# TEXDATA INTERNATIONAL

Magazine

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**Business // Finance // Market // Technology**

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

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## The road to more sustainability along the textile value chain

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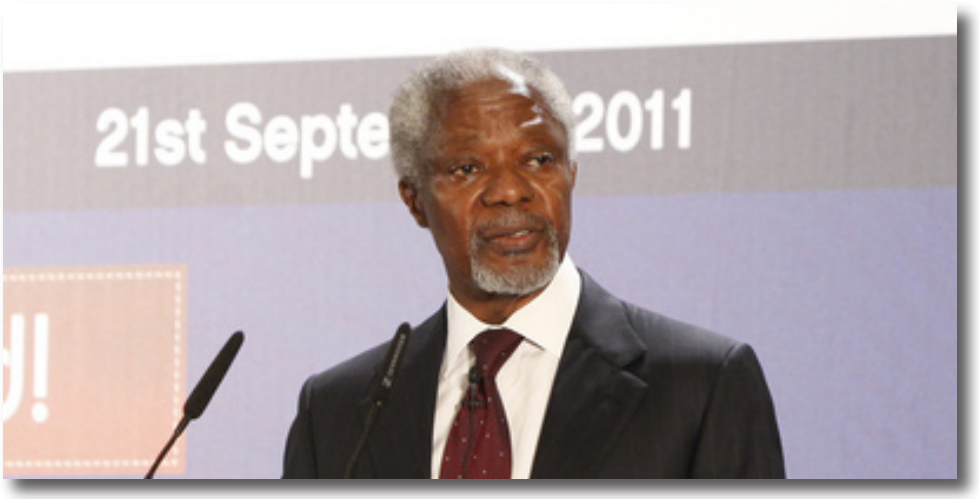
## Will the textile industry change the world?






Innovations & Improvements

Part 1: Spinning

# Competence in Technical Textiles

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TechTex Division


www.monforts.com

## Our Product Range

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# Dear Reader,

you have now received the first edition of our new TexData magazine which you are now viewing on the screen or have already printed out. This is also part of our innovative and environmentally friendly concept – a hybrid magazine which makes possible your individual way of looking at things thanks to the modern and reader-friendly landscape format.

The intention of this new magazine is to give you deeper insights in stories concerning the textile business. It' s our editorial aim to bring different aspects of one topic together, give them a new point of view and merge it with experiences from other industries.

Exactly in this direction moves our first Top Story about ***sustainability***. We will give you an overview whats happening at the forefront of this worldwide mega trend.

Next story is our six part series about ***innovations and improvements*** in textile machinery along the textile production value chain. It should give you an overview and introduce some details you may not have heard or read about before. Part one is about spinning.
And last but not least we offer an article about ***China' s new 5 year plan*** for the textile business. Mr. Du Yuzhou, president of China National Textile & Apparel Council, told the delegate on Worldtextilesummit a breathtaking idea of changing the industry and starting a high tech business.

We will be happy if our magazine will help you with useful information and you will enjoy our stories. If you are interested in short daily news we recommend our TexData website and our worldwide well-known TexData INFOLETTER.

Yours sincerely

Oliver Schmidt

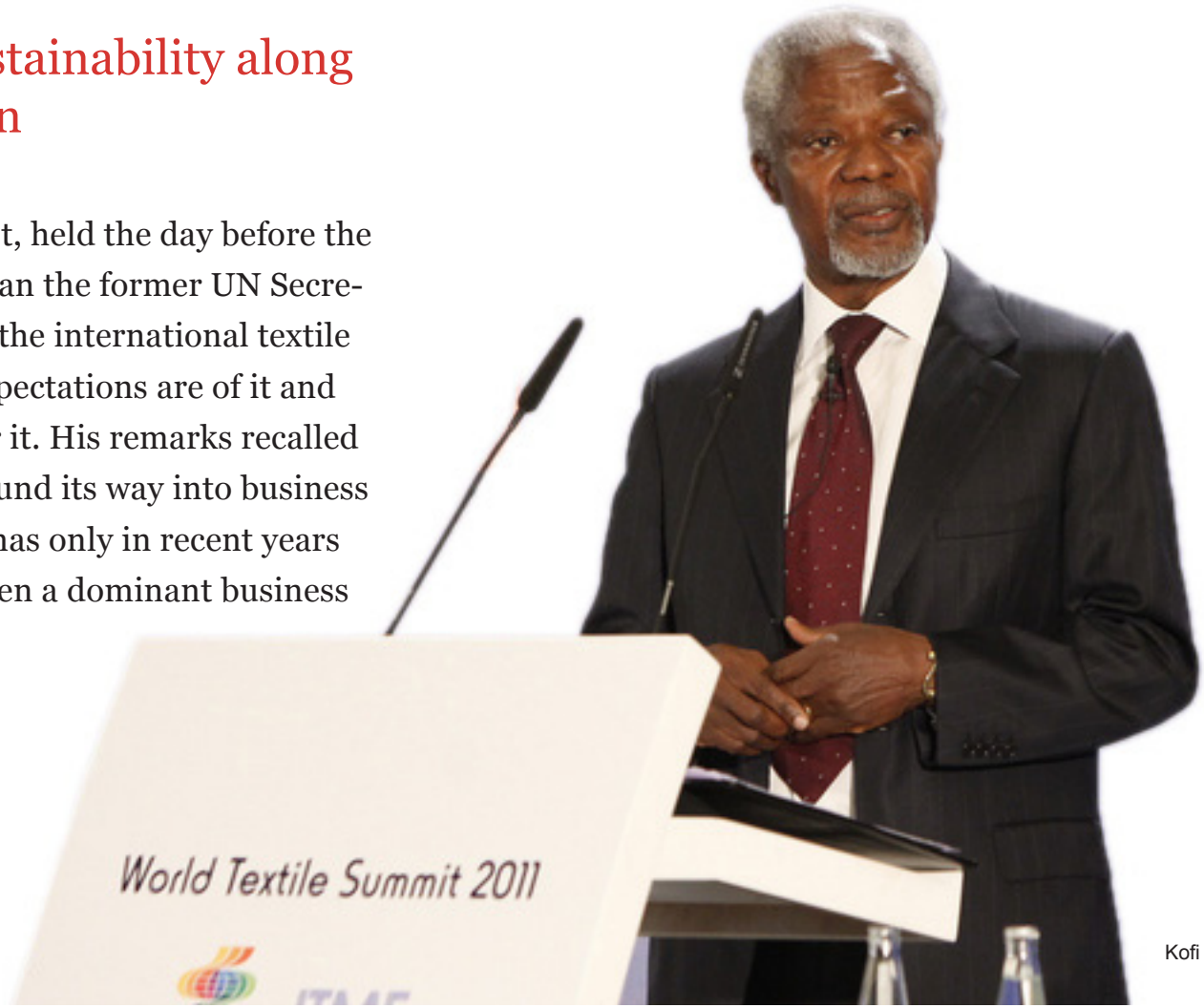
Top story

# Will the textile industry change the world?

## The road to more sustainability along the textile value chain

At the World Textile Summit, held the day before the ITMA in Barcelona, no less than the former UN Secretary-General Kofi Annan told the international textile industry what his personal expectations are of it and what future he would wish for it. His remarks recalled a keyword that, although it found its way into business vocabulary 25–30 years ago, has only in recent years become a major trend, and even a dominant business objective: ***sustainability***.

by Oliver Schmidt



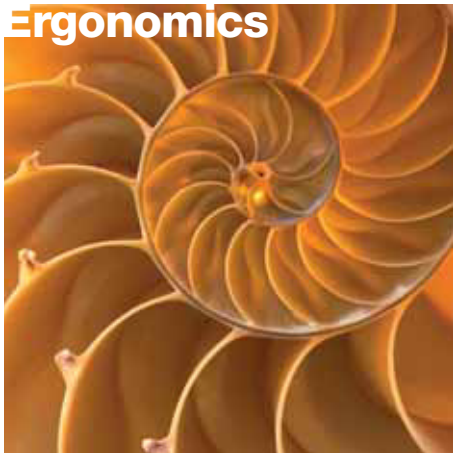

Kofi Annan

# e-save

## comprehensive efficiency

Oerlikon Textile started to establish e-save – a green label, originally created to brand components and machinery with a significantly reduced energy consumption – successfully back in 2004. In the last few years e-save has become a hallmark for comprehensive efficiency. It underlines Oerlikon Textile's technological excellence for economic welfare as well as for a sustainable management of limited resources. Oerlikon Textile's innovations are developed with the following four e-save aspects in mind:




To learn more about e-save visit us at
**www.e-save.oerlikontextile.com**

**innovation has a name**

**oerlikon**

At the World Textile Summit, held the day before the ITMA in Barcelona, no less than the former UN Secretary-General Kofi Annan told the international textile industry what his personal expectations are of it and what future he would wish for it. His remarks recalled a keyword that, although it found its way into business vocabulary 25–30 years ago, has only in recent years become a major trend, and even a dominant business objective: sustainability.

The term ‚sustainability', which once referred more to the ROI of a company's investments or the long-term development of revenue, is now seen generally as development that is positive for the world — which takes into consideration and interlinks aspects relating to environmental protection, social justice, and the economy. Sustainability dates back in this sense to the Definition of the Brundtland Commission of the United Nations on March 20, 1987, which defined sustainable development as follows: "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Annan's assessment of the textile industry's record on sustainability was not initially favorable. He addressed that which is generally acknowledged. The very high rate of pesticide use in worldwide cotton production. The high use of chemicals and water in the manufacturing processes. And wages that in some parts of the world are not sufficient to „feed" a family. But he did not stop twisting the knife there; he had come to bring sustainability to his cause: To praise initiatives that are now underway, to determine the correct direction, and to speak of chances.

> „If the global textile industry really wants more sustainability and implements its efforts earnestly in order to achieve this goal, it can, as the foremost global industry, change the world."
>
> Mr. Kofi Annan, WTS Barcelona, 2011

Annan sees sustainability as the most important topic of our time, and for him the textile industry has a huge opportunity to change the world with a credible and lasting sustainability strategy. He links the reason for this primarily to the industry's international nature. He sees no other industry that makes up a significant proportion of gross domestic product in so many countries across the world and that therefore has the opportunity to bring change in terms of sustainability to so many countries and to anchor this change in so many societies.

Is Annan right to place such a high value on sustainability for companies, and is the textile industry, with its sustainability efforts, really on the path along the value chain to bringing about huge worldwide changes? We shall examine these questions and look at the status of sustainability in the industry, as well as the industry's efforts and initiatives. Our examination will take as a background that the textile machinery industry – with its machines, an essential factor for the sustainability process along the textile value chain – recently had the opportunity at the ITMA in Barcelona to present its vision of sustainability in the form of innovation.

## The rising demand for sustainability

But, first, we will turn once again to sustainability itself. Sustainability is an essential issue of our time, not only recently, and one that companies must actively engage with if they are to survive to see the markets of tomorrow. It has taken a process lasting many years to get to this stage. Originally, ensuring sustainable development was more the task of states and governments. But globalization caused a drop in the ability of nations and politicians to realize their population's wish or demand for more sustainability, since companies were constantly becoming more international and individual states' rules and requirements were easy to bypass by relocating production facilities. Countries with lax environmental guidelines and controls, and the lowest wages, became increasingly attractive in terms of profitability.

But with the attraction grew resistance. Companies that acted in an all-too capitalist and ruthless manner were met with hostility and denounced by activists and environmental organizations. Effective media campaigns caught the attention of mainstream society and brought about widespread resistance. Resistance that forced the companies to change course and to rethink their long-term approach — and demonstrated to the consumer the influence they were able to exert. For example, through the engagement of Greenpeace, the customer boycott at gas stations forced the Shell group in 1995 not simply to sink the „Brent Spar" drilling platform in the North Sea, but to scrap it according to the rules. In the U.S.A., film-maker Michael Moore declared war on the gun lobby at the end of the 90s and, through PR campaigns and demonstrations, achieved results including the store chain K-Mart removing ammunition from its shelves, since cartridges it sold were used in the Columbine massacre. Moore's books and movies reached an audience of millions — mostly intellectual mentors that carried his ideas of a better society further.

