

Tetex.

EUROPEAN TECHNICAL TEXTILES MAGAZINE
WINTER 2019



ARMY TECHNOLOGY

Fully wearable soft exosuit

WEARABLE SMART TECH

Colour changing clothes

SGL FOR BMW INEXT

SCG carbon selected to supply BMW

EDITORIAL



Dear Readers,

It's getting cold outside, isn't it? Are you winter enthusiasts or would you rather stay by the fireplace with a mug of hot tea and enjoy the aura looking through the window? No matter which option you go for – we hope you will still find time for our latest edition of Tetex Magazine.

The issue we are presenting you with will look at a few novelties from the world of technical textiles. Recently technology has more and more often been finding its application in everyday objects. In this edition we focus on the technology used in casual and sportswear, which will boost our standard of living. We have

also taken a peek at how environmental protection has been progressing and how to save our seas from oil spills. We would particularly like to draw your attention to our article on the recently established cooperation between SGL and one of the world's car tycoons on an amazing, innovative project – BMW iNEXT, an incredible way of applying carbon fibres.

We wish you an inspiring and pleasant time with our magazine.

See you soon!

Dorota Sakowska-Hunt

Publisher:

Tetex Limited

Europe's Leading Technical

Textile Website

United Kingdom

Suite 8 Newton Hall,

Town Street Newton,

Cambridge CB22 7ZE

+44 788 497 7809

Poland

Klobucka 7, 02-699 Warsaw

+48 22 101 39 98

Editor in Chief:

Dorota Sakowska-Hunt

Editorial Team:

Łukasz Cichoszewski

Mark Hunt

Agata Sibilska

Graphic Design

Mateusz Chałan



Read Online

www.tetex.com

info@tetex.com

The European portal **Tetex.com** invites companies and institutions interested in a trade or marketing collaboration and publication of innovations and achievements in the technical textiles industry. We support your business through the publication of articles, content and social media entries. Our partnerships are based on exchanging information and providing support to reach potential clients. If you would like to learn more, contact us at: **info@tetex.com** and enter the word "Partnership" in the subject line.

To order a subscription, please contact our distribution department: +48 22 101 39 98 | ALL RIGHTS RESERVED.

6



a new supplier for iNEXT

16



Synthetic Biology's New Spin on Fast Fashion

9



Space for Innovation.

