Tetex

EUROPEAN TECHNICAL TEXTILES MAGAZINE

WINTER 2018

TOP 10 TEXTILE INDUSTY Innovation of 2017

THE FUTURE OF FIBRES
Ultrafine PE fibres

BIOELECTRONIC SCIENCE
Fabric stretchable battery

CALENDAR
Actual upcoming Events

ISSN 2514-7463

techtextil
RUSSIA

International Trade Fair for
Technical Textiles and Nonwovens

CONNECTING THE FUTURE

20 – 23 March 2018

IEC «Expocentre», Moscow

Agrotech
Buildtech
Clothtech
Geotech
Hometech
Indutech
Medtech
Mobiltech
Oekotech
Packtech
Protech
Sporttech

www.techtextil.ru

Editorial

Dear Readers,

Year 2017 has been rich in various new technologies, textiles and materials. We hope that year 2018 will bloom with even bigger and better development of industry.

The upcoming months seem to be very busy - there are big events already planned for this year that shouldn't be missed by any of textile enthusiasts. The range of possibilities is huge and surely no one would be left disappointed.

We encourage you to visit fairs if you still haven't, each one is unique and amazes with creativity! This issue of Tetex Magazine is a summary of the past year and its best technical innovation in industry, as well as presentation of some new and fresh ones. We hope that everyone can find some interesting bits in our magazine.

See you soon!

Dorota Sakowska-Hunt

Publisher:
Tetex Limited
Europe's Leading Technical Textile Website
Great Britain
Mill Lane, Sawston,
Cambridge CB22 3HY
+44 788 497 7809
Poland
Klobucka 7, 02-699 Warsaw
+48 22 101 399 8
www.tetex.com / info@tetex.com

Editor in Chief:
Dorota Sakowska-Hunt

Editorial Team:
Łukasz Cichoszewski
Mark Hunt
Karolina Kostuś
Agata Sibilska

Graphic Design
Lex Batiuk

Online edition
www.tetex.com/magazine

RemaDays WARSAW

7TH-9TH FEBRUARY 2018

SEE MORE

TRADE FAIR BURSTING WITH IDEAS

14TH EDITION	760 EXHIBITORS	21 000 VISITORS	35 000 M² OF EXHIBITION SPACE

WWW.REMADAYS.COM

CONTENTS

TOP 10 TEXTILE INDUSTRY INNOVATIONS OF 2017

1

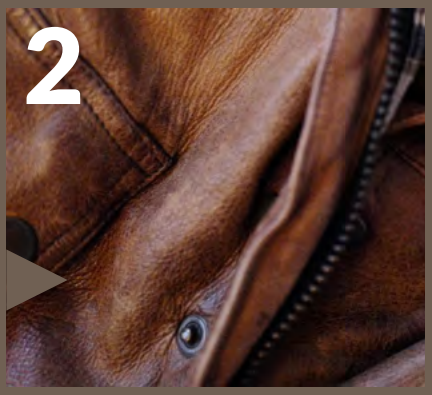
Biofabrication Leather, Modern Meadow

In short, Modern Meadow is growing leather. This innovative company is bringing sci-fi to reality. Through collagen growth, they are able to create leather and modify it for different purposes and quality bases. Their product is completely controlled, from DNA to clothing. the wound.

Maestley, by Teijin

A new input on artificial leathers. Through a thoughtful process of fibre selection, non-woven structures, based material density and lamination methods, Teijin has managed to present a new high-grade artificial leather. This comes as an option for leather-based apparel – especially footwear due to this fabric's high durability.

2



3

4

Tech infused wearables, Emel+Aris

After collecting more than £100.000 through a Kickstarter campaign, these coats are available to shop online and in physical stores. Their infrared heat energy warms up without any faulty wires, nor does it sacrifices the garments' aesthetic value. Their slogan sums it up pretty accurately: "whatever the weather, style is never compromised".

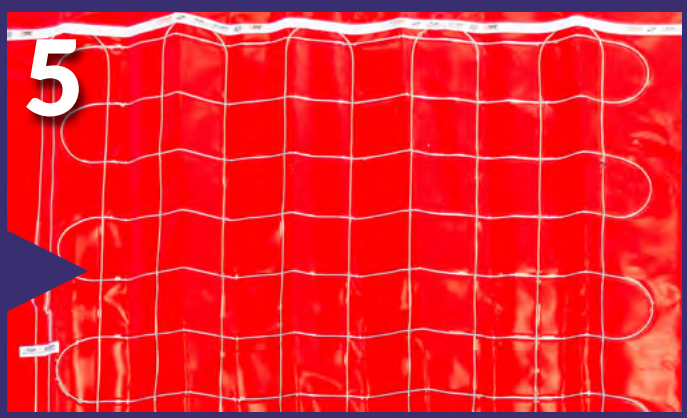
Electro-Yarn the "world's first" conductive thread

Introduced by Marubeni America Corporation as the "world's first" conductive thread, Electro-Yarn is a polyester multifilament, multi-walled carbon nanotube, exhibiting little change in electrical resistance, without compromising yarn durability. It has lighter weight and a larger surface area compared to metallic wires, the electrical resistance of Electro-Yarn is maintained throughout the entire length of the yarn, and the surface heating is exponentially faster than that provided by metal wires.

Sakoplan-High Security

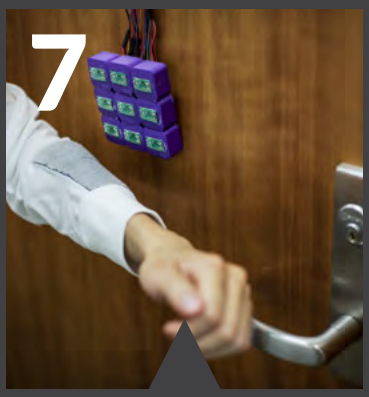
Sakoplan-High Security introduced by Sako-Expo is an innovative security solution amongst anti-burglary tarpaulins. Its cutting-edge solution combines two main protective functions: mechanical - against cutting with sharp tools, and electronic - alarm starts when the circuit breaks. In case of circuit breakage an alarm is activated and the system connects to GPS, which allows to trail the location in case of theft. There are several solutions on the market that help to raise the safety of cargo and the company has the biggest warehouse or tarpaulin materials in Poland, in first and second choice fabrics.

5



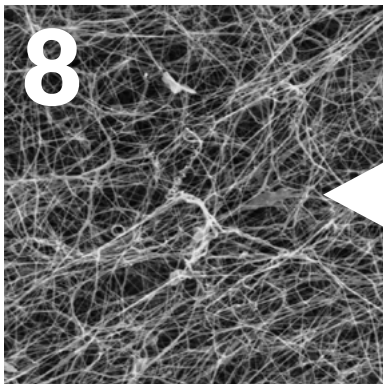
Xenoma E-skin Smart Shirt

Xenoma's "E-Skin" smart shirt has 14 sensors that turn your body into a motion controller. This technology can also be used to train athletes and monitor their performance. As an optional add-on, the company is also looking into letting developers pair its E-Skin products with VR headsets. That would give smartphone-powered units a full-body motion controller without the use of external cameras or more expensive, inside-out motion tracking modules



Data-storing materials

The University of Washington computer scientists have created fabrics and fashion accessories that can store data - from security codes to identification tags - without needing any on-board electronics or sensors. This is a completely electronic-free design, which means it can be ironed or put it in the washer and dryer.

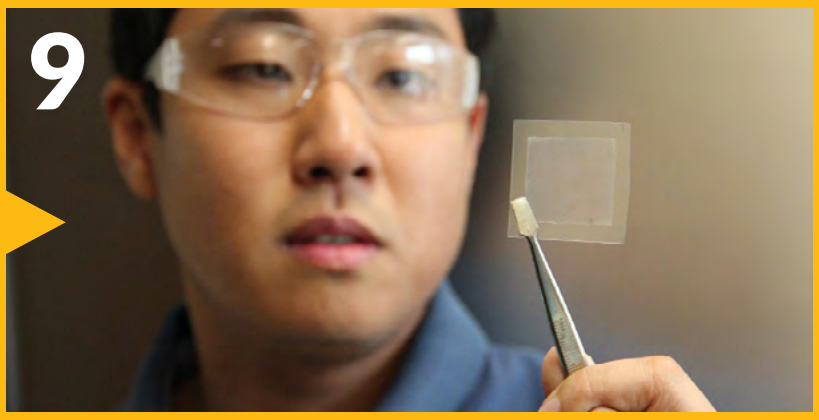


Lenzing's Tencel fibre

Lenzing's Tencel, a cellulose fibre made from dissolving wood pulp in a dry-jet-wet spinning process, has been widely adopted by the fashion industry as the lyocell fibre of choice. The latest fibre aims to reduce the need to extract additional virgin resources from nature and reduce the net impact on ecological resources. Lenzing is the first manufacturer worldwide to offer man-made cellulosic fibers incorporating recycled materials on a commercial scale.

Soy-based Graphene

A team of Australian scientists has used soybean oil to make graphene – the strongest and thinnest type of carbon with good electrical conductivity. In the new method, the oil was used as a precursor to develop graphene using one-step process. Interestingly, the team has experimented with leftover cooking and waste oils. The scientists envisage applications such as improving battery performance and developing cheap and efficient solar panels, to name a few.



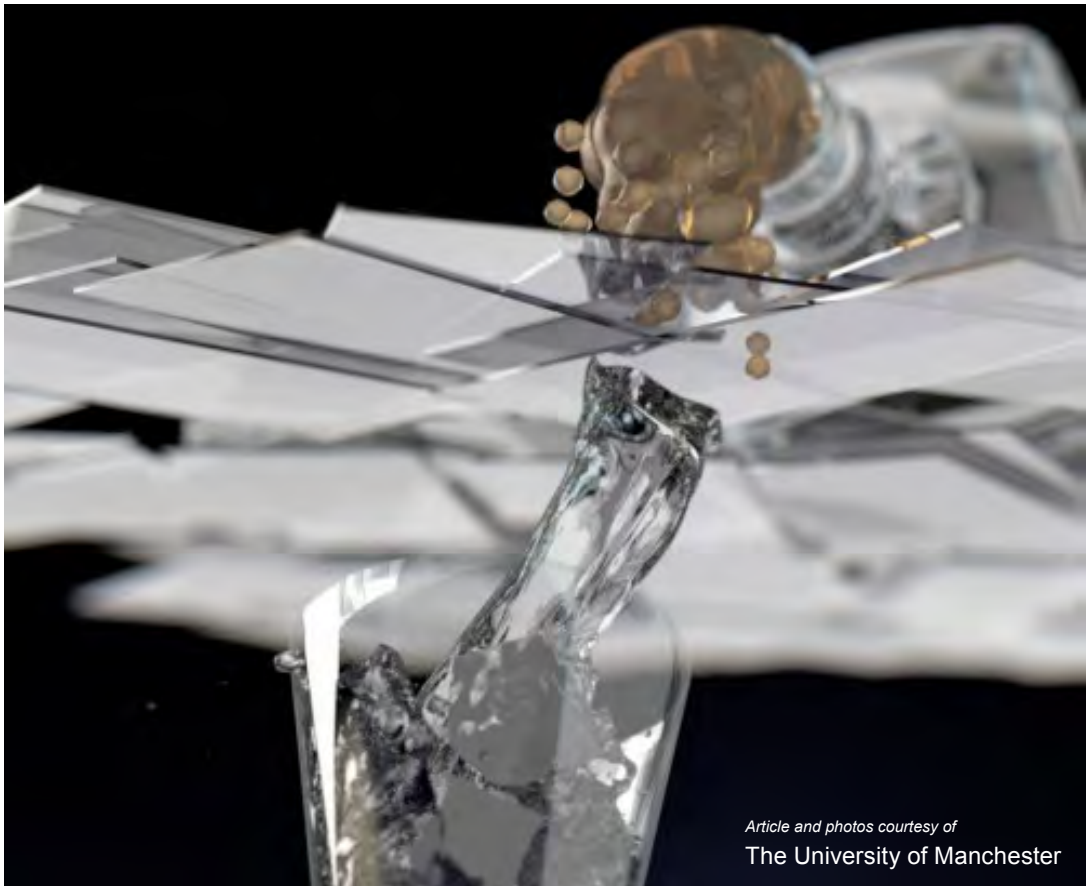
Heartbeat-hearing cloth

Technical Textile is becoming a roaring field nowadays. Fiber, yarn, fabrics and other structures with functional and technical properties engaged as an alternative material with a limitless range of applications. This smart cloth that can measure heart beat rate functioned with a tiny rigid sensor and flexible conductive yarn that can measure and transmit information about the wearer in real time. It measures the change in volume of blood through any organ of the body which causes a change in the light intensity through that organ.

