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THE TEXDATA INTERNATIONAL MAGAZINE

ISSUE NO 1 2023

TEXDATA
INTERNATIONAL

THE FIBRES FOR THE TEXTILE FUTURE

NEW MATERIALS SEEK TO DISPLACE
OLD FIBRES FROM TEXTILE MARKETS

JEC WORLD AIMS FOR RECORD NUMBERS OF VISITORS

ITMA 2023

MAGNIFICENT HOME EVENT FOR
ITALIAN TEXTILE MACHINE MANUFACTURERS

ITMA 2023

SWISS TEXTILE MACHINE MANUFACTURERS
ARE WELL PREPARED

INDEX™ 23

NO BOUNDARIES FOR
NONWOVEN INNOVATIONS



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that sustainably produce the Materials
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FROM THE EDITOR

DEAR READER,

this time I have been wavering about what to tell you. Actually, the topic of AI, or artificial intelligence, is burning under my nails. The hype came with ChatGPT and it is becoming increasingly clear how quickly and comprehensively AI will change all our lives. This affects all industries and thus also the textile industry. However, the textile industry in general is facing great challenges and a comprehensive change, for which the technical solutions will soon be presented at ITMA 2023. That seems even more important.

A few days ago, I was present at the pre-ITMA press conferences of the textile machinery associations from Italy, ACIMIT, and Switzerland, the textile machinery section of the Swissmem Association. There, the associations and also numerous member companies gave a first insight into their ITMA 2023 plans and focal points for the exhibition. Naturally, this whetted our appetite for the world's leading trade fair for textile production.

„Transforming the World of Textiles“ is the motto of this year's parade and this transformation seems to be both necessary and unstoppable under the current circumstances in our world. The achievement of climate targets and with it the significant reduction of our carbon footprint has led to many future switches

being reset by governments and also by brands and retailers and we will see at ITMA which new technologies can be used to tackle these challenges.

The all-encompassing concept of sustainability splits into many small facets and, of course, each sub-sector and each company has individually determined where to apply the lever in its own area. Sustainability is now changing from a follower to a dominant factor in being able to be successful in the future. Energy efficiency, for example, has always been an issue, but is now taking on a much higher priority due to high energy costs on the one hand and energy savings that are positive for the climate on the other.

An almost entirely new topic, on the other hand, is recycling - at least on a fibre-to-fibre basis of consumers' disposable textiles. The EU envisages a share of recycled material for textiles sold in the EU from 2030 onwards and it will probably not be possible to start implementing this only after the next ITMA in 2027. No, this year's event will already show many solutions for the production and processing of recycled yarn. Of course, the manufacturers of spinning machines are at the forefront of this, but it is also important to master the characteristics of the new yarns in the further processing of the yarn into the fabric.

To see only these crucial changes, explore solutions and exchange strategies with partners, there is probably no better place than ITMA. And that applies to a multitude of other changes that digitalisation, for example, brings with it. We, for one, are very much looking forward to the event in just two months' time.

However, two other important industry trade fairs will open their doors before ITMA. In April, JEC World for composite materials will take place in Paris and INDEX23 for nonwovens in Geneva. Both shows are entering their second round after the pandemic and are expected to return to pre-pandemic levels. The organisers postulate the exhibition of a lot of innovation and expect many visitors. So there we have change, innovation and also the corresponding interest along the entire textile value chain. You can't really ask for more for the textile future.

Yours sincerely

OLIVER SCHMIDT

#Editor-in-chief



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NONWOVEN
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INDEX23
PREVIEW OF THE EXHIBITS

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JEC WORLD

AIMS FOR

RECORD

NUMBERS

OF VISITORS

BREAKTHROUGH

INNOVATIONS

EXPECTED ACROSS

ALL SECTORS

Paris will once again be the capital of composites and advanced materials for a week, with the SAMPE Europe 2023 Summit on 24 April and JEC World from 25 to 27 April. The event will be held in Halls 5 and 6 at the Paris Nord Villepinte Exhibition Centre. Last year's successful comeback of JEC World in May 2022, when the industry gathered in Paris again after three years, welcomed more than 32,000 trade visitors from more than 115 countries to Paris and online. Around 30% of visitors come from France, with another 53% from Europe. There were 9% from Asia, 2% from the Middle East, 1% from Africa and 5% from North and South America. The event included 1,201 exhibitors and 26 pavilions. For this year's event, the organiser expects a record turnout as professionals from all parts of the world and from all application areas of composites, including Asian key players from China, India and Japan, will attend the show to discover innovative solutions that support their sustainability goals.

The exhibition space was 95% booked in February. The entire value chain will gather in Paris for this festival of composites: a source of inspiration for all professionals seeking to address sustainability challenges and develop lighter, smarter and more durable composite solutions. The JEC Composites Innovation Planets and the hundreds of products presented by exhibitors will showcase the latest achievements.

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The most popular application areas at JEC World include the 'big four': aerospace, automotive and road transport, civil engineering, rail and infrastructure. In addition, there are 12 other application categories: Electrical, Electronics, Telecommunications and Home Appliances, Defence, Security and Ballistics, Maritime & Shipbuilding, Medical and Prosthetics, Oil and Gas, Pipes and Tanks, Water Treatment and Sewage, Renewable Energy, Sports, Leisure and Recreation, Design, Furniture and Home, Equipment and Machinery and all other end-use areas for composites.

Overall, advanced composites are now used everywhere and in all applications. Composites are now a real industry worth €73 billion. The industry is characterised by innovation, which is present at every single stage of the value chain. New generation resins and fibres use fewer raw materials and are more compliant with environmental regulations. Engineers are inventing new robotic manufacturing processes and real value-added technical solutions specifically designed for the unique properties of composites. With such a high level of innovation and development, it goes without saying that many new products can be expected, despite the short gap of one year between events. The use of fibres, woven, knitted and crocheted fabrics in composites explains the closeness of the industry to the textile industry and some manufacturers of technical textiles and corresponding machinery have also become significant market players in the composites industry.

A PROGRAMME FOR THE ENTIRE VALUE CHAIN, SHOWCASING THE TECHNOLOGIES OF THE FUTURE

Each year, JEC World designs a rich conference programme that offers participants the opportunity to explore the key challenges and major trends shaping the future of the composites industry. From spotlights on new markets for composites worldwide to analysis of new materials, products and processes, our expertly crafted programme invites leaders and engineers from across the value chain



Porsche received the prize for its "World's first carbon roll cage" © 2023 JEC Composites



NANOTURES (Spain) received the award for a "Composite Roof for Real Madrid Stadium" © 2023 JEC Composites

to share their insights. Keynote presentations and panel discussions will cover key topics such as lightweight designs, hydrogen, the aircraft of the future, new materials, recycling and promoting the circular economy.

www.jec-world.events/program

JEC COMPOSITES INNOVATION AWARDS

Each year, the JEC Composites Innovation Awards recognise successful projects and collaboration between players in the composites industry. Over the past 25 years, more than 1,900 companies worldwide have participated in the JEC Composites Innovation Awards programme. 214 companies and 527 partners have been recognised for their outstanding composites innovations and fruitful collaborations.

These composites champions are awarded on the basis of several criteria, such as the partners' involvement in the value chain, the complexity or the commercial potential of the project.

The award ceremony took place on 2 March in Paris and was marked by the presence of the jury members, the finalists and the winners. By broadcasting the award ceremony via livestream, many people from all over the world were able to participate. The fair now offers the opportunity to meet the winners and learn more about the innovations. In the Innovation Area, M93 you will find all the finalists and winners.

WINNERS OF THE JEC COMPOSITES INNOVATION AWARDS

The award in the Aerospace - Parts category went to **FRAUNHOFER ICT** (Germany) for their "Hybrid Seat Design", while in the Aerospace - Process category, **CETIM** (France) won the award for the "Manufacture of a Thermoplastic Jugger Flap". In the automotive and road transport category, DR. ING. H.C. F. **PORSCHE AG** (Germany) received the prize for its "World's first carbon roll cage for series production vehicles" and in the process category **AUDI AG** (Germany) was awarded for a "BEV battery protection plate in composite construction". In the Building & Civil Engineering category, **NANOTURES** (Spain) received the award for a "Composite Roof for Real Madrid Stadium" and in the Circular Economy & Recycling category, the award went to **TOYOTA INDUSTRIES CORPORATION** (Japan) for a "100% Recycled Cf Spun Yarn and Application Products".

In the Digitalisation, Ki & Data category, an "Inspection System for In-Process Afp Manufacturing" from **NIAR WSU** (USA) was awarded and in the Equipment, Machinery & Heavy Industry category, **ISOTRUS**, INC (USA) received the prize for the "Isotruss® Carbon Fibre Tower". The "Fixed Sail Mast" project of **CHANTIERS DE L'ATLANTIQUE** (France) received the award in the Maritime Transport & Shipbuilding category and in Renewable Energies **HUNTSMAN ADVANCED MATERIALS** (Switzerland) came out on top with their new "Acrylic Adhesives for a Better World". The prize in the category Sports, Leisure & Recreation was won by **SWANCOR HOLDING CO., LTD** (Taiwan) for a "Bicycle made of recyclable thermoset CFRP composite".

www.jeccomposites.com/wp-content/uploads/2023/03/JEC-Press-release-2023-Innovation-Awards-WINNERS-ENG.pdf

THE JEC COMPOSITES STARTUP BOOSTER

The leading startup competition in the world of composites will welcome 20 finalists to present their projects to a panel of industry experts. Awards will be given to the three start-ups with the greatest market potential. The Startup Village is the place to connect with the finalists and discover their innovations.

JEC WORLD BUSINESS MEETINGS

To help industry decision-makers make the most of the three days of the show, JEC World offers an effective business meetings programme.

In 2022, more than 4,000 meetings organised by JEC took place, offering participants the opportunity to raise their market profile, engage in new programmes and meet new business partners.

www.jec-world.events/program/business-meetings

EXHIBITORS

The exhibitors include many well-known names from the textile industry, including some textile machinery manufacturers. For example, **DORNIER** (Stand 6 A 58) will present for the first time comprehensive solutions for the economical production of high-quality, customer-specific thermoplastic composite structures with its PROTOS® and TRITOS® manufacturing systems. **HERZOG** (Stand 5 Q 52), one of the most innovative developers and manufacturers of braiding and winding machines in the world, will be showing the latest developments, as will **KARL MAYER** (Stand 5 L 24). **TEXTTECHNO** (stand 6 S 74) will be showing the latest testing technology for textile reinforcement in composites from fibre to fabric, and **SAURER** (stand 5 L 72) will be presenting the CakeFormingWinder, a new high-performance technology, and the GlassTwister VGT-P, a high-performance multi-ring twisting machine with an integrated layer unit.

www.jec-world.events
www.jeccomposites.com



NO BOUNDARIES FOR NONWOVEN INNOVATIONS

International business for the nonwovens industry regains full momentum at Index™23

Barely 18 months will have passed since the last INDEX™ trade fair when the world's leading trade fair for the international nonwovens industry opens its doors again in Geneva, Switzerland, from 18-21 April. This is quite a short period of time for the normal 3-year cycle of INDEX™, which is logically caused by the two postponements of INDEX™20 to October 21 due to the Corona pandemic. Now, one might think that the short time between the two editions of the event is not a good idea on the part of the organisers, but here at least two good reasons clearly speak against it. On the one hand, there is the innovative power of the industry, which is also facing a certain pressure to innovate, since the transformation of the textile industry to sustainable products has gained tremendous momentum and does not stop at nonwovens. Exhibitors will therefore most likely be able to present many new products, processes and ideas and initial publications confirm this.

And secondly, with the 2023 edition, INDEX™ will remain in its usual rotation of three years as well as in the corresponding event years and thus also distances to other events in the industry. This is certainly an advantage not to be underestimated in the packed trade fair calendar of exhibitors and visitors.

Let's take a quick look at a few facts about INDEX™. The last edition in 2021 attracted 9,000 visitors from more than 100 countries in the midst of the pandemic, compared to 13,000 visitors at the previous event. In 2021, 503 exhibitors (2017: 666) presented their innovative solutions, covering the entire spectrum of the latest nonwovens materials and services. For INDEX™23, the official website for the INDEX™23 show currently lists around 561 exhibitors. Most exhibitors come from China with 144, followed by Italy with 86, Germany with 70, Turkey with 42 and the USA with 26. 24 come from India, 17 from France and 10 from Switzerland. Of course, this includes the world leaders in the nonwovens industry such as Fitesa, Glatfelter, TWE Group, Zhejiang Kingsafe, Sandler, Toray, Fibertex Personal Care, to name a few. However, some important companies such as Berry Global, Freudenberg PM, Avgol and Suominen are missing - at least as exhibitors. The nonwovens companies are joined by textile chemical companies such as BASF, CHT, Pulcra, Wacker, Kapp-Chemie and Henkel. And, of course, the machine manufacturers of nonwovens machinery will also be there, taking advantage of the fair to exchange information with their

customers about the latest developments and also to assist them with any questions they may have about production.

They are all looking forward to numerous visitors, perhaps even to the again more than 12,000 visitors from over 100 countries who attended INDEX™17. The hope for this seems justified, as the industry is booming on the one hand, but also has to face the current challenges of supply chain problems and rising prices for materials and energy. A report published at INDEX™20 by EDANA and INDA predicted strong market demand for nonwoven materials over the next five years. And a study by Smithers on the future of non-wovens to 2027 forecasts growth rates of 6.8% (tonnes), 7.7% (m2) and 6.7% (\$) for the years 2022-27. These values are close to pre-pandemic forecasts and reflect market corrections for end-use mar-

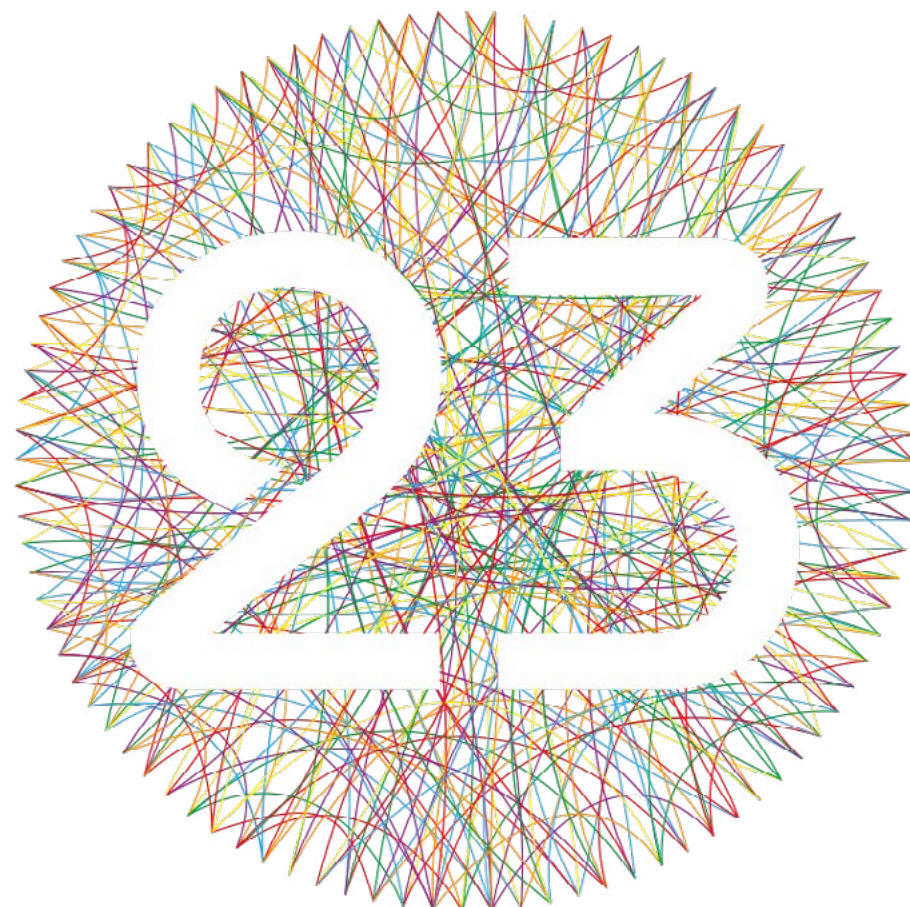
kets that experienced either exceptional gains or declines due to Covid-19. Global consumption of nonwovens in 2022 is estimated by the study to be 13.4 million tonnes or 375.3 billion square metres (m2) and worth \$56.4 billion. The value for 2027 would then be USD 78 billion at the assumed growth rates. The omens thus point to a lively INDEX™ with plenty to discuss and debate, making a visit to INDEX™ a vital interest for many companies to get valuable information on shaping the future with their noses to the wind.

BUSINESS TAKES CENTRE STAGE

Business is always at the centre of INDEX™, because it has gained the reputation of being a real closing trade fair as well as an optimal trade fair for new business contacts. In this regard, the organiser publishes that, according to its evaluation of INDEX™17, 98 % of the exhibitors were satisfied with the business results achieved and again over 90 % with INDEX™20. 63 % of the exhibitors state the acquisition of new customers as the most important reason for their participation. And this matches the visitor profile exactly, as 9 out of 10 of the 9,359 visitors were actively looking for new suppliers. 73% of visitors in 2021 came from Western Europe, 8.8% from Eastern Europe and 7.6% from the Middle East. 3.3% came from North America, 3.0% from Africa and 2.6% from Asia. The smallest number, 1.3%, came from South and Central America. However, this adds up to about 120 visitors who made the long journey to Geneva.



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index™

world's leading nonwovens exhibition

18-21 April 2023

Palexpo, Geneva

Very interesting in connection with business and new customer business or supplier search is the result on the survey according to the number of INDEX™ visits, because here the first visit is clearly in the lead with 54% of the visitors, followed by the 4th or more visits. This could also be an indication that new industries and companies are becoming increasingly interested in nonwoven applications.

Looking at the visitors' areas of interest, hygiene clearly leads with 60% interest, ahead of medicine / healthcare (43%), cleaning & wipes (34%) and filtration (25%). However, the importance of the areas of interest here also correlates with the market sizes.



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For example, the hygiene market is the largest market for nonwovens. For this market, Smithers published its own study "The Future of Hygiene Components to 2027" at the beginning of 2023. Smithers sees hygiene end-use products as relatively recession-proof globally, and concludes that they are therefore expected to grow around 20-25% faster than forecast global GDP to 2027. The market for nonwoven hygiene components is expected to reach 8.3 million tonnes by 2027, valued at \$33.4 billion. The growth rates for 2022-27 are 6.3% for both value and volume of the market. The study concludes that the global issues of sustainability, lower cost and higher performance need to be considered in the development of hygiene products and their ingredients. The need for an evolved hygiene product is driving the need for new and improved components. Some components are truly new: fabric-like backings, breathable backings and pulpless cores did not exist ten years ago. There are many more studies on nonwoven markets and sectors on the website (2).

