

# fibers and filaments

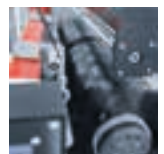
the experts' magazine

issue 18 – may 2014

## Innovations for a better world

### **ITMA Asia & CITME, Shanghai**

Oerlikon Barmag and Oerlikon Neumag show their latest technologies for manmade fiber production.



## Success in special markets

### **High-tech can turn speciality products into commodities**

Progressive, cost-cutting technologies help in getting speciality products out of the niche.



*"We have developed a new staple fiber plant to flexibly produce different products and economically small lots."*

Rainer Straub  
Vice President Product Management  
Oerlikon Manmade Fibers

## **Staple FORCE S 1000 Fibers on request and compact engineering**

You want ... to flexibly produce different products?  
... to produce economically small lots?  
... to reduce waste during product changes?  
... to develop new products?  
... to have more influence on your fiber quality?  
... to be independent?  
... a small compact plant?

In this case, Oerlikon Neumag has developed the new Staple FORCE S 1000 for you. The result is a staple fiber plant unsurpassed in terms of flexibility and economy.



For further information visit us at  
[www.oerlikon.com/manmade-fibers](http://www.oerlikon.com/manmade-fibers)

**oerlikon**  
neumag

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Editorial



Dear Customers, dear Readers,

Innovative industrial solutions that make the textile world a little bit better – this is a commitment that we comply with on a daily basis. To this end, we believe that it is all about developing high-tech that provides you with tangible benefits. It is not 'art for the sake of art' that must be permitted to be the driving force behind our developments, it must be the value added they offer our customers.

I believe that we have a history of doing just this. And you, our customers have played a decisive role in this. With your ideas and challenges, each and every one of you supplies us with invaluable input. It is you who tells us how your world revolves and it is therefore you who helps us find the right solutions. Which is why the constant dialog with you is so essential to us.

For this reason, we are thrilled to be able to welcome you to the ITMA Asia & CITME in Shanghai in June, where we will be showcasing a selection of our innovations: in addition to the new WINGS 1800, which has made productivity increases of 20 percent possible, we will also be exhibiting a WINGS solution for the production of polyamide HOY. Furthermore, our showcase will also include the WinTrax-A carbon fiber winder and we will be unveiling the new Staple FORCE S1000 staple fiber system as well.

'From Melt to Yarn' is our motto – and not just for the ITMA Asia & CITME. This means that we can accompany you along the entire process chain – from polycondensation through to the finished package or the finished nonwoven fabric. And that is not nearly all: our After-Sales Service will also be presenting several new products and services. And we would like to discuss these with you in Shanghai as well.

Innovation is also the topic of this edition of our Fibers & Filaments technology magazine. Please read about those topics we will be showcasing at the ITMA Asia & CITME, what trends we anticipate and what technologies we have ready for you.

I hope you enjoy reading this edition of Fibers & Filaments.

With best regards,

Stefan Kroß, CEO of Oerlikon Manmade Fibers

# Innovations for a better world

ITMA Asia & CITME in Shanghai



Once again, the combination of the ITMA ASIA & CITME is this year the most important trade fair event for the textile machine sector. For the fourth time since 2008, the trade fair will be taking place in China's megacity of Shanghai. Under the motto 'From Melt to Yarn', Oerlikon Manmade Fibers will be exhibiting in Hall W3, Stand F01 with its Oerlikon Barmag and Oerlikon Neumag brands and invites all trade visitors to come and talk about its new services along the entire manmade fiber production value-added chain.

**T**he focus of the trade fair attendance of the world's leading manmade fiber manufacturing solutions provider is the entire process chain: From Melt to Yarn, Oerlikon Manmade Fibers accompanies yarn manufacturers with innovative technologies and sophisticated services. Here, environmentally-friendly and sustainable, e-save certified solutions are in the foreground. "We will be presenting the trade audience with several innovations focusing on the topic of manmade fiber yarn manufacturing, both in the service sector and in the form of concrete exhibits", announces André Wissenberg, Head of Marketing. He continues by promising: "Our engineers and market experts are looking forward to avidly talking to our customers from across the world."

In concrete terms, the showcased product portfolio will range from continuous polycondensation systems (CP), state-of-the-art methods for environmentally-friendly direct spin-dyeing using the 3DD mixer technology all the way through to the very latest, state-of-the-art high-speed winders for POY, HOY, FDY, IDY and BCF processes. In addition to exhibiting spinning pumps, the company will also be focusing on production solutions for nonwovens and for specialty yarns. "Once again, we will be deploying virtual reality at our trade fair stand: in our virtual showroom, we will be displaying our technologies in 3D, hence taking visitors on a journey through our systems and machines", explains

marketing expert Rickey Steele, who will be accompanying customers through virtual worlds during all five days of the trade fair. The following machines and components will be in the main focus of the Oerlikon Manmade Fiber stand:

#### **WINGS POY 1800 boosts yarn production by another 20 percent**

Oerlikon Barmag has set a new benchmark for the efficient production of polyester fibers with its new yarn winder WINGS POY 1800. The new winding unit boosts productivity by another 20 percent using virtually the same amount of production space as the previous model. "With WINGS POY 1800, we are once again underscoring our technological leadership in the area of filament spinning. We will use this technology to sustainably bolster our market share of more than 40 percent in the manmade fiber machinery industry", says Stefan Kroß, CEO of Oerlikon's Manmade Fibers Segment. Compared to its predecessor model, WINGS POY 1800 can accommodate twelve bobbins instead of the previous ten bobbins which required highly sophisticated technical developments. "With WINGS POY 1800, we are writing another chapter in our success story and moving even further ahead of our competitors. Unlike any other spinning products in the marketplace, WINGS delivers efficient and profitable filament production, while supplying the highest level of yarn quality," comments Stefan Kroß.

The WINGS technology covers the main spinning processes in POY as well as FDY.



The Winding INtegrated Godet Solution, or WINGS, is highly user-friendly, groundbreaking equipment that requires more than 30 percent less space. Oerlikon Barmag introduced WINGS POY to the market in 2007, ushering in a totally new dimension to manmade fiber spinning. More than 14,000 WINGS units for the POY and FDY yarn types have been sold since market introduction.

#### **WINGS PA HOY for special requirements**

The new WINGS take-up concept, designed for the special requirements of economical nylon HOY production, offers all the benefits of the reliable WINGS POY winder. "It includes special optimization for the HOY requirements, including the high intermingling knots, spray for protection and the friction-optimized take-up design for the lowest nylon denier ranges", says Markus Reichwein, Product Manager Apparel.

#### **DTY**

The eFK manual and eAFK automatic texturing machines showcase the evolution of 'made by Oerlikon Barmag' texturing: tried-and-tested solutions such as the take-up system and the pneumatic yarn stringing-up device have been retained and new technologies have been deployed where they markedly improve machine efficiency, profitability and handling. At the ITMA ASIA & CITME Oerlikon Barmag will be presenting new innovative features for the texturing technologies.

#### **Staple FORCE S 1000 – compact and economical**

The new compact plant is specially laid out for the economical production of staple fibers in small lots of up to 15 tons per day, as required for the production of carded nonwovens. The Staple FORCE not only impresses with its low initial investment and compact construction, but the energy costs are also significantly reduced as a result of replacing steam and water baths with a dry-drawing process. "The Staple FORCE S 1000 is directed at downstream integrators, who in future wish to manufacture the fibers for their products in-house, enabling the nonwovens producer to manufacture and further develop its end products without disclosing know-how and without quality fluctuations", explains Rainer Straub, Head of Product Management.



Compact and economical staple fiber production in small lots – this is the mission of Oerlikon Neumag's new Staple FORCE S 1000

#### **A partner to China for half a century now**

In the fiftieth year of its partnership with the Chinese textile industry, Oerlikon Manmade Fibers is celebrating this extraordinary anniversary with all its guests at its trade fair stand in 2014. The company has been supplying China with manmade fiber spinning plants for half a century now. The managers at the former Barmer Maschinenfabrik AG, or 'Barmag' in short, in Remscheid, Germany, hence laid the foundations back in the mid-1960s for the currently excellent business relations with the world's largest manufacturers of polyester and polyamide. Neumag followed soon after.



View on the Barmag booth at the TECHNOGERMA, the German industrial fair in Beijing in 1975.

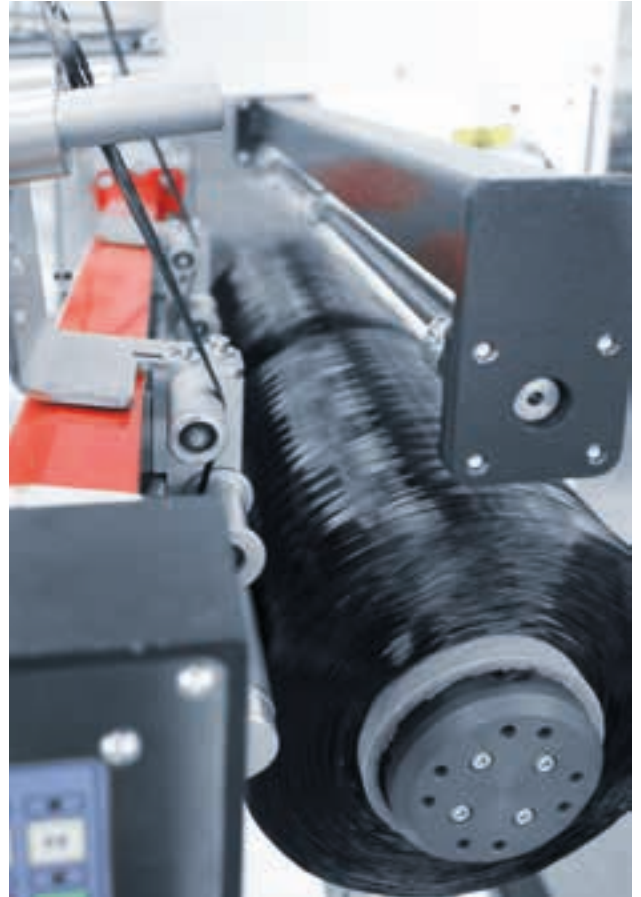
### WinTrax-A winder for high-performance yarns

Special yarns are not only deployed in special applications, they also require special processing methods and techniques. "The WinTrax winder was developed specifically for sensitive carbon fibers", explains Harald Müller, Regional Sales Director Oerlikon Barmag. WinTrax is the solution for the economic production of carbon fibers of the very highest quality with a simultaneously perfect package build. Flexible, simple to operate and with minimum maintenance requirements, WinTrax is available either as a manual or as an automatic winder.

### Partnering for performance

In addition to the machine exhibits, Oerlikon Manmade Fibers will also be showcasing its expanded range of services under its 'Partnering for Performance' motto. And Oerlikon is hoping to offer new services especially within the Asian market, which has grown immensely in importance above all over the past few years and which today – with more than 70 percent of worldwide manmade fiber production – is the center of a global industry. Oerlikon Manmade Fibers is able to draw on a very well-developed network and established processes, especially in China. And it goes without saying that the Oerlikon Barmag and Oerlikon Neumag service experts bring many years of experience with them. (bey, che)

For more information  
see pages 44 - 47



The WinTrax winder makes the economic production of high quality carbon fibers possible.

**e-save**  
comprehensive efficiency



### 10 years of e-save

Oerlikon Manmade Fibers' leading technological position is based on a corporate culture in which great importance is given to future-oriented developments and close partnerships. Peak performance, innovativeness, integrity and team spirit are the values that describe the daily business and against whose results the employees at Oerlikon Manmade Fibers wish to be measured. With its e-save program, Oerlikon Manmade Fibers introduced a label for energy-efficient systems, machines and components back in 2004. Over the past ten years, e-save has firmly established itself as a trademark for a comprehensive efficiency program. This underlines the trailblazing role that Oerlikon Manmade Fibers plays in commercial success and sustainability. Meanwhile, all Oerlikon Manmade Fibers innovations are developed with the following four e-save factors in mind: energy, economics, environment and ergonomics.

More detailed information on e-save can be found by going to:  
[www.oerlikon.com/manmade fibers](http://www.oerlikon.com/manmade fibers)



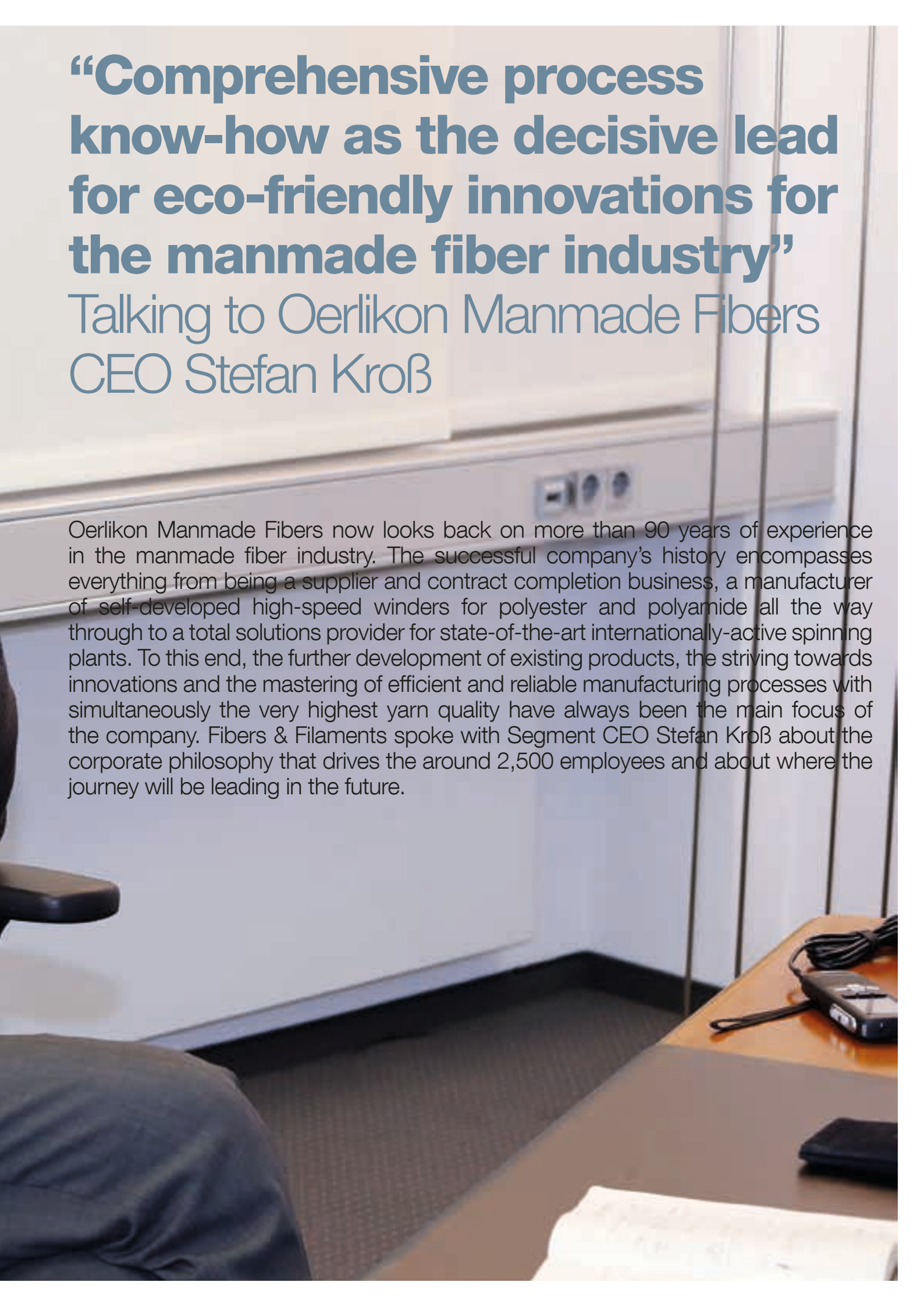




# “Comprehensive process know-how as the decisive lead for eco-friendly innovations for the manmade fiber industry”

## Talking to Oerlikon Manmade Fibers CEO Stefan Kroß

Oerlikon Manmade Fibers now looks back on more than 90 years of experience in the manmade fiber industry. The successful company's history encompasses everything from being a supplier and contract completion business, a manufacturer of self-developed high-speed winders for polyester and polyamide all the way through to a total solutions provider for state-of-the-art internationally-active spinning plants. To this end, the further development of existing products, the striving towards innovations and the mastering of efficient and reliable manufacturing processes with simultaneously the very highest yarn quality have always been the main focus of the company. Fibers & Filaments spoke with Segment CEO Stefan Kroß about the corporate philosophy that drives the around 2,500 employees and about where the journey will be leading in the future.



