitely celebrating a comeback. Printed motifs and designs are layered on top of

Akbaslar Tekstil – technical textiles



Photo: Akbaslar Tekstil



Photo: Jim Knopf Accessoire



Photo: Peppermint Druck

Peppermint –
textile printing

each other, blurred, and combined to create new looks. The colour spectrum must not appear motely but must remain puristic, creating an impression of plain colours despite some accents, and conveying a sense of subtle luxury. Akbaslar Tekstil has embraced the trend towards transparency in its printed designs. Its fabrics are complemented with cloth bursting with new technologies. With its new yarns, Gunold has reconfirmed its position as a driving force in innovative embroidery. Leading the way in the comeback of art embroidery, the company based in Germany's Stockstadt not only scores high for its new yarns but also for providing professional guidance on how to process them.

An ecological theme – nature

This theme is inspired by the intelligence of nature. Sustainability ver-

Gunold – embroidery
yarns



Photo: Gunold

sus waste. Learning from nature. Seeking calm and strength in its implicitness. Wanting to understand and wanting to move with it rather than against it. People start tuning into nature, they breathe deeply, regenerate. Our knowledge of nature is used for visions of textile products. Resource optimisation, recycling, upcycling and fair trade aren't just buzzwords, but are followed with a sense of responsibility. Environmental and climate protection are accepted as a matter of course. Colours are borrowed from nature, with an emphasis on green and moss. They radiate freshness without being loud, as they harmonise to perfection. A new addition are misty shades of green that incorporate the milky yellow of the rising sun. Materials have tactile, three-dimen-

sional textures, appearing braided or creating a three-dimensional feel through photo prints. Artificial traces of ageing mimic the scars of nature. Traditional materials, such as cotton, silk or wool enter into new partnerships with grasses, cork or wood. Surfaces and textures appear animated, weathered, matt and wet, or shiny yet porous. Printed motifs and designs are inspired by nature, alienated and processed to create new looks. Accordingly, roots become fringes, grasses become stripes, winter branches become veins. The colour chart is harmonious, with shades blurring into each other or turning into colour streams. Peppermint gives us an emotional glimpse of nature through a reflecting pane of glass. A snapshot with a lasting impact. Natural yet abs- ▶



Photo: Alpenwahn Deko



Photo: Butonia Kahage



Photo: Tygesen & Birk Fabrics

▶ tract. Nuances and effects are staged to create a smooth and bold quality. Schoeller-Textil combines technical comfort with high-quality design. Metal lustrous effects on both the front and back, concealed reflex printing technology and functional, naturally textured cotton-linen blends are among the highlights of Schoeller's current collections. Jim Knopf's new button collection is also inspired by nature: stone shapes in resin and shades of grey and olive are brought together and coordinate perfectly with harmonious colours and different shapes.

A cross-cultural theme – sense
Inspiration comes from the global networking that has completely enveloped us. For decades, we have been consuming foreign cultures, visiting foreign countries, enjoying holidays, admiring the hospitality of our hosts. Now, those same countries are looking to us for protection. The Orient is coming our way. We will learn from each other and live side by side. Trust, cooperation, and a sense of shared joy evolve and grow. Lifelong friendships form.

Left: Alpenwahn – decorations
Middle: Butonia Kahage – buttons
Right: Tygesen & Birk Fabrics



You are interested in informations about the ITMA ASIA 2016? We report about this important fair in Shanghai in our Online Magazine. textile-network.com

Nilorn – hangtags and labels

The innovations of the fabric and trimmings suppliers presented in this article can be seen at at least one of the following three trade fairs: Munich Fabric Start in Munich, which runs from 30 August to 1 September 2016, opening the autumn season for innovations in fabrics, materials and accessories. Milano Unica in Milan, featuring a comprehensive selection of textile products from 6 to 8 September. Fabric fair Première Vision in Paris from 13 to 15 September and last but not least from 10 to 13 October, Intertextile Shanghai Apparel Fabrics. Detailed information about the trade fairs in our online magazine!

The colours are emotional, caressing, mature, glowing, warm. They are stimulating, sometimes explosive and always rich, sumptuous, pleasurable. The materials are reminiscent of the Baroque in its heyday, when velvets, damasks and jacquards lent wings to the imagination. Light and breezy are central elements to this theme. Surfaces and textures are restless and animated. Three dimensionality arises through rich embroidery, decorative appliquéés, laser-cut borders, fringes, patches, reliefs, high and low pressure, pleats and puckering. Tradition teams up with modern technology and trendy looks. Printed motifs and designs are borrowed from the art world. Still-lives, quilting, old rug motifs, Gobelin designs and richly embellished lettering all feature strongly. Young people incorporate these newly interpreted traditions into their everyday cosplay. Reichel presents prints that have been created by various design studios. Alpenwahn has an abundance of beads, silver chain laces and boldly coloured blossoms to create a sumptuous impression which is toned down by the transparency and milkiness of the materials to produce a modern take on tradition. Nilorn has earned its stripes as a manufacturer of la-

bels that can be tailored to bespoke brands. The gap between tradition and modernity is successfully bridged.

A youthful theme – generation
This theme is clearly inspired by the youth scene. The need to flourish in a group is counterbalanced by the strength of being unique. The need to flock together is contrasted with sensitive individuality. A strong and vital drive to live for the self stands in opposition to a gushing empathy for others. Careers are pushed forward, but holidays remain a priority. Pleasure and responsibility are no longer seen as contradictions. The colours are extremely light, delicate, breezy, sensitive, subtle and often feature bright white. They are reminiscent of snowy pastels, across which the final rays of the setting sun cast long shadows. Materials can be mixed wildly and different textures are layered in a single outfit. The only rule is that there are no rules. The main imperative is to experiment with natural materials and techno fabrics. Rubber and foils are by no means taboo close to the body, whilst the distinction between feminine and masculine is giving way to a more unisex approach.



Photo: Nilorn



Swarovski Accessoires

Photo: Swarovski Accessoires

Surfaces and textures are clearly defined, with pretty puckering, smocking, reliefs, meshing, bumps and bubbly puffing. Anything goes as long as it provokes "oohs and ahhs". Printed motifs and designs come from everywhere and anywhere, featuring landscapes, architecture, portraits, plants, flowers, spheres, abstract motifs, surreal fantasies. The game is an important theme for next season. Swarovski is synonymous with beauty and aesthetics combined

with sustainable, responsible conduct. Moving beyond its product innovations, the company invests much energy in the Swarovski Waterschool, which raises awareness about drinking water. Thygesen & Birk Fabrics' weft knitted construction is a technical and functional fabric, specifically manufactured for special applications in complex structures. The fabric boasts unique attributes such as excellent dimensional stability, natural elasticity and natural shape retention, made possible by the special technology and weft knitting machines used. Butonia Kahage is following the trend towards polyester-coated buttons with a matt finish for a dry look, metal buttons made from Za-

mak, also cast in transparent colours and with polyester coatings – and buttons appearing in wood looks. Special finishes are achieved by step turning, emphasising each individual layer.

[www.vdmd.de]
[Mara Michel]



Reichel Druck

Photo: Reichel Druck



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Cotton

Natural, biodegradable, renewable

In the world of textiles and apparel, cotton, which is one of the oldest crop plants in the world, is facing fierce competition from cheap man-made fibres. In the mainstream media, the natural fibre often comes under fire, fuelled mostly by the PR reports propagated by NGOs. We spoke to Elke Hortmeyer, Director of Communications and International Relations at the Bremen Cotton Exchange.

Textile network: Ms Hortmeyer, what are the most pressing issues currently facing the cotton industry?

Elke Hortmeyer: Cotton is produced in vast quantities with a view to giving farmers a livelihood, to providing the textile industry with a good raw material and consumers with an affordable, durable textile that is kind to the skin. This also means that it has to be suitable for mass production both with respect to the processing industries and agriculture. In the 2015/16 season, global output totalled an estimated 23 million tonnes. Cotton is a natural product, which has been cultivated by humans for thousands of years. The livelihoods of 250 million people depend on it, most of whom live in the developing world. Challenges are posed by the weather, the growth of weeds and, of course, insect infestation. In some countries, the absence of night frosts greatly heightens the threat posed by pests. Last season, regions of Pakistan, India and Brazil reported problems caused by insects. Unfortunately, the use of modern insecticides is expensive and requires both time and knowledge. This is being exacerbated by price pressures: Dampened by large cot-



Photo: Bremer Baumwollbörse

ton inventories mainly in China, the global cotton price has been kept artificially low in recent years. Additional pressures are created by competition from low-priced man-made fibres. Polyester is cotton's main competitor in textiles and clothing. The market share of cotton in terms of total fibre consumption has already dwindled to around 32 percent, have lost significant ground to synthetic fibres. In a move to avoid these pressures, farmers facing low cotton prices have no alternative than to im-

Elke Hortmeyer, Director of Communications and International Relations at the Bremen Cotton Exchange

prove yields by continually enhancing their cultivation methods. At the same time, cotton is constantly being criticised by NGOs as an unsustainable product because of the cultivation and processing methods involved. The criticism is frequently based on inaccurate information that fails to reflect current levels of development. Not surprisingly, this is having a hugely negative impact on cotton.

Textile network: What role does the quality of cotton play in fibre processing?

Elke Hortmeyer: The quality and texture of ginned and prewashed cotton are decisive factors for downstream processing, e.g. at spinning and weaving mills. The fibre length, fineness, fibre elasticity, uniform fibre length and the distribution of organic maturity determine the quality of the yarns and cloth, influencing the end uses and finishes to which they are exposed. Another really important factor is the purity of the cotton supplied. Deviations in quality often lead to complaints or disputes. The Bremen Cotton Exchange is an officially recognised arbitration tribunal which is able to rule over contractual cotton disputes.



Cotton harvest in Tanzania

Textile network: Does the Bremen Cotton Exchange also provide support when it comes to quality checks?

Elke Hortmeyer: Bremen is the centre for international quality checks. Tests on cotton from all over the world are carried out in the ICA Bremen laboratories – ICA Bremen is incidentally a joint venture between the Bremen Cotton Exchange and the ICA Liverpool. The tests are conducted by the experts at Fibre, a research institute in Bremen, and are commissioned by the global cotton trade, spinning mills and weaving mills. The laboratory is also used for fibre research.

Textile network: How significant is organic cotton in the marketplace?

Elke Hortmeyer: Official figures from the harvest of 2012/2013 reveal that 139,000 tonnes of ginned organic cotton was produced which is really quite insignificant. Based on cotton's total global output for the same year, organic cotton clinched a market share of just 0.5 percent. It is cultivated without the use of chemical fertilisers or synthetically produced pesticides. Only organic fertilisers and or-

ganic forms of plant protection are permitted. In addition, the use of genetically modified seeds is an absolute taboo. This form of cultivation requires far more space, a profound knowledge of how to care for and cultivate the crop, and lots of manual labour. This is why organic cotton cultivation is often found in smallholdings that are not designed for large-scale production.

Textile network: Are there alternatives?

Elke Hortmeyer: More recently, internationally operating initiatives supporting the cotton business such as Cotton Leads in America or the Better Cotton Initiative in Switzerland have been gaining more clout because they're trying to advance existing regional cultivation systems to include aspects of environmental, social and economic sustainability by providing farmers with targeted training and exchanging ideas and experiences. On a regional level, we have initiatives such as the Bayer e3 Programme in the US and the my BMP in Australia. The Fairtrade and Cotton Made in Africa initiatives aim to improve the economic situation chiefly in developing countries by encouraging self-help.

Textile network: What is the right path?

Elke Hortmeyer: The Bremen Cotton Exchange is a neutral and independent body. And as we all know, there's more than one way to skin a cat. We believe that all production and marketing methods can co-exist communicatively and competitively. In the cotton industry, there are no prescribed or uniform approaches simply because of the huge geographical, cultural, social and also political differences and the varying rates at which countries are developing. Cooperation between contractual parties requires a lot of trust and transparency in the sourcing and production processes, which does not always have to translate into the need for certification and verification. The many success stories in cotton cultivation just go to prove this.

Textile network: What does sustainable cotton cultivation actually mean?