And besides, or perhaps even above all, INDEX™ is also the fair to meet the international nonwovens family and to deepen one's own contacts.

VIRTUAL ACCESS TO INDEX™23

For those who cannot come to Geneva in person, there will again be an interactive and immersive virtual platform. Registered visitors from anywhere in the world will be able to watch presentations,

interact directly with speakers, exhibitors and other participants, and even have live discussions where confidentiality is guaranteed. All attendees can interact with speakers and participate in discussions and Q&A sessions. For the first time, exhibitors' product presentations will be streamed live on the virtual platform and will be available for up to one month after the exhibition.

PRODUCT PRESENTATIONS

The popular exhibitor product presentations allow exhibitors to showcase their latest products and services to visitors. They will take place in Room R from 18 to 20 April 2023. The presentations are free of charge and open to everyone. They offer a unique insight into important new directions for nonwovens. The full programme of over 40 presentations will be listed on the INDEX™23 website and will highlight a wide range of areas in nonwovens. For example, **Christoph Machill**, Head of Business Unit Spunlace at Autefa Solutions, will give a presentation on how sustainable CP (carded pulp) material can be produced in the most economical way. Mr **Johann Philipp Dilo** will talk about the advances in Micropunch, his process of advanced intensive needling, and specifically how it can be used for lightweight disposables. And **Piet Vanacker** - Senior Sales Manager Europe at Groz-Beckert, will present the company's latest carding innovations for the nonwovens industry. Other presentations will cover fibres, materials, methods, chemicals and processes.

TRENDS AND MEGATRENDS

In general, INDEX™ is of course also a unique opportunity to present or take a look at the latest products and services. For orientation purposes, the fair has published a number of trends in advance to which special attention should be paid. Such trends have many different facets and run through many different areas of the textile chain from nonwovens production to the use of nonwovens in new applications. In a more general context, of course, new solutions and ideas can be found that address the well-known megatrends of sustainability, digitalisation and urbanisation. Dividing these further, sustainability on the one hand focuses on topics that are more concerned with raw materials and materials, such as new raw materials and fibres, biodegradability and recycling, which includes both the use of recycled materials and their subsequent recyclability. On the other hand, sustainability also continues to concern processes, which can be further optimised, for example, in terms of raw material utilisation and quantity optimisation in conjunction with waste avoidance, energy saving and chemical use. In addition, as a matter of course, there are new and improved machines with all facets from design to control and integration into production and software to optimal adjustment, operation and maintenance. Behind everything is the overriding idea of reducing costs and increasing productivity while at the same time saving CO2 in order to keep the footprint of the products as small as possible. All of this is also to be driven by digitalisation.

Let's look at some of the highlights that provide outstanding underpinnings to these trends.

ENERGY SAVING

Although energy prices have fallen again from their 2022 highs, members of the show's advisory board expect energy savings to again be one of the important themes at the show, as further CO2 reductions throughout the supply chain are an industry goal alongside costs. Here, of course, it is above all the machine manufacturers who are called upon to offer appropriate solutions, also for retrofitting, and it can be assumed that at least the market leaders will have such solutions extensively in their luggage. In the first instance, this includes measuring systems that record the energy consumption over the entire production line and thus make it transparent, so that it can then be optimised by software systems for the correspondingly produced application.

"The individual process does not always have to be run at maximum power to achieve the desired quality and speed," **Johann Philipp Dilo**, CEO of the Dilo Group told us at the last INDEX™20. "Individual processes can also be run with less power. For example, a very important factor is to adjust the flow speed in the tubes to the fibre throughput." Besides exhaust air, the transport of fibres accounts for the largest share of energy consumption in nonwovens plants. An energy-efficient design is therefore already very important in the project planning of the plant. A reduction of the chang-

es in direction of the air flow drastically reduces drops in pressure. DiloTemafa's design team is ready to help. The DILOWATT system was developed to adapt the flow velocity in the pipelines to the fibre throughput. Control of speed-controlled fans significantly reduces energy consumption in the fibre feed.

Sandler from Germany, as a leading manufacturer of nonwoven roll goods, already has energy management systems in place that make it possible to determine energy costs in relation to individual product groups and technologies. "This offers opportunities to work on alternative solutions in close cooperation with our customers which we look forward to discussing with them in Geneva," says Dr Ulrich Hornfeck, Member of Sandler Management Board.

In addition to optimising design and parameters, the machine manufacturers also offer new processes and technologies that help save energy. Andritz Nonwovens, for example, offers the company's patented neXecodry system, which optimises the dewatering process after hydroentanglement and ensures faster drying of the solidified web, while simultaneously reducing energy consumption throughout the drying process. "The aim is not to leave the heat energy produced in the manufacturing process unused, but to use it in a loop," explains the company's Head of Marketing Laurent Jallat. "This achieves two things – savings in energy consumption of up to 22% and a faster drying process to increase production ca-

capacity. The system is available for any of the company's Spunlace and Wetlace line configurations and can also be retrofitted to existing lines.

AUTOMATION / ROBOTICS / AI

Another trend highlighted at the fair lies in a further advancing automation of production with the help of robots and Industry 4.0 applications. For the sector, the show itself announced that Geneva will show that automation of equipment is becoming a must for advanced manufacturers of nonwoven rollstock for the absorbent hygiene products (AHP) industry. Exhibitor A.Celli Nonwovens, for example, is introducing the Automated Storage and Retrieval System (ASRS) to bring a new level of flexibility and efficiency to plant operations. As a specialist in the post-production preparation technologies for finished nonwovens for the AHP industry – including winders and slitters, flexographic printers and lamination and packaging machinery – the company, headquartered in Porcari, Italy, has designed the ASRS to provide real-time inventory management and full control of every single phase of product handling. Optimised storage and retrieval of jumbo rolls, reels and bundles ensure that all products fully comply with a customer's requirements at all times. The company's R-Way packaging system and automated guided vehicles (AGVs) are responsible for the proper handling of products in the warehouse, in the factory and between the individual machines, and are perfectly synchronised with the specified process-

ing and shipping orders. The solution is complemented by the ASRS system manager. This is an inventory management software consisting of a series of main modules for order, vehicle, traffic and layout management in the plant, which can be linked to other secondary modules specific to each application, as well as communicating directly with a company's ERP (Enterprise Resource Planning) system. For the future, A.Celli is focusing on the further development of omnidirectional AGVs with natural navigation systems and heavy weight lifting capabilities, but more ambitiously, on the development of the entirely automated plant, -involving no people at all in the entire process sequence from raw material to finished product.

Whether AI will also already become a bigger issue remains to be seen. There are already initial applications in the extended textile industry. For example, BMW recently announced that it would use AI algorithms in the automatic surface inspection of leather surfaces in order to save material and increase quality.



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The inspection systems can detect even minimal defects. Certainly, all kinds of process optimisations offer great potential for the use of AI. Trützschler Nonwovens also pointed this out in a recent press release, calling the use of AI an imminent revolution and the methods promising for the nonwovens industry in the medium to long term. The basic prerequisite is first a complete digitalisation of the processes. Many nonwovens producers already use IT solutions for tasks such as recipe or energy management, but end-to-end digitalisation is lacking. With T-One, a digital working environment, Trützschler Nonwovens offers a holistic solution. The software enables the digitalisation of workflows, the collection of relevant data as well as process and plant optimisation. The open system works with data from existing automation systems, collects new data and stores it centrally on a server.

The software also digitalises important work processes: The quality control module, for example, systematically stores product specifications, inspection plans and the measurement data of each individual nonwoven roll in one place. The highlight: T-One links the quality data of a roll with the line settings at the time of completion. These complete data sets are the basis for T-One's own AI to create functional models of line behaviour. With the help of such models, the software simulates the effects of changing certain machine parameters and even independently develops suggestions for optimised settings.

NONWOVENS FOR SPORTSWEAR AND LEISUREWEAR

The trend of using needlefelt fleece for casual wear is no longer entirely new and could already be observed at ITMA Asia 2018. However, it may currently be picking up momentum with sports brand Nike's introduction of the needle punch process for the production of sustainable fleece garments to finally bring fleece fabrics into mainstream fashion. Nike had first unveiled its new ultra-sustainable line, Nike Forward (3), to the world in hoodie and crew variants on 15 September 2022. With the launch, Nike let it be known that they are revolutionising apparel manufacturing by using needling machines to produce high-quality, sustainable products. The process used to make Nike Forward requires fewer steps than traditional Nike knit or woven products, significantly reducing the carbon footprint of the first

generation Forward material - on average by 75% compared to traditional knit fleece used by Nike. With this, Nike aims to redefine the way we think about fleece. In addition, the platform has been specifically designed for the future circular economy - the first iteration of Nike Forward products will be made without zips, buttons or extra trims, making it easier to recycle the garments. Nike Forward can be made from a variety of layers, including industrial and post-consumer waste, and can be tailored to the exact needs of athletes*. "We believe this platform has the potential to change the way we think about materials and apparel. This is Nike's biggest apparel innovation since Dri-Fit 30 years ago and has the potential to change the industry the way Air and Flyknit did for Nike footwear," says Aaron Heiser, VP Global Apparel Product Merchandising, NIKE, Inc. The lofty goals Nike has set for itself here sound very promising for a future of needling in sports and casual wear. However, there are still a few more steps to be taken by Nike and, above all, by other brands before we can really speak of a trend or a significant change in the market.

OTHER TRENDS

In addition to the trends in the materials used and the applications themselves, the developments in some countries are certainly also decisive factors for the short- and medium-term development of the industry. The pandemic and supply chain bottlenecks have shaken things up and thrown the entire "market" system

into turmoil. Together with the increasing restrictions on sustainability and the innovations of the machine manufacturers, there is a lot of potential that can be leveraged. Let's take a brief look at a few interesting countries.

CHINA

Most Chinese companies were not represented at INDEX™20 due to the Covid 19 pandemic. However, they are back for INDEX™23 and organiser PALEXPO is pleased to welcome no less than 74 new companies from China, representing all areas of the supply chain. The pandemic with all its repercussions has hit the Chinese nonwovens industry hard, which was previously on a tremendous growth trajectory. The report presented in March 2022 by Li Guimei, president of the China Nonwovens and Industrial Textiles Association (CNITA), cites an increase in nonwovens production in China in 2020 to 8.8 million tonnes in 2020 from 6.2 million tonnes in 2019, representing a growth of almost 36%. However, production in 2021 fell by 10.1% to 7.9 million tonnes, and the 2022 figures, once available, are likely to have fallen further. Spunlaid accounted for 50.6% of China's total nonwoven production in 2021, with a notable increase in polyester spunlaid/needlelaid to around 600,000 tonnes. Spunlace was the fastest growing nonwoven process, accounting for around 1.6 million tonnes or 17.7% of total production in China in 2021, and needle-spun accounted for 18.4% of total production at 1.45 million tonnes.



INDEX 20 Award presentation © 2023 TexData International

China's leading nonwovens producers - Zhejiang Kingsafe, Foshan Nanhai Beautiful, CHTC Jiahua, Xingtai Ruiguang, Huahao Nonwovens, Tiandingfeng Holdings, Jofo Nonwovens, Anhui Jinchin and Shandong Taipeng - account for around 10% of the country's total production and will be well represented at INDEX™23 either directly or through subsidiaries and local agents.

INDIA

The Indian nonwovens industry was also set back in its growth by the pandemic, but has recovered well and is now looking forward to both growth and structural change. While the market was previously characterised by mass production of simple goods, more attention is now being paid to quality and innovation. The focus is especially on the market for hygiene products.

"India's nonwovens and absorbent hygiene products industries are currently seeing great momentum," said Samir Gupta, Managing Director of Business Coordination House (BCH). "New players are entering the market and existing participants are in expansion mode. Raw material supply is gradually becoming localised and import substitution is on the rise. As India gears up for the next hygiene revolution, it is witnessing new market trends coupled with a change in production dynamics. A never seen before user awareness is making the business very exciting."

One company from India looking to grow in this market and producing SpunMelt Fabric is KTEX Nonwovens. With 3 German-made spunmelt lines, KTEX has a total production capacity of around 36000 tonnes per year. These capacities are expanded every 3 years. The company is active in the hygiene market and specialises in the production of SUPER SOFT fabric. In an interview in IndustryOutlook, Nikhil Vaswani, Global Sales & Marketing Head at KTEX said, "The Indian hygiene market is currently underdeveloped, but we see a lot of growth potential there as the demand for relevant products is increasing significantly."

The Indian company Sparkle Innovations (4), which is implementing many new and sustainable approaches for the hygiene market, has gone one step further and has been nominated for three categories of this year's INDEX™23 Innovation Awards. Sparkle Innovations is operating a state-of-the art converting plant in Kamrej, Gujarat, with the capacity to manufacture over one million sanitary pads per day and has established a sustainable and in part fully closed loop system for its products by working with local partners in India.

Sparkle sanitary pads are made from renewable resources designed to biodegrade in warm and humid conditions, with their top sheets, absorbent cores, release papers, pad wrapping papers and outer packaging all made of cellulose-based fibres. One Sparkle innovation is the use of sugarcane bagasse in the company's

SugaFluff absorbent cores. Sugarcane bagasse is one of the world's most abundantly available lignocellulose agricultural residues and in India alone, over 100 million tons of it is produced each year. Unlike planting softwood or hardwood trees, no extra land is required to grow bagasse fibres as it is a widely available by-product of the sugar industry. In considering the entire life cycle of its products, Sparkle is also piloting its GreenCycle project in Surat, Gujarat, as a first step for making the large-scale composting of absorbent hygiene products a reality. Consumers signing up to the scheme are supplied with leak and odour-proof compostable bags for their used products, with a waste-management partner carrying out monthly doorstep collections.

INDEX™ INNOVATION LAB

Also back is the INDEX™ Innovation Lab, introduced at the last edition and aimed at all visitors, from students to CEOs. The aim of the lab is to create a dedicated space within INDEX™23 to showcase innovation and R&D, enable the discovery of nonwoven applications and improve understanding of their potential. On display will be exhibits demonstrating the remarkable properties of nonwovens in a range of applications. This will be accompanied by seminars on the benefits of nonwovens for the medical, automotive, textile and geotextile sectors, showcasing the products and services of INDEX™23 Innovation Award nominees and a nonwovens tutorial.

CONCLUSION

So everything is set for a successful INDEX™23, which can tie in with INDEX™17, the last INDEX™ trade fair before the pandemic, in terms of exhibitors and perhaps also visitors. The selection of topics that we have briefly outlined already shows how much movement there is in the industry. Movement that triggers threats as well as opportunities at the same time and forces market participants more than just asks them to leave their comfort zones of functioning business models and think far outside the box. Here, INDEX™23 offers one of the best opportunities in the next few years to feel the "wind of change" and to exchange ideas with market participants along the supply chain about current and future opportunities. Nonwovens offer a lot of potential. Both in applications and in the implementation of the goals of a more sustainable world through CO2 reduction. Now it is up to the market participants to adapt the new solutions and to generate further inventions with a lot of creativity and research drive. We are looking forward to it!

- (1) www.indexnonwovens.com
- (2) www.smithers.com/services/market-reports/nonwovens
- (3) about.nike.com/en/newsroom/releases/introducing-nike-forward
- (4) sparkle.life

INDEX INNOVATION AWARDS 2023

SHORTLIST FOR THE INDEX23 AWARDS

INDEX™23 will again feature the INDEX™ Awards for “Excellence in the nonwovens and related industries” at the EDANA stand at 10:00 CET on Tuesday 18 April 2023, the opening day of the exhibition. Throughout the four-day exhibition the shortlisted entries will be displayed at the INDEX™ Innovation Lab, an INDEX™ exhibition showcasing how innovation and sustainability are driving the nonwovens industry forward. Open to products that were made commercially available by 31st January 2023, and selected by a jury of experienced industry peers, EDANA’s INDEX™23 Awards are the highest accolade for excellence in the nonwovens value chain. The shortlist contains the best examples from the industry, highlighting creativity and innovation from businesses of all sizes, and across all parts of the nonwovens supply chain. The shortlisted candidates – presented in alphabetical order – for each category of the award are listed below, along with a description of the innovation and feedback from the jury as to why the entry was selected.

1. Nonwoven roll goods

Fitesa – Fitesa® Hydro-X S 100% BioBase

This is a spunbond product that delivers the softness and high-loft properties normally found in nonwovens created by air through bonding (ATB). This material im-

pressed the jury for its use of bio-based materials (PLA and Bio-PE), drapability, and softness features, demonstrating that a more sustainable material doesn’t have to compromise on technical performance.

Sandler – Fast Forward Fabric

Fast Forward Fabric is a single-polymer textile material, specifically designed to offer maximum performance while contributing to sustainable material cycles and the conservation of resources at the same time. Compared to standard PET moulded parts, Fast Forward Fabric features high dimensional stability under the influence of temperature owing to the special bonding mechanism used in production. It enables the production of self-supporting moulded parts, even with complex component geometries. The acoustic performance of these nonwovens can be adjusted to the specific application. The jury recognized that Sandler has brought to market a material that offers the ideal basis for high-performance moulded parts in a range of automotive moulded applications. Made from 100% polyester and incorporating up to 80% post-consumer recycled fibres, Fast Forward Fabric is also fully recyclable itself. It offers a sustainable alternative to an industry that has been highly focused on ensuring components are recyclable. This material helps to create circularity in a segment that represents significant volumes.

Suominen – HYDRASPUN® Circula Nonwoven

HYDRASPUN® Circula is one of the first nonwovens on the market to be produced with recycled paper and virgin cellulosic fibres. It is challenging to use a waste source as a raw material in nonwovens due to high quality and hygiene requirements, which makes HYDRASPUN® Circula stand out as a successful example of innovation. This entry caught the jury’s attention for its innovative use of post-consumer waste, and its ability to demonstrate that innovations in nonwovens can support the circular economy and sustainable production. The jury also recognized Suominen’s efforts in transforming their product portfolio into an environmentally sustainable range of solutions.

2. Finished products made from, or incorporating nonwovens

Fibroline and Euro Wipes – Multimasking Mask

Using a patented technology, Fibroline and Euro Wipes developed a tri-zone sheet mask with dedicated active ingredients for forehead, eyes, and face. Dryly impregnated, the active ingredients are directly available to penetrate the skin, making the mask more effective. The user only needs to rehydrate it just before use. Moreover, this mask is eco-responsible with a 99.99% natural origin formula, vegetal-based support for a home compostable finished product, and the packaging is recyclable paper-based.

