

# textile network

1-2/2017

English edition



The international premium magazine for the textile chain

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# The year has started well!

Like every year, Heimtextil in Frankfurt got the textile exhibition season off to a healthy start again in 2017. It was a magnificent and illustrious event that inspired hope in our industry! Despite the snow, ice and storms, particularly on the first and last days of the fair, almost 70,000 trade buyers (up from 68,277 in 2016) wended their way to the leading event for home and contract textiles from all four corners of the globe, seizing the opportunity to view the quality and diversity of the products on show and the trends for the new season. It was interesting to note that the growth in visitors stemmed mainly from Brazil, China, the UK, Italy, Japan, Russia, the USA and the UAE. The 2,963 exhibitors from 67 countries (up from 2,864 in 2016) presented their textile innovations and designs over 20 levels and were delighted with their order books and the business contacts made at the start of the season. You can read more on this topic in our online magazine.

It was a logical move to stage the press conference for the second important industry event of the year on day two of Heimtextil. I am, of course, referring here to the sister

exhibitions Techtextil / Texprocess, which will, for the first time, be running concurrently for four days from 9 to 12 May. Visitors and exhibitors coming to Frankfurt can look forward to an even bigger and better edition of Techtextil and a growing Texprocess. The comprehensive supporting programme for 2017 offers many new and captivating ideas. The absolute highlight will be the special event "Living in Space" (see p. 9). An interesting and pioneering change has been made to the make-up of Hall 4.0, which unites bonding and separating technology, CMT, CAD/CAM and printing for both events. In doing so, the fairs are simply bringing together what belongs together.

At textile network, we're also bringing together what belongs together. In our case, however, I'm talking about print and online! Perhaps you've already discovered it for yourself? On our bilingual website, we are offering German research institutes an exclusive opportunity to give our readers an insight into current developments. The corresponding Research & Development column at textile network provides these bodies with an appropriate

platform that they can fill with their own content. Commenting on this new feature, Daniel Keienburg, Head of Digital Media at Meisenbach Verlag, states: "This column is still very much in its infancy: However, several reputed German institutes have already agreed to contribute in 2017." If you have any questions or are perhaps interested in getting involved, simply drop us an email, addressed at [online@meisenbach.de](mailto:online@meisenbach.de).

The year has already got off to a great start! We hope you'll be inspired in this issue by the many interesting stories, innovations, industry events and valuable information from the fascinating world of textiles. Textile network will, we hope, get you in the mood for the new year so that you can look to the future with a sense of optimism.

You may not know it but, astronomically speaking, 2017 is a solar year, so it's surely going to be a good one for all of us. And do you know what? I think we honestly deserve it!

Yours

*Iris Schlömski*

Iris Schlömski,  
Editor-in-chief



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**Lenzing AG**

Werkstrasse 2  
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Happy Birthday to your 15th birthday Maredimoda

Maredimoda

# You are so beautiful!

Almost 3,000 buyers flocked to the Palais des Festivals in Cannes which hosted the 15th edition of Maredimoda. The majority of visitors travelled to Cannes within Europe, with the lion's share coming as always from Italy, followed by France, Spain, the UK and Germany. Maredimoda featured from 8 to 10 November 2016 more than 100 exhibitors, showcasing their new products and fabric collections for the summer season 2018.

In the evening of the second day, everyone came together to celebrate the 15th anniversary of the fair, which has always been at home in Cannes and has become firmly established in Europe. There was general consensus that Maredimoda is in tune with the industry. This was reflected in the positive mood among exhibitors and visitors over the three days of the fair. Innotex Merkel & Rau GmbH, based in Germany's Frankenber, has been coming to Cannes for several years, but this was by far the firm's best appearance – in terms not only of footfall but also the number of constructive talks with customers and the positive response to their new fabric collections for men. Mühlmeier Bodyshaping GmbH, headquartered in Bärnau-Schwarzenbach, like-wise reported that its sales consultants were constantly kept busy. Maredimoda 2016 witnessed a process of "reshoring". This

went hand in hand with the return of many customers who are keen to buy their fabrics in Europe again on account of their superior quality. Many of this year's exhibitors were newcomers to the event.

## "Athleisure"

"Athleisure" emerged as a major focus of Maredimoda 2016. Manufacturers of sports and leisurewear are making greater demands on their fabrics and are increasingly finding solutions at Maredimoda, in the field of swimwear. Interesting innovations and ideas were presented, among others, at the Invista Lycra Lounge and by the Italian company Textura. Other

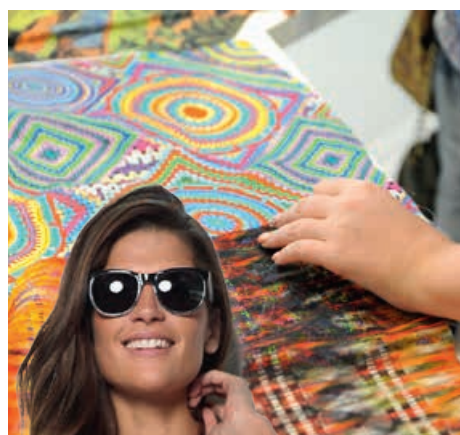
names from northern Italy such as Ratti, Clerici Tessuti and Mantero, scored high in the popularity stakes with their high-quality fabrics. Their collections featured a wide variety of fabrics made from silk, cotton and chiffon, interpreted in a wonderful array of colours. Whereas just a few years ago, fabrics for men's and children's beachwear were difficult to find, ever more companies are coming up with special designs and varied materials specifically for these target groups. It appears, therefore, that the industry has woken up to this need which, in turn, is fuelling demand.

Swimwear in 2018 will once again be dominated by four

styles: Radical Honesty is extremely feminine and embraces subtle shades from Silver and Mecca Orange to Baby Blue. Sporty Activist focuses on high-tech and sport, with a colour spectrum ranging from bold Hibiscus to Turkish Sea and Blue Topaz. Deep Glamour is characterised by new kitsch and a touch of romance. The colours are intense and extend from Vintage Indigo and Pompeian Red to Rumba Red and Apple Green. Tutti frutti blends lead the way in the Gypset Swim trend. The patterns are as exotic as the colours themselves, featuring Nectarine, Citrus, Blueprint and Juniper.

[[www.maredimoda.com](http://www.maredimoda.com)]

[Ingrid Sachsenmaier]



Impressions –  
15th Maredimoda



Photos: Maredimoda



Photo: Maredimoda

Delighted with the Award – two members of Anita's staff receiving the accolade at Maredimoda in Cannes

## MAREDIMODA

### And the winner is ...

This year's Maredimoda Creative Excellence Award 2016 was presented to Anita Dr. Helbig GmbH from Brannenburg in Germany and the luxury lingerie brand Lise Charmel. This accolade is traditionally awarded to international brands that have carved out an outstanding and lasting reputation for themselves over an extended period of time.

Anita has been a family-run business for the past 130 years and, now in the hands of the fourth generation, it is still committed to helping women accentuate their figures with lingerie and swimwear in perfect fits. Comprising five product lines, the collections combine perfect fit with maximum comfort and top quality. Anita creates products that meet the needs of expecting and breastfeeding mothers, sporty women and curvaceous women with large cups, whilst finding special solutions for women who have undergone breast surgery. Anita's products are all from a single production source. Prod-

uct development and design take place at the headquarters in Brannenburg, whereas production is carried out by seven company-owned production facilities. Christina von Seubert, Head of Design & Product Development Beachwear: "We have high standards when it comes to the materials and trimmings we use. We often develop certain solutions together with our suppliers to ensure that they have all the necessary features."

The Anita Group is an international operation with more than 1,600 members of staff and 20 businesses in 16 countries. More than 100 agents promote sales around the world, in addition to a host of importers and exclusive representatives. The products are sold in more than 60 countries. Drawing on 130 years of experience, the lingerie specialist is valued as a highly successful entrepreneur in the textile industry.

[[www.anita.com](http://www.anita.com)]  
[Ingrid Sachsenmaier]

## MAREDIMODA

### 3 questions for..

#### Marco Borioli, President of Maredimoda

**textile network:** Mr Borioli, how happy are you with the outcome of Maredimoda 2016?

**Marco Borioli:** We're all delighted and can safely say that it was the right decision all those years ago to bank on the "Made in Europe" concept. It's definitely paying off now.

**textile network:** Will Maredimoda continue to take place at the beginning of November?

**Marco Borioli:** We're not thinking of making any changes to the dates. The next edition is running from 7 to 9 November 2017. This is the best time to unveil the latest collections to the buyers in our field. Going forward, we want to continue to defend "Made in Europe" by organising a fair that is both progressive and customer-orientated.



President of Maredimoda, Marco Borioli

**textile network:** In 2016, the topic of "Sportswear" was extremely important. Is this where the future lies for your exhibitors? What do you mean?

**Marco Borioli:** The "Athleisure" theme complements the swimwear sector. They are two completely separate worlds that stand in dialogue with one another. It's an expanding sector which I'm sure we'll be extending further.

Mr Borioli, many thanks for talking to us.

The questions were asked by Ingrid Sachsenmaier on behalf of textile network.



Photo: Maredimoda

Maredimoda celebrated also another jubilee. 70 years bikini, 70 years of fashion in two pieces





Photos: Milano Unica

Milano Unica

## New beginning

Milano Unica, the fabric trade fair with Italian roots, is responding to the needs of the market and to the globalisation of the fabric sector and fashion world. President Ercole Botto Poala is speaking of a "new beginning", making a corresponding announcement just three weeks after the September event. In that statement, he revealed that the autumn Milano Unica is to be carried forward from September to July as of this year. As a result, the trade fair will showcase the industry's autumn/winter collections from 11 to 13 July 2017. Initially greeted with disbelief, this latest move has since been widely accepted even though the earlier timing will pose a considera-

ble challenge for exhibitors having to complete their collections two months earlier.

**2017 will be "electrifying"** textile network spoke to the new President of Milano Unica about this change and some of his other innovative ideas.

**textile network:** Mr Poala, how did the sector react to your decision to stage Milano Unica earlier in 2017?

**Ercole Botto Poala:** I would say positively. Some were rather perplexed to begin with but the majority of exhibitors responded well to the change of date. Newcomers to the event have already expressed an interest in participating.

Ercole Botto Poala



**textile network:** And how would you describe 2016?

**Ercole Botto Poala:** Excellent! For several reasons. Our change of venue in Milan went smoothly, with the lion's share of exhibitors and visitors welcoming the move. We staged two events in China – in summer and winter – setting a new visitor record. This demonstrates quite clearly that quality products are in great demand over there, which stands in contrast to the macro-economic data.

**textile network:** What are your forecasts for 2017?

**Ercole Botto Poala:** It's going to be a complicated year that will be strongly influenced by external geopolitical and global economic factors – Brexit, Trump, the referendum in Italy, currencies, wars, terrorism and natural disasters. And among

all these events, we're also experiencing fundamental changes within the product chain – trade fairs and fashion weeks are being rescheduled, and buyers are ascribing to a "See now, buy now" philosophy etc. All in all, I think 2017 will be electrifying.

**textile network:** Italy is well known for its high-quality fabrics. However, price and quick delivery are increasingly determining whether or not customers buy. How should companies respond to this?

**Ercole Botto Poala:** It's always important to work together as a team and to create synergies with your customers. If we're all to succeed in responding to new market requirements, we'll have to cooperate more closely and forge closer contacts with customers.

Mr Poala, many thanks for talking to us.

The questions were asked by Ingrid Sachsenmaier on behalf of textile network.

[[www.milanounica.it](http://www.milanounica.it)]

The forthcoming 24th Milano Unica (spring fair) is scheduled for 1 to 3 February 2017 in Rho Perù. The 25th Milano Unica (autumn fair) will run six months later at the earlier dates of 11 to 13 July 2017, likewise in Rho Perù. The last autumn event in 2016, which welcomed 6,000 trade buyers, featured 382 Italian and 139 international exhibitors presenting their collections for the autumn-winter 2017/18 season.



Techtextil and Texprocess

# Mission to Mars!

Under the heading 'Living in Space' and in cooperation with the European Space Agency (ESA) and the German Aerospace Centre (Deutsches Zentrum für Luft- und Raumfahrt – DLR), Techtextil, International Trade Fair for Technical Textiles and Nonwovens, and Texprocess, Leading International Trade Fair for Processing Textile and Flexible Materials (both 9 to 12 May 2017), will illustrate the broad spectrum of applications for technical textiles with examples from the aerospace sector.

"Space fascinates people all over the world. All our space missions are backed by many years of research and innovation in which new materials and processing technologies played a decisive role", says

Frank Salzgeber, Head of ESA Technology Transfer Programme Office (TTPO) on the collaboration with Techtextil and Texprocess.

Dr Rolf-Dieter Fischer, Director, DLR Technology Marketing, adds, "Thanks to their extreme durability and temperature resistance, many of the materials developed for space travel are finding their way into everyday products, and vice versa. This is particularly true of fibre-based materials with materials developed for space suits that regulate heat and moisture now being used in sports shoes, garments and home textiles."

"It will take several years before we can hold fairs on Mars. Until then, we will show at Techtextil and Texprocess products and processes covering al-

According to the German Aerospace Industries Association (Bundesverband der Deutschen Luft- und Raumfahrtindustrie – BDLI), the German aerospace industry generates annual revenues of 34.7 billion euros and is set to expand further. With a growth rate of 12 percent a year, aerospace is one of the world's driving forces for growth in the field of carbon-fibre reinforced plastics.

Used in components of space capsules and fuel tanks, this heat and deformation resistant material cuts weight and, therefore, transport costs. Fibre-reinforced composites are also used in the folding antennae of communication, which can be as much as 30 metres in diameter when opened, and earth observation satellites. Last but not least, a space suit consists of numerous layers of high-tech textiles that protect the astronaut from heat and radiation at the same time as regulating the body temperature.

most all aspects of human life, from clothing, via building and mobility, to safety, medicine and agricultural technology – in other words, all those fields that are necessary for travel and survival in space", says Olaf Schmidt, Vice President Textiles and Textile Technologies, Messe Frankfurt.

In addition to a space-oriented area in the vicinity of exhibitors for functional apparel textiles in Hall 6.1, insights into the start-up scene and expert lectures are planned. Based on the areas of application for technical textiles, Techtextil will present high-tech textiles and textile processing technologies from and for the space sector revolving around four main themes. 'Mobility' brings together examples of applications relating to locomotion in space, e.g., lightweight structures for space capsules and parachute fabrics. 'Clothing' covers the subject of functional garment textiles such as space-

inspired high-tech fashion. 'Civilization' stands for textile products for survival, e.g., geotextiles for growing foodstuffs and textiles for medical applications, as well as for energy production or filtration. 'Architecture' presents applications for dwellings and the infrastructure.

In our next issues 3-4 and 5-6 we will report more about the highlights of the exhibitors in Frankfurt!

[[www.techtextil.com](http://www.techtextil.com)]

[[www.texprocess.com](http://www.texprocess.com)]

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[www.adf3.stoll.com](http://www.adf3.stoll.com)



Photo: fotolia

Survival in space – technical textiles (Techtextil) and their processing (Texprocess) make it possible!