Mr Kroß, how is it that – with its Oerlikon Barmag and Oerlikon Neumag brands – Oerlikon Manmade Fibers always succeeds in launching revolutionary and market-changing products, such as WINGS or the S+ BCF system, on the world's market?

The development of new technological solutions requires considerable experience and comprehensive know-how, the right people on board along with an international network comprising cooperative customers, inspiring universities, reliable systems partners and innovative service technicians. And we have been able to draw on these with great consistency over a period of many decades. The team is operating like a well-oiled machine, running smoothly without any friction. Controversial discussions are conducted in a targeted and efficient manner within the context of our time-to-market (TTM) and innovation processes. And they all serve just one purpose: the development of economically-attractive products aimed at making our customers successful. Because this is the only way that we too can be successful.

How important are individual employees in the development of new products?

Each of our around 2,500 employees plays a decisive role in the progress of our company. But we draw on the services and expertise of more than 400 extremely experienced engineers, technologists and service technicians, who in themselves are all experts in their respective fields, during the development of new products. They are all passionate about their work, always striving to create ever-new solutions in collaboration with our customers. Together with our product management, sales and marketing experts, they are able to look many years into the future and anticipate future market developments that may have an impact on new product ideas.



What research and development competencies must a successful company like yours bring to such a complex industry?

The parameters of the technology solutions deployed in machine and systems construction within the man-made fiber industry frequently hover on the threshold of physical possibility. Based on our physics and chemistry know-how, our spinning systems solutions – from the monomer all the way through to the finished yarn – manufacture many tens of millions of tons of polyester and polyamide, every year and throughout the world; in other words, commodities that today's world requires for the most varied applications, predominantly however those deployed in the apparel sector. We are the technology and market leader in virtually all our product lines. We require, and are able to draw on, a whole spectrum of competencies: polymer chemists, thermodynamics specialists, flow technicians, experts in simulation and process engineering, classical machine construction engineers as well as several software developers. In conjunction with an experienced engineering team and outstanding machine and systems construction facilities, mastering all processes relevant to manmade fiber production is the key to success.



Mr Kroß, market-compatible innovations are therefore always the result of a combination of competent market analysis, research and development, state-of-the-art manufacturing facilities and – last, but certainly not least – successful sales?

Yes, it is like dealing with a large jigsaw puzzle. The sum of the individual pieces is actually what makes the whole thing come together and ready for market. However, it is decisive today that one masters, constantly optimizes and consistently makes more efficient every single process along the value chain all the way through to the finished product. In addition to high standards of quality, the increasing speed with which we drive projects forward is one of the most important factors within a competition-critical environment. Here, we have among other things launched the Oerlikon Operational Excellence Initiative within the Oerlikon Group, aimed at continually further improving our processes.

How much do you invest in research and development?

For many decades now, Oerlikon Manmade Fibers has been investing in all areas of the company, but has been above all making an annual investment into its research and development of a double digit million euro amount. To this end, we ensure that – with our Oerlikon Barmag and Oerlikon Neumag brands – we can always supply the markets with the right products at the right point in time. We develop unique technology solutions that allow our customers to be competitive. The core of all our R&D activities focuses on higher productivity and improved efficiency of our products. Furthermore, we also focus on lowering energy consumption along with more compact, more environmentally-friendly and more sustainable solutions. All this is carried out by our research and development division in accordance with the e-save program, which we launched back in 2004, so we will be celebrating the 10th anniversary of e-save this year.

What can your customers expect in the future in terms of new Oerlikon Manmade Fibers developments?

In all topics relating to future developments and innovations, we always draw on our comprehensive expertise, particularly that which we have acquired over the past few years. Our philosophy is: From Melt to Yarn. With this, we want to clearly express that we accompany our customers throughout their journey – from the raw material through to the finished product. Comprehensive process know-how harbors the decisive competitive edge in the development of more environmentally-friendly innovations for the manmade fiber industry. I am profoundly convinced of this. Profitable and sustainable growth for all involved is our company's objective and hence also our contribution to securing both our own future and that of our our customers. Performance, quality, providing future-proof solutions and ambition are the factors that enable Oerlikon Manmade Fibers to take on the challenges of the future – on a daily basis and with great confidence. I will not be revealing too much at this point by telling you that the products and services to be unveiled at the ITMA ASIA & CITME 2014 in Shanghai are just the first in a whole range of innovations in our core technologies. Come and convince yourself by visiting us at the trade fair, Stand F01 in Hall W3. I cordially invite all readers of Fibers & Filaments to come and see us in action.

Thank you for speaking to us. (aw)

### Oerlikon Manmade Fibers at a glance

The Oerlikon Barmag and Oerlikon Neumag brands represented in the Manmade Fibers Segment are pioneers in synthetic fiber manufacturing.

Oerlikon Barmag is the leader in filament spinning systems and texturing machines used, for example, in the production and processing of polyester, polyamide and nylon. The WINGS (Winder INtegrated Godet Solution) winding systems for POY (partially oriented yarn) and FDY (fully drawn yarn) stand out by virtue of their consumption of 30 percent less energy and of taking up less production space in a company's spinning facilities. The core competences of Oerlikon Neumag are systems used in the production of BCF (bulked continuous filament) carpet yarn, synthetic staple fibers and nonwoven fabrics. The segment also offers the engineering and construction of polycondensation and polymerization systems, spanning all of the different steps involved in manmade fiber production, ranging from molten plastic to yarn. Manmade fibers are processed into functional wear, carpets and upholstery or into technical textiles such as airbags, seat belts and geotextiles. The main Oerlikon Barmag markets are India and China, while Oerlikon Neumag's focus is on the USA, Turkey and China. 22 of the 25 largest synthetic fiber producers, who together account for 60 percent of the annual production of filaments and fibers, are customers of the segment. This includes global companies such as Shenghong, Tongkung, Xinfengming, Indorama and Wellknown Polyesters. The Manmade Fibers Segment has production facilities in Europe and Asia, while R&D is concentrated in Germany and China. The Segment maintains the world's largest technical center for manmade fibers in Remscheid.

More detailed information on Oerlikon Manmade Fibers can be found by going to:

[www.oerlikon.com/manmadefibers](http://www.oerlikon.com/manmadefibers)



# Success in special markets? High-tech can help!

How can we tap into new markets and new growth with manmade fiber textiles? Answer: With progressive, cost-cutting manufacturing technologies. This is particularly possible in times in which growth and success are increasingly being sourced in special markets or with customized textile products. Oerlikon Manmade Fibers is spurring on this trend with flexible, innovative machine technology – and has already turned specialty products into commodities.





Microfilaments are a fixed feature in the fashions of today and tomorrow. Creative textile manufacturers are processing yarns with ever-smaller titers and are finding ever-more applications for them. This looked very different about ten years ago. The manufacture of such fine manmade fibers was relatively expensive, with prices correspondingly high and the market very limited. This changed with the introduction of the innovative Oerlikon Barmag EvoQuench technology. Its radial quenching system allows the manufacture of microfilament yarns with extremely high numbers of filaments, improves the quality and considerably reduces the production costs compared to the crossflow quenching prevalent up until then.

In 2007, an Oerlikon Barmag customer was the first to market large quantities of correspondingly manufactured microfilaments. This lowered prices and ultimately led to the broad breakthrough of microfilaments within the textile market. "With our new technology, we were able to help our customers establish their own markets and to transform a niche product into a mass product. Today, 0.5 dpf (denier per filament) is a commodity", summarizes Markus Reichwein, Product Manager for Textile Applications at Oerlikon Manmade Fibers not without a certain pride.

This kind of business opportunity is currently actually on the rise. Because mass products now only offer small profit margins, manufacturers are increasingly looking for success in niche markets or with textile specialty products. It is hoped that personalized and customized articles will create new markets and greater growth, while yarn innovations will replace existing fiber products.

#### **Currently the finest fabric: DTY yarn from Oerlikon Barmag machines**

High-tech can contribute many things towards this business. "Our machines can completely manufacture everything we regard as textile trends today – immediately or with slightly adapted configurations", ensures Markus Reichwein. A current example is the finest DTY fabric, manufactured and textured using an Oerlikon Barmag DTY machine. The 7 denier DTY weft knitted interlock fabric made from 100 percent polyester weighs in at just 25 gsm (grams per square meter) and is currently considered to be the lightest of its kind. At the 2013 International Textile Exhibition in Shanghai, a Chinese manufacturer presented jackets made from a seamless compound comprising both an ultralight and a different fabric. Despite its unique fineness, this much admired fabric was moderately priced – in turn thanks to the Oerlikon Manmade Fibers production technology, which today enables the manufacture of a product, for example one that used to traditionally be made from nylon, from considerably less expensive polyester.

And the technology also played a hugely-important role in the victory parade being conducted by HMLS (High Modulus Low Shrinkage) yarns, which are frequently used in tire cord. With their help, it is meanwhile possible to productively manufacture these tear-resistant yarns at high speed and in excellent quality. This was helped, and continues to be helped, by machines from Oerlikon Barmag. This technical progress – and the developments and growing demand in the automobile industry – have transformed the former niche product HMLS into a now standard yarn.



There are undoubtedly also niche markets with end uses for which there are per se only limited applications or market opportunities – for example, due to their special properties, due to their high costs or due to the limited availability of raw materials. These include innovative niche products such as biodegradable polymers, recycled polyester (rPET) along with flame-resistant and bi-component yarns, to name but a few. However, all niche yarns can be manufactured with, in principle, the same Oerlikon Barmag technologies, which can also be deployed for mass products – depending on the individual case with or without modifications.

In other words: the advantages of established and innovative technology can also be used in niche markets. These include, for example, operating comfort, optimized string-up times and the productivity and efficiency of the WINGS POY and FDY technology. This allows manufacturers to reduce energy consumption by up to 30 percent and verifiably generate yarns with excellent productivity and low waste rates. Or the eAFK, the automatic DTY texturing machine with its economy, efficiency and huge range of processible polymers – ranging from polyester and polyamide, polypropylene all the way through to PLA and PTT. Modern production technology can also replace expensive, energy-intensive and environmentally-unfriendly processes and methods for manufacturing the end product. An example is the trend towards replacing chemical bath dyeing with fabrics manufactured from spun-dyed yarns. This is made possible with Oerlikon Barmag 3DD masterbatch systems.

“With our technology competence, we are also creating an excellent market starting position for niche products. To this end, we offer solutions for the most varied requirements; whether for a highly-flexible, fast and cost-optimized production set-up, for low energy consumption, for avoiding waste or for lowering the consumption of resources. With these trump cards in our hands, we can actively help shape niche businesses to varying degrees. In the best-case scenario, we can even influence and reinforce market trends”, explains Markus Reichwein. However, primarily decisive for success are always the manufacturers and their creativity in discovering and exploiting niches.

## Great outlook: production technology for knit shoes

This is an art that is currently being quite conspicuously practiced by the leading sports article manufacturers with a, in many ways, future-oriented lifestyle product: sports shoes made from synthetic yarn, as comfortable as socks and as robust as shoes. The special features in these innovative running shoes are not limited to just their intelligent textile composition and lightness. The actual trump card is helped by the automated knitting machines with which the yarn for the upper section of the shoes is woven in a single piece in a highly-sophisticated process. On the one hand, it creates the possibility to make the product more customized and flexible and therefore caters to an important future trend within the fashion world. On the other hand, the computer-controlled weaving technology dispenses with, or minimizes, the actual expensive, labor-intensive, manual processing steps involved in manufacturing the items.

**“With our technologies,  
we help customers  
turn speciality products  
into mass products.”  
Markus Reichwein,  
Oerlikon Barmag**

This promises a significant reduction in production time and labor costs as well as a corresponding increase in profit margins. At the same time, producers are now considerably less dependent on manufacturing in Asian low-wage countries. A tremendous advantage when considering that manufacturers want to orient themselves more strongly in their local end markets and quickly pick up on, and cater to, regional customer requirements. Because fashion is becoming increasingly fast-changing; for this reason, fast reaction times and a corresponding proximity to the market are becoming ever more important.

“This development is trailblazing and will extend beyond the sports shoe market and into other areas of fashion”, predicts Markus Reichwein, “as there will be increasing pressures on competitiveness and wage costs. Intelligent technological solutions can create alternatives here and – as already described in the example of Oerlikon Barmag’s EvoQuench technology – effectively support trends.” (tho)

## Trend towards multifunctional nonwovens

Nonwovens started their meteoric rise around the turn-of-the-millennium. Today, textile fabrics reveal their growing diversity with ever more functions and combinations with the most varied (textile) materials. Extremely flexible manufacturing processes and methods are the driving force behind this trend. To this end, nonwovens manufactured using airlaid technology, for example, can be directly laid onto a supply material such as a tissue, spunbond or even a carding web. The process permits the processing of the most diverse raw materials: recycled fibers, natural fibers such as nettle and hay fibers, processed leather waste or even old tire granulates along with metal, stone, glass and carbon fibers. And synthetic fibers with greater lengths or with special effects – such as the capacity to electrically conduct – can also be used.

This tremendous production technology flexibility enables the development of compound textiles with diverse composite structures. To this end, numerous, even contrary functional properties, can be advantageously combined in a single nonwoven fabric: for example, soft- and dry-touch, high absorption or the highest retention capacity for liquids with simultaneous moisture barriers. Furthermore, alternative, functionally-diverse manufacturing materials – for napkins, tablecloths, food trays and many other applications all the way through to apparel – could be produced in the future. For the development and production of nonwovens for this kind of end product, Oerlikon Neumag – as a leading supplier – offers a wide range of nonwovens technologies: from spunbonds to airlaid technology.