These are just a few examples of the many, and the textile industry also played host to a continuing series of scandals involving child labor, starvation wages, inhumane piecework, neglect of environmental protection and occupational safety (by chemical adulteration, for example), cancer-causing soft toys for children, and a long list of other transgressions that lead to charges being brought against companies and attacks on their products — and which had a negative effect on sales figures. Companies needed to explain themselves, and outrages became a serious economic threat — especially for corporations that think and do business in terms of quarterly figures.

In addition to the sensitization of consumers, the consensus among economists, politicians, and intellectuals was becoming ever greater that things could not continue in this fashion. The sword of Damocles of impending climate catastrophe had finally shaken the world into action, allowing wide scope for environmental protection and thus sustainability. In the same way, the demand for sustainability reached the broad mass of the people. Personalities such as the United States presidential candidate Al Gore used their popularity to accomplish worldwide educational work on the importance of sustainable development. Actors, musicians, and artists support initiatives and products based on a positive ethic and motivate their fans to follow them.

Additionally, the political efforts at the G8 and G20 summits and Kyoto, and most recently the worldwide economic crash, as well as Fukushima, have all further pushed the importance of sustainability.

Kofi Annan is right — one would scarcely have thought otherwise. Today, sustainability is a central aim of companies, to secure their market share in the short term and their own survival in the long term.

It can be said, albeit radically, that companies must now free their business model and their products from any form of exploitation of nature/the environment, people, and animals in order to fall in line with the market requirements of the future. Companies that fail to master this task put themselves at great risk of damaging their brand and increasingly losing relevance. The consumer demands products that follow the guiding principles of sustainability and companies that not only strive for economic profit, but that assume responsibility for nature and society.

„Deep in the Internet, the products are being discussed, and purchasing decisions are being made.“

## The modified customer

Today‘s enlightened and well-connected customers are no longer prepared to tolerate profits that are derived by causing harm to people or the environment. Instead they demand intelligent, smart solutions that burden people and the environment to the least extent possible.
A manufacturing process that preserves resources, combined with the best recycling methods, can be a very simply formula for sustainability.

The old ways of silence and secrecy are no longer in vogue. The times have changed and so have consumers. They are less ready to believe — they want to know the facts. They demand proof that the manufacturing process is environmentally friendly, is energy efficient, observes occupational safety,

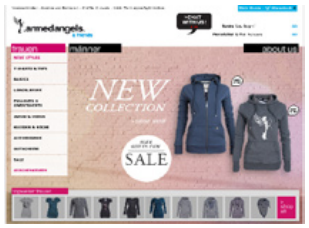
and pays reasonable wages. Indeed, that it is a sustainable manufacturing process. So they inform themselves, ask questions, and want to discuss problems and rumors.

The customers of today are, to a large extent, socially networked between themselves and with the companies that have already grasped that long-term silence will no longer be valuable. Deep in the Internet, the products are being discussed, and purchasing decisions are being made.

Customers are happy to involve companies in this process, but if necessary they will proceed without them. This new form of the buying process and customer communications is changing the markets and giving rise to both risks and opportunities.

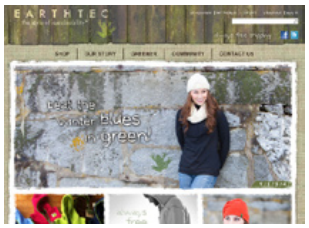
## New players and a new approach

Opportunities that are already being used. Outside of the mainstream arose small but nimble niche players whose products' USP was based on sustainability. They have already successfully shown how the entire textile supply chain can be freed of environmental misdeeds and the companies involved can take on social responsibility. One example is the German fashion label Armedangels. Its „sustainable" clothing is far removed from the eco-clothing once aimed at hippies, dropouts, and „greens". With its sustainable business concept, it was awarded the renowned Newcomer prize by the German „Wirtschaftswoche" business magazine. Or the US firm Earthtec, which appeals to its customers with the slogan „Each time you purchase one of our organic styles, you are helping to make a cleaner, greener world". These arguments strike a strong chord and are sure, in the long term, to win people over and achieve significant market share. Earthtec sees itself as a developer of sustainable lifestyle apparel made from

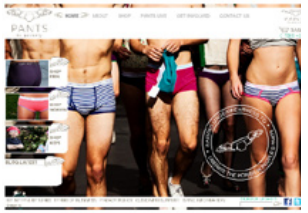



http://www.armedangels.de


http://www.earthtec.com




http://www.kami-organic.com



http://www.pantstopoverty.com

cutting-edge recycled or renewable fabrics such as recycled PET (plastic water bottles), organic cotton, and natural wool. Also worthy of mention are France‘s KamiOrganic, England‘s Pants to Poverty, Sweden‘s Nudie Jeans, Canada‘s One Leaf Creations, and Switzerland‘s Royal Blush. These firms all have their use of „organic cotton“ in common.

„Each time you purchase one of our organic styles, you are helping to make a cleaner, greener world“

(Earthtec)

The Swiss firm bluesign® has very successfully demonstrated an entirely different approach to economically exploiting the issue of sustainability.Bluesign describes itself as follows: “The declared objective of the independent bluesign® standard is to put a reliable and proactive tool at the disposal of the entire textile production chain — from raw material and component suppliers who manufacture e.g. yarns, dyes and additives, to textile manufacturers, to retailer and brand companies, to consumers.” Already since the year 2000, Bluesign has been working on designing the textile value chain to be more sustainable and is providing textile firms with tools and advice to help them revise their processes in the spirit of sustainability and to make decisive changes. The bluesign® standard has been implemented over the years by various world-leading textile manufacturers — and many renowned brands in the fashion and sports clothing industries rely on bluesign®, such as Patagonia, MEC, The North Face, VAUDE, Helly Hansen, Haglöfs, Eileen Fisher, REI, Deuter, and Edelrid.  Furthermore, chemical industry companies and textile machinery manufacturers such as Huntsman, Clariant, DyStar, CHT, Mahlo, and Benninger support the standard as bluesign® supporters. In January 2012, bluesign was granted a patent on its products bluetool and bluefinder.

http://www.bluesign.com


http://www.global-standard.org

http://www.tranclo.com

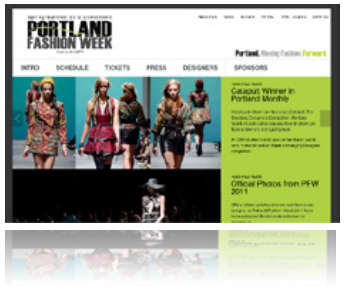

http://www.newlifebymiroglio.com

A long line of designers have also successfully treaded the path of sustainability — and therefore possibly the most important members of all in the textile value chain. This is because sustainable manufacture requires consideration of sustainable production options — with regard to materials, choice of textiles, and colors — at the design stage. In this respect, the „Portland Fashion Week“ gave a widely acclaimed boost in 2005 by featuring sustainable designers and apparel in its program. Since then, sustainable designers have been an integral part of the program, with designers and labels such as Anita Kealey, Anna Cohen, Avni, and Ethos Paris showing off their collections. On the subject of sustainable design, Maria C. Thiry recently wrote about sustainability in a report published in AATTC Review: “A new paradigm is being developed for the functionality and style of textiles and apparel that companies are willing to make and offer to the consumer. In this new paradigm, designers are the critical first step.” Sure to support this statement is the National Association of Sustainable Fashion Designers, a non-profit organization that has set itself the goal of enlisting a new generation of fashion leaders that support sustainable practices and lead projects that create positive social & environmental change. Currently, the sustainable fashion designers want to support Fair Trade USA in extending the newly created Fair Trade Apparel & Linens certification. In September last year, Fair Trade USA reported over 10,000 certified products and a sales growth of 63%.

These are just some of the countless examples demonstrating that changed requirements — particularly in the field of sustainability — give rise to new market niches and entire new markets, served by successful, growing players.

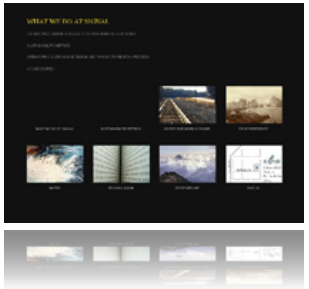
„In this new paradigm, designers are the critical first step.“

(Maria C. Thiry in AATTC Reviews 2011)




http://portlandfashionweek.net


http://www.sustainabledesigners.org



http://signalsustainability.com

http://www.fairtradeusa.org

These developments were also accompanied by initiatives of states and governments. The European Commission has made sustainability a central issue for the Europe 2020 growth strategy.

And the established corporations? Without a comprehensive process of rethinking, they not only have no opportunities in these new markets, but are also exposed to serious risks. Some large companies have long since created the position of Chief Compliance Officer on their boards; these officers are responsible for ensuring that the company observes all guidelines as precisely as possible. Both legal requirements and the specifications of their own model. Within the context of risk management, any damage to the brand must be averted under any circumstances. The brand is sacred, elevated by McKinsey and others to the value that makes the difference in an increasingly interchangeable society. Because what attitude to life would this sentence convey: Enjoy brown lemonade.

## Sustainability vs. “green washing”

Therefore sustainability, as it sometimes seems today, is not a discovery by do-gooders in boardrooms at large companies, but rather a stern and growing customer requirement of the modern day — and one that is being given ever more emphasis. We currently find ourselves in a transition period, where general social or ecological engagement may be enough for companies to protect their brands and products.

A good example here is the German brewery Krombacher, which is saving the rainforest by planting a sapling for each crate of beer it sells (annually, rainforest preservation makes up 0.01% of the deforestation area). This compensatory engagement, whereby the focus is placed more on marketing the sustainability efforts than on sustainability in the company itself, and which is also referred to as greenwashing by sustainability experts such as Adam Werbach, author of the book „Strategy for Sustainability: A Business Manifesto“, will soon be a thing of the past.

> We update our „guidelines for environmental claims“, in order to counteract the tsunami of green marketing claims
>
> (James Kohm, associate director of FTC‘s enforcement division, in April 2011)

Despite a boom in recent years, there is little future for greenwashing in advertising, whereby companies give their image a green coat of paint using clever advertising ideas or by highlighting secondary activities, and whereby the environmental benefits are portrayed in the advertisement as being far greater than they are in reality. According to the environmental marketing and consulting firm TerraChoice, which has published an annual greenwashing report since 2007, 2,219 products made green claims

in 2009 (up 79% compared to 2007) and the rate of green advertising in major magazines between 2006 and 2009 mushroomed from about 3.5% of all ads to just over 10%. In order to shore up consumer protection in the face of this, the U.S.A.'s Federal Trade Commission (FTC) decided to update its „guidelines for environmental claims", in order to counteract the tsunami of green marketing claims, said James Kohm, associate director of FTC's enforcement division, in April 2011 to USA Today. The guides, first issued in 1992, were last updated in 1998.

In the medium term, therefore, they are digging deep — into the processes of the company itself. From product design to disposal or — better — recycling.

## Nike' s Environmental Apparel Design Tool

Sporting- goods giant Nike, as a trendy youth brand, per se, with its finger on the pulse, and having been met in the past with hostilities relating to environmental misdeeds in its supply chain, was one of the first companies to understand the new requirements. Already in the early 90s, by its own account, the company established a „sustainability" group, designed to examine the question of how a company with a turnover of billions can run its production differently — more sustainably. That this sustainability group — if it ever existed — was only assigned greater importance in recent years is evident from the fact that Nike had a firm place on the scandals list for the last 20 years. At Nike today, however, everything is different.
This is already apparent on the website nikebiz.com. Here, the first thing the visitor sees in December 2011 was a message from Mark Parker, CEO


http://www.strategyforsustainability.com


http://www.ecolabelindex.com


http://stopgreenwash.org


http://sinsofgreenwashing.org

of Nike: „Sustainability is our generation‘s defining issue.“ This proposition links with Nike‘s new objective of integrated sustainability. By its own account, the corporation carried out an analysis of the entire company in 2007–2009 and developed solutions for how all business processes could be modified for sustainable development. As a result, a new department, Nike SB&I, was created, which focuses on key business priorities — sustainable products, sustainable manufacturing, and sustainable marketplaces.

