
TEXDATA
INTERNATIONAL
Magazine
Issue No. 2 Mar/Apr 2012
Business // Finance // Market // Technology
Yarn // Fiber *Spinning *Weaving * Knitting *Dyeing // Finishing // Washing // Drying * Nonwovens // Technical Textiles *Textiles // Apparel // Garment
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TOP STORY:

Will the textile industry change the world?

Innovations & Improvements

Part 2: Weaving

Competence in Technical Textiles

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Dear Reader,

it was not like we jumped for joy or shed tears of happiness, but we were thoroughly enthusiastic about the success of our first edition. We had not expected so many letters to our editorial office with thank you`s, suggestions for improvement and congratulations, and we had barely dreamed of such positive feedback. For example, Paula Rogers from the 'Council of Textile and Fashion Industries of Australia Limited' (TFIA) wrote: I've just finished reading "Will the textile industry change the world?" - loved it, loved it, loved it!!! What a fantastic comprehensive overview on what's going on globally in our sector today in terms of sustainability."[..].

Paula, thank you and all of our other readers. We will strive to keep our reporting interesting also in the future and continue to pursue our goal to look at a topic from different points of view and continue to supplement it with interesting ingredients with all effort possible.

The second edition again focuses on the topic of sustainability. There was very positive news about this. The chemistry giant Clariant was awarded the EU Ecolabel for its Advanced Denim Illustration Collection. Our congratulations! Unfortunately there was also bad news. The company ‚The North Face' was found to use down feather from force-feeding by the animal protection organisation ‚Vier Pfoten'. Such things should not happen with a bluesign certified company, but they do. The decisive issue is how it will be handled. While ‚The North Face' faced the criticism openly, apologized for false product descriptions and promised to stop, our repeated press inquiry to bluesign remained unanswered.

Further topics of the edition are preliminary reports to two fairs of the textile machine branch. The ITM in Istanbul has grown into a large fair since its first happening in 2004, and is an important event not only for the significant Turkish textile industry. We outline the highlights. The Techtextil North America in Atlanta also deserves our attention. While the Techtextil in Frankfurt is paused until 2013, current developments in this innovative and dynamic segment can be viewed here. We present just a few.

Yours sincerely

Oliver Schmidt

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

In the first part of our report about the sustainability in the textile industry we gave you a comprehensive overview of the efforts and strategies that are pursued in the different areas of the textile value chain. In detail, we showed the changes, risks and chances in working towards more sustainability in textile production and how important the topic will be for the industry in the next few years. In our second part we concentrate on the concepts and innovations of the textile machine producers and textile chemistry.

by Oliver Schmidt

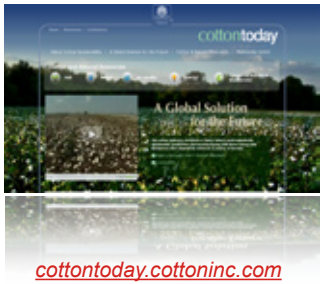
Life Cycle Assessement

If we want to take a closer look at the influence of textile production and therefore, the textile machines and textile chemistry on sustainability, we must first take a look at the life cycle of a textile to be able to analyse the life cycle assessment. A Life Cycle Assessment (LCA), also known as ecological balance, is a systematic analysis of the environmental effects of products during the entire life cycle („from cradle to grave“) or up to a certain point in time of the processing („from cradle to factory gate“).

In textile production for example for cotton products this means the determination of the decisive LCA-factors from land management over the seed, cotton fertilization, harvest and transport, the thread production and finished textiles in bulk with all further processing like dying, washing, drying, the production of clothes, packaging and the transport to the stores of trade and measuring their values.

There have been approaches to do this for quite some time. Dr. Tobler-Rohr who was introduced in the first part had already examined this in her specialist paper in 1997, Life cycle assessment of a cotton fabric in textile finishing'. In her study, she examined two different textiles in the finished process. On the one hand, a woven product [a blend of cotton (57%)/viscose (43%)] and on the other hand knitted goods [cotton(96%) with some Lycra(4%)]. LCA-evaluations are not trivial. To conduct them, it needs certain standard methods like for example CML, which is defined as follows by 'PE International – Experts in sustainability', a company specialised on sustainability, active since 1991: „The CML is a impact assessment method collection, which restricts quantitative modeling to relatively early stages in the cause-effect chain to limit uncertainties and group LCI (life cycle inventory) results in so-called midpoint categories, according to themes. These themes are common mechanisms (e.g. climate change) or commonly accepted grouping (e.g. ecotoxicity). The data for the impact categories "CML 2001" are according to the information of the Institute of Environmental Sciences, Leiden University, The Netherlands, published in a handbook and based on various different authors." CML is only one possible evaluation procedure.

www.emsc.ch



cottontoday.cottoninc.com

www.pe-international.com

www.gabi-software.com

Other procedures are for example MIPS, Sustainable Process Index and Eco-Indicator.

The methods have a database of individual factors that harm the environment like for example CO2, lead, particulate matter, sulphur dioxide etc., separate them into categories of influences on for example greenhouse effect, heavy metals and winter smog, and rate these influences in indicators. This is intended to make production processes comparable and shall evaluate the partial processes of the many different ways of textile production, starting with different yarns regarding material composition, strength and processing and the versatile procedures of total further processing exactly, to determine those processes that have an especially high or bad influence on the aspects of sustainability.

Lets jump from the beginning and basics of the examination to the current results. The Cotton Foundation introduced an own study in the year 2011 called ‚Life Cycle Assessment of Cotton Fiber and Fabric'. The study was prepared for VISION 21, a project of The Cotton Foundation and managed by Cotton Incorporated, Cotton Council International and The National Cotton Council. The research was conducted by Cotton Incorporated and PE International. The study examines cotton over the entire Life Cycle from planting all the way to the end of the textile. The textile production was divided into individual sub processes or manufacturing steps, and the respective influence factor on aspects of sustainability were named.
Table 1 shows the assignment.

Table 1: Definition of textile processes

Textile Process	Included inputs
Bale Opening - Spinning (knits & wovens)	Energy for opening, cleaning, mixing, carding, pre-drawing, combing, drawing, and spinning cotton fiber into yarn.
Yarn Dyeing (knits)	Energy, dyes and chemicals, emissions to water, and wastewater treatment processes related to scouring, bleaching, dyeing, extraction and drying, and repackaging greige yarn into colored yarn. Batch Dyeing (knits) Energy, dyes and chemicals, emissions to water, and wastewater treatment processes related to inversion, staging, jet prep, jet dyeing, softening in the jet, extraction, and relax drying.
Knitting (knits)	Energy for knitting yarn into fabric. Compaction (knits) Energy for used to reduce length shrinkage.
Beam/Slash/Drying (wovens)	Energy and chemicals for beaming, slashing, and drying warp yarn. Weaving (wovens) Energy for weaving warp and fill yarn into fabric.
Continuous Dyeing (wovens)	Energy, dyes, chemicals, emissions to water, and wastewater treatment processes related to singeing, desizing, scouring, bleaching, mercerizing, drying, dyeing, and redrying of greige yarn into colored yarn. Sanforizing (wovens) Energy and water used for shrinkage control of the finished fabric.
Finishing (knits & wovens)	Energy, chemicals, and emissions to water related to the wet finishing, drying, and curing of fabric.

Source: Life Cycle Assessment of Cotton Fiber and Fabric, ©2011 Cotton Incorporated

Table 2 shows the influences examined for the individual manufacturing steps.

Table 2: Environmental Impact Categories

Abbreviation	Technical Term	Impact Example
AP	Acidification Potential	Acid rain
EP	Eutrophication Potential	Nutrient loading to stream
GWP	Global Warming Potential	Greenhouse gas emitted
ODP	Ozone Depletion Potential	Ozone hole over polar ice
POCP	Photochemical Ozone Creation	Smog Potential
PED	Primary Energy Demand	Electricity & fuel needed
Water	Total volume used	Irrigation water
ETP	Eco -Toxicity	Animal health
HTP	Human Toxicity Potential	Human health

Source: Life Cycle Assessment of Cotton Fiber and Fabric, ©2011 Cotton Incorporated

Put simply, the study says that the spinning procedure poses to be the highest part of the influences due to the high-energy consumption, followed by the dying and finishing processes. In detail it says: "Opening through spinning accounted for more than 50% of the textile impact in four of the seven categories considered. These four categories are all related to energy use. Part of the result may be attributed to the fact that a majority of the mills participating in this study were using ring spinning and were producing combed yarns, which requires additional steps in the yarn making process. As would be expected, the dyeing and finishing processes contributed to eutrophication potential (EP) and water use."

"Opening through spinning accounted for more than 50% of the textile impact"

(Study ‚Life Cycle Assessment of Cotton Fiber and Fabric' by Cotton Foundation 2011)

Therefore, our examination of the innovations shall be more in detail regarding more sustainability especially the energy efficiency resp. energy savings in spinning as well as the energy, water and use of chemicals of the process steps dying, drying, printing and finishing.

We will look at the efforts the companies of the textile machine producers and the textile chemistry have made. Here it can be said in advance that even if the topic of sustainability has only taken more space in descriptions and reports about the textile industry only these last years, many producers of textile machines and providers of textile chemicals have made effort to improve the energy efficiency as well as reduce the water and chemical use for many years already. The developments of the companies were quite consistent with the increasingly strict guidelines of the states and the recognitions of scientific research.

After the topic of sustainability was recognized and appointed as a mega trend, approximately during the last five years, it also generated another up rise in textile chemistry and among textile machine producers. In the years 2008 it was the main topic of the third AachenDresden Conference.

"The conference will focus on "Sustainability" in terms of a paradigm change from planning and controlling of productivity towards the design of products and processes according to a responsible use of resources."

And in October 2009 the German textile machinery association VDMA said the following about the upcoming ITMA Asia: "Although being back on track again, the cost pressure on textile producing enterprises will remain high and additional tasks are under way since governments in Asia are adopting stricter environmental standards. Sustainability has become an issue textile mills have to address for cost as well as for legal reasons. German textile machinery manufacturers are offering solutions for higher energy and material efficiency that can help Asian textile producers to realise substantial cost savings thus giving them a competitive edge."

In 2011, sustainability was one of the main topics of the WorldTextileSummit at the eve of the ITMA Barcelona and currently it is a top topic of the 31st International cotton convention in Bremen from March 21 to 24, 2012.

Here it is said: „Sustainability is also discussed from different points of view – in every case in detail, neutral and from the view of experts." For example Dr. Michael Arretz, member of the management of the textile trade chain KiK, Germany, wrote about "Sustainability in KiK's Supply Chain".

The omnipresence of the topic pushes all involved players to increase their efforts and to continuously develop new and better procedures that we want to take a look at in detail below. But first back to the beginning to measure up to the companies that have been working on sustainability for a long time already, the pioneers.

Sustainability news at TexData in history

The first time that our TexData editorial office came across the word sustainability in its current form, as a positive development for the world, considering the aspects of environmental protection, social justice and the economy and interlinks these aspects with each other, was in a press report of a company in the year 2003.

"Sustainability has become an issue textile mills have to address for cost as well as for legal reasons."

(VDMA 2009)

Sender of the document was a company that no longer exists like this today, but many textilers would still know: Cognis. Cognis described itself as follows in 2003: “The company has dedicated its activities to a high level of sustainability and delivers natural source raw materials. [..] Additionally, Cognis provides solutions for a number of other industries, such as coatings and inks, lubricants, textiles[..]”. According to the website Cognis no longer offers textile chemistry services today, and the sustainability meanwhile refers to the strategy of the parent company BASF.

The first entry at TexData to the word sustainability was a report to the IFAI (Industrial Fabrics Association International) Expo 2001. William McDonough was one of the keynote speakers there. The following statement was made: ”William McDonough is an internationally renowned designer and one of the primary proponents and shapers of what he and his partners call ‘The Next Industry Revolution’.

Recognized by Time magazine as a “Hero for the Planet,” Mr. McDonough is a visionary whose design firm, William McDonough + Partners, Architects and Planners, practices ecologically, socially and economically intelligent architecture and planning in the U.S. and abroad.” In 1996, President Clinton awarded Mr. McDonough the Presidential Award for Sustainable Development, the nation’ s highest environmental honor. McDonough stayed true to his ways. In April 2010 he published the book ‚Cradle to cradle’ together with Michael Braungart, which is said to be the manifest for the above stated ‚next industry revolution’. With his company McDonough Braungart Design Chemistry (MDBC), McDonough offers consulting and certification services concerning sustainability. Among many others, BASF and CIBA are his customers.

The chemical companies

BASF had occupied the topic sustainability quite early on as chemistry giant and branch top of the class. For example, Stuart L. Hart stated in the Harvard Business Review of 1997: „With the sustainability imperative in mind, BASF, the German giant, is helping to design and build chemical industries in China, India, Indonesia, and Malaysia that are less polluting than in the past.

www.mcdonough.com


www.vdma.org


www.aachen-dresden-itc.de

www.baumwollboerse.de

By colocating facilities that in the West have been geographically dispersed, BASF is able to create industrial ecosystems in which the waste from one process becomes the raw material for another". In the year 2003 BASF reported to TexData that the company is developing new highly efficient cleaning agents to be able to lower the water consumption. The UN had appointed the year 2003 as the year of fresh water under the leadership of Kofi Anan as General Secretary to show how important responsible work with water is for a sustainability process.