Since January of this year the Oerlikon Group has been headed by Dr. Brice Koch.

## New CEO

### Brice Koch new Group CEO

In January of this year, Dr. Brice Koch assumed his role as the new Chief Executive Officer of the Oerlikon group. Dr. Koch comes to Oerlikon following a successful career at ABB, where he has been a member of the Group Executive Committee since 2010. This appointment further demonstrates Oerlikon's commitment to technological leadership and the expansion of its global footprint. Oerlikon Chairman Tim Summers stated: "The Board of Directors is delighted to welcome Dr. Koch to the Oerlikon Group as Chief Executive. His breadth of experience will guide Oerlikon through the next phase of its development and the Board looks forward to working with him."

The 49-year-old French citizen holds a PhD in material science from the ETHZ (Swiss Federal Institute of Technology, Zurich) and brings with him tremendous industrial management experience. He speaks fluent English, French and German and is a member of the ETH Zurich Foundation Board of Trustees. "I look forward to leading the Oerlikon team – which is clearly deeply-talented – into the future and help it build on such a strong foundation of technological leadership and global reach. The opportunity to bring this pearl of Swiss industrial heritage to the next level is very exciting", stated Dr. Koch. (bbö)



He knows the Oerlikon Neumag systems in and out: Stefan Schäfer, the new Sales Director Staple Fiber.

## New recruitment

### Stefan Schäfer reinforces the staple fiber sales team

Since October 2013, Stefan Schäfer has been looking after customers in East Asia in his role as Oerlikon Neumag Sales Director Staple Fiber. The machine construction engineer has been working for the Neumünster-based systems builder since 1994.

After various assignments in production, the 49-year-old family man spent ten years in charge of assembling staple fiber systems throughout the world. Very impressive were the major plants installed in China: all in all, he was responsible – as the construction site manager – for commissioning a total capacity of 3,500 tons per day. Following this, Stefan Schäfer was responsible for the international procurement of parts and components, in which case he was decisive in expanding this vital department, also profiting from his many years of experience in the production and assembly divisions. From 2009 to September 2013 the Hesse native was Production Director at Oerlikon Neumag, hence responsible for punctual and high-quality component provision for the assembly division. (che)





Oerlikon Manmade Fibers China Representative Tony Yung (left) and CEO Stefan Kroß followed the invitation of China's Minister of Textile Wang Tiankai to the China Textile Round Table Forum.

### China Textile Round Table Forum Conference 2014 China Textile Round Table a total success

The Ninth China Textile Round Table Forum Annual Conference, co-sponsored by Oerlikon Manmade Fibers, was held in Beijing on February 23, 2014. Nine years have passed since Oerlikon Manmade Fibers first sponsored this high-end forum. The China Textile Round Table Forum is organized by the CNTAC (China National Textile & Apparel Council) and hosted by the China Textile Economy Research Center and the CNTA News Center.

This year's annual conference, focusing on the topic of "Comprehensively Deepening Reforms and Developing the Textile Industry", provided a platform for participants to conduct in-depth discussions on current issues and corresponding countermeasures. Topics were discussed by more than 320 members, including personnel from related government departments, the CNTAC and related industry associations as well as well-known domestic and foreign entrepreneurs and the media. Stefan Kroß, CEO of Oerlikon Manmade Fibers, gave a speech on "Comprehensive process know-how as the decisive lead for eco-friendly innovations for the manmade fibers industry". The Ninth China Textile Round Table Forum Annual Conference was a huge success. (clu)



Ravi B. Mishra (left) noticed a high interest in Oerlikon Barmag's polyurethane processing gear pump solutions during PU Tech India.

### PU Tech India

### India – growing market for the polyurethane industry

The 4<sup>th</sup> Polyurethane Exhibition – which took place between March 12 and 14 in Greater Noida – was very well attended. The trade audience proved hugely interested in the comprehensive market and technology overview that the trade fair offered with raw material producers, equipment suppliers, end users and representatives from industry under a single roof. Polyurethanes are extremely diverse plastics, covering a huge spectrum of applications and whose processing and products are also a strongly-growing industry segment in India.

And it was similarly positive at the Oerlikon Barmag stand, which showcased components deployed in demanding technical processes such as PUR applications, for example. "The trade fair, and also our stand, was well to very well attended on all three days of the trade fair, so much so that we ourselves had very little time to take a tour of the trade fair", comments Dirk Klein, the responsible Senior Sales Manager at Oerlikon Barmag's Gear Pump Division. "Both regular customers and newcomers visited us at our stand, where we engaged in many interesting discussions that provide us with a positive outlook for the future."

Very satisfied with the trade fair, Dirk Klein and his Indian colleague Ravi B. Mishra are already looking forward to the next PU-Tech India, which takes place in 2017. (wa)



Typical applications of composite materials are professional sports.

## JEC European Composites Show 2014

### JEC attracts even more exhibitors and visitors

With a record number of more than 32,000 trade visitors from 88 different countries, this year's JEC European Composites Show in Paris strengthened its position as the sector's most important event. This year, there was a noticeably stronger interest from the Asian region.

Between March 11 and 13, 1,200 exhibitors from throughout the entire composites industry fields showcased their products and services: raw material producers (reinforcements, resins, and additives), processors, equipment, machine & service providers, distributors and end-users. The entire value-added chain was represented, spread out over 54,400 m<sup>2</sup> on two levels. During the affiliated symposium, 39 speakers from the sector provided insights into the progress and innovations in composite research and new applications. "For us, this makes the JEC the ideal event for forging, maintaining and intensifying contacts within the sector", comments Oerlikon Barmag Regional Sales Director, Manuela Friedrich.

The machine and systems builder showcased its specialty yarns winding, as well as its mixing and its metering solutions at the show. To this end, manufacturers like to deploy the spinning pumps – renowned for their precision – for spinning the composite base materials polyacrylonitrile (PAN) and aramid. In contrast, precision metering pumps are deployed, among other things, in casting the composite matrix for composite materials. The WinOro and WinTrax winders from the Chemnitz-based think-tank ensure the efficient and economical winding of the compound materials on which the specialty fibers aramid and carbon are based. The automatic precision winders are available both for one- and two-cop systems. (bey)



Close collaboration: the international on-site team of Oerlikon Neumag in China

#### Successful assembly in record time

### Three staple fiber systems commissioned in record time

Oerlikon Neumag has successfully assembled and commissioned three staple fiber systems for the production of cotton-type fibers in record time at Fujian Jinlun Fiber Shareholding Co. Ltd. in the Chinese Fujian Province.

Following an assembly period of just 12 months and the subsequent three-week commissioning phase, the three systems were – within a matter of a few hours – operating at a stable speed, with optimum fiber quality and minimum wastage. Hartmut Claussen, Head of Project Engineering at Oerlikon Neumag, summarizes: “It was not least thanks to the close and intensive collaboration between the staff in Neumünster and our customer and our colleagues on-site in China that the order was completed without any complications.” Internal standardization and optimization measures resulted in the assembly procedures and commissioning times being significantly reduced.

The new lines – each with a capacity of 200 tons per day – represent the first investment that the Chinese staple fiber yarn manufacturer has placed with the German company. The Chinese enterprise chose Oerlikon Neumag because of its position as one of the world’s leading suppliers of technologies and systems for manufacturing synthetic staple fibers. (che)

## Events

### Techtextile North America

May 13-15, 2014, Atlanta GA, USA

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

### ITMA Asia

June 16-20, 2014, Shanghai China

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

### PCI European Polyester Industry Conference

Oct. 3-4, 2014, Vienna, Austria

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

### RISE® Research, Innovation & Science for Engineered Fabrics Conference

Sept. 8-11, 2014, Atlanta, GA, USA

[www.inda.org](http://www.inda.org)

### OUTLOOK 2014

Sept. 24-26, 2014, Barcelona, Spain

[www.edana.org](http://www.edana.org)

### 3. Engineering Summit

July, 1-2, 2014, Mannheim, Germany

[www.vdma.org](http://www.vdma.org)

### Bondexpo

Oct. 6-9, 2014, Stuttgart, Germany

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

### World of Wipes (WOW®) International Conference

June 2-5, 2014, Minneapolis, MN, USA

[www.inda.org](http://www.inda.org)

### 53. CHEMIEFASERTAGUNG

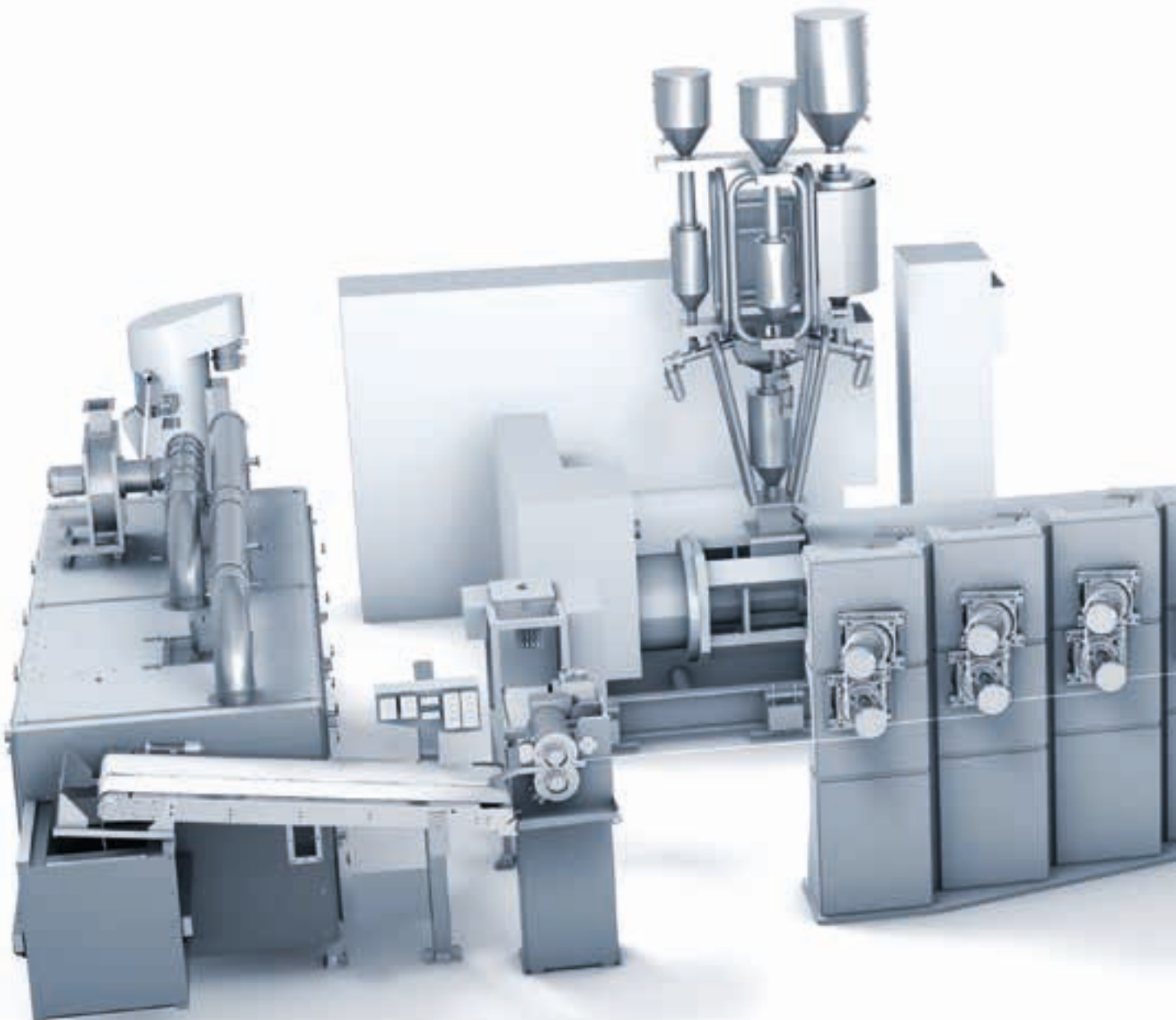
Sept. 10-12, 2014, Dornbirn, Österreich

[www.dornbirn-mfc.com](http://www.dornbirn-mfc.com)

## New staple fiber plant for the production of small lot sizes

# Oerlikon Neumag introduces a new staple fiber plant to the market

There is a constant increase in the demand for manmade fibers from polyester, polypropylene or bi-components for the production of nonwovens for, e.g. geotextiles, filters, automotive or special applications. For 2015, a worldwide requirement of altogether 3.2 million tons of fiber for the production of carded nonwovens has been forecast. This corresponds to an annual growth of more than 5%. The average requirement for the production of carded nonwovens is around 15 – 20 tons of fibers per day and plant. Up to now, it was not possible to economically produce such small lot sizes. With the Staple FORCE S 1000, Oerlikon Neumag is now bringing a plant onto the market which meets these requirements.



## Staple FORCE S 1000 – "Fibers On Request & Compact Engineering"

Economical, flexible and compact, these are the adjectives which describe Oerlikon Neumag's new staple fiber plant. A moderate, initial investment, a modernized technology and a capacity of up to 15 tons per day, stand for an efficient production.

The new plant is directed towards fiber producers with small lot sizes and downstream integrators who, in future, want to produce the fibers for their products in-house, enabling them to produce and further develop their end products with maximum quality control. Furthermore, the fiber producers have the possibility of economically serving the niche markets which, up to now, were unprofitable due to their low sales volume.

The compact construction is the key to an economical and flexible production. The simple handling, beginning with the spin packs to be mounted from the top, an easy threading of the fiber tow with a threading injector up to the crimper, to the short paths from the spinning positions to the baling press, allow the Staple FORCE S 1000 to be operated by only two operators. The combination of a compact construction and quick operability, enable a fast, efficient product change with significantly lower waste rates than with conventional plants on the market.

## 1000 m/min – a changed technology makes it possible

In order to economically produce small capacities up to 15 tons per day, a significantly higher production speed than with conventional, one-step processes, is necessary. The fiber tow produced in three spinning positions is drawn and crimped at 1000 meters per minute.

In order to attain these high process speeds, the draw process has been changed. Whereas previously, the drawing was effected by means of large drawing units, steam and water baths, the drawing with the Staple FORCE S 1000 takes place in a dry condition over godet duos. Oerlikon Neumag has been successfully using this technology in their BCF yarn plants for many years. Due to this simplified process, steam and HTM as energy mediums are not necessary any more. The water application in the process is significantly reduced, thus leading to a distinct cut-back of the energy requirement.

This changed technology also results in a very compact design of the plant. All components from the extruder up to the baling press are installed on altogether 450 m<sup>2</sup>. Special machine foundations are not necessary, a standard industry flooring is adequate.





The crimper has been redesigned according to the stuffer box crimping principle.