Graphene based products soon taking over

The first graphene-based products are beginning to enter a variety of markets from automotive to smart textiles, offering qualities like mechanical strength, flexibility, light weight and even more.
Graphene was discovered at The University of Manchester in 2004 and it is a 2D material, consisting of a single layer of carbon atoms arranged in a hexagonal lattice. The study of graphene continues to be constantly evolving field of research.

The company Directa Plus recently completed the first phase of a study to better understand the possible uses of graphene membranes in the textiles sector. In February, the company was awarded a grant by Lombardy regional government to carry out further research into graphene for textiles and fashion.



Article and photos courtesy of
The University of Manchester

"Directa Plus is delivering tomorrow's materials in today's products. By this, I mean that graphene has significant potential for growth in the textiles market, but we can already benefit from some of its qualities" said Giulio Cesareo, Chief Executive Officer of Directa Plus. "Because consumers place great value on wellness and comfort, which can be enhanced by the incorporation of Graphene Plus, we believe there are significant opportunities in sportswear and workwear, but also in city wear – where technology meets Italian design, fashion and attitude to elegance."

In recent years, millions of people used wearable technologies. Devices that monitor vital signs from heart rate, to weight and sleeping patterns have now become the norm in our daily lives. Researchers from The University of Manchester, led by Dr Nazmul Karim at the National Graphene Institute have demonstrated the first all inkjet-printed graphene e-textiles. This is expected to enable the printing of flexible, comfortable and more environmental friendly graphene wearable sensors on a garment by using simple inkjet printing technique.

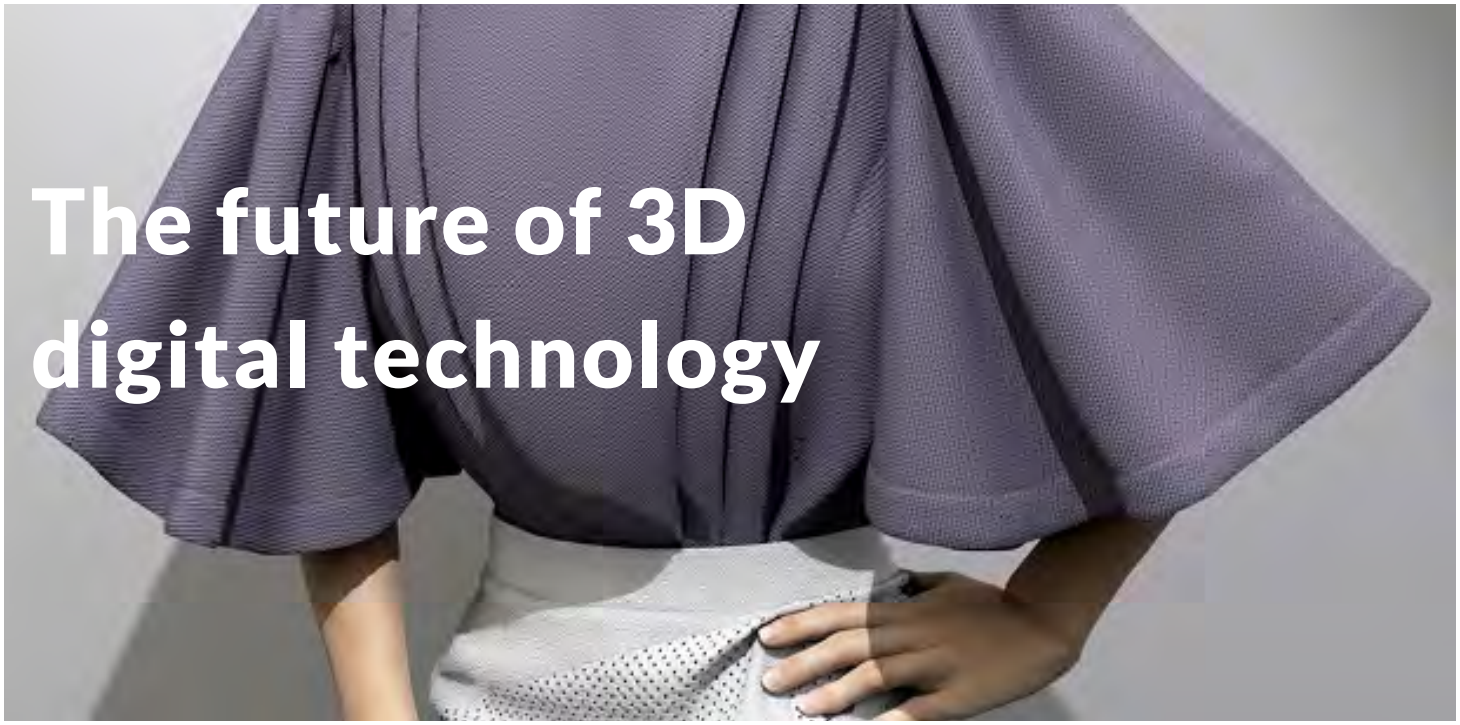
Taking a creative use of graphene in smart textiles was a London based fashion house CuteCircuit, led by the Creative Director Francesca Rosella.The company worked closely with the scientists of the National Graphene Institute at the University of Manchester to produce special graphene substrates used in the innovative dress, which is responsive to the breathing of the wearer.

"This is a fantastic project, graphene is still very much at its infancy for real-world applications and showcasing its amazing properties through the forum of fashion is very exciting," said Dr Paul Wiper, Research Associate, National Graphene Institute.

Although it offers a great spectrum of applications and possible benefits, including providing an environmentally more sustainable solution when produced as water based inks, graphene still raises questions about whether it can be produced on an industrial scale. One of the biggest challenges related to the use of graphene based dispersion and other 2D material based dispersion is the quality of the material and therefore, this type of material is not suitable for electronics.

According to Giulio Cesareo, CEO of Directa Plus, the main challenge of the industrial production of graphene based products is being able to supply them of a consistent quality and morphology that meet the requirements of large supply chains, including at the right price point.

Graphene cannot be mass-manufactured yet, there is need to work closely with scientists to create graphene sheets in a shape and size that industry could use in design.

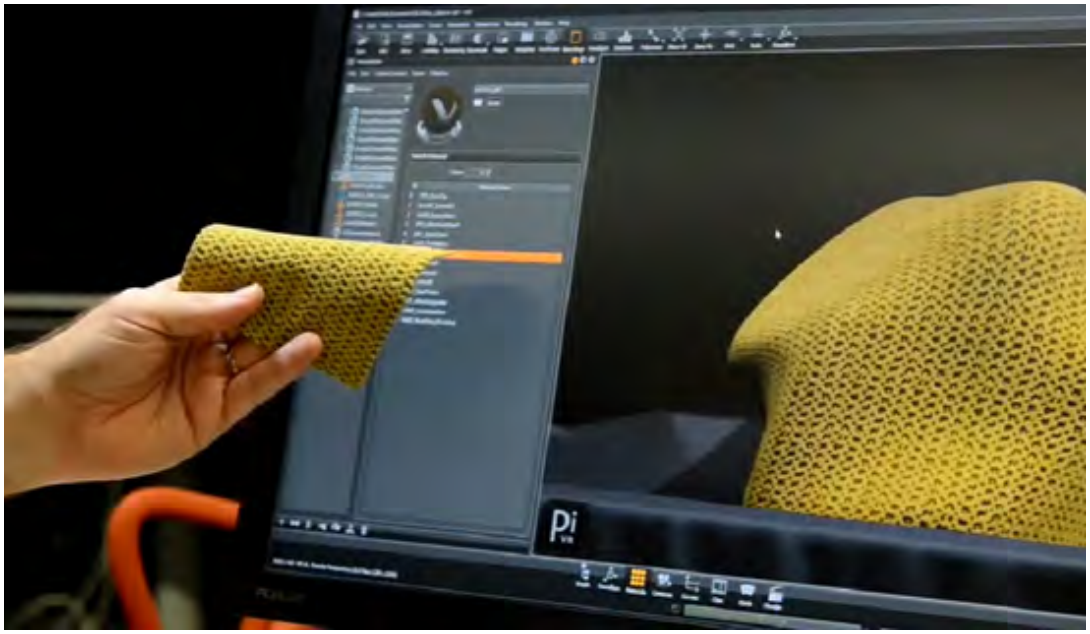


The future of 3D digital technology

Responding to the growing need for design, development and manufacturing process optimisation, 3D digital technology innovation is having its 5 minutes in the apparel and footwear industry through visualisation. Digital material visualisation during the design process can enable more efficient decisions regarding a product's body, material, design details and colours. Authentic appearance of materials is essential.

There is actually a growth of innovation around new ways of capturing and visualising materials and one example is X-Rite's TAC7 scanner, which is part of the Total Appearance Capturing (TAC™) Ecosystem. The scanner efficiently measures and stores parameters including texture, transparency, colour and size, resulting in highly accurate virtualisation of complex materials and the vendor-neutral files can then be shared with most major Product Lifecycle Management, Computer-Aided Design and rendering applications.

Vizoo's technology xTexTM combines the xTex scanner, which captures material samples with the xTex software to automatically create textures from the scanned data. It takes less than one minute to complete the scan, while the average time to process the image for application in 3D design is five minutes.
As an alternative to purchasing the system, Vizoo also offer the scanner and software as a rental package, as well as providing material scanning as a service, so that users without access to the system can work with selected materials in their chosen 3D design program.



CLO is a design tool for 3D garment visualisation, which virtualises fabrics with the help of a cutting-edge computer graphics technology and utilises an algorithm to recreate the physical properties of fabric including drape and texture, claiming to have a 95% accuracy rate. CLO Virtual Fashion also offer a fabric virtualisation service and while CLO Enterprise package comes with a database of digital fabrics, users of CLO Atelier can purchase these through the companies' Marketplace. In addition, authentic digital material visualisation can be utilised during the sales phase of a product, replacing photoshoots with 3D software generated images in catalogues and on websites, as well as facilitating communication and interaction with the consumer to enhance the retail experience.

Taking material digitisation to the next level, accurate simulation for virtual sampling requires more technical and complex data than the aesthetic appeal needed for design visualisation. In the quest to make the development process more efficient, many 3D software providers already promote their technologies as tools to reduce the need for physical samples. X-Rite's Virtual Light Booth utilises SpectraLight QC professional light booth technology and a high-brightness, colour-calibrated LCD display to provide immersive visualisation of complex 3D digital materials. Digital material swatches and virtual product designs can be visualised and assessed side-by-side with physical swatches in a variety of lighting conditions.