Ciba also appeared with a report about sustainability at TexData. In 2005 the company justified a price increase of its chemicals by 10% among other things with the requirements of more sustainability.

Michael Effing, Head of Textile Effects Europe, said back then: „We have the responsibility of developing improved environmental solutions that meet legislation standards".

Founded in 1997 as a Spin-Off of Novartis, created one year earlier, Ciba stands for ‚Chemische Industrie Basel' and was also taken over by BASF in 2008.

Thus, the three companies of the chemical industry that had dedicated themselves to sustainability relatively early on sail under the flag of BASF today, and it will be interesting to see how the company has faced its responsibility these last years and which textile production processes were improved.

Even today, sustainability is an important topic for BASF. The German chemistry giant sees itself as a partner with the division textile chemicals, supporting textile production for over 100 years, and developing innovative solutions for sustainability along the textile value chain under the motto „Putting *Future into textiles" together with his partners. Main points of the sustainability strategy are the three columns consumer safety, resource saving and climate protection.

www.basf.com/textile/

www.clariant.com

www.huntsman.com

www.dystar.com

“We can support our customers on how to better meet their ecological requirements.”

(BASF Website 2012)

In the area consumer safety BASF describes itself as follows: “With our many years of experience and expertise in the textile industry, we are informed on the latest ecological requirements. We constantly evaluate and adjust our product portfolio to ensure compliance with the major standards for our products. In addition to providing information on our textile chemicals, we can support our customers on how to better meet their ecological requirements. Our products can be used to produce garments that fulfill the following standards: Oeko-Tex® Standard 100, GOTS, APEO free list, European Union Ecolabel, as well as those of leading retailers and brands.”

EU Ecolabels was issued to BASF in October 2011 for a larger number of refining chemicals that meet the special requirements also for textiles for children under 3 years and direct skin contact. In addition BASF offers a formaldehyde-free textile processing system. The end of February the company reported that BASF Textile Chemicals listed in the Annex will not release substances from textile articles that raise a need for registration according to REACH (REGULATION (EC) No 1907/2006), Article 7.1 (registration of substances intended to be released). Furthermore they confirm that the BASF Textile Chemicals listed below can be used for the production of textiles that do not trigger a notification according to REACH, Article 7.

REACH is the European Community Regulation on chemicals and their safe use (EC1907/2006). It deals with the Registration, Evaluation, Authorisation and Restriction of Chemical substances. The law entered into force on 1 June 2007 mit folgender Zielsetzung: “The aim of REACH is to improve the protection of human health and the environment through the better and earlier identification of the intrinsic properties of chemical substances.

ec.europa.eu/environment/chemicals/reach/reach_intro.htm

echa.europa.eu

www.sinlist.org

www.chemtrust.org.uk

At the same time, REACH aims to enhance innovation and competitiveness of the EU chemicals industry. The benefits of the REACH system will come gradually, as more and more substances are phased into REACH."

The REACH Regulation places greater responsibility on industry to manage the risks from chemicals and to provide safety information on the substances. Manufacturers and importers are required to gather information on the properties of their chemical substances, which will allow their safe handling, and to register the information in a central database run by the European Chemicals Agency (ECHA) in Helsinki. The Agency acts as the central point in the REACH system: it manages the databases necessary to operate the system, co-ordinates the in-depth evaluation of suspicious chemicals and is building up a public database in which consumers and professionals can find hazard information."

In order to achieve the goals of REACH faster, the SIN List was brought to life by the non-profit Organisation ChemSec. The SIN (Substitute It Now!) List is an NGO driven project to speed up the transition to a toxic free world. The SIN List 2.0 consists of 378 chemicals that ChemSec has identified as Substances of Very High Concern based on the criteria established by the EU chemical regulation, REACH. The SIN List is based on a straightforward concept: substitute hazardous chemicals with safer alternatives. ChemSec, The International Chemical Secretariat, was founded in 2002 by four environmental organisations. ChemSec has an ambitious focus and goal: a toxic free environment by 2020.

BASF

In the field of Ressource Saving BASF offers eco-efficient solutions which mean that they add value from both economical and ecological aspects. The eco-efficiency of a product or process is presented using BASF's Eco-Efficiency Analysis. This is a tool developed by BASF, allowing the comparison of different products and processes. The entire life cycle of a product including its use is investigated in great detail. The analysis takes into account the total environmental impact as well as all the costs from production to disposal, so that the entire value-added chain is covered.

Originally developed by BASF inhouse, the tool was meanwhile certified after BASF by independent institutes and is also provided to other companies by BASF. Therefore, BASF supplied a tool for textile chemistry similar to Nike' s Environmental Apparel Design Tool or the calculation tool of the Sustainable Apparel Coalition.

Solutions of the BASF for resource saving are for example Cyclanon® XC-W New, an after-soaping agent for reactive-dyed cellulose fibers , and Helizarin® ECOSOFT Printing System, an eco-efficient pigment printing solution.

Also in the area of climate protection BASF is making great effort – especially to reduce CO2-pollution. Here the company says: "In order to further deepen our understanding the impact textiles have on climate change along the textile value chain, and to evaluate the potential of reducing carbon dioxide emissions using BASF products and technologies, BASF conducted a joint project with customers and partners along the textile value chain that are Systain Consulting (Member of the Otto Group), Puma AG and textile mills in Bangladesh. Carbon footprints of specific textile articles were calculated from empirical data collected during the actual production process.

> "Carbon footprints of specific textile articles were calculated from empirical data collected during the actual production process."
>
> (BASF Website 2012)

In addition, the partners were able to reduce overall carbon dioxide emissions during production by using BASF textile auxiliaries and technologies."

A solution for CO2-reduction is for example the BASF Color Fast Finish: a one-step-process of pigment dyeing and finishing. The total processing time is considerably shortened compared to the conventional process, reducing energy and water consumption, and thereby carbon dioxide emissions.

All in all it can be said that the world market leader from Germany takes the responsibility for more sustainability very serious and shows clear will to examine and improve existing products and processes regarding their damage to the environment in the different areas or to replace them with better processes. Surely the experiences of BASF could also help the Sustainable Apparel Coalition (SAC) and a direct membership would be desirable.

Lets take a look at other companies of the textile chemistry.

Clariant

The Swiss chemical company Clariant also took great leaps in the development towards more sustainability these last years. Clariant pursues two goals regarding sustainability. For one, the company strives to produces in a more sustainable manner itself. To do this, the company measures the CO2-emissions, water consumption, energy usage and the waste per produced ton. From 2006 to 2010 all of these values were reduced; the CO2-emission for example from 236kg/ton by 35% to 154 Kg/ton.

„The challenge to make textile processes sustainable as far as environmental resources are concerned is a pressing reality, now and in the future."

(Clariant 2011)

In 2010 Clariant created a separate sustainability report for the first time. CEO Hariolf Kottmann says: : "After 15 years, Clariant can look back on a brief but successful company history. The recent past has been turbulent, marked by the financial crisis and a far-reaching reorientation of our Group. The aim of the measures associated with these changes, which are now largely complete, was to create a sound operational and technological basis for future profitable growth. However, they were also intended to realign our company according to the criteria of sustainability and corporate and social responsibility. These aims are intrinsically linked. In difficult times in particular, companies that are sustainably managed and that act responsibly are proven to be more successful in the long term."

And on the other hand Clariant develops products and processes that lead to a more sustainable production. With clear focus and great success. Clariant had presented 25 new products at the ITMA 2011 in Barcelona under the motto „Performance that innovates – Innovation that performs", of which many had the goal of improving sustainability in production. Regarding this sustainable production, Clariant defines its role as follows: „The challenge to make textile processes sustainable as far as environmental resources are concerned is a pressing reality, now and in the future.

Wherever possible sustainability finds its way into the innovation development of Clariant's products, processes or know how technology. Clariant is always keen to raise the bar in quality, leading-edge technology with environmental and health benefits."

For example, new elements for sustainable acid dyes like Nylosan® Brilliant Red S-3R belongs to the presented innovations, which Clariant describes as follows: „Nylosan® Brilliant Red S-3R is a novel, high build-up and wetfast acid dyestuff for brilliant neutral red shade on PA and WO. Higher build-up on PA or WO than any dyestuff of similar shade. High wetfastness level, also in dark shades, on PA and on WO, equal or even better then is possible with reactive dyes. Perfect fabric appearance on wool, showing no differentiation between wool root and tip." Or the Diresul® range, sulphur dyes in disperse form with high chlorine fastness. The dyes are suitable for PES/CEL dyeing, Diresul® D are specially indicated for workwear articles. Neutral pH dispersed form, suitable for dyeing 100 % CO as well as PES/CEL blends in continuous applications. Further advantages are the higly concentrated, sulphide free elements and the high chlorine fastness.

Even more sustainable appears the Imerol® BLUE liq - Blue Magic Process, an all-in-one bleaching auxiliary based on the exclusive Singulet Bleaching technology. Imerol® BLUE liq opens new perspectives for the exhaust bleaching processes and to keep the water for drinking. Clariant announces that the process reduces the water consumption up to 75% in pretreatment (no rinsing needed after the bleaching), but generates extreme absorbency, prerequisite for a perfect dyeing.

It reduces the effluents load (COD, BOD, TDS, etc.) and effluents volume, allowing a higher production with the same water treatment capacity. And it is APEO and phosphorus free.

Even if the individual substances and procedures seem difficult to understand, it becomes clear that colorants and processes are changed in a manner that they perform their task the same way or even better, and reduce water consumption and chemical usage in the process, and keep chemical residue and waste as low as possible or at best do not even let them accrue.

Clariant achieved a great breakthrough with their Advanced Denim Process, a fabric that accounts for some 14% of global cotton production. The company received the EU Ecolabel for the denim produced with this process, which is known for having especially hard criteria for sustainability. Clariant developed its own denim prototype clothing collection, working with a textile mill and laundry, in order to demonstrate that achieving Ecolabel certification for denim is a practical reality with its Pad/Sizing-Ox dyeing technology. Problems associated with traditional denim fabric production have contributed towards making Ecolabel certification for denim difficult to attain.

The advantages of the new procedure Clariant describes as follows: “In the conventional denim indigo dyeing process, the fabric passes through a line of 10 to 14 vats, depending on the equipment used. Clariant’s Denim-Ox process brings this sequence down to 4, and its Pad/Sizing Ox reduces this further to just 1 vat. Both methods utilize the company’s Diresul® RDT dyes, which generate a broader spectrum of shades than usually associated with conventional indigo dyes but without its environmental problems.”

“We needed to show our partners in the denim production chain that our new process could fundamentally improve their own environmental credentials”

(Miguel Sanchez, head of global PL dyes in the Textile Chemicals business unit of Clariant 2011)

The new denim shall save around 92% water and 27 % energy in production. The cotton waste goes back by 87,5 % and no wastewater is generated at all anymore. Reason enough for the company to continue projecting the savings and the results are definitely something to be proud of. „It has been calculated that if the new technology were adopted in the production of 25% of jeans worldwide, it would save 62 million m3 of water/year, the equivalent of the water consumption of 1.7 million people. The new chemistry available would also eliminate the need to treat 8.3 million m3/year of wastewater, 220 million kWh of power would be saved and the carbon footprint of the industry in CO2 emissions reduced accordingly.”

Miguel Sanchez, head of global PL dyes in the Textile Chemicals business unit of Clariant, says: “We needed to show our partners in the denim production chain that our new process could fundamentally improve their own environmental credentials and their ability to promote and market them. The EU Ecolabel endorsement illustrates that the Advanced Denim process is an essential element for those denim manufacturers who wish to benefit from the retail and consumer benefits that flow from Ecolabel status.”

With consideration that this is only the dying process and it was calculated with 25% and denim is used for 14% of the worldwide cotton production, it can be estimated how much water and energy could be saved with higher goals in sustainability and the clear will to develop innovations, if this process can save the entire water consumption of the inhabitants of a German metropolis like Munich already with 25% market share of the new denim.

Huntsman

For the US-company Huntsman sustainability is a fundamental part of their corporate and business strategies. The company is a leading global provider of high quality dyes and chemicals to the textile and related industries.

Since the year 2008 the company has been publishing an Environmental, Health und Safety (EHS) report, which is currently to be replaced by a sustainability report. In the year 2010 Huntsman created a Corporate Sustainability Office to coordinate the own sustainability efforts and help the individual business divisions to accept the challenges of the market for more sustainability and to develop solutions. Huntsman signed the United Nations Global Compact in 2011, as Kofi Anan demanded from all companies at the WTS in Barcelona, is a member of the SAC since 2011, and advertises EHS with the following vision for 2020: „To provide innovative solutions which enrich lives and help create a sustainable future, with no harm to people or to the environment.“

Nike had promised this in public together with five further large brand name companies as a reaction to the ‚Dirty Laundry'-report of the environment organisation Greenpeace in July 2011. Ramatex now takes on this challenge as one of the first textile producing companies together with Huntsman. Eric Sprunk, Nike's Vice President of Merchandise and Product, comments on the partnership as follows: "We are very excited with the strategic partnership between Ramatex and Huntsman Textile Effects. This kind of collaboration will allow Nike to begin to address some of the key challenges we face in implementing the Road to Zero goals. Using this partnership as a template for others in our supply chain gives Nike a path to real, sustainable change within the footwear and apparel industry".

"Using this partnership as a template for others in our supply chain gives Nike a path to real, sustainable change within the footwear and apparel industry".