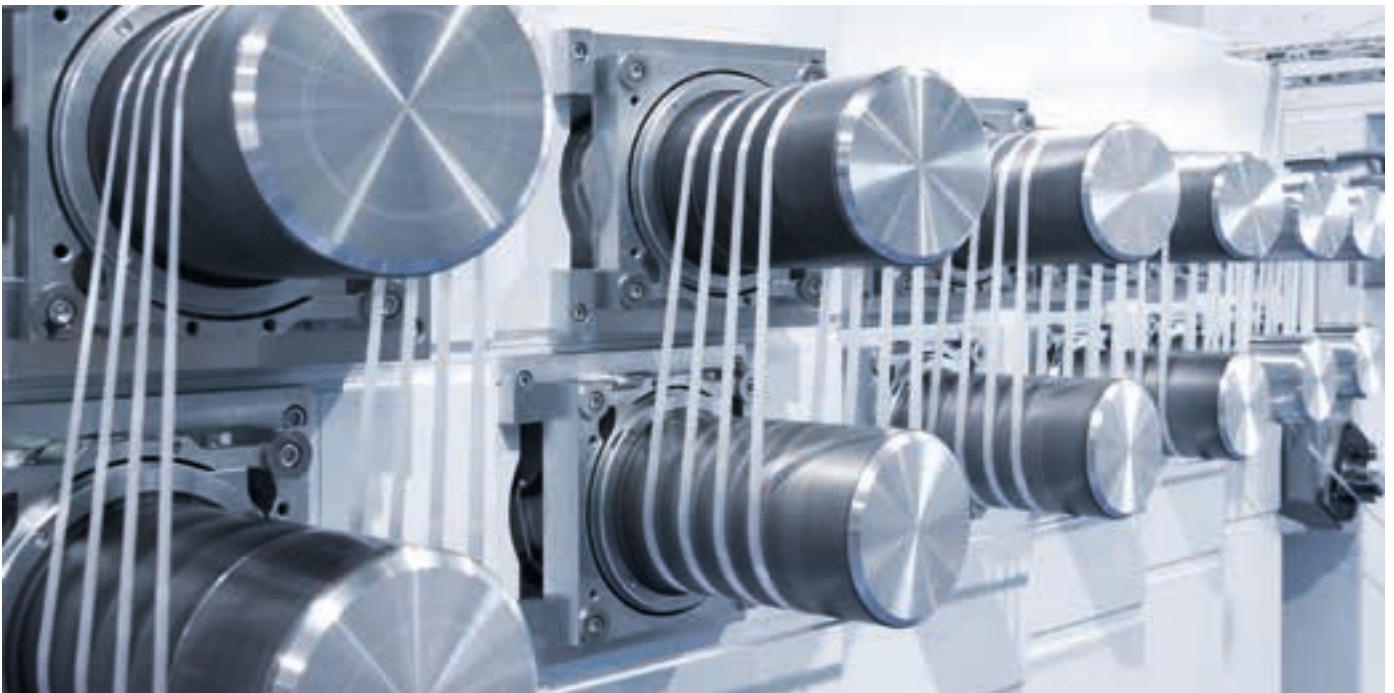
### **The crimper – high-speed Oerlikon Neumag Technology**

The crimper for the Staple Force S 1000 has also been re-designed. At production speeds of more than 1000 m/min, there are high demands on the crimper. The crimper has been designed according to the stuffer box crimping principle. The overhung crimper rolls allow a safe, simple threading with the threading injector, even at these high speeds. All stuffer box parts are easily accessible and can therefore be quickly and simply exchanged.

### **NMC-H 290 – A cutter for highest precision**

Highest demands are not only made on the spinning system, the drawing and crimper, but also on the cutter which has to accommodate the fast process speed. The NMC-H 290 is best laid out for this speed due to its horizontally aligned cutting principle. Staple lengths between 1.5 up to 150 mm can easily be attained with highest precision.

The new staple fiber plant was first introduced to the market in April at the INDEX in Geneva. The solution for fiber producers with small lot sizes attracted wide interest. (che, mgr)



# Warp knitting – the ultimate discipline in further-processing

Warp-knitted textile fabrics are used everywhere: as outerwear and underwear, as flag and decorative fabrics, as backing and lining materials and in the automobile industry. The diverse application possibilities are the result of the very specific utilization properties: elastic or stable in terms of its dimensions, with an open or closed structure, flat or three-dimensional – this flexible process offers a whole range of possibilities.

**T**he fact that warp-knitted products offer such a wide spectrum of applications – from textiles, home textiles all the way through to industrial textiles – is down to the versatility of the product's structure. While thin and elastic knitted fabrics with low running meter weights are desirable for underwear, lining fabrics for sports shoes should above all be three-dimensional, but simultaneously remain light and offer a certain stability. In contrast, industrial applications, such as flag fabrics, above all require high tenacity, as flags are subjected to constant wind and weather.

In terms of versatility, warp-knitted textile fabrics are considerably superior to woven or knitted fabrics. The special manufacturing process of the fabric permits numerous combinations of properties that make the fabrics so interesting for the user. Running meter weights of an enormous range, multidimensionality of the textile fabric, a wide tenacity or elasticity range – all these are convincing arguments for the process. Furthermore, the process excels in terms of its fast formation.

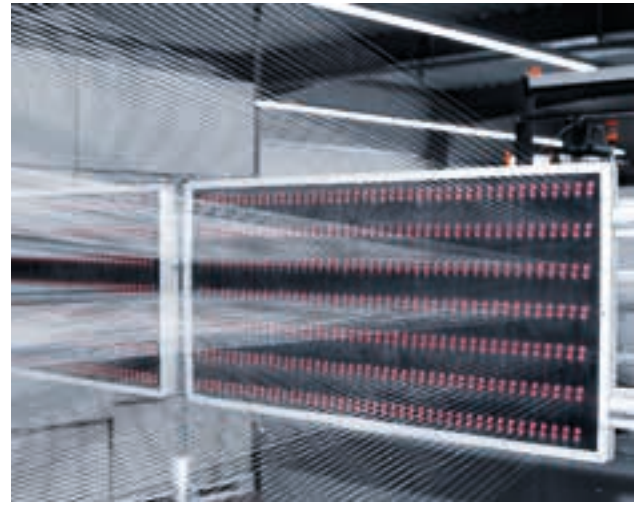
Despite all its application advantages, the ratio of warp-knitted products is comparably low: just 10 to 15% of all filament yarns manufactured end up being used in warp knitting. The reason for this is the highly-complex process required, among other things.

#### **Warp first, then knit**

The versatility of warp-knitted products is matched by the challenging nature of the manufacturing process compared to the supply material. To ensure the textile fabric can be manufactured without problems, the supply material must be particularly even. This not only applies from yarn end to yarn end, but also over time. The supply material is both FDY and DTY.

The warping process, upstream to the knitting, acts as a quality control for the knitting process. The spun or textured filament yarns are rewound into warp beams at speeds of typically between 600 and 1000 m/min; here, poorly moving yarn ends are inevitably rejected. Well warped yarns make knitting considerably easier – this once again underlines the challenging nature of the entire process chain. If the warping system does not supply evenly-wound warp beams, the knitting machine will later not operate within its optimum range due to uneven yarn tensions.

The yarn purity and physical properties are decisive for a successful warp-knitting process. The extremely high dynamism of the warp-knitting process demands both perfect yarn cohesion and the absence of lint. Furthermore, the yarn must have a high tenacity and simultaneously sufficient stretch.





### **Upstream process requirements**

The quality demands on the supply material for the warp-knitting process require the right spinning and texturing equipment. In addition to lint-free yarn with good yarn cohesion, the package build is important: during beaming it must be possible to take off the yarn both in the upper and in the lower layers of the package without malfunctions and stops.

Here, the quality and the condition of the tubes also play a relevant role: the yarn cannot be taken off to the end of the tube if the tube is damaged. This results in repeated yarn breaks and reduced system efficiency during warping. To this end, the yarn manufacturer must always deploy flawless tubes and ensure careful handling of the finished packages during transport.

### **WINGS supplies optimum FDY supply material**

Spinning systems with the WINGS concept provide FDY supply material with the appropriate properties for the demanding warping and warp-knitting process. This is reflected, for example, in the particularly gentle yarn handling that characterizes 'WINGS' type take-up machines: static yarn deflections using yarn guides are always kept as minimal as possible. All larger yarn deflections are carried out using godets or rollers instead of passive yarn guides. To this end, WINGS FDY ensures considerably lower yarn loads than in the case of systems with conventional concepts.

Excellent system performance and outstanding yarn quality are further arguments that speak in favor of the WINGS concept. It allows maximum yield of full packages and AA-class product. In contrast, the waste rates are low – very much to the satisfaction of the system operator.

Equally satisfactory is the further-processing performance of WINGS FDY yarn. Compared to yarns conventionally manufactured using Oerlikon Barmag systems, the number of process interruptions can be the same or even lower. This is one of the findings of a comprehensive long-term study initiated following the launch of WINGS FDY machines.

### **Efficient concept**

And the WINGS solution is also unrivaled in terms of efficiency: One spinning position with WINGS FDY supplies up to 1800 kg of yarn per day. With this, it covers – depending on the generated running meter weight of the fabric – the requirements of requirements of up to five warp knitting machines.

And the WINGS concept also provides huge benefits in terms of its energy efficiency: for each yarn path, the draw winding unit saves between just over 30 and just under 40 percent. Projected on to the overall energy consumption of the spinning system, the savings total in excess of 10 percent.

The concept has convinced the world's yarn producers: this is currently evidenced by the around 1,400 WINGS FDY manufacturing positions operating in China alone; there are approx. 300 further positions being successfully operated in India.

### **Textured yarns for the warp-knitting process**

Textured POY is now also being used in the warp-knitting process. Here, Oerlikon Barmag's automatic eAFK texturing machine caters to the current requirements of modern production facilities and rising quality demands in further-processing – and specifically also in warp knitting.

In addition to the evenness and yarn compaction requirements already described for FDY yarn, the most important factor is that the running lengths of the supply packages are the same. The eAFK manufactures DTY supply packages with equal running lengths and therefore ensures an efficient and low-waste warping process. Optimum take-off behavior for the DTY packages is guaranteed by ATT technology, which is standard in the eAFK. In the case of ATT technology, each yarn lay-down of the package construction is calculated and steered by computer, which enables the highest take-off speeds during further processing.

All in all, the good yarn properties possible using Oerlikon Barmag systems with the corresponding process control command a value added that is up to 15 percent above the general market average. Together with efficient and energy-saving production processes, this enables yarn manufacturers to considerably improve profitability. (bey, rei, sz)

Domotex and the 8<sup>th</sup> BCF Technology Symposium

## Ecological factors are playing an increasingly important role in carpet production

For the 14<sup>th</sup> time now, Oerlikon Neumag exhibited its BCF carpet yarn solutions at the Domotex trade fair in Hanover. The Neumünster-based company was extremely pleased with the four lively trade fair days in mid-January.

After two successful years in the BCF systems business, the market leader continues to register excellent demand for its products and services. Three successful orders were signed even during the Domotex trade fair. The BCF S+ and Sytec One systems are enjoying strong demand at the moment. While – as a result of its 99-percent efficiency and the resulting cost savings in terms of raw materials – the S+ is a convincing solution for commercial applications, the Sytec One is particularly good for demanding production processes due to its monofilament character.

“The S+ and Sytec One systems enable us to be extremely well positioned within the BCF market. We can cover practically all customer requirements with these two systems”, summarizes Martin Rademacher, Sales Director BCF.

### **The 8<sup>th</sup> BCF Technology Symposium once again a complete success**

Directly following the trade fair, around 80 participants from 16 countries took the opportunity to inform themselves on the topic of ‘recycling’ in greater detail at the Oerlikon Neumag facilities in Neumünster.

For several years now, the company has been offering technological solutions for manufacturing fibers and filaments from recycled PET bottles. To date, r-PET fibers were predominantly deployed in less demanding applications. Meanwhile, the technologies are however so well-developed that recycling materials also comply with even more demanding quality requirements. Dr. Klaus Schäfer, Head of R&D, reported on these performance-optimized and energy-efficient technologies in his keynote speech. In his presentation on the changes in the BCF market, Martin Rademacher once again underlined the clear trend towards the increasing utilization of recycled materials in the manufacture of BCF yarns.

The other speakers also confirmed the ever-growing role of ecology in carpet production and presented the most diverse approaches and processes. And the focus was also on carpet backing: Jens Weinhold, Head of Extrusion Lines Development at Oerlikon Neumag, spoke on the tape process for carpet backing. Here, he compared the possibilities and properties offered by polypropylene and polyester.

To this end, the two guest speakers looked beyond the horizons of the Oerlikon Neumag BCF yarn production. Dr. Yves-Simon Gloy from the RWTH Aachen University showcased the EcoMeTex project, whose objective is to optimize sustainability in the manufacture of textile coverings. Under the motto ‘100% Recyclable Carpet within Reach’, John Selfhout from Klieverik Heli B.V. presented a method for latex-free, thermal fixing of carpet yarn. (che)



With virtual reality, the whole system can be interactively experienced in its entire dimension.

WinTape winders delivered to the US

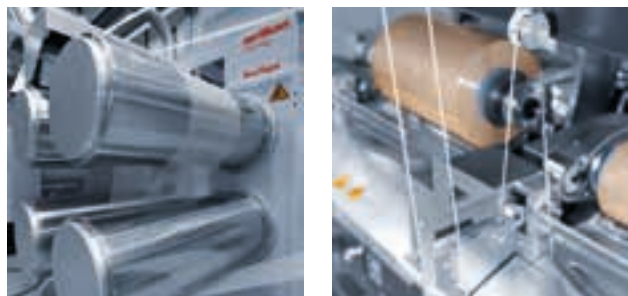
## First WinTape winders now operating successfully

The first WinTape winders have commenced production at two well-known American carpet manufacturers. The fully-automatic tape winder was first unveiled to the trade at the 'K 2013'.

The new, automatic WinTape winding system scores highly with its low level of operator involvement: depending on the technological application, the winder operates without any operating staff for up to 24 hours. The automatic precision winder convinces with its extraordinary transfer reliability when processing both in single and dual tapes. In particular, the virtually 100% safe and reliable automatic transfer of dual tapes for warp packages used on carpet backing has been a globally unsolved technical challenge to date. Its central control system with recipe management and supervision with protection against unauthorized changing as well as the electronically-adjustable crossing angles ensures excellent package quality. Its automatic package transfer and the storage of up to two full packages and up to four empty tubes guarantee an uncomplicated, reliable operating cycle. A transfer tail that can be defined and selected as desired in terms of length round off the innovative new development of the Chemnitz-based Oerlikon Barmag subsidiary. An outstanding price-performance ratio makes the WinTape a prudent investment: the acquisition costs for the automatic

tape winder are about half of those for the alternative components available at the last plastics trade fair.

The WinTape forms an efficient double-act when combined with the also freshly-launched EvoTape tape system: with up to 50 percent greater efficiency compared to conventional standard systems, Oerlikon Barmag has managed a quantum leap in efficiency. At an 'Open House' event – which took place at the Chemnitz site in parallel to the plastics trade fair – interested customers were able to inform themselves of the benefits and advantages of the company's new developments. (bey)



When combined, EvoTape and WinTape promise an up to 50 percent higher efficiency compared to conventional tape systems.