Filo

# "Green" mutates into a golden thread



Monocel made a conscious decision to premiere at Filo where it revealed its vegetable dyed textiles in fine structures for shirts and nightwear. A pioneering project that generated a lot of interest

The 46th edition of the yarn fair Filo, which took place as always at the end of September in the Palazzo delle Stelline in the heart of Milan, Italy, produced happy faces all round. "It definitely exceeded all ex-

pectations," said the organisers and exhibitors. The event also posted a significant climb in the number of trade buyers from abroad, with European and Japanese buyers fuelling the rise. The agency "Ice-Agenzia" succeeded in attracting delegations from Japan, France, the UK, Spain, Turkey, Lithuania, Portugal, the USA and Belgium.

## Natural dyeing processes in demand

The yarn manufacturers are no longer focusing solely on environmentally friendly production but also on dyeing techniques that stem from the natural world and save resources. Monocel made a conscious decision to premiere at Filo where it revealed its vegetable dyed textiles in fine structures for shirts and nightwear. A pioneering project that generated a lot of interest. The development of "Ecotec" by Marchi & Fildi, Biella, is moving in the same direction. Explaining its philosophy, the company stated: "It is

the first smart cotton, made in Italy from an exclusive, totally traceable and certified manufacturing process that turns 100 percent pre-dyed cotton textile clippings into colourful yarns. This process means that there is a huge saving in terms of water, CO<sub>2</sub> and energy – up to 56,3 percent for greenhouse gases, up to 56,6 percent in energy consumption and up to 77,9 percent in terms of water usage." It is becoming increasingly clear that there is indeed a pronounced demand for high-quality yarns and that these quality requirements can be achieved with environmentally friendly processes. Customers are searching and acquiring a taste for new products such as

these. Pointex had created a Black and a White Room to introduce a whole host of projects, research work and new ideas in the realm of sustainable yarns – in fact, the topic of sustainability in yarn production ran like a golden thread through the entire fair.

The 47th edition of Filo will be held on the 22nd and 23rd of February 2017. Through the theme chosen for the 47th edition – 'Forever Tourists' – Filo continues to outline the luxury and high-end products' evolutions, at the same time underlining the continuous growth of interest for Made in Italy and its excellence's production.

[[www.filo.it](http://www.filo.it)]

[Ingrid Sachsenmaier]



Filo-exhibition: historical wool production in Biella

## A need for debate

There was much debate at Filo over whether the decision by Milano Unica to bring the fair forward from September 2017 to July, will spark a more general trend. Whatever the outcome, the dates for the 47th Filo have already been fixed for 22 to 23 February 2017, as always at the Palazzo delle Stelline in Milan!





Photo: Itma Asia

Itma Asia 2016

# Gauging the mood

Itma Asia + Citme 2016, which ran from 21 to 25 October 2016, featured almost 1,700 exhibitors in an area of roughly 170,000m<sup>2</sup> and was staged for the first time at the newly built National Exhibition and Convention Center (NECC). According to the organiser, the event in Shanghai attracted over 100,000 attendees from 102 countries, around 80 percent of whom actually came directly from China. Textile network spoke to some of the German exhibitors participating in the event with a view to gauging the general mood.

We wanted to know whether the trade fair lived up to their expectations and how this event compares to Itma Europe which took place in Milan in 2015. Although the exhibitors we interviewed were generally happy with the outcome of the fair, some were fiercely critical, voicing their disappointment at the visitor turnout and the lack of organisation at the new NECC centre. Many found fault with the unprofessionally laid

Itma Europe is and remains the leading fair for the textile machinery industry. Textile machinery developers time the unveiling of their best technological innovations to coincide with this event. The attendees come from all four corners of the globe. By contrast, Itma Asia can barely call itself an international event, given that the large majority of visitors are from China. Only a handful of genuine innovations are shown in Shanghai.

leads and the many potential tripping hazards, the poor supply of water and electricity to the stands, the inferior access routes to the exhibition centre, and even the "subterranean" bathroom facilities. "Lorries were driving into the halls and blocking the gangways. Apparently, the fork-lift truck drivers were demanding extra "pocket money" in return for a better service, although payment had already been made in advance. No wonder that some exhibitors felt that they were being taken for a ride. Itma Asia is widely regarded as a regional Asian/Chinese affair, whereas Itma Europe is deemed truly global. The visitors travelled to

the event predominantly from China and Asia, with very few coming from elsewhere. In the nonwovens segment, Itma Asia generated little interest for exhibitors given that Cinte Techtextil had taken place just two weeks previously, causing customers to stay away.

There was general consensus that the new exhibition centre is still in the process of finding its feet and that poor transport links leading out of the city had added to journey times and urgently need improving. We would like to extend among others our thanks to the following companies for taking part in the survey: Trützschler Nonwovens, Groz-Beckert, Memminger-Iro, Mayer & Cie., Lindauer Dornier.

[[www.itmaasia.com](http://www.itmaasia.com)]

[Iris Schlomski]

For Groz-Beckert, Itma Asia + Citme 2016 was a resounding success with many exciting business conversations and an abundance of new input

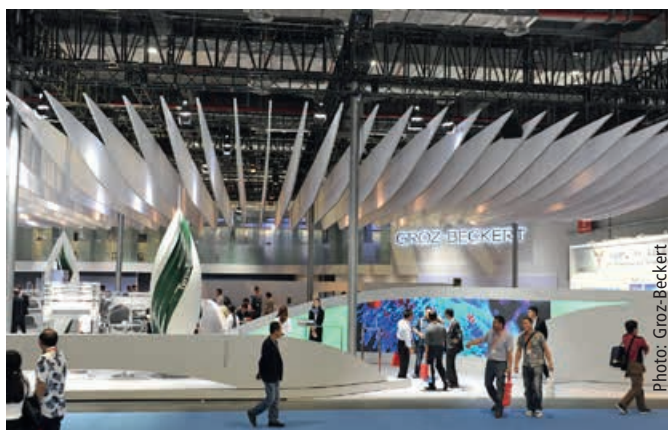


Photo: Groz-Beckert

## CALENDAR OF EVENTS

### Gallery

01/28/17 - 01/30/17 | Düsseldorf

[www.gallery-duesseldorf.de](http://www.gallery-duesseldorf.de)

### Munich Fabric Start

01/31/17 - 02/02/17 | Munich

[www.munichfabricstart.com](http://www.munichfabricstart.com)

### Milano Unica

02/01/17 - 02/03/17 | Milan

[www.milanounica.it](http://www.milanounica.it)

### ISPO Munich

02/05/17 - 02/08/17 | Munich

[www.munich.ispo.com/de](http://www.munich.ispo.com/de)

### Première Vision Paris

02/07/17 - 02/09/17 | Paris

[www.premierevision.com](http://www.premierevision.com)

### CPM – Collection Premiere Moscow

02/20/17 - 02/23/17 | Moscow

[www.cpm-moscow.com](http://www.cpm-moscow.com)

### Filo

03/08/17 - 03/09/17 | Milan

[www.filo.it](http://www.filo.it)

### Intertextile Shanghai Apparel Fabrics – Spring Edition

15/03/17 - 17/03/17 | Shanghai

[www.messefrankfurt.com](http://www.messefrankfurt.com)

### Münchner Stoff Frühling

03/24/17 - 03/27/17 | Munich

[www.msf-muenchen.de](http://www.msf-muenchen.de)

### Index – Internationale Messe für Vliesstoffe

04/04/17 - 04/07/17 | Geneva

Swiss

[www.index14.ch/en](http://www.index14.ch/en)

Fashion pulse Spring/Summer 2018

# Perspectives – from individuality to identity

The sun and warmth of Greece were the inspiration for the Spring/Summer 2018 forecast by the VDMD Trend Research Team. Influenced by a southern blaze of colours and a mental lightness of being that has not allowed politics and world events to rob the joy out of life, colours have emerged that range from a sensitive lightness to a glorious intensity. New features include augmented green tones, yellow nuances and synthetic-seeming shades of pink and blue.

The ever more tangible upheaval in society across the world, and people's associated search for new forms, global thinking and highly individual lifestyles, which are building a new identity, are all referred to by the title of the 2018 season's megatrend: Perspectives – from individuality to identity, from I to We. The whole world is on the move and lacks certainty. What is more, computerisation and virtualisation are shaping everyday life and moving us closer together. Neighbours form friendships and develop shared meeting spaces in the urban areas of overflowing cities. In our quest for certainty and peace, we are going back to basics. There is a preference for regional products and the corner shop is enjoying a revival. People



Focusing: Our product examples are from Gunold, Knopf und Knopf International, Schöller Textil



Photo: Knopf und Knopf



who have never encountered each other before are forming friendships and helping one another. We need to learn how to deal with entirely new situations, to break down our separation anxieties and develop new perspectives. Home and a sense of group identity are becoming priorities. A new kind of rootedness is developing, alongside a yearning for security and civic idylls, for an 'Ikea life'. Simultaneously, there is a need for that which is individual, for marking oneself out and setting

oneself apart from others.

From this, four themes have developed: focusing – growing – networking – gaming.

## **Focusing: a theme of urban peace**

What are the new approaches to life in the cities – how do we marry up the cheek-by-jowl conditions with the need for anonymous quietude, the nameless proximity with the longing for an idyllic village life? The answer lies in the nature that we bring into the cities. Open spaces in the house, on the balcony, in the garden and in public areas are used to grow vegetables. Animals are kept not only for work but more and more as friends. Humani-

Urban life is becoming more refined, more convenient, more individual, more valuable, more tailored and more sustainable.

Buttons and zips match the delicate colours and may be large and visibly proud. A strong feature is the deliberate visibility of fastenings in surprising and functional places.

Decorative features and accessories may be tiny, gleaming and finely glittering stones that sparkle as if by accident, or the most delicate of adornments from the finest threads bringing transparent or interwoven hints of colour.



ty and nature are drawing close together.

The colours in this urban theme are elegant and sensitive. Chalky matt fractured shades set the tone and are sophisticated: aesthetically and confidently restrained.

Grey, silver and blue shades gently blend into medium and deeper tones and are refreshed by burgeoning leaves in a springtime yellow-green.

The materials, their structures, surfaces and designs have a shared characteristic: refined, diffuse surfaces and overlapping translucent or even fully transparent patterns. The background is formed of layers. Paintings, graphic elements and simulated abstract 3D images provide the motifs.

### Growing: a theme of nature and technology

How can the important themes of sustainability be united with the development of intelligent materials and the longing for relaxation in nature?

The answer lies in the headline: 'Taking responsibility for nature and humanity'. We go out into nature, jog through the woods, breathe in deeply the scent of pine needles, foliage and meadow flowers. We enjoy the sun and the sky, we recuperate and slow down. Yet we do not deny ourselves the comfort of outfits that have drawn their technical refinements from nature. The colours reflect a sunny midsummer's day: subtle colours of water and meadow flowers, leaf-green, cosmea-pink, violet and the scent of sunbathed glades.

The materials, their structures, surfaces and designs suggest long periods of use. They are deliberately constructed to appear used: the



Photo: Alpenwahn

Photo: Jim Knopf



Photo: Peppermint

Growing and allowing to grow represent a feminine romanticism.

Sustainability, in harmony with the joy of experimentation, produces surprising new visual effects.

Buttons and zips imitate nature. Wood- and stone-effect, marble, minerals and metals are not only an important element of the outfit but are allowed to stand out and dominate. Decorative features become a delightful essential: braids, fringes, feathers and elaborate embroideries of nature decorate hems, shoulders and sleeves. Strings of larger-than-life beads are integrated into necklines and shaggy imitation furs are worked into waistcoats.

structures are ripped and bear uncontrolled patterns that run into and across one another. Tradition-rich techniques such as batik and aquarelle are enjoying a comeback.

Within them can be seen large flowers, pieces of wood, grasses and animal heads.

### Networking: a cross-cultural theme

How can we achieve consensus and empathy between the different religions and ways of life of the many people who come to us from different countries, and who in future will be living with us? In the midst of this globality, we seek individuality.

Meanwhile, inspirations from foreign cultures influence our eating habits, our ways of living and our fashion. A global patchwork: aggressive, intense, tolerant, valuable, warm and appreciative.

A mixing of the cultures, open to the Other, is allowing a new system of values to arise. The colours of those foreign cultures are influencing us for ever. Instead of modest and recessive colours, we find intense red and violet shades, cool powerful blues and greens, warm, intense, bold and accentuated by antique gold. The materials, their structures, surfaces and designs stand out through their colours and historical borrowings. The three-dimensional feel is emphasised with reliefs and lush surfaces. Rich decors from folklore and from church windows, antique carpets, mosaics and paintings by the old masters provide inspiration for the designs.

### Spring and summer 2018 promise the courage to innovate, to renew, to part from the habitual ways....

As it does every season, VDMD, under the direction of Trend Consultant Mara Michel, analyses and describes how the megatrend will play out in individual products. Well in time for the spring trade fairs of Munich Fabric Start, Milano Unica, Première Vision and Intertextile Apparel Fabrics Shanghai, the colours, textures, prints and designs of materials, fabrics and accessories have been defined for the four themes: focusing – growing – networking – gaming.





Networking: Our product examples are from Reichel, Knopf und Knopf International



Networking is the theme of opulence, richness and warmth.

Historical borrowings and folklore are given modern translations and combined with deliberate incongruities of style. Buttons and zip fasteners can also be incorporated into this theme.

Glass buttons are printed, metals pressed into new shapes as if hand-worked, draw-strings and passements are used as fasteners, zips are overlaid with narrow braid.

Decorative features and accessories may well be rich and opulent. Sheer emotion. Embroidery is a must. Beaded strings, braids and trimmings are incorporated directly into the outfits. They may glisten, gleam or glimmer with gold. A veritable feast for the producer of trimmings and accessories.

ing. They are searching near and far simultaneously, experimenting with alien identities and thereby discovering new identities for themselves. The colours of this theme appear on the one hand synthetic, coldly bright and possibly gaudy, like sweets; on the other hand, they are framed or highlighted with restrained, dark and hard colours such as midnight blue, burgundy or slate grey, these in turn bathed in a bright brassy yellow. The materials, their structures, surfaces and designs are reminiscent of intermingled watercolours, bearing large-scale prints from the world of gaming. The heroes of the gamer gener-

ation want to be seen, and they leap out from virtual backgrounds. Smooth, often high-gloss materials, as well as 'plastics and elastics', carry unsettling magical photo-prints as backgrounds out of which pour scenes from fairy tales and heroic legends. Tulle and taffeta are used, as well as leather and synthetic leather. This world of true and virtual realities gives an impression of experimentalism, gazing searchingly into the future, mixing materials and styles and packing together the widest range of dream worlds into its design.

[[www.vdmd.de](http://www.vdmd.de)]  
[Mara Michel]

## ► Gaming: a theme of the young generation

How is the younger generation dealing with the challenges of the globalised world, and how are they mastering the digital age 4.0? Answer: 'Let's play'. They are conquering the world in their games, discovering parallel universes, networking with people on other continents, transforming themselves into cosplay characters, princesses, manga characters and movie heroes, searching for Pokémons, sending their heroes to do battle with one another, and interact-

Gaming: Our product examples are from Reichel, Union Knopf and Peppermint



Photo: Peppermint



Photo: Union Knopf

A theme in search of a new identity, having to redefine itself in a technological world.

Buttons and zips will in the future be vehicles for digital technology. Buttons, therefore, will not only function as fasteners but will also be able to transmit messages when pressed. Bright and audacious, they break away from harmony and the learned aesthetic, and conceal technical details: they might turn on the heating in the home when pressed, or perhaps open the garage door. It is also conceivable that heating and cooling molecules, implanted in jackets or coat fabrics, might be activated by means of a zip: jacket open for cooling, jacket closed for warming. Decorative features and accessories will in the future be the vehicles for practical and/or medical functions. Technology combines with aesthetic. Joyful, colourful and virtual on the outside – making use of a range of materials including glass, fabric, felt, metal and leather – whilst secretly sending messages on the 'inside'.