The jury found this to be a great example of a machine builder and brand working together to develop an entirely novel product segment. Fibroline’s dry impregnation technology is an advantageous method for economically integrating functional powders and additives into nonwovens at scale, and the Euro Wipes facemask with its three engineered therapeutic zones has instant consumer market differentiation.

Henkel – Smart Adult Care

Smart Adult Care transforms a conventional diaper into a smart, connected medical device. This is a vital step into the future of patient-centred care and smart hygiene services. Equipped with a lightweight, flexible printed sensor and reusable pod the diaper enables remote monitoring of moisture, movement, and temperature. It was developed in cooperation with Henkel’s IoT partner Smartz AG. Nonwoven-based absorbent hygiene products already make a significant contribution to the comfort and well-being of many elderly people. For the jury, the well-considered and field trialled Smart Adult Care solution, will not only take this to the next level, but also make life considerably easier for nurses and healthcare staff working under a lot of pressure. The integration of sensors into disposables has been suggested for all kinds of applications, but this is a big step forward in what is practical and achievable now.

Sparkle Innovations – Sparkle Compostable Sanitary Pads Wrapped in Paper

Sparkle sanitary pads are made from renewable resources that are designed to biodegrade in warm and humid conditions. From product to packaging, they contain around 90% cellulose-based materials with the top sheet, absorbent core, release paper, pad wrapping paper and outer packaging all made of cellulose-based fibres. The barrier film on the pads is made from TUV Austria certified home compostable materials. This new product addresses a pressing need with a fully sustainable solution at community level, concluded the jury. They were excited and impressed by the focus on end-to-end sustainability with emphasis on the entire life cycle of the product. The innovation is not just in the product, but also in the fully circular ecosystem that the company and its partners are establishing in India.

3. Raw materials or components (e.g., fibre, binder, polymer, tape), of special relevance to the nonwovens industry and related converted products

Fiberpartner – BicoBio

A future proof bicomponent fibre core sheath construction, developed from materials with a low carbon footprint, this component was designed to biodegrade in the environments where most plastics eventually find themselves: landfills and ocean water. The BioBased PE is produced from sugar cane and has a negative carbon footprint. The Recycled PET is GRS certified. PrimaLoft® Bio™ an additive

technology that enables polyester and fabric fibres to biodegrade in the environment. Fibres can be processed in a variety of nonwovens technologies and used for different applications. The jury recognized that the hydrolytic biodegradation of fibres in landfill is beneficial for some nonwovens applications.

Indorama Hygiene Group – Biotransformation Technology

This innovation is a biotransformation technology which delivers biological decomposition of polyolefin in the environment. Polyolefin based materials produced by this technology are useful for some applications, especially in cases where the materials are incorrectly disposed of in the environment. The jury found that the advantage of this technology compared to oxo degradation is that no microplastics are left after the degradation of materials in the environment. Materials produced by this technology are also recyclable through standard mechanical recycling processes.

Sparkle Innovations – SugaFluff™

Made from bagasse fibres, SugaFluff™ offers a wood-free, sustainable, cost-effective, high performing and truly circular alternative source of fluff pulp for absorbent hygiene products. No extra land is required to grow bagasse fibres for SugaFluff™, as sugarcane bagasse is an abundantly available by-product of the sugar industry. Shortlisted in two categories, the jury found this to be an excellent example of sustainability in all its dimensions, and of real relevance to the nonwoven industry and its related markets.

4. Innovation in machinery of special relevance to the nonwovens industry

Curt G. Joa, Inc. – ESC-8™

JOA's ESC-8™ Electronic Size Change unit offers a previously unavailable push-button product changeover technology. It uses numerous methods and processes that are truly unique to in-line product changeover and flexibility. As one example, each absorbent insert carriage within the ESC-8™ unit is controlled and cammed independently leading to unparalleled process flexibility and user control. The jury was impressed by this innovation associating flexibility and cost efficiency for the pant-type products industry.

Herrmann Ultraschalltechnik – Elastic Thread Anchoring (ETA) Sonotrode

The creative and novel approach of the ETA Sonotrode for elastic anchoring eliminates the need for additional joining agents, which represents a substantial cost reduction of the process, while also being more energy efficient, and supporting sustainability initiatives. In addition, the performance and properties of the elastic threads are preserved since they are not exposed to chemicals. The jury felt this was a great example of real innovation representing a carbon footprint reduction and accurate processes for using elastic threads with nonwovens.

Reifenhäuser Reicofil – RF5 XHL Platform for Supersoft Spunbond

The Reicofil RF5 XHL line configuration is designed to produce super soft nonwovens for the hygiene industry. These non-

wovens are made of crimped fine fibres and excel especially in thickness/softness compared to state-of-the-art fine fibre materials. The jury recognized this as an important advancement in three-dimensional spunbond nonwovens used in absorbent hygiene products.

5. Sustainable Product

Fitesa – Fitesa® 100% BioBase AquiDry

Fitesa combined their experience with 100% biobased nonwovens with their innovation capabilities in films to produce this material in the most efficient way. It limits the need to offset carbon emissions by reducing the carbon footprint of the product by using the raw material in the final roll good. The jury recognized Fitesa's efforts to tackle climate change and reduce carbon emissions by producing a sustainable material, which manages to retain and maybe even improve on the fluid management properties compared with currently available alternative materials.

Sparkle Innovations – Sparkle Compostable Sanitary Pads Wrapped in Paper

Also nominated in category 2.

Sparkle Innovations – SugaFluff™

Also nominated in category 3.

There were no shortlisted entries for the achievement for the most original marketing campaign for a product made from, or incorporating nonwovens category this year.

EXXONMOBIL SHOWCASES MODEL BABY DIAPER

ExxonMobil will demonstrate its industry leadership by presenting its broad portfolio of products that enable innovative solutions with sustainability benefits for hygiene and personal care applications. This extensive portfolio includes ExxonMobil™ PP, Achieve™ Advanced PP (polypropylene) and Vistamaxx™ performance polymers that can be used to create differentiated hygiene and personal care products.

A major innovation being presented will be the model baby diaper of which the chassis is made exclusively with ExxonMobil's extensive portfolio of products. "This innovation allows us to demonstrate the broad capability of our portfolio, combined with our hygiene application expertise, as we look to unlock business opportunities with interested parties committed to collaborative new developments," said Masure. Also on display will be a new version of the recently introduced high-loft, ultra-soft, silky-smooth nonwoven solution for premium hygiene products using an innovative blend of Vistamaxx™ performance polymers, Achieve™ Advanced PP and ExxonMobil™ PP. This nonwoven solution delivers sustainability benefits by including ExxonMobil™ PP ISCC PLUS mass balance certified circular polymers using Exxtend™ technology for advanced recycling of plastic waste.

www.exxonmobilchemical.com

THINKING SUSTAINABILITY FURTHER: SANDLER TO FOCUS ON HOLISTIC MATERIAL CONCEPTS

Sandler will showcase high-performance quality nonwovens, that pave the way for environmentally friendly product solutions – optimized from raw material selection to recycling.

For the hygiene industry, nonwovens for fluid transport (ADL) as well as backsheets set standards, made from 100% raw materials from renewable sources. In wipes applications, nonwovens made up to 100% from natural fibers offer new alternatives for single-use products in cleaning and personal care. In this segment, Sandler also utilizes its expertise of different production technologies: Latest developments for wipes show the way towards climate neutrality through the use of more energy efficient manufacturing processes.

With the established Sandler standard of quality, these substrates combine a soft touch and optimized cleaning owing to an enlarged surface. Owing to the special production process an increased choice of alternative raw materials can be used – including 100% based on renewable sources. In addition, the use of this specific process allows for an up to 70% reduction of CO2 compared to established production processes for wipes substrates.

Together with customers and partners along the supply chain Sandler continues to expand its initiatives for sustainable product solutions, Sandler is also testing ways of recycling and reusing trims or faulty material in the production of its technical nonwovens. Thus keeping resources in a closed cycle, Sandler is implementing the concept of circular economy and reducing the carbon footprint of its products.

Sandler also offers a sustainable solution for the automotive industry: Fast Forward Fabric – the symbiosis of maximum performance and resource conservation.

These textile materials are the base material for a variety of self-supporting moulded parts in interior and exterior applications. Made from 100% polyester with up to 80% post-consumer recycled fibers these nonwovens reduce the use of virgin resources while being fully recyclable themselves at the end of their service life. In this way, Fast Forward Fabric creates closed material cycles and fulfills the most demanding sustainability requirements. The nonwovens support the implementation of specific design concepts in all types of vehicles. Processing results in highly stable moulded parts, realizing even complex component geometries.



Sandler Fast Forward Fabric © 2023 Sandler

At the same time, the materials feature a significantly lower weight compared to standard materials, high temperature stability and resistance to all common engine compartment fluids. Their open-pore structure combines noise dampening and thermal management. Specific material configurations enable optimized vehicle acoustics – inside the passenger compartment as well as towards the surroundings. Through targeted processing, specific surface structures can be generated, making the nonwovens a design component in the vehicle as well.

www.sandler.de

SUSTAINABLE NONWOVENS DEVELOPMENTS BY THE SAXON TEXTILE RESEARCH INSTITUTE (STFI)

A trade fair team from the Saxon Textile Research Institute e.V. (STFI) will present news from nonwovens research at STFI.

BIO-BASED HYGIENE NONWOVEN: BIOHYG

The starting point for the innovation was the search for a washable and thus reusable absorbent pad made from completely bio-based materials for applications in baby, feminine and incontinence hygiene. The focus was on two main requirements: fast and efficient liquid distribution and high absorbency to minimize rewetting and leakage. Both are guaranteed by special viscose fibers from Kelheim Fibres, which have been making this essential contribution in absorbent hygiene products such as tampons for many years. Here, the advantages of nonwovens in combination with special viscose fibers in terms of absorptive capacity (through, for example, more open-pored structures) have been perfectly transferred from the petrochemical- to the world of biobased fiber materials. For reusable products, however, there is another challenge to overcome: they must remain stable during washing and over several cycles of use. To ensure this, an innovative nonwoven construction was developed at the STFI. The developed nonwovens close the technological gap between sufficient dimensional stability and as little fiber damage as possible due to the bonding mechanisms.

The developed nonwoven layers can be used as a stand-alone solution as a single-use product with bio-based materials or integrated into a washable composite structure, such as the diaper from start-up Sumo. In the Sumo cloth diaper, the absorbent pad's fluid management sets new standards. The new solution combines the worlds of hygiene and sustainability and provides proof that high-performance reusable absorbent products can be developed without fossil materials.

The research collaboration between STFI, Kelheim Fibres GmbH and Sumo GmbH received the 2022 Techtextil Innovation Award in the "New Concept" category for the development of a bio-based hygiene nonwoven - a good example of how research and industry are breaking new ground in sustainability through collaboration in an open innovation approach.



Nonwoven construction developed at STFI paves the way to reusable use for bio-based hygiene products
© 2023 STFI

RECYCLING OF HIGH PERFORMANCE FIBERS: VLISSMC

In the recycling of high-performance fibers STFI will be showing innovations like a battery housing developed jointly with the research partner Fraunhofer ICT, Pfinztal. Detailed investigations into the use of recycled carbon fibers in the SMC process chain were carried out at STFI, Chemnitz. To this end, nonwovens were first developed that enable the recycled carbon fibers to be fed into the SMC plant. The SMC semi-finished products produced could then be processed by both molding and impact extrusion. Comparison with conventional SMC products showed that comparable characteristic values could be achieved with a lower fiber volume content. Developments in the field of renewable raw materials in combination with bio-based resin systems also offer forward-looking materials.

INNOVATIVE HOSE LINER SYSTEM

The aim of the research project was to develop an improved pipe liner system for trenchless pipe rehabilitation. In particular, the force absorption in the longitudinal direction, the bendability without wrinkling were improved and the use of material as well as the pore volume of the textiles were optimized for the best possible impregnation with resin. The project included nonwoven development, coating of the liners and the use of UV-curable resins for curing. STFI will present a demonstrator showing a nonwoven-based pipe liner with coating, which in turn was impregnated with a UV-curable resin and cured using UV LED lamps. (49MF200100)



Carbon fiber plant in the Center for Lightweight Textile Construction at STFI | Picture: STFI / Dirk Hanus

FROM RECYCLED FIBERS TO WATER-JET NONWOVENS

Furthermore, STFI will be exhibiting nonwoven structures that have been bonded by the waterjet process or stitch-bonding technologies after mechanical recycling by means of a tearing machine. The nonwovens are characterized by their soft feel and unique appearance. Whether wet-strength wipes, classic knitted pile fiber nonwovens with cushioning and insulating properties or sustainable needle-punched nonwovens; by using torn fibers in combination with established nonwoven formation processes, new applications for used textiles are found at STFI and material cycles are closed.

STFI would like to discuss the possibility of joint research projects and suitable funding programs.

www.stfi.de

PRODUCT AND PROCESS OPTIMISATION WITH FRAUNHOFER ITWM

FraunhoferITWM colleagues from the department »Transport Processes« will be on site with topics related to spinning and various production processes. Furthermore, Dr. Andre Schmeißer will give a presentation entitled »Show Cases for the Virtual Design of Nonwoven Production Processes«.

www.itwm.fraunhofer.de/en/

DEVICE FOR OBJECTIVE HAPTIC MEASUREMENT OF NONWOVENS ONSITE

Leipzig-based manufacturer emtec Electronic GmbH presents an innovative and time-saving device for the objective evaluation of hand-feel and comfort of textile and nonwoven materials. The TSA Tactile Sensation Analyzer allows nonwoven manufacturers and chemical suppliers to objectively and reliably test the haptic quality of their products along the individual parameters of softness, smoothness, flexibility, as well as deformation and spring-back behavior.

www.emtec-electronic.de

NIRI CONSULTS ON ALL QUESTIONS CONCERNING NONWOVENS



© 2023 NIRI

The NIRI team will be on standby to discuss any queries visitors may have, particularly around sustainability challenges, and how nonwovens can be a key part of the solution. Furthermore, NIRI's CCO, Dr. Ross Ward, will be taking to the stage to discuss the latest challenges facing the nonwoven industry. Recently, NIRI have invested in prototype-scale laboratory facilities to help commercial clients research and develop polymers. The shift away from fossil fuel-derived materials to alternative materials is leading a transformation in nonwovens but comes with a range of challenges. Looking at alternative biopolymers, for fibre / filament formation, there are currently a range of options available. "NIRI's laboratories are uniquely equipped with prototyping-scale equipment to assess processability, explore polymer combinations with processing and performance additives, and to optimise process conditions for biopolymer extrusion into filaments, spunbound, and meltblown nonwoven fabrics", states Steven Neill, CTO at NIRI.

www.niri.consulting

ITALIAN TEXTILE MACHINERY ON SHOW

About 90 Italian exhibitors will be present at this edition, including over 40 machinery manufacturers. As in past editions, ITA – Italian Trade Agency, in cooperation with ACIMIT, the Association of Italian Textile Machinery Manufacturers, has organized an exhibition space reserved for companies manufacturing machinery for the sector. There will be 12 exhibiting companies in the Italian pavilion (Hall nr. 4, booths nr. 4131 & 4137). Of these, the ACIMIT members are: Bematic, Bombi, Bonino, Dell'Orco & Villani, Ferraro, Loptex, Omni, Rf Systems, Texera, Zappa Macchine. Other ACIMIT member companies will exhibit fair with their own booths.



ACIMIT pavillon for the Italian textile machinery manufacturers at last INDEX20 © 2023 TexData International

The nonwovens sector has grown significantly in recent years. According to EDANA, the association grouping European companies operating in the sector, after the impressive growth in the previous year, the production volume of nonwovens grew by 2% in 2021, exceeding 3 million tonnes.

"The growth in nonwovens production has also driven the demand of machinery for nonwovens, comments Alessandro Zucchi, president of ACIMIT. The Italian technological supply has consequently expanded. At the 2023 INDEX edition, the presence of a significant number of Italian machinery manufacturers testifies their desire to play a leading role also in the production of machinery for nonwovens".

The trend of Italian exports testifies the strong increase in production of nonwovens machinery. Indeed in 2021 Italian sales abroad reached a value of 102 million euro (+77% over the previous year) and in the first nine months of 2022, the value of Italian exports stood at 92 million euro.

Visit the Italian Pavilion @INDEX2023, Hall nr. 4, booths nr. 4131 & 4137

www.acimit.it

TECHNICAL INNOVATIONS AND CUSTOMER SERVICE ON A NEW LEVEL



Autefa Solutions Hydroentanglement Machine V-Jet Futura © 2023 Autefa Solutions

AUTEFA Solutions will showcase its latest technical developments in the field of nonwoven production technology. The focus is not only on classic mechanical engineering with its ambitions for higher-faster-further, but also on the protection of resources and on excellent, individual customer support within the scope of the "Assessment for Thermal Systems".

Water - the source of life - is the basis of the spunlace process that AUTEFA has been actively developing for years.

The company's wide product range offers cutting-edge technology for web forming as well as hydroentanglement and finally, drying of the produced nonwovens.

HIGHER SPEED AND PRODUCTIVITY IN THE SPUNLACE PROCESS....

Web forming by AUTEFA Injection Card and Crosslapper CL 4006 SL, with its globally proven and widely used technology, has provided a great advantage for AUTEFA customers to maintain or expand their leading position, especially in the highly competitive Spunlace market.

This is guaranteed by increased productivity through higher speeds and improved line efficiency.

AUTEFA Solutions Injection card enables web forming at very high production capacities. The Injection Card uses a combination of mechanical and aerodynamic principles for a gentle fiber treatment. This reduces the mechanical stress applied to the fiber and provides maximum capacity with low fiber damage. Accordingly, the Crosslapper Topliner CL4006 SL, with WebMax web profile control and CLOSED LOOP system, provides the best homogeneity at high laying speeds.

...WITH RESOURCE CONSERVATION AND ENERGY SAVINGS AT THE SAME TIME?

AUTEFA also focuses on energy and resource conservation in the spunlace process. With the unique combination of V-Jet FUTURA for hydroentanglement and the SQ-V Square Drum Dryer for drying, energy consumption in the spunlace process can be reduced up to 30%. The specially developed V-Jet Injector with reduced distance from the nozzle outlet to the web, also enables the customers to modernize existing production lines and thereby contribute to energy and resource conservation.

"WE SHOW HOW IT'S DONE!"