Polycondensation plant installed in Egypt

## Further EPC project for bottle granulate successfully commissioned

Oerlikon Barmag has been able to set a further milestone in its polycondensation engineering and systems construction division: a second project for a subsidiary of the major Indian corporation Dhunseri Petrochemicals & Tea Ltd. (DPTL) – EIPET – has been successfully commissioned. The system, with a capacity of 1,500 tons per day, was assembled and installed in Egypt despite the unsettled political situation. The first of these two system phases was already supplying marketable products just 24 hours after being commissioned. "This simply would not have been possible without excellent cooperation with the customer and the suppliers", comments Achim Debener, responsible for poly-condensation plants, talking about how much he appreciated this great collaboration. The second system phase will be fired up in the near future, ensuring that the company will have an overall capacity of two times 750 tons per day upon full completion of the project.

Although Oerlikon Barmag is very familiar with processing and completing major projects, the logistics were undoubtedly a particular challenge in the case of an EPC project of this complexity. "We have now successfully completed several EPC projects; with this, we have the necessary positive experience to become self-confidently involved even in non-textile polycondensation projects", comments Head of Engineering

Paul-Gerhard Völpe. "Giving us a particular edge here is our international engineering and sourcing network."

The fact that the Remscheid-based solutions provider has an extremely attractive offering in its portfolio is particularly demonstrated by the references generated by the bottle granulate projects for DPTL. (bey)



Egypt is home to the second bottle grade EPC project by Oerlikon Barmag.

## BCF systems booming

Oerlikon Neumag is the world's leading seller of systems for BCF carpet yarn production and recorded a world market share of around 85 percent in both 2012 and 2013. The highlights of this business development therefore also provide information on central movements within the global BCF market. And the upshot is: demand has been booming since the end of the economic crisis. The last two years have been very strong – albeit very erratic – above all for the two market champions, the USA and Turkey.

In 2009, Oerlikon Neumag BCF machine sales were 80 percent under the annual average over the last 13 years. Following this collapse of the market during the financial and economic crisis, demand swiftly and sustainably recovered throughout the subsequent years. In 2010 and 2011, it was in excess of 120 percent and more than 180 percent of average sales in 2012 and 2013.

### 2012: Turkey ahead of the USA

The by far strongest BCF markets are traditionally the USA and, for about the past six years, also Turkey. If we look at 2012 in detail, it becomes clear that Turkey – with a share of around 67 percent of the total volume – generated the highest demand. The reasons for this are, on the one hand, the good general conditions that the country has created for investors. On the other hand, we might assume that initial

investments in machines and the corresponding growth in capacities ultimately translated into sales success and that this success animated further investment. In contrast, the American region weighed in at a relatively low level of 23 percent, which was considerably below the customary demand for this region.

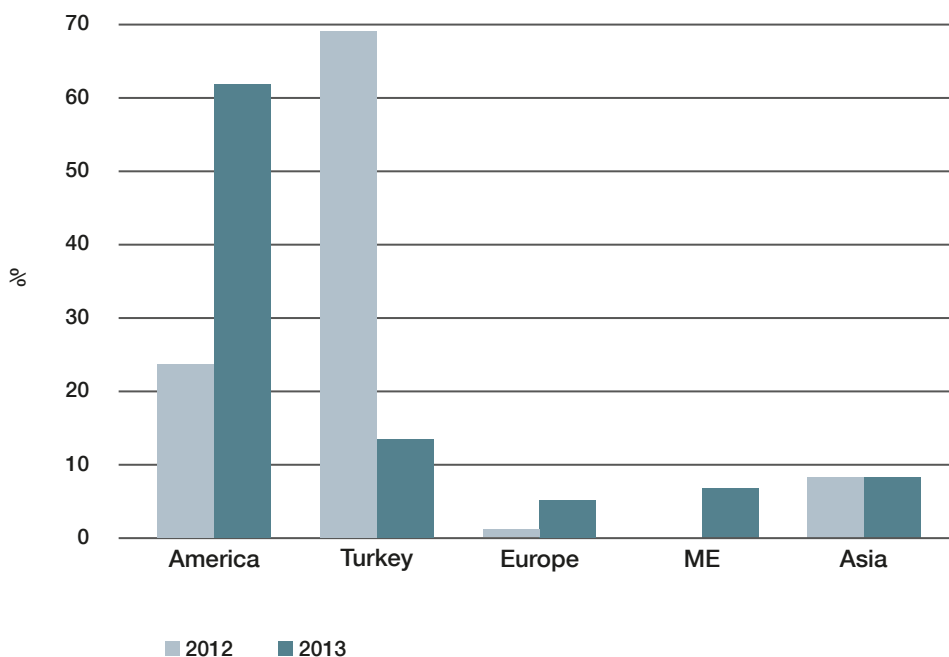
Overall, Oerlikon Neumag completed on 50 individual orders with a sales volume in excess of 290 positions in 2012. This corresponds to a production capacity of approximately 190,000 tons per year. With this volume, Oerlikon Neumag secured itself a global BCF machinery market share of about 85 percent, an achievement that the company was also able to maintain in 2013.

### 2013: The USA ahead of Turkey

2013 saw the two top ranked players switch places with a virtual reversal of the previous year. US-American sales jumped to the highest annual share of 60 percent, while Turkish demand fell to 13 percent. This development was undoubtedly mainly due to market saturation resulting from high investment in the period between 2010 and 2012.

In 2013, the Middle East had also once again gained impetus and invested in new machine capacities. On balance, although the number of orders registered by Oerlikon

## 2012/2013: Regional sales development for BCF systems



The market spread for Oerlikon Neumag BCF systems sold in 2012 and 2013 reveals a changeable picture above all for the leaders, America and Turkey.

Neumag fell considerably from 50 in 2012 to 28 in 2013, major American orders compensated for this decline, ensuring that the sales volume remained at pretty much the same level as in the previous year.

**Polyester on the rise**

Although the abrupt rise in US-American demand in 2013 cannot satisfactorily be explained with the polyester boom in this region, it is however certain that the increase in polymer fibers in 2008 began in the USA – and has continued ever since. The primary reason for this was, on the one hand, the substitution of spun yarn, as BCF yarn made from polyester is considerably less expensive to manufacture. On the other hand, Oerlikon Neumag was able to offer BCF technology that permitted the production of carpet yarn in correspondingly high quality.

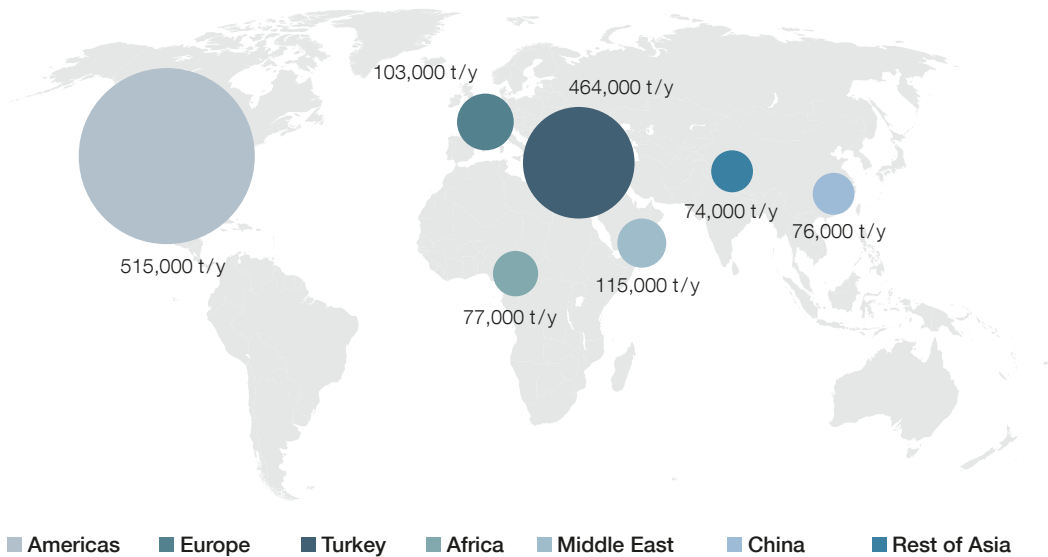
PET as a raw material is also ideal for the carpet products in demand in North America: high-pile, cabled and soft to the

touch. Here, recycled PET raw materials are being increasingly used today. Generally, virgin material is being mixed with regranulated chips in varying ratios, which allows the USA – with an installed production capacity of more than 390,000 tons per year – to meanwhile cover approximately 90 percent of the global market for polyester yarn. Trailing far behind, this is followed by the Middle East, with a share of around 6 percent, along with China and Japan. It is only in the past two years that companies outside the US have begun to increasingly demand PET-compatible BCF extrusion lines.

**Outlook for 2014: strong demand, more PET**

We must assume that the USA will continue to expand its production capacities for polyester. Outside the US, we can also anticipate an expansion of PET systems, although at a considerably lower level. From today's perspective, it looks as though Oerlikon Neumag will be having another successful year with strong demand in 2014. (mr)

**Regional markets for sold BCF systems between 2001 and 2013**



Overall, Oerlikon Neumag delivered, installed and commissioned more than 2,000 BCF positions in the period between 2001 and 2013. This corresponds to more than 5,500 ends and a worldwide production capacity of 1.4 million tons per year. If we look at the regional spread over the past 13 years, the strongest markets by far were the USA and Turkey. Here, around 515,000 tons per year were sold in the USA, with sales in Turkey coming in at over 460,000 tons per year. The Middle East follows with a huge gap (with 115,000 tons per year), as does Europe (with 103,000 tons per year). On average, extrusion systems with a capacity of 75,000 tons per year are attributed to China, Africa and the other Asian countries.

**New S+ generation of machines makes its mark**  
 At the end of 2010, Oerlikon Neumag launched the newest S+ generation of three-end BCF systems. The advantages over the previous S5 technology were so striking that the S+ has virtually completely replaced the old systems in just three years. In particular, the S+ scores highly with faster production speeds of up to 30 percent, 99 percent efficiency for single-color systems and lower energy consumption with considerably improved ease of operation.

# Know

How  
What  
When

2015

## The Fiber Year

The 14<sup>th</sup> edition of the textile annual – ‘The Fiber Year’ – was unveiled in front of an international trade audience within the context of a press conference held at the Industrievereinigung Chemiefaser e.V. (Manmade Fiber Industry Association – IVC) in Frankfurt at the beginning of May. The around 200-page study includes all important natural and manmade fibers, important raw materials – along with an outlook through to 2017 – and nonwovens. Furthermore, twenty country profiles for leading manufacturing and consuming countries provide a global overview of the current developments within the textile industry. For the very first time, a separate chapter provides an outlook for the year 2020. A comprehensive statistical attachment supplies the most important information at a glance.

### **Production and consumption**

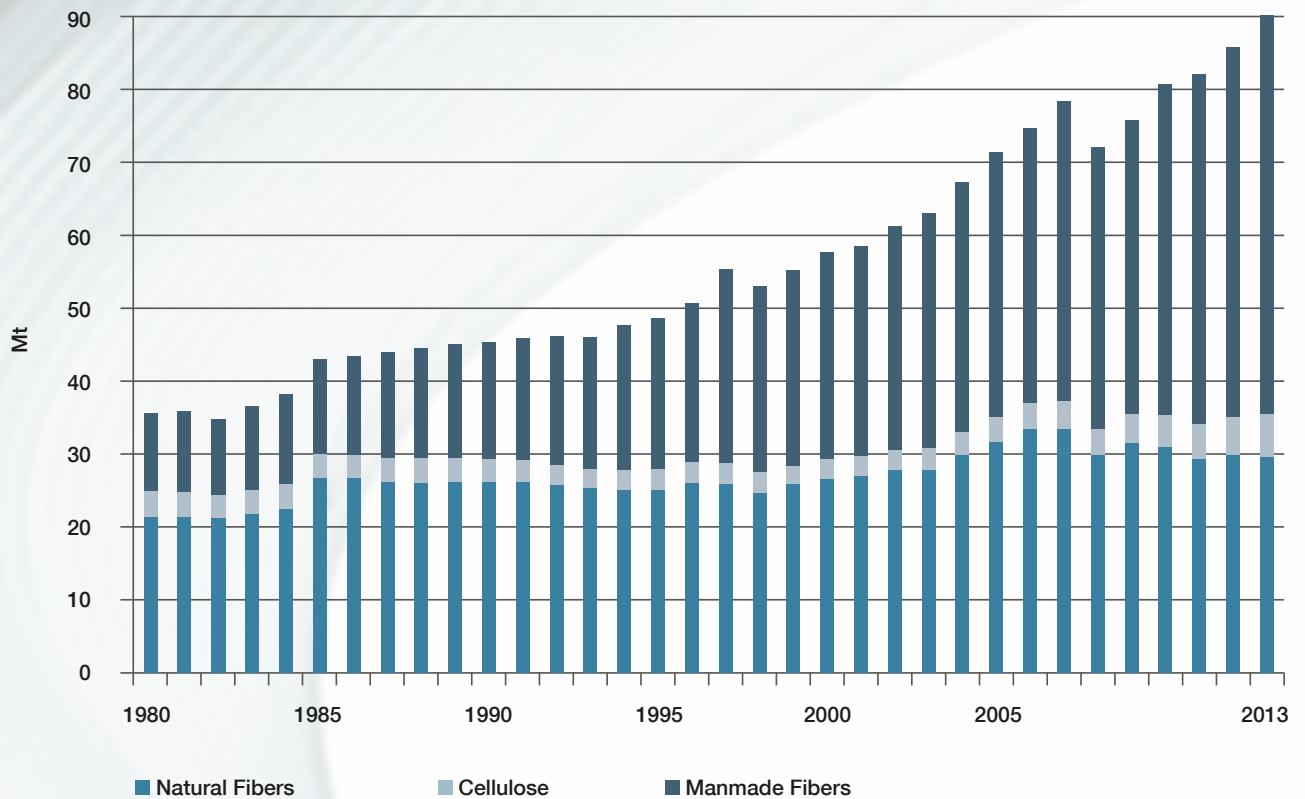
In 2013, the production volume of the worldwide textile industry increased by 2.8 percent to 92.3 million tons. As in the previous year, this growth is decisively due to manmade fibers, which grew by 6.1 percent to 60.3 million tons, while natural fibers recorded a decrease of 3 percent to 32 million tons as a result of cotton sales.

However, the consumption is of greater importance for the further processing of fibers and yarns. While manmade fibers can fundamentally be manufactured on a requirements-oriented basis, natural fibers are subject to climatic conditions and other natural uncertainties. For these reasons, production and consumption are usually not coupled. This leads, in particular in the case of cotton, to deviations,

which can amount to several million tons over a year. The International Cotton Advisory Committee (ICAC) continually updates this kind of data on a worldwide basis. An almost balanced relationship is assumed for all other natural fibers.

On the basis of this, the consumption of fibers and yarns rose by 4.4 percent to 90.1 million tons last year. This growth is weaker than in 2012, when – taking some subsequent revisions of Chinese production information into consideration – consumption rose by 5.3 percent. Despite this, both values are above the average annual growth of 3.5 percent since the turn of the millennium. The current market volume corresponds to an average per-capita consumption of 12.7 kg.