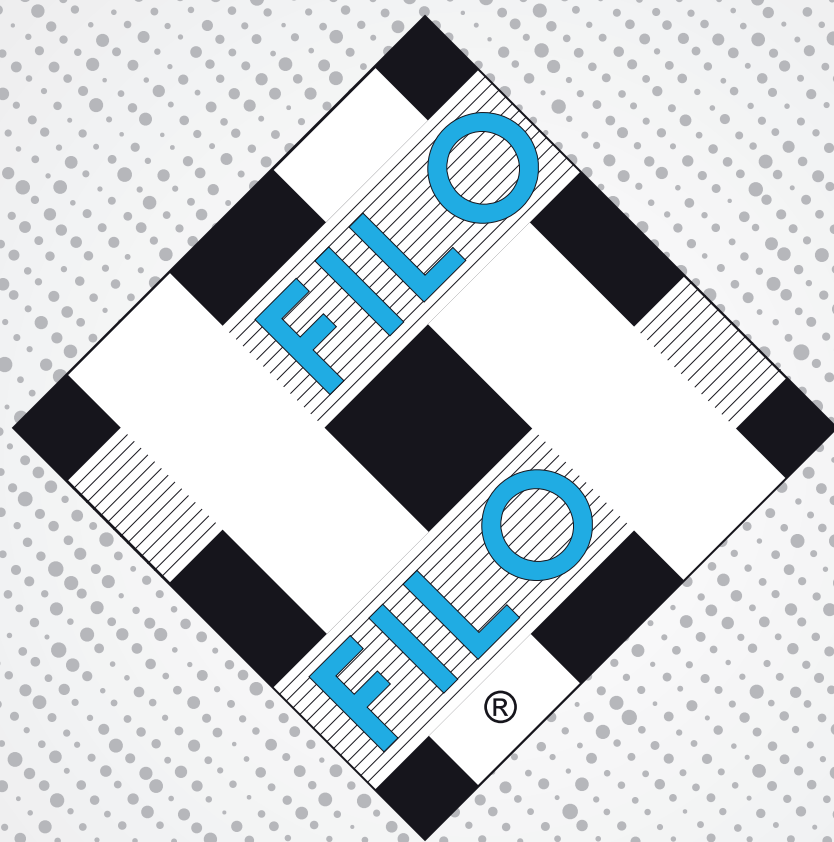
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Fibres and yarns - Part 1: Man-made fibres

# Sustainability vs progress?

Over the past two decades, the structure and focus of the textile industry and the man-made fibre sector in Germany and Europe have been utterly transformed against the backdrop of globalisation. The necessary processes of consolidation within the industry have seen attention shift from the manufacture of standard products to specialised fibres. Today, technological progress is broadening not only the range of applications for specialised fibres but also the number of man-made fibre products.

Fuelled by growing demand for environmentally friendly products, sustainability has been gaining status in recent years. In fact, it looks set in future to enjoy equal standing with technical textiles both within the industry and among the general public.

## A brief journey back in time

As long ago as 2600 BC, China had already mastered the art of silk production achieving fibre lengths of up to 4,000 m. Based on their incredible length, silk fibres are still frequently referred to as "endless" fibres, and classified as filaments. In the modern era, natural silk served as a model for the production of synthetic filaments which, in some areas, are still described as "artificial silk". As living standards improved and the world population grew, so did the demand for and consumption of textiles. At the same time, the population of the world had to be fed, leading to conflicts of interest over how agricultural land should be cultivated. Given the primary need for survival, priority was given to the production of food to the detriment of sheep farming and flax production.

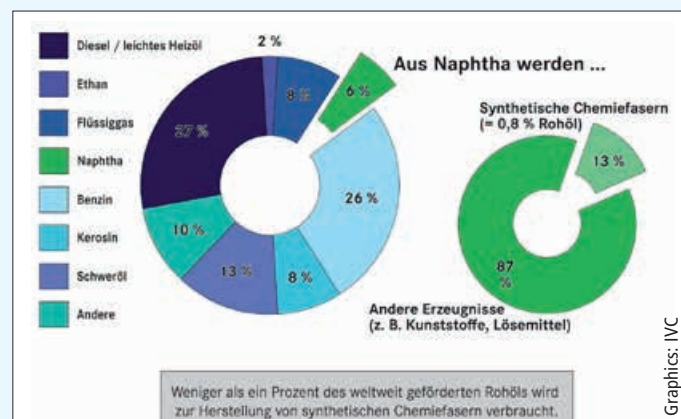
This meant that the area of land set aside for renewable raw materials

for Europe's textile industry continued to decline, making it impossible to meet local demand for textiles made from natural raw materials of European provenance. Linen produced from flax bowed to linen made from cotton which, of course, only grows in subtropical and tropical climates. The conflict between working the land for the production of food and/or textiles still had not been solved well into the 19th century.

## Artificial threads from gelatinous material

As early as 1665, the Englishman Robert Hooke came up with the idea to create artificial threads from a mass of gelatinous material. His vision was regarded for a further two centuries as mere fantasy. The breakthrough to producing the first natural man-made fibre ("artificial silk", "nitro-artificial silk") was made by

Assuming total reliance on textiles made from natural products, around one hectare of fertile land would be required to cover the textile needs of one person. Given the population explosion and the shortage of land, it was clear that new solutions had to be found. The chemicals industry had an important role to play in meeting this growing demand.



Less than 1 percent of crude oil is used in the manufacture of synthetic man-made fibres

Count Hilaire de Chardonnet between 1878 and 1884 from solute nitrocellulose, which was produced industrially from 1890 onwards.

Invented in 1885, viscose fibres from cellulose xanthate, which becomes soluble in caustic soda lye, are still of significance today, as are acetate fibres which were produced on an industrial scale from 1919 onwards. The latter's base polymer was produced by a process of partial hydrolysis from "cellulose triacetate", which had been known since 1865 and was formed by the acetylation of cellulose. By contrast, synthetic fibres such as polyamide 66 ("Nylon", 1935), polyamide 6 ("Perlon", 1938), polyacrylonitrile (1942), polyester (1941) and elastane (1937) have no connection whatsoever



with the natural raw material cellulose.

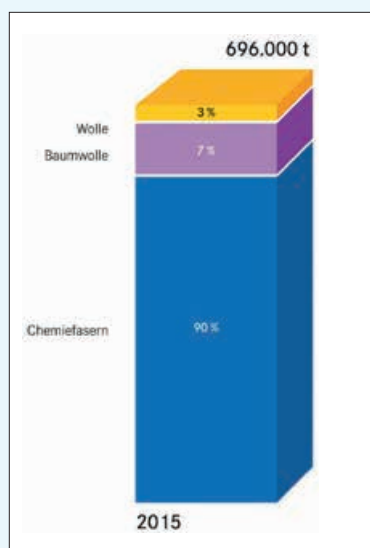
The advance of man-made fibres was unstoppable after the Second World War. The mass production of successful man-made fibres such as polyacrylonitrile, polyamide, polyester, elastane and viscose brought about a lasting improvement to people's living standards and quality of life. The conflict between the food and textile industry over limited agricultural land was thus brought to an end. Although cellulose-based man-made fibres come from forestry, they do not compete for agricultural land because the wood required for its manufacture generally grows on soil that cannot be used for the cultivation of food.

Generally, a distinction is made between cellulose and synthetic man-made fibres. Both fibre categories fall within the group of organic fibres. The designation "artificial fibres", which is often erroneously used as a generic term, refers solely to cellulose-based man-made fibres.

The current trend towards renewable raw materials for the textile sector is rekindling the once resolved conflict over land usage between the agriculture and textile industries, particularly in the face of a growing population.

### Fibre structure

Something that all vegetable and animal fibres as well as man-made fibres have in common is the principle of their structure. They consist of individual basic units, the molecules (monomers), which are linked together to create long molecular chains (macro-molecules) through a process of polymerisation, polycondensation or polyaddition. The chemical composition of the monomers and the kind and length of the macromolecules determine the later



Global fibre processing in 2015: 90 percent man-made fibres!

Wolle: wool  
Baumwolle: cotton  
Chemiefasern: Chemikalien fibres

chemical and physical properties of the textile fibre materials. The raw materials for all fibre types are supplied by nature, with solar energy being the catalyst for all these natural processes. This applies as much to natural fibres as to cellulose and synthetic man-made fibres.

In the case of cellulose man-made fibres, the cellulose from wood forms the basis for the macromolecules, cellulose being a natural polymer. Synthetic man-made fibres are widely made from crude oil, created through the transformation of huge masses of organic substances.

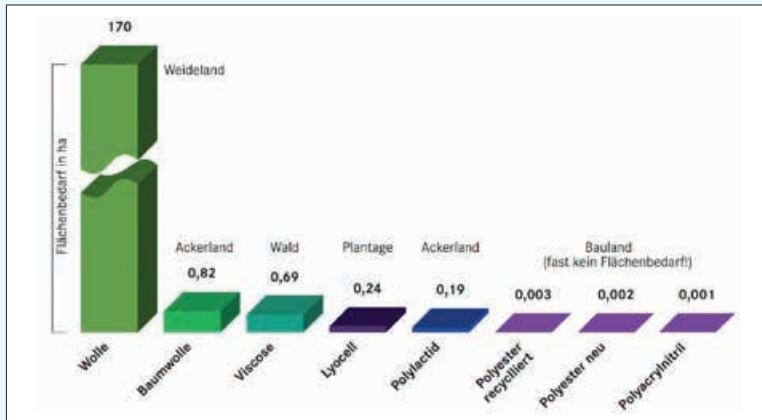
For centuries, the character of a final product was defined by the properties of wool, cotton and silk, in that the macromolecules in the structure of these natural fibres are predetermined by the genetic code and the biological growth of the animals and/or plants, and cannot, therefore, be changed. With the development of man-made fibres, the number of ways in which the fibre properties could be varied increased manifold. This effectively means that man-made fibres are tailor-made fibres, or in other words, they are planned ("molecular design"), developed and produced specifically for the application and the final product for which they were intended. In the case of synthetic man-made fibres,

### MAN-MADE FIBRES

#### Europe comes under pressure

Since the beginning of the new millennium, Europe's man-made fibre industry has been coming under increasing pressure from globalisation. During this period, "parallel industries" have been appearing particularly in Asia that pursue an aggressive pricing policy verging on dumping. Whereas European producers are exposed to higher energy and labour costs coupled with stringent environmental regulations, Asian suppliers of man-made fibres have successfully been increasing their global market share. The solution for European manufacturers has been to focus on new developments that offer considerable added value. In the textile supply chain, which also encompasses man-made fibre producers, this strategic development has meant that today's textile products can be used as environmental trouble shooters in pioneering fields such as health, energy and climate/environment, electro-mobility, safety and construction. The future of Europe's man-made fibre industry depends fully on the political decisions reflected in the national policies of the member states to the European Union.

many of the properties required (such as wicking, tensile strength, elasticity, flame-retardance and resistance to heat, cold, bacteria etc.) can be determined from the outset by selecting the corresponding monomers and by defining the production parameters for the polymer chain structure and for the spinning of the fibres. The properties of cellulose fibres can likewise be influ- ►



Agricultural land used for fibres. In the past, this stood in direct competition to the cultivation of food crops. Man-made fibres hardly need any land at all  
Wolle: wool  
Baumwolle: cotton

twice as high as the volume of man-made fibres produced globally back in 1973.

The awareness that fossil fuels are indeed finite poses a great challenge for the energy sector, which is being forced as a matter of urgency to search for suitable alternatives. Around 90% of the crude oil extracted from the earth is currently channelled directly into combustion processes (heating and transport) without first being used in other material lifecycles and thus excluding huge quantities of crude oil from the manufacture of products. This is why it is becoming ever more important to improve our ability to exploit the only external energy source on Earth, i.e. the sun, so that we may lessen our reliance on gas or crude oil.

Coupled with the search for alternative raw materials, calls are becoming louder for companies to focus on renewables. Advocating the increased cultivation of natural fibres, similar opinions are also being voiced in the textiles industry. This strongly suggests that we have

► ended by selecting different sources of cellulose and by altering the production parameters.

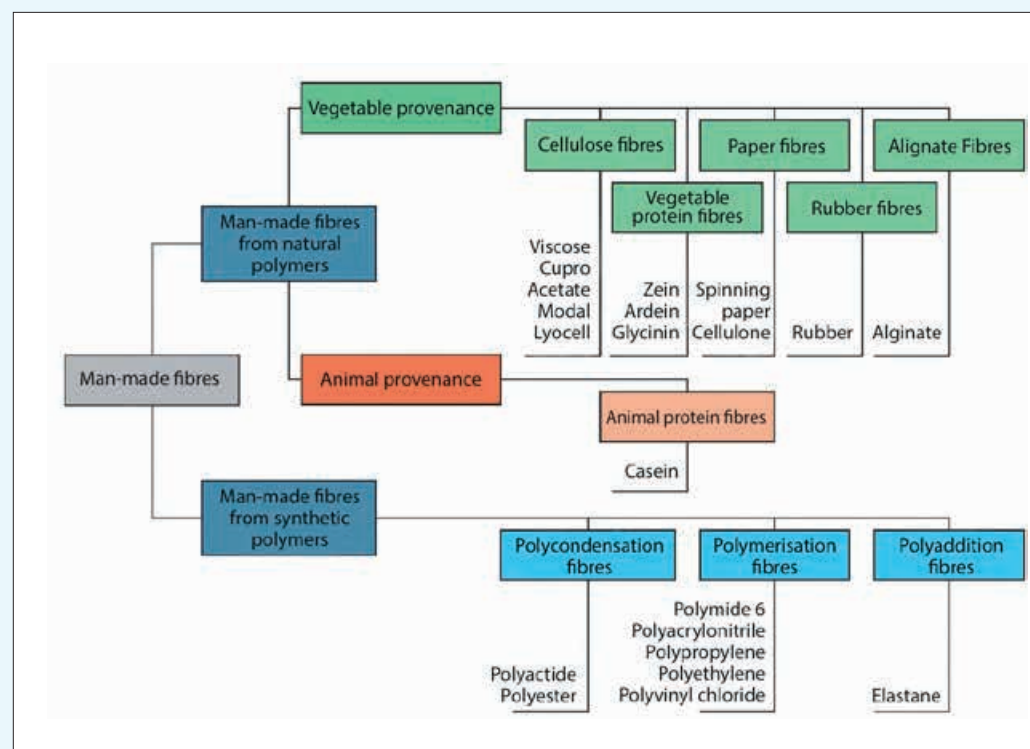
In contrast to natural fibres, man-made fibres have the advantage of producing consistent quality, because the raw materials made from crude oil, for example, are not exposed to the fluctuating influences of nature. This is also true of man-made fibres manufactured from renewable raw materials. In 2015, around 90 percent of all the fibre types processed in Germany were man-made. Cotton and wool accounted for a share of just 7 percent and 3 percent respectively.

produced in western Europe, the USA and Asia. In the period that followed, although overall production volumes in Europe and the USA dwindled only marginally, European and US man-made fibre producers continued to lose market shares to Asia, where new production facilities were sprouting up left, right and centre. The People's Republic of China in particular, raised its man-made fibre output from 2.3 million tonnes in 1993 to 46.8 million tonnes in 2015, clinching a global market share of 70 percent. The tonnage manufactured in China is more than