Elke Hortmeyer: There is no specific definition of sustainable cotton per se. This is why it's always really important to ask because a ►

► western European consumer's take on sustainability is completely different to that of a Pakistani farmer, but we can assume that both slants are right. I would personally give the farmer's view greater weight because he's the one who works the land; it's all about his livelihood and he's the one who decides whether or not to grow cotton. The areas covered by the term sustainability are manifold. They include, for example, protecting crops whilst remaining mindful of the environment and human health, by

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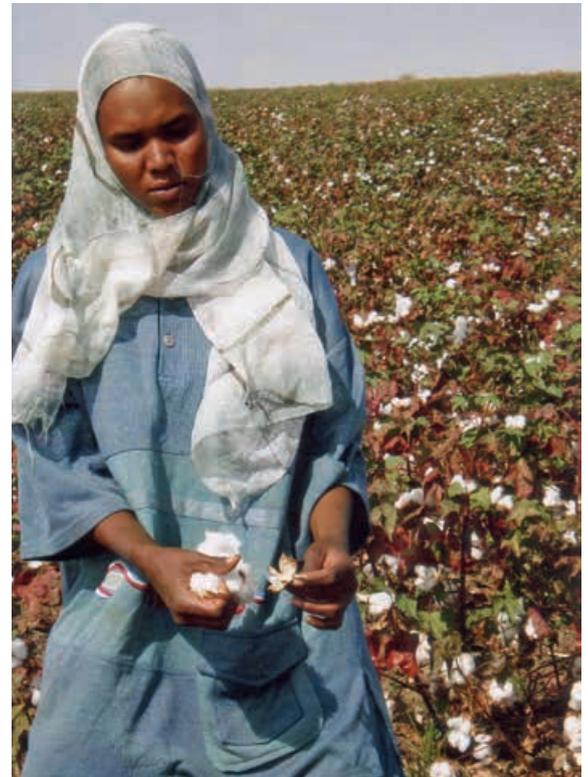


using advanced pesticides intelligently as well as resource-efficient irrigation methods. It is also about ensuring that the soil remains fertile, achieving economic efficiency, fighting poverty and achieving food safety, whilst weighing up the economic risks. Health and safety and protecting the health of people working in the cotton business are also really important aspects. Further research is needed to render cotton seed more resistant to problems such as stress caused by drought and to improve their yields. There are no globally applicable solutions for any of these tasks. Each approach depends fully on the conditions in a particular locality or region. At the Bremen Cotton Exchange, we work together with our global network of experts with a view to advancing the development of the cotton industry. As a neutral

and independent institution, we've been working since October 2014 on shaping the Textile Alliance which aims to achieve greater sustainability and transparency in the global supply chain and was established by the German Federal Ministry for Economic Development. We are helping to define industry-specific criteria with a view to achieving these goals.

Textile network: In a nutshell, what are cotton's main strengths and special attributes?

Elke Hortmeyer: We're very clear in our view that, as a natural, biodegradable and renewable raw material, cotton is indispensable in our global society, not only because of its economic importance but also its many benefits and multiple uses. We like to emphasise three main aspects: Cotton feeds people: the livelihoods of millions of people depend on cotton, also in downstream industries. It is a strong economic force not only in developed but, also and above all, in developing countries. Cotton thinks: Research and development are enhancing the quality, properties and advantages of cotton on an ongoing basis to ensure that our resources are used more carefully and that cotton becomes less sen-



Cotton harvest in Sudan

sitive to the elements, drought and infestation by insects. Being an intelligent product it can also be assigned to new fields of application in the realm of technical textiles. Cotton protects: Used as textiles and clothing, cotton has been invaluable to people for thousands of years. Skin that is sensitive or prone to allergies responds well to cotton because it is soft and fine. This is why it is widely used in medicine, e.g. for dressings. These are incidentally the main pillars of our communication work.

[www.baumwollboerse.de]

Ms Hortmeyer, many thanks for talking to us.

The questions were posed by Iris Schlomski on behalf of textile network.

New:

More information on the global topic of cotton and the cotton market is available with immediate effect in a dedicated, constantly updated column on our homepage.

Leather garments

When sheep becomes lamb

The market situation has not been kind to the leather garment industry in recent seasons. Changes in market structures, a series of unusually mild winters and the omnipresent nylon down jacket have all contributed to a decline in leather sales, along with cut-price offers hiding behind the veneer of the “lamb” label.

However, “lamb” doesn’t always mean lamb, especially when old sheepskins are rebranded as lamb jackets. Consumers find it difficult to assess quality criteria and standards without expert assistance.

The credo “leather, the most complex natural material requires expert advice” was lost with the rise of online and self-service shopping. Comprehensive and consumer-friendly displays of leather products have vanished along with dedicated leather sections in fashion retail and department stores and catalogues. Today’s retailers prefer textile suppliers that occasionally accessorise their collections with leather jackets, putting leather clothing manufacturers at a

disadvantage when acquiring selling space, and creating a challenging market environment for them. People on the hunt for leather jackets have to scour the shops and countless pages of catalogues and make do without assistance. These days, consumer choice is based merely on look, price and if possible feel.

The decline in revenues in the leather garment industry is not, however, solely attributable to changed market structures. Fashion itself has played a role as well with nylon down jackets being worn up and down the high streets and innovative synthetics and fake leathers taking over the clothing market. Seve-

ral Asian leather manufacturers have already switched from genuine to faux leather. These artificial materials are also subject to textile labelling regulations.

Established and traditional leather suppliers are familiar with the ups and downs of this cyclical industry. When leather is in fashion, the market is flooded with cheap pigskin jackets, followed by industry outsiders jumping on the bandwagon, e. g. coffee chains or discount supermarkets. The newcomers quickly move on, leaving behind around half a dozen industry veterans that have asserted themselves over the years through their professionalism and quality. They compensate for the ►

Once the most important livestock, sheep stocks declined almost by half between 1984 and 2014



Example of a product from Christ

► downturn in business in Germany by opening up new export markets and developing and manufacturing leather designs for high-profile textile brands.

Budget sectors such as young fashion or chain retailers, that offer just one set of leather jackets – same cut, in two colours and different sizes – on a fortnightly rotation, purchase their products from Chinese, Indian and Pakistani suppliers. The current retail price for so-called lamb jackets, also available online and per catalogue order, is 199.90. Consumers will find that jackets made of lamb Napa leather range in price from 199 to over 1,000. How can that be possible?

The vague and non-restricted lamb label allows for these enormous price discrepancies. Both products genuinely made from small lambskins and articles made from old sheepskins as well as everything in between are branded and sold as lamb. Industry professionals are aware of the vast spectrum of quality and price and the reasons behind it, namely: Age - Breed - Provenance - Production process.

Age

Like wild animals, sheep graze on pasture, independently feed and reproduce without requiring human intervention. They can be taken to slaughter at any age. The younger the sheep, the smoother, more refined and expensive the leather that is produced from their hides. On the other hand, older animals that have given birth to several lambs provide for stronger leather with supple ventral skin, scars and imperfections.

Baby lamb: Approximately 20 percent of newly born lambs do not survive the first 10 days, sometimes due to climate conditions. Skins from these animals are collected in New Zealand, Australia, South America etc. for trade, as are hides obtained from male lambs that are slaughtered to control numbers. Their meat is sold as the popular Easter lamb. The labels baby lamb and suckling lamb, however, are not

very marketable as they carry emotionally negative connotations. Consumers are generally unaware that these leathers come from animals that have died or have been slaughtered for other un-related reasons. Therefore, labels such as curly lamb or soft lamb tend to be used instead of the biological term. The small shearling lambskins and pelts are used for high-end leather products due to their silky texture and low specific weight and are only available from leather clothing and gloves specialists. A $\frac{3}{4}$ length baby lamb coat is made of around 60 lambskins, weighs only about 1,000g and comes with a price tag of 1,800 Euro.

Lamb: Once lambs switch from milk to grass after approximately 8 weeks, their skin changes and after 6 months it will have fully developed reaching a skin size of 5 to 6 square feet. The hides of young, unshorn sheep that have not yet had lambs have an even and consistent texture from spine to underside. They are sought after for their smooth, elegant look and soft feel. This type of leather from barely mature sheep is what tanners call lamb. Leather jackets made thereof have a sophisticated look and deserve the label lamb. Prices range from 500 to Euro 1,000 Euro.

Sheep: After lambs and ewes have been separated, adult sheep are selected for slaughter or shearing before a new cycle of lambing, rearing, shearing etc. begins. Hide and skin buyers carefully differentiate between adult and older sheep, whose skin is characterised by markings as a result of pregnancies and pasture life. Leather from these animals is strong with a textured feel to it and interesting patterns. Tanners know how to transform lower-quality sheepskins into sporty, earthy leathers with an abraded, embossed, waxed etc. finish using cutting-edge methods and their mastery. Because the lamb label ►



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► is more sellable than sheep, retailers sell these leathers as lamb jackets from 199 Euro.

Breed

Humans have kept sheep for their meat, sheepskins, wool and milk for 10,000 years, making it the oldest livestock. Depending on the breed, sheep are mainly used for either meat or wool production. Breeds with few fat deposits in the skin structure are ideal for Napa leather, e.g. hair sheep (Red Sheep, Metis, Texel) or the Spanish Entrefino, whose fleece is a mixture of wool and hair. With one of the finest leather structures these products are top of the range and in the highest price segment. Although not as suitable for Napa leather, lambskin from Merino sheep is seen as one of the most luxurious and expensive due to its fine wool. Corridale sheep have specifically been bred to provide meat, wool and medium-quality sheepskin, which is becoming increasingly popular with the aspiring Chinese middle classes as an alternative to pigskin leather. Tuscan lamb is a particular Italian breed with approx. 2cm long fine wool that does not necessarily have to

Due to the lack of regulated and compulsory leather labelling, consumer choice is solely guided by look, price and if possible feel



Photo: fotolia

come from Tuscany. Similarly, Merino sheep can be bred in different countries.

Provenance

Quality and price are also determined by provenance. Humid and hot climates are breeding grounds for mosquitos and parasites that affect sheep and pierce their skin, diminishing its quality. The purest sheepskins come from mosquito-free mountain regions such as the Pyrenees or the Andes and colder climates such as Tierra del Fuego, Punta Arenas, the Falkland Islands or New Zealand. Hide and skin traders know exactly where to source products that meet their price and quality criteria. Additionally, skins that have been chemically treated to remove wool do not display any scars caused by shearing. Generally, pure skins with minimal imperfections are of a high quality and are expensive. Vice versa, the more markings, scars and blemishes, the lower the quality and the cheaper the price.

Production process

Much like textile production, tanning ranks among the most polluting industries due to the extensive use of chemicals. Ecological, environmentally friendly and sustainable tanning processes are, of course, technically feasible and in use, but

constitute an additional cost factor that is reflected in leather jacket prices (c.f. textile network 3-4, page 28). Waste water purification and regulation-compliant waste disposal are both investment and cost-intensive. The market, however, demands low starting prices, which can only be achieved in low-income countries, using lower quality skins, cheap tanning chemicals and processes, and with environmental and welfare shortcuts.

Sheep: global stock losses

Once the most important livestock, sheep stocks declined almost by half between 1984 and 2014. The causes for this development are manifold. Wool has lost its fashion appeal, wool revenues do not cover shearing costs and Muslim countries are increasingly consuming fish and poultry as an alternative to the traditional lamb. Some countries, like New Zealand, have recognised the risk of over-relying on one sector and have successfully diversified their economic portfolio with wine, kiwi and venison production. The sheep industry thus serves as an example of how renewable sources for raw materials have to adapt to changing market needs along with the evolution of commercial structures.

[Sonja Langer-Korsch]



Photo: fotolia

The secret of lambskin lies in the microscopic core cavities of millions of ultra-fine wool fibres. These pockets of air function as natural insulators that retain heat. The fibres allow moisture to be absorbed and wicked away, creating a dry and comfortable feel.



Photo: Deepmello

Rhubarb-tanned leather is used in Deepmello handbags

The Hamburg label Nine to Five uses exclusive salmon leather in its handbags and shoes



Photo: Nine to five

Shoes made of exclusive salmon leather



The BMW i8 is the best-selling hybrid sports car in the world. Its leather seats are made of sustainable olive leather



Photo: BMW

Photo: Nine to five



Leather

Yes, there are sustainable alternatives!

Soft as butter, robust, easy to care for and waterproof – leather is a high quality material that is used in a vast range of different areas, including clothing, accessories, upholstery and in vehicles. The downsides are problems with animal rights, the environment and the health and safety of workers. Nevertheless, leather can (also) be produced sustainably.

Leather is a natural product but in the tanning process it is often treated with chemicals to the point where little of its natural heritage remains. Chrome-tanned leather continues to dominate the world market, even though the still frequently used form, Chromium III, can easily become enriched to form the highly toxic Chromium VI. Other chemicals frequently used for tanning and colouring leather can also be harmful to the environment and to health. Many are suspected of triggering cancer and allergies. They pose genuine risks, whether to workers during production or, when

they adhere to the products themselves, to end users – and, if they get into the water cycle, to the entire ecosystem. Sustainable leather, on the other hand, is tanned using vegetable products; ideally the process is even certified by an independent body. Nonetheless, until now sustainable leather has barely featured on the mass market.