## Worldwide fiber demand



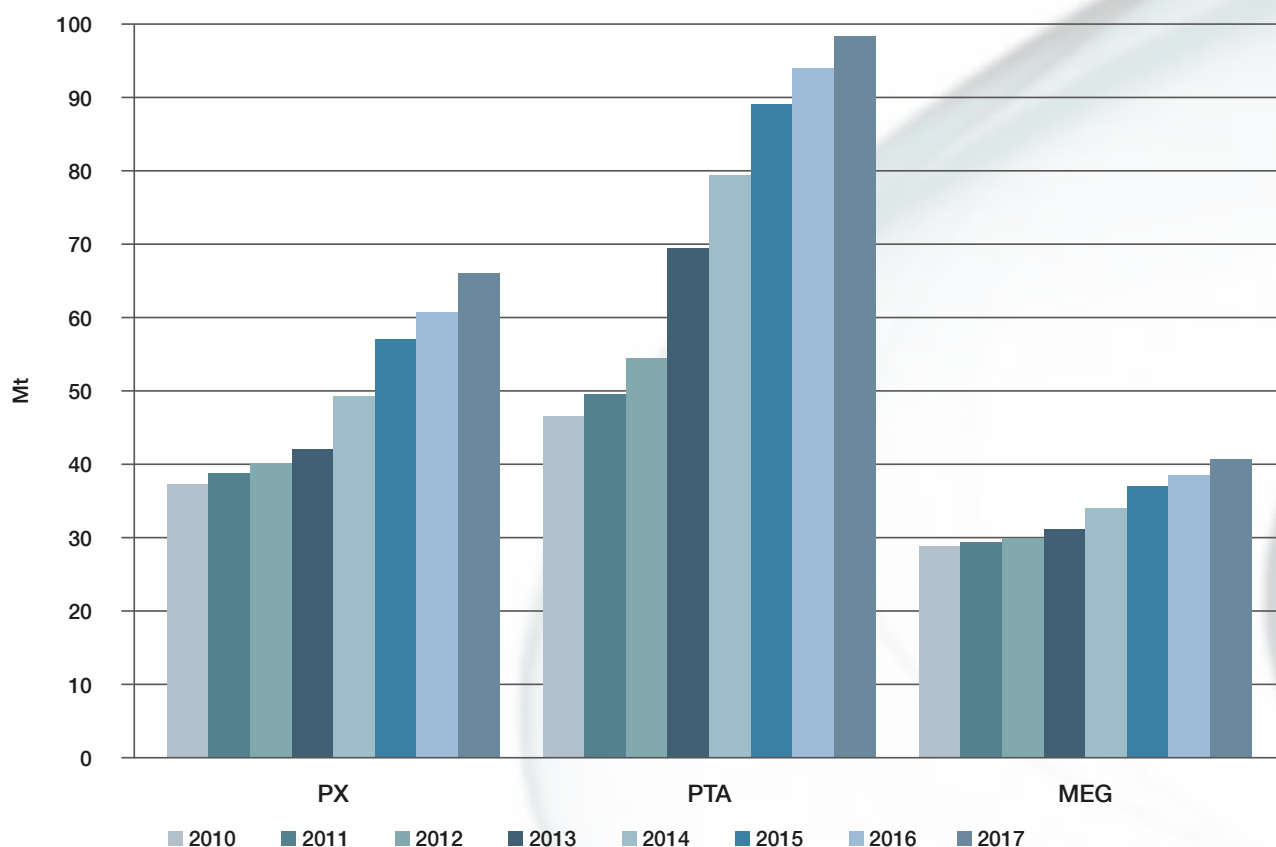
### Raw materials

The inclusion of important raw materials in this annual textile study proves to be a strategic advantage, as some never-seen-before over-capacities have developed as a result of massive investment, particularly those made by Chinese industry. Assuming that all planned and announced projects are implemented as scheduled, there will be tremendous challenges for non-integrated companies both in the People's Republic of China and elsewhere. Here, it will be primarily the raw materials for polyester – paraxylene (PX) and terephthalic acid (PTA) – that will be affected. In addition to inefficient capacity utilization rates, oversupply will result in pressure on prices which may by all means also affect other fiber segments.

From today's perspective, the PTA overcapacity, for example, could reach a conceivable volume of around 30 million tons from 2015 if there is actually a doubling of the global capacities over the shown period. To understand this figure better, this would correspond to the global PTA production in 2004. In certain cases, there have already been adjustments, be these the result of capacities being shut down or investment projects being postponed in advance.

To a lesser extent, caprolactam, the basis for around two-thirds of the polyamide market, is being increasingly affected by overcapacities resulting from investment in the People's Republic of China. The aim of the capacity expansion is predominantly to substitute for foreign imports. In view of the less dynamic outlook in the downstream fiber sector, this raises the question as to the commercially-viable utilization of existing systems and plants. Consequently, established providers have already carried out adjustments or have at least announced that they are planning to do so.

## Development of selected polyester raw materials



### Staple fibers

The production of staple fibers grew by 2.1 percent to 53.5 million tons. The volume-wide most significant segment in natural fibers grew by 1.1 percent to 29.8 million tons. In contrast, manmade fibers was able to expand its output by 3.5 percent to 23.7 million tons. While synthetic staple fibers – with growth of 1.2 percent to 18.2 million tons – recorded the weakest growth since 2008, the recovery of cellulosic fibers continued unabated. Its 11.8-percent increase to 5.5 million tons underlines its long-term recovery, if we consider that global production totaled just 2.2 million tons in 2001. The respective record level for manmade fibers is carried by polyester and viscose fibers. Polyester was the only synthetic staple fiber to record growth, rising by 1.2 percent to 14.7 million tons, while the other fiber types were able to maintain their 2012 levels. The improvement of cellulosic fibers was primarily achieved by strong volume growth in viscose fibers, which last year grew by 14.1 percent to 4.6 million tons. Acetate fibers, predominantly for use in cigarette filters, grew by 2.0 percent to almost one million tons. Here, the rise in smoking bans is noticeable, as the leading international manufacturers reported falling sales of cigarettes. The manufacture of manmade fibers reveals its strongest annual growth in Asia, rising by 4.4 percent to 19.0 million tons. And the American continent also reported positive growth of 1.7 percent, rising to 1.7 million tons, while Europe experienced a fall of 1.3 percent to 2.6 million tons.

### Filament yarns

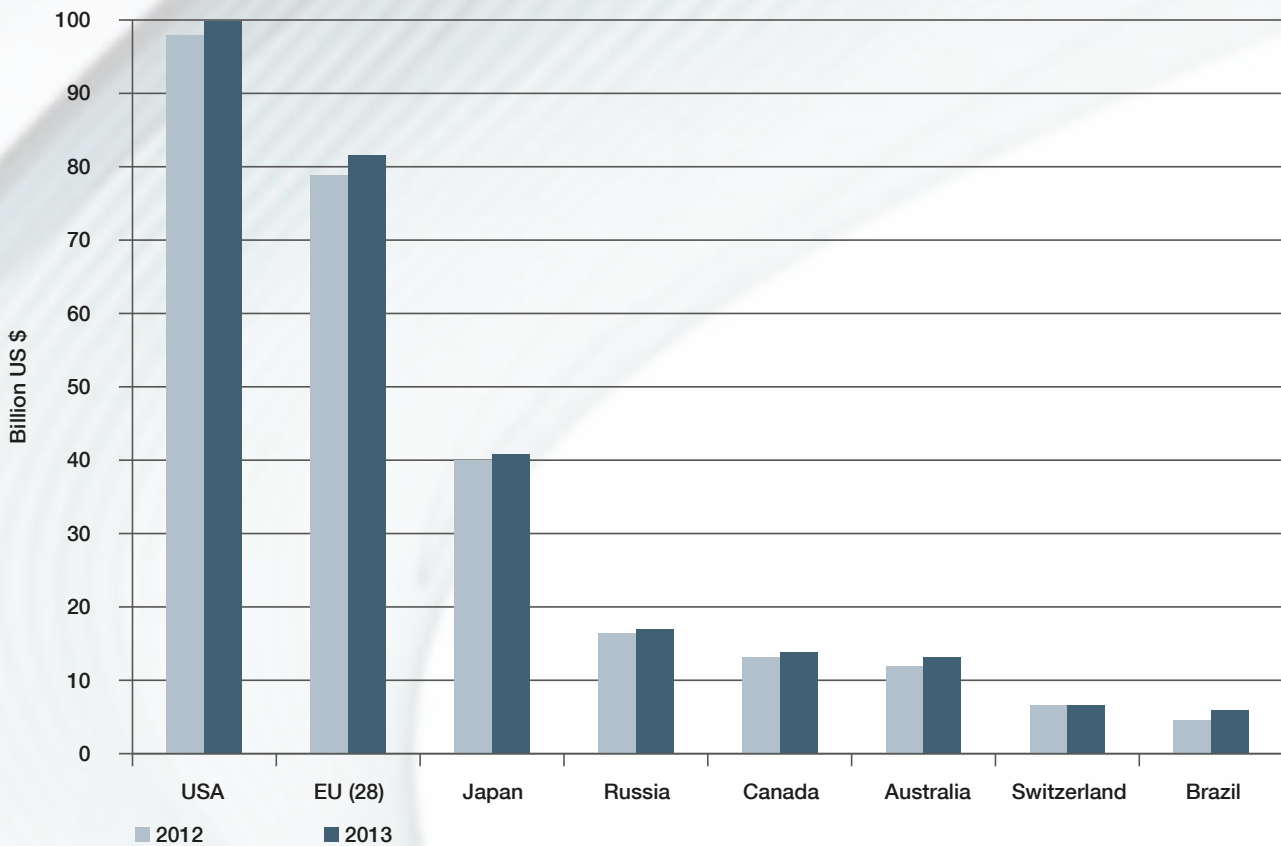
The growth dynamic among filament yarns continues unabated; last year, the worldwide volume expanded by 7.9 percent to 36.6 million tons. With 29.6 million tons, polyester yarns are the most important fiber type. They increased to an above-average extent with a rise of 8.5 percent. And polyamide yarns, the second-largest segment, enjoyed a 7.8-percent increase to 4.2 million tons, while cellulosic yarns and polypropylene yarns decreased. The other fiber types, carbon fibers and spandex, once again recorded double-digit growth rates.

An examination of the various yarn types shows that the largest segment of textile yarns grew by an above-average degree in 2013. The manufacture of textile yarns rose by 8.5 percent to 31.0 million tons. And industrial yarns once again reported stronger growth of 6.7 percent to 3.4 million tons, while carpet yarns again remained almost unchanged at just over 2.1 million tons.

The market-dominating position of the People's Republic of China is the result of their 72-percent share of global production followed by the USA with a 5-percent share and India and Taiwan each with a 4-percent share. Chinese manufacturers were once again able to increase their output last year by 10.7 percent, while – surprising at first glance – production in the USA rose by 6.7 percent. In contrast, Indian production of manmade fibers fell by 8.9 percent to 1.4 million tons; however, local production of cotton and mixed yarns rose by 11.6 percent to 5.3 million tons. The Taiwanese contribution fell slightly to 1.3 million tons.



## Leading trade deficits for textiles and apparel



### The textile and apparel trade in 2013

According to the most recent information from the World Trade Organization (WTO), textile and apparel exports in 2012 totaled just under USD 710 billion. The trading flows of 26 countries and the EU (28) and the Nafta regions researched for the textile annual for 2013 indicate an export volume in excess of USD 610 billion. This corresponds to an increase of 6.8 percent over 2012, which seems to suggest that global exports will probably exceed USD 750 billion. Chinese manufacturers were able to further expand their leading position, with exports rising by 11.4 percent to USD 284 billion, resulting in a trade surplus of USD 257 billion last year. And there was also robust growth in Turkey, rising 8.7 percent to USD 28 billion, and in Bangladesh, with 11.2 percent to USD 24 billion. The by far strongest dynamism within the group of leading export nations was recorded in Vietnam, with growth of more than 18 percent to just under USD 20 billion. Within the textile segment, the Vietnamese manufacturers will be, as anticipated, the greatest beneficiaries of the US-led TPP negotiations (Trans-Pacific Partnership). An article in the United States Fashion Industry Association (USFIA) describes the current negotiation status. The labor-intensive production of apparel means that industrialized nations have a significant trade deficit. In terms of the corresponding trade deficits, the leading countries, including the consolidated figure for the EU (28), are shown in the figure above.



As in previous years, the annual is supplemented with a whole series of articles by international associations such as CIRFS, CNTAC, ICAC, IWTO, ITMF, United States Fashion Industry Association, Vietnam Textile & Apparel Association and well as leading companies including Cordenka, Helveta, Lenzing, PHP, Schöller and Trevira.

More detailed information on the annual can be found by going to:  
[www.thefiberyear.com](http://www.thefiberyear.com)



# Platform for news, trends and information



The 5<sup>th</sup> Annual Customer Day of Segment Manmade Fibers in India was held on February 20, 2014 at Silvassa in Gujarat. The Customer Day has established itself as an important platform for sharing the latest information on products, innovations and industry-wide trends and developments.



Being home to a majority of Oerlikon Manmade Fibers' customers, Silvassa is the preferred venue for this event every year. And once again, this year's participation was overwhelming. While almost 350 participants were present for the half-day seminar, almost 800 owners, technicians, senior managers and partners were present for the Gala Night and Cocktails with Dinner event.

### Oerlikon seminar

This year, the MMF seminar was divided into two parts: a technical session, followed by a business/commercial session. Khurshed Thanawalla, Country Representative for the Oerlikon Group in India and Chairman of OTIL gave the welcome address, in which he succinctly mapped out the challenges facing the Indian manmade fibers industry. This was done specifically bearing in mind that the event featured Dr. Chandan Chatterjee – Director of The Centre for Entrepreneurship Development, Government of Gujarat and the author of the Gujarat Textile Policy – as its guest of honor.



The technical session included presentations on 'Product Management@Oerlikon Manmade Fibers' by Markus Reichwein, 'Innovations in New Spinning Technology' by Detlev Schulz and Stephan Faulstich, 'Integrated Solutions for the Manmade Fiber Industry: Polycondensation' by Achim Debener, 'New Staple Fiber Solutions' by Max Hergenreder, 'New Service Solutions' by Ramakant Katre and 'Logistics' by guest speaker Volker Schmid of AC Automation.



The first presentation of the business/commercial session was by Michael Korobczuk on the 'Current World Market Situation'. This was followed by Debabrata Ghosh giving a presentation on the 'Modernization of The Indian Texturizing Industry with eAFK Autodoff Machines' and Atul Vaidya presenting on the 'Growth Opportunities for the Indian Manmade Fibers Industry'. The last presentation was by guest speaker Ashish Dhir, founder and Director of Wisedge Consulting Pvt. Ltd., who spoke on the 'Competitive advantage of India vis-à-vis China for Textile Exports'.

A podium discussion on the 'Strengths and Weaknesses of the Indian Manmade Fibers Industry and the Opportunities Ahead' invited the attendees to engage in a lively debate with well-known experts: the panel comprised S. L. Somani – Sumeet Industries, Narain Aggarwal – Prafful Overseas, Michael Korobczuk and Ashish Dhir. Several questions were asked by the participants and a lively exchange of views ensued.