Fibre diagram

## A glance back to 1973

Man-made fibres made lasting inroads into the market in the middle of the last century with the increasing expansion of synthetic man-made fibre manufacturing. Whereas total global output amounted to around 2.1 million tonnes in 1950, this figure had climbed to 12.1 million tonnes by 1973, leaping to 66.9 million tonnes in 2015. It is interesting to take a closer look at the year 1973, because the proportion of man-made fibres manufactured in various parts of the world was equal at that time, with around 3.5 million tonnes of man-made fibres each





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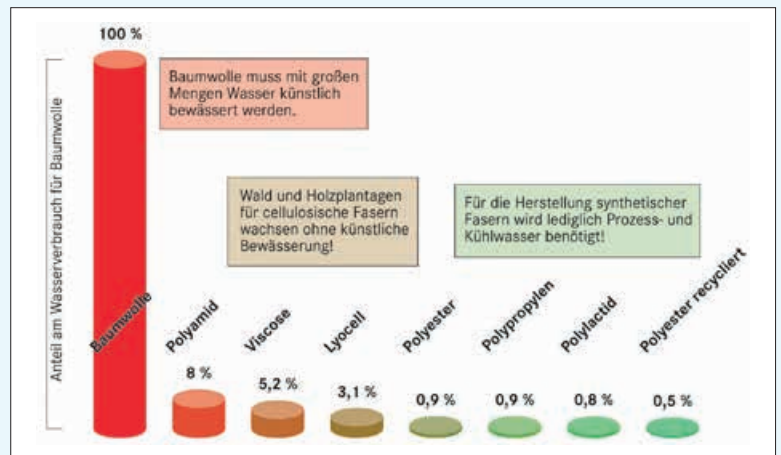
FABRICS | ADDITIONALS | BLUEZONE | KEYHOUSE | DESIGN STUDIOS | ASIA SALON

► lost sight of the correlation between famine and the increased usage of natural fibres for textiles that was common knowledge less than a century ago. The first indication that this link still applies today is the climb in global food prices, caused by the reassigning of agricultural land to the cultivation of raw materials for industrial use. Man-made fibres are currently relieving the burden on agricultural land and, in doing so, are contributing to sustainability, without placing a strain on the food supply. After all, considerably less than 1 percent of the crude oil extracted from the earth is currently used for the global production of synthetic man-made fibres.

Cellulose man-made fibres do not compete with the production of food either. Only a minimal 0.6 percent share of global wood output is used for the manufacture of cellulose man-made fibres. Moreover, this wood is from sustainably run plantations or marginal agricultural land whose soil could never be used for crop plants destined for food production. The resources needed to manufacture viscose fibres are taken, on the one hand, from sustainably farmed woodland, the lion's share of which is located in Central Europe and Scandinavia, and on the other hand, from eucalyptus trees, grown in certified plantations. Every year, 3.3 billion m<sup>3</sup> wood is felled around the world (as per 2010), only 0.6 percent of which is used for cellulose man-made fibres. These renewable raw materials pave the way to value creation!

Comparing the hectareage of land needed for the manufacture of various types of fibre, wool production requires 170 hectares of grazing land to yield one tonne of fibre. One tonne of viscose fibre, on the other hand, requires just 0.7 hectares of woodland, whereas one tonne of synthetic fibre does not use any agricultural land at all.

Overview of water consumption in fibre production  
red: cotton



### How can man-made be sustainable?

The sustainability of man-made fibres compared to natural fibres becomes all the clearer when considering the expanses of land required for fibre production around the world. Taking current soil quality into account, the amount of grazing land used for wool production amounts to approximately 2,210,000 km<sup>2</sup> (the entire area of Saudi Arabia), and for cotton farming, the total comes to 206,000 km<sup>2</sup>

(roughly equivalent to the area of Belarus). By contrast, just 20,500 km<sup>2</sup> (approximately the area of the German state of Hesse) is needed for viscose fibre production and just 700 km<sup>2</sup> (roughly the area of Hamburg) is used globally for synthetic fibre production. Strikingly, the area of land used is conversely proportionate to yields: with just a 1 percent area requirement, man-made fibres account for 65 percent of global fibre output. Cotton fibre production accounts

### Members of the IVC e.V.

(German man-made fibres industry association)



(without logo)

- Durafiber Technologies GmbH
- Ems-Chemie GmbH & Co.Kg
- Ifg Asota GmbH
- Solvay Acetow GmbH
- Monosuisse AG
- Lenzing AG
- Cordenka GmbH & Co.KG



## Examples of different applications

**Automotive:** Synthetic fibres serve as a precursor to carbon fibres, which are made into state-of-the-art composites and used as metal substitutes.

**Renewable energies:** Wind turbines, whose rotor blades are chiefly made from carbon fibres, could not be produced without polyacrylonitrile or viscose fibres.

**Industrial products:** Man-made fibres in nonwovens are used to filter liquids, capture solids and clean dangerous particles from the exhaust air of power stations, for example. Only man-made fibres can withstand such extreme and diverse exposure to heat and chemicals.

**Medical products:** Based on their acceptance by the human body, man-made fibres are used in many areas of medicine, e.g. for surgical stitches, artificial veins or to filter blood.

for 8 percent of the land used and 33 percent of global fibre output. In terms of wool, 91 percent of the land used in fibre production is needed to make just 2 percent of total fibre output.

The global demand for fibres currently amounts to 76 million tonnes. If we were to turn away from man-made fibres and switch solely to wool production, we would need 129 million km<sup>2</sup> of grazing land, corresponding to 361 times the area of Germany. Planet earth can yield a mere 17 million km<sup>2</sup> of grazing land which partly comprises woodland and brush! Not only that, but if this extreme hypothesis were to come true, the world's sheep population would be three times higher than that of the human race. The sheep would emit 133 million tonnes of climate-changing methane, which corresponds to around 2.8 billion tonnes of CO<sub>2</sub> equivalents and is three times higher than the total CO<sub>2</sub> emissions of Germany. Equally, a decision to focus exclusively on cotton cultivation ►

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Energy costs in Germany and Europe must remain competitive for industry – with good reason

### MAN-MADE FIBRES

## Nothing goes without carbon fibres

Carbon fibres have an indispensable role to play in the expansion of renewable energies. However, the higher the share of consumer-subsidised renewable energies in total energy production in Germany and the higher the price of electric energy, the less efficient carbon fibre production becomes. Effective climate and environmental protection requires a competitive industry, because only then can it develop the new resource-efficient technologies, with which greenhouse gases can be successfully reduced. This is why the German, Austrian and Swiss man-made fibre industries are fully committed to the Responsible Care Initiative. The man-made fibre sector is one of the few industries that are competitive and internationally non-subsidised. For this to remain so, it is essential that internationally recognised trading rights are rigorously respected. The European Commission must, therefore, be held to account, particularly for its intention to acknowledge China's status as a market economy despite warnings from respected economists who clearly point out that it is still strongly controlled and steered by the Communist Central Committee.

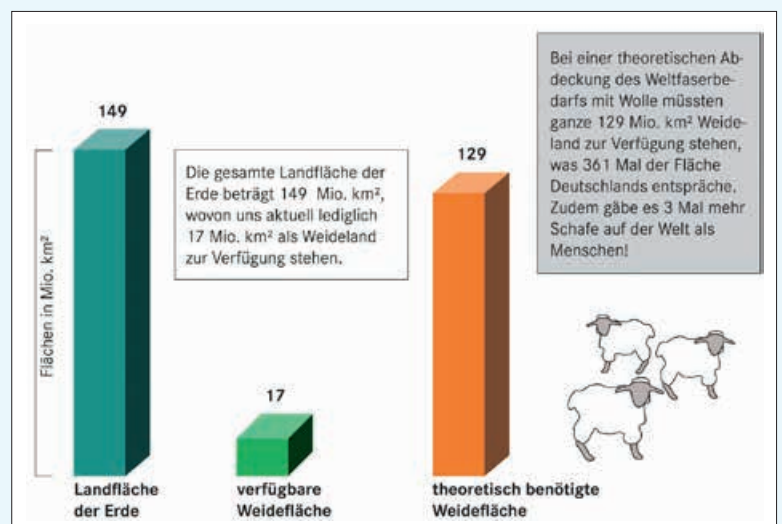
► would not be ecologically sustainable either. If we were to cover the world's fibre demand just with cotton, we would have to increase yields threefold. From a practical point of view, it would not be possible to extend the acreage as drastically because cotton can only grow in certain climatic conditions. Yields could only be maximised with irrigation and the intense use of fertilisers and pesticides. In many cases, the latter are not applied in safe conditions, jeopardising the health of farm workers and endangering the local ground water. 64 percent of global cotton production is composed of genetically modified plants. 69 percent of the cotton textiles produced in China are based on genetically modified cotton plants. The cultivation of crop plants not only requires huge expanses of agricultural land, but also water. Cotton-growing requires 20 times more water per tonne of harvested cotton fibres than viscose fibre production, 30 times more than Lyocell and more than 110 times more than polyester. The figures for man-made fibre production also take into account the water volumes needed for cooling which are generally channelled back into the rivers.

Without man-made fibres, we would not have enough agricultural land nor water to feed the world population.

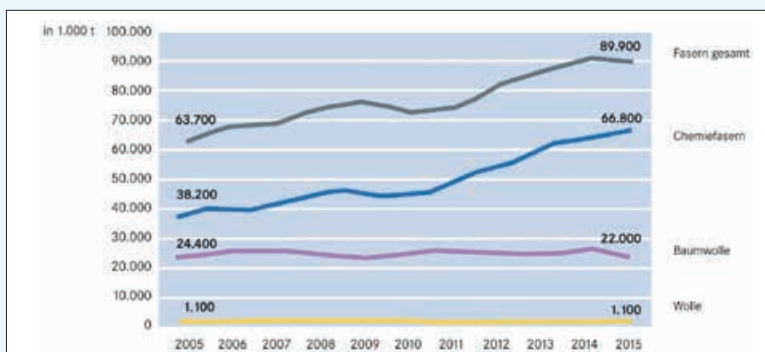
### Demand is rising – with good reason!

Global demand for textile fibres will witness a further sharp climb, fuelled not only by population growth but also by increasing prosperity, above all, in the threshold countries. To endow textiles with certain functions, the industry needs fibres with easy-care properties, durable synthetic fibres as well as hydrophilic fibres from natural materials. Moreover, the production of synthetic man-made fibres will most certainly be able to keep pace with spiralling demand. In terms of climate change, the majority of man-made fibres have a comparable impact to one another and cotton. Of course, synthetic man-made fibres require energy from fossil fuels; however, various recycling processes could help to produce significant energy savings in this field. Cotton cultivation consumes huge amounts of energy both in the running of the agricultural machinery and the production of the necessary fertilisers. Cellulose man-made fibres require processing

How much land does each type of fibre need?  
green: pasture area  
orange: pasture area, theoretically necessary







Man-made fibres have been an indispensable part of the textile industry for many years  
grey: fibres, totally blue: chemical fibres purple: cotton yellow: wool

energy. Exploiting the bio-energy inherent in the wood could markedly improve the carbon footprint of viscose fibre production, provided an integrated process is used.

If we set the lower water consumption and land requirements for the production of man-made fibres in relation to the problem of pesticides in cotton cultivation, man-made fibres actually achieve better scores in ecological lifecycle assessments. Man-made fibres also offer ecological advantages in the fields in which they are applied. They are used to improve the world of transport and mobility, construction materials, industrial processes and medicine. Many applications would be impossible without man-made fibres.

In a world with almost 9 000 000 000 (9 billion) people, man-made fibres will continue to be indispensable long into the future. As a result, it seems likely that global production capacities will have to be expanded further. Knowledge about the production processes, the fields of application and the general importance of man-made fibres remains one of the keys to overcoming the challenges of the future.

Modern sportswear, airbags, safety belts and inherently flame-retardant textiles would be unthinkable without the advances of man-made fibres. In addition, man-made fibres also help industries meet environmental targets, for instance, in the automotive sector, in which numerous metal components are being substituted for more lightweight textiles. Man-made fibres in nonwovens serve as insulation materials, and in temperature-resistant filters, they guarantee a dust-free environment.

Whereas cellulose man-made fibres are biologically degradable, synthetic fibres can be recycled along the monomer route. Moreover, many man-made fibres already consist of recycled raw materials. Accordingly, around 40 percent of the PET bottles used in Europe every year are made into fibres. This reduces the waste mountain by 10 million PET bottles per day, saving 200 000 tonnes of primary raw materials.

[[www.ivc-ev.de](http://www.ivc-ev.de)]

[Dr. Wilhelm Rauch, managing  
Direktor Industrievereinigung  
Chemiefaser e. V. (IVC)]

In Part 2 of our series on „Fibres and Yarns“, we will focus on natural fibres.

Alcantara expressed  
in art – and in many  
different interpreta-  
tions at the Palazzo  
Reale in Milan



## EXHIBITION

### Nine artists with regal ideas

An unusual exhibition in an equally unusual setting! The Milan-based company Alcantara invited nine internationally renowned artists to experiment with the material Alcantara and to interpret it for “The King and I” exhibition in the Prince’s Apartments of Milan’s Palazzo Reale. Contemporary and avant-garde artists and designers embraced the project and set to work on the high-fashion material Alcantara. They created works and installations for ten rooms within the Prince’s Apartments in the fields of art, theatre, music and fashion. Their creations proved to be as diverse as the artists themselves: Arthur Arbesser, a Viennese-born fashion designer and currently one of Austria’s most exciting fashion exports, is an established personality in the fashion world of Milan. He worked together with Giorgio Armani for seven years and in 2013, created his own label. Matthew Herbert is a composer, music producer, sound artist and pioneer in electronic music, Maurizio Anzeri is well-known for his sculptural photos, whilst Francesco Simeti is deemed a master of illusion. The many visitors were amazed by the imaginative interpretations of this versatile material in such an historical setting. “It was like a fairy-tale exhibition,” concluded Massimo Torrigiani, the exhibition’s curator.

[[www.alcantara.com](http://www.alcantara.com)]

[Ingrid Sachsenmaier]

Alcantara expressed  
in art – and  
in many different  
interpretations at  
the Palazzo Reale in  
Milan



Photo: Ingrid Sachsenmaier

Mauritius: with heavenly beaches and turquoise waters, the reefs all around the island offer rich diving grounds in spite of the coral bleaching caused by El Niño

## Africa's Sourcing Market - Part 1

# Light and shade

Is the continent of Africa the sourcing market of the future for clothing and textiles? Is Africa even becoming the "new China"? Textile network went in search of answers to these important industry questions – to Madagascar and Mauritius themselves. This is Part 1 of our report from Mada & Mu, as the locals affectionately call these two paradise isles.

Madagascar, generally known by the locals simply as 'Mada', and Mauritius („Mu") – sister islands that could scarcely be more different. Both lie in the Indian Ocean, off the south-eastern coast of Africa; they are separated from one another by only about 800 nautical miles. On the one hand, Mauritius – small (2,040 km<sup>2</sup>, including the neighbouring island of Rodrigues) and economically prosperous. On the other, Madagascar, extending over 588,000 km<sup>2</sup> (making it nearly twice the size of Germany), which alone has 5,000 km of heavenly beaches in the largely undeveloped coastal regions. Both of these independent republics, though, are natural para-

dises and both have been discovered by buyers, designers and a number of smart clothing manufacturers as production locations.