## „Sustainability is our generations definig issue“

(Mark Parker, CEO Nike)

The corporation defines the strategy for the new heavyweight department as follows: „Our vision for SB&I is to enable NIKE, Inc. and our consumers to thrive in a sustainable economy, one where people, planet and profit are in balance.“ The realization of these lofty goals is, Nike says, to be achieved by the following means:

- Innovate to deliver enterprise-level sustainability solutions
- Integrate sustainability into the heart of the NIKE, Inc. business model
- Mobilize key constituents (civil society, employees, consumers, government and industry) to partner in scaling solutions

The words have already been followed by actions. In November 2010, Nike presented to the world a new tool for improved sustainability: the Environmental Apparel Design Tool. Building on an internal tool, Nike‘s Considered Index (the company‘s internal program used in developing innovations such as the 2010 World Cup soccer uniforms made completely from recycled polyester), designers can design products in a more sustainable way by using a web application (a type of online software) to input, benchmark, and modify materials and processes that are individually pre-evaluated, in order to improve the resulting sustainability index. “This tool is about making it simple for designers to make the most sustainable choices right at the start of the product creation process,” said Hannah Jones, Nike’s vice president of sustainable innovation, in a news release.

Almost more revolutionary than the tool itself was Nike‘s readiness to share the tool with everyone and to place it under an open source license, in order to give other firms and organizations the opportunity to analyze and improve their own sustainability, as well as to extend and improve the tool itself. This willingness to collaborate shows that Nike is taking sustainability seriously.

## Eco Working Group (EWG) of the Outdoor Industry Association

Nike‘s initiative was linked to another initiative that was crucial for the development of more sustainability: The Eco Working Group (EWG) of the Outdoor Industry Association. Established in 2007, the EWG examines the question of how ecological sustainability can be integrated into manufacturing processes relevant to the outdoor industry, with the aim of causing as little harm as possible to the environment. It was self-evident that outdoor companies would be a frontrunner in equipping the entire sector with a sustainability strategy, since one cannot credibly sell equipment to nature lovers if one‘s own industry is simultaneously damaging the experience they seek. Thus, the members of the EWG include notable outdoor companies and sporting-goods manufacturers but also other organizations that are active in the quest for more sustainability, such as Öko-Tex®, bluesign®, Signal, and the Sustainable Fashion Business Consortium (SFBC) from Hong Kong, which represents more than 30 members from the fashion, textiles, and textiles-chemistry sectors.

> “The Eco Index uses environmental guidelines, environmental performance indicators, and environmental footprint metrics to assess the impacts within six product life cycle stages”
>
> (Eco Working Group (EWG) of the Outdoor Industry Association)

In total the EWG consists of more than 100 outdoor businesses whose first accomplishment was collaboratively developing the industry‘s first environmental assessment tool: the Eco Index. The EWG describes the Eco Index as follows: “The Eco Index uses environmental guidelines, environmental performance indicators, and environmental footprint metrics to assess the impacts within six product life cycle stages: Materials; Packaging; Product Manufacturing and Assembly; Transport and Distribution; Use and Service; and End of Life. A comparative scoring system at the indicator level provides standardized levels of achievement; a data capture tool at the metric level provides a means to collect quantitative data within seven critical “Lenses” (areas of impact): Land Use Intensity, Water, Waste, Biodiversity, Chemistry/Toxics – People, Chemistry/Toxics – Environment, and Energy Use/Greenhouse Gas Emissions.” Designed from the start as a long-term and open project, the Eco Index follows the five principles: Collaboration, Open-Source Information, Transparency, Scalability, and Global Reach.

„We have based our corporate philosophy on the principle of sustainability“

(Dr. Michael Otto, CEO and owner of the Otto Group)

With the Eco Index, an internal supply-chain tool for one industry was developed for the first time on a broad basis, which is of crucial significance for the further development of sustainability across the whole textile industry, because in 2009 the EWG became part of an even larger and more important group: the Sustainable Apparel Organisation.

Established in March 2011, the Sustainable Apparel Organisation has a member list that reads like a Who‘s Who of clothing, textile, and retail heavyweights from across the globe — joining forces to give the issue of sustainability the most power possible.

## Retailer und the Sustainable Apparel Index

The participation of the big retailers is no surprise, as sustainability has become an important issue for them too. Dr. Michael Otto, CEO and owner of the Otto Group, says: „Society can only function if everyone is prepared to contribute in accordance with their capabilities.

We have based our corporate philosophy on the principle of sustainability, and as such we combine commercial activity with the promotion of ecological and social goals.“ With retailers, however it remains hard to say to what extent economics is rooted in sustainability. Although, for example, Otto carries sustainable clothing, made using fair-trade natural cotton, in its product range, it also carries plenty of other clothing whose sustainable production process is unknown and thus seems at least dubious. Symbols in the style of washing instructions for the consumer, clearly indicating what the sustainable basis is for a piece of clothing, would open up the sustainability process. Raw materials, chemicals, water use, environmental pollution, social responsibility, and recyclability could be indicated on the label and the consumer could therefore base their buying decision on these criteria as well.

„Focus on B2B decision-making first with the expectation that consumer-facing scores will exist in the future”.

Sustainable Apparel Coalition (SAC)

Precisely these symbols, in the form of a consumer index, are found with the Sustainable Apparel Coalition (SAC)'s Sustainable Apparel Index, where the message is: „Focus on B2B decision-making first with the expectation that consumer-facing scores will exist in the future."

The SAC was founded with the following aim: „Our vision is an apparel industry that produces no unnecessary environmental harm and has a positive impact on the people and communities associated with its activities."

The development of the Sustainable Apparel Index is seen as a first major joint project, and in November 2011 a first analysis tool appeared that allows products to be evaluated in the form of an Excel spreadsheet. The results are not yet to be made accessible to consumers, but rather will initially influence B2B decisions. The Sustainable Apparel Index goes far further than Nike's Considered Index and even the Eco Index, as it evaluates the product from its creation, through the entire supply chain, right up to the recycling stage.


http://www.nikebiz.com/responsibility/nikeenvironmentaldesigntool


http://www.ecoindexbeta.org

## Impacts of the index

Although the tool's current version 1.0 still requires improvement in many areas, and in particular the operation, in the form of numerous Excel lists, remains complex and scarcely user-friendly, the clothing and textiles industry, despite all of the tool's weaknesses, now has the option to test and compare products in terms of sustainability. This quantum leap towards transparency might, in the medium term, send powerful tremors through all of the industries associated with the manufacturing and supply process, since it will bring the fight to the factors that damage a good index value.

„The new, open membership structure is currently planned for 2012"

(Sustainable Apparel Coalition)

http://www.sfbc.org.hk


http://www.apparelcoalition.org

The Sustainable Apparel Coalition says: “A common approach for measuring and evaluating sustainability performance is essential for driving a ‘race to the top’ in the apparel supply chain. Apparel retailers and brands can compare performance of upstream supply chain partners and those partners will have a single standard for measuring and reporting performance to their downstream customers.” They continue: “This Sustainable Apparel Index will help identify and drive improvements in energy, waste, water, and toxics in the supply chain and help reduce operating costs and risks.” The SAC‘s aim is therefore clear. Long before the customer is eventually presented with an index, all of the processes will be overhauled, i.e.: At the point of the index‘s introduction, only goods manufactured in an accordingly sustainable manner will be put on sale. Particularly for large retailers, this would be a logical and consistent step. A step, however, that could also lead to a huge recoil effect in the supply chains of some clothing manufacturers.

The ball is therefore in the court of the textile industry and their production partners, the textile machinery industry, and the textile chemicals industry. Economic competition will be enriched by the components of sustainability, and time is of the essence if one compares the speedy initial development of the index in just nine months with, for example, the slow development cycles of the textile machinery industry. Tackled properly, sustainability can become an engine of innovation and economic growth in the industries. Sluggish action or fear of too much transparency could, on the other hand, lead to uncertainty or bad decision-making.

## The role of textile machinery producers

Especially for the textile machinery industry, it would be disastrous if they do not actively involve themselves in designing the process for indexing a textile manufacturing process and are instead simply lumped with an externally developed system. The time has therefore come for the industry to urgently begin to evaluate production systems for their specific uses and to make it possible to compare them with one another. It goes without saying, especially in the textile production process, that the big value drivers are present for more sustainability, and that textile machinery manufacturers and the textile chemicals industry must therefore take action independently and develop their own criteria and options for more sustainability, before others do it for them and subject them to the corresponding requirements. In this spirit, it is to be welcomed that with Huntsman, a textile chemicals firm has recently joined the Sustainable Apparel Coalition and that other chemical firms such as BASF, Clariant, and DyStar, with their Chinese branches, are indirectly involved via the SFBC. With the opening of the SAC to supply-chain partners in 2012, textile machinery manufacturers should also perceive this opportunity.

It would be wrong, however, to assume that the deficiency of the major organizations implies inaction on the part of the textile machinery manufacturers. In recent years, the industry has brought about many innovations for improved energy efficiency, reduced water consumption, and reduced use of chemicals. Also with regard to transparency, machinery manufacturers have made promising first attempts via two of their representative lobbies – the ACIMIT and VDMA associations.

## ACIMIT's green label

Italy's ACIMIT presented its vision of transparency for more sustainability at the ITMA 2012 in Barcelona: ACIMIT's Sustainable technologies project, which is supported by 31 of 166 member firms (including MARZOLI, ITEMA, and COMEZ), who are also permitted to use the logo „Supplier of sustainable technologies". At the center of the activities is the ACIMIT green label, a type of certificate issued by the manufacturer itself, providing quantitative statements on textile machinery's water, energy, and chemical use and CO2 footprint, and which is attached directly to the certified machines. Manufacturers that have joined up with the Sustainable project must jointly sign a corresponding „Memorandum of understanding" and „rigorous implementation regulation" with ACIMIT and, in addition, guarantee the validity of the supplied data.

The project was started in 2007 as part of the Nu Wave Initiative (members include: ACIMIT, ATOK, VDMA, EURATEX, IVGT & ITA) and is primarily supposed to help SMEs to improve their machinery to give lower emissions and lower consumption. NU WAVE sees itself as being in accordance with the ManuTex initiative, founded by CEMATEX and EURATEX, which, under the leadership of the ITA (Institut für Textiltechnik of the RWTH Aachen), has the strategic aim of „supporting textile machinery SMEs in the design of a new generation of flexible and high-performance machines through a close cross-sectorial R&D collaboration between textile and textile machinery manufacturers at European level".

> "It' s just the beginning!"
>
> (ACIMIT `s president Sandro Salmoiraghi on ITMA press conference 2011)

The project was promoted with EU resources from the Seventh Framework Programme (FP7) and accompanied by the consultant D'Appolonia. The ACIMIT members Flainox and Jaeggli-Meccanotessile Sr. were directly involved in the pilot. The result of the work and the basis of the green labeling is also an analysis tool that allows members to enter their data for each individual machine and determine whether it meets the conditions of the green label. In an information document, NU Wave defines the accessibility of the green label as follows:

"The output is a 'Green Label' that would be initially applied on the machinery produced by the associates of SME-AGs partners of the Nu-Wave project and possibly extended in the future to all other manufacturer users, as a reference." It is currently only used by some ACIMIT member firms, which points to hasty development and a lack of consensus within CEMATEX.

It was important to the ACIMIT leaders to take action and in particular to put down a marker at the ITMA. „We are the first mover," said director Federico Pellegata proudly at the ITMA press conference for the joint initiative. To the question of whether it would not have been better to wait and to develop something jointly and Europe-wide within the CEMATEX framework, ACIMIT's president Sandro Salmoiraghi paved the way for future development: „It's just the beginning!"

Overall, the green label certainly leaves many questions unanswered, but it is gratifying in an era of announcement to make a start, to let actions speak and to establish facts. Facts that encourage others and are sure to contribute to a positive overall development — in the face of all sorts of criticism.