Article and photos courtesy of
Anne Prahl

This process helps to ensure consistency between virtual prototypes and physical end products, while empowering designers and developers to make more informed material selection decisions, reduce approval cycles and accelerate time to market.
Due to the complex behaviour of materials, it is important to improve input parameters, such as bend, shear, stretch, weight, friction and thickness, and measure what happens when the materials touch the body to mimic actual fabric and garment behaviour.

It is exciting to see that companies are already innovating new tools and services to cater for this need.

Thin like a paper, strong like a tree

Dyneema® composite fabrics, made with ultra-high-molecular-weight polyethylene (UHMW-PE) fiber, have been used in applications such as the ultra-lightweight, ultra-strong sails. Over the years, applications have expanded beyond sailcloth to include airships, medical applications, flexible circuitry, hiking gear and now also apparel. The Dyneema composites range includes nonbreathable and breathable fabrics of varying weight classes and laydowns.

Nonbreathable fabrics may have a thermoplastic polyurethane or other nonbreathable plastic coating. Breathable fabrics may feature an expanded polytetrafluoroethylene membrane.

Through The Dyneema® Project, the company works with brands and designers to develop and market apparel, outdoor gear and other articles using Dyneema composite fabrics.

In one project, the company worked with Vancouver-based outdoor fashion designer Conroy Nachtigall to develop fabric for a paper-thin, ultra-lightweight, waterproof, breathable alpine jacket. Several skiers, snowboarders and other winter sports enthusiasts in Squamish, British Columbia, tried out the jacket and raved about its performance.

Hyperlite Mountain Gear, Biddeford, Maine, has been using Dyneema composites in its backpacks, tents and shelters for several years. "Our reason for using Dyneema is its strength and light weight," said Mike St. Pierre, CEO, Hyperlite. "Really lightweight nonwoven composites work for tents because there's no way for water to penetrate, and the PE fiber doesn't absorb moisture. This is a huge advantage.

Article and photos courtesy of
Dyneema®

Under tension, a lot of woven fabrics, even if they have DWR finishes on them, can stretch and become saturated with water. For our tents, we're using Dyneema fiber sandwiched between Mylar sheets. For backpacks, we can use the same kind of material laminate with polyester and Dyneema."

Hyperlite now is working with Dyneema to develop a jacket using a Dyneema composite. "We are still refining the fabric and material choices in order to optimize performance," St. Pierre said. "It will be one of the lightest jackets on the market."

Italy-based menswear brand Stone Island is also working with Dyneema and recently launched a limited-edition series of reversible garment-dyed jackets featuring a flexible Dyneema composite on one side and an ultralight, dyeable nylon fabric on the other.

ULTRAFINE PE FIBERS THAT EVERYONE HAS BEEN WAITING FOR

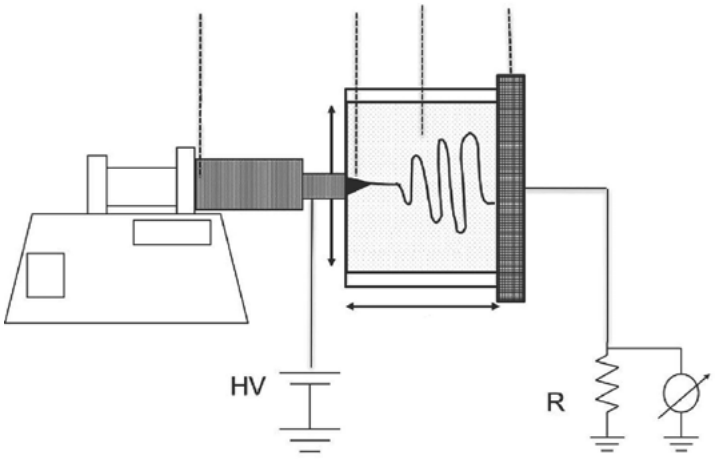
A low-cost alternative to carbon, ceramics and other high performance fibres appears to be on the horizon, following the development of a new process called gel electrospinning at MIT (the Massachusetts Institute of Technology).

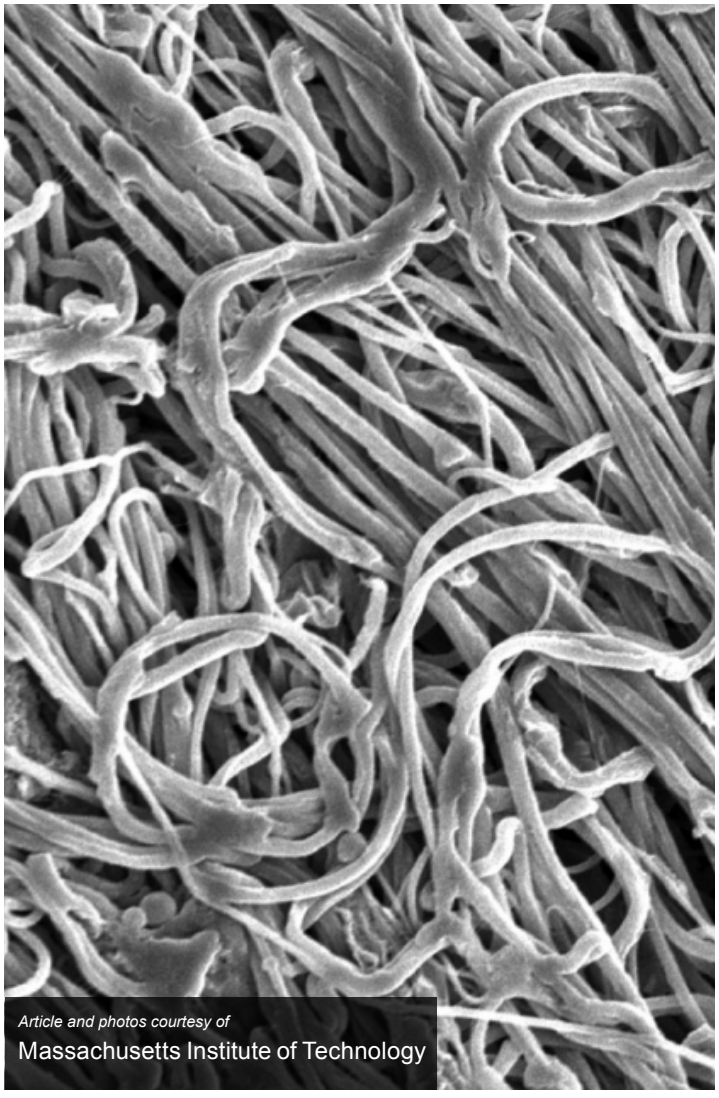
MIT professor of chemical engineering Gregory Rutledge and postdoc Jay Park will publish details of their breakthrough in turning inexpensive polyethylene into ultrafine fibres with extremely high performance properties in the February edition of the Journal of Materials Science. “In materials science, there are a lot of trade-offs,” Rutledge explains. “Typically, researchers can enhance one characteristic of a material but will see a decline in a different characteristic. Strength and toughness are a pair like that – usually when you get high strength, you lose something in the toughness.

The material becomes more brittle and therefore doesn't have the mechanism for absorbing energy and tends to break." In the fibres made by the new gel electrospinning process, those trade-offs are eliminated.

"It's a big deal when you get a material that has very high strength and high toughness and that's the case with this process," Rutledge says. "We started off with a mission to make fibres in a different size range, namely below one micron, because those have a variety of interesting features in their own right, and we've looked at such ultrafine fibres for many years. But there was nothing in what would be called the high-performance fibre range such as aramids like Kevlar, and gel spun polyethylenes like Dyneema and Spectra. There hasn't been a whole lot new happening in that field in many years, because they have very top-performing fibres in that mechanical space. What really sets those fibres apart is what we call specific modulus and specific strength, which means that on a per-weight basis they outperform just about everything."

Compared to carbon fibres and ceramic fibres, which are widely used in composites, the new gel-electrospun polyethylene fibres have similar degrees of strength but are much tougher and have lower density.





Article and photos courtesy of
Massachusetts Institute of Technology

This means that, pound for pound, they outperform the standard materials by a wide margin.In creating the ultrafine material, the team had aimed to just match the properties of existing microfibres, and demonstrating that would have been an accomplishment.

In fact, the fibres turned out to be better in significant ways. While the test materials had a modulus not quite as good as the best existing fibres, they were quite close – enough to be competitive.

"The strengths are about a factor of two better than the commercial materials and comparable to the best available academic materials," Rutledge says. "And their toughness is about an order of magnitude better. We are still investigating what accounts for this impressive performance but it seems to be something that we received as a gift, with the reduction in fibre size, that we were not expecting."

Using the gel electrospinning process is essentially very similar to the conventional gel spinning process in terms of the materials, but the use of electrical forces in a single-stage process rather than the multiple stages of the conventional process have resulted in more highly drawn fibres, with diameters of a few hundred nanometres rather than the typical 15 micrometres.

The process combines the use of a polymer gel as the starting material, as in gel spun fibres, but uses electrical forces rather than mechanical pulling to draw the fibres out. The charged fibres induce a "whipping" instability process that produces their ultrafine dimensions. It is these narrow dimensions which result in the unique properties of the fibres.

The development may lead to protective materials that are as strong as existing ones but less bulky, making them more practical.

"They may have applications we haven't thought about yet, because we've only now learned that they have this level of toughness," Rutledge concludes.

UNITING THE TECHNICAL TEXTILES INDUSTRY

BUILDTECH HOMETECH GEOTECH MOBILTECH INDUTECH

OVER 10 000 READERS

A VARIETY OF PROMOTION CHANNELS

PRESENCE ON THE MOST IMPORTANT EVENTS

Tetex.

Let's meet at

Tetex is present at the most events from the technical textiles

LOOKING FOR NEW CLIENTS AND CONTRACTORS? CHECK OUT OUR OFFER!

Our marketing channels are your company's opportunity!

Choose the most interesting type of promotion:

✓ *Website*

Publication of an article or a graphic ad is a great opportunity to thoroughly present your services and products as well as grab the attention of persons already interested in the textile area.

✓ *Mailing base*

Mailing base: our mailing database features over 4000 addresses of Polish and over 2500 international companies of textile industry, which ensures that emails are read by people interested in your offer.

✓ *Product presentation*

Product presentation: In our Tetex Magazine we publish information on recent scientific achievements, innovations and many more

✓ *Social Media*

Social Media: Our Facebook page has over 2500 followers and reaches about 10000 users. We offer graphic, video, carousel and sponsored posts.

✓ *Textile machinery trade*

We are currently looking for people who are interested in selling or buying second-hand or new machinery for technical textile. If you are interested in cooperation, please contact us.

OEKOTECH PROTECH SPORTTECH AGROTECH MEDTECH PACKTECH CLOTHTECH

We are present on the most important textile-oriented events from all over the world:

ADVERTISE WITH US!

techtextil
RUSSIA

important industry

mtex+

techtextil
RUSSIA

avantex

RemaDays

techtextil
NORTH AMERICA

INTERNATIONAL APPAREL & TEXTILE FAIR

Show your products, technologies or new ideas directly to the industry branch. You won't find a better targeted group of your potencial clients.

*Present your offer to the **industry** community!*

If you are interested in joining a team of the most innovative and attractive technical textiles industry companies, then contact us.

info@tetex.com | www.tetex.com

Tetex.