### Madagascar: on the cusp

The country, currently ranked 33rd in the UN list of the poorest countries in the world with a GNP of US\$ 1,333 per head, is on the brink of achieving stable economic development, due in no small measure to the recommencing of international aid that has allowed some major projects to be restarted, tackling Madagascar's exceptionally weak infrastructure. In February 2016, the World Bank granted annual aid of US\$ 240m to this island nation. Pri-

vate capital investment, however, remains for now very restrained. Due to the effects of El Niño, agriculture (75% of GNP) has been suffering from extreme drought recently: as early as 2015, German famine charity Welthungerhilfe rated the food situation in Madagascar as 'very serious'.

Madagascar is an example of the destructive effect that political instability and the loss of treaties on favourable trade treatment can have on developing countries in particular. The island nation lost its significance as a production option, for example, when duty-free importation of goods into the USA was withdrawn in 2010 (export volumes of clothing to the USA alone peaked at US\$ 323m in 2004). A country that was once on its way to becoming the most important clothing exporter in the sub-Saharan region to the USA and Europe suffered a collapse, which was seriously exacerbated by political unrest in 2002 and 2009. International volume purchasers such as Eddie Bauer, Dockers, Gap, Levi's, Li & Fung and Mast closed down their local buying operations and looked in other directions. In 2014, the value of clothing exports to the US was run-



The two sister-islands are natural paradises: in recent years alone, 600 unique plant and animal species have been discovered on Madagascar. The picture shows a view of the volcanic mountain range in south-eastern Mauritius, with the golf club of the idyllic Tamarin Resort & Spa – which also serves as a watering hole for insiders of the international fashion industry as a by-product of their dealings with local businesses



ning at just US\$ 17m. With the revision of AGOA (the African Growth and Opportunity Act) by the USA in 2014, the page has turned so far as better trading conditions are concerned, and that applies to Madagascar as well. In addition, Madagascar is also included in the 'East Africa Trade and Investment Hub' set up in 2013 by US-AID as part of the Trade Africa initiative. The hub provides not only financial aid but also local hands-on projects, which has resulted in improved competitiveness in various industries and thus the promotion of bilateral trade with the USA as well as of trade between the participating countries and in the global market. This led President Hery Rajaonarimampianina, in his opening speech at Origin Africa in Antananarivo in November 2016 (see TN online magazine) to refer to the 'land of opportunities'. And the omens do indeed appear to be favourable. Since the election of the first democratic government in 2014 that also ended Madagascar's exclusion from AGOA, an estimated 35,000 new jobs have been created. With the reinstatement of AGOA, clothing exports to the USA from some 90 production sites rose by an average of 160 percent a year to US\$ 49m in 2015 and to about US\$ 90m in the first nine months of 2016.

In terms of exports to Europe, Madagascar benefited under the EBA programme ('Everything But Arms') under the aegis of the GSP agreement (Generalised Scheme of Preferences). This allowed clothing exports to the EU to grow to US\$ 350m (336m Euro) in 2015. That the current government recognises the economic potential offered by the clothing production industry to this republic of 24 million inhabitants is illustrated by the plan to build a Madagascan Textile City, which is expected to create 200,000 new jobs in the next five years. This is undoubtedly also the right way to

tackle the poor road network and unreliable power supply on this, the fourth largest island in the world. As Eric Robson, CEO of the Economic Development Board of Madagascar, explains, the plan is largely a private capital initiative, for which the government will make available an area of 1 million km<sup>2</sup>. Details such as the exact location and the start date for construction have yet to be announced.

#### Mauritius: frontrunner

With a per-capita income in the mid-to-higher range according to World Bank criteria, tiny (in terms of relative area) Mauritius is one of the leading states of Africa. The International Monetary Fund is forecasting further growth of 3.9 percent in the Mauritian economy for 2016. The consistent upward trend can be traced back to successful economic transformation. This former agrarian nation, which concentrated on the production of raw sugar, now has a diversified economy founded on the four pillars of agriculture, tourism, the textile/clothing industry and financial services.

A small market and its island location, however, are limiting further growth in the clothing industry. Moreover, in view of the continued orientation of many customers towards lowest-wage production sources, with rates of pay that are beneath human dignity in the context of living costs, the industry of this island state will have to come up with something if it wishes to grow further, given an hourly rate for properly trained sewing staff of about €0.75 Euro (28 Mauritian rupees). This despite the fact that the general adherence to social and environmental standards on Mauritius is commanding increasing respect among the ranks of decision-makers in many fashion brands. In the words of Subhas Ramchurn, Managing Director of Shivani Man-

High quality lingerie made in Mada and Mu: Camelia, from the Aima Dora collection produced by Nouvelle Lingerie Mauricienne Ltée

Photo: Nouvelle Lingerie Mauricienne Ltée



ufacturing: "We in Mauritius are not low-cost suppliers – we are not competing with Bangladesh or Cambodia. Instead, we have a reputation for reliability of delivery and assured levels of quality; we can handle even small production batches without any difficulty." Mauritian entrepreneurs, with a degree of government support, are therefore relying increasingly on technological innovation to shorten lead times and reduce energy consumption. The Firemount Group, for example, which includes FM Denim, is currently investing in sustain- ►

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► able production – Jasper Conran, Calvin Klein and Tommy Hilfiger are among customers for whom they work.

Amedee Darga, Board Chairman of the trade promotion organisation Enterprise Mauritius, says of the market position: "For more than four decades we have been developing an industry whose ambition is not to compete internationally on the basis of price alone nor to undercut competitors with the cheapest possible tender, but rather to offer assured quality of a high level as a reliable supplier that can meet sourcing demands in a responsible and flexible manner."

Benefitting from duty-free exports to Europe under the terms of the EU-ESA (Eastern and Southern

Opulence and tranquillity await guests at the Maradiva Resort & Spa, which in December 2016 was awarded the title "World's Leading Luxury Island Resort 2016"



Photos: Margarete Y. Gaerner

### Our travel tip: Pearl of the Indian Ocean

Once colonised by the Dutch, then by the French and finally by the British, the island republic of Mauritius has maintained its worldwide heritage. Almost all Mauritians can speak French, English and Creole. Eighty-seven faiths and denominations live peacefully side-by-side here in this successful, multicultural and wonderfully beautiful meltingpot of the Indian Ocean. With heavenly beaches and turquoise waters, the reefs all around the island offer rich diving grounds in spite of the coral bleaching caused by El Niño. With an accumulation of luxurious hotels that are among the best in the world, in such a limited area "what you need to do is to incorporate your own style and imbue it with life down to the last detail," explains Francis Longueve. After a number of exciting roles in hotel management, Longueve, a Frenchman who is Cluster General Manager of the select Maradiva Resort & Spa and of the 4.5-star Sands Hotel, both of them in Flic-en-Flac in the west of the island, now works and lives with his family on the paradise island. Guests at the 5-star Maradiva can expect sheer luxury: just 50 private villas distributed across the tropical gardens of the resort, each uniquely opulent and with generous outdoor and indoor spaces. Some have a private pool; their interiors are a mix of reminiscences of the island's colonial past and contemporary modernity. A sundowner in Breaker's Bar is an ideal way of getting immersed in the sunny side of life. Top restaurants offer excellent local and Mediterranean cuisine. The chef at the Cilantro lifts the sophistication of Indian cuisine to unknown heights; and the finest sushi can be enjoyed under the watchful eye of the master at the circular counter of the Teppanyaki bar.

The experience of being thoroughly spoilt by the highly trained staff is one to which you rapidly become accustomed but if that's still not enough, you have the option of your own personal butler. Unusually for the top tier of hotels, even small children are welcome here and can be entertained in the Mini-Club from time to time. And in the midst of this oasis is the tranquillity of the prizewinning spa area, based on an Indian philosophy, where the starting point for all treatments is a consultation with an Ayurvedic doctor.

Nowhere is the art of doing nothing sweeter than in the Maradiva Resort & Spa. All the same, we can imagine making at least a quick detour in this direction – just an hour by car from the capital of Port Louis (see textile network online magazine) – during Origin Africa in September 2017.



Madagascar's President Hery Rajaonarimampianina (centre) describes the aid-dependent island state as the "Land of Opportunities". Our photo shows him at the opening of Origin Africa in capital Antananarivo in November 2016

Africa) Economic Partnership Agreement and to the United States through the revived AGOA, clothing exports from Mauritius in 2015 were running at some US\$ 700m (55% of total exports), almost twice the value that the industry is achieving in Madagascar. Clothing exports to the UK, however, are currently worth about US\$ 396m, and due to Brexit these are expected to fall by 10 percent. The island's 250 clothing companies currently employ some 44,000 workers.

[Margarete Y. Gaerner]

In Part II of our Africa report, we shall describe in greater detail the flagship company Nouvelle Lingerie Mauricienne Ltée.



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Groz-Beckert

# Travelling in Bangladesh's textile industry

Bangladesh has undergone a remarkable development over recent decades. The annual growth rate is approximately 6 percent. Today, Bangladesh is the world's second-largest exporter of clothing after China. With its textile strongholds around Dhaka and Chittagong, Bangladesh exports goods worth over 25 billion US dollars worldwide each year.

In Dhaka, capital of Bangladesh, there are visible changes compared to just a few years ago. The changes to the metropolitan infrastructure are making rapid progress. One of the projects is the construction work of the new metro line and on the banks of the River Padma is a bridge under construction that will connect the north and east of the country to the southwest in the future. Once com-

pleted, the ambitious project will significantly shorten the travel and transportation time, and it promises to give the economy a further boost. However, the development of roads and transport routes is just one of many measures to promote growth up until 2021, the year when the country celebrates the fiftieth anniversary of its independence. Today, Bangladesh is not only number 35 in

the World Bank ranking with respect to economic attractiveness but has already managed the step from a low to a middle-income level, by definition of the World Bank. Nevertheless, the country continues to receive trade benefits reserved for "Least Developed Countries", because classification of income and assessment of socio-economic status are two different things.

4,5 millionen residents of Bangladesh work in the textile sector. The photo shows the jute production

## "A piece of world market growth"

Bangladesh intends to capture a piece of world market growth for itself. The country sees great opportunities ahead of its important anniversary in 2021, the year when the country celebrates the fiftieth anniversary of its independence. The new strategy and measures taken show that Bangladesh is on track to sustainably achieve its goals.





Made in Bangladesh

### Bangladesh's thriving textile industry

Since the year 2011, when the government announced its intention to turn Bangladesh into a "middle-income country" by 2021, the country's crucially important textile industry has also changed significantly. Approximately 4.5 million residents of Bangladesh work in the textile sector. Taking into account the upstream as well as the downstream processes, the textile industry forms the livelihood of 20 million employees. It is obvious that this branch of industry is essential for the country with a total workforce of 79 million people.

With a share of 80 percent of all exports, the textile sector is also by far the most important export industry of Bangladesh, and 75 percent of it are covered by the five major product categories: T-shirts, pants, sweaters, woven shirts and knitted shirts, which are sent primarily to large retail chains in Europe and the US. Over the past 35 years, Bangladesh has generated around 25 billion US dollars annually in the apparel sector. For the next five years, double that figure is planned – a huge challenge for all involved. The benefits of this small, densely-populated country in South Asia include the current slowdown in the

development of the Chinese market, the expansion of its own infrastructure, the flexibility of its factories – making it possible to manufacture different types of products – a greater awareness of the importance of education and training, and also competitive prices.

More than two thirds of all the knitwear manufactured in the country are produced within a 100-kilometer radius around the capital Dhaka. Every year, approximately 1,000 circular knitting machines arrive on the market. Despite the strong focus on mass production using large circular knitting machines, in recent years there has also been a noticeable trend toward modernization in the flat knitting sector, whereby manual flat knitting machines are being replaced by electronic ones. As a result, around 10,000 flat knitting machines are delivered to the country each year. After two terrible accidents in the years 2012 and 2013 that shook the Bangladesh textile industry to its foundations, it was time to stop and reflect. In the effort to grow rapidly and to remain competitive, safety aspects had not been adequately considered. Bangladesh rose to this challenge. Important steps toward

better safety standards and working conditions in textile factories were introduced and implemented. Compliance with these new standards is now monitored by facilities created especially for the purpose.

Issues such as energy, the rule of law, adaptation to climate change, and labor law are all integral components of the new political strategy. For example, companies that convert to sustainable production methods can expect to receive subsidized loans.

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In addition, higher minimum wages and better education have already led to improved working conditions and higher acceptance by foreign clients.

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The textile sector is also by far the most important industry of Bangladesh



Photo: ILO in Asia and the Pacific

Oeko-Tex

# 25 Years of empowering sustainability

Since 1992 when the independent International Oeko-Tex Association was founded to address consumer concerns over harmful chemicals in textiles and apparel, Oeko-Tex has worked to improve product safety, sustainability, compliance and transparency. Today, with its broad portfolio of services that help optimize manufacturing processes, manage supply chains, and strengthen quality control systems, Oeko-Tex is a worldwide leader in enabling companies and consumers to make informed choices about the textiles they produce and buy. It all started in 1992 with the Standard 100 by Oeko-Tex. To create this pioneering product testing and certification system, Oeko-Tex experts identified about 100 potentially dan-

gerous substances relevant to textile products. The list included chemicals such as formaldehyde, heavy metals, pesticides, and carcinogenic dye-stuffs to name just a few. The Standard 100 by Oeko-Tex quickly became the global benchmark for textile products that are tested to be free from harmful levels of these concerning substances. Today, that original list of 100 hazardous chemicals has grown to more than 300 and the limit values have tightened significantly. In fact, the Oeko-Tex limit values and test methods are, in most cases, stricter than those required by any industry group or regulatory agency. The roster of textile manufacturers, sourcers, brands, and retailers that work with Oeko-Tex today numbers more than



Oeko-Tex is already 25 years old in 2017!

Photo: Eternity in an Instant/Getty Images

10,000 in almost 100 countries around the world. Through its ongoing work with these clients, Oeko-Tex has designed many new products to help companies address the challenges of operating sustainably in the complex global marketplace. That spirit of innovation

will continue in 2017 as Oeko-Tex extends its expertise to new categories beyond textiles. The first new product available in 2017 is the Leather Standard by Oeko-Tex. The new testing and certification system will contribute to safer and more sustainable leather products for the apparel, footwear, accessories, and home markets just as the Standard 100 by Oeko-Tex has done for textiles in these markets throughout the past quarter century.

"Oeko-Tex has long been committed to helping companies reduce the use of toxic chemicals and increase sustainability throughout their supply chains," says Oeko-Tex General Secretary, Georg Dieners. "As Oeko-Tex has done for twenty-five years since 1992, we will continue to respond with relevant solutions when manufacturers, brands, retailers, and consumers demand safer, more sustainable products."

[[www.oeko-tex.com](http://www.oeko-tex.com)]



Since 1992 Oeko-Tex has worked to improve product safety, sustainability, compliance and transparency



Photo: Wavebreakmedia Ltd/Thinkstock





The total production capacity of the company is around 7.2 million metres of fabric per year with a standard working width of 140 to 300 cm

#### TEXTILE FINISHING

### A partner to meet the highest demands

The Spanish company Pascual y Bernabeu S.A. specialises in the innovative textile finishing and dyeing of fabrics made of cotton, artificial fibres and wool, as well as their mixes. The corporate philosophy of the company focusses on sustainable and environmentally friendly production processes as well as socially responsible framework conditions for all employees. This specific commitment is underpinned by the fact that Pascual y Bernabeu was one of the first textile companies in the world to successfully meet the requirements of the Step by Oeko-Tex certification system.