Criticism that need not be named, since coincidentally or by accident it is specified more precisely in the reports for the German VDMA association's Blue Competence initiative.

## VDMA' s blue competence

With its sustainability initiative „Blue Competence", the VDMA wants to take and maintain for the long term the role of technological leader in terms of sustainability issues. Dr. Darius Soßdorf, the initiative's project leader, sees communication as a central matter for the initiative. In this spirit, the VDMA's professional association for textile machinery did not present any results in the form of an index or label, but rather first published a forty-page information document at the time of the ITMA 2011.

## „The guide on energy efficiency shall help to make the discussion about efficiency criteria, CO2 footprint and comparability more objective"

Thomas Waldmann, Managing Director of the VDMA Textile Machinery Association

In addition, numerous members were canvassed (including Oerlikon, Truetzschler, Monforts, Karl Mayer, Lindauer Dornier, Brückner, Groz-Beckert, and Thies) that support the initiative as companies.
The VDMA does not see a label as a cure-all for measuring the energy efficiency of textile machinery, ostensibly because the textile producer has a significant effect on the values through its individual adjustment and production process.

In its information document, the VDMA clarifies this using numerous examples, whereby it examines relatively standardized processes such as the spinning preparation / carding or the yarn production / open-end spinning machine in terms of influential parameters. It demonstrates that for a textile machine as an entity, no generally applicable statements can be made with respect to energy efficiency or carbon footprint, since too many of these parameters significantly influence the consumption of resources in the production process, such as the raw materials used, the production environment, and the state of the components. For the process of yarn production, for example, it states: „Even through the choice of the fiber raw material quality, as well as the choice of the spinning and production parameters (operating point), the machine operator establishes significant proportions of the specific energy consumption in the yarn production process, which do not necessarily result from the requirements of the final article.“ It continues in its interim conclusion: „The examples clarify that there are many heterogeneous main variables that influence the energy efficiency and the combination of processes and process parameters is almost infinite. An influence on the adjustment of the parameters is exerted by the machine operators, the requirements of the textile product, the materials, the fiber supplier, and the machine manufacturer. The examples listed also show that the machine manufacturer‘s influence on the energy efficiency of the process is very limited.“

The VDMA therefore proposes that all parameters must first be determined, defined, and mapped in order to allow comparison between the specific individual areas of use. In particular, sensible machinery categories must initially be set up, and the energy consumption of a type of machine should only be determined on the basis of an agreed (defined) working process / operating point. Otherwise we will not be comparing like with like. In its outlook, the association announces that, in consultation with its member firms, it will examine „for which machinery groups standards with defined operating points for comparable energy-efficiency data should be created“.


http://www.acimit.it/pub/E-sustainable1.htm


http://www.nu-wave.eu


http://www.manutex.eu

http://www.bluecompetence.net

How correct the VDMA is in this respect — that the energy requirement of a machine cannot be stated generally — has already been confirmed by Dr. Marion Tobler-Rohr at the Swiss institute for textile machinery and the textile industry at the Swiss Federal Institute of Technology Zurich (ETH Zurich). Dr. Tobler-Rohr worked as a senior researcher at ETH Zurich, Switzerland from 1996 to 2007, examining the issues of sustainability and ecology in textile production and recently (August 2011) summarized her findings in „The Handbook of sustainable textile production". In the year 2000, at the time of the appearance of chapters 1–3 of the BAT (Best Available Techniques) for textiles, a reference document of the European Integrated Pollution Prevention and Control (IPPC) directive on the environmental compatibility of textile production, she had already investigated various stated processes in collaboration with textile producers and had found that, in the spinning process, even just the fineness of the yarn produces different energy-consumption values. In her measurements, she determined on the same technical system of a ring spinning machine per kg of yarn 2.5 KWh with 40-tex yarn and 8 KWh with 10-tex yarn.

But if the power consumption of a machine is dependent on the material produced, how can a general energy-consumption value be quoted? The VDMA's approach seems, overall, very methodical and practical. Rather confusing, on the other hand, are the information document's repeated statements regarding complexity and the manufacturer's weak influence on energy efficiency and CO2 emissions. These statements suggest that the producers are not really in a position to effect any changes. This would be regrettable. And possibly even incorrect, since other industries have met the requirements of demonstrating sustainability, even though they faced a challenge of similar scale to that facing the textile industry today.

## Learning from other industries

For biodiesel, for example, proof was legally required that the life-cycle assessment of every single liter of the fuel additive was positive (EU Biofuel Sustainability Ordinance), in order to continue to receive economically vital tax-exempt status. The industry was left with no choice but to develop certification systems such as Redcert or ISCC and evaluate and document the biodiesel's route though the entire value chain, from the cultivation of raw materials to the transport and the recycling, and to the ultimate use worldwide. It also a requirement that every individual firm cultivating raw materials for biodiesel production, such as a farm growing rapeseed, must be certified and the processes used must be precisely documented — e.g., the type of fertilizer used and how often it is applied.

The construction industry in Germany also faced a complex task. It had to cope with two significant tightenings of the requirements of the German Energy Saving Ordinance (Energieeinsparverordnung) within two years, and must now prove a minimum energy efficiency value in advance by calculation for each individual new building and each modernization of an old building. The parameters of transmission heat losses and energy use are also complex in this instance, but were simplified by specially developed software tools.

Furthermore, the comparison with consumer goods that the VDMA refers to several times is confusing. If the VDMA says that a textile machine is not a washing machine, then it is undoubtedly right. If, however, it wants to imply that there are no solutions, that a calculation process would be too complex, then the examples above suggest that it will probably be wrong in this respect. Furthermore, this could lead the parties involved to underestimate the situation that the textile industry will in the near future depend on calculations, since, in fact, we have demonstrated that trade's requirements and willingness to provide proof would increase. And it is vitally important not to forget that in an evaluation of sustainability along the textile production chain not only that there are new machines among the others in the competition, but above all that new machines, with their greatly improved energy efficiency, will also supersede existing old machines. Textile producers' investment is then no longer just a perception of the ROI, but can be in their vital interests.

Particularly against this backdrop, it is a shame for both initiatives that something seems initially to have been started as a joint project within the framework of NU Wave, but was then continued separately, even though a European solution under CEMATEX's one roof would be so important for the positioning of the entire industry. The reasons for the split will be hard to ascertain. The VDMA's criticism of a label, which was at least partially justified, might be one reason; the fact that the VDMA's Blue Competence initiative was originally developed by the VDW and extends across all of the VDMA's machinery areas could well be another. The German textile machinery industry must consider whether the national interest of German engineering weighs heavier in this specific question than its specific interests as a group of textile machinery manufacturers.

And it is surprising that ManuTex is not truly active on this issue, even though the issue of environmentally friendly textile processing was announced in the main R&D focal points of the May 2007 roadmap. A joint initiative by CEMTAEX and EURATEX with scientific accompaniment by the ITA would surely be the first point of call for achieving a sustainable solution for sustainability calculations along the textile value chain.
Here, Europe's other big associations — SYMATEX (Belgium), AMTEX (Spain), UCMTF (France), TMAS (Sweden), Swissmem (Switzerland), BTMA (UK), and GTM (Netherlands) — are then also called upon to work towards a European solution. Especially Swissmem and UCMTF, which are in general highly active.

## Other CEMATEX members

The Swiss association Swissmem has taken on the issue, but is also seeking a solution of its own. It has launched three concrete projects that are being carried out with the support of expert consultants and scientific accompaniment (Züst Engineering, inspire, Lucerne University of Applied Sciences and Arts), as well as working groups consisting of specialist company representatives, and which are part of the energy-efficiency action plan. According to the project leader, Sonja Struder, the issues of waste-heat utilization and optimum regulation will soon deliver their first results in the form of planning aids for companies.

With the initiatives and projects, Swissmem is seeking leadership of the energy-efficiency issue in the Swiss MEM industry and wants to launch further projects once these are successfully completed. Nevertheless, the VDMA's Blue Competence initiative is under keen observation. Swissmem faces the dilemma, however, that it is a general engineering association of which textile machinery forms only one part; here too, therefore, national interests could be at loggerheads with industry requirements.

As purely a textile machinery association, the French association UCMTF does not have the same problem. It has also been engaged in energy-saving measures for years and holds advanced training programs and seminars on the issue. For Bruno Ameline, UCMTF Chairman, "energy savings are not just a fashion or a "politically correct" attitude but a real "must" both from ethical and economical points of view. He adds that the responsibility of the machinery manufacturers is not to influence the consumption of end products but to reduce significantly the energy necessary for the production level set by the market." Now, it is time to take the next step.

In conclusion, we welcome and approve of all initiatives on the issue of sustainability equally. ACIMIT has established some facts and the VDMA must now do one better and, with the usual German rigor, will surely deliver an excellent result.

## Prospect

It would be desirable for the textile industry and textile machinery industry for those involved then also once more to think and do business in European and global terms — as quickly as possible — in order to drive forward and master the gigantic task of changing the worldwide textile industry in terms of sustainability. Then Kofi Annan's dream of making the world a better place with the help of the textile industry can, for certain, be realized more quickly and more ***sustainably***. ■

## Next issue

**Part 2:**
**Sustainability efforts of companies in the textile machinery and textile chemicals industries.**

# More links:

http://en.wikipedia.org/wiki/Sustainability
http://en.wikipedia.org/wiki/Sustainable_fashion
http://de.wikipedia.org/wiki/Global_Organic_Textile_Standard (GERMAN LANGUAGE)
http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/DE/Navigation/Statistiken/Zeitreihen/Indikatoren/Nachhaltigkeitsindikatoren__nk.psml
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http://www.nudiejeans.com
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http://aatcc.informz.net/admin31/content/template.asp?sid=19110&ptid=99&brandid=4199&uid=1033784768&mi=1925898
http://www.sustainabledesigners.org/projects/fair-trade-label-for-designers-manufacturing-in-the-usa/
http://www.facebook.com/pages/National-Association-of-Sustainable-Fashion-Designers/122933957757723
http://www.pdc.us/
http://www.facebook.com/PortlandFashionWeek

http://www.ottogroup.com/en/verantwortung/nachhaltigkeit.php
http://www.eoearth.org/article/Green_Washing:_Do_You_Know_What_You_Are_Buying
http://thegreenlightdistrikt.com/2010/08/05/green-marketing-or-green-washing-part-deux-enforcement/
http://yourlife.usatoday.com/your-look/story/2011/04/FTC-to-issue-new-green-guidelines-address-tsunami-of-marketing-claims/46329674/1
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http://www.oeko-tex.com/OekoTex100_PUBLIC/content.asp?area=nebenmenue&site=presseinformationen&cls=02

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http://www.dappolonia.com
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http://www.cematex.com/
http://ec.europa.eu/trade/creating-opportunities/economic-sectors/industrial-goods/textiles-and-footwear/
http://ec.europa.eu/research/fp7/understanding/fp7inbrief/what-is_en.html
http://cordis.europa.eu/fp7/understand_en.html
http://eippcb.jrc.es/reference/txt.html
http://ec.europa.eu/europe2020/priorities/sustainable-growth/index_en.htm
http://www.switch-asia.eu
http://en.wikipedia.org/wiki/Organic_cotton
http://cottontoday.cottoninc.com/sustainability-about/LCI-LCA-Cotton-Fiber-Fabric/

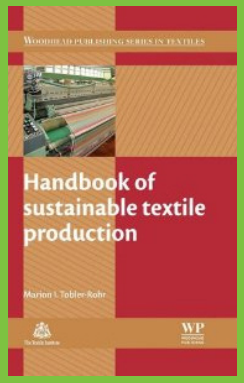
http://www.iscc-system.org
http://www.redcert.org

# Books:


Strategy for Sustainability: A Business Manifesto [Hardcover]

Adam Werbach (Author)

http://www.amazon.com/Strategy-Sustainability-Manifesto-Adam-Werbach/dp/142217770X




Handbook of Sustainable Textile Production (Woodhead Publishing Series in Textiles) [Hardcover]

Marion Tobler-Rohr (Author)

http://www.amazon.com/Handbook-Sustainable-Production-Woodhead-Publishing/dp/0857091360/ref=sr_1_1?s=books&ie=UTF8&qid=1329413172&sr=1-1

Innovations & Improvements

# Part 1: Spinning

## With our six-piece series Innovations & Improvements we mainly want to give you an overview of the respective status of technology.