Great Britain
Mill Lane, Sawston,
Cambridge CB22 3HY
+44 788 497 7809
Poland
Klobucka 7, 02-699 Warsaw
+48 22 101 399 8
www.tetex.com / info@tetex.com

laif VyP upholstery material that will change your perspective of comfort

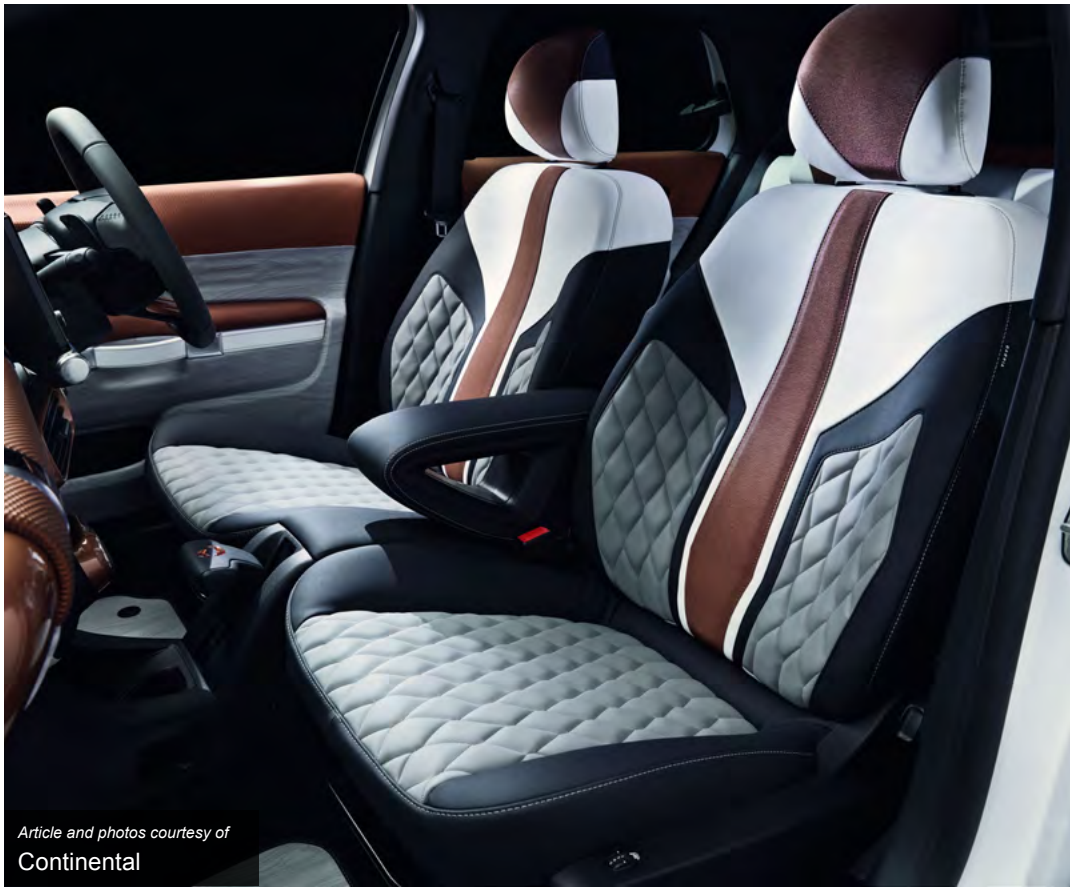
The Benecke-Hornschuch Surface Group will present its new products in the upholstery branch at the Heimtextil under the Continental brand for the first time.

The laif VyP upholstery material will be the highlight at the Continental booth. It is breathable and provides maximum comfort even during extended sitting. In addition, the Interior team will present the versatile skai Digital Print Collection with a total of 17 impressive prints for the individual adornment of sitting accommodations, bed headboards, lounge chairs, walls, and many more.

The laif VyP, which was newly developed from the ground up, recently celebrated its premier. The unique upholstery material belongs to the next generation of breathable upholstery materials. The innovative hybrid material of vinyl and polyurethane makes use of the best characteristics of both base materials: the softness of the surface and the long life of the material.
Here, only raw materials are used that do not contain any common solvents and are based on high-quality, aqueous PU systems and finishes.

laif VyP is air and water-vapor permeable. It makes sitting particularly comfortable. The innovative material has already been used in THE PIONEER, the Continental concept car, on the seat surfaces and lower side sections of the backs.

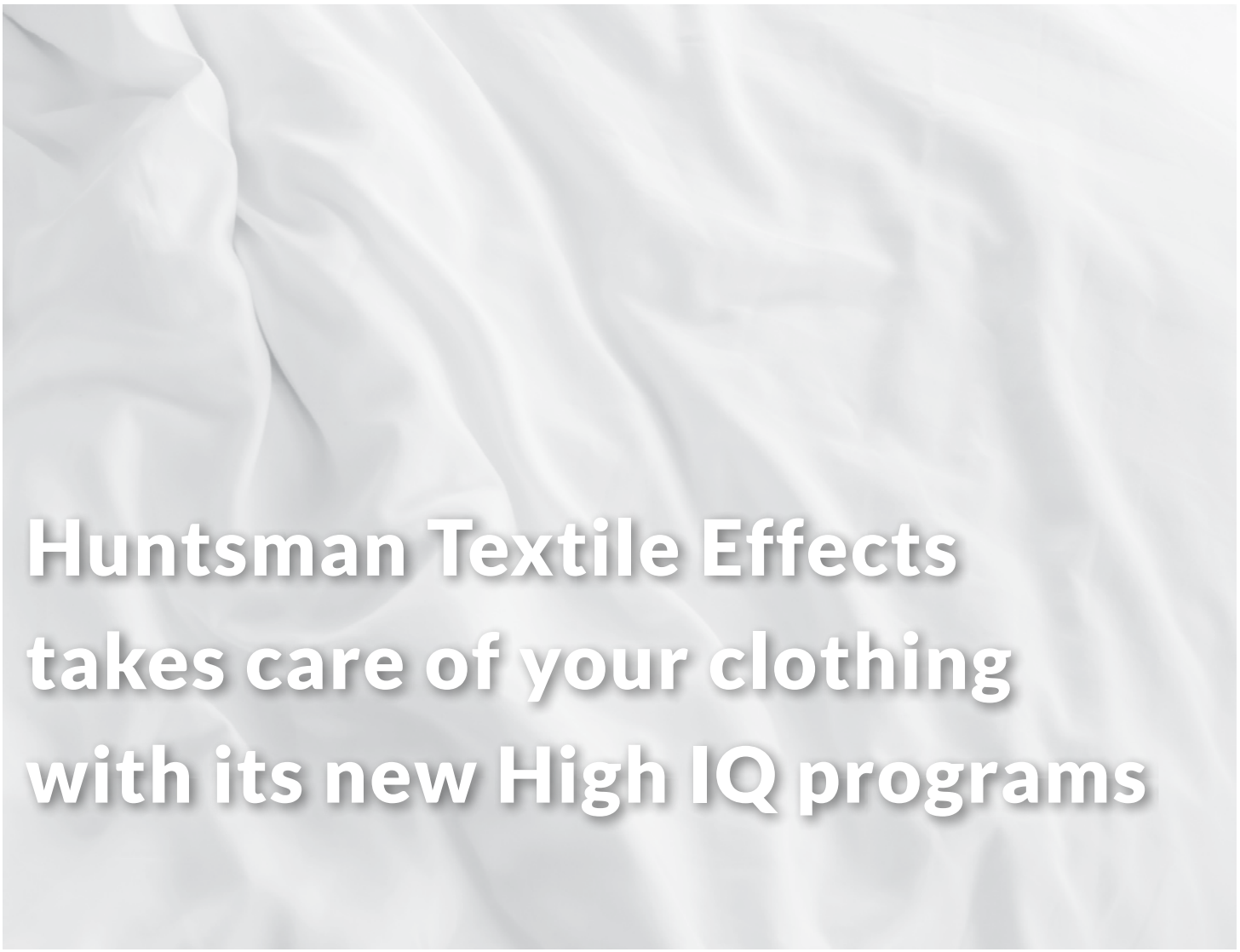
laif VyP represents a milestone in the history of the surface specialist. The innovation bundles the knowhow of six decades. Since 1958, Hornschuch has been marketing high-quality upholstery materials under the skai brand for every imaginable application. Regarding the importance of the new product, Bruno Lehmann, Vice President Interior, says: “laif VyP marks a highpoint in the history of artificial leather, of which the developer team is justifiably proud. With its classic leather grain and a broad range of 14 trendy colors, laif VyP opens new possibilities for the furniture market.”



Article and photos courtesy of
Continental

Thanks to its breathable surface, laif VyP sets new standards for comfort. No matter how long you sit, it isn’t sticky or unpleasant. The toughness of the material is also excellent: laif VyP surfaces look good even after many years. The material is tearproof, durable, highly abrasion-resistant, and easy to clean. At the Heimtextil 2018, the Benecke-Hornschuch Surface Group will present laif VyP Nappa with a very detailed leather grain.

Anywhere people sit for an extended period of time, seating furniture with the upholstery material laif VyP offers excellent comfort. Such as in conference centers, in movie theaters, in hotel lobbies, or in offices. laif VyP is also optimally suited for use in restaurants and bars. VIP lounges are also the ideal venue for laif VyP. In addition, its breathability makes laif VyP ideal for seating areas in vehicles.



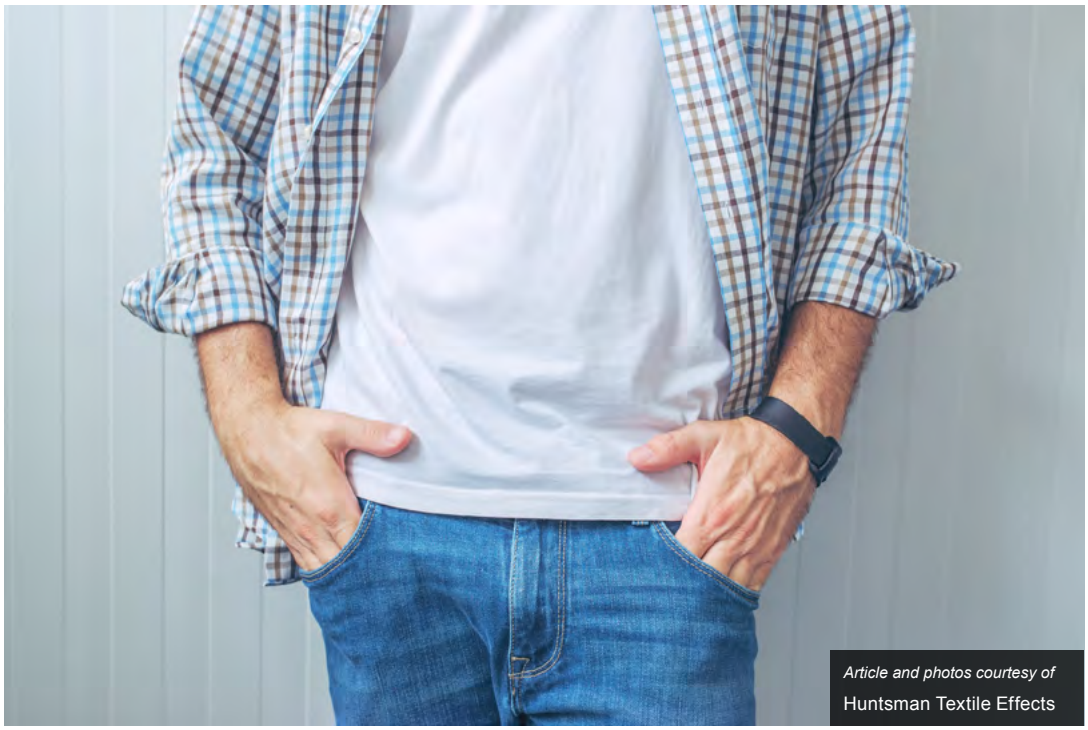
Huntsman Textile Effects takes care of your clothing with its new High IQ programs

Huntsman Textile Effects has further updated the High IQ® performance assurance program to help mills, brands and retailers meet consumer demand for textiles that stay looking newer for longer.