(Eric Sprunk, Nike's Vice President of Merchandise and Product, 2012)

Current information of March 26, 2012 shows how Huntsman brings the vision for more sustainability to life. In a strategic partnership with the textile manufacturer Ramatex from Malaysia the partners want to take the first step and eliminate the discharge of hazardous chemicals in their manufacturing processes. The project shall support the sports item giant Nike in the realization of its roadmap 'Towards Zero Discharge of Hazardous Chemicals'.

The example shows well what we had already predicted in the first part of this report. The high goals of the brand name companies and trade regarding sustainability will lead to a full vertical examination of the textile value chain from top to bottom and will force textile producing companies to introduce new procedures that are directed more towards sustainability.

Dystar

Another heavy weight of the textile chemistry, the company DyStar with headquarters in Singapore, has been working on processes and products that meet the wish for more sustainability for a long time. In 2006 Dystar received the Lillehammer Award of the European research initiative EUREKA for an electrochemical dyeing project which enables recycling of dyebaths, thus considerably reducing chemicals, water consumption and effluent output. Dystar is also a member of SAC and has been publishing a sustainability report since 2010. Centre of the own sustainability strategy for DyStar is the transparency of the entire value chain. Based on this transparency, you can then determine how far goals of sustainability are already being fulfilled and which processes must be replaced with innovative procedures. DyStar has joined the United Nations Global Compact in February 2012 and has launched in March a Sustainable Textile Service Program to help Brands, Retailers and their Industry partners reduce the impact of their products and processes on the environment and optimize supply chain costs.

> "Centre of the own sustainability strategy for DyStar is the transparency of the entire value chain."
>
> (DyStar Website 2012)

"The programs support and provide solutions to our customers' sustainability initiatives", states Dr. Ron Pedemonte, DTS global service manager.
DyStar offers four extensive development programs to Brands, Retailers and their Industry partners to improve sustainability in the supply chain:

- Restricted Substance List (RSL) Development
- Textile Mill Efficiency Improvement
- Chemical Management Improvement
- Environmental Improvement

Dystar describes the new programs as follows: "These four new programs, built on the existing DyStar econfidence® commitment and CSI's color communication expertise, provide the textile industry with the strongest foundation to rapidly build sustainable products and processes while improving costs and eliminating toxic chemicals from the supply chain."

A further development that DyStar published recently is the cooperation in a sustainable Indigo dyeing process for the denim industry together with RedElec, Switzerland. This electrochemical dyeing of Indigo will eliminate harmful substances in dyeing and waste water. The team will use its patented products, DyStar Indigo® Vat 40% Solution and RedElec's electrochemical technologies, throughout the development process.

RadiciGroup

The Italian chemistry company Radicigroup, manufacturer of chemicals, plastic and synthetic fibres with a vertical nylon production went down an unconventional and entertaining path to present its own sustainability strategy recently: Radici had a video created with comic figures that explain Radicis ideas and innovations for a more sustainable production. The Radicigroup describes the strategy behind it in sustainability with the name 'Operation Twenty4' as follows: „Doing business responsibly by combining economic with social, ethical and environmental values is one of RadiciGroup's primary objectives. The Group has long been engaged on the front of sustainability, which it sees as a true challenge. The environmental, climatic, social and economic impact of an industrial firm during its entire lifecycle is huge, and sustainable management of business activities can really make a difference. This is the reason RadiciGroup is committed to reducing the environmental footprint of its industrial activities, from the very beginning to the very end of its production chain, from chemicals to plastics and synthetic fibers."

"The Group has long been engaged on the front of sustainability, which it sees as a true challenge."

(RadiciGroup Website 2012)

The concrete goal of the strategy is to reduce the greenhouse gas emissions by 20%, as well as the energy consumption, to increase the percentage of renewable energy in energy mix by 20% and to also increase the usage of recycled materials in the production chain by 20%. Four times twenty percent. What sounds like very large increases at first are not quite as big when you look closer.

Currently, the percentage of the recycled materials in nylon production lies at 15% and would only increase to 18% with an increase by 20%. But the basic philosophy behind it is the right approach and with consistent continuation, significant changes could be recorded already in the next decade.

The spinning companies

Among the textile machine producers, mainly German companies have been working on energy efficiency for a long time now, even if cost savings were the main topic over sustainability in the beginning. Schlafhorst AG (today Oerlikon Schlafhorst) reported the following about energy savings with an innovation, the Electronic Vacuum Adjustment, EVA, in 2002: „EVA ensures a constant, automatically adjusted spinning vacuum. It guarantees optimum running behaviour and a high yarn quality, saves energy and thus helps to reduce yarn production costs. [..] This yields an energy saving of 1.5 to 7.4 kWh per machine, or more than 60,000 kWh taken over an entire year. The spinning mill saves up to 30 % of its energy costs relative to the individual spinning units and compared with previous Autocoro generations."

A report from the Barmag AG (today Oerlikon Barmag), that was published shortly after included a statement concerning energy efficiency: "The ACW® for industrial yarns is equipped with the recently developed twin stroke traverse system (TST). Using this traverse system, strokes of 12" (305mm) are realized. In comparison to an increase in diameter, this stroke expansion means measurable energy savings for finishing processes such as twisting or cabling."

In 2005, Oerlikon Barmag introduced the e-save label. The term was meant to designate all components and machine that saved a significant amount of energy versus conventional solutions. In 2010, the e-save label's range of application was extended. „So the e-save label no longer describes energy-efficient components alone but also solutions that have taken a big step forward in terms of reduced consumption of resources."
e-save stands for energy-saving + environment-protecting + efficient. e-save is a mark of distinction presented to resource-optimised machines, components and solutions. The savings may relate to energy, processed air, water, space or CO2 emissions. "With e-save-certified solutions, you can rest assured that the technology you have chosen is kinder to the environment than conventional processes and it reduces your operating costs at the same time." An example of this is EvoQuench, the e-save-certified radial quenching. Today, e-save stands for the entire Oerlikon-textile machine group and is firmly anchored in the company strategy and communication.

The most recent developments of Oerlikon show especially well that the way to more sustainability in textile production is mainly evened with technical innovations.

At ITMA 2011 in Barcelona Oerlikon Textile presented a suite of groundbreaking innovations, thereof seven completely new developed textile machines. These innovations address the need for greater efficiency, flexibility and quality with reduced energy consumption. Oerlikon said, that their new textile machines and equipment deliver energy savings of up to 50 % ("e-save") and productivity gains of up to 25 %. The former CEO of Oerlikon Textile Thomas Babacan said in his ITMA opening speech: "At this year's ITMA, we are showcasing the most efficient and sustainable product range we have ever produced," and the Oerlikon Group CEO Michael Buscher added: "With the next generation product portfolio we presented today, Oerlikon Textile has laid the groundwork for sustainable and increased business success, despite a more challenging market environment".

Products from this portfolio are for example the new Volkmann CT of the Oerlikon Saurer: the eco-drive concept and spindles are the perfect complement to the e-save spindle family and help to save up to 40 per cent of energy costs, even for the finest yarn counts. And the new Autocoro 8 by Oerlikon Schlafhorst, that Oerlikon called the greatest innovation of rotor spinning since 30 years. The machine allows productivity increases of 25%, with high flexibility. Another pioneering innovation is the new eAFK automatic texturing machine for pro-cessing man-made fibers for clothing applications. Thanks to its new modular machine structure, the new machine is much more flexible and efficient. Or the Allma CC4 of Oerlikon Saurer which is revolutionizing the tyre cord cabling market with energy savings of up to 50 per cent.

"At this year's ITMA, we are showcasing the most efficient and sustainable product range we have ever produced"

(The former CEO of Oerlikon Textile Thomas Babacan, ITMA 2011)

www.e-save.oerlikontextile.com

www.rieter.com

www.truetzschler.com

www.monforts.com

www.brueckner-textil.com

And also other manufacturers of spinning-machines have developed numerous machines and solutions that significantly reduced energy and water consumption.

The Swiss company Rieter does not rely on solutions for sustainability in its company communication with „the comfort of competence“, but more on comprehensive service, but has also consistently realized sustainability goals in all new machines. The new rotor spinning machine R60 saves 5% energy compared to the predecessor R40 5%, at increased productivity of 8%.

The German company Truetzschler achieved further water and energy savings with its last machine series. Energy efficiency remains a big topic for the German producer. With the new card TC 11, savings of approx. 20% electrical energy for each kilogr am carded sliver are realised. The filter system is also more compact and uses smaller fans. Thus, it uses less electrical energy.

Regarding all innovations in the area of spinning with energy savings in individual manufacture steps of 20% or event 30% you must however also consider that the actual spinning is the process with the highest energy need by far, as for example Dr. Tobler-Rohr showed in 2000 in her study „Ways to sustainability in the European textile branch“.

Thus, the special focus regarding energy efficiency is on the spinning machines, which shall not lessen the successes in the other manufacture steps of the spinning mill.

The finishing companies

Lets leave the spinning sector, even though there would be numerous further solutions to be presented and take a look at the drying and finishing process, which hold the greatest opportunities for savings and new processes next to the spinning and dyeing processes.

Here the two German companies Brückner and Monforts have been in strict competition for many years about which company is leading regarding more sustainability and both continue to bring many new solutions to the market.
Brückner had made reference to TexData to energy efficiency the first time in 2003 in a report about its stenter. „The stenter is provided with energy saving fan motors with inverter control ensuring the separate setting of upper and lower air - accurately and reproducibly.”

Monforts also mentioned energy efficiency in a report about the ITMA 2003 concerning the Stenter 6000: „Monforts new heat recovery system can also be integrated on the roof of the stenter.

A space-saving heat exchanger recovers heat from the exhaust gas and uses it to preheat up to 60% of the incoming fresh air. This provides energy savings of 10-35% depending on the production. Typical payback period is just one year."

Both companies have continuously presented new products and solutions for energy saving.

Monforts currently offers the following solutions with special focus on energy saving, environment protection and sustainability: The Montex 8000 stenter which features the new heat recovery module 'Eco booster HRC' incorporating a fully automatic cleaning system for its heat recovery system, the new Thermex continuous dyeing process which offers reduced chemicals, energy and water consumption and the new Eco Applicator soft coating process which provides significant energy savings with reduced liquor application and also eliminates the need for a conventional wet-on-wet padder.

A considerably shortened and more economic dyeing process which is assured for continuous dyeing of polyester and cotton blends following the introduction of the new Econtrol® T-CA process. Jointly developed with DyStar Colours it provides a single pad continuous dyeing process for polyester/cellulose blends and requires up to 65% less water, up to 85% less chemicals and offers up to energy reduction.

Brückner is keeping the focus of its new developments on Eco-solutions, energy saving and environmental protection. Concerning the ITMA 2011, the company reported: „The environmental awareness is increasing in many countries, too. The demand for products which are more energy-efficient, more 'green' gets louder and louder. BRÜCKNER made in this field in the last years massive investments and developments. "

The company refers to the new stenter POWER-FRAME ECO presented at the ITMA as a quantum leap regarding energy efficiency: „This innovative stenter could be described also as a synthesis of performance and energy effectiveness. The Brückner engineers developed a completely new, environmentally friendly dryer generation, which requires with increased production output considerably less heating energy.

The dryer is provided with a central heating system, a completely new air control system and a sophisticated temperature control system. Compared to a normal stenter with heat-recovery system this dryer saves additionally up to 30 % of energy."

Summary:

Sustainability has reached the suppliers of the textile producers for a long time. Textile machine companies and textile chemistry are equally motivated and able to decisively improve the ecological balance of every single textile with new and improved procedures and machines. Now the textile producing companies are up to bat to make the requirements of the consumers and the pending specifications of trade possible. We want to close this report with the words of the former CEO of Oerlikon Textile, Thomas Babacan, who said the following to the participants of the WorldtextileSummit in Barcelona to send them on their way: „Technology redefines business models. Keep exploring new technologies and proof and optimise your value chain with technology experts.“ ■

More links:

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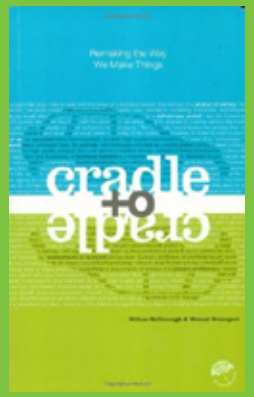

Cradle to Cradle: Remaking the Way We Make Things [Hardcover]

Michael Braungart (Author)

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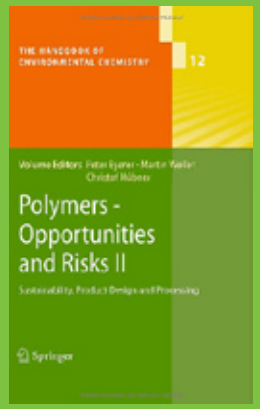

Polymers - Opportunities and Risks II: Sustainability, Product Design and Processing (The Handbook of Environmental Chemistry) [Hardcover]

Peter Eyerer (Editor),
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Christof Hübner (Editor)

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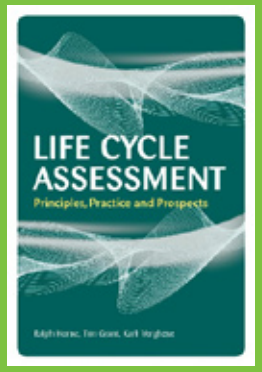

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Ralph Horne (Author),
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SETAC (Society) (Author),
Angeline S. H. De Beaufort-Langeveld (Editor)

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Innovations & Improvements

Part 2: Weaving

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

After having taken a closer look at spinning in the last issue of this six-part series, in which we will, over the year, look at new developments and improvements in machinery and processes, in this issue we want to go a step further along the textile production chain and take a look at weaving.