Certification

Certification provides an assurance that a product has been produced in an ecologically sound, non-toxic or socially responsible manner. The International Association of the Natu-

ral Textile Industry (IVN) has been working since 2001 on a standard for natural leather which remains the only one of its kind in Europe. The IVN's 'Naturleder' (natural leather) quality mark guarantees to take account of all the stages of manufacture in the processing chain, from the raw material to the sale of the finished leather. In natural leather, for instance, chrome tanning is completely banned, reliance being placed instead on vegetable tanning substances. Various types of oak or spruce bark are employed, alongside chestnut, olive and rhubarb. At subsequent production stages – ►

► crusting and finishing – only purely mechanical procedures such as milling and staking are permitted. These processes are designed to improve the quality of the leather and to make the material more comfortable and supple. Use of finishes or coatings containing solvents, by contrast, is expressly forbidden. In addition, the IVN leather standard focuses specifically on the subjects of health, harmful substances, environmental management and recyclability of the products. The Cradle-to-Cradle scheme also concentrates on recycling and on a closed production cycle. The goal of this certification system is an approach that produces no waste. In other words, all of the materials can be re-used and are biodegradable at the end of the cycle. For leather, the Wet-green company, based in Reutlingen, Germany, developed a pro-

Vegan alternatives

For those who see protection of animals as a top priority, there are innovative alternatives. More and more research projects are being set up to explore the production of plant-sourced materials that resemble leather in their characteristics and processing methods. Currently in development, for example, are leather substitutes made from fruit; Rotterdam Fruit Leather is producing lampshades and handbags from derivatives of several different varieties of fruit and vegetables. The most successful project at present, though, is pineapple leather from the Piñatex company, manufactured using fibres from pineapple leaves. Fashion labels such as Maravillas Bags and shoe manufacturer Nae are already using it in their collections.

View of the tannery: here, rhubarb leather is being produced

cess of sustainable leather production in 2013 using olive leaves, which is Cradle-to-Cradle certified. For tanning, only the leaves of the tree are used; these are by-products of olive production that would normally be incinerated. Olive leather produced by Wet-green also meets the IVN Naturlleder standard.

Industrial production is feasible

Fashion companies such as Werner Schuhe, Hessnatur and Ackermann include olive leather products in their range. "Olive leather is still a niche product at the moment," explains Florian Werner, Managing Director of Werner Schuhe. "We use it because it is excellent quality and has a special look. This means the product remains something special – it has a story to tell. It's not some dubious mass-market product but is produced using highly ecological processes." What distinguishes olive leather from other vegetable tanning processes above all, however, is the method of manufacture, which is closer to the conventional process. "The olive leaf tanning agent works just as quickly as chemical agents," stresses Dr Heinz-Peter Germann, Product Development Director at Wet-green. "And in the process, it

creates leathers that are just as soft. It's a minor revolution." BMW is already convinced by it: the Munich-based car-maker uses olive leather for its electric hybrid vehicles such as the i8.

And yet vegetable-tanned leather is still often under-valued, even though it lacks none of the quality, in particular, of conventional leather. "Quite the opposite!", affirms Dr. Anne-Christin Bansleben, Managing Director of the fashion label Deepmello and holder of a doctorate in ecotrophology, a branch of nutritional science. She is witness to the fact that even for high production volumes, due attention can be paid to ecology: "Vegetable-tanned leather can also be produced on an industrial scale, and can replace conventional leather with no loss of quality." In the search for innovative alternatives to the environmentally questionable process of conventional leather tanning, Bansleben similarly developed her own process, in which tradition and inherited knowledge are combined with new technology and today's requirements. The tanning agent used here comes from the root of the rhubarb plant. For the process that she has developed, the entire production process takes place within five days – from the rawhide to the finished leather, IVN certified and fully biodegradable.

Exclusive leather – how does that work with animal conservation?

If it's for something really special, however, many producers of shoes and accessories at the luxury end of the market rely on exotic leathers. One sustainable alternative to crocodile, snakeskin or rayskin is fish leather, as used in shoes and handbags by the Hamburg label Nine to Five. It is obtained from the German company Nanai, which supplies salmon leather, and from Atlantic Leather in Iceland, who supply bass, catfish and metallic



Photo: Deepmello



Photos: Nine to five

Olive leaf tanning agent

salmon skins. "In the field of exclusive leathers in particular, it has been difficult to come by sustainable alternatives," says Sandra Schittkowski, founder of Nine to Five. "Sustainable, certified fish leather is now available, though, in various different forms. For the coming summer season, we even have it in a metallic look for our shoes and accessories, which is a real highlight." Both of the suppliers from whom she obtains her leather use fish skins that are the waste by-

product of the food industry, and their tanning processes are chrome-free – using mimosa or chestnut, for example. The result is materials that are tear-resistant, hardwearing and easy to work. They are already finding multiple applications both in fashion and in interior design.

Broad diversity

Various animal skins, tanning agents and dyes are already offering a broad range of sustainable leather, providing a genuine alternative to

the conventional option. In the first place, the quality benefit is often the crucial reason for choosing them, because vegetable-tanned animal skins are high quality and breathable, but in particular they are above suspicion in terms of health, and suitable for those with allergies. Not only that, but the manufacturing processes also improve the quality of life of the workers and reduce the environmentally harmful effects of production. Moreover, in recent years they have been revolutionised in terms of speed and scalability and are now able to compete with conventional leather, having moved in the direction of industrial-scale production. There is in fact nothing standing in the way of a green revolution in the leather business.

[Rebecca Espenschied]

TEXTILE NETWORK ONLINE

Textile network Hotspots

Join our network! textile network is not only at home in print but also in the digital media. Every story featured in our magazine, is continued on our new website at textile-network.de and textile-network.com in English and German and is shared, commented upon or introduced on social media.

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Carbon fibres: tailored applications for pioneering functional and structural materials are now being researched

TU Dresden

New carbon fibre research centre

In the highly innovative field of carbon fibre – the basis for many applications in modern lightweight construction – scientists at the Technical University of Dresden have recently combined their skills within a new research centre, the Research Center Carbon Fibers Saxony (RCCF). The aim is to develop a joint research initiative in the field of tailor-made carbon fibres for pioneering functional and structural materials.

The RCCF brings together the skills and competencies found at TU Dresden in the high-tech field of fibre composite lightweight construction, and further extends Dresden's leading position as a site for lightweight construction, with its focus on future market-leading technology for tailor-made compounds with a polymer, ceramic and metallic matrix. The Institute of Lightweight Engineering and Polymer Technology (ILK) and the Institute of Textile Machinery and High Performance Material Technology (ITM) are combining to form a centre where seamless development processes, from the raw fibre material

to the finished component, can in the future be researched. The RCCF intends to bring together and extend the research previously conducted by the two institutes. The scientists plan, for example, to research fossil and renewable raw materials as the starting point and to develop tailor-made carbon fibres for new functional production materials. In addition, the focus will be on the use of the fibres for new types of structural and functional materials. The results of the work should transfer directly into teaching at TU Dresden. Moreover, the participating institutes place particular value on the transfer of their findings into industrial applications.

An initial important milestone was the commissioning of a new carbon fibre plant in June 2016. The machine technology for producing the precursor fibres has already been installed at the ITM. Prof. Chokri Cherif, director of the ITM and holder of the Chair of Textile Engineering, commented: „In founding the RCCF and commissioning the carbon fibre plant, we are providing the initial spark for further research on principles and applications in the field of carbon fibres. We shall be setting new standards in carbon fibre development, the impact of which will be felt across the world.“

[www.tu-dresden.de/mw/ilk]



Photo: fotolia

Dresden now has a new research centre for carbon fibres

Bacterial alginate nonwoven materials absorb up to 70 percent more liquid than marine alginate nonwovens



Albiotex

Made from bacterial alginate

Researchers at the Hohenstein Institute, Brain AG and Kelheim Fibres GmbH have successfully developed wound dressings made from bacterial alginate. The aim of the project was to develop a biotechnological process to produce alginate and then process it into fibre-based products for use in wound dressings.

The soil bacterium *Azotobacter vinelandii* was used as a natural alginate resource. This means that the conventional, time-consuming process of obtaining the biopolymer from

brown algae can be avoided and replaced by a sustainable biotechnological process. In the organisation involved in the research partnership was Rökona Textilwerk GmbH, too. Thanks to the interdisciplinary collaboration between the research partners, they have succeeded in mapping out for the first time a complete production and treatment process, from using biotechnology to produce bacterial alginate, right through to producing fibres and manufacturing textile materials. Alginate is a biopolymer (polysac-

charide) that consists of the glycosidically bonded monomers, guluronic and mannuronic acid. The range of industrial applications for the biopolymer is determined by the sequence and ration of these two sugar components. Alginate is particularly suitable for use in wound dressings because of its excellent biocompatibility, enormous liquid-absorption capacity and good healing properties. The conventional alginate that is obtained from algae varies greatly in the composition of its sugar components, because of environmental factors. A time-consuming preparation process is required to obtain the ultrapure and biochemically defined alginate that is needed for medical applications, for example. Using biotechnology to produce alginate, on the other hand, offers the option of synthesising biopolymers which have defined properties and are of consistent quality for use in medical products. "The results that

were achieved from this successful research project will form the basis for incorporating bacterial alginate in industrial production," declared Dr. Guido Meurer from Brain. "Now our next goal for the future is to identify other areas of application for bacterial alginate and so open up new sales markets for customised 'special alginates'," added Dr. Daniela Beck from Kelheim Fibres. "Until now it has been impossible, or very difficult, to vary and optimise the material properties of alginate. Thanks to biotechnology, there is now nothing to prevent the targeted use of alginate in specialist textiles," said Prof. Dirk Höfer of the Hohenstein Institute. Companies interested in alginate products made using this biotechnological process are invited to share in the success of the research partnership. There are a range of possible areas of application for which the technology could be licensed.

[\[www.hohenstein.de\]](http://www.hohenstein.de)



Alginate-viscose fibres produced using bacterial alginate

Photos: Hohenstein Institute

ZIMMER AUSTRIA

New technology centre

J. Zimmer Maschinenbau GmbH, a manufacturer of machinery and systems for the digital printing of textiles and rugs, has constructed a new Technology Centre for Digital Printing in Kufstein, Austria. Costing around 3.4m Euro, the project completed in mid 2016.

"The aim is to draw more potential customers to Kufstein so that we can show them the

benefits of the technologies we offer and the opportunities they bring. Our new Technology Centre is designed to reflect our full range of digital printing technologies and make them available for a diversity of different tests," explains Managing Director Anton Naschberger. The centre accommodates a demonstration and training centre with state-of-the-art

machinery, two seminar rooms and a laboratory. A 580qm warehouse and distribution

hub has been built adjacent to the Technology Centre.

[\[www.zimmer-austria.com\]](http://www.zimmer-austria.com)

Covering an area of 1,950qm, a generous demonstration and training centre contains state-of-the-art machinery and a laboratory for research and development



Photo: Zimmer Austria



Mondi Ascania

The fine art of nonwoven composites

The development of nonwovens for hygiene and medical products is a demanding business. Customers want lower and lower grammage, more and more functions and comfort – and all that, of course, without any compromises in terms of maximum cost-efficiency and sustainability issues. Mondi Ascania meets these challenges with made-to-measure nonwoven composites and innovative production processes.

The company, which is headquartered in Aschersleben, Germany, maintains its high standard of quality through continuous investment in state-of-the-art technology. One of its latest acquisitions is the novel Conductive 7690 laydown belt made by GKD – Gebr. Kufferath AG for its SPC line. Thanks to the belt's strong grip effect in the laydown zone, production could be resumed immediately after the belt was changed, i.e. without the downtime for preparation and the subsequent start-up waste usually encountered with conventional belt types.

Shorter and shorter product and development cycles are faced with growing markets in the hygiene and medical sectors. As a leading producer of special nonwovens for hygiene, medical, cleaning and cosmetic products as well as special applications in the industrial sector, Mondi Ascania regularly sets standards with new product concepts. In particular for baby and infant care, feminine hygiene, incontinence and a range of medicine and hygiene cleaning products, its high-performance nonwoven products are in high demand. Thanks to their application-specific designs, the company's textile fabrics, which are made of a wide range of materials, fulfil extremely complex requirements in terms of fluids management, look

and feel, elasticity and resistance to tearing. "In European markets, growth is particularly strong in the demand for incontinence products for adults," says Ueli Steiner, Managing Director of Mondi Ascania. And he adds, "In the medical sector there is also an evident increase here in demand for disposable products like disinfection wipes and other medical supplies." But the classic growth markets of Asia, Africa and Latin America are also very important for his company. And through its affiliation with the internationally operating Mondi Group, the company is optimally equipped with a global network through which to pursue its business interests. Founded around 20 years ago in Aschersleben in Germany's Sachsen-Anhalt, Mondi Ascania's clientele encompasses numerous globally operating players as well as family-owned businesses specialising in niche products.

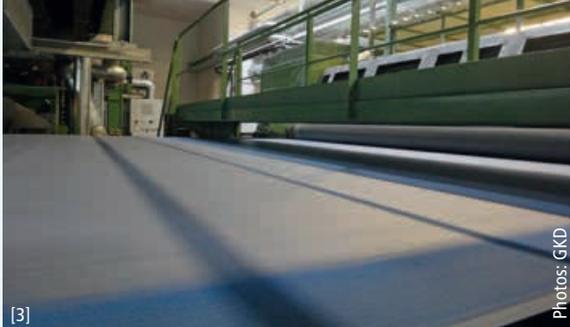
A major factor in the success of the company's composite nonwovens is the vertically integrated production of PP staple fibres, thanks to which Mondi Ascania can generate fibres with the specifically required characteristics and process them with a range of other fibres. On the SPC (Spunlaid-Pulp-Carded) line, a combination of procedures manufactures the sophisticated composite

nonwovens from polymers, pulp and fibres. A special feature of the line is the high proportion of renewable materials used. In contrast to conventional spunlaced products, Mondi Ascania uses pulp directly instead of viscose as the absorbent material. The materials, prepared in several stages, are firmly bonded together by means of hydro-entanglement and, on request, embossed with the customer's name. Depending on the particular application, the customer can also request embossing by means of thermo-calendering. The final stage of the process is packaging according to order in rolls or, in the case of thicker material, in reels.