Consumers want garments that retain their new look through multiple home launderings. At the same time, there is a global call for more environmentally friendly textiles. Alkaline washing powders, rich in magnesium and calcium tap water and mechanical abrasion from washing machines and clothes driers can rapidly dull colored textiles, while everyday stains can leave whites looking dull and greyish.

	Normal optical brightener	High IQ® Lasting White
Initial		
	W_{CIE} : 100%	
After 10 washes @ 40°C		
	Not specified	<5% from initial value
After 20 washes @ 40°C		
	Not specified	<5% from initial value

"With our High IQ Lasting Color and High IQ Lasting White programs, we offer brands, retailers and mills a way to achieve better economic and environmental sustainability. In today's competitive global market, this means being able to cost-effectively produce fabrics that delight consumers with brilliant whites and vivid colors that stay and won't wash away, backed by an assurance that they conform to stringent environmental standards," said Lee Howarth, Global Marketing Manager, Huntsman Textile Effects.The company helps consumers choose sustainable textile products that keep their vivid colors and bright whites to deliver a longer usable life thanks to the new utiesone technologies. Only mills that meet Huntsman's stricts requirements can use the High IQ hang tags as product branding.



Article and photos courtesy of
Huntsman Textile Effects

This is the world's only color retention program, powered by specially selected NOVACRON® dyes and lets mills produce fabrics that retain their exciting vibrant colors and dark shades even after repeated washing. Based on tests using European Union and U.S. programs, fabrics made under the High IQ Lasting Color program will not fade, and there is little risk of color staining on other garments during washing. As an extension, Huntsman is also introducing High IQ Lasting Color eco program for textiles produced with a minimal environmental footprint.

Whole concept delivers very high and brilliant whites on cellulosic fibers, combining latest generation of Fluorescent Whitening Agents under the well-known UVITEX® range with environment-friendly fluorinated (C6) or non-fluorinated stain repel and release technologies. It is wash-fast in production and home laundering, even at high temperatures, and it resists and washes out household stains to help garments keep their newness for longer.

Huntsman's High IQ helps mills, brands and retailers produce high-performance textiles with better comfort, sun protection, friction reduction and water repellence, in almost-snow whites and color that lasts. The program is based on innovative dyes, effects and technical support and application instructions from Huntsman Textile Effects, the global leader in textile dyes and chemicals, to help mills industry gradually improve.

Evolution of filtration textiles

Andy Smith from Arville, a leading technical textiles specialist, shined the spotlight commonly-overlooked area of technical textiles. “Rolls goods, sleeves, socks, bags, cloths and sheets, are just some of the various types of media that make up the large family of wet and dry filtration products,” he said. “These bespoke micron-rated fabrics can be designed to a specified particle size and flow-rate, giving customers exacting filtration materials across a wide arena of applications.”

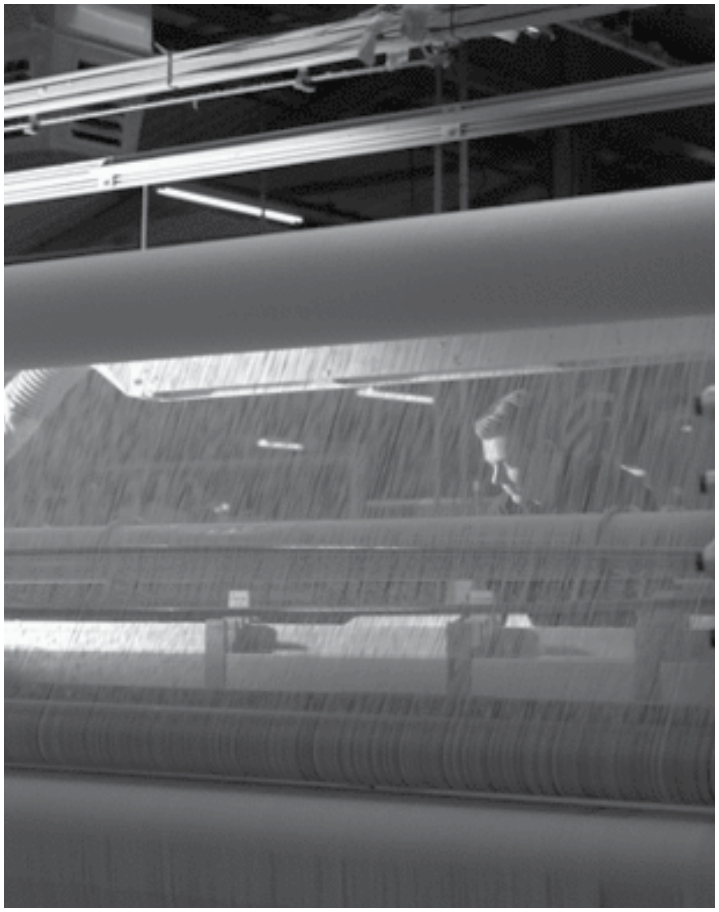
The company is a specialist in providing a fully integrated solution for technical textiles used across a wide range of industries for wet and dry separation and filtration processes, providing both roll-stock fabrics and pre-fabricated textile components. “Each solution is engineered to meet the requirements of both everyday challenges, and sometimes very specific niches, which can often be very demanding in terms of chemical resistance, temperature resistance (hot and cold), high pressure and durability,” said Mr Smith.

Versatility, consistent performance, effective particle retention and efficient flow rates, are just some of the capabilities achieved by technical textiles manufacturers who supply these engineered products for use in increasingly advanced production, separation and filtration processes globally.

"And the market is not standing still. As refinement processes become more complex and demanding, filtration media has to advance in parallel, in terms of everything from the fibres used, to the weave construction, and the consistency of the resulting filtration process itself. Performance criteria will only become more multifaceted over time, and that's before any thought is given to sector-specific legislative frameworks that the filtration media has to work within," Mr Smith explained.

"The regulations imposed by the FDA in the food and beverage industry, represents just one example where filtration textiles must meet specific criteria for critical applications where they come into direct food contact. However, the innovative use of filtration textiles does not stop there. Such fabrics are also used in 'heavy' industries such as nuclear, mining and construction, as well as wider pharmaceutical scenarios which involve the separation of liquids, gases, powders and suspensions," he added.

Article and photos courtesy of Arville

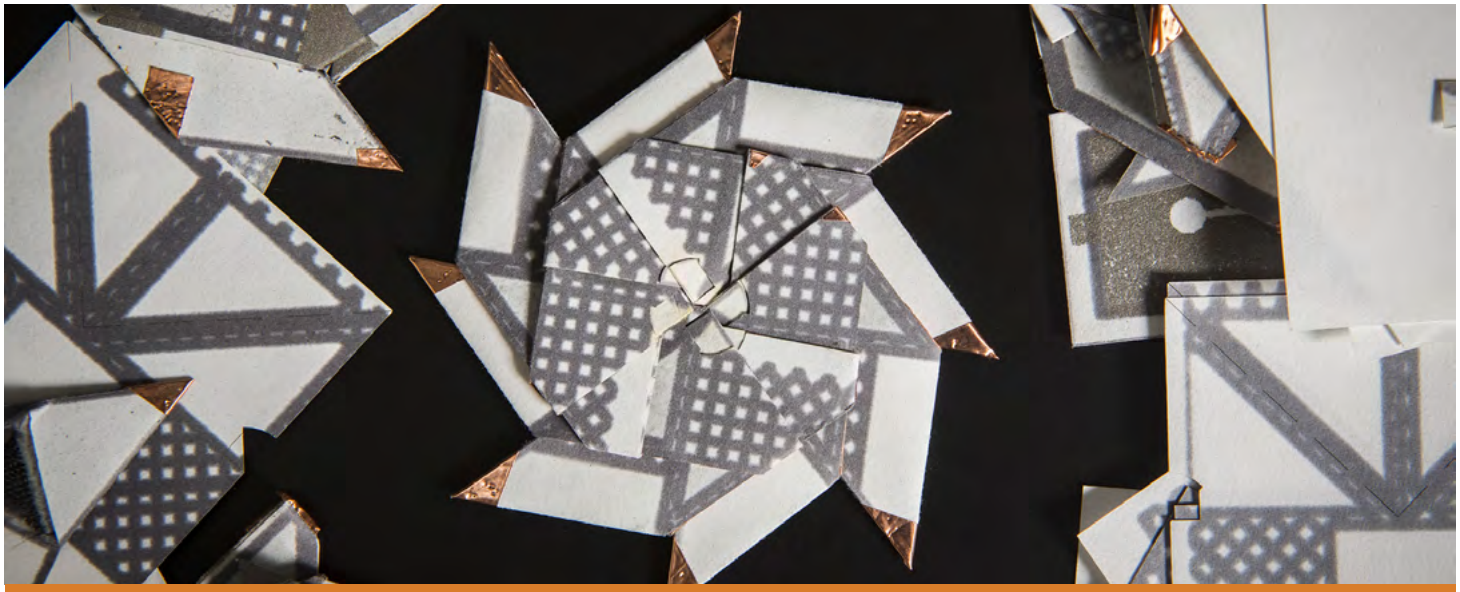


"But because synthetic man-made fibres are predominantly insulators which do not promote the flow of electricity through their structure, some of these processes can create a build-up of inherently hazardous static charge where there are combustible liquids or powders present. As such, anti-static properties must therefore be designed and manufactured within certain filtration media, to mitigate the risk of ignition."

This typically sees such fabrics woven to include carbonised filaments or stainless steel, which allow the charge to disperse safely. It is also possible to manufacture the fabrics from yarns that are chemically neutral to the process, and design weave patterns and constructions that allow release and efficient flow rates. An example is Arville's development of a multi-pocket glatt bag, which was certified by the Food & Drug Administration (FDA) and used by GlaxoSmithKline.

Elsewhere, materials which are constructed from high-performance monofilament yarns are used to convey, filter and separate products in industrial, water purifying and waste processing facilities with varying degrees of permeability, giving them excellent drainage properties.

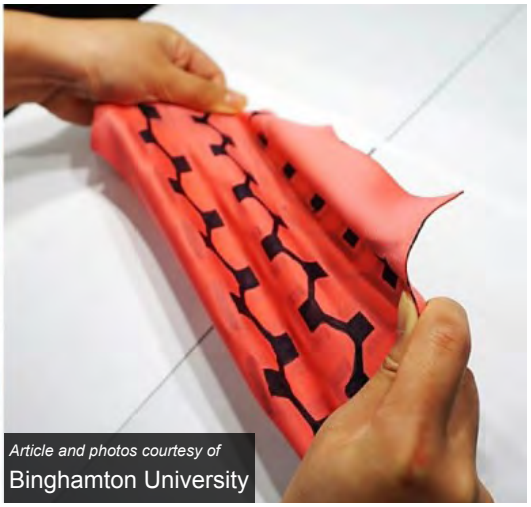
"These technical products represent just a handful of examples where the industry has stepped up to innovate products that fulfil a whole host of varying and conflicting criteria. But with performance demands evolving, the journey won't stop there for filtration solutions. It's therefore about time that they received a little bit of praise for the challenges they address within this complex 'technical textiles' arena," concluded Mr Smith.