The textile company is located in Cocentaina in the province of Alicante and has a total of 72 employees. It is primarily well-known furniture manufacturers and interior designers who choose the first-class material collections with evocative product names such as Mystic, Linova, Caprice, Velonia and Enoa. The customer can choose from a broad spectrum of different material qualities in a wide selection of colours and attractive designs. Furthermore, special finishing processes meet all requirements for modern decoration, curtains and upholstery fabrics such as non-iron or non-crease as well

as additional characteristics such as a water-, stain- or fire-resistant finish. Founded in 1972, Pascual y Bernabeu has vast experience in the manufacture of high quality materials and has become one of the leading suppliers for European furniture manufacturers. "High quality products and stylish designs for a varied range of uses are what makes us stand out", emphasised Rafael Pascual, General Manager, who added: "Our material collections are impressive because of their versatility." In addition to the first-class product quality, a strong customer focus also plays a key role in the economic success of Pascual y Bernabeu. "The market for the textile industry is dependent on innovations and improving quality standards," said Miguel Amorós, technical manager, "Regular new developments in processes and ideas enable us to meet the individual requirements of the customers in an efficient and flexible way and to handle the needs of the market at any time." On this basis, the company's internal Research and Development department constantly works on new solutions and creations for customers as well as innovative process designs. In doing this, the concept of sustainability also plays a key role in the company. "We focus strongly on sustainability and environmental protection with the careful use of resources that is far in excess of the statutory required limits" emphasised Miguel Amorós. In November 2013, Pascual y Bernabeu became the first company in Spain to be awarded the Step by Oeko-Tex certificate for its Sustainable Textile Production.

[[www.pascualybernabeu.com](http://www.pascualybernabeu.com)]

[[www.oekotex.com](http://www.oekotex.com)]



Step (Sustainable Textile Production) by Oeko-Tex is an independent certification system with which brands, retail companies, and manufacturers from the textile chain can prove and communicate their achievements regarding sustainable production to the public in a clear and transparent manner. Certification can be obtained for production facilities in all of the processing stages, from fibre production, spinning mills, weaving mills, and knitting mills to finishing facilities and manufacturers of ready-made clothes

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Autoneum is the global market and technology leader in acoustic and thermal management solutions for vehicles. As a partner for light vehicle manufacturers around the world, Autoneum provides multifunctional components and technologies for noise and heat protection and thereby increases a vehicle's comfort and value.

Autoneum is expanding its presence in the Chinese growth market

Photo: fotolia

## AUTONEUM

### Autoneum opens additional plant in China in 2017

Autoneum is expanding its presence in the Chinese growth market and will open its seventh plant for the production of lightweight acoustic and thermal management components in the Eastern Chinese city of Yantai. Multifunctional inner dashes and carpet systems will be produced in series for vehicle manufacturers in China at the manufacturing location meas-

uring 6,600 square meters from the summer of 2017. In order to meet the persistently strong demand by international and local vehicle manufacturers for lightweight noise and heat protection components and simultaneously minimize the logistics costs for customers, Autoneum expands its production capacities in China with a seventh plant. Starting summer 2017, the

market leader in acoustic and thermal management will ensure the just-in-time delivery to vehicle manufacturers at their nearby production facilities out of the 6,600 square meter plant in the Eastern Chinese city of Yantai in the Province of Shandong. Following the start of serial production, carpet systems and inner dashes will be manufactured for around 250,000 vehicles per year, with an increase in production easily possible. As part of the implementation of sustainable production processes at all Autoneum locations, production waste in the form of polyester or mixed fibre fleece is to be recycled and re-used in the manufacture of components at the new facility in Yantai.

"With over 26 million light vehicles produced this year, China is the world's largest automobile market. The investment in a further plant in this growth

market will enable our customers to receive innovative lightweight components just-in-time and with significantly lower logistics costs. At the same time, the expansion of our Chinese production capacities is in line with our strategy and will contribute to the targeted market share increase in China", underlined Martin Hirzel, CEO of Autoneum, on the occasion of a visit to the plant premises.

With an expected production increase to over 29 million light vehicles in the year 2020, China is one of the key growth markets for the automobile industry. In addition to the three fully owned plants in Chongqing (since 2006), Taicang (2010) and Shenyang (2011), Autoneum jointly operates Chinese production locations with Japanese automotive supplier Nitoku in Guangzhou (2003), Tianjin (2004) and Wuhan (2013).

[[www.autoneum.com](http://www.autoneum.com)]



Photo: Autoneum





RINSPEED

## A rolling oasis of ideas in the automotive desert

With his new "Oasis" concept vehicle, Swiss car visionary Frank M. Rinderknecht has created a memorable character role in the narrative of the evolution of personal transport. Oasis" is a clear alternative concept to the martial appearance on urban asphalt. The exquisite two-seat runabout looks pretty futuristic with its large glazed areas and front wheel spats. Kind of like a trendy buddy of Star Wars icon R2D2. Both are capable of turning on their own axis with almost a zero radius. Not at all like a gray mouse and not solely designed with

a single purpose in mind like Google's cars, but rather "next generation" – with a host of technical and visual treats inside. Speaking of the inside: The interior offers a new living space with the ambience of a modern-day family room: armchair, sideboard, TV, and a multifunctional steering wheel, of course. The windshield also serves as a screen for virtual as well as augmented reality. Who will be the owner of the car, who will be the operator, and what will they use it for? Rinspeed boss Rinderknecht has designed and equipped the vehicle in a way that keeps all

conceivable options open in a society willing to share its goods sensibly. "Oasis" can be commuting or shopping car in the morning, act as a "micro delivery vehicle" for urban parcel services in the afternoon, and be a pizza taxi on the evening drive home. This is made possible by a clever code-protected "drawer" in the rear, which can also be cooled or heated as needed. Why move only people in an innovative way with disruptive technology and not also small consignments (at the same time)? However, Rinderknecht welcomes people to take the name

"Oasis" literally as well: The creative Swiss national has integrated a small green space for growing flowers or radishes below the windscreen. Urban gardening on wheels, so to speak. A little bit "out there"? Maybe. But definitely a source of inspiration for everyone looking for something new in the automotive wasteland of uniformity. The partners and suppliers in the realization of the „Oasis" in our Online-Magazine. Rinspeed shows "Oasis" at the CES in Las Vegas in January 2017.

[[www.rinspeed.com](http://www.rinspeed.com)]

RWTH AACHEN

## Smart Textiles

The application of micro-electronics and state-of-the-art production technology endows textiles with multiple capabilities – they measure our body functions, enhance our performance and communicate with us, the consumer, by smartphone.

Smart textiles are currently experiencing high demand in a wide variety of fields, such as sports, medicine, home and living, safety and security etc... This demand can only be met to a limited degree due to a lack of scalable production technologies and customised products and services. If the market potential of smart textiles is to be tapped in the long term, new holistic and marketable concepts and business models have to be developed by a whole host of different disciplines. The knowledge



Examples of Smart Textiles

pooled at the Institute of Textile Technology (ITA) covers both product development and the production technologies needed for smart textiles. A strong network of product suppliers, technology companies and service providers has joined forces to develop new business models for smart textiles. CPS.HUB NRW – The Competence Center for Cyber

Physical Systems North-Rhine-Westphalia brings together expertise and knowledge from all the disciplines that contribute to the development of Cyber Physical Systems, all the sectors that use CPS, and all the regions in North-Rhine-Westphalia. This is giving rise to a dynamic innovation-driven eco system, in which knowledge is constantly being

advanced and all those involved can draw on the latest findings. This is resulting in smart products and services for the markets of tomorrow, such as Industry 4.0, smart grids, autonomous cars.

[[www.cps-hub-nrw.de](http://www.cps-hub-nrw.de)]



Adjunct-Prof. (Clemson Univ.) Dr.-Ing. Yves-Simon Gloy, ITA, Monika Gatzke, CPS.HUB NRW, Bergische Universität Wuppertal



Photo: Best Wool Carpets

All in white – carpets made from undyed wool with sophisticated textures

## Best Wool Carpets

# The magic of wool

Best Wool Carpets, the woolen carpet specialists based in the Dutch village of Best, is implementing an agreed modernisation and revitalisation strategy. The new logo and branding is accompanied by a restructuring of the firm's carpet collection.

Yvar Monasch, the proprietor of the company, and Jhon Campo, who is responsible for sales and marketing, have been the enthusiastic driving forces behind this relaunch. "We are one of the few manufacturers in the world to spe-

cialise in wool carpets," they explain. "Not everyone understands wool. Particularly because we are suppliers in a luxury niche, though, we have to position both our company and our products clearly. Our objective for the relaunch was clear: we wanted it to show that wool carpeting is not simply a niche product but is of the highest quality, fashionable, modern and versatile. It embodies the spirit of the age better than other products because it is inherently sustainable and has many other innate

properties that would have to be added chemically to carpeting made from other fibres. Our products need none of that. They rely on the magic of the woollen material."

### Comfort and warmth

The 'Platinum' and 'Selection' service collections are now called 'Nature' and 'Pure'. 'Nature' is the baseline segment entry-level range, with a selling price of between EUR 34 and about EUR 80. 'Pure', with its eleven models, is designed to be a more premium prod-

uct, with a selling price of between 77 and about 109 Euro. All products are made of 100 percent New Zealand new wool and are bold in their patterns and colours. These floor coverings also offer comfort and warmth.

"Rugs", the range of made-to-measure rugs introduced two years ago, stands for individuality. On request, the base products used in the Pure collection can also be produced as made-to-measure rugs. The carpets can be given a unique look of their own through the various edging options, which can be linen, leather, cotton or wool felt.

### Luxury in white

The premium segment of Best Wool Carpets' service range is represented by the Royal collection – a range comprising 13 models of the finest New Zealand new wool, all in pure elegant white. The wool used to produce the Royal range comes from special breeds of sheep in New Zealand. It is very soft and has a consistent colour.

In the course of the brand relaunch, the Hospitality contract collection was also reworked and tailored for use in the hotel and restaurant sector and when fitting out cruise ships and luxury yachts. "Our aim is to offer a specialist wool collection for the contract sector that is clear and yet multi-faceted," explains Jhon Campo. "Flexibility is our strength, because by working with the contractors and their clients, we can accommodate almost any requirement in terms of colour and design."

[[www.bestwoolcarpets.com](http://www.bestwoolcarpets.com)]

[Ilona Schulz]





Photo: Forbo

## INNOVATIVE FIBRES AND YARNS

### Fitted carpets with added value

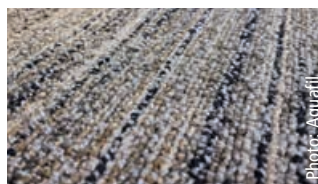
These days, fitted carpets need to be more than just cosy and modern in design. True innovation is only possible if environmental needs are incorporated in the development of new visually appealing designs and if the user is rewarded with added value. These goals can be achieved, among others, when old nylon fishing nets are completely recycled into "Econyl Yarn".

In its "Metal-X-Collection", Belgian manufacturer Tapibel uses the shimmering properties of this sustainable yarn to create a geometric design with sophisticated effects in gold, silver and bronze. The floor co-

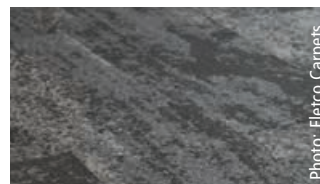
verings and tiles are also characterised by their slightly irregular, seemingly three-dimensional texture.

Italian manufacturer Aquafil likewise employs Econyl for the silver and gold shimmer it lends to carpets. The "Metallic Long Space", as it is known, has an elegant stripe design and coordinates well with a variety of interior styles.

Thanks to a new tufting technology, the Danish company Fletco Carpets produces designs with up to four colours without printing. One such innovation is known as "Stony Beach". These carpet tiles are made without PVC and bitu-



„Metallic Long-Space“ floor covering from  
Aquafil



„Stony Beach“ carpet tiles from Fletco  
Carpets

men, and are designed instead with a special "Textiles" finish on the back. Moreover, they do not contain any repeats, giving rise to considerable reductions in waste.

The "Flotex Planks" from the Dutch supplier Forbo Flooring can be fitted particularly quickly. The 100cm x 25cm elements are densely woven, impervious

to water, easy-care and resistant to bacteria. This makes them particularly suitable for areas exposed to wear and tear and requiring good hygiene.

[[www.domotex.de](http://www.domotex.de)]  
[[www.tapibel.be](http://www.tapibel.be)]  
[[www.aquafil.com](http://www.aquafil.com)]  
[[www.fletco.eu](http://www.fletco.eu)]  
[[www.forbo.com](http://www.forbo.com)]

## YOUNG DESIGNER TRENDTABLE

### Flooring visions for the future

A new initiative from Domotex, the trade fair for floor coverings, has brought five young, international design studios together. They were tasked with thinking about the future of flooring design. The "inaugural" meeting of the "Young Designers Trendtable" took place in July 2016 at the Munich studio of mentor and designer Stefan Diez. Since this first encounter, the participants have been conducting research, ex-

perimenting and tracking down emerging trends to provide the floor covering industry with new sources of inspiration.

The five young designers give insights into their work processes and explain what they think is important.

Bilge Nur Saltik from Turkey and England has a predilection for contrasts, hard and soft, industrial and hand-crafted. This has given rise to an unusual floor covering with surprising tactile

properties. The designer from Istanbul accentuates the transitions between different materials turning them into a special design feature. Klaas Kuiken from the Netherlands believes that, "The user makes the floor." He sees the future of floor coverings in ever-changing surfaces. His design is all about interacting with the floor. When walking on his tiles, which of course are connected to one another but react to pressure individually and shift slightly as they do so, either colours or light become visible at the edges. People leave their traces on the flooring, changing it in the process. In her vision of flooring, Hanne Willmann focuses on creating a new kind of authenticity, reinforcing our appreciation of handcrafted processes by rendering them visi-

ble. Victoria Wilmotte from France prefers traditional materials such as stone and marble, combining them to create original interpretations. Jane Briggs and Christy Cole from Briggs & Cole, Scotland, were inspired by Kurt Schwitters' Merzbau in Hanover, an installation that filled an entire room, stretching over the floor, walls and ceiling. This demonstrates that the floor covering by the Glasgow-based designers is suitable for all spaces and surfaces, whilst combining high-quality craftsmanship with digital printing and high-tech materials. The idea to personalise digital printing processes and to create high-quality customised collages, allows users to create their own exclusive flooring.

[[www.domotex.de](http://www.domotex.de)]



From the left: Hanne Willmann, Victoria Wilmotte, Stefan Diez, Klaas Kuiken, Bilge Nur Saltik, Christy Cole

Photo: Domotex

## USA

# A look at three successful companies

Several interesting textile and apparel companies have launched in the Northeastern US over the past few years. All are operating with a mostly US supply chain. **textile network** takes a look at three successful companies – Thursday Finest, Saco River Dyehouse and American Rootswear.

## Thursday Finest

A Brooklyn-based husband-and-wife team is seeking to disrupt the traditional business model for textile and apparel manufacturing with a startup company that produces neckties, socks and scarves on a custom-order basis using the latest 3-D knitting technology. Thursday Finest launched last December, focusing initially on accessories such as neckties and scarves. Cotton socks were added to the repertoire in July. All production is in response to custom orders and is produced on a Shima Seiki 3-D knitting machine.