AUTEFA has been more than just a machine manufacturer for a long time, we are a solution provider for the nonwovens sector. With various process assessments, AUTEFA optimize production processes on customer site. A team of experts will provide competent advice regarding energy efficiency, potentials for increasing production capacity as well as improving product quality.

Autefa points out the chance, to get into dialogue with them at the Index 2023. The experts are waiting for visitors at booth 1614 to develop with them the individual solution for their improved production of tomorrow.

www.autefa.com



Autefa Solutions booth at INDEX20 © 2023 TexData International

BRÜCKNER PRESENTS NEW TRENDS OF THE MACHINERY-TECHNOLOGY



Through-flow belt oven/dryer in BRÜCKNER's Technology Center © 2023 Brückner

The world's leading manufacturer of textile finishing machinery BRÜCKNER will not only inform about its well-known delivery program which includes almost all types of dryers, thermofusion and heat-setting ovens with mainly convective heat transfer, but also about the latest trends in machinery technology and the related process technology.

In the last years BRÜCKNER realized some very challenging projects in the nonwovens industry.

These include lines for the heat-setting of geotextiles, finishing lines for nonwovens in the medical technology as well as thermofusion lines for the bonding of voluminous nonwovens for the furniture industry.

Besides the current sales successes, the continuous further development of the processes and the associated line technology plays a decisive role for the German world market leader.

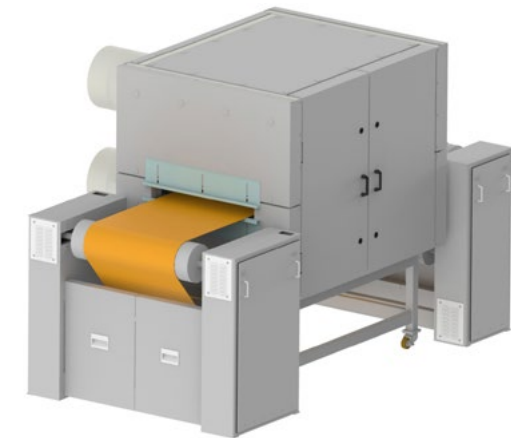
The basis of each BRÜCKNER line is the technologically best possible line configuration, which is always individually tailored to the customer and his needs. For this purpose, customers and interested potential customers can carry out tests in BRÜCKNER's Technology Center at any time. Heat-setting, thermofusion, coating, laminating, drying and finishing tests can be carried out on two lines in production scale.

In order to provide even better support in the future, especially for customers in the nonwovens production sector, a flow-through belt oven was added to the range of test machines at the BRÜCKNER Technology Center at the beginning of the year.

This is a small and compact thermo treatment line which, due to its short length, is excellently suitable to simulate also fast running processes with short dwell times at moderate test speeds. The electrically heated unit is equipped with all relevant sensors for measuring the local system pressures, the air volumes, the air temperatures, the material surface temperature and the process air humidity.

BRÜCKNER's sales engineers will be pleased to advise you at the INDEX in hall 1, booth 1580 about the concrete possibilities for the optimization and development of nonwoven products in BRÜCKNER.

www.brueckner-textile.com



SUPRA FLOW BX double-belt thermofusion oven with rotary longitudinal cutter, guillotine cross cutter and semi-automatic winder for the production of voluminous nonwovens for the furniture industry © 2023 Brückner

TRÜTZSCHLER NONWOVENS SOLUTIONS FOR MANUFACTURING FIBER-BASED NONWOVENS WILL BE ON DISPLAY



Continuously in service since August 2020: world's first Carded-Pulp (CP) production line © 2023 Truetzschler

At booth 1641 Trützschler Nonwovens, Trützschler Card Clothing and Voith present efficient manufacturing of fiber-based nonwovens. We will demonstrate latest developments in pulp-based CP (Carded-Pulp) and WLS (Wet-Laid/Spunlaced) technologies, T-SUPREMA needle-punching solutions combined with T-ONE, our digital working environment to boost nonwovens production in terms of productivity, quality and ease of use.

Trützschler Nonwovens and Voith displays new opportunities of paper-grade pulp as raw material for hydroentangled, biodegradable, single-use nonwovens. Since energy efficiency manufacturing is on everybody's agenda, find out about our solutions for reducing energy and other resource consumption. Cooperation partner Voith and its subsidiary Toscotec will be available for in-depth talks about wet-laying machinery. Voith provides highly innovative solutions for manufacturing textiles and nonwovens that offer economic and ecological benefits.

As a full-line supplier, Voith achieves optimal fine-tuning of nonwoven products by focusing on long-term partnerships.

Trützschler roller cards for CP, spunlacing, needle-punching and thermo-bonding processes are all equipped with high performing Trützschler card clothings. At the booth Trützschler Card Clothing will present latest innovations and the extensive, worldwide available service offers that secure continuous high running performance.

With T-SUPREMA, needle-punching becomes as easy as never before. Trützschler Nonwovens' key partnership with Texnology s.r.l. already proved our concept. We show solutions for both durable nonwovens used in technical end uses and disposable nonwovens for hygiene purposes.

An integral part of all T-SUPREMA lines is the T-ONE software package. This working environment integrates AI-based algorithms to simulate line behavior for easily optimizing line efficiency, resource consumption or nonwoven quality. Moreover, the software digitalizes major production-related working processes such as quality control or recipe management and constantly monitors product data, machine parameters and line performance.

Meet Trützschler Nonwovens, Trützschler Card Clothing and Voith at booth 1641, the focal point for all parties interested in carded and wet-laid nonwovens production.

www.truetzschler.com

OERLIKON NONWOVEN PRESENTS ITS PORTFOLIO ENVIRONMENTALLY-FRIENDLY INTO THE FUTURE WITH INNOVATIVE NONWOVENS SYSTEMS

Everybody's talking about sustainability – and Oerlikon Nonwoven shows us how it's done. The systems manufacturer will be presenting its product portfolio for nonwovens applications for numerous technical, hygiene and medical solutions focusing on sustainability, quality and efficiency. Trade fair attendees will be able to meet the nonwovens experts at stand 2314 and take a closer look at the hycuTEC charging unit, the current holder of the FILTRES Innovation Award, among other things.

"When developing our technologies, we not only focus on system efficiency and product quality, but also on sustainability, energy efficiency and preserving resources", explains Dr. Ingo Mählmann, Vice President Sales & Marketing at Oerlikon Nonwoven. Our declared objective is to be the leading partner for manufacturing sustainable and environmentally-friendly solutions in the nonwovens industry. "There are many future-oriented bio-based and biodegradable polymers that can be used to produce nonwovens", adds Ingo Mählmann. "Here, we want to support our customers in becoming pioneers in processing such polymers." Alternatives to the standard polymers widespread today are required and Oerlikon Nonwoven is able to offer the compe-

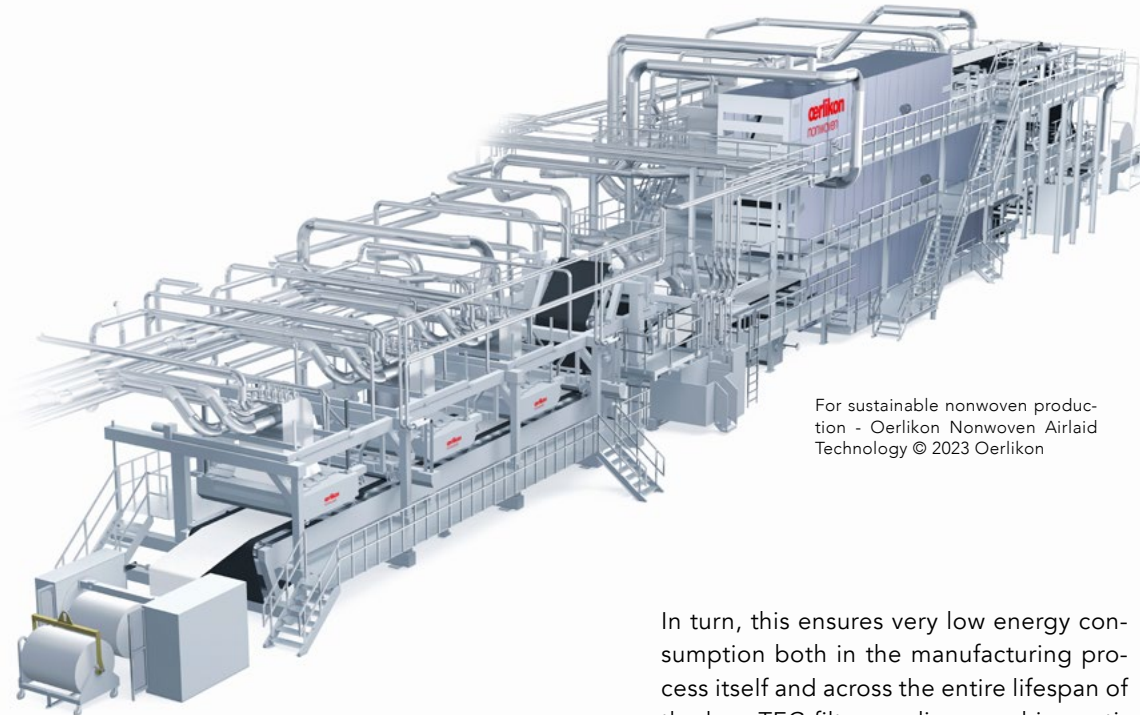
tence and the technologies for processing these new polymers.

BIO-BASED POLYLACTIC ACID NONWOVENS

The bio-based polymer PLA (polylactic acid) may be an alternative for those wanting to manufacture sustainable nonwovens. And the Oerlikon Nonwoven meltblown and spunbond technologies are ideally suited for processing PLA, for example. At the INDEX, the company will be showcasing a sample application: medical oronasal masks manufactured entirely from PLA nonwovens.

PRESERVING RESOURCES WITH THE HycuTEC

In the case of its hycuTEC hydro-charging solution, winner of the FILTRES Innovation Award 2022, Oerlikon Nonwoven offers a technology for the efficient and simultaneously energy-saving charging of meltblown nonwovens. This enables the filter efficiency to be increased to more than 99.99%.



For sustainable nonwoven production - Oerlikon Nonwoven Airlaid Technology © 2023 Oerlikon

This innovative technology is able to dispense with an additional drying process when manufacturing most highly-separating electret filter media, allowing considerable savings in the consumption of water and, above all, the energy required for drying.

In turn, this ensures very low energy consumption both in the manufacturing process itself and across the entire lifespan of the hycuTEC filter media – used in ventilation and air-conditioning equipment, for example. Furthermore, meltblown producers are able to achieve potential raw material savings of around 30% as a result of the improved efficiency of the media. In other words: the same or even superior performance for lower media running meter weights. As a result, the hycuTEC technology is a particularly future-proof, resource-friendly technology.

ECOLOGICAL WIPE MANUFACTURE WITH THE PHANTOM TECHNOLOGY

With its Phantom technology, Oerlikon Nonwoven offers an innovative co-form technology for manufacturing wipes – including wet wipes made from pulp and polymer fibers, for instance. Here, the properties of pulp and polymer are combined in a manner that perfectly unites the properties of the starting materials. The material mix can comprise up to 90% cellulose fibers, which is a renewable raw material. Choosing a bio-based and biodegradable polymer enables the entire wipe to be manufactured in a 'plastic-free', and hence environmentally-friendly, manner.

Compared to conventional processes such as spunlace (hydroentangled carded nonwovens), the patented Phantom technology offers ecological, performance and cost advantages both in the application and in the manufacture: dispensing with hydroentanglement renders subse-

quent drying of the material redundant, therefore saving on the energy required for drying. Product parameters, such as softness, tenacity, dirt absorption and liquid absorption, can be optimized by means of the recipe and the process settings. The Phantom technology enables the manufacture of both flexible and absorbent structures and highly-textured materials.

AIRLAID TECHNOLOGY: SUSTAINABLE NONWOVENS MADE FROM PULP

Pulp or cellulose fibers as raw material for manufacturing nonwovens are currently virtually unrivaled with regards to sustainability and environmental compatibility. The Oerlikon Nonwoven airlaid process is the ideal solution for processing this raw material into high-end products for a wide range of applications. Today, there is huge demand for manufacturing solutions for high-quality, lightweight airlaid nonwovens with economically-attractive production speeds and system throughputs. Here, the patented Oerlikon Nonwoven formation process, which has proven itself in numerous production systems, is setting standards – for homogeneous fiber laying and superb evenness even for nonwovens with low running meter weights. Whether as a system exclusively for airlaid nonwovens or combined with other nonwoven processes, the benefits of the Oerlikon Nonwoven airlaid technology are today already being deployed in numerous applications.

www.oerlikon.com/nonwoven



With the Phantom technology, wipes can be produced "plastic-free" © 2023 Oerlikon

THE TEXDATA MAGAZINE

Advertisement

SUSTAINABLE WIPES BASED ON PULP



10 years working together
for a better world.



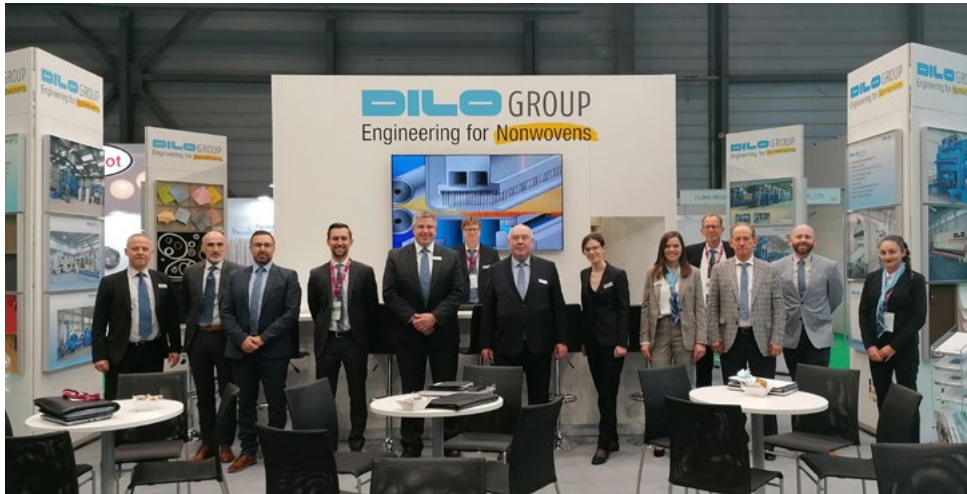
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VOITH

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NONWOVENS
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TAILORMADE PRODUCTION SYSTEMS FROM ONE SUPPLIER

LATEST DEVELOPMENTS FROM FIBRE OPENING TO THE FINISHED FELT



Dilo team at last INTEX20 © 2023 Dilo

DiloGroup presents the latest developments in needling technology in anticipation of the machinery exhibition ITMA and to draw the visitors' attention to the latest demands of environmental sustainability in nonwoven production. The research work of DiloGroup traditionally focuses on production lines for the webforming and needling of staple fibre material.

After years of gradual advancements in the intense needling technology, Dilo has succeeded in achieving the industrial scale of "MicroPunch" intense needling technology.

Good abrasion resistance of this intensely needled material allows the production of apparel, artificial leather, battery separators and filter media as well as medical and hygiene nonwovens.

The production of comfort tissues with a weight range of 30 to approx. 60 g/m² made from fine fibre blends using polyester and viscose has been a domain of the water-entangling technology so far. This product being a typical disposable is in the crossfire regarding sustainability and recyclability. Therefore biodegradable or decomposable fibre material is the target for more environmental sustainability.

In addition, for the evaluation of a web consolidation process, low carbon emission and low energy consumption are important criteria.

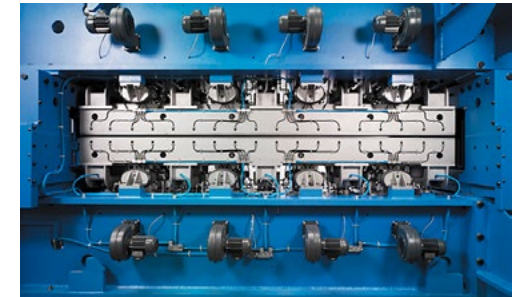
The classical needling technology and its qualification for the production of lightweight nonwovens at low cost/kg has been technologically and economically proved in the meantime after many years of research work. It has become possible by an intense concentration of needles in the board and very fine barbs on these specialty needles which allow an economic mounting and quick exchange due to a new module design.

Compared to water-entangling lines, the "MicroPunch" needling line provides a drastic reduction in energy consumption (electricity and gas).

In view of heavily increased costs for electricity and gas, this reduced consumption has a great impact on the total cost for a kilogram of finished product in many countries.

The Dilo people look forward to welcoming you at their booth during INTEX.

www.dilo.de



DI-LOOM OUG double needleloom - Infeed side with blowing nozzles at the stitching plates © 2023 Dilo



State-of-the-art highcapacity needling line © 2023 Dilo



The "3D-Lofter" which was first presented during ITMA 2019 in Barcelona © 2023 Dilo

GROZ-BECKERT WILL PRESENT LATEST INNOVATIONS FROM ITS **PRODUCT AREA CARDING**



Groz-Beckert Carding SiroLock Plus InLine © 2023 Groz-Beckert

The InLine card clothing series for the non-wovens industry will take center stage at the Groz-Beckert exhibition booth. A new and patented manufacturing process made the development of the innovative metallic card clothing series possible. It offers customers improved process reliability and increased uptime of the card. At the same time, the new process enables environmentally friendly and resource-saving production.

In addition to a controlled and precise hardening of the teeth, the wires are characterized by a reduced rib height and a completely scale-free surface. An exhibit at the booth will demonstrate what distinguishes the new process from the conventional production method and will highlight the differences between the new Groz-Beckert InLine card clothing series and its predecessor generation.

The first special geometry of the Groz-Beckert InLine card clothing series to be developed was the SiroLock™ plus worker and doffer wire. It impresses with a more effective fiber take-up, control and transfer. Augmented reality will allow visitors to experience the functionality and operating principle behind SiroLock™ plus.