The period we are looking at is approximately one year, so that some of the information will already have been published as news or short report somewhere else. But we still assume that the compact and structured form here in the magazine will supply you, our readers, with added value.

While collecting the mounds of information from news, customer magazines and websites of the individual producers for this series we had to discover increasingly how little truth the sentence that our branch only progresses slowly really contains. The technological developments from ITMA to ITMA and also in between are significant and the presented innovations are something to be proud of. They will greatly help textile producing companies to keep price margins stable in times of increasing raw material and energy prices and to successfully master the requirements of the future like for example the demands for sustaining production.

We divided the six issues according to the structure of our Buyer´s Guide available already since 1998, and take a look at the essential processes along the textile production chain spinning, weaving, knitting & hosiery and dyeing, drying, finishing supplemented by a special look at technical textiles and textile chemistry.

In the first part of this series, the topic is spinning, more exact: Machinery for spinning preparation, man-made fiber production, spinning, winding, texturing, twisting; auxiliary machinery and accessories.

All in all, the improvements in the spinning process can be summarized in the areas productivity, flexibility, automation and energy saving. Productivity increases and higher flexibility are achieved mainly with the new machines, more automation and energy saving is also possible through updates of components on existing machines. More work space, more capacity, faster runtimes, higher precision, lower error susceptibility, more specialisation and individualisation, better material, newer procedures, less energy consumption, less wear, faster parts exchange and longer productive times are the most important fields that are used for innovations and improvements.

*Lets go into detail.*

# Blow room

The Italian **Marzoli** presented three new machines at the ITMA that form a new opening line: the duo cleaner **B390L** with cage condensor **B450L** and the duo blending opener **B380L**. It achieves a production of up to 1000 Kg/h and has a progressive opening and carding action, an optimized cleaning and opening, is waste reducing, has a high dedusting efficiency and a with a multiple mixing a greater mixing quality. There are several plant solutions : one machine can be fed by two different components. This advantages leads to an optimal accessibility and low maintenance costs.

**Trützschler** from Germany had already renewed his opening line for the ITMA 2007 and realized many innovations. The production capacity of the Trützschler ball opener **BLENDOMAT BO-A** is still very high with up to 2,000 kg/h with one material, via a bale work-off and two parallel cleaners. For last years ITMA2011 Trützschler puts the foreign parts detection in the centre of its blow room innovations. With the **Separator SP-FPU** Trützschler presented a solution that combines the different procedures of sensorics and foreign part recognition in one device. In total three different sensor modules with corresponding lighting units are in use simultaneously to get best results. First is the Trützschler colour module which features the latest generation of cameras. Two 3-CCD cameras scan the tuft flow from both sides. The cameras work together with lighting units with neutral light.

Unlike simple colour sensors, the cameras can see everything the human eye perceives. Second is the UV module cause cotton often contains non-transparent white parts from packaging. For the eye as well as for colour cameras they are difficult to distinguish from a cotton tuft. However, additional UV lighting makes these parts visible to the camera. This method utilizes the effect of fluorescence.

In UV light, these parts appear light blue. The third one is a module for the problems which present transparent and semitransparent parts, like foil pieces. Sensors, designed for the detection of colours are not able to identify transparent parts. For this the Trützschler P module works with polarised light. The special lighting unit and an additional camera with polarising filter allow a reliable detection of even small foil pieces. Unlike colour detection with incident light, the P module uses transmitted light.

For separation which is as important as detection a special nozzle beam with 48 x 3 nozzles is applied. Each of the 48 separation points works with three small nozzles and produce a clearly defined air jet.

Speed sensors measure the speed of the tuft flow and the foreign parts, thus allowing an extremely short air blast at exactly the right moment. This saves expensive compressed air and prevents unnecessary fibre loss.


Trützschler Seperator SP-FPU


Rieter VARIOline

The new Swiss **Rieter** blow room line **VARIOline** is designed for line production up to 1 200 kg/h and scores with its variable concept. The cleaning process takes place in several stages that are adapted to the raw material. Smallest fiber tufts and the cleaning map **VARIOset**, adjustable at the touch of a button, are the key to efficient and gentle cleaning and a greater fiber yield.

Rieter blowrooms are therefore always configured to the customer's requirements and the Rieter blowroom conrol UNIcontrol is always designed to meet the needs and conditions of every production facility.

# Cards

In the sector of cards, there are three new machines of market-leading producers that are specialised on spinning and spinning preparation. Due to the increased cotton prices the innovations in the cards mainly target a greater productivity increase. All producers lay emphasis on offering large carding areas and maintaining the compactness of the machines. Further innovations refer to the lid guiding, the cleaning process and the pre and post carding zone. The raw material exploitation shall be optimised even more with improved quality and flexibility.

The spinning model company **Rieter** calls its card high performance card **C 70**, which sits on a work width of 1.50 m like the predecessor. Due to several quality improvements like the adjustable blade on the lickerin, variable inserts for the cut elements in the pre and post card zone, the precise lid guiding and electronically adjustable lid speed the C70 achieves a further productivity increase over the C60. Next to that, the C70 relies on flexibility. Due to the modular construction the C70 can be adapted to new raw materials and requirements quickly. For ideal attuning to the raw material, selection between simple and triple lickerin is possible. On the C70 cotton can be produced up to 65mm, sliver count of 4 - 12 ktex and cotton weight of 650 - 950 g/m. The result is a production of up to 220Kg/h. Optionally the card lines can be designed for 8 cards, line production up to 600 kg/h or for 10 cards C 70, line production up to 1 200 kg/h.

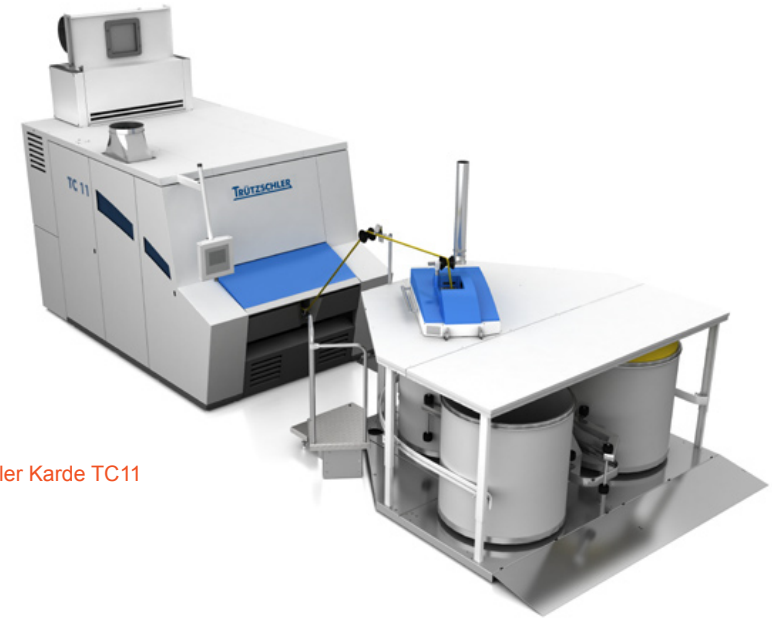
The Italian **Marzoli** changed and improved its new card **C701** in very many areas and made a great overall leap. With the C701 a production of up to 250kg/h can be achieved according to Marzoli. Marzoli is also offering a work space of 1,50m. The surface is subdivided as follows: pre-carding area 1.08m2, moving flats area 1.57m2 , post carding area 1.09m2. The 284 degree carding angle, the working height of 1.500 mm and the diameter of the main cylinder of 1.000 mm results in a very large carding area. More innovations are: A new web detaching device for an ideal transfer of fibers, a new suction system realized for the new width of 1500 mm , to guarantee a perfect collection of dust and waste, a new and efficient can changer with pendulum movement and last but not least new covers to improve the machine accessibility with great benefits to mobility and visibility for maintenance personnel.

At spinning preparation specialist **Trützschler** the improvement of the cards is an ongoing process, where innovations are built into the cards as fast as possible, with the new card **TC 11** a larger leap to a new system was made again.

Trützschler sees the TC 11 as groundbreaking in terms of exactness and achieves a productivity increase of 30-40% over older models due to a larger carding area.Other than the other providers, Trutzschler relies on a new work width of 1,28m and thus achieves an impressive carding area of 3,7 sqm. Trützschler sees even larger drum widths as no longer economic, as the construction would get too massive.

As a basis of the new construction, data of the setting optimiser **T-Con** was collected and evaluated during production. With T-Con the important distances of the carding elements among each other that change during operation due to heat and centrifugal forces can be measured and visualised. The results of the evaluation lead to a completely new construction of the machines with numerous small and large innovations. It takes just one look at the structural design to reveal the new concept. The card frame supports only the drum directly. The pre-opening rollers and the unwinders were mounted new. The width of 1,28 m (ideal according to Trützschler) was also determined this way. The tried and tested roller diameters of the previous machines and the cross-sections of the carding elements and lid bars were not modified.

On the TC 11 , the fully integrated tuft feeder **DIRECTFEED**, that ensures a high production with even card feed, the flexible integral feed tray **SENSOFEED+** , a short-wave regulation for a low sliver count variation, the completely maintenance-free belt moulder **WEBSPEED** and the precision blade setting system **PMS** for especially fast waste quantity setting.




Trützschler Karde TC11

As always, Trützschler pays much attention to the lid. Lid bars made of aluminium and without screw connection enable fast, tool free lid exchange, the precision lid adjustment system PFS creates reproducible lid adjustment in seconds and the lid measurement system **FLATCONTROL** provides an objective and exact lid adjustment and smooth setting of the lid speed. This ensures the exact adaptation to the fibre quality in seconds. According to Trützschler, it was soon discovered in development that conventional lid bars could not achieve the necessary accuracy. This is why only the **MAGNOTOP** system is used in the TC 11.

Regarding the detail quality Trützschler shines as always. For example with needles made of special steel that achieve a 10 time higher lifespan compared to a full-steel equipment.

Of course, the T-Con system is continuously used in the TC 11 to exploit the potential of the TC11 to the maximum. With its permanent measurement it supplies valuable notices and suggestions during production, which can be realized immediately. For example, with the precision adjustment system PFS, the lid distance can be changed in just a few seconds - even during production.

Next to the production increase, yet even more quality improvement was another goal of Trützschler. As a result, the card slivers are especially clean, nepsfree and even.
And also energy efficiency remains a big topic for the German producer. With the TC 11, savings of approx. 20% electrical energy for each kilogram carded sliver are realised. The filter system is also more compact and uses smaller fans. Thus, it uses less electrical energy.

## Drawing frames

**Marzoli's** new draw frame model **DF1** and **DFR1** have a new geometry of the drafting system for best fibres control in the drafting area and a production speed up to 1,100 mt/min.

They have a new suction system for high dust removal and stand for high productivity and reduced sliver breakages during operation. The cleaning system is redesigned, too. Can sizes are 9“ to 40“ diameter.

Additionally there is a new **Marzoli** Lap Winder: the model **LW3** is totally new and redesigned using new principles and advanced mechanical, pneumatic and electronic designs, which are protected by ten patents. The lap formation average speed is 200 mt/min and up to 220 m/min programmable through inverter. The new positioning of the two drafting groups, in line with the lap formation calanders, enables the stacking of two webs on top of each other without using convoy plates. The lap weight is up to 28 kg, the lap width is 300 mm and the lap diameter is 600 mm. The innovative system ensures a high production up to 620 Kg/h and can feed up to 6 new **CM7** combers *(see below)*.