### The Oerlikon Gala Night

The seminar was followed by an entertainment program comprising a fashion show, a musical evening with a live band and a dance performance, accompanied by drinks and dinner. For the fashion show, the designer, fabric and costumes worn by the models were provided by Salasar Yarns Pvt Ltd and Prafful Overseas Ltd. The fabric on display was produced from yarn made on Oerlikon Barmag spinning machines.

Some customers present at both the seminar and the gala night included Alok Industries, Reliance Industries, Sanathan Textiles, Wellknown Polyesters, Bhilosa, Madura Industrial Textiles, Indo Rama, JBF and Welspun, to name just a few. Overall, the evening event – held in a relaxed ambience – rounded off a successful day beautifully. (mks)



Staple FORCE S 1000 one of the highlights in Geneva

## Diverse nonwoven portfolio raises great interest at the Index 2014

Oerlikon Neumag registered a high visitor resonance during this year's INDEX trade show held in Geneva, Switzerland, between April 8 and 11. In addition to nonwoven technologies for industrial applications, visitors were particularly interested in the new Staple FORCE S 1000 staple fiber plant, which was presented to a wide audience for the very first time.

With its compact construction, simple handling and energy-efficient operation, the Staple FORCE S 1000 is convincing, not just for fiber manufacturers focusing on special applications and on 'on-demand' deliveries, it also enables nonwoven producers to efficiently integrate fiber manufacturing into their own production operations.

By means of virtual reality presentations, potential clients were able to visually convince themselves of the benefits of the system: the small design with its compact construction and low throughputs of up to 15 tons per day, enables

The Oerlikon Neumag stand was the scene of intensive discussions on every day of the trade fair.



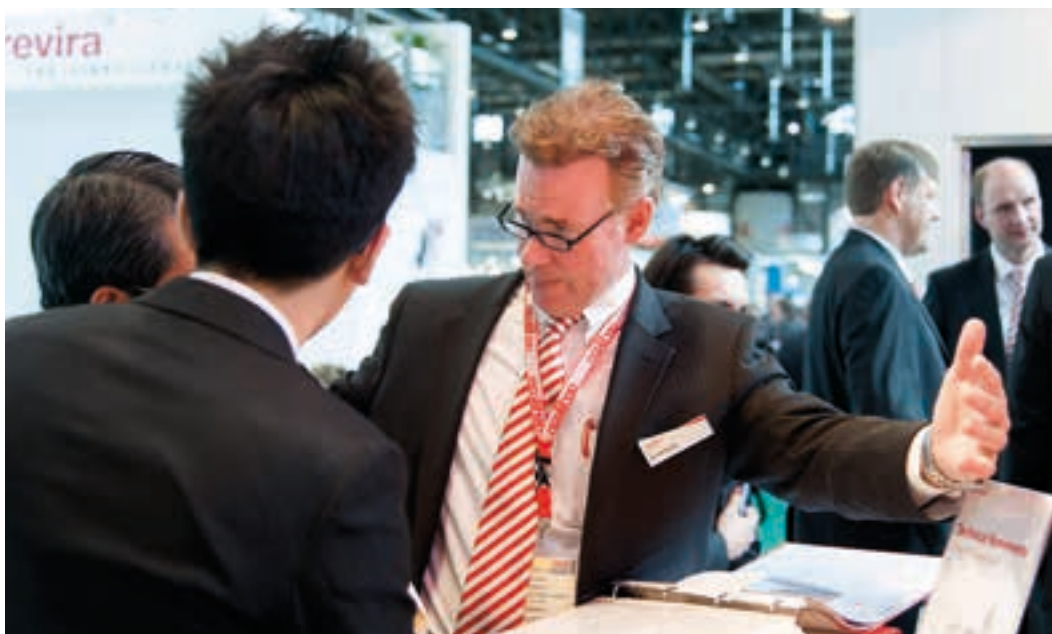
swift product color changes with considerably lower waste. The savings in terms of energy and water resulting from the deployment of a dry-drawing process, lead to a reduction in operating costs and simultaneously protect the environment. The option to install the system on a standard industrial floor also minimizes investment costs. "Efficient, flexible and compact – these are extremely attractive factors for our customers, opening up diverse, new market potentials for them", sums up Oerlikon Manmade Fibers Sales Director Michael Korobczuk.

### Industrial nonwoven applications continue to expand

Concrete project discussions not only concerned the Staple Force S 1000; Oerlikon Neumag's nonwoven technology for industrial applications also proved to be very much in demand. Intensive and qualitatively good discussions as well as numerous concrete inquiries from clients and potential customers summed up the trade show for the Nonwoven team.

In addition to the various nonwoven technologies, the large number of airlaid, meltblown and spunbond specimens representing high industrial standards also proved highly convincing. The industrial spunbond systems for PET bitumen roofing substrate, in particular score with their low operating expenses in conjunction with high product quality. Here, Oerlikon Neumag offers tailor-made systems for all markets with production capacities between 4,500 and 15,000 tons per annum and extremely attractive return-on-investment times.

"The Index trade fair has confirmed our belief that – in addition to classical spunbond hygiene applications – the nonwoven market is continuing to grow strongly, particularly in the durable nonwoven segment and that we are very well positioned with our diverse product portfolio", explains Dr. Ingo Mählmann, Product Manager Nonwovens. (che)



# Hidden Champions



**"Learning is part of working life"**

The equipment and machines developed by Oerlikon Barmag are complex high-performance systems, constructed with the aim of running 24 hours a day, 365 days a year. Only well-trained employees are able to harvest the full potential of the systems and machines.

Being able to access maximum performance at all times requires the yarn manufacturer's operating staff to work to the very highest standards. They increase productivity and product quality, while reducing downtimes and wastage. Oerlikon Barmag's experienced training team provides plant managers, systems operators, maintenance managers, mechanics and electricians with the tools to carry out their daily work.

Trainers Bernd Fluess, Günther Grabowski and Ender Kandemir spoke to 'Fibers & Filaments' about their work and how to cope best with the challenge of the 'colorfully-mixed requirements of the training seminars' (Günther Grabowski).

What training programs do you offer customers?

Bernd Fluess: "In principle, we carry out our training programs on each topic in accordance with the specifications of our customers. Fundamentally, we distinguish between electrical and mechanical training seminars and external and internal training seminars."

Günther Grabowski: "The customer can choose whether they would like to visit us at our state-of-the-art training center in Germany or whether they would prefer to have the training seminar carried out directly at their plant or facilities. Both options have their advantages."

Ender Kandemir: "Yes, precisely. If the training seminars take place in Germany, the participants have the possibility to focus exclusively on the training unit. This can be quite difficult sometimes, if participants are in their own working environment. In addition to this, the Oerlikon Barmag experts can be consulted at short notice, depending on which special questions arise during the training seminars. A tour of the R&D center or the production facilities can also help participants become even more familiar with the individual component."

Bernd Fluess: "On the other hand, our training programs are tailored precisely to the customer's requirements and equipment, ensuring that we are also able to provide the participants with the best possible support on-site. Furthermore, the customer is of course more flexible in terms of the number of participants, something that can also vary during the training seminar. The operating staff are trained directly under actual operating conditions using their 'own' machines – which is definitely an advantage. If problems occur, we are able to directly solve these on-site."

Günther Grabowski: "If we are on-site with the customer, other issues frequently also arise. To this end, we are constantly optimizing the respective workshop or work area in conjunction with the customers."

Do the training seminars focus on specific issues?

Ender Kandemir: "We constantly emphasize the immense importance of safety instructions both regarding mechanical and electrical components and the actual work itself. Explaining the individual functions and information on the maintenance and service work on systems are a further focus of the training seminars."

Bernd Fluess: "We are constantly being confronted by customers with questions relating to older systems or used machines. questions that only Oerlikon Barmag experts – with their often decades of experience – are able to answer. So, there is virtually nothing that we are not able to provide help or assistance with".

Fibers & Filaments thanks Bernd Fluess, Günther Grabowski and Ender Kandemir for the interview. (wa)



Oerlikon Barmag's training team with Ender Kandemir, Bernd Fluess and Günther Grabowski (from left to right) offer additional service with their training seminars to plant managers, systems operators, maintenance managers, mechanics and electricians.



# Quality yarns from Vietnam

The success story of Century Synthetic Fiber Corporation (CSF) started back in 2000 with the production of textured yarn manufactured from imported polyester POY. The company, with its head office in Ho-Chi-Minh City, traces its roots back to the yarn trade; through gradual investment in vertical integration along the textile value chain, the company has developed into one of the leading yarn manufacturers for fine titers and multifilament products in Vietnam. Managing Director Jack Dang spoke to 'Fibers and Filaments' about the potential development of the manmade fiber markets and the future of CSF.

Jack, Century has taken various development steps while expanding its DTY capacities. When were these steps taken and which capacities were added?

Jack Dang: "There are a few key milestones in CSF's history: after being established in 2000, CSF's total DTY annual capacity was 4,800 tons. In 2003, CSF continued to expand investment with the aim of enhancing its total DTY production capacity to 9,600 tons per annum. Since then, the overall market and textile industry has developed strongly together with an overwhelming response from customers.

Between 2010 and 2012, CSF expanded its operations into the Tay Ninh province by establishing a factory in

Trảng Bàng. On January 2011, the new factory was inaugurated, increasing total annual production capacity of DTY, FDY and POY to 37,000 tons and 29,500 tons respectively. The expansion included 60 WINGS POY positions, 12 x 2 FDY positions and 18 DTY machines.

For 2014 and 2015, CSF is planning a further investment project at the Trảng Bàng factory, which will increase its annual production capacity to 52,000 tons of DTY and FDY and 45,000 tons of POY by 2015. Within the context of this project, Century will also be investing in a Plant Operation Center, designed and supplied by Oerlikon Barmag; the POC will allow Century to enhance its production efficiency management as well as quality control, enabling Century to achieve increased satisfaction among customers using our products."

As far as upstream integration in spinning (ACW/WINGS) is concerned; what were the reasons for this step?

Jack Dang: "CSF opened a POY production plant to improve overall competitive advantages through vertical integration. This strategy was also aimed at decreasing the dependence on imported POY, which had previously been subject to price and supply volatility. The new POY production line was a significant milestone for the company and marked a further step forward for CSF as it became the first Vietnamese company capable of manufacturing microfilament yarn from polyester chips.

In addition, the new POY facility allowed CSF to save on mark-up costs, which it would otherwise have had to pay to import POY from overseas suppliers. With a vertically-integrated business model comprising the upstream production of POY, CSF is now able to purchase PET chips, convert these into POY (i.e. instead of having to import POY from overseas) and hence secure higher margins within the overall value chain."

Where do you see Century's recipe for success?

Jack Dang: "The company's outstanding performance is mainly attributable to its sound strategies, namely the selection of modern technologies, workforce development, modern management systems, excellent sales and production planning and effective management of price risk and foreign exchange risk."

What are the main markets for Century?

Jack Dang: "CSF strategically focuses on serving medium- and high-end textile companies, particularly those in need of a stable supply of high-quality polyester yarn. These knitting and weaving mills use CSF's filament yarn to manufacture fabrics and other materials, which are then supplied to global brand name footwear and sportswear manufacturers.

The company has expanded its customer network to more than 12 countries in Asia and Europe. CSF's

customer base consists of prominent names in various industries all over the world. A key reason behind its customer loyalty is the company's philosophy of providing consistent quality at a fair price, along with good aftersales service.

With the recent expansion in production capacity, CSF is also capable of serving a much larger customer base located in more extensive geographies. CSF will focus on acquiring new customers in countries within the Trans-Pacific Partnership Treaty."

How does the management judge CSF's future development?

Jack Dang: "Primarily, CSF will maintain its basic strategy by retaining its high-end quality orientation and expanding its production capacity to reach an optimum scale. Furthermore, CSF is also planning to collaborate with strategic partners in the mid-term to further integrate with upstream and downstream industries with specific goals in mind: as far as upstream strategic integration is concerned, CSF and its partners will study, and strongly boost, R&D activities in order to invent new materials and technologies for the purpose of developing new downstream products to meet customer demand.

CSF can – by becoming involved in downstream companies – thoroughly analyze and predict market demands; this is a critical factor, which will – in turn – both help upstream firms develop new materials and technologies and help CSF produce suitable yarns for its customers.

Where do you see Century in the Vietnamese market environment?

Jack Dang: "CSF aims to be a leading and progressive company in the regional polyester yarn market. In order to achieve this objective, CSF positions itself as a premium yarn manufacturer catering its services towards mid-end and high-end clients in the textile industry. In order to compete in these segments, the company possesses three major competitive advantages: modern



technology and machinery, consistent delivery of stable quality products and internal expertise in production planning and order selection.

First, CSF has invested in high-tech and energy-saving machinery, which allows CSF to produce high-quality outputs at competitive costs, which in turn has resulted in enhancing customer satisfaction and improving profitability over time.

Second, consistent delivery of stable quality products is achieved by selecting modern technologies and equipment, paying due care to the development of a skillful and disciplined workforce and applying an efficient management system. Furthermore, CSF has always focused on providing an efficient product delivery method and a good aftersales service for its customers in order to reduce lead times.

Third, collective expertise in production planning and order selection enables CSF to maximize its product mix and utilization rate, with the aim of delivering a wide range of product specifications to meet customers' requirements."

What are the specific challenges in the Vietnamese market?

Jack Dang: "In the Vietnamese market, the challenge in price competition will become fiercer, as many yarn manufacturers (both foreign and local firms) will set up and/or expand their facilities in Vietnam to take advantage of the upcoming 'free trade agreements' signed by Vietnam and other countries, including the US.

However, CSF has its own competitive advantages for fostering sustainable growth. It has a long history of more than thirteen years of operating and it is proud of its skilled, experienced workforce, its state-of-the-art machinery and excellent know-how.

CSF has successfully built up its prestige and brand name, both in Vietnam and throughout the world, especially as we strategically focus on mid-end and high-end

products that not every newcomer is capable of manufacturing."

How do you judge the relevance of recycled PET for Century considering the tendency towards environmentally-friendly production and sustainability?

Jack Dang: "From CSF's point of view, recycled PET has huge potential and will grow substantially in the future. We have already invested in machinery for manufacturing yarn from recycled PET. However, the current downstream textile industry is not yet fully-developed to sufficiently consume this product. Nevertheless, we believe that in the future, and accompanied by textile industry growth, recycled PET will have a significant and sustainable development."

As stated on your website, "CSF aims to become a leading multi-functional global group." What does Century expect from the diversification?

Jack Dang: "Diversification is CSF's long-term strategy, which will be implemented over the next fifteen to twenty years. Currently, the polyester yarn and textile industry still retains certain advantages and huge development potential. Hence, CSF remains focused on expanding its core business and integrating into upstream and downstream industries to effectively enhance its strength and competitiveness.

In about fifteen to twenty years, socio-economic conditions in Vietnam will be much more developed, which in turn will lead to a significant increase in incomes and living standards among Vietnamese families. These will stimulate the real estate sector and other service industries – such as finance, securities, entertainment – to grow strongly.