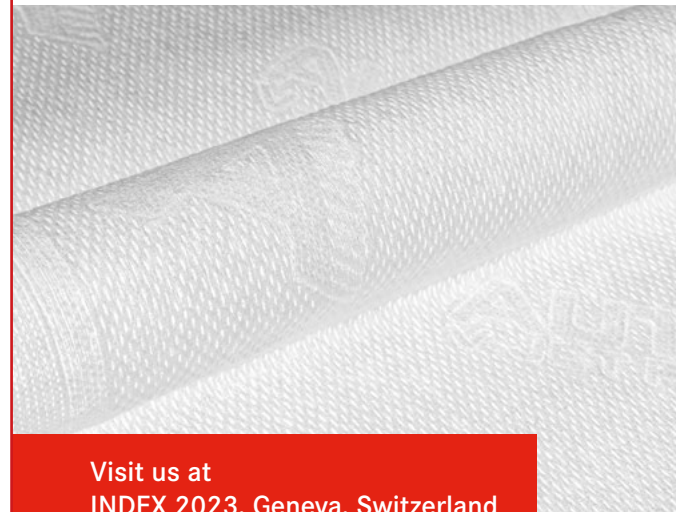
With its InLine card clothing series, the nonwovens industry profits from Groz-Beckert's customary commitment to the highest quality as well as to product reliability. The new highly reliable production process guarantees a higher resistance to damage in the wire teeth. Groz-Beckert InLine card clothing thus has a higher lifetime potential than conventional card clothing. Another characteristic of the Groz-Beckert InLine series is its entirely scale-free production, which is reflected in shorter run-in phases for the card clothing.

www.groz-beckert.com

COMPETENCE IN SPUNLACE LINES

AUTEFA Solutions – our technology for your success

www.autefa.com



Visit us at
INDEX 2023, Geneva, Switzerland
April 18 - 21, 2023
Booth #1614

Spunlace producers can now reduce their carbon footprint – minimizing use of both energy and raw material. AUTEFA Solutions has the advanced technology needed, with the V-Jet FUTURA Hydroentanglement Machine and SQ-V Square Drum Dryer. These systems have been specially developed for sustainability – as well as highest throughput, low operating costs and easy maintenance.



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STRAHM



ANDRITZ WILL BE PRESENTING ITS INNOVATIVE NONWOVENS PRODUCTION AND TEXTILE SOLUTIONS

SUSTAINABILITY IN THE FOCUS

ANDRITZ's "We Care" sustainability program combines all ESG (Environment, Social, Governance) initiatives, goals and achievements under one roof. "We Care" takes a multi-dimensional, comprehensive, and practically oriented approach towards sustainability. At INDEX, ANDRITZ will highlight its sustainable products and solutions to produce nonwovens and will present at the EDANA Sustainability panel on April 19, 2023.



ANDRITZ at INDEX20 © 2023 ANDRITZ

ANDRITZ is offering different nonwoven processes for biodegradable wipes, like spunlace, Wetlace and Wetlace CP, with one goal in mind: reduction and elimination of plastic components while maintaining the high quality of the desired product properties.

CONDUCT TRIALS DURING INDEX

Customers can conduct trials and test all options together with the ANDRITZ experts at the technical center in Montbonnot, France (appr. 1.5 h distance from Geneva). It is the first nonwovens test center for wipes worldwide with integrated pulp formation and neXecodry system. ANDRITZ will organize shuttle bus from Palexpo exhibition center to its unrivalled spunlace and Wetlace CP pilot lines in France to conduct trials.

RECYCLED FIBERS FOR NONWOVENS AND MORE

Another strong focus will lie on the ANDRITZ product range of complete textile recycling lines for post-consumer and industrial textile waste to produce fibers for re-spinning and/or nonwoven end-uses. Customer awareness and regulations are pushing clothing brands to recycle their textile waste in their own products. Recycled fibers can also be used in the nonwovens industry for various applications.

MORE HIGHLIGHTS IN HYGIENE NONWOVENS AND APPLICATIONS

For instance, one highlight at INDEX will be the latest technology development in the spunlaid sector: the patented nonwovens process called Spunjet. It is the in-line hydroentanglement of continuous filaments, creating a new generation of spunlaid nonwovens with unrivalled bulkiness and softness compared to standard spunbond fabrics.

Moreover, ANDRITZ will put the spotlight on its eXcelle adult pant converting line, which offers top-class components and an innovative technology process. The growing market for adult incontinence products has resulted in a state-of-the-art process with highest quality standards. No escape from digitalization

Another spotlight for INDEX will be digitalization. ANDRITZ offers a broad and constantly growing range of innovative products and services in the industrial digitalization sector under the brand name Metris. One focus area is the Metris all in one digitalization platform, which provides full support for industrial plants throughout their entire life cycle.

www.andritz.com

MAHLO PRESENTS A WIDE RANGE OF SENSORS

"We want to support manufacturers in optimising their production processes and thus also the end product," says Matthias Wulbeck, Mahlo product manager for QCS. Because, like many other industries, the nonwoven sector is struggling with challenges such as rising prices for energy and raw materials, long delivery times and uncertain supply chains. In order to continue to produce economically and on time, it is therefore necessary to save resources and avoid faulty production as well as unnecessary process times. "Our Qualiscan QMS measurement and control system helps to do just that." With a wide range of sensors, different measuring techniques and the corresponding measuring bridges, practically all tasks regarding the control of basis weight, moisture, thickness, fibre content, and air permeability can be solved in a cost-efficient and practical way.

www.mahlo.com



Qualiscan QMS © 2023 Mahlo

USTER PRESENTS ITS PROVEN AND IN-DEMAND SOLUTIONS FOR THE ZERO-TOLERANCE LEVEL

Uster Technologies, the world's leading provider of quality management solutions from fiber to fabric, will present its technology specifically for the nonwovens industry. Highlight at the booth will be Uster Jossi Vision Shield N - the automated contamination removal for nonwovens. Uster Jossi Vision Shield N contamination sorters detect and eliminate contamination at the fiber preparation stage, before it is shredded into smaller particles.

Small contaminant particles can hide inside bigger bundles, making them especially difficult to locate when the material is more compressed. Uster Jossi Vision Shield N is ideally positioned in the line to overcome this, directly behind the fine opener. This ensures that the fiber bundles pass the spectroscopes in their most open state. Uster Jossi Vision Shield N is the result of surveys, close collaboration with international nonwovens companies and countless hours of field tests. Installation is easy, since the fiber cleaner's slim design fits perfectly into existing lines – and readily copes with the high output of standard production lines. For best detection results, the fiber cleaner is tuned to identify the typical contamination types in nonwovens, including colored fibers.

Medical applications and wipes are showing a trend towards zero tolerance levels for defects larger than 1 mm. While other technologies use conventional color cameras, the built-in spectroscopes of Uster Jossi Vision Shield N operate on a much greater wavelength range. This enables detection of contamination within the 'invisible' range of infrared and ultraviolet light, and even contamination fragments of the same or similar shade as the fibers themselves – down to the fineness of a human hair.

www.uster.com



Uster Jossi Vision Shield N © 2023 USTER

CHT PRESENTS INNOVATIVE FIBER AUXILIARIES AS WELL AS COATING SOLUTIONS FOR NONWOVENS

CHT Group presents its versatile portfolio of fiber auxiliaries and coating products. Visitors can discuss their individual application profiles and CHT presents its specific offer in the field of functionalization of textile materials.

CHT supports the nonwoven industry by providing with its DURON fiber auxiliary range indispensable process agents and smart chemistry to functionalize nonwovens to meet the increasing machinery producers, market, customer and regulatory demands. Additionally, they consistently integrate aspects of sustainability into their actions. CHT understands future sustainability trends and derive appropriate measures for our business.

"Sustainability remains deeply anchored in our company strategy. Energy and climate protection, portfolio management, supply chain responsibility, staff commitment and resource efficiency as well as responsible production are the focal points of our sustainability management", the company stated in a press note.

CHT's permanent hydrophilic products for fibers and nonwovens used in absorbent hygiene products offer softness, for comfortable wear, excellent transfer of

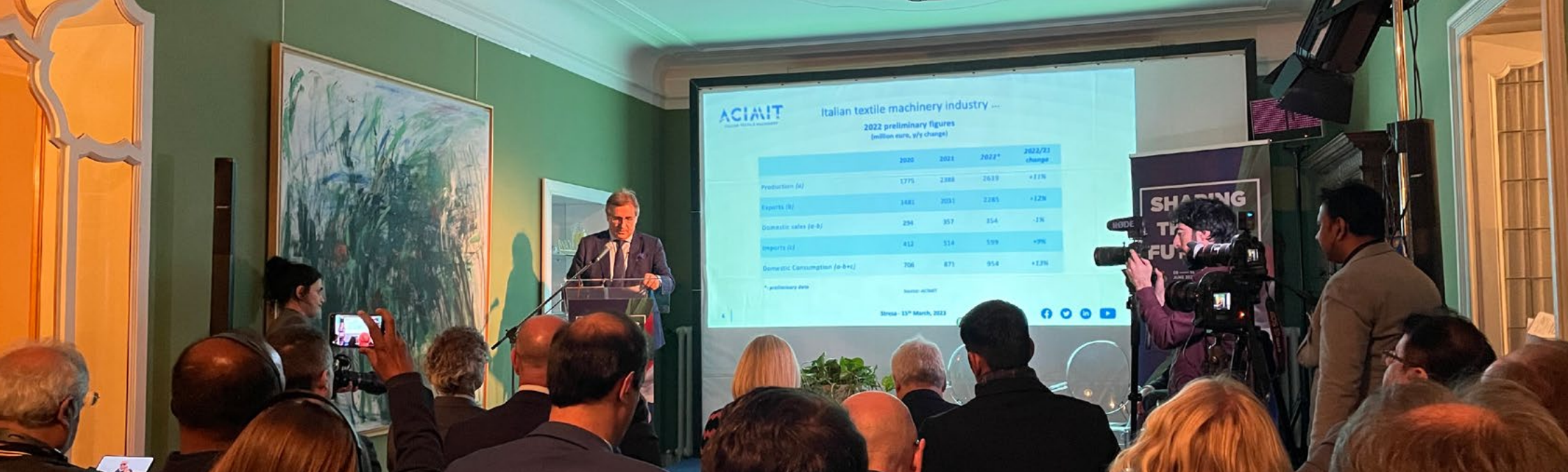
the liquid from topsheet to the acquisition distribution layer and subsequently to the diaper core to guarantee a dry and healthy skin. The products also support the need for long term hydrophilic performance, especially after storage, and the upcoming demand for biobased raw materials.

Circular economy represents a very important driver of new innovative product developments. CHT is increasingly developing product solutions that can be declared as unmixed with the finished goods and thus do not interfere with the recycling process.

www.cht.com



CHT offers permanent hydrophilic products for fibers and nonwovens used in absorbent hygiene products © 2023 CHT



ACIMIT Italian textile machinery industry ...

2022 preliminary figures
(million euro, %Y change)

	2020	2021	2022*	2022/21 change
Production (€)	1775	2388	2639	+11%
Exports (€)	1481	2031	2285	+12%
Domestic sales (€ B)	294	357	354	-1%
Imports (€)	412	314	309	+9%
Domestic Consumption (€ B+I)	706	871	954	+13%

* preliminary data Source: ACIMIT

Stresa - 15th March, 2023

ITALIAN TEXTILE MACHINE MANUFACTURERS EXPECT ITMA 2023 TO BE A MAGNIFICENT HOME EVENT

After a positive year in 2022, the Italian textile machinery industry is looking forward with optimism to the current year and, above all, to **ITMA 2023**, which will be held in Italy. After 8 years, the most important trade fair for the sector will return to Milan, to the **Fiera Milano - Rho** exhibition centre, from 8 to 14 June. On the initiative of **ACIMIT**, the association of Italian textile machinery manufacturers, a press conference was held on 15 March at Villa Frua (Stresa, Italy). Here, the association and its members were able to present a first insight into the ideas and the strategic orientation of the Italian companies for ITMA to the approximately 30 journalists present.

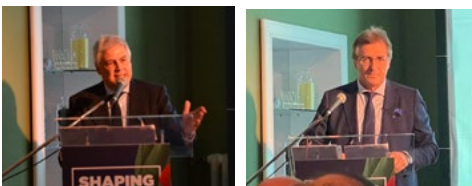
During the event, **Alessandro Zucchi**, President of ACIMIT, showed the preliminary figures for 2022. Both Italian production and exports of textile machinery increased by more than 10% compared to the previous year. The production value exceeded 2.6 billion euro. Of this value, 87%, or around 2.3 billion euro, was realised abroad. Italian exports went mainly to Asia and Europe. Overall, the two areas absorbed 79% of foreign sales. China, Turkey, India and the United States of America were the main destinations of Italian sales abroad in 2022. Alessandro Zucchi: "The positive results do not, however, cancel out the obstacles that companies still face in this period. The critical issues following the Covid-19 pandemic have been amplified by the ongoing Russian-Ukrainian conflict.

Even in this early 2023, unfavourable conditions to business still exist, such as high inflation, constraints on the functioning of value chains, and energy commodity prices above the average of recent years. However, forecasts prepared by our Economic Office show an improvement in the second half of the year and in the 2024-26 period, which gives us hope".

With these forecasts, ITMA 2023 could be the driving force able to stimulate investment in the textile sector, not only the Italian one. Zucchi commented: "Our manufacturers are very confident about next June's event. As shown by the figures on the Italian presence at the event: almost 400 Italian exhibitors, about 36,000 square metres, with an increase in the occupied surface area of over 20% compared to the previous edition held in Barcelona. 30% of the total exhibition area at ITMA 2023 will be taken up by Italian machinery manufacturers".



Roberto Luongo and Alessandro Zucchi gave the opening speeches for ITMA participation
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During the press conference, the various initiatives that ACIMIT, with the support of – Italian Trade Agency (ITA), has put in place to promote Italian participation in ITMA were announced. **Roberto Luongo**, the General Director of ITA, stated: “The Italian textile machinery industry represents one of the leading production sectors for our country due to its strong projection on international markets. Our textile technologies are considered to be of a high quality level, and for us at ITA this represents an element of great pride and satisfaction, which pushes us to support Italian companies in an increasingly convinced and decisive manner, through an effective collaboration, now consolidated and tested, with ACIMIT. ITMA is a unique opportunity for the Italian textile machinery industry, due to the high number of exhibi-

tors and the tens of thousands of visitors it usually attracts. As ITA we have therefore prepared, in accordance with ACIMIT, an extensive project aimed at promoting the Italian textile machinery sector through the enhancement of the three drivers that distinguish it: technology, digitalization and sustainability. We will have an incoming of 140 top foreign buyers from 25 different Countries; this will be accompanied by an intense and widespread communication campaign in Italy and abroad that will significantly contribute to increasing the presence at the event of professional operators from all over the world. There will be several training events, focusing mainly on the innovations presented by Italian companies at ITMA 2023, with a special focus on sustainable technologies and digitisation processes. And then there will be the Italian Textile Technology Awards, organised by ITA and ACIMIT. Prizes will be awarded to the 18 most deserving students from textile universities in those Countries where Italian Textile Technology Training Centres are active or are being set up: Bangladesh, India, Mongolia, Pakistan, Peru and Vietnam”.

The promotional campaign through social and traditional channels was also particularly significant. The concept that distinguishes ACIMIT communication activities towards ITMA 2023 is SHAPING THE FUTURE. “The Italian textile machinery sector, explains the president of ACIMIT, has shown in recent years that it knows how to look ahead to create innovation and strengthen a technological leadership that is now established and recognised internationally.

Shaping the future is a concept that aims to show how Italian manufacturers are key players in the development of the entire textile supply chain, able to outline virtuous paths that testify to the proactive nature of the entire sector and that enable the future of the sector to be shaped through the three pillars, technology, digitalization, and sustainability, which are also the key themes of ITMA 2023”.

At the textile machinery technology parade in Milan, sustainability and digitalisation will be the main topics of the industry. Alessandro Zucchi: “The textile supply chain is moving towards increasingly competitive production processes, where the reduction of production costs, through lower consumption of water, energy and raw materials, is combined with attention to the environment. Equally important is the ongoing digital transformation of companies, a process that will enable technology suppliers and their customers to operate more and more constructively and efficiently”.

During the conference on the topic of sustainability and digitalization, five ACIMIT member companies also spoke, bringing their company experiences: **Flainox, Itema, Marzoli, Salvadè, Sperotto Rimar**. Their contributions highlighted the validity of the projects that ACIMIT has been pursuing for some years now in the field of sustainability and digitalization, namely the Sustainable Technologies project, with the **Green Label** as the core of the initiative, and the digital certification called **ACIMIT Digital Ready**.

Both projects testify to the commitment of Italian manufacturers in two areas of strategic significance to consolidate the leadership of Italian textile technology also in the future. With the Green Label, certifying the environmental and economic performance of textile machinery, member companies undertake to reduce the CO2 emissions of their machines through constant technological improvement. With Digital Ready, on the other hand, the aim is to standardize the production and management data of Italian textile machines and their ability to be digitally integrated at the customer’s plant. Alessandro Zucchi concluded: “We believe that the future of textiles that we want to shape lies in a sustainable and digitised technological supply”.

www.acimit.it



Presentations at the press conference
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SWISS TEXTILE MACHINE MANUFACTURERS ARE WELL PREPARED FOR ITMA 2023

Only a few weeks to go and the ITMA 2023 international textile machinery trade fair will open its doors in Milan, Italy, from 8 to 14 June. The Association of Swiss Textile Machinery Manufacturers gave a first in-depth insight into the strategies, topics and solutions of its members at a press conference in the Swiss capital Bern on 16-17 March. Around 25 journalists from the world's leading trade magazines for textile production were present. Participating companies were Autefa Solutions, Benninger, Bluesign, Crealet, Heberlein, Iteima, Jakob Müller, Loepfe, Luwa, Retech, Rieter, Santex, Saurer, Stäubli, SSM, Steiger, Swinsol and Uster.

Cornelia Buchwalder, Secretary General of the **Swiss Textile Machinery Association**, explored the real importance of ITMA as a driver of global textile progress: "The 2023 ITMA is fully booked – clear evidence of its continued appeal as the essential marked place for textile machinery. And its importance is underlined by the participation of more than 50 Swiss exhibitors, most of which are members of the Textile Machinery Association. We will be there in Milan, because we know it's the perfect opportunity to show the world what we offer. Our Association is a major player in textiles. Established in 1940, it now includes 44 member firms, covering the entire textile value chain. Together, these companies have a total of more than 4,000 years of experience, and an unrivalled international reputation for innovation and quality."

The programme, which consisted of individual presentations by members on their ITMA innovations, was led by **Ernesto Maurer**, President of the Swiss Textile Machinery Association and **CEMATEx** President, who held out the

prospect of ITMA 2023 being the best ever, based on the number of participants. In the presentations a number of companies have already given a very concrete outline of their solutions to be presented at ITMA, while others have at least indicated their prioritised themes or technology focus.