Fabric stretchable battery as a new source of energy

A research team led by faculty at Binghamton University, State University of New York, has developed a textile-based, bacteria-powered biobattery that could one day be integrated into wearable electronics.

The team, led by Binghamton University Electrical and Computer Engineering Assistant Professor Seokheun Choi, created an entirely textile-based biobattery that can produce maximum power similar to that produced by his previous paper-based microbial fuel cells.



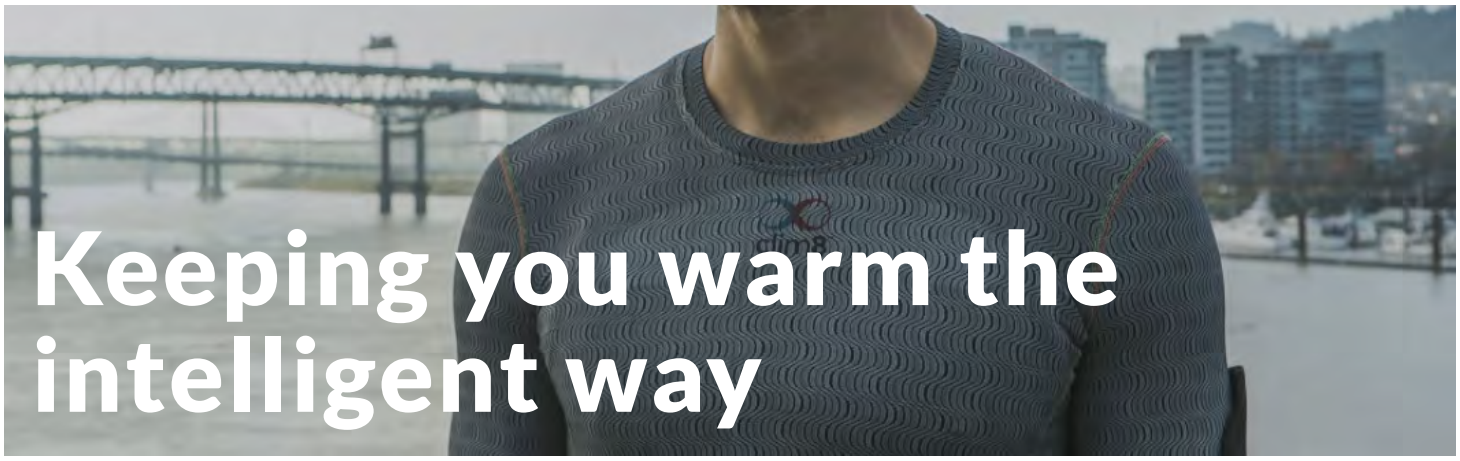
Article and photos courtesy of
Binghamton University

Additionally, these textile-based biobatteries are said to exhibit stable electricity-generating capability when tested under repeated stretching and twisting cycles.Seokheun Choi said that this stretchable, twistable power device could establish a standardised platform for textile-based biobatteries and will be potentially integrated into wearable electronics in the future.

"There is a clear and pressing need for flexible and stretchable electronics that can be easily integrated with a wide range of surroundings to collect real-time information," he said. "Those electronics must perform reliably even while intimately used on substrates with complex and curvilinear shapes, like moving body parts or organs. We considered a flexible, stretchable, miniaturized biobattery as a truly useful energy technology because of their sustainable, renewable and eco-friendly capabilities."

Compared to traditional batteries and other enzymatic fuel cells, microbial fuel cells can be the most suitable power source for wearable electronics because the whole microbial cells as a biocatalyst provide stable enzymatic reactions and a long lifetime. Sweat generated from the human body can be a potential fuel to support bacterial viability, providing the long-term operation of the microbial fuel cells.

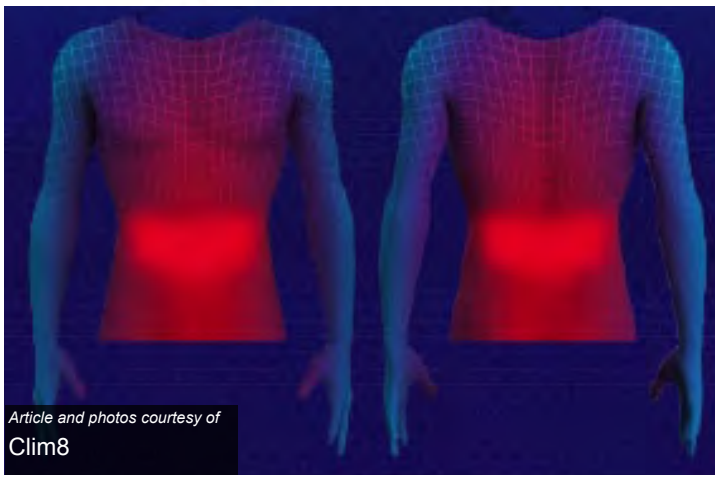
"If we consider that humans possess more bacterial cells than human cells in their bodies, the direct use of bacterial cells as a power resource interdependently with the human body is conceivable for wearable electronics," he explained.



Keeping you warm the intelligent way

Fibres, fabrics, and smart technologies to keep the athlete's body warm – an important topic for the sports sector, which is continuously finding innovative developments. No other topic is of more concern to active athletes than the desire for temperature comfort. Adequate insulation for cold and warmth without overheating are elementary needs, especially, in the dead of winter.

Creating the appropriate clothing for this environment demands a lot of expert knowledge. What fibre has what potential for what thermal capacity, how can fabric construction be adapted to the thermal requirements, what are the insulation options, how are these differentiated, and what weight can the garment actual have? These are all valid questions for the design of thermal sports clothing. Because for the athlete, "too cold" is just as bad as "too warm" and "too heavy". Active warmth offers maximum safety and comfort to them because it can now be generated individually and intelligently – and, that is not something out of science fiction. Integrated heating elements in gloves or ski boots are already well-known.



Article and photos courtesy of
Clim8

A comfortable heat source that is unfelt and integrated within the garment is quite a novelty. The young company Clim8 is taking things even one step further. Clim8 provides the warmth in the textile through heating pads that can be integrated into any fabric (except polypropylene).

To achieve the proper effect, the clothing requires a "next-to-skin" application. This is because the pads not only emit heat; They also use sensors to measure the body temperature of the wearer. The sensor data is transmitted to the athlete's smartphone and displayed by means of an app. This communication takes place via a dongle, which transmits data via Bluetooth.

he desired body temperature can be set in the app in advance and, with the aid of the software, the fabric supplies exactly the amount of heat required to hold that temperature. Furthermore, the heat can also be manually regulated at any time. There are other manufacturers developing other fabrics equipped with smart heat sources. At InuHeat, a flexible heating yarn is being built into socks to provide additional warmth.

The yarn is fed into the knitting process, yet the socks, nevertheless, are still soft and washable.

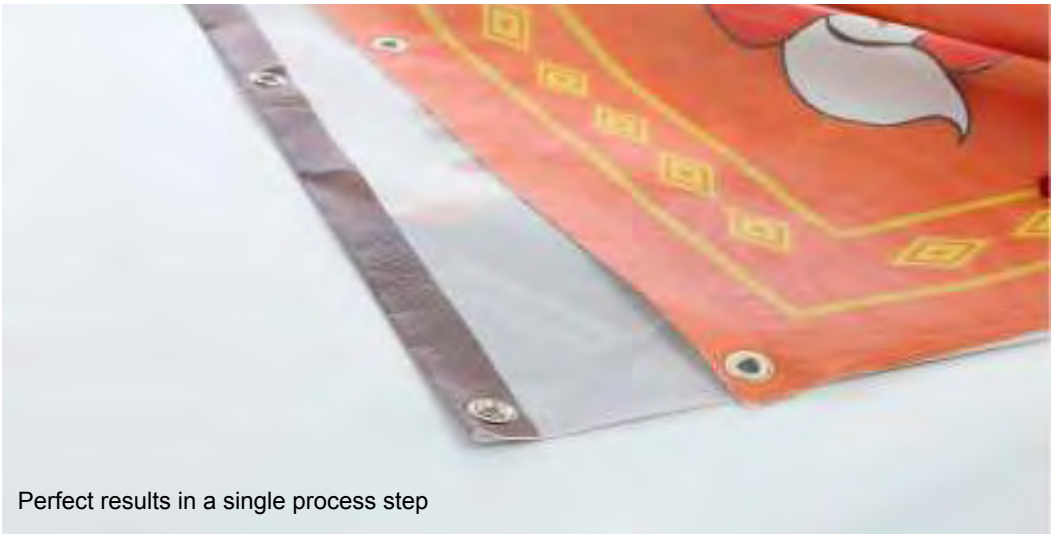
The company is currently working to combine the heating yarn wit various different yarns to demonstrate a wide range of processing possibilities.

HEMTEK ST the Welding Machine for Hems

In May 2017, Leister will launch the HEMTEK ST: a stationary machine specializing in the welding of hems. It can be used to weld both closed and open hems, and can even reli¬ably process hems with piping.

Demand for hemming banners and advertising tarpaulins is high, but good welding alone is not enough to succeed in this field. "For our customers, it is not just about being happy with the results of their work after the welding process. They also - quite rightly - expect user- friendliness and efficiency", says Urs Schmid, product manager of Leister's Technical Textiles & Industrial Fabrics business line.
Once the HEMTEK has been mounted on the table, it can be used immediately.
Preparation or laborious follow-up work with a hand welding machine is no longer necessary.

The new HEMTEK ST in action


Perfect results in a single process step

The hems of promotional banners or tarpaulins can be quickly welded from corner-to-corner in one pass. In addition, the welding machine is operated with a foot pedal so the user can use both hands to guide the material. "This is not only an advantage for the welding quality. It also guarantees a stress-free and efficient experience while working", says Urs Schmid.

The temperature, speed and air-flow easily can be adjusted on the control panel, pressure can be adjusted directly on the pressure roller.

Leister Technologies AG

Leister is a manufacturer of plastic welding devices, process heat components and laser systems. With 130 sales and service centers, Leister companies, branch offices and local sales part-ners in more than 120 countries, Leister guarantees the constant availability of products and services on-site.

Urs Schmid, product manager, Technical Textiles & Industrial Fabrics

"Our customers can expect ease and efficiency"

Urs Schmid

For decades the Swiss company has been the market leader worldwide. The performance and reliability of its products make Leister the first choice. The devices are used in roof sea-ling systems, floor coverings, tarpaulins, in civil engineering, plastic fabrication and for vehicle repairs.
There is no need for additional tools to set the guides.

With speeds of up to 12 meters (39 feet) per minute, and 3400 Watts of power, it is clear that Leister will not be compromising on speed or performance in the future. But with the HEMTEK ST, the real focus is on intuitive operation.

Further information about the HEMTEK ST:

www.leister.com/hemtek

Leister AG

Marketing Communications & Design

Nancy Renning

Galileo-Strasse 10

6056 Kaegiswil / Switzerland

Tel.: +41 41 662 76 08

Email: nancy.renning@leister.com

New TRP system for your health, safety and money saving

Winter is a tough season for drivers. It's cold, dark outside and roads are very slippery. Usually it appears unexpected, lasts very long time (considering our climate zone) and annually surprises drives all over the country. Not to forget about snow and frost that make you want to stay in bed whole day.
The situation is even worse for truck drivers. Snow and ice falling from the top of tarpaulins are serious danger for your health and may even be life-threatening. Additionally, you may get quite expensive fine for not cleaning up the roof of your truck – in Poland that fine is 500 polish złoty, which is about 120 euro. This is why TRP system has been developed – to protect you and your semi-trailer from snow, cold and wasting money on police tickets.