In weaving there have also been many innovations and improvements in existing machinery, as well as completely new developments. When it comes to speed, weaving seems to have exhausted its possibilities, even if small increases can be observed here and there. The manufacturers of weaving machines and weaving preparation machines place their main emphasis on improved control of the machines, more automation and easier operation, optimisation of component interplay and the extension of current applications of available machinery for dealing with new materials, above all, for technical textiles.

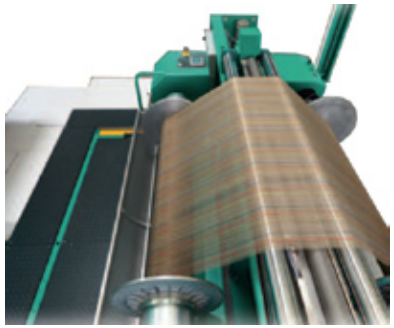
Let's take a closer look.

Warping

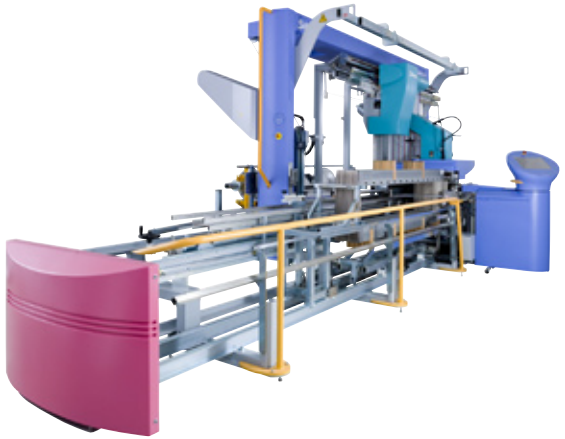
The German **Karl Mayer**, a leading manufacturer of warp knitting and warp preparation machines, has introduced the **Multi-MATIC®** - a new warping machine for a new segment – at the last ITMA in Barcelona. This latest innovation from KARL MAYER produces sample and production warps of average length at a maximum warping speed of 800 m/min and can process up to 128 yarns. It should bridge the gap between the GOM 24 and the Nov-O-Matic and can process five times more yarns than the GOM 24, besides larger samples, more colours and different yarn material. The machine has a warping lenght of 35-1500m, a working width of 2250mm, a beam shaft length of max. 2900mm and a layer height of max. 40mm.

The beaming speed is 150m/min and the color change speed 800m/min. The yarns are taken off directly from bobbins on a standard creel, selected by means of yarn guides in line with the pattern, and placed either with or without using a rotating drum to build up the warp. The selection system is computer controlled and operates automatically on the basis of single thread selection. The yarn is placed at an accuracy of 0.05 mm and the acceleration of the linear motors is 200 m/sec2. The drum receives its movement impulses from a torque motor.

With these sophisticated features, the new Multi-MATIC® can process virtually every type of yarn – from silk and natural-fibre yarns through viscose, polyester and polyamide to filament yarns. The Multi-MATIC® gives weaving mill the chance to react quickly to the rapidly changing fashion trends of the current markets, with their short development cycles, and also allow them to produce even short runs economically.



Karl Mayer's new Multi-Matic MM 128 sample warping machine



Stäubli SAFIR S 80

Leasing machines

Stäubli from Switzerland, has made some new developments for the **OPAL** multilayer leasing machine. OPAL applies a 1:1 lease to a warp sheet to ensure perfect thread order in the warp. As the name multilayer leasing machine says, it can do this with one or several – up to 8 – warp sheets. The heart of the system is the thread separation unit, which is responsible for the faultless sequencing of the separated warp threads. The unit has been optimized to handle new yarn types, especially fine yarns down to 10 den, transparent yarns, and FDY (fully drawn yarns). And the range of usable warp widths has been expanded. Besides the previous standard versions of OPAL for warp widths of 230 cm and 280 cm, a new model with a working width of 360 cm is now available.

Drawing-in machines

With the new generation of SAFIR, **Stäubli** offers automatic drawing-in machines that incorporate decades of experience and deliver users added value through state-of-the-art technologies. The top-end **SAFIR S80**, which has proven its worth through simple operation, high universality, and technical properties that deliver faultless quality of drawn-in warps, has got some updates and improvements.

The yarn separation module is completely new and includes a unique camera system, with which even coloured threads can be recognized and will be monitored and compared to the given colour repeat pattern. Drawing-in an colour repeat patterns can be programmed either on the built-in operator console or via download from a textile CAD system. This results in high throughput and production rates, and it eases the work of the operating personnel.

The SAFIR S80 can handle drawing in from 1 or 2 warp beams, each with up to potentially 8 thread layers when necessary. The warp sheets can be with or without a 1:1 lease, depending on the type of warp production. As far as harnesses are concerned, the SAFIR S80 can handle almost any type of healds, drop wires, and reeds, and the number of heald frames to be drawn in can total up to 28 units.

The fully automatic drawing-in machine **WarpMaster** of the German **Groz-Beckert** features a new computer generation with microprocessor control based on high-performance step motors, electromagnets and sensors. It offers a larger touchscreen, which enables simpler and faster operation and comes with a contextsensitive command display. The new operating unit also has a remote support capability. Telemaintenance can thus be carried out via modem - for customer service in real time.
The WarpMaster has 18 motors per machine, frequently of the same type. 26 electronic modules are arranged in a single cabinet and many modules are interchangeable. The Drawing-in is possible up to 160 yarns/cm and the length of drawn-in yarn is 2500 mm. A cotton twist is used as a drawing-in yarn. The precision of all drawing-in processes is monitored by sensors. The WarpMaster gives optimum motor performance due to control of both movement and quality. The machine start-up following a stop is Computer-controlled and the monitor indicates steps to be performed using still shots or video.

Groz-Beckert WarpMaster with new computer generation

Warp-tying machines

The **MAGMA T12** warp tying machine from **Stäubli** is for medium to coarse yarn types. It is ideal for tying technical fabrics like monofilaments, coarse multifilaments, PP ribbons, bast fibres, coarse staple fibres, and many other fibre types. MAGMA has been introduced at the ITMA 2007 in Munich and the new machine MAGMA T12 is easyer to operate and very reliable, thanks to its optical system for double-end detection and its patented thread separation system with no need of specific separation needles. As the result the quality of the tied warp is excellent. The MAGMA T12 is equipped with a touch-screen panel to make operation more convenient and to provide more information about the progress of the tying process.

Although the Knotmaster warp tying machine form **Groz-Beckert** is a well established product, we put it in the list because of its variety in the application areas with seven different constructions for many kind of yarns and because of its innovative computer control system. The advanced **knot control KC/3** is the worldwide first computer control system for warp tying machines. This interactive system in seven languages permits the high-precision control of repeats when tying in multi-colored yarn material, indicates doubles and missing threads, determines the optimum speed (OptimalSpeed) for the material being tied in, and permits the capture and evaluation of a wide range of data. It comes with a high-efficiency memory chip and a serial PC interface.

Groz-Beckert KnotMaster AS/3 with advanced knot control KC/3

ITEMA‘ s new Silver 501

The KC/3 is also available as an option for most Knotex warp tying machines. Groz Beckert bestseller is the KnotMaster AS/3: an universal and fast warp tying machine for all fine and medium yarns (cotton, wool, silk, synthetics, blends and elastic yarns) and also ideal for denim. With the Innovative Quattro technology all 4 tying methods are available in 1 tying unit. The KnotMaster AS/3 gives the answer to the question, how ultra-fine cotton chains can be tyed together efficiently.

Rapier weaving machines/looms

The new rapier weaving machine of **ITEMA** – the **Vamatex Silver 501** is the strategic evolution of the highly successful Silver HS model. Based on the same footprint and complete with a new electronic platform, the Silver 501 is specifically engineered to handle demanding styles or heavy weight denim at the highest production speeds with superior quality. The Silver 501 is equipped with the new electronic platform and is based on a totally revised mechanical design to ensure superior weaving performances and absolute stability in a continuous operation of difficult styles such as Denim or heavy fabrics. Key developments of the drive and transfer systems provide a more robust machine that insures a consistent, high speed transfer at the lowest vibration pattern. Unprecedented in rapier weaving, the new weft insertion is specifically engineered for high speed providing smart customers with the right choice for competitive applications.

This revolutionary transfer system SK, with new rapiers and diamond coated tape guides, allows for a wide range of applications: from the finest, top quality, shirting to heavier technical fabrics. With an ultra-light, ceramic coated, one piece design, the SK System is engineered for high speed and less wear. For special applications, the Silver 501 can also be equipped with free flight rapiers.

Through the large, full color touch screen terminal, with intuitive software – which actually encourages dialogue with the weaver and technician, the new electronic platform has been developed for the maximum in simplicity and user-friendliness. Ethernet connectivity allows remote diagnostic and technical support. The innovative concept allows the user to set the shed crossing point through the touch screen. The new electronic platform makes it possible to set the synchronization between weaving machine and dobby without mechanical intervention of the technician. Clearly this makes the job easier, while improving the textile performance of the Silver 501.

The new motorized selvedge & leno device and the “Rotocut” Rotary Cutter are the latest in technology. The programmable weft cutter, along with other options, allows the user to configure the optimum textile settings specific to unique yarns and weaves. The ease of use, maintenance and operation synergies remain to provide a transition free integration for weavers and technicians alike.

Picanol OptiMax 2 P 250 with new rapier producing Para-Aramide

Furthermore ITEMA introduced the **Maestro Weft Monitoring System** on its new Silver 501 Rapier Machine. Maestro, unlike any of its competitors, uses a special weft detector that transmits signals from each eyelet to the micro-processor of the loom. Innovative software from the loom's micro-processor allows real time analysis of the signal and thus efficient handling of all weft breakage conditions.

Picanol from Belgium, who celebrated their 75th anniversary exactly on the first day of the last ITMA on 22th September, and always followed its policy of innovation during this long time, of cause introduced new products at ITMA. One of it is the new **positive gripper on OptiMax** in rapier technology. The gripper is available in all widths but will mainly be used for wider width applications in the technical segment such as coating fabrics, primary & secondary carpet backing, geogrids etc. The development was a logical next step for Picanol in order to fulfil the increasing demands from the technical markets.

The grippers, produced by the Picanol group, are based on the existing guided gripper-concept type GC that has been one of the basic insertion systems of the OptiMax for several years now. With the positive system, the gripper-heads are now mechanically activated around transfer and at gripping and release of the weft-yarns, increasing the capabilities of the insertion system so that PP-tapes, bigger monofils and large multifilaments come within reach, also in wider widths and this at top speeds.

And there are some more innovations coming with Optimax. For example Picanol introduced new key components that give the best results when weaving Para-Aramides on OptiMax rapier-machines. The new Direct Warp Control backrest makes it possible to reach the highest possible tensile-strengths in warp-direction with a perfectly square property of the crimp in both zero and ninety degree directions throughout the fabric. And the also new Ecofill waste-less system at the LHS of the machine will help weaving mills to get more out of their materials.

And last but not least the Belgium weaving machinery specialist introduced a new width of 540cm for the OminPlus.

The shuttleless **PS rapier weaving machine**, produced by **DORNIER** since 1967, has been continuously developed into a machine with unique versatility, providing exceptional productivity.
With the motto DORNIER weave-by-wire® at the ITMA 2011 Dornier introduced some innovations for their rapier machines.

DORNIER PTS 4 S 20 producing filter fabric

They maintained their pioneering role and introduced the **FT control** on the market, a completely new innovative system supporting reliable real-time transfers of largest data volumes. The FT technology was already developed in 2009, but is still state-of-art. The complete communication structure with control and process levels is based on Fast-Ethernet-Technology. This system is also integrated in the safety concept for the new A380 Airbus. This clearly emphasizes the high importance DORNIER gives to safety and reliability in data transfers. The new control is a sustainable innovation carrier and also guarantees long-term reliability for future developments in electronics and drive technology.

It succeeds in optimizing utilization of machine functions at high performance and therefore increasing the effect on reducing energy consumption. This allows precise control and monitoring of machine parameters critical for quality.

The Italian **Smit Textile**, a leader in design and manufacturing of dynamically controlled flexible ribbons rapier looms, presents the new loom **ONE** on ITMA. The new technical evolution based on the GS series, already appreciated worldwide for its ease of use and high performances. The weft insertion performed by a single rapier and the numerous improvements in mechanic and electronic groups increase the already high quality standards and ensure flexibility, versatility, energy saving and dedicated technical solutions. The adoption of an insertion system based on only one rapier, therefore without weft transfer in the center of the shed, allows the use of the widest range of yarns, an unparalleled simplicity in the article change and minimum maintenance costs.