Autefa Solutions Switzerland CEO **André Imhof** underlined the importance of sustainability and the immense importance of corresponding solutions. At the show, Autefa will present its innovative solutions and expertise in advanced materials, digital future, innovative technologies and sustainability, showing visitors how AUTEFA Solutions can take their production to the next level. With its innovations in digitalisation and automation, Autefa offers solutions for the transformation of the working world. Autefa also has a variety of solutions for processing recycled fibres. AUTEFA's state-of-the-art technology includes carded needle punching lines, aerodynamic web forming technology, thermobonding lines and spunlace lines, so state-of-the-art solutions are available for a variety of current challenges.

Benninger CSO **Rolf Erik Schoeler** pointed out that textile manufacturers will make an important contribution to the decarbonisation of textiles with Benninger solutions. Benninger will present several of its latest developments. These include the new jet dyeing machine Fabricmaster, with unsurpassed water consump-



Ernesto Maurer opened the press conference, led through the programme and asked the opening questions in the panel talk that followed each presentation block.

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tion values. It is the most sustainable way of discontinuous dyeing today. Fast, cost-effective and on the way to a zero footprint. The CDS chemical dosing system serves all types of discontinuous and continuous machines in a precise, unbeatable and fast way. Furthermore, they show the new Benninger-Küsters CPB dyeing system for knitwear, the only salt-free cold dyeing process. And last but not least, the new Benninger SingeRay singeing machine, which ensures perfect singeing effects, cost efficiency and consistent quality.

Barbara Oswald, Head of Assessment Textile and Accessories at **Bluesign**, gave a short introduction to the bluesign system and pointed out that bluesign is not a certification for finished products, but a full-service solutions system for the textile value chain with a focus on sustainable chemistry. Chemical suppliers, textile and accessory

manufacturers as well as brands can become bluesign® system partners if they want to make a strong commitment to sustainability. Here, bluesign offers them many advantages. For example, bluesign partners were able to reduce their energy consumption by an average of 5%, their water consumption by 18%, their chemical use by 17% and their carbon dioxide emissions by 12% in the years 2010-2020. At ITMA, bluesign will present itself and its programme with all the benefits for partners.

Crealet' s newest development is a warp yarn feeding solution for ribbon weaving machines that will be introduced, said **Walter Wirz**, Emeritus CEO of Crealet. The system features the ECR system for electronic control of rope braking on warp beams in ribbon weaving.

Business Development Manager **Johannes Ahle** presented **Heberlein's** core competence, which lies in the development and production of highly specialised key components for the modification and treatment of synthetic yarns, especially filament yarns. New technologies are opening up fascinating possibilities here. Compressed air is a cost-intensive resource and the focus in the industry is on innovative products. This is why Heberlein will be showing the "AP" generation for the first time at ITMA as a consistent further development of the existing jet insertion programme for DTY.

Matteo Mutti, Managing Director of **Itma** Schweiz AG, noted that Itma recorded a turnover of EUR 337.6 million in 2022, an

increase of 10% over the previous year, continuing on the path of constant growth. He reminded the audience that ITMA 23 will be held in Itema's home country, so they are very much looking forward to welcoming visitors from all over the world. He said, "At ITMA, Itema will be showcasing a whole range of solutions developed to make life easier for our customers while providing them with tangible benefits in terms of textile mastery, eco-efficiency, digitalisation and ease of weaving."

Christian Lerch, Head of Global Sales and Marketing at **Jakob Müller**, no. 1 supplier of systems and solutions for the ribbon and narrow fabrics industry, announced a new stand design and surprises to transform their part of the world of textiles into a digital and sustainable age. As usual, the company is not revealing anything concrete before the start of the fair.

Sandra Meier, Head Products & Solutions at **Loepfe**, pointed out the special advantages of their YarnMaster® PRISMA Clearer in terms of sustainability. With it, considerable savings in yarn waste and energy can be achieved. New products that go beyond this will only be announced at the start of the fair.

Luwa Air Engineering Regional Sales Manager **Guillermo Franganillo del Rio** introduced Luwa as a company and part of the Nederman Group. Among other things, a further development of the axial fan using new, groundbreaking aerodynamic technologies and materials will be on show.

Retech, known for the "blue thread", will present various innovations under the blue thread motto, stated Managing Director **Ralph von Arx**. These include new solutions for the IoT in a modern heated godet and for the special machine construction of drawing frames. Plus a new drive system for (super) slow speeds.

Rieter will present innovative solutions that support its technology leadership," said **Franziska Häfeli**, Head Marketing & Systems Rieter Machines and Systems. One focus is on the costs per kg of yarn with the adjusting screws raw material, energy consumption and automation. Another is on system integration through digitalisation. Rieter is devoting a great deal of attention to the topic of recycling and wants to mas-



Panel talk and presentations at the press conference
© 2023 TexData International

ter the challenges of short fibres here. In addition to rotor spinning as a typical process for recycling yarns, Rieter will demonstrate solutions for ring and compact yarns, whose yarns have also been included in the COM4 yarn program. The aim is to be able to use a 50% share of recycled material for ring spinning.

Santex Rimar Global Sales Director **Natascha Meier** explained that its goal is to maximise performance with low energy consumption to achieve low residual shrinkage, smoother handle and silk-like appearance. The lines are equipped with various energy saving options, benefiting customers through sustainable production and low CO2 levels. With SANTAFRAME and SANTACOMPACT RDA, SANTEX RIMAR presents its well-known stenter frame in combination with the felt belt compacting machine for the finishing of high-quality open-width knitted fabrics as well as applicable for woven fabrics.

Saurer will present numerous solutions at ITMA that transform the world of textiles towards the circular economy, stated **Dr. Marcus Rennekamp**, Managing Director of SAURER Spinning Solutions. This takes into account the future requirement that yarns must contain a proportion of recycled fibres. Saurer sees itself as a key enabler of this change and already offers a complete machine portfolio for the production of sustainable yarns. Of outstanding interest are certainly the Saurer solutions for "Recycling Extreme" - the definition for the classification "poor" with a short fibre

content of more than 78%. Here, Saurer offers its customers solutions with a patented performance package for processing ultra-short fibres into yarn. Components are the vacuum trash cleaner (VTC), which keeps production clean, and Digipiecing.

In his presentation, **Fritz Legler, Stäubli** Textile Global Head of Marketing, Sales & Service WPS, underlined that Stäubli's reliability and stability are based on uninterrupted family ownership, and the company's technical excellence is the result of a continuous focus on industrial customers. The strategic goal is to develop solutions for safer, more efficient and more economical industrial processes. Weavers at ITMA will learn how the latest Stäubli solutions can boost their weaving mills' performance and overall efficiency. Stäubli will showcase, among other things, the SAFIR S60 automatic drawing-in system with new Active Warp Control 2.0 (AWC 2.0), Jacquard machines of the PRO series launched at the end of 2022, the new MyStaubli customer portal and state-of-the-art shed formation solutions for frame weaving. As a further highlight, Stäubli will present the new ALPHA carpet weaving system.

Per Oloffson, Managing Director **SSM**, pointed out that they embody sustainability to a high degree. For example, SSM stands for waste reduction and yield maximisation and offer energy-efficient solutions with lower resource requirements. At the fair, SSM will show three new and special products. Firstly, the SSM NEO-FW precision package winder, secondly the SSM

NEO-FD precision assembly winder and thirdly Nema, the SSM Digital Suite, whose real-time insights provide transparency of process performance at all times.

Steiger offers flat knitting machines for fashion, medical applications, technical textiles and knitting parts for composites. They want to build the future of the knitting with its customers and will show a sustainable and low consumption machine family. At ITMA they will present some new developments, said **Carlo Corradi**, the company's Sales and Marketing Manager.

Swinsol's vision is "they will revolutionize compact spinning worldwide in the upcoming years", explained **Laszlo Olah**, Swinsol Managing Director & CDO. A number of highly specialised components will be in focus at the show, including the RECOMPACT compact spinning device and the SpringUnit, a P3-1 modernisation kit. In addition, they offer a Swinsol Recycling Machine.

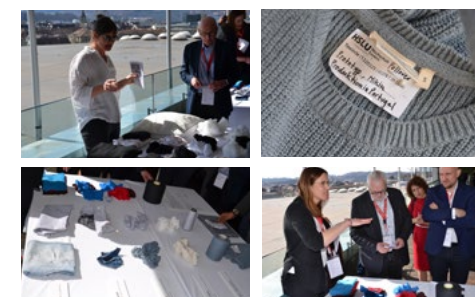
Sivakumar Narayanan, Uster Executive Vice President Marketing & Business Development, pointed out that the EU Vision 2030 for textiles calls for all textile products on the EU market to be largely made of recycled fibres. It's clear that the use of recycled cotton in a blend with new fiber will impact on both the overall yarn strength and its CV%. Even the most sophisticated spinning machinery won't fix the problem. Uster strongly recommends taking both numeric test results and graphic evaluations into account. As a quality benchmark and the basis for industry-wide quality improvements,

Uster will present a new edition of the Uster Statistics at ITMA 2023, the only globally recognised quality benchmark for 66 years. For the first time, it will include a section for recycled yarn and an expanded range of fibre data to support sustainability goals.

At the end of the session, the **Texcircle Project**, an Innosuisse project to design a circular ecosystem of the **Lucerne University of Applied Sciences and Arts** in conjunction with 6 industry partners and 3 network partners was presented. **Brigitt Egloff**, researcher and designer at the Lucerne University and **Franziska Häfeli** from Rieter explained how they are working on the project to recycle old and disposable textiles into new fibres by mechanical recycling and then spun new yarn and produced new textiles. Several commodity streams were presented with different starting materials and a varying proportion of recycled fibres.

The closing words were due to **Ernesto Maurer**: "See you in Milan and we look forward with you and your readers to a fantastic ITMA 2023".

www.swisstextilemachinery.ch



Brigitt Egloff and Franziska Häfeli present the results of the Texcircle Project. These range from slippers made from quite coarse yarn to socks and a knitted jumper



THE FIBRES FOR THE TEXTILE FUTURE

NEW MATERIALS
SEEK TO DISPLACE
OLD FIBRES FROM
TEXTILE MARKETS

With the exponentially increasing demands for sustainability and the reduction of CO2 emissions, combined with the transformation to a circular economy, the supply of fibres for textile applications has already gained a lot of momentum in recent years and seems to be continuing to pick up the pace. In addition to the progress made by well-known companies such as **Carbios**, **Renewcell** and **Infinited Fiber** to produce new fibres in the market as they scale up their production to an industrial level, other new processes and fibres are entering the market. **FashionforGood**, for example, has recently added 12 new companies to its innovation programme that are developing new materials and processes with implications and opportunities for the textile industry. This includes new fibres or fibres made from new or newly sourced materials. The **H&M Foundation** and its **Global Change Award** also consistently include new fibres among the nominated and awarded companies.

One such new fibre comes from Canada, not exactly one of the leading countries for textile production, but innovative and environmentally conscious. **ALT TEX**, a team of entrepreneurs and scientists, has developed the world's first carbon neutral and biodegradable polyester alternative made from food waste. Surprisingly, these are the world's largest contributor to land-fill, accounting for around 1 billion tonnes of waste, and are thus extensively available.

ALT TEX's patent-pending process uses fermentation technology to convert food waste into biodegradable and carbon neutral polyester fibres in a multi-step process to produce what it claims are environmentally friendly textiles without sacrificing performance. In May 2021, the Toronto-based startup had closed a CAD 1.5 million pre-funding round after stepping up research on bio-polyester during the pandemic and making it a success. ALT TEX has been nominated for the Global Change Award 2023.

Another fibre called **Bylon™** comes from the company **Sci-Lume Labs** in the USA. According to the company, their patent-pending Bylon technology transforms bio-based carbon into a high-performance fibre that rots in the earth, replacing conventional synthetic and natural fibres without compromise. What is particularly interesting about Bylon is that it can be produced as a thermoplastic in the same equipment and processes used to make nylon and polyester today. Sci-Lume Labs points out that it is thus able to achieve the scale and cost required to be a viable circular alternative.

Bylon, Sci-Lume Labs says, combines the incredible performance of synthetic fibres with the exceptional comfort and moisture properties of natural fibres. What's more, it can be used across industries because Bylon is melt-processable. Sci-Lume Labs was founded in 2021 by current president Oliver Syed Shafaat, who had previously spent four years working in research at



Production hall in Renewcell's textile recycling facility
Renewcell 1 in Sundsvall © 2023 Renewcell



Members of the Carbios team with the Technical Information Summary at the industrial demonstration unit based in Clermont-Ferrand, France © 2023 Carbios



2022 winners of the Global Fashion Award
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Spiber, a Japanese biotechnology startup. Oliver Syed Shafaat will give a presentation on Bylon in the "Fiber Innovations" panel at both the Dornbrin GFC Asia in March and the GFC in Dornbrin in September. Bylon has also been nominated for the Global Change Award 2023.

A patent-pending "RE:LASTANE" polyester recycling process developed by the Chinese company **Qingdao Amino Materials Technology**, founded in 2020, could be particularly interesting because it addresses one of the textile industry's biggest problems: the separation and reprocessing of fibre blends, or more precisely, it focuses on the separation and recycling of polyester and polyester blend fabrics. The "Amino" polyester recycling system developed by Qingdao Amino can depolymerise polyester into monomers under mild reaction conditions. The monomers are purified and then repolymerised into polyester for textile fibre applications.

The "Amino" Polyester Recycling System uses a newly developed biomimetic enzyme targeting technology for this purpose, which enables the depolymerisation of polyester under mild conditions without damaging non-polyester fibres. In this way, polyester fibres can be separated from cotton, nylon, spandex and other blended fibres. The separated polyester fraction and other blended fibre fractions can then be recycled in the loop. The company sees their technology as a way to realise a closed loop of polyester blended textiles and aims to use it to offer a practical and economical way to recycle textile waste, promoting the green, low carbon and sustainable development of the textile industry. After nearly two years of basic research and development and pilot production, the company was able to turn its idea into a product and exhibited it at the 5th China International Import Expo in November 2022.

In April 2022, Qingdao Amino Materials Technology was one of five winners of the H&M Foundation's Global Change Award with its RE:LASTANE process, sharing a €1 million grant. In March 2023, Qingdao Amino was accepted into Fashion for Good's Innovator Programme.

Perhaps even more spectacular is the journey of **Rubi Laboratories**, a US company founded by twin sisters **Leila Mashouf** and **Neeka Mashouf** in 2021. Rubi produces viscose and lyocell directly from CO₂ by extracting carbon emissions from the air. The process can therefore be considered CO₂ negative, meaning this future-proof textile is carbon-negative and uses virtually no water, chemicals, land or produces any waste.

The idea of Rubi is to be able to tap into emissions as a resource, rather than seeing them as a heavy burden. Rubi diverts carbon emissions that enter the atmosphere and captures them in a bioreactor where stabilised enzymes convert the invisible gas into long and stringy but microscopic building blocks. These building blocks are also called polymers and are the same raw material used today to make viscose, lyocell and other cellulose fibres from pulp.

The polymers produced in the Rubi process are ideal for spinning yarn without having to cut down a single tree. Rubi also won the H&M Foundation's Global Change Award 2022 with the process. Shortly before, Rubi had received seed funding of \$4.5 million from TalisCapi-

tal and NecessaryVC in February 2022 to advance their technology. This seems to have succeeded, as on 1 March the sisters announced on Twitter another successful funding round of \$8.7 million, backed by Talis Capital, Patagonia's Tin Shed Ventures and H&M Group.

With the "fresh money", Rubi will move forward with the next phase of commercialisation and already announced new partners Ganni, Reformation and Nuuly to join long-term partners H&M and Patagonia to launch further pilot projects and bring apparel textiles made from their fibre to markets and customers in selected capsule collections.

The idea of CO₂ electrolysis to obtain materials has existed for quite a long time, but the products were limited to some C1-3 products. Now, however, a solution has been presented in the Proceedings of the **US National Academy of Sciences** ("PNAS") by a team of authors led by **Jinkyu Lim, So Young Choi and Jae Won Lee** from the **Department of Chemical and Biomolecular Engineering at the Korea Advanced Institute of Science and Technology** in Daejeon, South Korea, that changes that.

The authors demonstrate that integrating CO₂ electrolysis with microbial fermentation can efficiently produce value-added multicarbon products such as poly-3-hydroxybutyrate (PHB) from gaseous CO₂. This biohybrid system involves the electrochemical conversion of CO₂ to formic acid

and the subsequent biological conversion of formic acid to PHB by *Cupriavidus necator*. Optimisation of the system to ensure suitable conditions for both conversions enabled continuous production of PHB with high titre and productivity two orders of magnitude higher than previously known values.

This work represents an exceptional strategy for reducing CO₂ emissions and producing environmentally friendly bioplastics. The use of PHB polyester for fibres, on the other hand, has been explored for more than 20 years and could gain new momentum with the above results. Combinations for composite fibres made of PHB and cellulose have also already been investigated and showed properties that should generally enable their use as textile fibres.

A completely different idea is being pursued by the company **Nanoloom** from the United Kingdom. Nanoloom says it is developing advanced next-generation materials - whether from graphene or butterfly biomimicry - that offer unparalleled strength and elasticity, conductivity, hydrophobicity and a biodegradable and recyclable end-of-life. This includes a family of graphene fibres and fabrics, created in collaboration with leading institutions such as the **Royal College of Art** and the **University of Leeds**, which have resulted in incredibly high-performing textiles.

Nanoloom sees an increase in performance for their fibres and fabrics over the last generation of technology and a wide range of textile applications. In early 2023,

Nanoloom was awarded a major Innovate UK Smart Grant, which is reserved for SMEs that have significant potential to deliver a rapid economic return in the UK through the development of breakthrough innovations. Nanoloom has also been nominated for the Global Change Award 2023.

Also different, though not entirely new, is the idea of **Spintex**, a company founded in 2018 as a spinout from **Oxford University** by **Alex Greenhalgh**, **Martin Frydrych** and **Fritz Vollrath**. Spintex says it has been pushing the boundaries of its bio-inspired spun and silk materials to provide much-needed solutions for sustainable and technical textiles. Based on the structure of the spider's web, Spintex has developed a process to artificially reproduce the unique fibre spinning process. The fibres are spun at room temperature by simply pulling them from a liquid protein gel.

According to Spintex, without any harmful chemicals. Spintex calls their process 1000 times more efficient than that used for comparable plastic fibres, and cites water as the only by-product. The fibres produced are biodegradable because they are made of protein and cannot bioaccumulate. In September 2020, Spintex received a €300,000 grant from the European Commission through the EU Horizon Programme, and in June 2021 they achieved first place in the Ray of Hope Prize 2021, a \$100,000 competition run by the Biomimicry Institute.

Spintex is also one of the nominees for the Global Change Award 2023.