With the SPC line, the sheer complexity of the factors – type and interaction of the materials used, diversity of technologies and versatility of the options – is the key to success. "Managing the interplay of components, settings and procedures is a fine art," says Mark Lampe, the production manager in charge of the SPC line. No wonder, then, that process reliability and line availability are the absolute prerequisite for the achievement of the necessary production efficiency and product quality. For this reason, one of Mondi Ascania's prime requirements was a laydown belt that, after a belt change, would immediately run at full production speed. With the



Mark Lampe, production manager in charge of SPC line: "In our experience, the GKD belt is truly unique"



[3]

Photos: GKD

smooth surfaces of conventional belts, initial imperfections in the nonwovens always occurred after a belt change during laydown of the filaments. So, after installation but before being put into operation, the contact surfaces of the belts had to be mechanically roughened in time-consuming manual work. It took about twelve hours for the belts to be made ready for production. And even then it was a while longer until they were optimally run-in. "These are costs that really make a noticeable difference," says Managing Director Ueli Steiner. And Mark Lampe adds, "The belt is involved in the first stage of production. Every imperfection that occurs here multiplies itself in the course of the rest of the process." The belt structure has a strong influence on the consistency of the filament distribution in the web and thus on the overall look of the product. Irregularities or thin spots in one layer of the material make it impossible to fulfil customer specifications like tear resistance or air permeability. "Our customers are very demanding when it comes to product specifications," says Ueli Steiner. "Every part of the line is crucial in ensuring that these specifications are consistently fulfilled within very tight tolerances."

"Unique on the market"

Mondi Ascania had therefore been looking for quite some time for a belt that would provide full performance from the very start. In close collaboration between Mondi and GKD, the belt was custom configured precisely to the needs of the complex application. "GKD really went to a great deal of trouble for us. They didn't just want to sell us a belt; they wanted to convince us. There aren't many manufacturers who would do that," Ueli Steiner recalls. The order to GKD followed in November and on 1 April 2016 the 30.5 metre long and 4.5 metre wide endless belt was installed. Its novel

[1] The endless belt of GKD is 30.5 metre long and 4.5 metre wide

[2] Through continuous investment in state-of-the-art technology Mondi Ascania maintains its high standard of quality

[3] The significantly rougher belt structure in the running direction ensures a high effect in the laydown zone, and at the same time, optimal web doffing

construction is what gives the belt its particular grip. The significantly rougher belt structure in the running direction ensures a high traction effect in the laydown zone and, at the same time, optimal web doffing, as Mark Lampe confirms. "We were already totally thrilled by the starting process," he recalls. "The start-up behaviour of the belts previously used was usually problematic. But the GKD belt was completely different. We started it up, and it ran well immediately." After a short so-called "disaster check" – the belt was started up cautiously and, for a short time, a bit of material was rolled in until it could be passed on to the next machine – the machine was turned up to full production speed. "In our experience, the GKD

belt is truly unique," says the Production Manager in praise. Since it was put into operation, Mondi Ascania has been able to produce on the SPC line without interruption, and to run the belt in nonstop operation.

"The only question still to be answered is the life cycle of the belt," says Mark Lampe. During the production process, the laydown belt is subjected to great stress in the form of heat, tension and mechanical strains, which make regular belt changes a fact of life. But Mondi Ascania is not too worried about this problem, either. And, encouraged by this positive experience, the company is now also having talks with GKD about a filter for their polymer filtration.

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Guimaraes Home Fashion Week

The spirit of Portugal

The Portuguese home textiles industry is based in and around Guimaraes. It was an obvious place, therefore, to hold the first Guimaraes Home Fashion Week, in the Pousada Santa Marinha. This was not so much a trade fair as a presentation by a total of 29 selected manufacturers. The invited guests, roughly 50 in number, came from South Africa, the Netherlands, Germany, Austria, Canada, Chile, Spain, the USA, Greece, Hong Kong, Ireland, Japan, Oman, Poland, the Dominican Republic, Russia and Turkey. Attendees also had the opportunity to visit six of the companies, in order to experience at first hand the impressive creative capabilities and productivity of the region.

Bathroom and bedroom

The Portuguese textile industry specialises in bedlinen and bathroom textiles, and to some extent in table linen and kitchen textiles. Decorative and upholstery fabrics are seldom to be found here. "Until a few years ago, our companies fo-

cus-ed either on bathroom products or on bedlinen," says the trade association Home from Portugal. "Because demand for coordinates and mix-and-match products kept increasing, there has been a shift towards covering both areas since then." A small number of companies offer their own brands but the principal activity is in the private label sector, both in the contract and in the domestic business areas. Many large European companies have their goods produced in Portugal, including some highly prized international names. They have come to value Portuguese creativity and high quality standards, especially with regard to sustainability. Other factors include great flexibility and rapid fulfilment, since most of the companies are vertically integrated and have their own spinning, dyeing, weaving and stitching operations. Elaborate jacquard weaves are as readily available as fashionable prints in the latest colours.

After a few lean years – when many European businesses

Guimaraes is regarded as the cradle of the nation: in 1096, Henry of Burgundy made the village the capital of his County of Portugal. The Pousada Santa Marinha in Guimaraes, in the north of Portugal, is a place about which people wax lyrical. Here, within the time-honoured walls with their traditional, typically blue and white azulejo tiles that often relate whole stories, is where one senses the spirit of Portugal – an ideal venue for Guimaraes Home Fashion Week. Its many small rooms offered an alternative to elaborate stand designs, while the peaceful and intimate atmosphere turned out to be an ideal place for discussions. What is more, the Pousada proved to offer an aesthetic ambience for an aesthetic product.



Photots: Ilona Schulz

One of the 'big players' – the More Textile Group – gave a lavish presentation

switched to the low-wage Asian countries, Turkey being the biggest competitor – dynamism is now returning to the market. The Guimaraes Home Fashion Week is designed to raise awareness of Portuguese textiles in the industry, both in Europe and across the world. In that regard, it appears to have succeeded. In the words of a major Chilean producer, "The long journey was worthwhile." The two co-owners of an important Dutch wholesaler for the hotel laundry market were similarly impressed. "We've never made contact with Portu-

guese firms before, but we'll certainly be back." And the buyer of a chain store operating across Europe also considered the visit to Home Fashion Week a success. "In the towels area, we've been working with a Portuguese company for a long time. This time, though, we were on the lookout for a suitable partner in bedlinen. And I've found one!"

The next Guimaraes Home Fashion Week will take place between 27 and 29 June 2017.

[www.textiles-selection.com]

[www.homefromportugal.org]

[Ilona Schulz]



The Pousada Santa Marinha in Guimaraes – a magnificent ambience for Guimaraes Home Fashion Week



Aysen Bitzer

Photos: 0039 Italy / Coca Cola

From Filderstadt to Berlin Fashion Week

At the end of June – or to be more precise, on Wednesday 29 June – designer Aysen Bitzer made an appearance at Berlin Fashion Week. The designer from Germany's Filderstadt unveiled her capsule collection at her favourite Berlin restaurant, the "bourchardt". She had been commissioned by Coca Cola and, until the unveiling, had been sworn to secrecy.



Aysen Bitzer's great role model is Karl Lagerfeld



lifetime experience," said a delighted Aysen Bitzer, who still has no intention of featuring her label "0039 Italy" at her own show at Berlin Fashion Week – well, not yet anyway.

[www.coca-cola-deutschland.de]
[Ingrid Sachsenmaier]

This is how the Americans like it. Each season, they invite a different designer to create a capsule collection for them. This time around, Aysen Bitzer was the first European to have the honour of assuming this role. This self-taught high flyer is most certainly accustomed to superlatives. Even so, Berlin took her to a completely new level.

One day last June, her telephone in Filderstadt starting ringing. It was a call from the US, from Atlanta. A member of staff from the global beverage brand was on the other end of the line. Could she imagine designing a collection for the brand, was the question. Aysen Bitzer barely hesitated and did not delay in setting to work. "I believe in Europe," says Aysen Bitzer, "for both our

Garments from the Coca Cola capsule collection designed by Aysen Bitzer

products and our production." She remained true to this principle when working on the Coca Cola collection, whose most dominant colour is, of course, red. She found that all the garments she proposed were immediately accepted. "I was given a fairly free rein. All I was told was that the garments shouldn't contain any openwork, and no animal or military prints either." Bitzer also had to make one more promise: "The collection had to remain top secret, no one – especially not the press – should be given a sneak peek." Comprising plenty of basics, blouses, blousons, dresses, trousers and coats, the collection most definitely bears Aysen's signature. The capsule collection was shown by 20 models in just nine minutes. "A once-in-a-



First blouse dubbed "Carla"

Every collection by Aysen Bitzer always contains basics. Her first-ever blouse was dubbed "Carla" and was a loosely cut model, that still features in her range today, albeit in new interpretations. Accounting for 80 percent of her business, the blouse is without doubt the heart of her range which is complemented by knitwear and dresses. The 40-year-old was born in Kirchheim Teck, Germany; her mother is Turkish and her father is from the region of Swabia. She trained in wholesale and exports. Twice a year, she travels to fabric fair Premier Vision in Paris for inspiration, but tends to order her fabrics from Italy, mostly from Como, and has her garments made up in Portugal. Staffed by a team of 20 women, her headquarters are located in an inconspicuous industrial estate in Filderstadt. Finding the company is not easy, as it is tucked away and does not even have a sign, pointing visitors in the right direction.

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In 2015, over 2,100 products were withdrawn from the market, mostly owing to risks from chemicals. Textile and fashion items accounted for 17 percent of these

Fast Fashion

What can we really wear with a clear conscience?

Health risks from the chemicals in clothing, questionable working conditions in developing countries. How can companies meet the consumer's desire for current fashions at low prices, while still ensuring product quality and safety in the manufacturing process?

„Which fashion brands are going toxic-free?“ was the Greenpeace headline when it published an assessment of the fashion industry, in which the environmental organisation checked 19 leading brands as part of its Detox campaign against the use of toxic chemicals. The good news is that even the large fast-fashion chains have been paying increasing attention to 'clean' textile production and banning harmful chemicals from their manufacturing processes. „Zara, H&M and Benetton have shown that it is possible for companies of any size to make their production pollution-free,“ says Manfred Santen, a chemist and textiles expert at Greenpeace.

It is no accident that manufacturers are becoming ever more conscious of the quality and safety of their products: the companies are reacting to increasing public pressure. Although consumers are still conscious of price, they also expect products to be of perfect quality, free of health risks and produced under socially and ecologically responsible conditions. And at the same time, they want comprehensive information on all of these aspects. Evidence of this is found in two studies conducted by the Euro Business College (EBC) and the market and opinion research institute You-Gov. According to the You-Gov study, 40 percent of the German

consumers interviewed regarded fair working conditions among the producers as 'very important'. In the EBC survey, some 90 percent criticised lack of information on the production chain for the goods.

Quality management – a constant challenge

Despite all the advances in terms of toxin-free and sustainable production, not all companies by a long chalk are willing or in a position to organise their production processes and supply chains accordingly. A glance at the Rapex list, the European Rapid Alert System for non-food dangerous products, provides a good illustration of this. In 2015, according to the list, over 2,100 products were withdrawn from the market, mostly owing to risks from chemicals. Textile and fashion items accounted for 17 percent of these. In the current Greenpeace investigation, too, there are negative assessments, including some for reputable

sports and outdoor goods manufacturers who are using perfluorinated compounds. Such chemicals are employed to make textiles water- and dirt-repellent, and are regarded as potentially harmful both to the environment and to health. In the EU, only one version (PFOS) has been legally regulated so far, although Norway also has limits for PFOA. In the meantime, environmental and consumer associations have other substances in their sights.

Reacting to changing market demands and maintaining a competitive position presents a constant challenge to companies in the textile industry. Many brands nowadays therefore rely on the support of external specialists. The Hamburg-based testing service Hermes Hansecontrol, for example, is keeping a close eye on current discussions about harmful substances as well as on the statutory regulations, and is constantly revising the testing services it can offer. This is true for perfluorinated compounds too: lately it has become possible to test textiles not only for various perfluorinated sulphonates, sulphonic acids and sulphonamides but also for fluorotelomer acrylates (FTA) and fluorotelomer alcohols (FTOH).