Smit‘ s new ONE with single rapier weft insertion

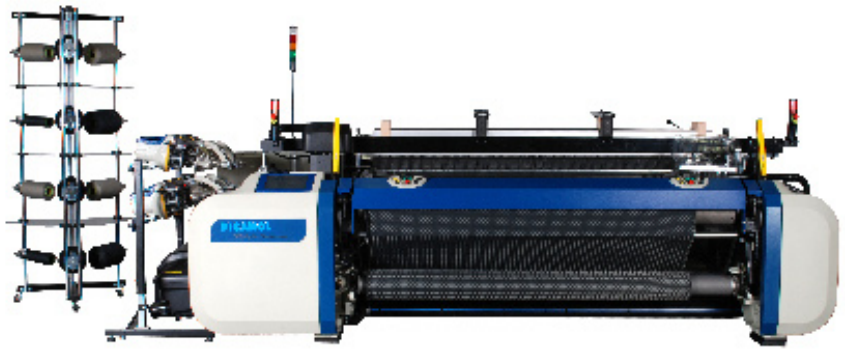
Here are some facts Smit describes for the ONE: A patented system performs the presentation of the weft always in the same position, ensuring an effective and repetitive hold. The lack of weft transfer in the middle allows to work with very low weft tensions, thus increasing the insertion efficiency. The use of a single gripper allows a reduction of the warp shed amplitude, thereby increasing the efficiency. The lack of the left rapier generator decreases significantly the energy consumption of the weaving machine. The weft insertion by a single rapier makes consistently easier the adjustments at article change, drastically reducing machines downtimes, allowing the use of yarn types so far not weavable on traditional rapier systems.

ITEMA‘ s new Sultex 9500

Air jet weaving machines/looms

ITEMA has a long tradition in air jet weaving. The company was the first to launch an air jet weaving machine using relay nozzles some 30 years ago. Under the brand name Ruti and later Sultex, the air jet weaving machines became extremely popular with over 100.000 machines sold. AT ITMA 2011 ITEMA introduced thier new new Sultex **A9500 air jet weaving machine** to the visitors.
The total parts of the A9500 are reduced by 30%, resulting in a simplified machine concept requiring less maintenance. The mechanical settings of the machine are minimized; pattern configurations & settings are electronically confirmed. No compromises were made during the design. The A9500 produces excellent fabric quality; its minimal air consumption is unrivaled. Distinguished from the competition and unique in concept, the machine is equipped with a special shed geometry designed to promote a long dwell while drastically reducing air consumption.

The long weft insertion time and the high efficient nozzles insure the optimum acceleration curve for any type of yarn. The Sultex A9500 is the only weaving machine on the market that offers both options for the slay drive. The new electronic platform with full color touch screen display offers new functionalities and opens the doors to the ITEMA Service Network. Finally, the new A9500 provides remote, networking capabilities with connection to LoomBrowser. A new product at ITEMA, the LoomBrowser allows remote access to the machine PC to monitor performance and even make changes to machine settings.



Picanol OMNIplus 4 R 220 producing technical textile for automotive

The main drive of the A9500 Weaving Machine is based on an electronic drive and brushless motor technology which provides easy touch screen adjustment for machine speed. Traditional gearing and mechanical parts have been minimized, saving up to 20% in energy cost compared to its redecessors; not to mention the added value of less spare parts and maintenance.

Furthermore a new electronic platform was developed which uses a Windows CE driven, full color touch-screen as the user interface. The networking feature allows serial-VDI as well as Ethernet connectivity. New functionalities are now available for the best control of insertion parameters.

It's in the wider width weaving that the Air Management System, including the RTC and the fully digital Air Consumption Metering, ensures optimum air consumption yielding energy savings and full automation of the pneumatic settings.

Some technical facts. The nominal weaving width is 190, 210, 230, 260, 280, 340, 360cm. The machine width is from 4550 mm to 6250 mm. The spun yarn range is from 7 Nm to 135 Nm and the filament range from 20 dTex to 1100 dTex. There are 2,4 and 6 weft colors.

The A9500 is an versatile machine and can be supplied with a broad range of key configurations to produce the most demanding styles. The new lateral & central independent selvedge devices combined with new pneumatic tuckers for full width reed guarantee perfect quality double panel weaving. It is very good suited for medium to heavy Denim, colored weaving and sheeting applications.

The new Airjet weaving machinefrom **Picanol** is the **OMNIplus Summum**. It will gradually replace the OMP800 over the course of 2012 and will be the new platform for further developments in the airjet segment.

As is the case with the other Picanol products, OMNIplus Summum has been developed according to the integrated concept philosophy. This concept is also key to reaching a high level of modularity.

The main highlights of this machine are the new insertion system and the Picanol BlueBox system, the new electronic platform for Picanol machines. The insertion system has undergone some important changes in order to assure the user of the maximum possible flexibility and user friendliness. Picanol took the decision to introduce fully electronic pressure regulators; these allow the user to set the machine electronically. Manual pressure adjustments are a thing of the past and moreover settings can be managed!

DORNIER AWS 4 S 12 with emboidery unit

To assure the highest possible flexibility each weaving channel will have a separate air tank combined with electronic pressure regulation through the machine display. Optimizing the machine settings to different types of yarn on the machine thereby becomes very easy.

And the Picanol Blue Box is much more than an upgrade of the electronic platform. Using the latest microprocessor technology, Picanol Blue Box increases calculation speeds by a factor of 10.

DORNIER's new, pioneering and patented drive concept **SyncroDrive®** is one of the significant components of the new DORNIER system family of air-jet weaving machines. The significance of DORNIER weave-by-wire® will certainly be very clear on a Jacquard machine like the **AWS 8/J G** air-jet weaving machine. An electric control circuit to the separate drive of the Jacquard machine replaces the cardan connection between weaving and Jacquard machines. Realization of dynamic close of shed adjustment while the machine is running meets the demands from sophisticated weavers. Separate starts for the Jacquard and weaving machines then merging at a rendezvous point allows a soft start which halves the peak current and ensures high speed stability without peak forces. This reduces wear on all components in the shedding area such as the harness and thus reduces machine standstills and warp end breaks.

This drastic reduction in mechanical loads means weaving machines with this drive concept run 6 - 10% faster, and with explicit approval from the shedding motion manufacturer. This is profitable for the customer with regard to higher productivity and longer service life.

Another very impressive innovation form Lindauer DORNIER is the Open Reed Weave (ORW) technology. The ORW technology allows vide diversity in patterns for clothing and decorative fabrics or also a systematic use of partial reinforcements in technical textiles. DORNIER was awarded the Techtextil Innovation Prize 2011 for this special stitching unit in both ranges of application.

van de Wiele carpet weaving machine Rci 02

Weaving machines/looms for carpet and rugs

Schönherr, member of the Stäubli Group, has introduced the ALPHA 400 series for area rugs and carpets five years ago at ITMA 2007. It is available in five configurations and featuring state-of-the-art technology, the ALPHA 400 produces carpets in excellent qualities and impressive patterns at outstanding production rates. The new **Multi Weft Selector** adds even more flexibility to the ALPHA 400. It allows the insertion of up to six plus six different weft yarns in the same fabric, offering many new possibilities for designers and carpet weavers to create and produce new carpet qualities. The Multi Weft Selector features a modular design that allows scaleable configuration. Any ALPHA 400 machine can be upgraded by adding this new option.

The specialist in carpet weaving machinery **Van de Wiele** form Belgium has succesfully introduced it's new Innovator-range of carpet weaving machines on last ITMA. The heart of the new developments is the Rug & Carpet Innovator in two and three rapier execution, respectively **RCi02** and **RCi03**. The new **RCi** machine can be equipped with Smart Frames for the drive of the ground heddle frames and has a Smart Cutting Motion. The RCi has Smart Edges and is controlled by the Modular Loom Control. The Innovator generation is characterised by an increased productivity (especially in 5m width) and a better stability.

The conventional heddle frame drive by cams is characterised by a fixed ground weave structure. With Smart Frames (SF), each ground heddle frame is driven by a separate servo-motor. The traditional 6 heddle frame is now enlarged to a choice between 6 up to 12 heddle frames. Smart frames allow easy changing of different ground weave structures. The use of servomotors gives unlimited possibilities for timing differences, different dwells and asymmetric motions. This results in a clear carpet back and regular pile height. The machines run with a high weaving effi ciency with less incorporated yarns. All these features are not possible with a conventional electronic dobby with simultaneous and symmetric shedding.

The new Smart Cutting Motion (SCM) with servo drive guarantees a perfect cutting. The selvedge yarns of the Smart Edges (SE) are driven by small servomotors, placed under the cumberboard for good accessibility and adjustment in width. The Modular Loom Control (MLC) increases the capacities of the machine and reduces at the same time the cabling. The energy bus system recuperates kinetic energy coming from the motors. The Rug & Carpet Innovator RCi03, the three rapier execution, gives 50% more production in 2/3 V. Moreover, the machine is characterised by an increased weaving effi ciency and a clear carpet back side.

Now the range has been extended with the Handlook Carpet Innovator HCi X2, using 3 rapier technology, producing 50% more than double rapier machines, very nice carpets with a hand-knotted look backside.

The maximum reed density has even been extended to 1000 d/m with 8 colour frames, being the most dense machine-made handlook carpets available on the market, with more then 2.000.000 points/m². The HCi X2 is the reference for handlook carpets in Iran, Turkey, Belgium, China, in reed densities from 240 up to 1000 d/m. The Rug & Carpet Innovator range is now available in a 5 m weaving width execution, for optimized combinations of area rug dimensions.

Studies has proven that the 5 m wide carpet weaving machine of the Innovator range compared to the traditional 4 m wide has a payback of less then 2,5 years.

Cam motions

Stäubli has adapted its range of cam motions. The streamlined series of products now includes the new types **1671/1681/1781**. The cam motions offer a robust monobloc housing and integral automatic shed leveling device. The cams can be changed quick. Advantages are the precise transmission of movement to the heddle frames and the oil bath lubrication or circulation type lubrication is electronically monitored.

Dobbies

Stäubli hat finished the development of the newly developed rotary dobby family **S3060/S3260**, just in time for ITMA. Based on the success of the rotary dobby invented by Stäubli many decades ago, the new dobby comes with a new locking system – the heart of every dobby. The new evolutionary principle features enhanced security for the selection of the heald frames, allowing higher running speeds as well as superior reliability. The new machine is even more compact and has less noise and vibration despite its higher speed. It also has a built-in cooling system connexion and requires less maintenance.

Stäubli' s new S3060 dobby

Jacquards

The **UNIVAL 100** Jacquard machine with single-end control from **Stäubli** is well known around the weaver' s world. Latest creation is a wider range of application with new smaller formats. New, smaller configurations with fewer actuators have been developed particularly for the application of technical textiles. The two new models can be equipped with up to 512 or 1024 actuators, complementing the previous range with configurations between 2048 and 15360 actuators.
Of particular interest to technical weavers, the new configurations facilitate production of narrower fabrics, from simple fabrics to sophisticated textiles such as multi-layers. All UNIVAL 100 models are easy to program using the JC6U colour touch-screen controller, allowing the setting and archiving of shed parameters such as shed angle adjustment, opening profile, and crossing phase difference.

And Stäubli has developed another Jacquard machine. The **UNIVALETTE** represents a significant step forward in name selvedge and adopts the technology of its big brother, the UNIVAL 100, for controlling the shed. It is used for applying names and lettering to fabrics.

The UNIVALETTE is available in two configurations, with either 64 or 96 actuators for the movement of a corresponding number of warp threads. Using the JC6U control unit, shed parameters are freely programmable to achieve optimum performance and perfect synchronisation with the weaving machine. The positioning of the UNIVALETTE Jacquard head on the weaving machine can be easily adjusted to suit the desired shed geometry. The UNIVALETTE can be used in combination with the positively controlled CS1 selvedge let-off motion device, available as an option. The CS1 precisely controls warp yarn tension in the selvedge area to achieve perfect fabric quality.

Stäubli‘ s new model of the UNIVAL 100

Tufting

Eltex from Sweden has developed the **Eltex EYE**, a flexible system designed for yarn break, end-out and tight-end detection on tuftingmachines. It is designed to improve efficiency and quality by reducing down time and mending. Eltex promises 100% end-out detection. The tight-end detection can be used for many yarns and faulty yarn is specificly identified, which of cause results in more up-time. All events are logged in real time and can be used for statistics and diagnostics. The Eltex Eye is networkable to a central database.

Eltex new EYE for tufting machines

Conclusion

The innovations and new developments in weaving can be summed up quite simply. The manufacturers focus on more automation, improved control, and control systems, preferably based on modern computerised equipment, as well as easier and more convenient operation, more electronics and less susceptible and high-maintenance mechanical parts. Easier spare-part exchange and fast servicing remains an important subject, not least because it is here that increases in production can be achieved.

However, the new advancements have a special focus on new areas of application for the machines - mainly in the area of technical textiles, but also for wovens. The new dobby and Jaquard shedding systems can play a determining role in the production of ever more complicated materials and technical textiles.

And the many new developments for the profitable production of smaller orders will also be of great interest to weavers.

The determining question will be whether the new developments and the associated achievable productivity increases will have the short-term effect of prompting the desired investments, or whether weaving mills will wait for the great leap forward which, in all probability, multiphase weaving could one day offer. However, because the market for technical textiles is growing and new claims will have to be staked, we assume that the order books of weaving machinery producers will be filling up, and weavers will be doing good business with their new acquisitions.