At that time, CSF will be involved in the above-mentioned service sectors. Meanwhile, we may shift our yarn/textile business to other countries around the globe with more competitive environments and advantages for yarn textile operations." (wa)

André Steingass conducted the interview with Jack Dang



Diversification is CSF's long-term strategy for the next fifteen or twenty years", states Jack Dang (second from left).





Oerlikon Manmade Fibers Consulting Services helps with process optimization

# Greater productivity through operational excellence

The fiber and yarn market is fiercely competitive. This is nothing new, but the general conditions under which Oerlikon Manmade Fibers' customers manufacture and market their respective products. So, how can companies secure their existence in the long term?

**T**he solution is operational excellence. Global market leader Oerlikon Manmade Fibers successfully practices these programs in-house. So, what could be more logical than to let its customers benefit from the findings and knowledge relating to the 'what' and the 'how'? And this is precisely what the Customer Service consulting team does.

Operational excellence is all about the optimization and standardization of processes with the aim of, on the one hand, securing quality and, on the other hand, preventing resources being wasted.

#### **First the audit, then the solution**

To create an overview, the consultants first take a closer look at the existing situations. Here, they look at absolutely everything: from housekeeping to potential emergency plans, quality management, employee training and safety standards.

Following the audit, individual solutions are drafted, while an overall assessment is made several months following implementation of the proposed solutions. Here, the technology leader draws on numerous in-house competencies and measures: core components of high quality, energy-efficient processes or management systems such as the Plant Operation Center (POC) support the internationalization of processes and standards. And – it goes without saying – first and foremost the process know-how provided by the consultants and technological team.

"The right processes can not only save manufacturers lots of money, they also secure quality standards. This is essential if a yarn manufacturer wants to be internationally competitive", comments consultant Arkadiusz Matyja. He has just returned from India, where a well-known filament manufacturer requested his services. "There are many operational excellence consultants. But we are the only one who is able to combine process know-how and industry expertise." (bey)

# Global network and local service as a guarantor of success

Frequently, textile manufacturers do not wish to just purchase progressive machine technology. They are also looking for local service support following installation – and particularly in the world’s emerging markets. Just like SKAPS INDUSTRIES, a leading manufacturer of geosynthetic and drainage nonwovens. The US company has established its own production facilities in India, where it is one of the first enterprises to manufacture staple fibers for geotextiles – with an Oerlikon Neumag system and the comforting local support.

India and geotextiles, two growth drivers. The US market researchers at the Freedonia Group anticipate an annual increase, by 2017, in global demand of almost 9 percent and 5.3 billion square meters for geosynthetics as used in civil engineering and waterway and road construction. One of the main reasons for this is the stability and flexibility in processing geosynthetics along with their faster and lower-cost deployment, which generally requires less ground excavation than conventional construction methods. A further significant reason is the globally increasing road traffic, particularly in emerging countries such as India. Its population, the second-largest in the world after China, and its economy and industry are expanding faster than anywhere else. For these reasons, the Indian transport network – and particularly road traffic in major urban areas – has long been operating at maximum capacity. India must massively expand its infrastructure to be able to master these challenges.

These are undoubtedly not the only reasons why SKAPS INDUSTRIES decided to set up a plant in the Asian sub-continent. The company, headquartered in the US where it operates several sites, is a leading manufacturer of high-end geosynthetics for nonwoven textiles, geonets and geocomposites for deployment in the most-demanding environmental and drainage applications. Such products will undoubtedly also find purchasers in India. However, SKAPS is an international enterprise and strategically selects – in our age of globalization – its sites for their promising production potential and also to be able to serve customers in various countries.

## **Merely 450 kilometers away by car**

This is why SKAPS President Perry Vyas knows the importance of the expression customer proximity very well. And it is for this very reason that he opened his doors to Oerlikon Textile Inc. in Charlotte, North Carolina, in 2010 because the manmade fiber systems manufacturer is globally very well networked. And it is not just Oerlikon Neumag, a leading manufacturer of, among other things, staple fiber systems for geotextiles and headquartered in Neumünster, Germany, that is an integral part of this segment. Oerlikon Manmade Fibers also maintains support and service stations throughout the world, including India. To this end, the Vadodara service station is just 450 kilometers away by car from Mundra, which is located in the same state, Gujarat, in which SKAPS planned its first Indian plant. This free-trade zone offers shipping facilities from its harbor and port, but offers barely any resources in terms of technical support and qualified staff.

A total solution from one single supplier with turn-key systems technology, installation and subsequent service on site was therefore all the more important for Perry Vyas. At the invitation of Oerlikon Neumag, he visited the company in Neumünster as well as other selected vendors and also scrutinized the service station in Vadodara – before finally placing his order for a 65 t/d staple fiber machine including all the engineering and support.

“What convinced me was not just the smooth interaction between the Oerlikon partners in the US, Germany and India, but also the swift installation and assembly of the

system in just six months”, summarizes Perry Vyas. The production facility commenced operations in India at the end of 2012. Since then, SKAPS has been benefiting from the efficiency and the flexibility of the in-line system: spinning and drawing in a single, continuous process requires fewer members of staff; the comprehensive value-added chain ranges from the customer-specific manufacture of the most varied polypropylene staple fiber products all the way through to the corresponding needled nonwovens products. For this, the Oerlikon team extensively tailored the system

to the customer requirements. SKAPS receives support for product adjustments, maintenance and servicing via the Vadodara service station. “This is what we regard as our mission statement. Even after installation, we accompany our customers as partners in all questions – from the development all the way through to production and service – and all this throughout the world”, emphasize Ramakant Katre, Service Director India, and Chip Hartzog, President Oerlikon Textile Inc. Charlotte. (rū, sei)



Wishing to make their customers' business operations more successful by working as a team with all parties involved (from left to right): Ramakant Katre, Service Director India, Tilmann Seidel, Customer Services Director Oerlikon Neumag, Michael Rübenhagen, Key Account for SKAPS, Project Manager Tim Traulsen, Start-up Manager Ingo Lobinsky and Staple Fiber Process Specialist Horst Kropat.



#### Close to customers, also in India

The Oerlikon Manmade Fibers segment is close to its customers across the globe. In India, one of its main markets, the company has two sites: Besides its sales activities the head office in Mumbai takes care of engineering services. Customer support is handled by the service station in Vadodara.

# Welcome to

## ITMA ASIA & CITME at a glance



The fourth combined ITMA ASIA & CITME exhibition is gearing up for another mega showcase in Shanghai, China. To be held between June 16 and 20, 2014 at the Shanghai New International Expo Centre, the show will gross 152,200 square meters in 13 halls, 15 percent larger than the last edition in 2012. To date, the event has attracted the participation of 1,351 textile machinery manufacturers from 27 countries and regions.

# Shanghai



### Space sales up 15 percent from the 2012 event

Taking up the largest exhibition area are Chinese exhibitors, booking slightly over 66 percent of the space. European manufacturers, taking over 22 percent of the total exhibition space, are the next biggest contingent.

Mr. Charles Beauduin, President of CEMATEX, stated: "Textile machinery manufacturers are still buoyant about the Asian market, particularly China. Investments in cost-effective technology to help the textile and garment industry stay ahead of the competition are still strong. As such, our combined show will continue to be the unrivalled marketing platform for textile machinery manufacturers tapping into the vibrant China market."

Mr. Wang Shutian, President of China Textile Machinery Association (CTMA), added: "Interest in the combined show remains extremely strong, especially from Chinese textile machinery manufacturers. As China's textile industry continues its transformation, the demand for advanced machinery and technology is on the rise. This is also reflected in the current uptrend in textile machinery trade."

According to statistics from the General Administration of Customs, China's exports of textiles and garments amounted to US\$ 26 billion in 2013. This is an increase of 7 percent over the same period the previous year.

China continues to focus on upgrading technology and skills to reach an international level for textile and other industry sectors, and this is one of the priorities under the government's 12th Five-Year Plan period (2011-2015).

### Extensive visitor promotion

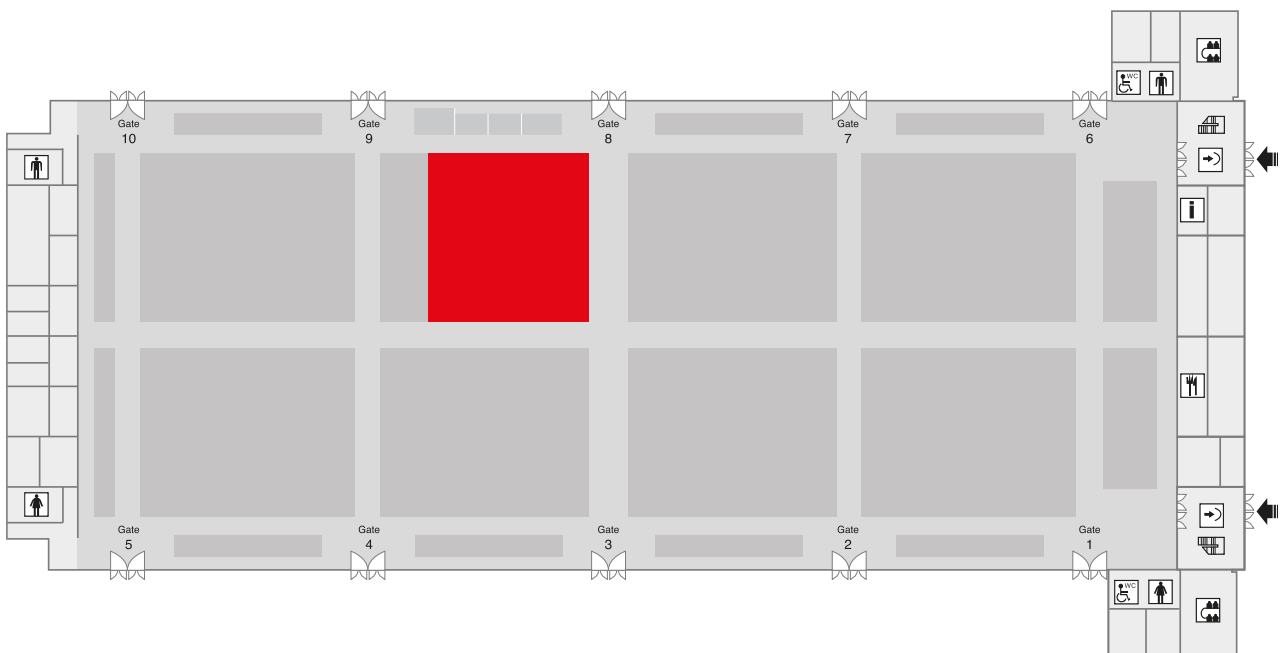
ITMA ASIA & CITME 2014 is being promoted throughout Asia by means of numerous roadshows and visits to trade associations. Recent roadshows in India, Indonesia, Pakistan, Turkey and Vietnam have drawn very positive responses from the local industries, and delegations and groups of visitors from key textile manufacturing economies have indicated their intention to visit the showcase.

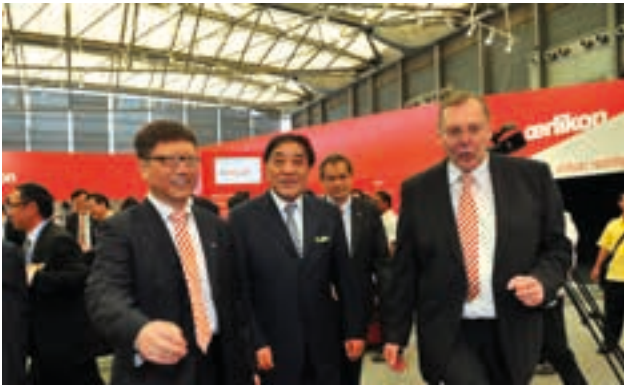
In China, an intensive roadshow covering Fujian, Guangdong, Shandong and Zhejiang provinces is currently underway.

### Hassle-free online registration

Visitors are advised to plan their visit early. To avoid onsite queues, visitors can purchase their badges online at [www.itmaasia.com](http://www.itmaasia.com) and [www.citme.com.cn](http://www.citme.com.cn) to enjoy an attractive 40 percent discount. For added convenience, visitors may print their badges after successful registration. (aw)

### Visit us at this year's ITMA Asia in Hall W3, booth F01





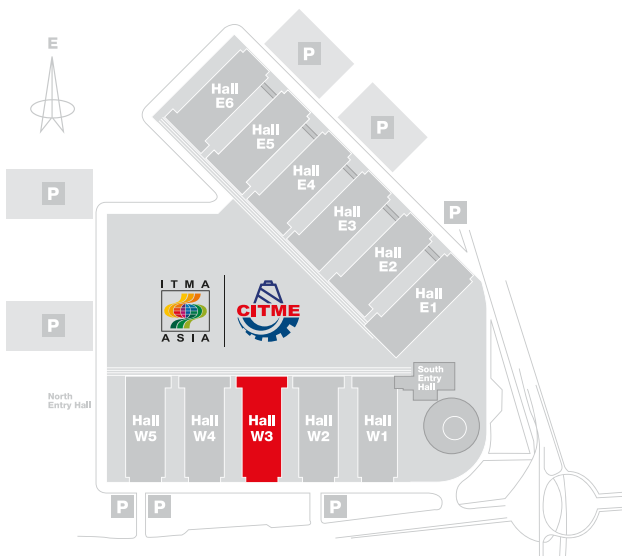
Also in the previous years, ITMA Asia and CITME have been well visited.

For more information on  
ITMA ASIA & CITME 2014,  
please visit  
[www.itmaasia.com](http://www.itmaasia.com)



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## imprint

Fibers and Filaments is the exclusive Oerlikon Manmade Fibers customer magazine. It is published three times per year by

**Oerlikon Textile GmbH & Co. KG**  
Leverkuser Straße 65  
42897 Remscheid  
Germany

fibers.filaments@oerlikon.com  
www.oerlikon.com/manmade-fibers

**Edition**  
2,500 copies

## The authors

Fibers and filaments is a compilation of articles provided by specialists for each respective subject. The articles are indicated by tokens attributed to the various authors:

aw André Wissenberg  
bbö Burkhard Böndel  
bey Susanne Beyer (responsible)  
che Claudia Henkel  
clu Christopher Ludwig  
mgr Mathias Gröner-Rothermel  
mks Manisha Khosla Sinha  
mr Martin Rademacher  
rei Markus Reichwein  
rü Michael Rübenhagen  
sei Tilmann Seidel  
sz Detlev Schulz  
tho Thilo Horvatitsch  
wa Ute Watermann

## Guest writers

In addition to Oerlikon Manmade Fibers' authors external specialists contributing articles to this magazine are:

ae Andreas Engelhardt  
(The Fiber Year)

**Concept and layout**  
devoti.künne gmbh & co. kg  
www.devoti-kuenne.com

**Print**  
Köllen Druck + Verlag, Bonn  
www.koellen.de

## Photography

Ralf Buchholz, Rickey Steele, Adrien Bernard, company archive, istockphoto, private

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Id-No. 1438076  
www.bvdm-online.de