Problems with Chromium VI in leather goods, new limits for short-chain chlorinated paraffins (SCCP) and polycyclic aromatic hydrocar-

Hermes Hansecontrol can conduct product tests based on Reach, the European chemicals regulation, in its own laboratories



Photo: Hermes Hansecontrol



Photo: Matej Kastelitz/Fotolia

bons (PAH): Hermes Hansecontrol can conduct product tests relating to Reach, the European chemicals regulation, for example, in its own laboratories. These can establish in essence whether the goods at least meet the statutory requirements. As the example of perfluorinated compounds demonstrates, though, consumer protection bodies and non-governmental organisations (NGOs)

frequently impose even more stringent criteria, looking not only at chemical pollution but also at safety aspects and product properties relating to the physical nature of the textiles. There are, for example, widespread requirements that clothing should be safe with regard to loose cords and strings, and that it should maintain its quality even after being worn and washed many times. A growing number of companies also want to improve their ratings among critical consumers by meeting certain eco-standards. The experts at Hermes Hansecontrol are developing individual demand profiles in advance of the analyses, and then testing according to the requirements of the various markets. Chemical analysis and examination



Lutz Lehmann

for pollutants continue to be the testing company's core services. In response to increasing demands from the textile industry, however, Hermes Hansecontrol has long since transformed from a provider of individual laboratory tests to a flexible partner with a comprehensive list of testing services spanning the entire supply chain. Together with its customers, the company is developing processes for supplier assessment, sampling tests, material properties, recall management and crisis management. This helps textile companies to create an efficient quality management system, so that they can be ready if they ever actually have to implement a product recall.

[www.hermesworld.com]

[Lutz Lehmann]

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Development of sportswear: the future is virtual

Manufacturers of sportswear are dealing not only with global market growth but also with heightened consumer expectations of sport fashion. It is expected to live up to current fashion trends – that is, to be high-performance while also offering a perfect fit. Until now, product development had been pushed to its limits in this regard.

Modern sportswear has long been far more than just a functional product. Hence the words “athletics” and “leisure” have been combined as “athleisure”, a term used for clothing which, though it was developed for sports purposes, is worn during leisure time or even into the office. Such clothing, of course, is therefore expected to reflect current fashion trends. This presents designers and product developers with a number of challenges: fashions may change but sportswear cannot be allowed to lose quality or performance. Breathable, tough, durable – demands that will vary depending on the type of sport. For sportswear producers operating in global markets, body sizes and shapes, in particular, which vary by country, present a major challenge. Nowadays, new collections are de-

signed on the computer – where fashion designers previously used to reach for the fabric and a pair of scissors, today they rely on design software. Using CAD (computer-aided design) applications, the collection can be designed, 2D models created and the pattern prepared. Once the fashion concept has been put together, the first prototype of the clothing is produced. This is created sometimes in an in-house tailoring department but more commonly by an external service provider, generally outside the country. Depending on the delivery channel, therefore, the production of a prototype can take anything from days to weeks. After adjustments to the design, fabric selection and size, a further prototype is created. These steps will be repeated until the final item of clothing is ready. During the



“Stepping into the virtual world opens up new routes to meeting market challenges.”
Jacqueline Kellner,
Lectra Germany

product development phase, therefore, three, four or more physical prototypes will be produced to check the pattern and fit. This is one of the most demanding phases of product development in terms of materials and time, and is thus highly cost-intensive. An additional factor in the production of sportswear is that the fabrics used can sometimes be brand new to the market, difficult to process and thus expensive.

The virtual world is opening up new options here. With so-called ‘virtual prototyping’, the design and development process is carried out entirely in the digital world. From simple to complex designs, from ready-to-wear clothing to ‘fast fashion’, it allows patterns to be created to shorter timescales. Instead of cutters and cloth, sports clothing is being developed using mouse and monitor. The designer has access to a library of over 200 digitised fabrics, or can have further textiles digitised, allowing the individual elements of an item of clothing to be created and put together to form a prototype. Rather than using a tailor’s dummy, this is then used to dress a virtual 3D model. The actual behaviour of the fabric is calculated in real time and represented on this avatar, so that adjustments to cut and pattern, as well as colour, can be implemented direct-



Modaris in use at Odlo



Odlo – the company was founded in Norway in 1946 and has been based in Switzerland since 1986. Odlo develops, produces and sells its products in 25 countries and has a share of up to 60 percent of the European market for sportswear.

facilitates pattern development in virtual space. Exacting demands in terms of fabrics and fit are the reason why Odlo chose virtual prototyping software from Lectra. Using this software, patterns are represented on screen and adjustments can be made instantly to the virtual design. "With Lectra's 3D technology, product design and the way the fabric falls and moves can be examined before any actual production takes place, without having to create a physical model," says Ulrike Froitzheim, Team Leader for Quality Management and Projects at Odlo. "We can make as many adjustments as are necessary without having to worry about the costs." Virtual prototyping has many benefits over traditional design. It saves time and re-

duces costs, since fewer materials are consumed. At the same time, the quality and fit of the clothing, particularly of sportswear, is assured, since the 3D prototypes can be created for a number of different postures and in a range of sizes. Virtual 3D prototyping offers advantages not only to manufacturers of sportswear but also, above all, to their customers, the end-users. They benefit from products that are not only high quality and made of highly innovative fabrics but also offer the best possible fit and correspond to present-day fashion trends. The clothing meets the demands of the customer. For the first time, the virtual world makes this truly possible.

[www.lectra.com/de]
[Jacqueline Kellner]

ly in just a few clicks of the mouse, and visualised instantly. These steps are conducted in parallel for various sizes and body shapes. The pre-defined avatars are based on a large number of individually adjustable parameters and can be adapted to the requirements of the relevant regional buying public. Alternatively, a manufacturer can also scan in its own models and use those. By conducting the initial work in virtual space, the number of physical samples can be reduced from two or three to a single prototype, since all of the fundamental alterations can be made beforehand. In line with the motto "right first time", the first physical prototype is also the final one, and is essential only for final approval.

Odlo, a leading manufacturer of sportswear, takes advantage of the benefits of virtual prototyping

Odlo, the pioneer of modern sportswear

One of the leading manufacturers of sportswear to be taking advantage of the benefits of virtual prototyping is Odlo. Thanks to its technical innovations in the field, the company is a pioneer of functional sportswear among manufacturers. Its product range is diverse, with clothing for many different activities, weather conditions and performance needs. For its product development, Odlo uses Lectra's software solution, Modaris 3D. This CAD application sits between design and production and



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Expert Systemtechnik

New optimisation methods

When cutting leather, the primary objective is to maximise the profit from a hide. The peculiarities of individual hides, with all their varying characteristics and imperfections, has until now made it impossible to make commercial use of 100 percent of the area. The company Expert Systemtechnik, based in Bielefeld in Germany, is dedicated to this issue and has news of fresh technology and cutting solutions.

For more than 22 years now, Expert Systemtechnik has been developing, producing and installing CAD/CAM cutting systems using non-abrasive waterjet technology, along with the associated preliminary scanning and nesting operations. The company, a second-generation family business under the management of Sebastian Bruder, has transformed along the way from being a leather tailoring services supplier for the upholstery industry into a multi-technology supplier of cutting systems.

But what will the demands of modern production technology look like tomorrow, and how can they be met? Sebastian Bruder reckons those demands will be highly complex. In this context, he says, the topic of 'Industry 4.0' is ever-present, "which, put simply, means the networking of production processes. I want to know," he continues, "where the work is happening, with what materials, at any given time, and I want to be able to exchange information between individual stages of the process. That also includes 'big data', as an organisation focusing on databases, and very importantly it includes the interfaces between production planning systems and the individual production machines. These are matters that we run across more and more frequently in



Photos: Expert Systemtechnik

our daily work, these demands and requests, how to store information direct from production about the individual components, how to put it to greater use. Logistics, too, is getting more and more important. They're all subjects we're tackling."

Farewell standard systems

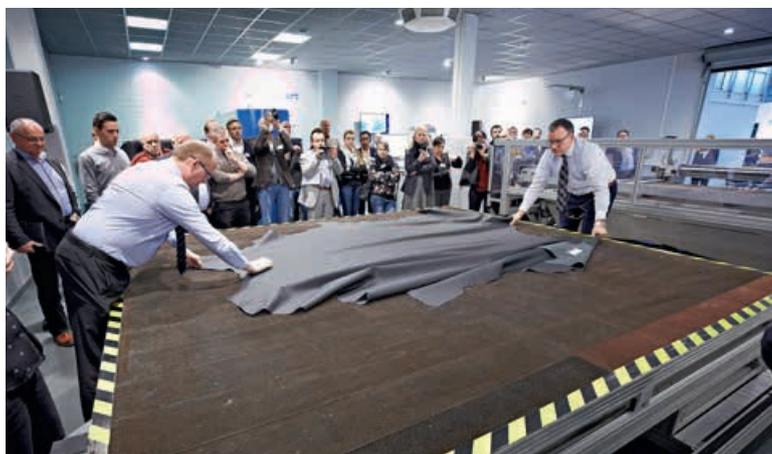
In Industry 4.0, production meshes with the latest information and communication technology. The driving force of this development is the rapidly increasing digitisation of industry and society. The technical basis for this is provided by intelligent, digitally networked systems, through which a largely self-organised production process becomes possible: in Industry 4.0, people, machines, systems, logistics and products communicate and cooperate directly with one another. Production and lo-

From left to right: The second generation at Expert Systemtechnik: Sebastian Bruder, Managing Director, and Manuel Bruder, Development Director

Automatically scanning and grading of a leather hide as goods received are checked

gistics processes between companies in the same production process are interlocked in an intelligent system, allowing production to be arranged in more efficient and flexible ways. This allows intelligent value-chains to develop – covering every phase of the product life cycle, moreover, from the initial idea through development, production, use and servicing all the way to recycling. That way, customer requirements covering everything from product conception to recycling, including all the associated services, can be taken into account at the same time. Companies can thus produce tailor-made products much more easily than was previously possible, according to the preferences of individual customers. Individual production and servicing of products could become the new





standard. Customer-specific production is a challenge here, since today no two car seats or items of upholstery are identical. Transparency means documentation that allows traceability of products and, importantly, the ability to respond rapidly: companies have to react quickly to changing markets in order to stay competitive. "That also includes model development for, for example, the Golf GTI." Although already in production, there are always part modifications that need to be implemented rapidly whilst still remaining traceable.

Individually tailored solutions?

Customer-specific requirements are becoming more and more complex. In order to be able to react to the different individual customer requirements, Sebastian Bruder proposes a modular machine design with different system components depending on the individual requirements. For the leather scanning process and the digitisation of leather hides, either Scan Expert Statictable or Scan Expert Automatic is used, depending on customer needs. And different algorithms are also offered for optimising the 'nesting technologies', depending on the materials being used. "I have to be able to react to different requirements," explains Bruder. "If I cut leather and Alcantara on the same machine, I use two different nesting systems." Following this, the cutting technology comes into action, either on the basis of the CNC cutter Cut Expert Ecocam or using Cut Expert Doublejet, a high performance cutter with two cutting bridges, based on the waterjet principle. In the process, all of the information is digitised and

networked, entirely in line with Industry 4.0, integrating production machinery into the production control process with interfaces to ERP solutions such as SAP. This involves automatic acquisition of the project from the customer into the company's own system, from which the cutting job is directly generated. "Our production equipment is networked into the process," says Sebastian Bruder. "The basis and building block for this is Data Expert, at the heart of our solutions. This used not to be the case. Today, it is important to know where my data are, how I can access them, how I can create interfaces to other, superordinated production planning systems, how I can create interfaces following the cutting process, for logistics. Nowadays," he concludes, "our customers no longer need standard systems – what they need is modern production along the lines of Industry 4.0 with perfect intermeshing of production and the digital world."

New dimension of nesting

A key element in leather processing is optimisation of the hide (nesting). As Manuel Bruder, Development Director at Expert Systemtechnik, explains: "A leather hide is always irregular: it has uneven outer contours, it frequently shows imperfections and not all the areas of the hide are of the same quality or have a consistent grain pattern. What's more, every user judges the quality areas differently. So one manufacturer will regard the B zone as perfectly usable, whereas to another this B zone isn't usable at all." Templates, he says, are similarly problematic, since they too have different quality zones. Bruder describes the problem of

Left: Practical demonstration of leather cutting with waterjets during the Expert Cutting Days in March of this year

Right: Cutting different materials using CNC cutter technology

nesting thus: "It is the positioning of complex templates with different quality zones on one or more leather hides with complex shapes and varying quality zones, whilst taking account of quality levels and other limitations such as angles of rotation, seam allowances and other dimensions." The aim, he says, is to use the leather hide to the fullest extent possible and with as little waste as possible, and this is what the nesting system has to provide. "When I need to nest not just one hide but hundreds of them, it's a very complex process. This optimisation task is currently under research all over the world. Because of the huge complexity of the optimisation task, so far we have only been able to approximate to the 'ideal' solution."