Quite different, yet related and relevant to the textile industry, is a development by **Polybion**, a company founded in 2014 by brothers **Axel** and **Alexis Gómez Ortigoza** and their friend **Bárbara González Rolón** in Mexico.

In 2018, while working to develop new materials, they discovered a new material that came from a bacterial fermentation process and realised they could use it to create a high-performance alternative for leather. The resulting product, **Celium™**, is a high-quality alternative to animal-based leather and petroleum-derived plastics. It is grown by feeding bacteria with agro-industrial fruit waste; the bacteria in turn produce cellulose, a natural polymer. After Polybion™ won first prize in the Latin American Mass Challenge Acceleration Program, Blue Horizon, a fund specialising in food technology, stepped in as an investor.

Meanwhile, Polybion has been based in Spain since 2020 and has started up its first bacterial cellulose production plant with an annual production capacity of 38,000 m² of **Celium™**. This is scheduled to be further ramped up in 2023. In March 2023, Polybion™ was accepted into Fashion for Good's Innovator Programme.

CONCLUSION

This small overview already shows the cut-throat competition that could come to the dominant fibres of the textile industry in the next few years. Many of the companies enter the markets with the clear statement of disruption of existing technologies and materials. The new fibres advertise above all their great advantages in sustainability - both in terms of production and their possibilities for integration into a circular economy. The interest of the big and established fashion brands in these new materials is significant, as almost all of them have set high and highest sustainability targets for the coming years. In addition, they are forced to make radical changes in Europe due to the EU textile strategy.

Changes that will sooner or later also affect the textile-producing industry, which will have to process these new fibres in further textile processes. However, these new fibres still have to establish themselves in the market and reach an industrial production level.

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Nonwovens and paper – platform technologies for the bioeconomy

AUTHORS: ROSARIO OTHEN,
FLORIAN POHLMAYER

The bioeconomy is an economic approach based on biological resources and processes. It is a sustainable alternative to traditional economic models based on finite raw materials such as fossil fuels and mineral resources. [Lew18] Nonwovens and paper are two important platform technologies for the bioeconomy that have a variety of applications in different industries. In this article, we will give an overview of these two technologies and explain their importance for the bioeconomy.

Nonwovens and bioeconomy?

Nonwovens are made from a variety of raw materials, including natural fibres such as cotton, hemp, flax, and of course recycled fibres. The use of renewable raw materials such as hemp and flax can significantly reduce the environmental footprint of nonwovens, especially if these raw materials come from sustainable sources. Furthermore, non-

wovens can be made from biodegradable materials, which facilitates their disposal and further reduces the ecological footprint. [BPR22]

Another advantage of nonwovens is their flexibility in terms of the manufacturing process. They can be produced by various processes, including carded nonwoven, spunbond and wetlaid technologies. These technologies allow the production of nonwovens with different properties such as thickness, density, moisture absorption and durability, making them suitable for a wide range of applications. The combination of the flexibility of the properties and the high throughput of the production lines is often the advantage of using nonwovens. By choosing the right manufacturing process and raw materials, nonwovens can be produced sustainably. [BPR22]

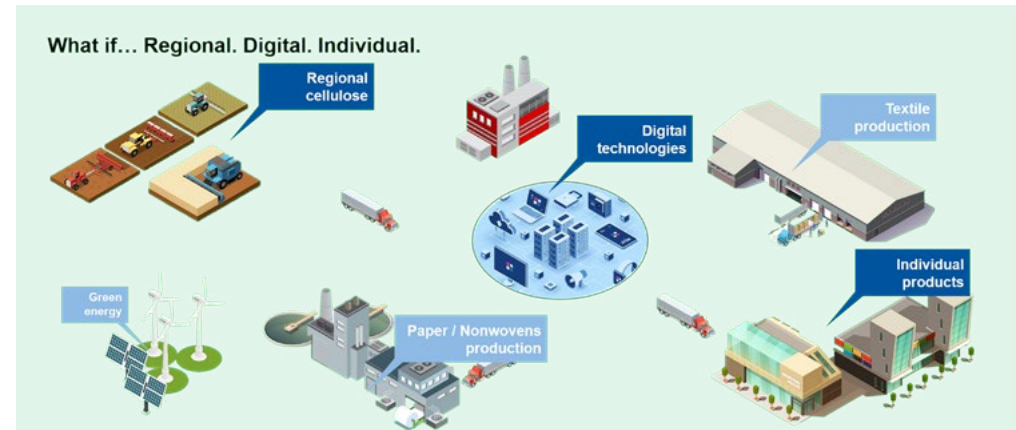


Fig. 1: Idea concept of a regional cellulose source, regional processing into nonwoven and paper products, tailored to individual needs © ITA

Nonwovens also have the advantage that they can be used in many industries. For example, they are used in the filter, hygiene or automotive industries. Nonwovens can also be used as an efficient substitute for other materials such as leather and fur, which can reduce the environmental footprint of the respective industries.

In addition, nonwovens offer opportunities for the development of new products and technologies based on biological processes. For example, nonwovens can be produced with antimicrobial or antiviral properties that can be used in the medical industry. The combination of nonwovens with other materials such as graphene and nanofibres also opens up new possibilities.

Overall, it can be said that nonwovens and the bioeconomy go very well together. Nonwovens offer a sustainable alternative to conventional materials and can be pro-

duced in an environmentally friendly way. The wide range of applications for nonwovens also offers potential for the development of new products and technologies. Nonwovens are thus an important part of the bioeconomy and can help to shape a more sustainable future.

Paper and bioeconomy?

Paper is also an important platform technology of the bioeconomy. It is made from plant-based raw materials such as wood fibres, straw or waste paper and is a versatile material used in the packaging, printing, hygiene and food industries. Paper is also an important material for books, magazines and newspapers. [Ble21]

The production of paper is a complex process consisting of several steps, including the crushing and grinding of wood or other vegetable raw materials, the production of pulp, the preparation and printing of the

paper. Using recycled paper can reduce the environmental footprint of paper products because it requires less energy and water than producing new paper.

Paper also has the advantage of being a renewable material. Trees, straw and other cellulosic materials can be regrown and harvested again, making it a sustainable alternative to materials based on finite resources such as petroleum.

processes such as making paper from grass paper. Grass paper is made from grass that grows on fallow land and is therefore not needed for food production. The use of grass paper thus eliminates the need for wood as a raw material.

Paper is also an important raw material in the packaging industry. In the bioeconomy, biodegradable packaging materials are increasingly being developed that use paper as a



Fig. 2: Network Nonwovens and Paper © ITA

In addition, paper can be made from waste paper. By recycling paper, less new wood is needed to make new paper. The production of recycled paper also produces less emissions and waste than the production of virgin paper. Recycling paper is thus an important part of the bioeconomy and contributes to the saving of resources. [Ble21]

Another aspect that links paper and the bioeconomy is the way paper is produced. Paper can be made in a variety of ways, including more environmentally friendly

raw material. Biodegradable packaging has the advantage that it is more environmentally friendly and produces less waste.

Overall, it can be said that paper and the bioeconomy go well together. Paper is an important raw material that can be used sustainably. Recycled paper production and the production of grass paper are important steps towards sustainable paper production. Paper is also used in the packaging industry, where biodegradable packaging materials are increasingly being used.

Paper is thus an important component of the bioeconomy and can contribute to shaping a more sustainable future.

Platform for the bioeconomy?

The explanations show the similarities between the two industries: both production processes are very similar in structure and offer considerable potential for the processing of bio-based raw materials, which can offer significant advantages in numerous applications due to their specific properties. Due to the relatively simple processability of the bio-based raw materials in both processes, the two industries represent an important platform for scaling up the use of new raw materials. New bio-based materials can be used quickly in large quantities, which are required by the high throughputs in the nonwovens and paper industry, and by scaling up they also become interesting for other areas more quickly, e.g. for other textile manufacturing processes.

Closer cooperation is needed to leverage the joint potential of both industries. Due to the similarity of the manufacturing processes, many synergy effects can be used, e.g. in measuring and testing technology, digitalisation and the use of raw materials. Combined products made of nonwovens and paper to achieve special properties are also conceivable. Through stronger cooperation, the two industries can become beacons for the bioeconomy and the circular economy.

The nonwovens and paper department at the Institut für Textiltechnik of RWTH Aachen University combines both industries. Are you interested in learning from each other and experiencing inspiring new approaches to your problems? Then get in touch with the authors - we look forward to hearing from you!

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The airlaid process as an innovation for dry paper production

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BENDIX BRÜGGENJÜRGEN

Paper as we know it today has existed for almost 2000 years. However, the paper industry is facing its biggest challenge yet. The high dependence on gas in the manufacturing process is leading to growing concerns about the economics of production. Due to high gas prices, some manufacturers have already had to temporarily shut down production lines. In addition to the desire for more independent technologies, further energy savings are also mandated by policy. The greatest savings can be achieved in the drying of paper, as 45 % of the energy is required for drying. In addition, manufacturers are concerned about the large amounts of water needed for the process [PBS+18]. The last summers have shown that even at locations with a theoretical surplus of water, production can be at risk.

A paper production with textile machines?

The question arises whether it is possible to produce paper without water in order to become less dependent on gas and water resources. Substituting water poses several challenges and is almost unthinkable in the industry today. Water in the papermaking process fulfils a variety of functions. Dissolution, transport, sheet formation and fibre bonding are the most important functions. [Kap01] A new concept has to be developed for each one. One water-free option for providing fibres for paper production is to produce them in whirlwind mills by dissolving and grinding. In the search for further processing of the cellulose fibres produced in this way, possible approaches can be found in nonwovens technology.

In the subgroup of dry nonwovens, a process already exists that partially fulfils the tasks of fibre transport and sheet formation. The airlaid process is an established method of processing short fibres into a nonwoven. Paper napkins are one of the best-known products that are often produced with this process. The process flow is similar to paper sheet formation. The main difference between the two processes is that air is used instead of water for transport and fibre separation. [BPR22]

In this process, fibres and powder are continuously provided in a dosing device and transported to the forming head. The forming head contains mechanical and aerodynamic components to separate the fibres. A large mass airflow and additional agitators or different rollers separate the fibres in the forming head. The best-known manufacturers of these systems include Oerlikon Neumag and Dan-Web Machinery A/S. The fibres separated in the forming head are deposited on a forming wire.



Fig. 1 - Paper pattern making with wire mesh and brush © ITA

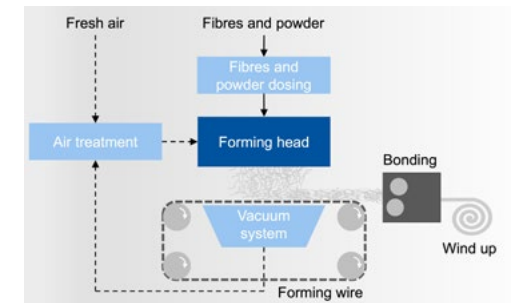


FIG. 2: © Potential weight savings on an aircraft © ITA

The extracted air is treated before it is fed into the forming head with new fresh air. Fibres that are deposited to form a web are bonded before being wound up. The bonding is currently mainly done with chemical binders. [SRM+12]

The right bond

However, in order to obtain a comparable recyclable paper end product, new bonding methods must be developed. Equivalent to nonwovens, mechanical and chemical bonding are therefore being researched. The use of pairs of rollers and fine needles can mechanically bond the paper. A possible recyclable chemical bonding can be done by fibre reactive modification [Möb22]. Polymers that have a subcritical solution temperature could form semi-crystalline bonds between the fibres above a certain temperature [Möb22]. In addition to the consolidation methods described, the formation of hydrogen bonds plays an important role in paper bonding [HS15]. Small amounts of water are required to activate these bonds between the individual cellulose fibres.

Hydrogen bonds could be activated by adding water vapour or by moistening press felts. Subsequently, the paper can be dried with significantly less energy input than with conventional drying methods. In order to be able to investigate the different consolidation methods, homogeneous sheet formation is crucial.

Challenging tasks

As part of the research activities of the Modellfabrik Papier gGmbH, together with the TU Darmstadt (MAP), TU Dresden (HFT), Papiertechnische Stiftung (PTS) and the Institut für Textiltechnik of RWTH Aachen University on a water-free paper production process. researched. With the help of funds (MFP-2022-P004), the goal at the Institut für Textiltechnik of RWTH Aachen University is to develop an airlaid process, which is adapted to the cellulose fibres of the TU Dresden. A laboratory system is to be developed with which a dry, homogeneous paper fibre deposit is achievable. It should be possible to produce DIN A4 samples with a base weight of up to 225 g/m². The biggest challenge is the short fibre length of less than 3 mm. The fibres agglomerate quickly due to the fibre geometry, which makes transport and homogeneous sheet formation more challenging.

Concepts are being developed for a possible prototype and then analysed in preliminary studies. The processes under investigation include aerodynamic, vibrational and electrostatic fibre separation.

However, the first preliminary tests indicate that purely aerodynamic separation does not achieve sufficient homogeneity. The homogeneity of the vibrational separation is also insufficient and the mass throughput is very low. Electrostatic separation also has weaknesses, as the electrostatic forces are not strong enough to distribute the fibres evenly. Due to insufficient homogeneity with comparatively high-energy input, the three methods are not considered further for the moment.

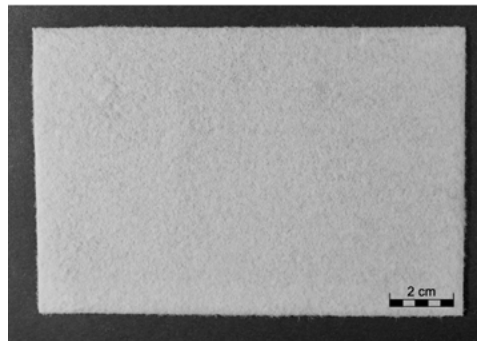


Fig. 3 - First sample of the sieve-brush process © ITA

Among the preliminary tests carried out, the combination of sieving and brushing have proven to be the most promising method for fibre separation. This concept can be seen in detail in the first figure. Here, the brush bristles can be seen sweeping the fibres through the sieve before they laid separated. In this context, different mesh sizes and bristle lengths of the brushes are analysed to determine the best combination depen-

ding on the degree of opening of the cellulose fibres. A series connection of two sieve-brush stages increases the throughput and the uniformity of the web.

Research goals could revolutionize paper production

The sample shown was made manually using the sieve-brush method. For this, a sieve with a mesh size of 1.6 mm is fixed in a frame. The fibre flocks are brushed through the wire mesh and in this way broken down to the single fibre. The evenly laid down fibres are then compacted with a roller. This gives the sheet sufficient dimensional stability for subsequent work steps. In the further course of the project, the manual process will be automated in order to be able to produce reproducible samples. Furthermore, it will be investigated which bonding methods are best suited to achieve low-water paper bonding.

The promising results of the first trials raise hope for a successful research project that could revolutionize paper production. The technology could help to significantly reduce the consumption of water and energy in paper production, and thus considerably reduce the environmental impact. Manufacturers could hence produce more independently of rising energy costs. The project will continue to fully explore the potential of this technology and test it in practice.

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NEW CERTIFICATION LABELS

RECOGNISED FOR GREEN BUTTON 2.0

More certification labels have successfully passed the benchmarking process and are thus established as recognised certification labels for production process requirements (meta-label approach) under Green Button 2.0. For manufacturing the SA8000 certification label will be accepted. Newly evaluated certification labels complement the recognised certification labels published in 2022, are for example bluesign®PRODUCT, Cotton Made in Africa (CmiA), Global Organic Textile Standard (GOTS), Global Recycled Standard (GRS), Naturtextil IVN zertifiziert BEST: Organic Content Standard (OCS), Oeko-Tex Made in Green and Oeko-Tex Standard 100, Recycled Claim Standard (RCS), RDS, RMS and RWS. To meet the Green Button requirements for production processes and to be able to label products, companies must demonstrate recognised certification labels for all three areas (fibre and material use, wet processes, manufacturing). Prior to this, companies must demonstrate compliance with the requirements for corporate due diligence processes within a Green Button audit.

www.gruener-knopf.de

#NGO

SUSTAINABLE APPAREL COALITION LAUNCHES DECARBONIZATION GUIDE



© 2022 SAC

The Sustainable Apparel Coalition (SAC) has launched its Decarbonization Guide for Members. The Guide is part of the SAC's Decarbonization Program, launched last year, to drive science-based targets (SBTs) adoption and reduction in emissions across the textile and apparel industry. The Guide provides a six-step process by which organizations can commit and set SBTs and develop action plans to deliver individual targets.

SAC RELEASES LATEST VERSION OF THE HIGG BRAND & RETAIL MODULE

The Sustainable Apparel Coalition (SAC), in collaboration with technology partner Higg, has released the latest version of the Higg Brand & Retail Module (BRM), one of the five assessment tools in the Higg Index. The Higg BRM is a leading, holistic framework that creates an industry specific method

for brands and retailers to evaluate, report on and improve Environmental, Social and Governance (ESG) performance along their global value chains. The SAC has invested in a major update of the tool which will feature a new assessment structure and updated methodology, underpinned by a due diligence approach. The update will encourage brands and retailers to focus on real action, impact and results.

SAC LAUNCHES NEW MEMBERSHIP CATEGORY

The Sustainable Apparel Coalition (SAC), has launched a new membership model for companies with a revenue of over \$100 million to encourage more in the industry to work towards including sustainability as part of their business.