Michael Carlson and Veronika Harbick conceived Thursday Finest. They operate a micro factory that can deliver a made-to-order product to customers within three to seven days. It's a streamlined process, currently employing just two production staff. The couple were introduced to Shima Seiki while researching machinery for a friend in the U.K. who had a small knitting business and was looking for ways to create custom products for small-batch orders. They met with several companies and were "blown away" by what could be created with the Shima machine.

"We focus on customers who care about design," Harbick says. "We are reaching out to young men in their late 20s to early 40s who are excited about new technologies, ex-

cited about how they look and excited about how they express themselves."

The customized ecommerce aspect is also attractive to women who shop for these men, Harbick says, noting that customized products are great products for gift giving because the recipient knows the product has been made just for him. While Thursday Finest is primarily an online retailer, it occasionally branches out. To bring this experience closer to potential customers, the company often deploys pop up stores around New York for periods of two weeks or shorter. As the company evolves, look for other pop ups in Chicago, Dallas, California and Southern cities, depending on how the customer base develops.

Thursday Finest sources its cotton yarn from Supreme Corp., a spinner of high-performance and specialty yarns in Hickory, N.C. Ties and scarves are made from Merino wool sourced from Italy.



Thursday Finest sneakers

## Saco River Dyehouse

An infusion of new dyeing and finishing equipment figures to allow a fledgling textile firm in Maine to enter new markets and significantly grow its business. Saco River Dyehouse, formed in Biddeford, Maine, four years ago to dye yarn skeins for the home knitting industry, has moved into a new facility and has invested heavily in new equipment as it broadens into assorted technical textiles markets. While Saco River's business will remain yarn dyeing, the new equipment will also allow the company to also put coatings on yarn.

Thursday Finest Knitties and Doucets



THURSDAY  
FINEST



"It's about diversifying," managing director Claudia Raessler says of the expansion. "We're moving into technical and industrial markets. Our message is simple. If you have an uncolored thread or yarn, we want to put color on it."

The company's five new Italian machines, an investment of \$750,000, allow the move into package dyeing. The equipment is comprised of two Bellini dyeing machines two Fadis winders and an RF Systems drying machine. They replace machinery that dated to the 1930s. "We selected this machinery because Italy, during the economic downturn, maintained a very strong presence in research and development for textile machinery," Raessler explains. "They had to do it because Europe is the U.S. on steroids when it comes to environmental standards and learning to manufacture with less environmental impact. This machinery gets some of the best ratings and that's one of the things that is really important to us."

"We can now be more flexible around our pricing structure," she says. All of this

Thursday Finest: a Brooklyn-based husband-and-wife-team is seeking to disrupt the traditional business model for textile and apparel manufacturing

makes it more practical to produce textiles in the U.S. Raessler says it's part of the company's story and it's a story that many customers want to hear. The company currently employs 18 people, and Raessler expects that figure to grow as the new capacity ramps up in the coming months. Production will grow from the current 8,000 to 10,000 pounds per month to 30,000 pounds per month by the end of the year. Saco River's production staff, which numbers about 10, is mostly international.

#### American Rootswear

Ben Waxman never figured on making a living in textiles, despite having grown up in a family involved in New England's woolen fabric business. But after a career in politics and working with labor unions, he has returned to his hometown of



Glimpse of the production set-up of Saco River Dyehouse

American Rootswear is the name of an apparel firm specialised in American-made jackets, pullovers, vests, scarves, throws and blankets

Portland, Maine, to do just that. Waxman and his fiancé and business partner, Whitney Reynolds, launched American Rootswear, an apparel firm specializing in American-made jackets, pullovers, vests, scarves, throws and blankets in October 2015. Growth has been rapid. "Our business model is very simple," Waxman says. "We sell to nonprofits, political organizations, organized labor, hospitality, government agencies and American companies that believe in American-made products. We definitely have a desire to support American jobs."

Waxman says American Rootswear expects to sell between 15,000 and 20,000 units during its first full, which is above expectations. So far, the company's primary focus has be-

en on business-to-business sales with promotional products, but eventually it will move into consumer sales. New products are in the works, including a new line of cotton T-shirts and sweatshirts.

As a former union executive with the AFL-CIO, perhaps it's not too surprising that Waxman created a unionized company. It's the foundation of his plan to create living-wage jobs.

"I opened the factory to be unionized," Waxman says. "A lot of people say I am nuts, but it's what I believe in."

American Rootswear employs a largely international workforce of immigrants who have moved to Portland. The first group of six women trained and hired was comprised of three from the Congo, two from Iraq and one from Colombia. In addition to Waxman and Reynolds, American Rootswear employs 18 stitchers and a designer. He expects that number to grow in 2017. Waxman and Reynolds put great effort into assembling its U.S. supply chain. The primary supplier is Polartec, which provides the fleece fabric used in most of the company's products. The company's U.S. suppliers also include Jagger Spun, a Springvale, Maine, manufacturer of worsted yarn, and Vernon, Calif.-based Ucan Zippers.

[John McCurry]



Photos: Thursday Finest



# IVGT

IVGT

## Are you prepared for Industry 4.0?

Germany's biggest textile association, representing the interests of approximately 170 member companies from the sectors of textile raw materials, finishing, yarns and fabrics, and technical textiles. The association represents more than 60 percent of the German textile industry with a business volume of 6.6bn Euro.

In the last couple of years, no subject has been more prevalent than that of Industry 4.0. According to a survey [1] conducted in spring 2016, 92 percent of German businesses regard it as an opportunity rather than a threat. This represents a further increase in positive attitudes to the issue over the previous year. At the same time, though, 53 percent of automotive distributors and 66 percent of manufacturers questioned said that they had made only limited progress or none at all in its implementation.

### Textile industry

In the textile industry, the greatest opportunities are seen to be in improving production efficiency, reducing time-to-market and general cost reduction. The greatest challenge was felt to be the uncertain investment requirement [2], since the system and organisation structures of suppliers and customers in the value chain are often not yet known. Other questions that arise relate to IT and data security, liability and the legal

One of the important influential factors here is the growing demand among end-consumers for sustainable and environmentally friendly products. Trading as a direct partner to industry demands transparent supply chains. Industry expects a growth in individually customised products.

context. The IVGT tackled the subject matter in mid-2016 through its Commercial Committee, in order to be able to provide answers to members' questions with the aid of expert contacts.

As far as the outlook for 'intelligent systems' is concerned, they are expected to speed up the ability to adapt internal systems and interfaces to customers' and suppliers' systems, yielding higher levels of customer satisfaction as well as improvements to the quality of products and services.

In technical textiles, the greatest changes from Industry 4.0 are expected to come in the mobile technology, medical technology, product technology and industrial technology sectors [3]. The rapid growth of wearables and smart textiles is seen as a major opportunity. Over 63 percent of respondents

see an opportunity here to expand the current portfolio over the medium and long term, with the aid of the findings from collaborative industrial research, for instance, and with the support of technology networks.

In the mid-sized business sector with an annual turnover of under 50 million, 45 percent indicated a desire to strengthen their research and development skills and their internal innovation capability.

Since the main sales markets for German textile manufacturers continue to be chiefly in neighbouring European countries, geographical proximity to buyers and to machine engineering are regarded as factors for success.

The very fact of digital automation is making personal relationships across the textile chain still more important. It is

important to maintain an understanding of the individual production processes and, at the same time, to counteract tendencies towards anonymisation; this is invaluable if administrative processes in particular are to be accelerated.

[[www.ivgt.de](http://www.ivgt.de)]

25 January – Trade Fair Communication working group in Frankfurt

22 February – Technical Textiles working group in Frankfurt

23 February – Presentation of International Technical Textiles Market Study

9 to 12 May – Techtextil Frankfurt, IVGT Stand F47, Hall 3.1

Sources:  
[1] McKinsey & Company, 02-2016  
[2] Industry association Textil+Mode, 04-2016  
[3] Futuretex, Ernst&Young, IVGT, 03-2016





60 years of the Swiss national section

## A lovely time in Appenzell!

The International Federation of Knitting Technologists was founded in 1956. Right from the beginning it was conceived to promote the general interests of the knitting industry and its further technical development.



Members and guests of the G/A/S national sections of the IFKT, during the visit to Tisca Tiara

The Swiss national section of the IFKT – the International Federation of Knitting Technologists – held a special event on 11 November 2016 for the 60th anniversary of the Federation's formation. Along with Swiss members, the members of all German-speaking national sections were also invited to the event.

The gathering began with a visit to the company Tisca Tiara, an interesting textile industry business in the village of Büh-

ler, in the canton of Appenzell. The variety of different types of carpet was impressive. Customer requests – including individual designs – are processed and developed here down to the smallest detail, for everything from major projects to personally-designed private rooms and prestigious office and hotel fittings. Artificial lawns, synthetic grass for sports pitches and similar products are available for outdoor areas, alongside materials for interiors. Tisca Tiara, founded in 1940 by Anton Tischhäuser Senior, is today a globally active independent family business.

The IFKT expressed its gratitude to the company for offering some interesting insights. There then followed a visit to the Locher brewery in Appenzell for another highly traditional „piece of Switzerland“ that is familiar across several

continents, not least through the on-board distribution of Appenzeller Quöllfrisch beer by international airlines.

### Honorary certificates

During the evening's festivities, three deserving members of the IFKT – Fritz Benz, Prof. Wolfgang Schäch and Andreas Hämmerle – were rewarded with honorary certificates. The success of the 2016 events and of the jubilee celebration provided an incentive and the con-

fidence to look forward to many more successful years for the IFKT.

In 2017, long-term planning of content and preparation by small working groups on the subjects that need tackling will determine the IFKT's workload. The goal is to expand the opportunities to visit industry-relevant companies and institutions, and thus to further emphasise the drive for development that the textile industry is experiencing.



Hotel Kaubad, where the event was held

### Contact addresses IFKT

#### Austria

President | Mag. Prof. Oskar Tschallener  
E-Mail: tschallener@hotmail.com



#### Switzerland

Offices  
E-Mail: ifws.schweiz@gmx.ch



#### Germany

Office  
Prof. Dipl.-Ing. Wolfgang Schäch  
E-Mail: info@knittingfed.com





The 40 some year old one-China policy is the bedrock of the Sino-US relationship. If this bedrock is shaken, the China-US relationship will be jeopardized and world political and trade order will take a seismic shift which the global textile & apparel industry will fall victim to

View from Asia

# Surprised, shocked & stunned

The last quarter of 2016 was an eventful season, full of surprises. The world saw big political changes which will greatly impact the economy and trade. Most notable is perhaps Donald Trump's victory in the US presidential race which surprised the world.

Months have passed, we have all accepted the reality and are now waiting to see if his campaign rhetoric indeed turns into reality after he is sworn in this January. President elect Trump has already modified, softened, even omitted certain campaign promises. However, his view on withdrawing from TPP remains unchanged. This TPP (Trans Pacific Partnership) is a trade pact that President Obama worked on for 7 years. In November, Mr Trump reiterated that he would make sure that the USA would not be party to

TPP from day one of his term as President. This shocked the Obama Administration. If indeed this comes to pass, it will change the strategies of manufacturers and buying houses.

## Trump and the TPP

Vietnam was projected to enjoy the biggest gain of any country in the TPP – about 10 percent by 2030, thanks mostly to textiles and apparel. If TPP is dismantled, companies in non-TPP countries such as China would no longer be as inclined to

## Wishful thinking and reality

Can the US suddenly open enough factories to satisfy the consumers' needs? With unemployment dropping, will there be enough workers to tap?

set up operations in Vietnam. Some of the 12 founding members of the TPP feel that they have worked hard on bringing this project to its final stages and that it should move forward with or without US participation. However, some think that the TPP has no meaning without US participation. Mr Trump also talked about withdrawing from NAFTA which will hurt Mexico the most and benefit Asian producers.

## Trump and NAFTA

The idea of not being part of TPP and NAFTA was to bring jobs back to the US. It may help some jobs return but not to the extent that the President-Elect has predicted. Mr Trump also declared his intention to increase tariffs on Chinese goods imported into the US to as high as 40 percent. If low-cost producing countries cannot export to the US under present terms, US consumers



Photos: fotolia

TPP – without the USA, the Agreement has little meaning



will have to pay more for their US-made consumer goods made, especially clothing. As TPP falters, the countries organised within APEC (Asia Pacific Economic Cooperation) look to the Chinese-backed RCEP (Regional Comprehensive Economic Partnership) as well as the FTAAP (the Free Trade Area of the Asia-Pacific) as better alternatives. China's President Xi Jinping had called upon APEC nations to play a leading role in the global economy which is facing challenges and uncertainty. He urged regional leaders to advance both RCEP & FTAAP plans at the APEC summit in Lima Peru last November. "Openness is vital for the prosperity of the Asia-Pacific region," Xi remarked in a keynote address.

## APEC

APEC is a 21 member free-trade club that accounts for 40 percent of the world's population and 60 percent of the global economy. The RECEP (Regional Comprehensive Economic Partnership) was initiated by members of the Association of Southeast Asian Nations, who also invited China, Japan, South Korea, Australia, New Zealand and India. The RCEP aims to set up a single market in 16 countries by removing tariffs and non-tariff barriers. It would cover an area whose share of GDP accounts

It remains to be seen whether Mr Trump will actually translate all his rhetoric into policy when he takes office. As he is prone to changing his mind, many take a wait and see attitude



for one-third of the global aggregate. If approved, it would become one of the world's largest free-trade zones. The FTAAP (Free Trade Area of the Asia-Pacific) is a trade deal that would cover the 21 economies that are part of the Asia-Pacific Economic Cooperation (APEC) forum. It would

have a wider coverage than the TPP or the RCEP, and would include both China and the US. China's proposal to implement the FTAAP would consolidate the existing but fragmented free-trade agreements among various APEC member countries.

[Vicky Sung]

## Titbits

China's Belt Road Initiative (BRI) is catching on and moving along. One of the consequences is that China's textile production is moving inland and westwards from the coastal regions in the East. Cotton growth in Xinjiang is increasing and 20 million spindles are planned, with 11 million already operational. Moreover, it is predicted that cotton reserves will be down to 3MT within one or two years. As China's cotton stock reserves dwindle, its spinning industry will continue to pick up again, albeit slowly. At the moment, there is no additional issuance of TRQ (Tariff Rate Quota) above the WTO requirement. However, when stocks become low, the TRQ will have to be increased to meet demand.

China is carrying out a "Three Pin" policy on improving quality, production variety and brands. It is also going through a robotic revolution according to a report by CBRE Research. In 2015, Chinese manufacturers purchased 67,000 industrial robots and this figure is expected to double by 2018. As the production costs for robots and parts lower and human labour costs rise, there is a great incentive to invest in robots to assist in manufacturing. Chinese manufacturers are responding to the rapid growth of automated technology in a move to remain competitive.

Internet finance may be a relatively new development in China but its impact is now everywhere. Peking University has developed an index which measures the growth and structure of internet finance across China. It indicates that the industry grew almost four times to December 2015 and the market was then valued at US\$1.8 trillion (RMB12.4 trillion). According to McKinsey, the internet economy is estimated to account for 7 percent of China's GDP, compared with 4 to 5 percent in the United States, Germany or Japan.