Software that can solve a problem like this needs two things, "processing power and computing time." Next Expert Multinest 8.0, developed by Expert Systemtechnik, works on a modular separation principle and uses both nesting software and job management processes. The Multinest Manager allocates the tasks generated to available 'nesting slaves' – computer workstations that can nest between one and a hundred hides, depending on the job. "Today, the focus is on the core area. We can create a digitised image on the scanner and determine this for each hide separately." The core area comprises precise coordinates to position the templates on the leather hides – for the dashboard, for example. But it's not only the core area that's nested, but the entirety, to produce an optimum outcome."

[www.expertsystemtechnik.de]
[Heike Frömbgen]

#46



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Quality Assurance along the textile chain - Part 4

Hazardous substances in fabrics – and now?

The use of chemical substances for textile products is regulated by various laws such as the Reach Regulation, Consumer Goods Ordinance or Biocides Regulation, but also indirectly by the provisions of the Textile Labeling Act. In the textile industry, these requirements are currently leading to necessary, far-reaching changes in business processes, most of all where assuring the material compliance of products is concerned.

Textiles can contain a great variety of chemical substances. These are used as colorants, expedients and finishes to produce defined, colour-fast shades, or also to ensure dimensional stability. The use of these substances is consistently regulated for the entire EU by the Reach Regulation as well as various legislations on a national level such as the Consumer Goods Ordinance or Germany's Federal Order Prohibiting Certain Chemicals. For textiles, the latter codify a ban on specific flame retardants or azo dyes, for example. The requirements range from duties to inform via the definition of limits through to a complete prohibition of use, in some cases depending on the textile's potential contact with the skin. The processing of natural fibres moreover frequently relies on biocidal products that are either directly included in the product by way of the fibre or applied later as an antimicrobial treatment. The European Textile Labelling Regulation

strongly in focus now could offer the textile industry an opportunity to formulate a substance regime in the medium term that extends beyond the scope of the Reach Regulation. With a consistent, standardized regulation for textile or leather products still lacking to date, every

company is required to examine its own product portfolio, production processes and applications in the market for itself.

Steps and measures for meeting the requirements

Looking at the requirements overall and their dynamics, one quickly becomes aware that the "material compliance" product attribute entails a high product liability risk. The impact of this risk is moreover drastically multiplied by the great public interest in compliance violations. Negative headlines that could lastingly damage a product's or company's image are found in the media almost every day, spurred on by environmental organizations and consumer associations. These circumstances have served to ensure that companies in the textile industry are making an active effort to integrate the requirements in their processes nowadays. A first step towards materials compli- ►

About the author:

M. Eng., Dipl.-Ing. (FH) Stefan Nieser is an environmental auditor, QM auditor and hazardous substance coordinator. He has been at the helm of tec4U-Solutions GmbH, an engineering firm that supports companies in the implementation of environmental or material compliance requirements, since 2013. His job involves the performance of site inspections at small, medium-sized and groups of companies and their consultancy in the integration of material compliance processes.

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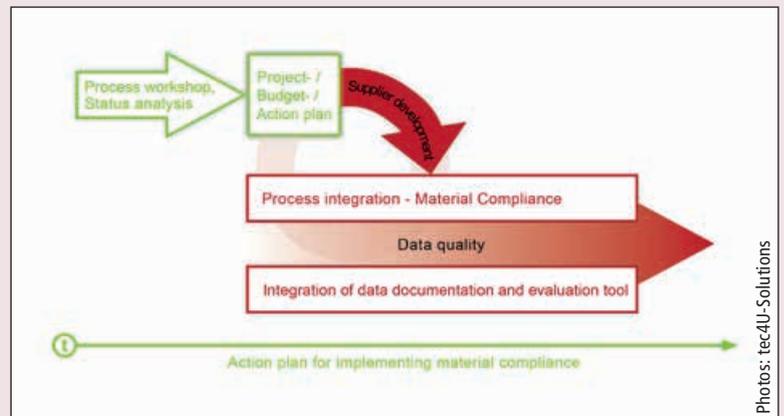
E-Mail: s.nieser@tec4U-solutions.com



Stefan Nieser

► ance meanwhile involves defining the material-specific requirements pertaining to the product. These can be highly diverse for textiles because fabrics are often marketed for a great variety of applications. It is expedient to start off by examining the customer contracts and substance-related requirements formulated therein, as well as the laws and standards that are binding for compliance. All these requirements – compiled in a requirements list – form the basis for implementing the specifications on the product side. To enable their additional inclusion in processes as documents, it is recommended to create a company standard that regulates the material compliance specifications for employees on the inside and suppliers on the outside as a binding document. The company standard can thus serve as one of the most important instruments for conveying and holistically promoting the topic of material compliance with minimal financial and human resources.

action plan



The next step requires suppliers to be informed about material-related specifications and sensitized to them. This is ensured by means of relevant purchasing documents such as purchasing conditions, order forms and contracts, or also technical specifications. The legal framework for cases of non-compliance or liability is laid down at the same time. Detailed information about the individual specifications is not included in every single document itself, but merely by reference to the company standard, which acts as a master document. The greatest effort needs to be devoted to monitoring the compliance on the part of the suppliers, however. The implementation of the legislation specifies clear-cut requirements. It will therefore not suffice to merely accept generalized compliance statements. The “state of the art” formulated instead (e.g. in DIN EN 50581) is to query suppliers about the regulatory compliance of individual products and then monitor the veracity of their replies, possibly also with the help of laboratory tests. Besides reviewing their product information, the suppliers themselves also need to be rated in terms of their professional capacity to provide an adequate response to material compliance queries in the first place. As these communication and monitoring requirements are outside the scope of standard office applications, a suitable communica-

tion software is required to communicate the data in a targeted manner and ensure their legally compliant administration. This application should be particularly easy to understand and intuitive so that the suppliers are able to provide the data without difficulties.

Summary/Conclusion

Many years of experience in consultancy projects and in our operative support for supplier communications have shown that the implementation of material compliance requirements is inextricably linked with the extent in which a company has implemented the specifications as product attributes internally and externally, in its processes and documents. Another factor is the provision of adequate financial and human resources for mastering this task. If one of these factors is absent, a company’s activities could be regarded as negligent, which will often preclude liability insurance payments if there is a claim. Material compliance is also an important guarantor of success when it comes to ensuring product quality throughout the delivery chain.

[www.tec4u-solutions.com]

[Stefan Nieser]

Glossary:

Consumer Goods Ordinance: Specifies the materials permitted in consumer goods and their contamination limits for the human body

Biocides Regulation: (EU) No. 528/2012 concerning the making available on the market and use of biocidal products

Germany’s Federal Order Prohibiting Certain Chemicals: Regulation on bans and restrictions for the marketing of hazardous substances, preparations and products pursuant to the Chemicals Act

REACH: Regulation (EC) No. 1907/2006 concerning the registration, evaluation, authorisation and restriction of chemicals

Textile Labelling Regulation: Regulation (EU) No. 1007/2011 on marking the fibre composition of textile products

VDE standard DIN EN 50581: Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances; German version EN 50581:2012

The attendees at this year's congress can look forward to an exciting programme

55TH DORNBIRN-MFC

3 questions for... Friedrich Weninger

Managing Director of the Austrian Man-Made Fibres Institute and Organizer of the MFC.

textile network: Mr Weninger, what can attendees at the 55th Dornbirn-MFC expect in the way of new ideas?

Friedrich Weninger: On 19 September, the eve of the congress, we're staging a visionary workshop called the "young scientist forum" to which we've invited young researchers. For the opening day on 20 September, we've been able to engage, among others, Uday Gill, CEO of the Indorama Group, the world's leading fibre producer. I'm also looking forward to the high-profile "CEO Panel" which will be moderated by Giuseppe Gherzi, Gherzi Consulting, and feature the CEOs and chairpersons of leading fibre manufacturers such as Indorama, Lenzing, Dralon, Märkische Faser, Advansa and SGL Carbon. On the final day, we'll have a new

closing panel called "Sportive and Functional", which will be coordinated by Prof. Susanne Müller, Niederrhein University of Applied Sciences, and include delegates from companies such as Adidas, Icebreaker, Skinfit, Urbanrock and Patagonia. We feel sure it'll be a really interesting event, giving brands from both the sports and apparel fields the opportunity to share their visions.

textile network: How happy are you with the level of advance bookings so far?

Friedrich Weninger: Our early-bird price has once again generated a lot of interest. Around a third of participants took advantage of the dis-



Friedrich Weninger,
Managing Director
of the Austria Man-
Made Fibre Institute



counted rate, choosing to book early. As a result, we're feeling very positive about the registration figures so far. We're expecting a 10% or so climb compared to last year. We're also delighted about the increasing interest from abroad. We're expecting attendees from more than 30 nations. Outside Europe, we're recording widespread interest from the USA and especially Japan and Korea.

textile network: There's been a lot of progress in terms of co-operation, has there not?

Friedrich Weninger: Yes, that's right. Our partnership with Edana is going very well, both in terms of attracting

high-quality international presentations about the nonwovens industry, as well as the timing to coincide with Outlook (21.-23.9., Madrid, Spain – Ed.). I'm also delighted about the partnership with Avantex (12.-15.9., Paris, France) as we're joining forces to target visitors globally, which is already proving highly effective for both of us. Our partnership with Messe Frankfurt Avantex is going to be great for our congress, as it will bring the "smart textiles" and "smart fashion" segments to a new level.

Mr Weninger, many thanks for talking to us!
The questions were posed by Iris Schlomski.

TRÜTZSCHLER

T-Move!

The Can Filling Station T-Move is an entirely new solution for filling cans at the card. In recent years, card productions have increased rapidly. The can changers, however, have not adapted accordingly. To change a can, the delivery speed of the card must be significantly lowered and then increased again after the change. This reduces efficiency and impacts sliver quality. T-Move performs can changes at delivery speeds up to 300 m/min. This is only possible due to the controlled movement of

a machine element. The cans remain stationary. The sliver, of course, is automatically separated at a precisely defined point. Simultaneously with the movement of the filling head, the full can comes to a stop and the empty can starts to turn. All other can changers require reduced speed during the can change. The relatively unstable cans are not suited for the increased accelerations and decelerations. The use of even larger cans at the card is only possible with T-Move. The new



Photo: Trützschler

Jumbo Cans have a diameter of 1,200mm and hold 43 percent more sliver than regular cans with 1,000mm diameter. This increases economic efficiency and

improves quality by eliminating unnecessary sliver piecings in the creel of the downstream draw frame.

[www.truetzschler.com]

TEZ – Technology and Development Centre

Industry platform a complete success

The TEZ – Technology and Development Centre – was opened in 2010 as a platform for creating innovative perspectives and for shaping the future of the textile industry. Textile network wanted to know whether its vision is still as strong as ever and whether it has borne fruit.



The Technology and Development Centre (TEZ) at dusk

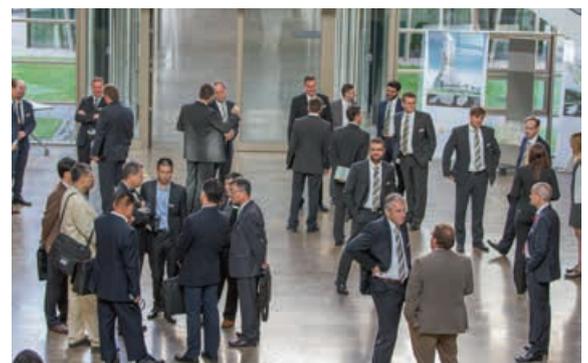
Photos: Groz-Beckert/Groz-Beckert

Requiring an initial investment of around EUR 60m, Groz-Beckert implemented its plan to construct a building and provide the industry with an unprecedented technology centre. Six years down the line, the first successes are emerging and are certainly not to be sneezed at. Ever true to its original principles, the centre has created important momentum in the field of research and development. The TEZ itself currently employs 280 staff and trains an additional 180 apprentices. Knowing that the industry's future depends on having highly skilled staff and experts, the company is committed to

providing training in a wide range of technical trades, and fosters close contacts with universities specialising in textiles both at home and abroad. These include institutions such as the Universities of Applied Sciences in Albstadt-Sigmaringen, Reutlingen and Niederrhein as well as the North Carolina State University (NCSU), USA. Collaboration ranges from the joint supervision of Bachelor and Masters dissertations, jointly organised projects, lectures and courses to study periods abroad at the NCSU and scholarships. The TEZ is endowed with five fully equipped machine centres for textile

production processes such as knitting, weaving, felting, tufting and sewing. The centre has most certainly developed into a hub for Germany's textile researchers, be they from Denckendorf, Aachen, Dresden, Chemnitz or Greiz. Results from the realm of pure research can be developed further at the TEZ to create new, collaborative textile projects. One such example is from the field of Textile Construction, which saw the formation of a Competence Centre in 2012, followed by the foundation of the Groz-Beckert subsidiary Solidian in 2013. This enabled the results obtained from pure research on textile-reinforced concrete at the RWTH Aachen University and the Technical University of Dresden to be implemented in an industrial context. In 2015, Solidian built the world's first and, so far only pedestrian bridge from pure carbon concrete in Albstadt-Ebingen. The subsidiary has since clocked up several

The TEZ is a perfect venue for conferences such as the Large Circular Knitting Conference 2014



successes and has won numerous awards including the "NPCA Sustainability Award" for textile reinforcements and the "Innovation Prize of the Concrete Component Suppliers Industry".