The Textile Meeting of EURASIA: ITM Texpo Eurasia 2012

Already for the fourth time the ITM International Textile Machinery Exhibition is taking place in Istanbul from April 21-24, 2012 at Tuyap Beylikduzu Fair and Congress Center. To be exact, the event is now called ITM Texpo Eurasia 2012 because ITM joined with Texpo Eurasia International Textile, Weaving, Yarn, Finishing, Knitting, Hosiery Machines, Side Industries and Chemicals Exhibition. This annual event taking place for the 29th time had 450 exhibitors from 31 countries in 2011 and 25.435 professionals from Turkey and 64 countries. The merger is intended to position the event even broader and generate synergy effects for the participants and exhibitors. This plan is rounded off by the parallel HIGHTEX 2012 Technical Textiles & Nonwovens Exhibition and Istanbul Yarn Fair.

After China and India, Turkey is one of the most important textile production countries of the world and the Turkish textile industry surely is very much looking forward to the ITM 2012. And not only this country will be enjoying the show, because the ITM has truly become an international event since its first happening in 2004, whose attraction reaches from Europe over Asia all the way to Africa. 31284 visitors came to the last ITM in 2009, 27152 from Turkey and 4132 from all other countries with 1229 from Iran, 741 from Syria and 269 from Egypt. The organisers are expecting an increase this current year.

Also the estimated 1000 exhibitors (date 28.03.) from all over the world will arrive with certain expectations, as the Turkish textile industry is said to be on a clear path of success after the crisis in 2008 and 2009 and ready for new investments. It is surely good that the ITMA in Barcelona was only 9 months ago and many exhibitors will have packed their ITMA-innovations to introduce them to those visitors that did not make it to Barcelona and to demonstrate to all the others again what the contemporary textile machine production is capable of and what the future may look like.

According to the fair organisation, a cooperation of TEKN_K Fuarcılık and TÜYAP with the support of TEMSAD, the stands were fully booked within just a short period of time and new halls had to be added to be able to cover the expanded exhibition portfolio and the increased demand.

Lets take a look at the exhibition program, which covers all levels of the textile production chain. Cotton and Fiber Preparation, Yarn Preparation, Yarn Twisting, Weaving Preparation and Weaving, Flat and Circular Knitting, Quilting, Hosiery, Embroidery, Dyeing-Printing-Finishing Machineries, Textile Chemicals, Laboratory Equipments and Quality Control Systems, CAD- CAM- CIM Application and Automation Systems, Machinery Spare Parts and Accessories will be exhibited. All technology, raw material, chemicals and semi-products and end-products related with technical textiles and nonwovens will be exhibited at HIGHTEX 2012. Turkey developing itself rapidly in the field of technical textiles and nonwovens and it is well known that this industry becomes the most important market of today.

Many preliminary reports about the fair clearly illustrate how proud the organisers are of their ITM as most important event of the Eurasian region and of course also of the significant Turkish textile industry with its high investment sum of approximately 1 billion Euro in 2010. TEMSAD (Textile Machinery and Accessories Manufacturers Association) President Adil Nalbant deems the ITM almost more important for the exhibitors than the ITMA and according to the statement of Necip Güney, Marketing and Sales Manager of TEKN_K Fuarcılık –TÜYAP performance shows

of the textile machines should primarily take place in textile producing countries. Of course it is advantageous to hold a textile machine exhibition in textile producing countries. The much shorter, partially even local trip (in 2009 36% of the visitors came from Istanbul) offers the higher and middle management the opportunity to look at the innovations close up and experience them, and the innovations surely also benefit from the fact that a wide front advocates the innovations within the company, and can hardly wait for them to be implemented. And also the exhibitors can only benefit from the feedback of the engineers and product specialists, because they receive direct valuable information about problems and the desired improvements.

Still is does not make sense to try to make the own event „more valuable“ by comparing it to the ITMA, because for one, the ITM is already a great fair, and secondly, the ITMA is simply the ITMA.

We prefer the clever solutions for more attention. To increase the interst in the ITM for the visitors the organizers thought of several surporises. They promise that two top producers of weaving machines will present special innovations without stating names, and that one producer of spinning machines has doubled his exhibition area to be able to show more machines. One could start speculating and it probably would not be too difficult, but one could also simply wait. This is how it is supposed to be after all.

Instead, lets take a look at the exhibitors and highlights that we already know and get a taste for the technology spectacle at the Bosphorus.

The French machinery manufacturers are used to come to ITM and, more generally, to Turkey which they consider a strategic market. France is the 4th supplier for Turkey. For Evelyne CHOLET, the French Textile Machinery Manufacturers Association’s Secretary General, “next ITM will be a major opportunity to meet once more our customers, communicate, at the highest level, about their needs to compete successfully on the ever changing global market, to introduce must-have new products, to have highly reliable, low cost and eco-friendly processes”. Nine companies will exhibit under the roof of their association UTCMF at the ITM 2012.

For AESA, a leader in the field of industrial air conditioning, the overall energy saving is becoming a competitiveness factor. AESA air conditioning plants are contributing in a big way to this goal. For spinning factories, the state of the art is to drive all fans and pumps motors through inverters. For weavings, the latest development called WEAVE DIRECT is capable to reach up to 50 % energy savings.

Dollfus & Muller, the felts and belts manufacturer for more than 200 years, will present at ITM its textile finishing spare parts and will introduce its new compacting felt for knit finishing with major evolutions versus its existing products. Furthermorethey will display its durable printing dryer belts.

LAROCHE is proposing complete turnkey Airlay nonwoven lines from several raw material sources to make a huge range of nonwoven products. LAROCHE will show a full range of products made from their latest technologies, for exmaple Laroche will notably introduce the new “FLEXILOFT+” Airlay machine and the latest innovations in used clothes recycling processes.

„NSC fibre to yarn“ offers a new model S200 of stretch breaker followed by the Defelter rebreaker model D5GC30 and GC30 chain gill. Petit SA, a leading specialist in supplies for textile industries, will offer their experience and service in dealing with accessories for all textile machines.

Spoolex will present its Calemard and Decoup+ product lines for web products processing and handling, on the stand of its Turkish agent TEKSTIL SERVIS.

STÄUBLI will exhibit a selection of the most modern products of the complete textile machinery range. These include cam motions and dobby machines, electronic Jacquard machines and harnesses, and weaving preparation systems products.

Group member Schönherr carpet systems will show its exclusive carpet samples - produced on ALPHA 400 series carpet-weaving machines - and Group member DEIMO will present state-of-the-art electronic control solutions mainly for textile machinery.

SUPERBA S.A.S will show their latest innovations in carpet yarn heat-setting and dyeing processes, in addition to manufacturer of machines used for heat-setting, steaming and dyeing of shrinkable yarns for the production of woven-tufted carpets and rugs (PP, PA, PET, PAN, Wool and blends).

SWISSTEX France will show the new CP 20 (dedicated to Tire cord markets) which has a complete new design from the frame to the textile equipment, energy saving and easy ergonomics. Additionally they will present innovations for yarn processing and their control system M.U.S.T.

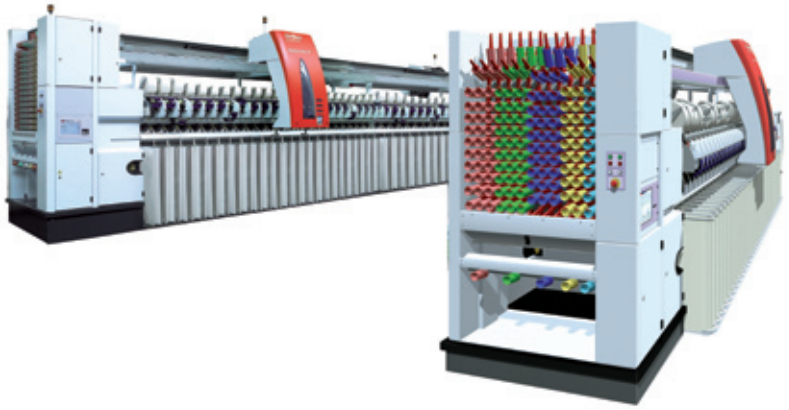
Swiss textile machinery manufactures will exhibit at Swissmem’s booth at ITM Texpo Eurasia. At a space of 169 sqms in Hall 10, the latest technologies of Swiss companies will be showcased. Swiss machinery manufacturers are giving great importance to the Turkish textile market. As per the statistics obtained by Swissmem, Turkey increased its machinery order by 175% in 2010 compared to 2009 and realized a machinery purchase of 132 million Swiss Francs.

Oerlikon (Hall 2, Booth B210) is looking forward to present their visitors a series of groundbreaking new product and service developments on a surface of 400 m_.

Oerlikon Barmag is exhibiting its twelve-thread WINGS for polyamide 6 for the first time and setting new standards in processing the demanding polymer to produce good yarn grades. This should adress espacially the Turkish filament yarn manufacturers who are focusing increasingly on high-quality yarns for the carpet and automotive sectors. One information highlight for the traditionally strong Turkish texturing market is the ITMA innovation eAFK, an automatic texturing machine, along with its manual sibling eFK. Another presentation will be the latest development for artificial sports turf: MoisTurf is the name of the equipment for producing hydrophilic monofilaments.

Oerlikon Neumag will present their latest innovations in BCF carpet yarns, staple fibres and nonwoven production. The BCF best seller in 2011, the S+ with three ends per position, is now available for the up-and-coming raw material polyester. The BCF S+ for polyester is a perfect substitute for polyester spun yarn on account of its cost efficiency in production. Also on the agenda are machines or turnkey systems for the production of nonwovens from spunbond and meltblown to airlaid

Oerlikon Schlafhorst will surely have an absolute ITMA highlight with special interest by the visitors. The new Autocoro 8 is the first and only rotor spinning machine to spin a yarn at a rotor speed of 200,000 rpm. The new technology forms the basis for productivity increases of up to 25 per cent, machine start-up in minutes instead of hours, an excellent multi-lot capability and much lower spinning costs.



Oerlikon Schlafhorst rotor spinning machine Autocoro 8

Further machines in the limelight are BD 448, . the longest semi-automatic rotor spinning machine in the world, the Zinser ring spinning machines 351 and 451which promise unique process reliability and the quality package of the Autoconer X5.

Oerlikon Saurer is putting the emphasis on energy saving with the new Volkmann CT: the eco-drive concept and spindles are the perfect complement to the e-save spindle family and help to save up to 40 per cent of energy costs, even for the finest yarn counts. Next new process: Volkmann Heat-SET integrates cabling, thermofixing and winding in one process sequence, thus reducing process costs and speeding up order completion. The new Allma TC2 two-for-one twisting machine can process every conceivable material in the titre range and its sister machine Allma CC4 is revolutionizing the tyre cord cabling market with energy savings of up to 50 per cent.

Rieter (HALL 2, Stand 213-A / ERBEL and Hall 10, Stands 1001 & 1007 / SWISSMEM PAVILION) is represented at the ITM Texpo Eurasia 2012 with two stands and provides competent information on all 4 spinning systems and the optimally suited fiber and spinning plant preparation. Key machines from the Rieter product range as well as end products from the 4 Rieter yarns make a visit to the Rieter exhibition stands an extremely interesting and informative experience for all.

Rieter K45 compact spinning machine

One Rieter highlight will be the K 45 compact spinning machine. With machine length up to 1 632 spindles, it sets standards for ideal compacting, machine length and economy. In addition, the K 45 offers greatest flexibility for quality yarns. Another one the new card C70 which achieves excellent quality values at highest production for all yarn applications.

Turkey is ranked in the top five export markets of Savio (HALL 2 - STAND 211/B), so the attendance at ITM exhibition is meant at massive level for being closer to these important customers who may be interested in the most advanced and automated Savio models, for either their green field or expansion projects. Savio will showcase in Istanbul three machines: Polar/I automatic link winder and two Sirius machines equipped with different technologies. In fact, further the standard configuration, Sirius can be equipped with the new Twist&Twist device, that makes possible “two twisting operations”, instead of the usual single. The T&T solution is expected to turn upside down the twisting capability and opens a path in this sector, which seemed to be inexorably bound to the Two-for-One (single twist). It is an absolute innovation, since this technology allows an increase of process productivity of 33%, with the same energy consumption as the standard double twist spindle. With 25% less spindles the same production is achieved. Savio is represented in Turkey by Motex/Modiano which, since more than 40 years, operates in this country.

Marzoli (Hall 2) has embarked on a new design philosophy of the innovative integration of new technologies to expand the applications.

Through positive contamination due to new technologies they will improve the performance of both process and products in order to create new solutions. The products and the integrated process presented at ITMA Barcelona like the new draw frame model DF1 and DFR1, new card C701 and the new opening line with duo cleaner B390Lwill also be presented at ITM Istanbul.

Truetzschler (Hall 2), the German specialist in spinning preparation, will inform about latest innovations in spinning like the new card TC 11 and the new draw frame TD8 on the stand of his local reprasentative Erler Makine.

The KARL MAYER-Group (Hall 12, Stand 1210 C) will be showing its innovations relating to the production of knitted fabrics and weaving preparation technology on the stand of its trade representative Erko Textil. One highlight of the show will be a tricot machine in working mode. In the case of Turkish manufacturers the warp knitting machines made by KARL MAYER have become well established as versatile machines especially for the production of embroidery grounds, net curtains, upholstery fabrics, stretch underwear and semi-technical textiles. In warp preparation interest will be focused on the KARL MAYER total solutions for the denim market and the improved Nov-O-Matic, which will be accompanied by information.