Marzoli Lap Winder: the model LW3

**Trützschler** introduces on ITMA Barcelona with the Draw Frame **TD 8** a new draw frame type. Even at first glance the new design of the Trützschler Draw Frame TD 8 is obvious. The integration of a new drafting system and a new filter resulted in a new casing. The drafting system is characterised by increased accuracy and Trützschler was able to further improve the reliable 4-over-3 drafting system with pressure bar: The 4th top roll ensures an ever more careful sliver deflection at the delivery side of the drafting system, while the adjustable pressure bar in the main draft area provides controlled guidance of even short fibers. To significantly increase service life, pressure bar and cleaning bar have been newly designed. The top roll supports have integrated lap formation monitoring and the large diameter and low temperature of the rolls prevent lap formation to a large extent. Other advantages are the simple and quick adjustment of drafting zone widths and the optimum setting of strong suction.

The self-adjustment system AUTO DRAFT optimises the break draft for the autoleveller draw frame fully automatically. In less than one minute the system, which can be optionally integrated into the Draw Frame TD 8, makes an automatic recommendation for the ideal material-specific break draft. At the touch of a button, the draw frame moves along the entire possible break draft zone, measuring the draft force. AUTO DRAFT is suitable for all materials.

SERVO DRAFT gives mills a key to extremely short correction lengths. To achieve this degree of short-term levelling SERVO DRAFT uses special drives, determines precise actual values, ensures fault-free signal processing and direct conversion of the levelling signal. Sensor reliability and accuracy is decisive for the control. The new groove and sensing roll unit DISC LEVELLER is part of the standard equipment of the TD 8. The sensor is based on friction-free, fiber-friendly measurement. It allows a very high, adjustable pressure at the measuring point, thus the deviations in material thickness must be placed on the same level as the actual mass deviations. The sensor features maximum accuracy and signal quality, without interference from external sources. Translating these signals into draft changes with SERVO DRAFT results in a perfectly levelled sliver and consistent sliver count stability.

Alternatively to the standard deasign, Trützschler presents a real technical innovation. For the first time a creel features an individual drive, which offers numerous advantages like no mechanical connection to the draw frame, tension draft to draw frame can be optimised, the levelling motor is no longer strained by and reduced space will be required.

The Trützschler Draw Frame TD 8 is equipped with digital servo motors which leads to higher efficiency due to lowered energy consumption. Doing operation is very simpla by using a touch screen.

All Trützschler draw frames are generally equipped with the well-known automatic can changer.

For optimal alignment between productivity and the various production environments, Trützschler has designed two special versions of the TD 8. While TD 8 is for high production area with production up to 1,000 m/min, the TD 8-600 is a special draw frame for combing. By keeping delivery speeds below 600 m/min it was possible to use energy-saving drives.

## Combing machines

In the sector of combing machines, the current **Rieter** top models are the models **E 66** and **E76** with 500 nips per minute and up to 80 g/m cotton weight. Since November 2011 there is an upgrade for the models **E 7/5** and **E 7/5A** that have been on the market for many years now. Rieter offers a conversion kit to increase the output of these combers. The production potential of these combing machines can be fully exploited by the conversion, by increasing the nips rates from 250 nips/min to 350 nips/min. The conversion set consists of several components: the high performance tongs, the round comb and the fix comb - these are the 3 most essential technology elements of this conversion set. A new main engine allows the increase of the nips rates per minute. According to the specifications of Rieter numerous customers have performed this conversion during the last few years. They report positive results - a higher production amount and improved values in the quality of the combing sliver.

A totally new comber was presented by **Marzoli** on ITMA: the new model CM7. Marzoli' s General Manager ***Mario Bianchetti*** told the customers on ITMA that Marzoli has revised all the laws of physics that regulate the cleaning, parrrallelization, and overlapping and they have revisited all moving masses in order to reduce energy consumption. The result is a futuristic technical solution with a new movement rule of the half combs, detaching rollers, and nippers. The new mechanical and electronic components have been designed for high machine performances and the grippers workload has been reduced. The results are a high quality of the combed sliver, with values lower than 5% of the Uster statistics, production levels of 600 nips/min, the capability of producing up to 100 Kg/h, waste reduction without affecting sliver or yarn quality and finally energy saving through a kinematic and dynamic optimization for a significant reduction of the energy consumption to 0,045 KW/kg.

## Rowing frames // Flyers

Even though the **Marzoli** rowing frame already has a very good reputation in the worldwide industry, the Italian producer just recently improved it once more. The new modells **FT6, FT7, FT6D, FT7D** have the improvements of a zone spezific electronic spindle control and a new Simotion control panel. This contributes to a reduced energy consumption, simplyfied monitoring and maintenance of the machine by elimination of some mechanical parts, and reduced spare parts consumption.

**Oerlikon Schlafhorst** improves the automation from roving frame through to cross-wound package. The German company offers excellent opportunities for the highest possible degree of automation in the ring spinning mill, adapted to individual customer requirements. From the **Zinser 670 RoWeMat** or **Zinser 670 BigPac**, roving frames with integrated doffer, through to the winding machine, a process flow without manual handling is possible: After automatic doffing and transfer of the roving bobbins into flexibly configurable roving bobbin transport systems **FixFlow** and **FlexFlow (Autoflow)**, the roving bobbins are specifically fed to the ring spinning machines in the shortest possible way. The doffer of the ring spinning machine, too, automatically puts the bobbins onto the bobbin carriers, which in linked systems are directly fed to the **Autoconer** (winding machine) for producing crosswound packages. Automated and intelligent material flow, automated and adapted bobbin handling as well as automatic and most rapid package change with the new **XChange** make a perfect, fully automated ring spinning mill. The customers benefit from reductions in personnel, space, and logistics costs, eliminate human operating errors and thus can trust in the highest possible process reliability.

# Ring-spinning frames for cotton spinning system

The new spinning frame **MDS1** from **Marzoli** is a fully electronic frame with independent drive for spindles, ring rail and drafting system. The machine was designed to accept up to 1824 spindles to reach a very high productivity.
All the technological parameters (count, S or Z twist, bobbin build, speed) are set directly on the touch screen and there is an online monitoring of the power consumption. The working programs are stored and recalled at any time, saving time during lot changes. One winding geometry for tubes from 180 to 260 mm; intermediate steel bar to control the yarn for tubes up to 230 mm to keep the spinning angle variation inside the best theoretic range.
The MDS1 has a multi motor drive with tangential belt up to 216 spindles for each motor. The tangential belt, through a double pulley tightener every 4 spindles, guarantee a greater adherence between spindle pulley and belt. The spindle variation is less than 1 % and the free space between drafting cylinders and floor shortens time for cleaning.
Remarkable is the electronic drafting drive with independent gear motor with programmable speed. The time for cleaning and maintenance is low because there are no free gears and oil pump.
The MDS1 has ring and balloon control rings rail and movable thread guides with independent movement to guarantee the perfect distribution of the coils during all formation of the bobbins.
The movement of the two rails (rings and thread guides) with independent gear-motor, driven by driver, comes with programmable lengths with respect to the different processing. The new ring rail bush system prevents bi-directional oscillation of the ring rail. The spinning rings are for high speed with adjustable plate for an optimal centering on the spindles and able to guarantee a perfect bobbin build up and optimize the quantity of yarn for each tube height. The spindles are shock absorbing and there are bolsters for speed up to 25.000 to reduce vibrations. The feeding creel is equipped with 6 rows of bobbins and there is an integrated automatic doffing with bobbins discharge in a box and random loading of the empty tubes.
The new Marzoli MDS1 is an ideal machine for large production of quality yarns thanks to the new construction, the exclusive fibre control system **Arco Bridge**, the patented spindle drive system with multiple tangential belts and with the number of spindles up to 1824. It can be equipped with several optional accessories.

# Compact spinning

The **Oerlikon Schlafhorst Zinser 351 Impact FX** with 1680 spindles has been introduced already in 2010. The self-cleaning and maintenance-free compacting system always guarantees maximum compacting performance. The negative pressure for compacting is guaranteed to be constant over the entire machine length, for it is electronically controlled and independent of the normal spinning vacuum.

Thus a high and constant yarn quality is guaranteed at any time. In addition, the compacting element is aerodynamically optimised for spinning most different fibres. That makes the Zinser 351 Impact FX a ring spinning machine with a very high flexibility.

## Rotor spinning machines

**Rieter** sees the new fully automatic rotor spinning machine **R 60** as a start into a new generation of rotor spinning because the R 60 machine sets new standards in quality, productivity and flexibility with reduced energy requirements. The R 60s advantages originate from the new S 60 spinning unit. The novel arrangement of nozzle and **TWISTstop** in the innovative **S 60** spinning unit increases the spinning stability and thereby reduces the number of ends down. The improved spinning stability allows a productivity increase per spinning position of up to 5%. The modular robot construction results in a further speed increase of 10%. A complete doffing and piecing cycle is now finished in only 22 sec. Set-up times have been reduced to the absolute minimum by the newly designed **TWISTunit**.

Individual drives for the feed cylinder improve the **AEROpiecing®** technology for yarn-like piecings by their direct and immediate control of the sliver feed. The R 60 can have up to 540 rotors. This results in a productivity increase of 8% compared to the previously longest machine – the forerunner model **R 40**.

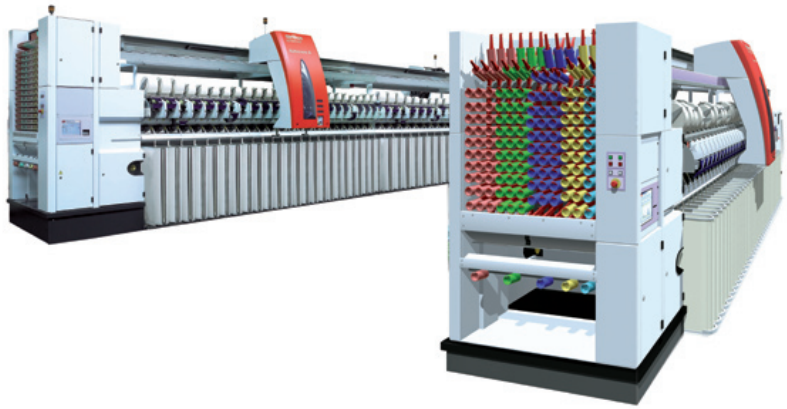
On the other hand the energy consumption of the new machine generation, depending on the application, has been further reduced by 5% compared to the R 40.

A new option for the R 60 makes it possible to spin different lots independently on each machine side. In addition, the R 60 can be equipped with VARIOspin for the production of fancy yarns. This gives more flexibility. The operator interface with a large touch screen color display provides clear information on status and allows easy setting. The entire concept aims at short idle times and thereby a high availability of the machine. The R60 offers a wide field of application for rotor yarns. Alltogether the R 60 is a further development with emphasis on productivity and flexibility.

Verified by customer experiences, Rieter increased the maximum rotor speed. With up to 170 000 rotations per minute of the rotor, a length of up to 540 spinning positions and up to 350 m/min delivery, it has now an even greater productivity potential. Thus, with this productivity potential, the R 60 also covers possible increases anticipated through further development of the technological components.

Shortly before the ITMA Barcelona **Oerlikon Schlafhorst** announced a „revolution“: the new rotor spinning machine **Autocoro 8**, which then celebrated an effective premiere on the first day of the ITMA. The red lighted numbers that showed the rotational speed of the machine climbed to never-before-seen heights at 200.000 rpm.

With the applause of the nearly 3.000 stand visitors **Gerard Küsters**, head of Oerlikon Schlafhorst, said the following about the Autocoro 8:



Oerlikon Schlafhorst rotor spinning machine Autocoro 8

"This new technology is the biggest innovation in rotor spinning in the last 30 years. It has been possible to spin a yarn at a rotor speed of 200,000 rpm for the first time. This breakthrough is thanks to the single-drive technology in the Autocoro 8, which will usher in a new era in rotor spinning. I am filled with pride to think that Oerlikon Schlafhorst is setting this new milestone as a technological leader in rotor spinning."