The Chinese term for 'internet finance' is the equivalent of 'digital finance' and 'fintech' used in the West. But 'internet finance' covers both information technology (IT) companies providing financial services, such as We-Chat-Pay, and financial institutions applying IT to their more traditional services, such as the e-ICBC service of the Industrial and Commercial Bank of China (ICBC).

Internet finance embraces a wide range of activities, including third-party payment, online lending, direct sales of funds, crowd-funding, online insurance and banking, and digital money. Internet finance has been part of the financial scene in China for more than 10 years: Alipay was launched in 2004 and Credit Ease was established in 2005. But it was the launch of Yu'eobao, an online sales platform for money market funds established by Alibaba's Ant Financial Services, in June 2013 that marked the beginning of the recent explosive development of internet finance in China.

Exclusive Series: Industrie 4.0 explained - Part 1

# Digitization – networked production

In the media, autonomous driving is a present topic and a good example for the currently rapid development in the area of digitization. The challenges and problems with autonomous driving illustrate the meaning of machines having to communicate with each other and to interact with their environment. The parallels to a networked production become clear. The German Academic Society for Production Engineering distinguishes between different levels of networking, with an autonomously acting production cell as the highest stage of development.

Thereby the focus is on capabilities such as self-regulation, self-optimization and autonomy. The requirements for this are achieved by a multitude of sensors for environmental monitoring, the communication capability of the participants and a detailed description of these.

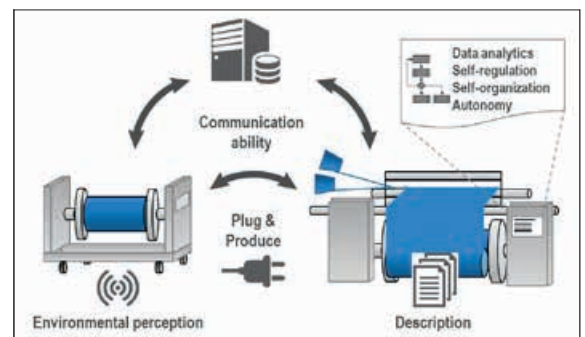
## Autonomous vehicle

Important elements for autonomous driving are GPS, ultrasonic sensors as well as sensors for motor monitoring and even for the moni-

toring of the axes and wheels. The data are permanently analyzed to infer conclusions on the respective driving situation. Already at the beginning of the trip, the best route has to be found. Digital data form the basis for guiding the vehicle autonomously through the streets (description). If the same route is traveled more frequently, the system is able to learn from the gained experiences and, if necessary, to carry out optimization measures (self-optimization). By changing the routing independently, different target parameters can be followed

Part 2 of the series will appear in the upcoming print edition of textile network and addresses the subject of "Intelligent Maintenance".

(e.g. minimal distance, minimal time or minimal fuel consumption). The requirements for the system are increased by other traffic participants. These have to be recognized (environmental monitoring) and, if necessary, there must be a communication with them in order to de-



Components of a networked production

termine their intended action (communication ability). Thus, autonomous vehicles are allowed to communicate with each other in order to brake independently, accelerate or even initiate a lane change (autonomy). It is also possible to set up temporary networks with static elements, e.g. with traffic light systems in terms of speed regulation (dynamic coupling).

## Industry-specific requirements

Many of these capabilities are also required in a networked production, whether it be the communication between machines and products or the monitoring of products for optimizing the production planning and

Etoy by Rinspeed – a good example for autonomous driving and rapid development in the area of digitization







Photo: rnspeed



Photo: viresse/jenst W. Schmidt

control. Each industrial sector lay down particular and sector-specific requirements on these systems, as it also is the case for the textile industry. Currently, there is a strong focus on mass production, but requirements changing as a result of the increasing demand for customer-specific products. Due to the growing number of variants and small batch sizes, the need for flexible, autonomously operating production systems increases. During planning and implementation, there is, in parts, a deficient description of textile products and production processes, which should actually form the basis. This is, among other things, justified on the versatility of the textile material, its working and processing possibilities as well as its usage. At the same time, the differences between the various sectors of the industry have to be considered: especially in the field of nonwovens, a high level of automation is exists providing an optimal basis for further digitization.

### Autonomous production cell

A closer look at the topic of networked production and autonomous production cells reveals similar aspects to those of autonomous driving. For the interaction between machines, products as well as transportation transshipment and storage systems, the communication capability of all participants involved is essential. Machines require corresponding interfaces and a uniform language they use (communication protocol). The products must be clearly identifiable and carry information about themselves and

the production process. In order to circulate this information, a wide variety of technologies can be used matching the particular application. Automatic identification systems are available with many technological features, which fulfill the most diverse requirements such as reading rate, range or robustness (to temperature, pressure, chemicals etc.). The data and their exchange form the basis for a dynamic coupling of different systems, such as the coupling of transport systems to machines (Plug & Produce). All necessary information is automatically exchanged in a uniform language.

If the transport systems move autonomously through the production process, e.g. for the transport of cans, batches or warp beams, it is essential that they perceive their surroundings by appropriate sensors. Analogue to an autonomous vehicle, employees, machines and other transport systems have to be perceived. If, for example, the transport route leads to a conflict, the system decides independently upon the best alternative, avoids a collision,

Components of a networked production

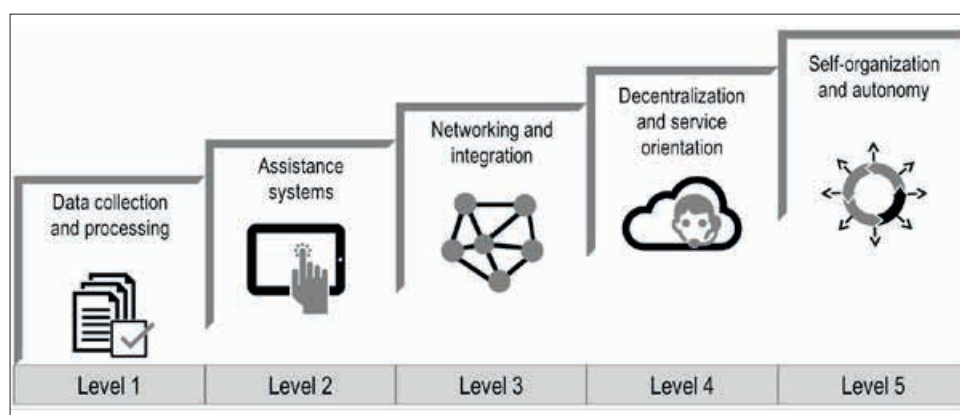
on, selects an alternative route or simply stops (autonomy). In order to take decisions, all involved systems need data generated by different data sources and analyzed by mathematical analysis methods (Big Data/Data Analytics). This ability is also necessary in the field of self-regulation and self-optimization.

The evaluation and interpretation of large amounts of data enables the machines to find optimal setting parameters independently. Systems could gain the ability to learn from past data and regulate themselves from online data with the objective to increase the overall equipment effectiveness (OEE). In addition to the performance and quality factor, also the machine availability is included in the OEE. For example, the intelligent maintenance, which is considered more closely in the next issue, plays an important role.

[www.stfi.de]

[Sten Döhler, Dirk Zschenderlein, Sächsisches Textilforschungsinstitut Chemnitz e.V. (STFI) sowie Andreas Merkel, Futuretex Management GmbH Chemnitz]

Development levels of Industrie 4.0



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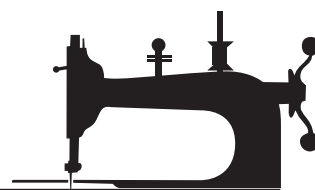
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## market place



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zur computergestützten Entwicklung von Funktionsbekleidung und Technischen Textilien zunächst für ein Jahr mit der Option der Verlängerung (Befristung gem. TzBfG) zu besetzen. Gesucht werden sehr gute bis gute Hochschulabsolventen/-innen der Textiltechnik/ Konfektionstechnik o. in einer ähnlich geeigneten Fachrichtung. Den vollständigen Ausschreibungstext finden Sie unter:  
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IMPRINT

15th year of publication · Issue 1-2/2017  
ISSN 1612-5088, publication date: 01/27/2017

**Publisher's Address:** Meisenbach GmbH  
Franz-Ludwig-Straße 7a  
96047 Bamberg/Germany  
Postfach 2069  
96011 Bamberg/Germany  
Phone: +49 951 861-0  
Fax: +49 951 861-158  
www.textile-network.com  
www.meisenbach.de

**Managing Director:** Ulrich Stetter

**Head of editorial office:** Sabine Stenzel

**Head of online editorial office:** Daniel Keienburg

**Manager sales / distribution / marketing:** Christian Matthe

**Editor-in-chief:** Dipl.-Ing. Iris Schlömski  
Phone: +49 5527 979440  
Fax: +49 5527 979441  
Nordhäuser Straße 34  
37115 Duderstadt/Germany  
i.schlömski@meisenbach.de

**Editorial Staff:** Anja Menzel (Assistenz)  
Phone: +49 951 861-117  
Fax: +49 951 861-170  
a.menzel@meisenbach.de

**Contributing:** Iris Schlömski, Ingrid Sachsenmaier,  
Mara Michel, Wilhelm Rauch, Ilona Schulz, John McCurry, Vicky Sung, Sten Döhler, Dirk Zschenderlein, Andreas Merkel, Margarete Y. Garner

**Advertising Sales:** Bernd Raithe  
Phone: +49 951 861-145  
Fax: +49 951 861-161  
b.raithel@meisenbach.de

**Advertising Administration:** Matthias Fichtel  
Phone: +49 951 861-169  
Fax: +49 951 861-161  
m.fichtel@meisenbach.de

**Responsibility:** Responsible according to the German press law for Editorial: Dipl.-Ing. Iris Schlömski for Advertisement: Bernd Raithe (both: Franz-Ludwig-Straße 7a, 96047 Bamberg/Germany)

**Layout:** Andrea Mühl, Timo Wiesmann

**Print:** Schleunungdruck GmbH  
Eltertstraße 27  
97828 Marktheidenfeld/Germany

**Sales:** Ulla Schiel  
Phone: +49 951 861-101  
Fax: +49 951 861-158  
vertrieb@meisenbach.de

**Distribution:** Meisenbach GmbH  
Reader's service textile network  
Franz-Ludwig-Straße 7a  
96047 Bamberg  
Phone: +49 951 861-101  
Fax: +49 951 861-158  
vertrieb@meisenbach.de

Subscription charge: textile network (12 issues p.a., thereof 6 double issues).  
Germany: EUR 130.00 (incl. VAT and postage)  
Europe: EUR 151.00, Overseas: EUR 181.00

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The current advertising rate card is issue 14 dated October 2016.

The publishing house Meisenbach GmbH is owned by Schleunungdruck GmbH, Marktheidenfeld.

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The next issue of **textile**network will be published  
on 21<sup>st</sup> March 2017 and these are some of our topics:

### Techtextil

The international leading fair for technical textiles and nonwovens shows the complete spectrum of possible applications for textile technologies. Under the heading "Connecting the Future", international exhibitors are preparing to unveil their textile innovations from 9 to 12 May 2017. In the run-up to the event, we shall report on the different product segments featured at the fair, whilst showing the latest trends in each category and providing sneak peaks of some of the product highlights.



Photo: Messe Frankfurt

### Texprocess

In 2017, the leading fair for the international garment-manufacturing and textile processing industry takes place concurrently with Techtextil and under the heading of "Technology Crossing". The innovative platform for machinery, systems, processes and services for the manufacture of textiles and flexible materials showcases the latest processing techniques and technologies. Read our next issue to find out what they are!



Photo: Messe Frankfurt

### Under Armour

What will textile production look like in the future? A short question which requires more than just a brief answer. Under Armour is treading completely new ground. With its new „Lighthouse“ concept, the company is taking a closer look at complex processes. Jami Dunbar, Vice President, Lighthouse Apparel by Under Armour, explains the idea behind the concept as well as the objectives that Lighthouse is pursuing.



Photo: under armour

### Storytelling

Companies, that engage in environmental and social projects, can follow the following classical narrative pattern. Their true stories feature real-life heroes and conflicts that have been overcome. The mechanisms of dramatisation come into play. These tools are an intelligent way of presenting a product and creating an image around a brand. We have put together some interesting examples.



Photo: Toms

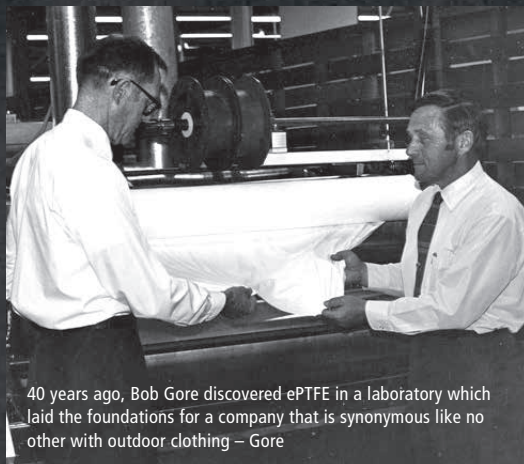


## Last but not least

Christian Langer, Global Leader Fabrics Division: "Bob Gore's material has gone on to become a leader in this sector. Forty years on, whether it's for running or cycling, skiing or hill walking, Gore is still proving that it's the market-leader in all sectors of the outdoors activities market and we are continuing to build upon the groundwork laid by Bob Gore and his family."



Gore quality test in the lab



40 years ago, Bob Gore discovered ePTFE in a laboratory which laid the foundations for a company that is synonymous like no other with outdoor clothing – Gore



Photo: W. L. Gore & Associates

40 years of Gore-Tex innovations for all sports

W. L. Gore & Associates

# 40 Years Innovation

Four decades on from its first commercial order, W. L. Gore and Associates continues to spearhead leadership and innovation in the outdoor garments market.

Seven years after discovering ePTFE in a laboratory in his parent's basement, Bob Gore received the first commercial order for the product. Forty years on, this initial success has resulted in Gore becoming synonymous with the out-door pursuits market. Originally searching for a way to extend the

coverage of PTFE, Bob Gore was to stumble on a product that would revolutionize the outdoor garments market. Expanded polytetrafluoroethylene – ePTFE – was both breathable and water-proof, due to a microporous structure that was comprised 70 per cent air, and is now used in more than 1000 products, from medical devices to guitar strings.

However, the Gore-Tex name has become a household name through its use in hiking and outdoor equipment and clothing. The product went on to become a market leader to such an extent that in 1989, the company introduced the "Guaranteed to keep you dry" warranty, which places a lifetime guarantee on all Gore-Tex products to either repair it, replace it or refund the purchase price if the customer isn't happy. The company has been at the forefront of innovation, which includes the introduction of Gore-Tex Paclite in the late 1990s. This opened the door to

extremely lightweight and small, packable functional outerwear, as the weight per square metre of fabric was reduced from 160g to less than 100g. To cater for those who find themselves in the most rugged of environments Gore-Tex Pro was introduced in 2006, with the lightweight and soft Gore-Tex Active and

Gore-Tex Active with Permanent Beading Surface – the company's most breathable ever membranes – following in later years.

Forty years on, whether it's for running or cycling, skiing or hill walking, Gore is still proving that it's the market-leader in all sectors of the outdoors activities market.

Gore quality test in the rain tower



Gore-Tex winter jacket, around 1977

New Gore-Tex Active jacket with a permanent beading surface





# intertextile

SHANGHAI apparel fabrics

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