Karl Mayer tricot machine

Monforts will highlight its new energy saving solutions and latest developments on the stands of its two representatives in Turkey; Masters Tekstil – Hall 7, Booth 712B and Elitez Tekstil – Hall 3, Booth 312. With the emphasis on energy saving solutions and environmental protection, the new products and process technology include the Montex 8000 stenter with Eco-booster heat recovery module, the Thermex T-CA, a new Econtrol® T-CA process and the Eco Applicator soft coating solution. Further, Monforts technologists will be on hand to offer advice for ‘classical’ textile and technical textile processing techniques.

Monforts Eco Applicator

Thies' will introduce their new models iMaster H2O, miniMaster, mini-bloc, AAP- Advanced After-treatment Process and hankMaster to the Turkish market with the slogan "Go Green with Thies".

Eltex of Sweden (Hall 2, Stand 213) will present electronic yarn control devices for sewing, weaving, warping and transfer machines.

Uster Technology Ltd., being able to provide a full spectrum of devices used in cotton classification, yarn testing and monitoring will be present with its new models and latest technologies. For exmaple with the new USTER® QUANTUM 3 yarn clearer, 100% of the produced yarn can be tested for key quality parameters.

And with Andritz Küsters, Autefa Solutions, Benninger, Bracker, Brückner, Clariant, Drei-S-Werk, FONG's, Groz-Beckert, Heraeus, Hans Schmidt, James Heal, Kern Libers, Loepfe, Luwa, Mahlo, Mayer & Cie, Morrisson, Power Heat Set, Retech, Rosinck, Sahm, Santex, SSM, Suessen, Temafa, vandeWiele, Wumag and Xetma many more companies of international reputation will show their new developments in many areas of textile production and volunteer information.

Among others, also represented at the Hightex is DiloSystems, the leading supplier of complete nonwovens lines. Latest innovations of Dilo are the DON dosing opener, the MultiFeed card feeder from DiloSpinnbau and the MultiCard which has roller infeed, a breast cylinder with three worker/stripper pairs and a 1500mm main cylinder with a further five roller pairs.

Surely the ITM will offer the textile producers an exciting range of innovations as already the ITMA did in Barcelona last year and provide numerous investments and good business. We will surely have news for you in our follow-up report.

Techtextil North America 2012

The end of April is nearing again and once more, Techtextil North America is opening its doors for specialist visitors from all over the globe looking for novelties in technical textiles and nonwovens and want to see the technical innovations right away too, if possible. The Techtextil North America is the only event of this still young industry in the USA and with the break in Frankfurt until 2013 surely also the most important exhibition of the branch worldwide. Aft er Las Vegas last year it will take place in the Georgia World Congress Center in Atlanta, Georgia like already in 2010, from April 24th – 28th. With the ninth edition of the event, the Techtextil NA is just short of a small anniversary and can therefore rely on the tried and tested, but will still turn heads with several novelties.

First the tried and tested. As usual Techtextil North America assembles all vertical aspects of the technical textile industry. With a total of 19 product groups it offers the familiar wide spread cut about all that is new. From research and development, through raw materials and production processes and finally ending in conversion, further treatment and recycling. And also the division of the individual industry segments that go back to the 'Messe Frankfurt' and are meanwhile regarded as standard is maintained.

The fair differentiates the following 12 application areas:

- Agrotech with horticulture and landscape gardening, agriculture and forestry, animal husbandry, fences, etc.
- Buildtech with membrane, light-weight/solid construction, engineering and industrial building, etc.
- Clothtech with technical components of garments, shoes, bags, etc.
- Geotech with earth and road construction, dam engineering, dump construction, ground isolation, drainage systems, etc.
- Hometech with technical components of furniture, upholstery and interior furnishing, rugs, floor coverings, etc.
- Indutech with filtration, cleaning, mechanical engineering, chemical industry, electrical industry, seals, sound absorption products, etc.
- Medtech with hygiene, medicine, rescue organization equipment, etc.
- Mobiltech with automobile and shipbuilding, aircraft and space travel, rail vehicles, motorcycle and bicycle construction, etc.
- Oekotech with environmental protection, recycling, waste disposal, etc.
- Packtech with packaging, protective cover systems, sacks, big bags, storage systems, etc.
- Protech for protection of persons and properties, etc.
- Sporttech for sport and leisure, active wear, outdoor, sport equipment and outfits, sports shoes, etc.

Now the new. Starting in 2012, ATME-I (American Textile Machinery Exhibition-International) will be incorporated into Techtextil North America providing textile machinery, equipment, products, and services suppliers a broader technical textile and nonwoven industry base to showcase their products and services. This joint venture was decided already in January 2011, after the mutual event in 2010 was successfully conducted in Atlanta. David Audrain, President of Messe Frankfurt stated that “We are extremely pleased with ATMA®’s decision to continue the successful relationship begun last year. Building on the launch of Texprocess Americas we believe that the expansion of Techtextil North America to include ATMA®’s ATME-I® creates the most important colocation of textile industry events in the Americas. Our goal is to give buyers the best value for their time investment, which means providing them with the most comprehensive selection of manufacturers at our respective shows.”

And the joining with the ATME-I is not the only expansion. In 2012, as part of a new co-location effort, Texprocess Americas, formerly SPESA EXPO, will run concurrently along side Techtextil North America. Co-locating these two events will bring to the Americas the largest and best technical textiles and nonwovens, sewn products and equipment trade show in the Americas. The collaboration between SPESA and Messe Frankfurt USA to co-produce Texprocess Americas will provide sewn products suppliers an even larger, and wider reaching opportunity to showcase their products and services.

Both fairs are nearly fully booked. There are currently only around 20 exhibition areas available. Techtextil and Texprocess share the exhibition area to about a half each. At the Techtextil, 309 exhibitors from 22 countries will present their newest developments and the Texprocess impresses with 156 exhibitors from 11 countries. The largest participant countries at Techtextil next to the USA with 170 exhibitors are Germany with 42 participating companies and a stand of the Federal Ministry of Economics and Technology (BMWi) and Italy with 17 exhibitors. China will also be present with 16 exhibitors.

The countries Belgium, Canada, Portugal and Italy organised themselves in country pavilions at the Techtextil; Germany and China each offer a country pavilion at the Techtextil and the Texprocess. Further pavilions at the Texprocess are one SEAMS and two SPESA It-pavilions.

Lets have a look at the offers of different exhibitors. As already at the Techtextil 2011 in Frankfurt the Italian association ACIMIT has organised a meeting-point , the Italian pavilion. There you will find the five ACIMIT members Cormatex, Dell'Orco & Villani, Loptex, Ratti Luino and Saspe. For ACIMIT the US-American market is very important and "ACIMIT registered a recovery in 2011 in the US market for specialty fabrics and technical textiles and the projections for 2012 are quite positive."

From Germany, two heavy weights of the textile machine producers for technical textiles are participating, namely Dilo (Hall A, Booth 2141) and Lindauer Dornier (Hall A, Booth 2030). Both can be found in the German pavilion of the Techtextil.

With Lindauer DORNIER -a top leading manufacturer and innovator of high end weaving machines- will take part at the Techtextil NA. The pioneering technology "made in Germany" and its weaving machines have always been aware of the importance of technical textiles. During the Techtextil North America 2012 information about the newest exciting developments for almost all aspects of woven Technical Textiles is available for the customers. Information about the function of

the new DORNIER Open Reed Weaving® (award winner of the Techtextil innovation award in the category new technologies at the Techtextil 2011 in Frankfurt) as well as possibilities of applications on the latest generation of DORNIER air-jet and rapier weaving machines will be available. The applications areas of DORNIER weaving machines for technical textiles are very versatile.

They weave ballistic fabrics, carbon and glass fibers (Prepregs) or airbags with highest quality and speed and they weave high density fabrics from natural fibers such as flax or cotton as well as screen and filter material fabrics with strong reed beat up because of gearboxes mounted on both sides of the machine. The visitors may expect the innovations and demonstrations of the numerous application areas of the DORNIER weaving machines.

DiloSystems is the textile machine producers specialised in nonwovens and the leading supplier of complete nonwovens lines. Since the formation of Dilo System Group, over 200 complete lines have been supplied worldwide. At Techtextil North America Dilo Inc. will provide extensive information about recent machine concepts from the DiloGroup companies DiloTemafa, DiloSpinnbau and DiloMachines. A major focus of the new equipment is to improve operation efficiency, web quality and uniformity with positive effects on all bonding processes. In particular the following equipment will be presented:

The DON dosing opener of DiloTemafa designed as a link between the opening/blending operation and the card feeder. The DON ensures that fibre flow to the feeder is both continuous and consistent. The MultiFeed card feeder from DiloSpinnbau which is available in working widths which can exceed 5 m. This unit is equipped with a twin fibre delivery system in the upper chamber which provides a more regular material flow. A two roll opening stage allows fibre into the lower chamber with further compaction by mechanical means and air movement derived from the permeable delivery apron. Such a unit can deliver over 400 kg/m/hr of 1.7 dtex fibre with a cross direction evenness CV of 2-3 % immediately prior to the card. The MultiCard which has roller infeed, a breast cylinder with three worker/stripper pairs and a 1500mm main cylinder with a further five roller pairs. This is a double doffer system with the possible activation of condenser rolls for heavier webs.

Such a card will handle the full range of fibre fineness and length with a web speed potential up to 200 m/min and offers an economic solution for cross laid nonwoven production. And last but not least the vertical (HL series) and horizontal (DL series) crosslappers available from DiloMachines which provide infeed speeds up to 200 m/min (HL series) eliminating bottlenecks in the production line.

Visitors of the stand can also discuss the further development of needlelooms with the Dilo experts. For example the elliptical and circular needlebeam movements which are used to control drafts in the needling zone and also provide high speed felt production in the 30-80 gsm weight range.

Groz-Beckert will be staging its own special presentation at the texprocess AMERICAS trade show. At Stand 4131, innovative products and solutions for different joining methods await an expert public. The main focus of the Groz-Beckert trade show presence will thus be on sewing needles and solutions for industrial sewing machines. Innovatios are the controlled loop formation with LPC, which is a new needle concept for chainstitch applications, surpassing the sewing performance of conventional needles the special applications needles for high-quality decorative seams in the automotive and upholstery sectors SAN®12 and the new consulting concept: With various different service packages, Groz-Beckert is supporting manufacturers of apparel and technical products with the aim of increasing processing safety and improving seam quality worldwide.

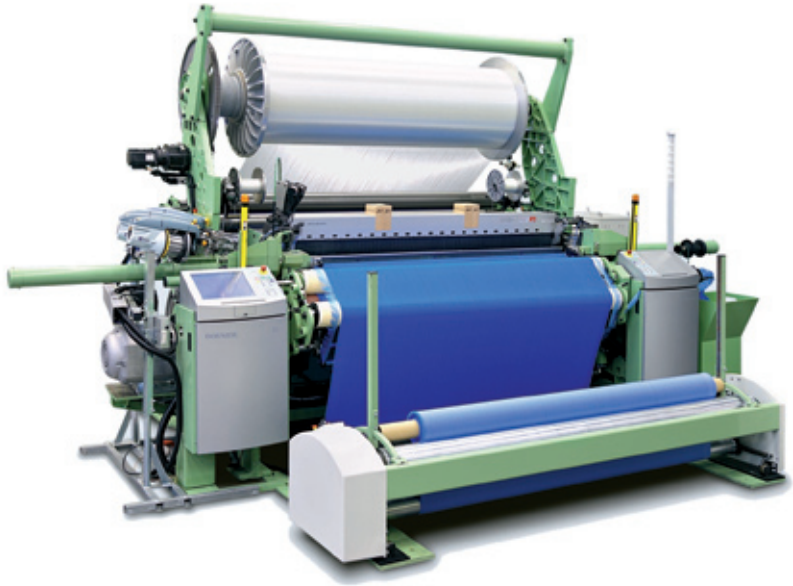
Further participants from Germany are the worldwide leading finishing specialists Brückner and Monforts, who also have a broad portfolio and high expertise in the production of technical textiles, Autefa Solutions who is specialised in complete advanced carding lines for the nonwoven industry, H. Stoll, Georg Sahm, the Spinnbau, Temafa and Sohler-Neuenhauser.

A further fair highlight can be anticipated already. The stand of the US-American company Kraig Biocraft Laboratories will surely draw many visitors. Kraig' s founder and CEO Kim Thompson set out to make artificial spider silk and found a way, contrary to all expert opinions. Now he feels like the first man to climb Mt. Everest and he's experiencing the thrill of conquering what was thought to be impossible.

Kraig Labs proprietary genetic engineering technology creats an artifical DNA sequence and inserts it into a silkworm in an natural and environmentally safe process to produce recombinant fusion spider silk fiber.

What seems incredible at first can be admired at Kraig´s stand.

All exhibitors and stands can be viewed in advance at
http://www.floorplan.techtextilna.com.



Dornier Rapier weaving machine

Parallel to the fairs the comprehensive and broadly positioned symposia to both events will take place. The Techtextil NA Symposium features seminars on New Technology, Composites, Military, Automotive, Protective Textiles, Nonwovens, Sustainability, Medical, Fibers, and Technical Textiles in Sports and Outdoors Applications. Early birds will like that keynote speaker Designer Miguel Caballero, known as the 'Armani of Bullet Proof Clothing' gives you insight to his secrets to success starting at 8 in the morning. He will talk about where the idea for his company came from, how it grew to become recognized as a "specialized brand name" and leader in personal protection solutions using high technology innovation, where he sees the industry heading, who his clients are and why they are attracted to his company. His Keynote is open to all Attendees and Exhibitors!