SAC LAUNCHES HIGG FACILITY ENVIRONMENTAL MODULE 4.0 TECHNICAL PAPER

The Sustainable Apparel Coalition (SAC) has today its Higg Facility Environmental Module (FEM) 4.0 Technical Paper ("the Paper"). The Higg FEM 4.0 will be officially released in November 2023, but, to provide transparency to users and to allow them to prepare for the new version, the SAC is giving access to the Higg FEM 4.0 content through the Paper, which is now available on the SAC website.

apparelcoalition.org

#Seal

GOTS VERSION 7.0 RELEASED

The Global Organic Textile Standard is pleased to announce the release of GOTS Version 7.0, which features an expanded scope of environmental and social criteria while maintaining a standard that is practicable for industrial production and appropriate for a wide range of products. GOTS and the Manual for the Implementation of GOTS were restructured, and sections were grouped to reflect the standard's scope. Criteria for the incoming organic material have been made stricter. Standard Version 7.0 can be downloaded on the GOTS website.

global-standard.org

#Seal

NEW EU PROJECT NETWORK ECOSYS- TEX LAUNCHED TO ACCELERATE COLLA- BORATION IN TEXTILE SUSTAINABILITY

With 17 R&I EU-funded member projects focusing on textile sustainability, ECOSYS-TEX– European Community of Practice for a Sustainable Textile Ecosystem has been formally launched in early 2023, with a



© 2023 Textile ETP

RECYCLING

mission to accelerate collaboration in the textile sustainability and circularity field. ECOSYSTEM is a joint initiative of the European Commission's Research Executive Agency (REA), the European Health and Digital Executive Agency (HaDEA) and the Circular-Biobased Europe Joint Undertaking, and is facilitated by the Textile ETP.

textile-platform.eu/ecosystem

#Fiber

SANYOU AND RENEWCELL ANNOUNCE GOAL TO ACCELERATE VISCOSE FIBERS MADE FROM 100 PERCENT RECYCLED TEXTILES

On the sidelines of the Intertextile Shanghai fair, the Swedish textile-to-textile recycling innovator Renewcell and the leading Chinese viscose manufacturer Tangshan Sanyou announced the next step in their partnership to make fashion circular that stretches back to 2018. The two companies' new shared ambition is to offer manufacturers and brands Circulose® viscose fibers made from 100% recycled textiles in commercial quantities starting in 2024.

www.renewcell.com

#Fiber

LENZING AND RENEWCELL SIGN LARGE-SCALE SUPPLY AGREEMENT

The Lenzing Group, the world's leading supplier of sustainably produced special-

ty fibers, and Renewcell, the Swedish textile-to-textile recycling pioneer, have today signed a multi-year supply agreement to accelerate the transition of the textile industry from a linear to a circular business model. The agreement contains the sale of 80,000 to 100,000 tonnes of Renewcell's 100 per cent recycled textile Circulose® dissolving pulp to Lenzing over a five-year period, for use in the production of cellulose fibers for fashion and other textile applications. www.lenzing.com

#Composites #Fiber

TOYOTA INDUSTRIES CORPORATION WINS JEC COMPOSITES INNOVATION AWARDS FOR CFRP RECYCLING TECHNOLOGY AND RECYCLING SYSTEM

On March 2, 2023, Toyota Industries Corporation won an award at the JEC Composites Innovation Awards (Circularity & Recycling category) for its carbon fiber reinforced plastics (CFRP) recycling technology and the comprehensive CFRP recycling system that Toyota Industries aims to build.

www.toyota-industries.com



Award ceremony © Toyota Industries

#Textile Machines #Spinning

RIETER AND RECOVER: COOPERATION IN THE FIELD OF RECYCLING

Rieter and Recover agreed to join hands for technological advancements and research projects in the field of recycling. Both parties will work together to conduct trials and initiatives with various recycled raw materials and blends to build a solid foundation for textile circularity. Rieter has high competence in customized spinning systems for staple fibers including recycled materials and Recover™ has developed its expertise in processing and applying high-quality recycled fibers. Both parties are expected to create synergies by improving the processing of pre- and post-consumer recycling materials and to extending the scope of use of recycled fibers with improved processes and machines. Specifically, they are working to amplify Recover's catalogue of blends. The challenges lie in mechanically recycling diverse fabrics without sacrificing the integrity of the resulting fiber.

www.rieter.com recoverfiber.com



In a trial, high-quality yarn was produced with recycled material from Recover with Rieter ring spinning machines © Rieter

#Project

REHUBS INITIATIVE PROJECT FOR BLUEPRINT OF A 50,000 TONNE USED TEXTILES SORTING FACILITY

The "Transform Textile Waste into Feedstock" project has been initiated by TEXAID, within the ReHubs initiative, together with well-known stakeholders of the textile value chain. The major outcome of this project will be a sorting-factory blueprint fulfilling the requirements to the future needs of fibre-to-fibre recycling, enabling the future of more sustainable textiles by using recycled fibres. TEXAID, who is leading the project, is committed to build and operate scalable sorting facilities across Europe, the first with a capacity of 50,000 tonnes by the end of 2024.

www.texaid.ch

#Project

NEW EUROPEAN INITIATIVE TO SUPPORT SMES IN TRANSFORMING TEXTILE WASTE INTO VALUE

Led by EURATEX, the project brings together 43 partners from 11 European regions, with 24 SMEs pioneering innovative solutions to recycle textile waste. Together the SMEs cover various value chain segments of circular textiles and provide concrete solutions to EU value chain bottlenecks but also seize upon market opportunities. The project will also promote the development of 5 regional ReHubs in some of the most important textile regions in the EU. www.euratex.eu

#Textile Machines #Spinning

TRÜTZSCHLER BOOSTS PRODUCTION FOOTPRINT IN CHINA

Trützschler is further expanding its business in China to embrace the dynamic development of China's nonwovens market. Back in September 2019, the company formally established the Trützschler Textile Machinery (Jiaxing) Co., Ltd. In 2022, it officially inaugurated and began production activities at a new factory. It features a modern design that was created with a strong focus on sustainability. The new site is now significantly improving operational efficiency and further boosting business development for Trützschler in China. The Trützschler Group officially announced its carbon neutrality target in 2022, aiming to achieve carbon neutrality in all production sites worldwide by 2035. The new factory contributes to this ambition because it features energy-saving production equipment and generates its own electricity supply through solar panels on the rooftop of the building.

www.truetzschler.com



The new production site generates its own electricity through solar panels on the rooftop © 2023 Trützschler

#Apparel #Denim

KONTOOR BRANDS INCREASES RESULTS IN 2022

Kontoor Brands, a global lifestyle apparel company, with a portfolio led by Wrangler® and Lee®, reported for 2022 revenue of \$2.63 billion increased 6 % compared to FY'21 and an reported EPS of \$4.31 compared to \$3.31 in FY'21. Revenue increases were primarily driven by strength in Digital, including own.com and digital wholesale, as well as strength in U.S. wholesale. www.kontoorbrands.com

#Textile Machines #Spinning

RIETER REPORTS RECORD SALES

With record sales of CHF 1510.9 million, Rieter achieved an increase of 56% compared with the previous year (2021: CHF 969.2 million). The profit at the EBIT level was CHF 32.2 million (2021: CHF 47.6 million). An EBIT margin of 2.1% was achieved (2021: 4.9%) Order intake was CHF 1157.3 million in 2022 (2021: CHF 2225.7 million) and thus remained at a high level. The market situation was characterized by investment restraint and below-average capacity utilization at spinning mills due to geopolitical uncertainties, rising financing costs, and consumer reticence in important markets. The company had an order backlog of around CHF 540 million at the end of 2022, which thus extends into 2023 and 2024. www.rieter.com

#Brand #Apparel

ADIDAS RESULTS IN 2022 REFLECT GEOPOLITICAL, MACROECONOMIC, AND COMPANY-SPECIFIC CHALLENGES

In 2022, currency-neutral revenues grew 1%, reflecting increases in all market segments except Greater China. From a channel perspective, adidas' top-line development was supported by growth in both wholesale (+1%) and the company's own direct-to-consumer (DTC) business (+2%). Within DTC, own retail revenues were flat compared to the prior year level. E-commerce revenues increased 4% during the year driven by double-digit growth in North America and Latin America. In euro terms, the company's revenues increased 6% in 2022 to € 22,511 million (2021: € 21,234 million). "2023 will be a transition year to build the base for 2024 and 2025," said Bjørn Gulden, CEO of adidas.

www.adidas.com

#Association

INCOMING ORDERS AND TURNOVER CONTINUE TO GROW

Orders and sales of the German manufacturers of Textile Care, Fabric and Leather Technologies are still on a growth course: in the period from October 2021 to September 2022, incoming orders increased by 37 percent in real terms and sales are also positive for the technology manufacturers with

a growth of 14 percent compared to the previous year. Only exports in the sewing and garment technology sector weakened slightly in the first eight months of 2022 and fell by 5 percent to 265 million euros.

www.vdma.org/textile-care-fabric-leather-technologies

#Fiber

LENZING GROUP'S 2022 FY DEFINED BY CHALLENGING MARKET CONDITIONS

Revenue increased by 16.9 percent year-on-year to reach EUR 2.57 bn, primarily as a result of higher fiber prices. The quantity of fiber sold decreased, while the quantity of pulp sold rose. In addition to lower demand, the earnings trend particularly reflects the increase in energy and raw material costs. Earnings before interest, tax, depreciation and amortization (EBITDA) decreased by 33.3 percent year-on-year to EUR 241.9 mn in 2022. The net result for the year was minus EUR 37.2 mn (compared with EUR 127.7 mn in the 2021 financial year), while earnings per share stood at minus EUR 2.75 (compared with EUR 4.16 in the 2021 financial year). Given the trend in earnings and the pronounced deterioration in market conditions, Lenzing launched a reorganization and cost reduction program in the third quarter of 2022. As the lyocell plant in Thailand is now fully operational, Lenzing has the capacity to increase its share of specialty fibers substantially. www.lenzing.com

#Textile Chemistry

NEW TEXTILE CHEMISTRY GIANT PERFECT: ARCHROMA TEXTILE EFFECTS

Archroma has announced the closing of the acquisition of the Textile Effects business from Huntsman Corporation ("Huntsman Textile Effects"). The global business of Huntsman Textile Effects comprises approximately 2,300 employees in 33 countries and 10 production sites globally which, when combined with Archroma, means the company will have more than 5,000 employees in total, in 42 countries and 35 production sites. The companies' combined product portfolios will be highly complementary, offering fashion brands and the global textile industry the high performance and innovation they expect, whilst respecting natural resources and the planet. Archroma is a portfolio company of US-ba-



f.l.t.r. Thomas Bucher, Group Chief Finance Officer; Heike van de Kerkhof, Archroma Group Chief Executive Officer (CEO); Rohit Aggarwal, Divisional President & CEO of the Archroma Textile Effects division, as well as President Asia; Sameer Singla, Divisional President & CEO of the Archroma Paper, Packaging & Coatings division, as well as President Americas and Europe, Middle East & Africa. (Photo: Archroma)

sed private investment firm SK Capital Partners. The Textile Effects business acquired from Huntsman will be integrated with the Brand & Performance Textile Specialties business of Archroma into one new division named Archroma Textile Effects.

www.archroma.com

#Textile Machines #Spinning

OERLIKON EXPANDS SERVICE OFFERING FOR CUSTOMERS IN THE USA



The new location in Charlotte, North Carolina © 2023 Oerlikon

At the new address 10350-A Nations Ford Road, Charlotte, NC 28273, synergy effects and resources can be used to a noticeably greater extent for the benefit of all Oerlikon customers in approximately 4500 m² of office and commercial space. „We are the preferred technology partner in the field of man-made fiber production in the USA and not only want to remain so, but also to further expand our services for our customers. However, the previous premises no longer offered any opportunities for expansion,“ explains Chip Hartzog, President of Oerlikon Textile Inc., the logical step.

www.oerlikon.com

OERLIKON SUCCESSFULLY CLOSED ACQUISITION OF RIRI

Oerlikon has successfully closed the acquisition of Riri, following the signing of the agreement announced on December 16, 2022. Riri is a leading provider of coated metal accessories for the luxury fashion industry.

www.oerlikon.com

#Textile Machines #Spinning

TRÜTZSCHLER CARD CLOTHING EXPANDS ITS SITE IN NEUBULACH



The construction ground of the new TCC site © 2023 Trützschler

Trützschler Card Clothing (TCC), technology leader in the manufacture of high-performance card clothings for textile yarn processing, is expanding its site in Neubulach, Germany. With the twelve-million-euro investment, the supplier for the international textile machinery industry is expanding its production, warehouse and office capacities.

www.truetzschler.com

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PEOPLE

#Textile Machines #Spinning

THOMAS OETTERLI NEW RIETER CEO



Thomas Oetterli © 2022 Rieter

The Board of Directors has appointed Thomas Oetterli as successor of Norbert Klapper as CEO of Rieter. Klapper led Rieter as CEO for nine years and has wished to take on new professional challenges. Thomas Oetterli (53) has made a significant contribution to the successful development of the world-leading Schindler Group, starting in 2006 as CEO Switzerland, later as a member of the Group Executive Committee responsible for Europe and China, and from 2016 until 2022 as CEO of the Group. With his comprehensive leadership skills and many years of industrial and international experience, Thomas Oetterli brings ideal prerequisites to lead Rieter as a global market leader through the current challenges and successfully develop it further in the long term. He has taken over the function of CEO on March 13, 2023.

www.rieter.com

#Textile Machines #Finishing

GUNNAR MEYER NEW MANAGING DIRECTOR MONFORTS



Gunnar Meyer © 2023 Monforts

Gunnar Meyer has been assigned the new Managing Director of A. Monforts Textilmaschinen GmbH & Co. KG in Mönchengladbach, Germany, as of January 1st 2023.

Mr Meyer started his career with Monforts and has spent his whole working life in the textile machinery industry. Between 1985 and 2010 he was a key part of the Monforts team in various roles related to sales and commercial issues, including as General Sales Director. He returned to the company in 2019 after working for other well-known German textile machine manufacturers in the field of nonwovens and is now looking forward to meeting the worldwide Monforts network of customers and suppliers at the forthcoming ITMA 2023 exhibition in Milan.

www.monforts.com

#Nonwovens'

AHLSTROM APPOINTS HELEN METS AS PRESIDENT AND CEO



Helen Mets © 2023 Ahlstrom

Helen Mets is appointed President and CEO of Ahlstrom, effective January 1, 2023. With the company entering the next phase of growth and transformation, Helen will succeed current President and CEO Hans Sohlström, who has contributed greatly to Ahlstrom's success since 2016. Helen Mets is an international business leader with over 30 years' experience. She has a proven track record of building successful businesses and maximizing value for all stakeholders. She has held a range of senior executive leadership roles at Avery Dennison, the family company Pon, and at Royal DSM, where, as Executive Vice President of Materials, she led the successful growth transformation, carve-out and divestment of the Specialty Materials businesses. Since December 2021, she has also served on the Ahlstrom Board of Directors.

www.ahlstrom.com

#Technical textiles

EELCO SPOELDER APPOINTED NEW CEO OF AUTONEUM

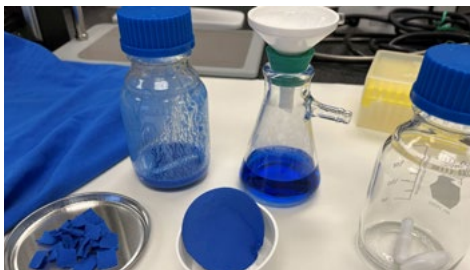


Eelco Spoelder © 2023 Autoneum

Matthias Holzammer is handing over the operational management of Autoneum for family reasons as of March 27, 2023. The Board of Directors thank him for his outstanding work during the particularly challenging crisis years. As his successor the Board of Directors has appointed Eelco Spoelder, who has over 25 years of experience in the automotive supply industry. Eelco Spoelder has held global leadership positions in the automotive supply industry at Faurecia and previously Continental, where he ensured operational competence and strategic continuity even in a challenging market environment. His core competencies include negotiating with an international network of customers and suppliers in the automotive supply industry. He is also deeply familiar with technology trends in the automotive industry.

www.autoneum.com

RESEARCH & DEVELOPMENT



A cotton knit fabric dyed blue and washed 10 times to simulate worn garments is enzymatically degraded to a slurry of fine fibers and „blue glucose“ syrup that are separated by filtration - both of these separated fractions have potential recycle value. Credit: © Sonja Salmon

#Recycling

RESEARCHERS SEPARATE COTTON FROM POLYESTER IN BLENDED FABRIC

In a new study, North Carolina State University researchers found they could separate blended cotton and polyester fabric using enzymes – nature’s tools for speeding chemical reactions. Ultimately, they hope their findings will lead to a more efficient way to recycle the fabric’s component materials, thereby reducing textile waste.

news.ncsu.edu

#Sustainability

FUNDING: WILL HSNR FIND NEW FORMULA FOR GREENER DETERGENTS?

Will the Niederrhein University of Applied Sciences (HSNR) soon possibly pave the way for an intelligent solution for making detergents greener and laundry washing even more environmentally friendly and energy-efficient? At the very least, a research group from the departments of che-



Kerstin Hoffmann-Jacobsen (left) and Sedef Eyeoglu from the Department of Chemistry are conducting research at HSNR as part of the GreenProtAct project © HSNR

mistry and electrical engineering/computer science will be working over the next three years on a predictive model based on artificial intelligence (AI) that could produce a completely new control variable in enzyme technology. The research project „GreenProtAct“ is funded by the Federal Ministry of Education and Research with around 515,000 euros.

www.hs-niederrhein.de

#Learning

STFI ACADEMY COURSE PROGRAMME 2023

Qualified skilled workers are becoming increasingly difficult to find, even in the textile industry. The STFI therefore offers modules and courses for the qualification and further training of skilled workers under the name „STFI Academy“. Jens Stopp and Denise Braun, both long-time employees of the STFI, manage the academy.

www.stfi.de



Lignin precursor fibres spun from water, stabilised and carbonised continuous fibres. Photo: © DITF

#Fiber

CARBON FIBERS FROM LIGNIN - A NEW PROCESS FOR ECONOMICAL PRODUCTION

A novel, both environmentally friendly and cost-saving process for the production of carbon fibers from lignin has been developed at DITF. It is characterized by high energy-saving potential. www.ditf.de

#Technical textiles #Mobility application

ITM IS INVOLVED IN THE FUNDING PROJECT „REVOLECT“

Lithium-ion batteries (LIB) are indispensable key components for electro mobility and the success of the energy transition. Eight partners from industry and science are developing technologies and components in the funded project „revolect“ (funding code: 03ETE041) in order to be able to produce resource-saving and more efficient LIBs. The project is pursuing two key innovations: the replacement of the usual metal foils with a metallized fabric structure and the use of silicon as anode material. ITM is developing ultralight carbon fabrics



Dr Ioana Slabu and Benedict Bauer with the nanomodified stent, source: © Peter Winandy / ITA

based on a carbon spreading technology for the highly efficient electrodes. Project partner PORCHER INDUSTRIES GERMANY is a specialist in the production of glass fabrics from glass filament yarns. The developed carbon and glass fabrics are metallized by elfolion by vacuum processes for use as current collectors.

tu-dresden.de/ing/maschinenwesen/itm

#Technical textiles #Medical application

NOVEL TECHNOLOGY FOR HOLLOW ORGAN TUMOUR THERAPY OFFERS RELIEF FOR MILLIONS OF PATIENTS

Ioana Slabu from the Institute of Applied Medical Technology and Benedict Bauer from the Institut für Textiltechnik of RWTH Aachen University have now developed a novel technology for the therapy of hollow organ tumours, which was awarded second place in the RWTH Innovation Award. This involves a polymerstent that contains magnetic nanoparticles.

www.ita.rwth-aachen.de



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