The core piece of the new Autocoro 8 is the new precision rotor **BELCO-RO** with magnetic drive and bearing technology. This highly innovative drive supplies impressive dynamics and precision for spinning, individually for every spinning position. This way, every spinning position has its own automation and its own spinning, reeling and spinning-in technology. Every rotor is powered individually and fully by electromagnetic power. Maintenance with belt replacement is omitted. The rotor engine in the new **Spinnbox SE 20** is designed for rotational speeds up to 200.000 rpm. Due to the integration of the spinning-in in every spinning position, the waiting times for central automation aggregates are also omitted. Batch changes can be done during full production and also frequent spinning-in and special yarn qualities lose their problematic features.

The new spinning-in procedure is supplemented by tried and tested as well as new features: **DigiPiecing** gives 100 % digital control and execution of the piecing process and **DigiWinding** improves the package quality.The packages having more weight, straight flanks and perfect yarn displacement. Reel errors are therefore basically excluded. The productivity increase is rounded off with **SynchroPiecing**, a technology that ensures maximum line speed also on long machines. Thanks to the single drive technology 300 m/ min can be raised on every machine length on the Autocoro 8. Even starting up the machine up to full performance only takes 20% of the time of the centrally driven machine due to single drive and **QuickStarter**.

Next to the productivity, the flexibility was also improved with the single spinning position technology. With **MultiLot 3** and **MultiLot 5** the Autocoro 8 can be variably divided and up to five different yarns can be produced at the same time. Thanks to single drive technology, you decide freely decide how many spinning positions are used for the single batches, and these batches can also be changed in flow, during full production. The storage expenditure is reduced, and smaller batches become profitable.

The Autocoro 8 has 48 – 480 spinning positions and a sectional structure with 24 spinning positions per setting. The spinning position arrangement is 230mm. Natural and chemical fibres and their mixtures can be produced at a fibre length of up to 60mm.

All in all, the Autocoro 8 is an impressive development. With 10 % more yarn on the reels, the productivity increase due to the high rotational speed of the rotor and the potential of the full machine workload, the flexibility and the energy saving due to the fast availability of the peak load it is a true milestone mainly also thanks to the new drive.

## Air jet spinning machines

With the further development of the air-jet spinning machine **J20, Rieter** now offers up to 120 highly productive spinning units in one machine.

Together with the newly developed spinning unit, the J 20 provides maximum yarn quality, productivity and flexibility. The newly developed duo spinning unit of the J 20 produces higher yarn strength and fewer imperfections.

The improved yarn quality also results in a lower number of quality cuts and reduces natural ends down. Together with the reliable robots of the J 20, far greater production efficiency is achieved resulting in a high yarn production. It was possible to lengthen the J 20 by one section to a total of 120 highly productive spinning positions. 4 robots, two on each side, ensure maximum production efficiency. The option of separate sides makes the J 20 even more flexible, allowing two different yarn qualities to be produced simultaneously.

Rieter air-jet spinning machine J20

The centrally-driven ventilators, the entire electric and electronic systems as well as the supply and disposal connections are integrated in the drive frame. Separate filter chambers process the waste from the spinning positions and the waste from the robots and are also separate for the left and right machine sides.

Two separate tube chains, which allow different color tubes to be fed to the left and right machine sides, are a new feature of the tube feeder. This prevents tubes being mixed up when two yarn qualities are being simultaneously produced.

## Winders // Winding machines

The **Autoconer X5** winding machine from **Oerlikon Schlafhorst** offers various stages of automation. On the manual variant, the new **X-Change** package doffer is a crucial step towards automation. The labour requirement of spinning mills can be reduced even further with the machine types **D** and **V** with automatic material flow. On all Oerlikon Schlafhorst machines automation goes hand in hand with an increase in quality, because manual operating errors are eliminated and both processes and quality are monitored by sensors and online.

An effective improvement is the **modernisation kit** which **Oerlikon Schlafhorst** offers for the **Autoconer 338** with an optimised suction system. This conversion is for all Autoconer 338 machines up to and including those produced in February 2005. By changing the fan cowl, an inlet ring, a suction door and some  covers energy savings up to 15% (approx. 1 kW/h) are possible. This is the result of improved cooling of the suction motor and the reduced working load acting on the frequency inverter.

The Italian textile machine producer **Savio**, who celebrated its 100th birthday in 2011 and parted from the ITEMA group through a stock purchase of the Investor Alpha in June last year and since then has been acting independently again on the market, has always brought forth many innovations as specialist for the yarn finishing process. The ITMA did not have completely new machines this time, but facing restructuring and a completely new market appearance this is absolutely understandable.

Savio has special strengths among the winders and ranks first among the winder producers of the world, according to statements of the CEO, **Mr. Lorenzo Cucchetto**, measured by the market shares of Savio and its subsidiary in China. For Savio, the customer needs were the main focus in the development of their winder. The goal was to develop an especially innovative winder as a successor of the very appreciated and successful **Orion** (created 1999), in order to enforce the special market position. The result was the automatic winder **Polar**, which was introduced to the market in 2006. This does not make it very recent, but still deserves a look compared to the previous model due to the increased demands in the markets.

Polar maintains all Orion features and has been realized for developing high levels in terms of quality, productivity, low energy consumption and low maintenance costs, apart from climatic condition and technical level of spinning frames operators.

The Polar comes in five different constructions. The **POLAR E** is an automatic winder with automatic bobbing feeding and automatic package doffing and the **POLAR I / Direct Link System** an automatic winder for connecting directly to the spinning frames. Other types are the **POLAR L**, an automatic winder with manual bobbing feeling and automatic package doffing, the **POLAR M**, an automatic winder with manual bobbing feeling and manual package doffing and the **POLAR LR – MR** which is an automatic winder with package feeding.

Lets have a special look a the Polar E. First of all there is a new heavy duty cradle with new geometry to meet the possibility to reach the highest winding speed and the different shapes and quality of the take-up tubes and to fulfill the demand of consistent and perfect packages under the most severe conditions. The Polar standard to ensure package quality is an electronic anti patterning system. In this case the drum speed is controlled by the machine PC, and changes its value (electronic anti patterning system) only at the preset package critical diameters. As an option a **Computer Aided Package®** is available. With the CAP all parameters are set in the main machine PC and it controls the "yarn layering" process on the package. The distance of two consecutive "yarn layers" must be kept higher of a pre set value, in order to avoid yarn ribboning at critical diameters.

The cycle is extremly flexibel. The package and the bobbin suction arms along with the splicer are individually driven by independent motors in order to reduce the splicer cycle time. Splice occurs only when both arms bring the yarns into position. This leads to greater productivity, a consistent package quality (no presence of double yarns or yarn scrambling), power and compressed air savings because unnecessary splicing cycle are avoided, a minimum wear of the parts and a minimum yarn waste. The yarn tensioner, waxing device (optional), drum and cradle are also driven by indipendent motors.

The winding tension is detected continuously by the **TENSOR**, which interacts with the yarn tensioner device, through the machine PC, in order to change the pressure on the yarn as required. Computer Aided Density and Computer Aided Metering are also available but optional.
For splicing Savio offers a total splicing/Knotting system : airsplicer, twinsplicer, watersplicer, heat-splicer and knotter. All splicers types are easily interchangeable and there is the possibility of different splicers types on same machine.

And the Savio Polar offers much more innovations like a new doffer concept, an automatic feeding features with an automatic bobbin loader, a bobbin preparation station and optional a DUO-LOT system to make it possible to process two different lots, the controlling of the total winding process by a computer with large touch screen and last but not least the today very important energy savings provided by a new fan design.

It was Savio' s aim to design a piece of equipment which represents a perfect combination of flexibility with high reliability and simplicity. That' s what they have done.

## Two-for-one-twisters

The Savio Two-for-one twister **Sirius** was presented at the ITMA Asia 2010 and is therefore still relatively new. It is still available in two versions: the standard mechanical one and the ElectronicDriveSystem. Sirius EDS model has independent motors and inverters that allow to adjust the settings of all operating parameters through the interface of a PC. This innovation comes from electronic knowledge which Savio already used in other sophisticated products. The main impact of this innovation is to decrease strongly the machine set-up time, thus reducing the number of operators for each machine, while introducing a simple and direct way to change any setting.

The new Two-for-One twisting machine **Volkmann CT** from **Oerlikon Saurer** offers enhanced engineering combined with convincing economic benefits. It was built to reach highest performance and quality in staple fiber twisting and also had ambitiuos goals in energy saving. New are the **eco-drive concept** and the **eco-spindle**. They perfectly complement the existing e-save spindle family. Oerlikon says that customers save up to 40% in energy costs even for very fine yarn counts.

The winding-on geometry and the lengthened winding triangle were newly designed and enable optimal yarn and package evenness. Process handling has a new efficiency dimension and optionally includes central setting possibilities, recipe administration, quality monitoring, length measuring and further parameters. The sturdy single cam gearbox allows for delivery speeds up to 80 m/min. Saurer offers the Volkman CT Machine with up to 340 spindles. Really easy operating and certified safety are integrated. With its modular construction, the Volkmann CT covers all raw material and yarn count sectors. The modern, space-saving machine concept is suitable for assembly-wound feed packages of 6, 7, 8 and 10“ and single-ply yarn feed packages of 2 x 3 1/4, 2 x 4 and 2 x 6“.


Savio Two-for-one twister Sirius

The servo drive which is available only in combination with the frequency inverter for the main drive, was also designed to meet the highest requirements. The amount of twist can be set at any level and the flanged-bobbin form, traverse and traverse variation can be adjusted individually. With the servo delivery speeds up to 120 m/min. The anti-patterning device is electronically controlled and there is low maintenance because of an oil-free, easy construction.

The Volkman CT has much more innovations and we believe in Oerlikon Saurer' s statement that this machine meets high expectations and is fit for future.

The **Allma CC4** from **Oerlikon Saurer** had an amazing start in the tire cord cabling market. The machine won the „Tire Technology Award for Innovation and Excellence 2011" in the category „Tire Industry Supplier of the Year" during Tire Technology Expo in Cologne. The Allma CC4 seems to be an energy-saving miracle. Depending on the yarn count and the spindle type, the machine brings energy savings of up to 50%, Oerlikon announced in a press information. For manufacturers, these would be revolutionary cost savings in production, because tire cord twisting is a very energy-intensive production process.

The Alma CC4 is suited to cabling PA, PES, PES-HLMS, CV (Rayon), AR, PEN and Lyocell in a count range of 940 dtex to 2520 dtex. Additionally to energy savings, Oerlikon Saurer promises a reduction of heat load up to 50%, siginficant noise reduction and once again 50% lower yarn breaks. With British understatement one would say: really not bad.

## Flexible card clothing

**Truetzschler Card Clothing TCC** also shows new product developments in Barcelona. With the new **NovoTop A** they improved their premium product among the flat tops. This execution leads up to 20% improved yarn quality. The special doffer wire **NovoDoff 30** has particularly been developed for the use with man-made fibres. It takes into account the specific problem of the relatively stiff man-made fibres when they are transferred from the cylinder to the doffer. Furthermore, production can be increased by up to 30 % or the quality can be considerably improved when using this doffer wire.

Alma CC4

The cylinder wires of the **FG series** are a further new development, which has already proven itself during extensive practical tests in cotton carding – especially in the field of combed cotton. The most remarkable characteristic of this wire is the straight tooth back which comes with important features like keeping the fibres on the surface. Thus ensures an intensive interaction with the flat tops and there is enough space, however, between the rows of teeth for the fibres to get out of the way. The FG in NovoStar plus quality is named FGX1. Cylinder clothings with FGX1 geometry will never have to be resharpen, announces TCC on their website.