How does it work?

TRP system expands tarpaulin a little bit, which prevents water from collecting on it and freezing. Until now, drivers had to do this job on their own, using brushes or anything long enough to reach to the roof. It is considered as a work at heights in very unpleasant conditions. Drivers also had to wake up much earlier to get their vehicles ready to the job. The tarpaulin gets expanded by vehicle air supply system. It helps keeping your health and safety while on the road.

Tarpaulin is expanded by vehicle air supply system. It helps in keeping safety while getting rid of the stagnant ice and snow, which weight may even reach up to over a dozen kilograms. Well, but what to do in situation, when roof has to be open for unloading?
All you have to do is let off the air and roof gets back its full functionality. All bases on pumped air sleeve located straight under the centre of tarpaulin. After loading it with air, it takes on a sloping shape – this prevents water from collecting and later on freezing. Moreover, it's so much easier to brush off the snow from sloping roof – a few vigorous moves on the parking lot and you should be done. The idea is easy and its price is also very attractive.

Article and photos courtesy of TRP

18 companies and organizations nominated as finalists / Production technologies and processes increasingly in the center of attention / Students of HTW Dresden win special category "Student" and 1,500 Euro price money

The expert jury have nominated the winners of the 15. MATERIALICA Design + Technology Award. In its session the jury members have selected the most promising and innovative products and projects as finalists of this unique award that is positioned at the intersection of materials, design and technology. 18 companies and organizations – ranging from tier 1 automotive suppliers to highly specialized small and medium companies – can now hope to win the Best Of-Award for the winner of one of the four categories. Two Students of the HTW Dresden have won the special award "Student and a price money of 1,500 Euro for their submission, a recurve bow centerpiece made of a carbon composite.

"Once again, we have seen very exciting submissions this year. It has been a pleasure to discuss these mostly very good applications with my jury colleagues. This year's award proves that real innovations in materials are very rare. In usage and processing of materials, however, we have seen some very intelligent new approaches. These topics will be more and more in the center of attention", said Prof. Karl Friedrich Reiling, Professor for Adhesive Technologies and Composites at the University of Applied Sciences in Landshut, Bavaria. "We are delighted that the quality level of the award contributions is further increasing, even if it means that some applications by very well-known companies were not nominated", added Robert Metzger, Managing Director of MunichExpo and organizer of the award.

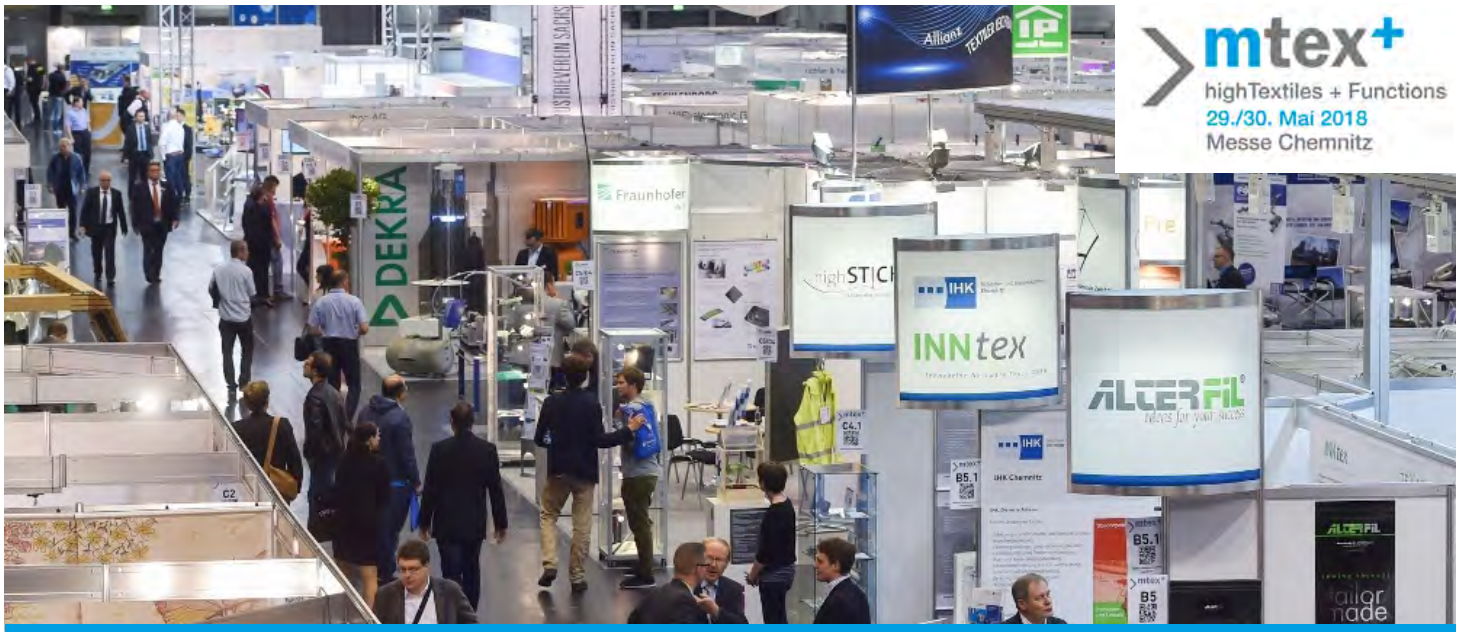
The finalists of the MATERIALICA Design + Technology Award 2017 at a glance:

Category Material

- Creamelt: TPU-R
- GSA: MCG3 – mechanically and thermally highly resilient forging parts for large engines
- Magna: Reclaimed Body Panel
- Magna: Carbon Fiber Subframe
- Outokumpu: Weldable Sandwich

Category Product

- Brose: Glass Fiber Fabric-Reinforced Plastic Load-Through
- Daimler: 3D-Print Banknote Compartment
- ebm-papst: RadiCal Impellers in a Scroll Housing
- Lindberg: Sirius Titanium
- Schaeffler: Vacrodur® X-life® High-Speed Series



mtex+
highTextiles + Functions
29./30. Mai 2018
Messe Chemnitz

Compact, intensive, effective and international

The 7th mtex+ International Exhibition for Technical Textiles, which will be held in Chemnitz in Germany on 29 – 30 May 2018, is an innovative exhibition that provides value added for engineers, designers and managers from every potential user sector. The 2018 mtex+ will be held alongside the LiMA lightweight design exhibition in line with the motto “Technical textiles meet lightweight design”.

“We’re acting in accordance with the suggestion made by exhibitors and trade visitors to the 6th mtex+ and we’re inviting people to a compact and highly effective two-day event for the first time in 2018,” says André Rehn, Head of the Exhibitions Department at C3 GmbH, Chemnitz: “It’s becoming increasingly important for users in very different sectors to familiarise themselves with the many potential fields of application for high-tech textiles.

We offer the ideal platform for this with our meeting where everything is on the spot and with in-depth personal contacts. The key topics at the exhibition are functionalised textiles, smart textiles, method and process development, manufacturing and recycling composites as well as checking, certifying and protecting from plagiarism. Well-known providers will present innovative textile solutions for protecting people and natural surroundings as well as mobile and immobile goods at a special exhibition. We're also continuing the collective exhibition known as "health.textil" with medical, health and wellness textiles, which was very successful in 2016.

Article and photos courtesy of
mTex+

The major players in "future-TeEX", the largest joint textile project in the Federal Republic of Germany, will graphically demonstrate how digitalised value-added chains work in Industry 4.0. We're also preparing cooperation forums with foreign managers, particularly from Eastern Europe.

The 16th Chemnitz Textile Technology Conference, which the exhibitors are expecting more than 300 trade visitors from Germany and abroad to attend, also forms part of the exhibition event – as does the awarding of the mtex+ Innovation Prize, which will be presented for the third time in 2018. Special activities for school pupils, students and specialists, who can obtain information about career prospects in the textile sector, will also be held under the slogan "go textile!".

Fast Textile - the largest textile fair in Europe

Manufacturers and importers from all over the world have shown their latest collections of textiles, knitwear, textiles and garment accessories. The latest sewing machines, laundry machines and machines for the clothing industry were also presented. Exhibitors offered visitors a series of specialist products, shop furnishings and interior decorations for the spring / summer 2018 season.

The IV edition of the fair took place from **16 to 18 November 2017** at the **Ptak Warsaw Expo**, confirming its prominent position among the events organized around the world. This year, 400 exhibitors had the chance to showcase their best products and services to business and retail customers. During three days 27 000 visitors filled two exhibition halls of the Exhibition & Congress Center- Ptak Warsaw Expo. Buyers have appreciated high quality fabrics and machines, affordable prices especially for Fast Textile and a variety of assortments.

Special zones were prepared for exhibitors and visitors, the most interesting were five International Pavilions including China, Turkey, Taiwan, Italy and the Netherlands, two exclusive **Trend Zones** featuring beautiful arrangements from the exhibitors' products in Halls C and D, and furniture exhibitions from the Exhibition Partner **Agata Meble.**
During Fast Textile were also meetings with well-known Polish designers **Maciej Zień** and **Rafał Michalak.** Maciej Zień advised on how to develop collections so that they were sought in the market. Rafał Michalak, a well-known designer from the MMC duo, gave a lecture on Trends in Design for spring / summer 2018 season.

First meeting with sewing machines workshops organized by **UltraMaszyna** company enjoyed a huge interest among visitors. Participants had a chance to learn the secrets of sewing on a machine and meet **Jan Leśniak**, author of many themed books, his latest work is **How to sew skirts and dresses**. Jan Leśniak led a workshop on which were knitted backpacks with beautiful heart embroidered on Maszynybrother.pl and beauticians from waterproof paper from Tkaniny Karolina.
Another accompanying event was the **haberdashery workshop of Pasmanteriaozdobna.pl**, during which ladies and gentlemen decorated their favorite parts of their wardrobe.

At the **Textile Forum**, well-known experts from leading companies, led workshops and training, concerning innovations in textiles, textiles ecology, legal requirements and standardization in children's clothing or renewable raw materials in innovative textiles. Specialists represented the Cotton Chamber, the Textile Institute of Manchester, the Świat Druku, the Marshal's Office and the TRIZ management of innovative textiles.
The most coveted and anticipated moment was the awarding of **Fast Textile Diamonds** to Exhibitors during the Evening Business Gala. The winners in each category were:

- The best polish exhibitor: Colourama Sp. z o.o.
- The best foreign exhibitor: Quality Textiles
- Trend creator: Sonia Textile
- Product of the year: Alubest
- New's of the year: Allcomp
- Innovative solution of the year: TEXPOL

Special mentions were given to:

Washpapa
Euro Textil Universal
Knipidee International B.V.

Article and photos courtesy of
PTAK Warsaw Expo

During the **Business Gala** there was also the **Best of Ptak Moda Award** - the winners in the categories were:

The best product: Astra
The best collection: Bergam
The best producer: King
Special mentions: M & M
Special mentions: Martex

A novelty during the 4th edition of Fast Textile was new contest for **The most beautiful stand** among exhibitors.Voters were allowed to vote on the most beautiful stand during the fair.

On the last day of the fair an official vote count was made and the winner was chosen, the fight was fierce because the two companies were particularly impressed by the hearts of the visitors: Euro Textil Uniwersal and Wikoria, which finally won a beautiful statuette.