Working at the TEZ

How do the staff at the TEZ go about developing and improving products? Birte Kleefisch, Corporate Communications, provides the following explanation: "In a first step, three questions have to be answered: What happens to our products when in use? Can our products contribute to enhancing textile processes in certain applications? Can our products be used in any new textile applications? Next, we form a Competence Centre at the TEZ as a means of building or deepening our specialist knowledge. In a third step, the focus is on developing marketable innovations or on paving the way for new potential and improvements in efficiency. In the best-case scenario, in one final step, the developments emerging from the TEZ create a new business field, which is then lifted out of the TEZ and transferred into a new company structure such as in the case of Solidian."

Groz-Beckert not only built the TEZ with a view to focusing on new products and business fields, but also to enhancing its own products. One such example is the Litespeed knitting needle and its further development into the Litespeed Plus. Birte Kleefisch: "Extensive tests and trials were carried out on the machines at the TEZ and the needle type was further developed. The result is a knitting needle that helps reduce energy consumption by up to 20 percent."

Customer and joint projects also fall within the remit of the TEZ. For example, the TEZ has cooperated with the Stuttgart-based Institute for Lightweight Design and Construction (ILEK) within the framework of Project Arako, focusing on adaptive

room acoustics and acoustic conditioning in construction. The objective of this interdisciplinary, state-sponsored project involving architects, acoustics specialists and textile technologists, was to develop an acoustically effective textile module for use as a building cover or envelope. The result was a textile system made from polyester cloth and an acoustically effective non-woven. In order to test its suitability for applications in construction, a variety of physical and acoustic tests have been conducted, giving rise to some promising results. Should it be possible to reproduce the system on an industrial scale, textile building envelopes could well emerge as a promising product for the construction industry.

Another project at the TEZ was charged with optimising costs particularly in the manufacture of composite parts based on textile structures. In cooperation with Groz-Beckert's subsidiary, FTA – Forschungsgesellschaft für Textiltechnik Albstadt mbH and Schmuhl Faserverbundtechnik, based in Liebschütz, near Hof in Germany, work began on processing coarse reinforcement yarns to improve textile structures. The TEZ, FTA and Schmuhl Faserverbundtechnik joined forces to develop Leno-woven carbon NCFs (Non-crimp fabrics). The findings of the trials at Schmuhl were, in fact, so promising that that they were used for the production of patient couches.

Industry 4.0

Not surprisingly, the ubiquitous concept of Industry 4.0 is also tackled at the TEZ. Accordingly, the TEZ contributes to state-sponsored research projects, such as the "Knitting 4.0" study conducted by the ITV Denkendorf. The TEZ Auditorium creates the perfect setting for events and symposia of this kind. In April 2016, it hosted an Industry 4.0 event, organised by German textile association Südwesttextil in cooperation with



Photo: solidian

Footbridge made of TRC in Albstadt-Lautlingen

the German Institutes of Textile and Fibre Research (DITF) and the Alliance of Fibre-based Materials (Allianz Faserbasierte Werkstoffe Baden-Württemberg e.V. - AFBW). Similarly, in spring 2016, the TEZ Auditorium was the chosen venue for the Textilbetontag (Textile Concrete Day), initiated by Solidian in collaboration with the Chamber of Architects in Baden-Württemberg. The main focus of the event was on presentations and discussions on textile concrete along with industrial examples.

[www.groz-beckert.com]

[Iris Schlomski]

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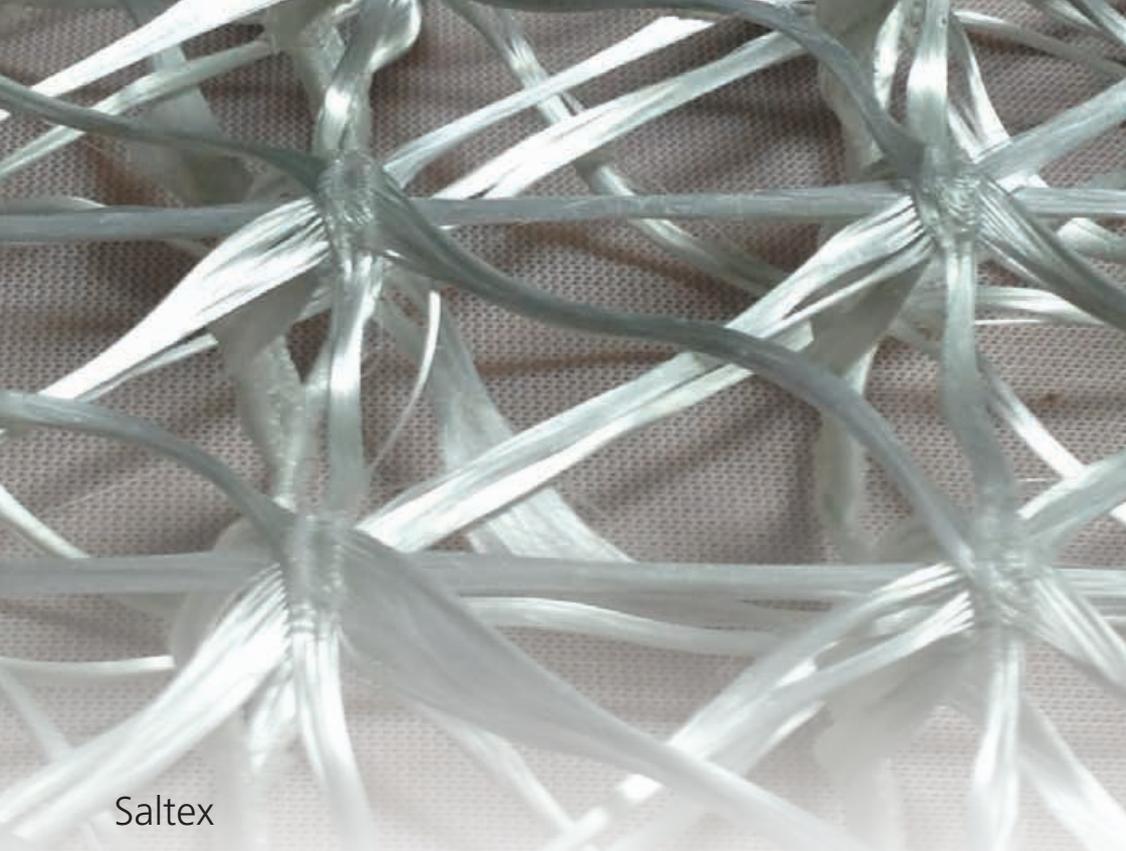
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E-Mail: info@sotex.de



Product example
fibre composite



Product example
smart textiles

Saltex

Community Platform for Smart Textiles and Fibre Composites

On 5 and 6 October 2016, the exhibition centre in Dornbirn will host the first-ever Saltex, a new Community Platform for Smart Textiles and Fibre Composites and their Industrial Automation. Messe Dornbirn developed the concept in collaboration with leading representatives from industry, politics and research. The Community Platform will spotlight the interdisciplinary transfer of knowledge and the progressive interlinking of smart textiles and fibre-reinforce composites as value chains. Vorarlberg, which is part of the four-country region around Lake Constance, has been dubbed the "Silicon Valley of Textiles", offering perfect prerequisites for the new event. Still boasting 180 embroidery companies, Vorarlberg ranks as the fourth-largest embroidery region in the world.

Smart Textiles Symposium
The 5th Smart Textiles Symposium by the Smart Textiles Platform Austria will be taking place concurrently with the

Saltex
Community Platform for Smart Textiles and Fibre Composites and their Industrial Automation – 5 and 6 October 2016
Messe Dornbirn, Austria

Community Platform. On Wednesday 5 October, the event will focus on Smart Textiles, followed by Fibre Composites on

6 October. The Smart Textiles block will shed light, among others, on ambient assisted living, medical applications and ecological cycle management and its potential. The second block will look at the cross-industry supply chain for fibre composites.

Comprehensive supporting programme
The exhibitor offering will be complemented with a compre-

hensive supporting programme. The B2B Cooperation Exchange has been created to encourage a dialogue between visitors and decision makers from corporate settings, research bodies and service providers as well as the speakers at the symposium. On 5 October, the Austrian Cluster Conference of the National Cluster Platform will take place during Saltex, whilst the Nanonet association is organising a workshop on nano-technology for 6 October. Presented by Schoeller GmbH & Co KG, the new concept Car Etos from the Swiss think tank Rinspeed can be seen in Austria for the first time. The research area brings together research institutes who will have the opportunity at a special show to unveil exhibits, prototypes and current research findings. Visitors also have the option of attending exclusive tours of Wolford AG in Bregenz.

[www.saltex.at]



Photos: Saltex/Messe Dornbirn

Dornbirn exhibition centre

SÜDWESTTEXTIL

Textile firms defy risks

The lion's share of the textile and apparel industry in the German state of Baden-Württemberg is optimistic and confident about the future. The current business climate index provided by German business and employers' association Südwesttextil reveals that both capacity utilisation and profits have improved against the year before. The manufacturers of yarns, fabrics, fashion, home textiles and technical textiles see the situation and outlook for the next few months more positively

than they did a year ago. 60 percent of respondents described their capacity utilisation as good, corresponding to a 13 percent climb on the same peri-



Bodo Th. Bölzle, President of Südwesttextil

od the year before. The companies' profit situation is said to be stronger with 15 percent rating theirs at "good", and 67 percent saying they were pleased. Just under a fifth were concerned about their profit situation, an improvement from 40 percent last year. The association forecasts a two percent rise in industry sales for 2016, which last year amounted to 7.37bn Euro. Bodo Th. Bölzle stated: "It's astounding to think how buoyant our companies are in a world blighted by fears and

risks, in times of Brexit and terror attacks." Potential new legislation, however, is considered far from helpful and is deemed a serious burden for the economy. "The next few years will have a decisive influence on Germany's industrial future. It's down to our politicians now to decide whether we can exploit the great opportunities presenting themselves to us or whether the discernible boom in innovation is stopped dead in its tracks."

[www.suedwesttextil.de]

BREXIT

Is your company at risk?

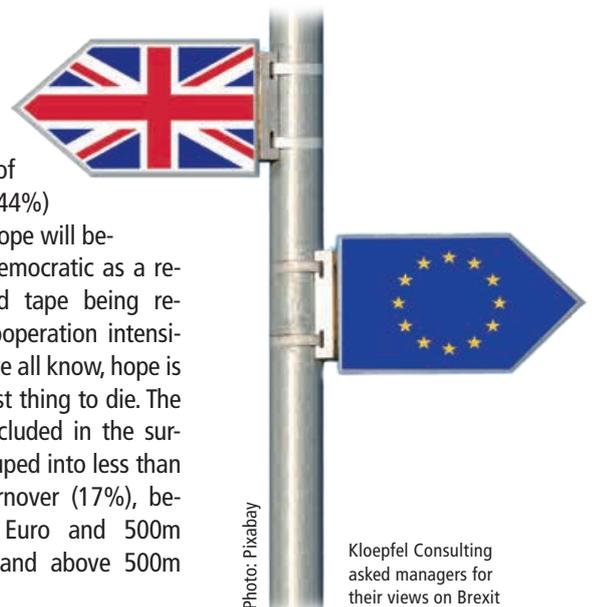
In the wake of Brexit, consultancy Kloeppel Consulting has asked 691 managers across all industries whether they thought their companies were at risk following the British vote to leave the EU. Duran Sarikaya, owner of Kloeppel Consulting, summarised the mood among managers of mostly small and medium-sized businesses as follows: "This flash survey shows that SMEs are generally relaxed in their attitude towards Brexit at the present time. Around 77 percent expressed hope that the EU would learn from Brexit. They do not currently believe that their businesses are at risk as a result of Brexit. In the medium to long term, however, they expect red tape and trade tariffs to increase. The tendency to think in more nationalistic terms is seen as potentially dangerous, and as having the ability to jeopardise cooperation between the European states in dealing with key issues such as the refugee crisis,

climate change and terrorism." The flash survey was carried out in the period from 24 June to 12 July 2016. In response to the question "Do you think Brexit will trigger job losses in German-speaking economies?" 39 percent responded with no, whereas just 4 percent believed many jobs would be axed. Fears that companies would see customer and order levels crumble are not particularly pronounced. Only 2 percent of respondents thought they would sustain severe losses in this area. The majority (53%) believe these concerns to be ex-

aggerated.

A relatively high number of respondents (44%) hope that Europe will become more democratic as a result, with red tape being reduced and cooperation intensified. And as we all know, hope is always the last thing to die. The companies included in the survey were grouped into less than 10m Euro turnover (17%), between 10m Euro and 500m Euro, (64%) and above 500m Euro (19%).