## Conclusion

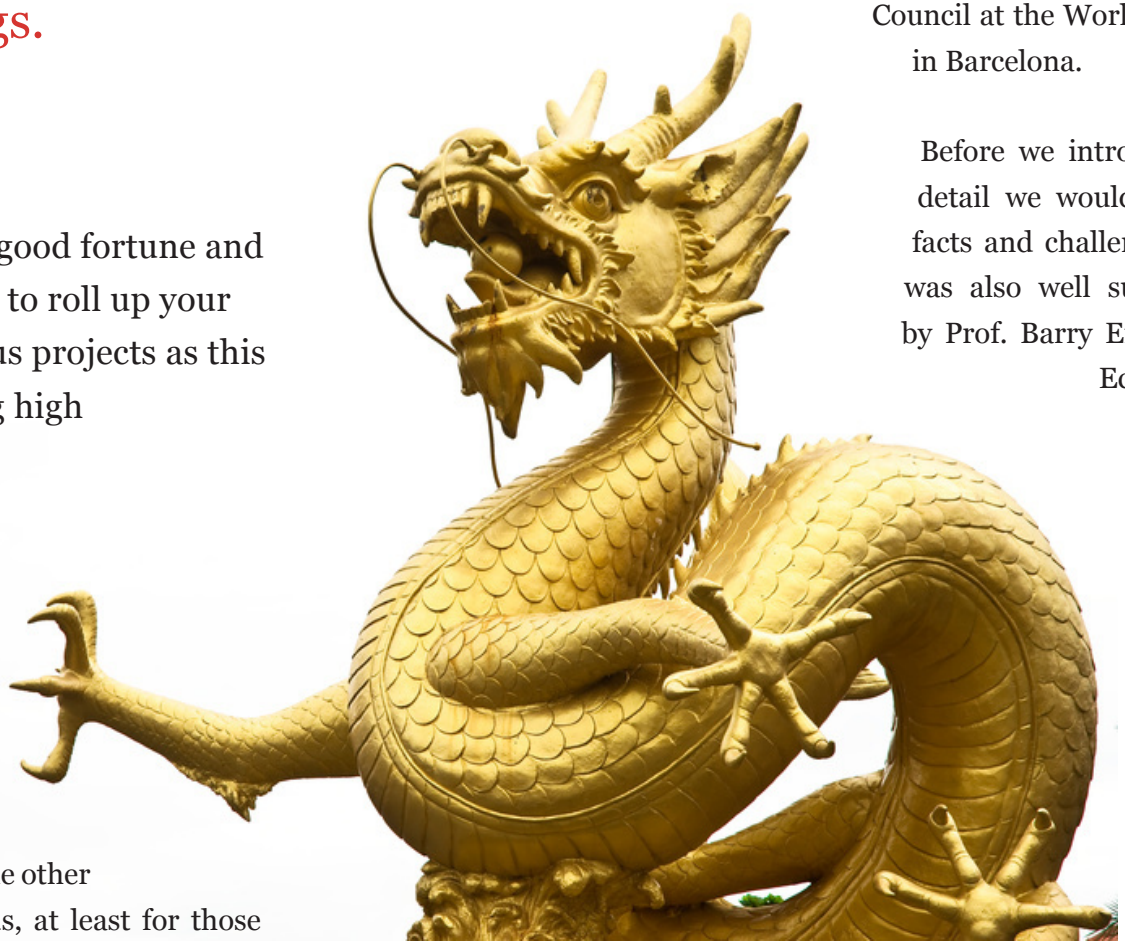
Even if words like „new generation“ and „revolution“ have quite a bit of marketing in the description of the newest developments of spinning, the improvements must also be termed evident even from a neutral point of view. Productivity increases of 25%, as they are promised for example by Oerlikon Schlafhorst for the rotor spinning machine **Autocoro 8**, who broke the magical threshold of 200.000 U/min were hardly thinkable for a long time. This way, the pure production costs without equipping times and with negligence of other costs can be reduced by 20%. Contrary to high raw material prices and relatively exhausted end prices of may products surely a good, if not very good piece of news. And the Autocoro 8 shall be not uplifted, but serves only as an example. These very high numbers can be found everywhere in the sectors.

The question remains whether 2012 is the right year to invest in new spinning technologies. From the viewpoint of the innovation leap in many sectors the answer is probably yes. And if we supplement the view by the pending demand of the consumption measurements to fulfil criteria of sustainability, it most probably will be very sure for numerous spinning mills. In the end, the ROI will be decisive, as always, with its determining parameters of individual viewpoints. All in all, we think that the time has come again to calculate, and are sure that all producers with their experts will be glad to support you. ■

# China's new high-tech plan

## 2012 is the Chinese Year of the Dragon and according to the Chinese Zodiac it is a year of new beginnings.

In China the dragon is a symbol of good fortune and the year of the dragon is a good time to roll up your sleeves and start major and ambitious projects as this year is traditionally believed to bring high prospects for future success.



Accordingly, the year and symbolism should also really accommodate the current five-year plan (FYP) of the People's Republic of China (PRC) because on the one hand it is well known it is not only Europe but also China that is in need of solving major problems, and on the other hand current efforts are not only ambitious, at least for those observing from a western democracy who are used to tenacious political changes, but also breathtaking in magnitude and scope.

This also applies to components of the most recent plan, personally presented by Mr. Du Yuzhou, President of China National Textile & Apparel Council at the World Textile Summit (WTS) in Barcelona.

Before we introduce this plan in more detail we would like to consider some facts and challenges facing China which was also well summarised at the WTS by Prof. Barry Eichengreen, Professor of Economics and Political Science and Professor in the Department of Economics at the University of California, Berkeley. The local keynote speaker did not envisage a promising future for China, including Germany, at least for his forecasted time frame of 10-30 years.

Prof. Eichengreen sees numerous reasons for an economic slump in China's textile industry. There is the incredible high growth rate – the success story of the 21st century. The author of numerous books on globalization, China and currency effects questions China's ability to continue its growth at this level. Significant indicators in his view include increasing wealth, undervalued currency, changes in ageing structure and an inevitable decline in investments. Exports are another indicator. China produced and exported 34.3 percent of textile & clothing demand globally in 2010 according to WTO statistics. Further growth of this market share becomes increasingly more difficult and the enormous growth is mainly based on this expansion.

And then there are the increasing wage levels. As reported by Mr. Du Yu, the wages of a Chinese textile worker have increased by 3-5 times over the past decade as opposed to the USA, where wages have only increased by 5%. Meanwhile, the wages for Chinese workers in Jiangxi province have reached up to $280 and in Shenzhen up to $460. Both of these locations are major textile producing regions. Therefore, these wages are five times higher compared to other textile producing countries such as Bangladesh, Indonesia, Vietnam and Cambodia and given such a huge gap, China runs the risk of Chinese textile companies also moving their production to these countries as some of them have done already. For example Top Form International has moved part of its production to Cambodia in 2011 due to lower labour costs and more lax environmental regulations.

Prof. Barry Eichengreen talking with Philip Chamberlain, Head of Sustainability at C&A Europe.

Paradox – poverty is still a huge problem despite an increase in wages and associated increase in Chinese wealth. The difference in wages between the prospering coast and the until now less developed hinterland, as well as between city and country are also five-fold. Unemployment is another issue in underdeveloped areas.

During an interview with Bloomberg in January, Roy C.P. Chung, Chairman of the Hong Kong Federation stated that a third of the 60,000 companies in Hong Kong manufacturing textiles, toys and electronics would either have to collapse or become a gypsy factory providing its business model is based on very low cost. The crucial question is where they are headed.

All these facts cannot be ignored and according to the analysis of Prof. Eichengreen, they are even a starting point for a replacement of the previous industrial landscape with the current leaders being Germany and China. In his scenario model he dates the turning point as early as 2015 – in other words, within the current Chinese FYP which is known to run from 2011-2016.

Yet not a Chinese maxim but still an old saying is to "never count your chickens before they hatch". Maybe this is also the case with China as predictions and projections are all too often based on figures of the past and are not yet able to sufficiently consider future changes and countermeasures.

In any event, China has its own solution to these threats in form of a clear strategy. The development towards a high-tech country. While the actual plan has many underpinning its essence can be summarised in one simple sentence: a total turnaround of the textile production plants. It is planned that the East Coast, responsible for a profit in textiles of 1.56 trillion US$ in 2010 and where approx. 90% of the Chinese textile industry is currently located, shall be expanded into a textile high-tech region. This plan is to be realised using a two-pronged strategy which will simultaneously solve further problems.

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

On the other hand the coastal industry will experience a significant upgrade through increased investments in science & technology and human resources. This upgrade is based on the idea of producing higher quality consumer products and to take over a leading, or preferably the leading role, in research.

What initially appeared adventurous and unfeasible in a space of just a few years could be just the anticipation of an inevitable development drawing parallels in the history of the textile industry. During the 1950's and 60's, the US East Coast was the primary place of production for shoes and textiles. Initially manufacturers were forced to retract inland due to the economic growth and subsequently shifted overseas, which was more economical. Today, the US East Coast is a centre of technology.

The aspiration of leadership in technology also most certainly has models to be emulated, even if it initially appears to be presumptuous. As an example, let us look at South Korea and Samsung. During the mid-80's, Samsung started out with launching discounted video recorders on the international market. Today, Samsung is regarded as a high quality and high priced brand who, for example manufactures its own innovations with its LED-Backlit technology and as a result ultra-thin flat screen TV-units.

China seems to follow a similar path with textiles. The plan is to promote the S&T-offensive (science & technology) with 50 R&D (research & development) basic research projects in the areas of spinning, dyeing, printing, fibre, technical textiles, garments and home textiles. Mr. Du Yuzhou did not reveal the size of the projects.

However, according to Prof. Eichengreen, we would not expect these projects to be on the small side for a country that is currently investing 50% of its gross domestic product (GDP).

Provisions are also made for the conversion of research results into actual production. A large number of engineers and skilled labour with professional skills will also be created by investing in training and encouraging creativity and innovative spirit.

This is also associated with aspiring international cooperations which are also undoubtedly imperative to expand access to the necessary quantity of intellectual property.

One could also speculate and conclude that this plan, full of opportunities, was also a reason for Oerlikon, to relocate its textile machine industry from Switzerland to Shanghai to be closer, and participate in the enormous changes, and to invest. The world market leader in manufacturing textile machines with 1.6 Billion CHF profit in the textile industry in 2010 is regarded as a highly innovative organisation. In any event, Oerlikon also announced the increase of investments and capacities in R&D in China.

Mr. Du Yuzhou mentioned another equally significant component of the 12th FYP: Sustainability. Yet again the plan contains an interesting multiple strategy. Firstly China is showing the world its willingness to increase environmental protection by using less energy, decreasing CO2 and reducing chemical and heavy metal waste. By doing so, China also suppresses international pressure.

Mr. Du Yuzhou

Secondly, industries prepare for customer demands of the future with sustainable manufactured products and thirdly, technologies are continuously promoted in a country which already has a prominent status such as for example China's solar and wind-power industries. Gordon Orr and Erik Roth wrote the following in their recent report: "A CEO's guide to innovation in China" for McKinsey: "The country will become the world's largest market for renewable-energy technology, and it already has some of the sector's biggest companies, providing critical components for the industry globally."

Still, the question remains whether or not the rapid growth will continue. Here, the FYP is targeting the domestic market, according to Mr. Du Yuzhou. The urban population, who now earn good wages, enjoy buying and high spending. Furthermore, it is the plan to create home brands that would firstly compete with western brands on the domestic market and later on also capture the global market. There is still a huge pent-up demand and with that comes enormous potential. According to Mr. Du Yuzhou, this is a potential affecting the technical textile field. He calculates the changes of fibre consumption for technical textiles from 4.7 tonnes in 2000 to a massive 8.26 tonnes in 2010. High quality products in many branches and industries demand a large volume of technical textiles. In this industry, China has the capacity to contribute globally in a big way if the plan comes to fruition overall and succeeds.

In any event, Mr. Du Yuzhou has great faith in the restructuring. The target achievement of the Chinese five-year plans has really not been so bad in the past even though it was often unconventional. Sceptics like to evaluate the plan as overambitious or even unfeasible but by no later than 2016 we will have a better understanding of the extent of converting the Chinese plan into practice and we will have an idea of the target achievement status.

By the way, that year will be the Year of the Monkey which represents quick-wittedness and flexibility. ■

# Topics of the next issue 3/4

TOP STORY:

## Will the textile industry change the world?

**Part 2**

Sustainability efforts of companies in the textile machinery and textile chemicals industries.

## Innovations & Improvements

Part 2: Weaving

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