The event was a huge success, the exhibitors carried out hundreds of business meetings, contracts and commercial transactions. Fair participants are looking forward to the next edition, and the organizers will try to make this edition even better than the recent one.

We would like to invite you to participate in the next edition of Fast Textile International Textile Fair,which will take place from **22nd to 24th of November 2018** in Ptak Warsaw Expo!

INSTITUTE OF LEATHER INDUSTRY

Notified Body – Nr 1439 directive 89/686/EWG

Research ● Innovation ● Technology ● Analysis ● Certification ● Accreditation ● Training

The Institute of Leather Industry in Lodz is the only one scientific-research unit of an interdisciplinary nature dealing with activities for the needs of the leather, footwear, textile, polymers, environmental protection and food industry in a complex manner. Institute offers its experience, knowledge, apparatus and technological potential for solving problems involved with leather processing and also leather goods production, textile, footwear materials and ready-made shoe, specially for using in the work places, related to the assess,emt of the content of hazardous substances in finished products and the content of dyes in food products. IPS also carries out examinations of children's and adult feet in the field of podology including anthropometric foot measurements, assessment of the degree of foot arching, diagnosis of distortions and foot discomfort.

The Staff of the Institute in Lodz has long-term experience in cooperation with SME sector doing research and development their technologies and skills. Furthermore there are experts in the field of chemistry of dyes, natural colors, pigments and organic intermediates.

The Institute provides analytical services in four accredited laboratories where carries out research on quality of shoes,parts of footwear and different materials in accordance with European and ISO standards.

IPS carries out research focused on safety of shoes-safety of final product and safety of materials used at each stage of the process of production including health hazardous substances. The research is focused particularly on substances listed by the European Commission (2009/563/EEC), which are determinate in many kinds of the consumer goods, also in the foodstuffs.

The Institute of Leather Industry has received the notification from The European Commission and has the statute of the NOTIFIED BODY No 1439 in accordance with Personal Protection Equipment Directive 89/686/EEC.

The Institute also participates in international projects financed from European Union and National sources.

Research structure of the Institute of Leather Industry:

- Certification Body
- Accredited Laboratories
- Research Departments

PCA Polskie Centrum Akredytacji BADANIA AB 033 AB 062

PCA Polskie Centrum Akredytacji CERTYFIKACJA WYROBÓW AC 055

MON Akredytacja OIB JB Nr 43/MON/2017

There is a **Certification Body** in Institute that performs mandatory and voluntary certification.
Issues certificates on:

- foot andleg protective equipment
- material for the footwear production
- clothing and hand protective equipment
- natural and artificial leather
- goods made of leather, fabric and plastic (blinds and covers)

Certification Body gives the certification mark as part of the activity:
- Ecological mark
For footwear IPS gives marks:
Healthy foot
Sensitive foot
Footwear for diabetics
ACREDITED LABORATORIES – meet requirements of the ISO/IEC 17025:2005

Products, Processes and Environment Examination Laboratory

In laboratory following products are tested: textiles, leather, shoes, fabrics, toys, foodstuffs, dyes, concentrates, polymers and others. The following substances were determined: aromatic amines, azo colorants, carcinogenic and allergenic dyes, pentachlorophenol (PCP), phthalates and metals. Also colour fastness to rubbing, water, domestic and commercial laundering, perspiration hot pressing, dry cleaning using perchlorethyene solvent, solvent, spotting:Water, leaching: Hypochlorite. Describing laboratories determinate special characteristics (reflectance and transmittance) by spectrophotometric measurement range of UV-VIS-NIR: camouflage products (4colour), solar reflection. Details described in the scope of accreditation No AB 62.

Tannery Laboratory

Tannery Laboratory does tests on following materials: soft and hard leathers, imitation leathers and bonded leathers, coated materials, textile materials and nonwovens used for the elements of shoes and other goods such as protective articles, clothes, upholstery, gallantry, gloves etc. according to European standards. Details described in the scope of accreditation No AB 033.

Footwear Testing Laboratory

Objects of analysis in Footwear laboratory Sole and upper materials: rubbers, thermoplastic rubbers, PVC, PU rubbers, EVA copolymers; shoe parts: toecaps, metal toacaps, penetration-resistant inserts, zippers; occupational, protection and safety footwear; casual shoes; protection and safety footwear.

IPS has **Research Departments** that carry out scientific research, development and implementation works aimed at developing innovative technologies implementing and disseminating the results of research.

We also conduct trainings using modern methods for designing footwear and bottoms 2D, 3D (printing 3D), design footwear hoof construction, quality assessment and complain of footwear and leather goods. Also trainings in quality management and environmental management.

IPS is co-founder of the Upholstered Furniture Technology Platform, the purpose of which is to support the development of the furniture industry. Our activity is interdisciplinary and is dedicated to various branches of industry like: leather, footwear, textile, dyes, polymers, furniture, environmental protection, food, medical or chemical. All this make that Institute of Leather Industry in Lodz is a good partner for cooperation with business partners and scientific units on every field related to industry issues.

Article and photos courtesy of IPS

CONTACT:

Institute of Leather Industry in Lodz
Zgierska 73, 91-462 Lodz, Poland
Phone: 48 42 25 36 108
mail: sekretariat@ips.lodz.pl
www.ips.lodz.pl

DON'T MISS THIS!

THE MOST IMPORTANT EVENTS FROM THE TECHNICAL TEXTILE INDUSTRY

MILANO UNICA

06-08 FEBRUARY 2018

RHO

At the Milano Unica, Italian and European manufacturers will present a comprehensive product range of textile products. Exclusive and Innovative trends for the modern textile market will be shown and the opportunity to make business contacts will be offered.

REMADAYS

07-09 FEBRUARY 2018

WARSAW

RemaDays Warsaw is one of the largest trade shows in advertising industry in the world. The fairs have been organized since 2005 and have been growing constantly so that every other year the number of visitors and exhibitors was higher. During 3 days of the RemaDays Warsaw show, on 35 000 m2 of exhibition space, the representatives of the advertising industry meet.

AVANTEX PARIS

11-14 FEBRUARY 2018

LE BOURGET

The idea behind the Avantex Paris is the transfer of high-tech findings on fabrics, textiles and fibres, which are used in the apparel industry, with the aim to produce intelligent, innovative and multifunctional textiles. For this purpose, the organizers have invited high-level experts from R & D departments, designers and producers to present their latest results and to open up new markets.

CENTRAL ASIA HOMETEXTILE

24-27 FEBRUARY 2018

ALMATY

The purpose of the international exhibition Central Asia Hometextile 2018 is to create optimal conditions for the demonstration of the hometextile industry, exchange of experience in professional business organization, establish new business contacts and to enter into export-import contracts, analysis of market conditions and competitiveness, create joint business in the Central Asian Advertising Market.

TECHTEXTIL RUSSIA

20-23 MARCH 2018

MOSCOW

Techtextil Russia is the only dedicated trade show for technical textiles, nonwovens and protective clothing in Russia and CIS countries. The biennale event takes place traditionally at spring at IEC Expocentre, in Moscow.The fair brings together technologies for the whole textile creation chain: from the choice of raw materials and equipment, up to apparel textiles for every sector of the industry.

INTERNATIONAL APPAREL & TEXTILE FAIR

24-26 APRIL 2018

DUBAI

International Apparel & Textile Fair is a bi-annual event dedicated to the apparel and textile industry. The exhibition focuses on clothing, fabrics and materials for fashion, home and industrial materials. It convinces with innovative structures, mixing of materials and a variety of color palettes.

TECHTEXTIL NORTH AMERICA

22-24 MAY 2018

ATLANTA

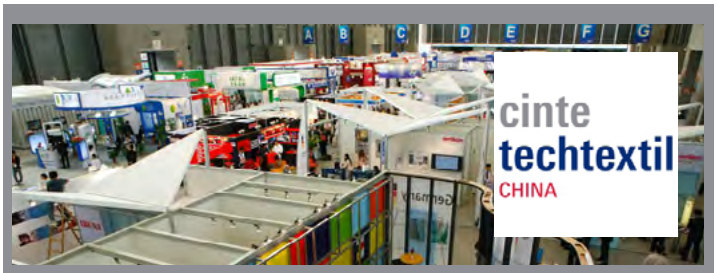
The events bring together product innovators, industry associations and research institutions to deliver a robust offering of networking and educational opportunities. With 500+ exhibiting companies, international media outlets and pavilions representing Germany, Italy, Taiwan, Belgium, China and Supply Chain USA to name a few, both visitors and exhibitors alike gain exposure to new opportunities and outlets to market their businesses.

MTEX+

29-30 MAY 2018

CHEMNITZ

The key topics at the exhibition are functionalised textiles, smart textiles, method and process development, manufacturing and recycling composites as well as checking, certifying and protecting from plagiarism. Well-known providers will present innovative textile solutions for protecting people and natural surroundings as well as mobile and immobile goods at a special exhibition.



CINTE TECHTEXTIL CHINA

04-06 SEPTEMBER 2018

SHANGHAI

By featuring products that cover 12 different application areas, the fair creates more opportunities for participants than events with a more narrow focus, something that was appreciated by both exhibitors and buyers. Buyers praised the fair not only for its wide product coverage, but also for the quality of exhibitors and the opportunity to discover new trends and technologies.

THE TEXTECH BANGLADESH

12-15 SEPTEMBER 2018

BANGLADESH

The Textech Bangladesh is a trade fair for textile, fabrics and machines for the textile industry. It is a high-quality business platform for the textile sector, where all the experts come together to exchange information and to consult face to face with potential business partners on joint business opportunities. The exhibition is an ideal platform to learn about the latest industry trends.

MORE ACTUAL UPCOMING EVENTS ON OUR SITE:

TETEX.COM

MIEPO – Your reliable partner in Moldova

The Moldovan Investment and Export Promotion Organization (MIEPO) is a public institution coordinating policy implementation for competitiveness, export promotion and investment attraction in Republic of Moldova.

Our mission is to contribute sustainably to the economic development of the Republic of Moldova, by strengthening the competitiveness of companies that initiate activity in Moldova and development of investment projects. Our vision is to be a reliable and preferred cooperation partner for domestic and foreign investors in development projects that create jobs and grow exports.

We offer various services to investors, such as identification of sectors with potential for investments, coordination and support of negotiations with local authorities, information on suitable location, advice on administrative and legal issues and many more. In case of any inquiries and full list of our services, please contact with us:

65 Alexei Mateevici str., Chişinău
Republic of Moldova, MD-2009
Tel:+373 22 27 36 54
Fax: +373 22 22 43 10
We would be more than happy
to answer any of your questions!

Article and photos courtesy of
MIEPO

PTAK WARSAW EXPO

5th ANNIVERSARY edition

fast textile

INTERNATIONAL TEXTILE FAIR

22-24 NOVEMBER 2018

FABRICS & KNITWEAR | MACHINERY | YARN | SERVICES | ACCESSORIES & HABERDASHERY

SEE OFFER OF EXHIBITORS FROM OVER 50 COUNTRIES!

Organiser: PTAK WARSAW EXPO

Patron: Ptak, MIASTO MODY

Partners: National Chamber Fair, Stowarzyszenie Włókienników Polskich, RynekMody, Tetex, PROmedia, T&P, DRUKU, ITT CERTEX, IW Instytut Włókiennictwa, MODA, image, modna bielizna, Living Room, haftpl, ComfortLife

PTAK WARSAW EXPO | 05-830 NADARZYN | POLAND | WWW.FASTTEXTILE.COM