[www.kloeppel-consulting.com]



Kloeppel Consulting asked managers for their views on Brexit

autopaint MET 5000 v2.55

www.autopaint.info

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Invista and Garmon

New knitted denim concept collection

Invista and Garmon unveiled their innovative Denim Knit Concept Collection for the first time at the Kingpins Show in Amsterdam last April. What is special about this collection is the combination of fabrics used, and the fact that they are manufactured with Invista's Lycra Hybrid Technology and further processed with Garmon's state-of-the-art finishing technologies. The latter includes the use of chemical recipes that are selected through Green-Screen for Safer Chemicals. This innovation paves the way for denim makers to develop fabrics that successfully combine the comfort and flexibility of a knitted fabric with the au-

thentic look and performance of a typical woven denim! The collaboration with Garmon S.p.A. was designed to demonstrate the many aesthetic possibilities that denim knits offer when combined with Lycra Hybrid Technology. We spoke to Jean Hegedus, Global Segment Director for Denim at Invista, about the ideas behind this innovation.

Textile network: How did the idea for this collaboration come about (Garmon)?

Jean Hegedus: After we launched the Lycra Hybrid technology last autumn, customers wanted to know what specific finishing techniques could

What does Green-Screen stand for?
Green-Screen, developed by the NGO Clean Product Action, gives companies the transparency they need when accessing, evaluating, comparing and communicating information about chemical toxicity. This process enabled Garmon, for example, to choose chemical finishes that had a relatively low environmental impact. Rather than using potassium permanganate, Garmon opted for Avol Oxy White and the latest enzymatic solution to maximise ecological efficiency.

be used on these garments. Knit denim, while growing, is still at the early stages of development, and it's important to understand best practices for wet and dry processing. Invista had previously worked with Garmon on several other finishing projects and given their unique chemical processes and Italian inspired design, we felt they would be the perfect company to help us with this initiative.

Textile network: What is so fascinating about knitwear? And why denim?

Jean Hegedus: Knit denim provides 360 degree stretch and with the Lycra Hybrid technology you also get excellent recovery. What makes the Lycra Hybrid technology unique is that it combines the look of a traditional woven fabric with the comfort of a knit. Feedback from fit model testing indicates the garments feel very much like a leggings or yoga



Jean Hegedus, Global Segment Director for Denim at Invista

pant but offer the aesthetic versatility of a jeans.

Textile network: How is knit denim produced?

Jean Hegedus: Unlike woven denim which is produced on a loom, these fabrics are actually made on circular knit machines. So fabrics are made in tubular fashion and then slit to make a flat fabric. The technology involves a patent pending process from Invista that allows you to achieve a twill line in the fabric.

Mrs Hegedus, many thanks for talking to us!

The questions were posed by Iris Schlomski.

[www.invista.com]



Casualwear with performance properties and environmentally kind production processes is exactly what many consumers want

The innovative jeans are as comfortable as leggings or yoga pants

COMFORT CUT

Innovative waistband

Wolford's Research and Development team has channelled its efforts into solving an important problem: the waistband and its fit. The result is a specially developed yarn with excellent elasticity on the reverse of the waistband which creates the perfect fit. Whether tall, short, slender or curvaceous – most women like waistbands that they can adjust to their own body shape. Wolford's Autumn/Winter Collection 2016/17 features innovative tights with waistbands that custom-

ers can individually personalise. This latest development has taken two years of intense work, creativity and technical expertise.

The Comfort Cut40 Tights

The Comfort Cut 40 Tights can be adapted to each body shape, simply by making up to four cuts in the marked spots along the waistband. All this is done without dropping a single stitch. Each neatly hidden incision gently expands the waistband by half a size. The tights are made from a



Photos: Wolford



The Comfort Cut 40 Tights individually adapt to any body shape

material called "Velvet light" which combines an ultra-soft texture with an even matt appearance and improved elasticity in a single yarn, bringing legwear design to a new level, stitch by stitch.

Wolford is constantly working on bigger and better ideas. State-of-the-art innovations always focus on the needs of "the confident woman". Other sensational masterpieces such as the Pure Tights, the Cotton Contour Line and the unique selection of Shape & Control Styles bear witness to

the outstanding expertise of this global brand.

[www.wolford.com]

GUNOLD

Be inspired! New ideas for attractive textile surfaces

Gunold presents new and unprecedented new colors and structures. For the fall/winter season 2017/18 ideas are inspired by nature or seem to be rather technical in structure, a touch of luxury included.

The great diversity of innovative threads developed by the

German thread specialist has truly reached a new dimension. Discover a variety of organic shapes inspired by nature bearing a resemblance to stones, minerals, sea plants or wood. Gunold uses matt threads such as wool-like Filaine and cotton thread Cotty together with the

metallic threads from the Mety collection adding accents rich in contrast. Novel, seemingly tech-inspired effects, fascinate thanks to innovative three-dimensionality. Viscose, cotton, polyester as well as metallic threads are all being used and are sometimes enhanced or framed by the luxury threads Polymet and Filamet.

Gunold offers the two thread innovations Filamet and Polymet for customers under the motto "Create your own color scheme". Designers may select one color each from the color cards of the wool-like thread Filaine and from the metallic thread Mety to create their very special individual thread. Filamet – The same is true for the polyester thread Poly and Mety. The pure cotton thread Cotty impresses with its matt structure and is always the right choice if, for example, a typical "handmade" look is desired.

Since cotton is in high demand for the current fashion trend "back to nature", Gunold now offers additional 64 new trend colors, which are available in strengths 30 and 12 together with a new special color card. For the first time Gunold presents Cry, an innovative reflective thread that consists of a polyamide core encased by thousands of microscopic glass beads. Retro-reflection is the magic word. Retro-reflection occurs when a reflective material returns the impinging radiation to the direction of the radiation source, largely independent of the direction of the reflector.

Reflective appliqués, seams and embroidery designs are visible from afar and not only serve the protection of the wearer, but also produce fascinating effects in the dark.

[www.gunold.de]



Photos: Gunold

Organic shapes, inspired by nature. Structures from stones, minerals, sea plants and wood. Imperfection, random constructions and irregular shapes – a creative playground for embroidery. The new threads clockwise: Polymet/Mety, Filaine/Cotty, Cotty, Cry.

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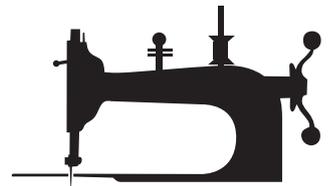


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The next issue of **textile**network will be published on 11th November 2016 and these are some of our topics:



Wacker Chemie
Wacker, the Munich-based chemical company, has launched an innovative hydrophilic fabric softener for factory textile finishing. We report about this important innovation.

Photo: Wacker Chemie



Krüger Kleidung
Target groups analysed, product range extended in specific areas, e-commerce strategically developed. Traditional country fashion store Krüger Kleidung has successfully established itself as an omni-channel trader. How did they do it?

Photo: Krüger

Cotton USA
According to a study entitled "Global Lifestyle Monitor 2016", spending on clothing up to 2030 is expected to increase only at a moderate level. We examine the highly interesting and sometimes surprising results of the international consumer survey



Photo: fotolia

Portugal
Portugal's Minister for the Economy Manuel Caldeira Cabral (right) paying a visit to Lameirinho Industria Textil, a big player in the Portuguese home textiles industry. We take a closer look at this industry's global approach to business.



Photo: Lameirinho



Up to 3kg of raw material is needed to gain 1kg of finished mother-of-pearl buttons

KNOPF UND KNOPF INTERNATIONAL

Mother-of-pearl buttons from shells

Shells are not just a summer theme but have become a firm feature across the seasons as mother-of-pearl buttons.

Even in the mid-17th century, the French would embellish themselves with this iridescent accessory, ranging in colour from silky white to shiny black. The raw material has been fished in and around Indonesia, Australia and the Red Sea since time immemorial, although these days it is usually farmed. There are around 28 different types of molluscs and sea snails that are suitable for button production.

One of the most beautiful is Makassar mother-of-pearl from the Makassar Strait, which is pure white and completely smooth. Tahitian mother-of-pearl, varying in colour from silver to dark grey, has a green iridescence, whilst the Trochas

sea snail offers a spectrum of beige tones in silky sheens. The majority of shells can absorb other colours in a natural dyeing process. And yet, the iridescent colour, defining the beauty of this material, is indeed a wonder of nature. Rays of light refract on the layer of calcium phosphate and conchiolin, a jelly-like organic secretion from the mollusc, giving rise to its unique glow.

Not only does mother-of-pearl possess a special aura and expressiveness, it is also pretty indestructible and, as a natural product, can even survive for centuries. When exposed to sudden blows, it can, however, splinter. As a result, when removing it from the shell, drilling the button holes and burnishing the buttons to enhance their natural sheen, it is important to proceed with great care.

It should be noted that dyed buttons can bleed out, especially in the case of dark colours against light fabrics. Aggressive detergents attack the

surface, making it rough. Like wool, mother-of-pearl buttons should, therefore, be washed on a gentle cycle.

[www.knopfundknopf.com]



By scratching the back, it is possible to tell whether the material has been dyed all the way through or just on the surface. Mother-of-pearl buttons that have been surface-dyed are not colourfast

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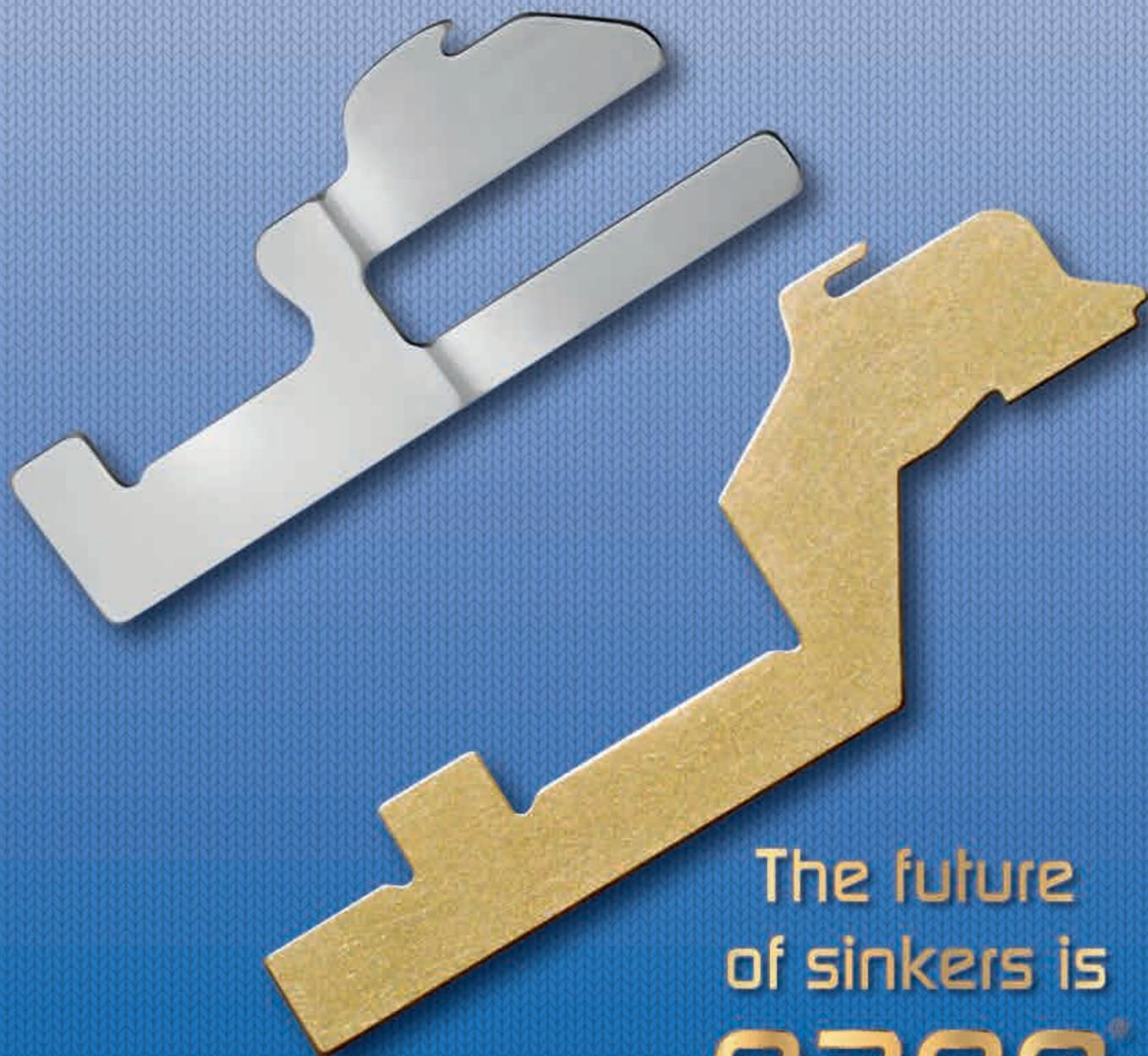
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