It goes on at a total of 2 ½ days with 12 different topic areas with more than 50 presentations in a variety of formats, of which 2-3 always take place in parallel. All of the topics sound highly interesting and are very up to date. For example Mr. Frank Maué, Head of Sales Department, TechnoPartner Samtronic from Göppingen, Germany will talk about "Utilization of Sustainable, Post Industrial, and Post Consumer Waste Materials", Laura Frazier, Director, SNS Nano Fiber Technology, LLC, Hudson, OH, USA will speak her mind about Nano fibers and Nano-nonwovens and Meredith Boyd, Product Development Manager, Unifi Manufacturing Inc.,Greensboro, NC, USA will explain why recycled fibres are our future under the title "Understanding Recycled Fibers".

Dilo Multifeed System

Newcomers to the branch are also well taken care of. The two-piece introduction event titled „The Basics" can also serve to freshen up knowledge. A review by academic and industry experts of the attributes of various materials, their advantages and applications, and how they fit into technical textiles will be an integral part of this program.

The Texprocess Symposium also promises interesting topics and top-class speakers. It will include sessions on design, product development, global sourcing, manufacturing, supply chain management, international trade updates, and more. Sessionthemen sind beispielsweise sustainability, global market outlook, manufacturing technology und product development technology.

All in all the Techtextil North America should be an interesting event, as always, where renowned exhibitors will present their products mainly to the purchasers from the American continent and care for their customers on location. There surely will be no lack of innovations, as many companies will still have held back their new developments at the last Techtextil NA in March 2011 to the start of the big brother, the main fair in Frankfurt in May, and in the rapidly growing branch with its versatile R&D activities there are many new materials, applications areas and manufacturing processes for technical textiles and nonwovens in 11 months. We will keep you informed. ■

2012 mtex - New (Textile) Lightweight Design in Vehicle Manufacturing

New twin Chemnitz trade fairs capped by top-quality symposium

Chemnitz Trade Fair Centre is bringing together what belongs together: the “mtex” – International Trade Fair for Textiles and Composites in Vehicle Construction – and the LiMA – International Trade Fair for Lightweight Design in Engineering and Plant Construction – are being held alongside each other for the first time on 8 – 10 May 2012. This merger, which experts consider to be very sensible, is being capped by a symposium covering many different sectors with high-class speakers from the worlds of industry and research. They will be presenting the latest results of research work on all three days and enable their audience to gain some idea of future developments.

car seat with upholstery made of silk combined with leather (left) and a glowing effect as a result of light-emitting diodes (right) (c) Photo: mtex press service

Daniela Bohlinger, Color und Trim Designer at BMW i, Munich will be explaining in her lecture entitled "BMW-i – Future Mobility, Premium and Sustainability" how these standards are being introduced in new generations of automobiles, taking the example of the concept vehicles at BMW i. "The standard for our BMW i concept is to design sustainability into the complete value creation chain," the designer stresses. Rising energy prices and a growing concern for the environment are driving forward the increased use of lightweight components in engineering and plant construction, the integration of renewable raw materials and the production of new kinds of insulation materials with a synthetic base. Georg P. Holzinger, General Manager Research & Development at KraussMaffei Technologies GmbH, Munich, will discuss the question in his lecture: "Lightweight design solutions in engineering at KraussMaffei – vision or reality?"

Dr. Elmar Witten, AVK – Federation of Reinforced Plastics, Frankfurt/Main, will shed some light on market developments, possible applications and trends for fibre-reinforced plastics. "Glass-fibre and carbon-fibre reinforced plastics are playing an important role in the current debate about lightweight design, weight and CO2 savings," Dr. Witten knows. Claudia Khalil, Managing Director of "khalil automotive / interiors" and chief designer at STRÄHLE + HESS views herself as an interpreter of the spirit of the age. Intelligent design is the key to the success of a product in her view. But she says that it is not just necessary to understand stylistic elements and colour management in the 21st century. Today's consumers are firstly demanding individuality and a high degree of flexibility in vehicle interiors.

But above all, they would like to know that companies are handling resources in a wiser manner, which is why modern materials management and the right sense of intuition for trends are indispensable, she adds.

This, she says, is the only way to recognise the expectations that create the true value of a product. So it is no surprise that her lecture is entitled: "DESIGN – as the key to success?" The IWU Fraunhofer Institute in Chemnitz will be explaining new lightweight design solutions in the field of vehicle bodywork and power transmission systems. In the light of climate change and limited deposits of natural resources, the need to increase resource efficiency in the manufacturing sector is increasingly becoming the central task.

The reduction of CO2 emissions and associated reductions in fuel consumption are central challenges, which vehicle manufacturers and their supplier companies have to face. The consistent use of lightweight strategies plays a central role in fulfilling this task. The term "lightweight design" has long since become a synonym for revolutionary industrial developments. "Lightweight design solutions in vehicle manufacturing – a major contribution to resource efficiency" is the title of the contribution by Prof. Dr.-Ing. habil. Prof. E.h. Dr.-Ing. E.h. Dr. h.c. Reimund Neugebauer and Dr.-Ing. Andreas Sterzing from the Fraunhofer Institute for Machine Tools and Forming Technology (IWU) in Chemnitz.

The research scientists at the ITV Denkendorf (Institute of Textile Technology and Process Engineering Denkendorf) are preoccupied with “Multi-functional textile-based fibre composites”. Additional functions can be inserted in the fibre composite components relatively simply through the textile. For example, the inclusion of sensors to monitor the component is an important step, because they enable any overexpansion or tears in the material to be recognised in good time.

This means that engineers can omit safety reinforcement layers (what are known as “reassurance” layers), which are normally inserted, but increase the weight. Further research work in textile fibre composite engineering aims to place the fibres in the lines of force as precisely as possible and therefore reduce the fibre waste and cut the fibre ondulation (lecture entitled “Multi-functional textile-based fibre composites” by Dr. Markus Milwich, Prof. Heinrich Planck, Institute for Textile and Process Technology at the German Institutes for Textile and Fiber Research, Denkendorf). Providing pedestrians with impact protection in crashes has become more important when developing new vehicles since the introduction of more stringent requirements.

The protection available is set to be improved by arranging spacing structures under a vehicle’s bonnet. In his lecture entitled “Integrated bonnet systems for crash protection for pedestrians involved in accidents with vehicles,” Matthias Haupt from the Institute for Textile Machines and Textile High-Performance Material Technology at Dresden University of Technology (Coordinating Research Centre) will talk about the Industrial Joint Research (IGF) project. The scientists have developed spacing knitted fabrics adapted to provide absorption if an impact occurs; they are assembled during the production process and adapted to the bonnet geometry. (Lecture entitled “Integrated bonnet systems for crash protection for pedestrians involved in accidents with vehicles,” Matthias Haupt, Institute for Textile Machines and Textile High-Performance Material Technology at Dresden University of Technology.

Research assistants inspect a triaxial knitted fabric for plastic reinforced components in vehicle manufacturing (c) Photo: mtex press service

The latest carbon-fibre-reinforced synthetics (CFRP) do not yet have any business potential for the mass automobile market. The combination of new kinds of fibre composite plastics with metals in a multi-material design provides a suitable approach to reduce the cost disadvantages and guarantee that the design matches the requirements.

The joint CAMISMA project, which is being subsidised by the German Federal Ministry of Education and Research is examining the lightweight potential for multi-material design using the structure of a seat back in the front seat of a sports car (lecture entitled “New composite materials for lightweight applications in automobile interiors”, Sabrina Zobel ITA), Ralf Matheis (IKA), Michael Glowania (ITA), Leif Ickert (IKA), Prof. Dr.-Ing. Dipl.-Wirt. Ing. Thomas Gries (ITA), Prof. Dr.Ing. Lutz Eckstein (IKA), Institute of Automotive Engineering (IKA) at RWTH Aachen University). The arrival of the Internet in cars shows that other ideas for interactive behaviour are playing an important role in the visions of automobile manufacturers, in addition to changes to surfaces that can be felt and seen. New lighting and operating concepts can satisfy the longing for individualisation. The integration of electronics in vehicle textiles is playing an increasingly important role in this process. Areas of a vehicle’s interior can be illuminated by luminous textiles based on electro-luminescence or integrated LEDs (lecture entitled “Textiles with functional surfaces as innovative materials for vehicle manufacturing”, Dr. Uwe Möhring, Thuringia-Vogtland Textile Research Institute, Greiz).

Production accelerator: plasma

Günter Grabher, from Textilveredelung Grabher Lustenau, Austria, will speak on the subject of “Industrial plasma application for composite materials”. His company has been working with atmosphere and low pressure plasma technology to finish the surfaces of textiles for years. “The manual dry and wet lamination using cut carbon fabrics or special surface structures does not yet meet the standards and cycle times demanded by the automobile industry in order to handle large-scale production runs in the future,” Günter Grabher knows.

Automobile manufacturers are looking for their own ways to produce carbon parts instead of procuring raw materials. New laying, knotting and twisting techniques are being used. New kinds of robots are being designed, which should be able to produce three-dimensional carbon parts. Weaving machines are being refitted and embroidery work is being rediscovered. Grabher has managed to use plasma technology to develop a process which increases the working and cycle time for infiltrating resins in a tool by a factor of 6. (Lecture: “Industrial plasma application for composite materials”, Günter Grabher, Textilveredelung Grabher Lustenau, Austria.)

The surface properties of materials can be deliberately changed and adapted with thin layers manufactured with plasma coating processes. This allows more efficient products with a far longer serviceable life than in the past – and new functions and applications too. This opens up completely new opportunities to design lightweight products for engineers (lecture: “Opportunities in modern plasma technology for lightweight design,” Dr. Jochen Brand, Fraunhofer IST Braunschweig). The aging processes after plasma treatment have a similar effect as the treatment parameters on the properties of polymer surfaces. In addition to the effect of time, the storage conditions are also responsible for changes. In his lecture “Aging in polymer surfaces after treatment with atmospheric pressure plasma,” Prof. Dr. Elmar Moritzer from the University of Paderborn explains this problem area taking the example of different thermoplastics. (Lecture: “Aging in polymer surfaces after treatment with atmospheric pressure plasma,” Prof. Dr. Elmar Moritzer from the University of Paderborn.) Magnesium has a reputation as the lightest design metal. It provides many advantages when used as an alloy metal.

The magnesium alloys not only have a low density, but also a high degree of tensile strength. The casting alloys can be cast very well; and the resources are almost unlimited. Their bio-compatibility will allow them to be used in medical engineering in future. On the other hand, the magnesium alloys have dissatisfactory levels of corrosion and wear.

This restricts their application options and requires protective measures on the surface. Dipl.-Ing. Jürgen Schmidt, INNOVENT e.V. Technologieentwicklung in Jena, will provide a summary of current processes and present the process for plasma-chemical oxidation to produce functional surface properties on magnesium alloys (lecture: “Coating wrought magnesium alloys, Dipl.-Ing. Jürgen Schmidt, INNOVENT e.V. Technologieentwicklung Jena)

Chemnitz with an exciting programme of lectures

The 2012 “mtex/LiMA” symposium will present “new “textile” lightweight design in vehicle construction with these and other exciting lecture subjects. The programme has been prepared in conjunction with the trade fair advisory board and the Atmospheric Pressure Plasma (ak-adp) group of users. Its major focuses are sustainability, recycling, safety, composites, surfaces, textile-based fibre composites, new composite materials for lightweight applications, light metals, automobile interiors, aircraft interiors, boat-building expertise, technologies and marketable solutions. The major theme on 8 May 2012 is “Material Innovations as the Major Focus of Future Vehicle Manufacturing, Engineering and Plant Construction”.

The participants can individually choose between the two “mtex” sessions “Textile Material Mixes in Vehicle Manufacturing – the Latest Research Results from the Institutes” and “Functional Surfaces for Textiles and Composites in Vehicle Manufacturing – Light, Enduring and Exclusive” or the LiMA sessions entitled “Lightweight Metals – On the Way to Complex Lightweight Solutions,” “On the Way to Automated Large-Scale Production” and “Surface Technologies” on 9 May 2012. The symposium then has a major theme on 10 May 2012 – “Surface Functionalisation in Lightweight Design”.

The lectures will shed light on innovative possibilities for using plasma technology, technical textiles in the German armed forces, and coating magnesium alloys. Jan Mücke, the Parliamentary State Secretary at the German Federal Ministry for Transport, Building and Urban Development, will open the 2012 “mtex/LiMA” together with the Mayor of Chemnitz, Barbara Ludwig, and Peter Schwartze, President of the Textile+Fashion Confederation. “This commitment from the German Ministry of Transport is an important confirmation that the “mtex” has huge future potential as an international trade fair,” stresses Trade Fair Managing Director, Michael Kynast.

The detailed programme and online registration procedures can be found at www.mtex-chemnitz.de

Topics of the next issue 5/6

TOP STORY:

Preview ITMA ASIA / CITME

Review ITM & Techtextil NA

Innovations & Improvements

Part 3: Knitting

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

Hard facts:

Founded:
1997

Website:
free of charge & registration

Unique Visitors:
50.126 /month (September 2011)

Visits:
>140.000/month (August 2011)

Page Impressions:
>430.000/month (August 2011)

Infoletter & Magazine:
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Estimated readers:
40.000 (accumulated according to analyses: some companies put the Infoletter in their Intranet and a couple of readers forward it to colleagues)

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