Techtextil - trade fair for technical textiles

18



Animal-free and made from 100% PET bottles

10



Skiincore - Technology Integrated with Comfort

20



Wearable Smart Tech

12



Effective Floating Oil Barrier

24



The Fairyland for Fashion

14



Fully wearable soft exosuit

26



Events Calendar



SGL Chosen by BMW to be Supplier for iNEXT

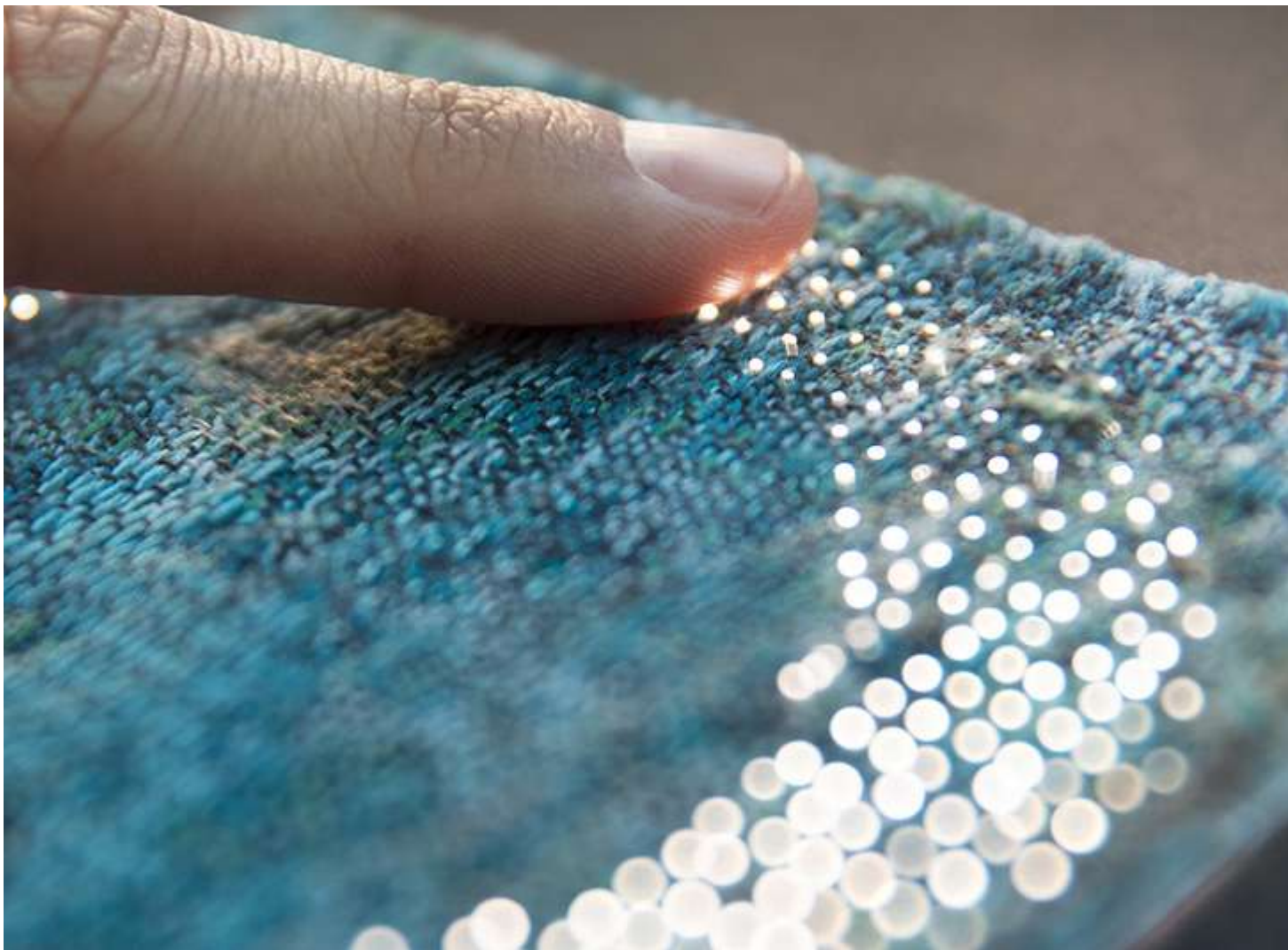
SCG Carbon Selected to supply BMW

SGL Carbon has been chosen to supply the semi-finished textile products and carbon fibres for the next-generation electric vehicle currently being developed by BMW.

SGL Carbon will supply carbon fibres and semi-finished textile products for a range of components in BMW's next-generation electric vehicle, the BMW iNEXT. The framework agreement includes glass fibres in addition to the carbon ones and SGL Carbon will be involved in several stages of the supply chain.

SGL Carbon SGL Carbon is a technology-based company and world leader in the development and production of carbon-based solutions. It produced high-quality materials made from speciality graphite and composites which are ideal for use in future-facing industrial sectors such as automotive, aerospace, solar and wind energy, semiconductor and LEDs as well as in the production of lithium-ion batteries and other energy storage systems. SGL Carbon also develops solutions for chemical and industrial applications.





www.bmw.com

iNEXT Production to Commence 2021

It is anticipated that the contract will be in place for the vehicle's entire lifecycle, with delivery expected to start in 2021. The carbon fibres will be produced in their US factory at Moses Lake, WA whilst the other materials will be produced at their German site in Wackersdoft.

According to Andreas Wüllner, President of Composites, Fibres & Materials (CFM) at SGL Carbon, "With this project, SGL Carbon is strengthening its position as a supplier of fibres, materials and components for the automotive industry," He continued to say that, "As far as we know, this will be the second largest electric ve-

hicle series project in the industry after the BMW i3, in terms of the total volume of carbon fibres it is expected to use."

Pioneers in Fibre-Reinforced Plastics

SGL Carbon Carbon specialises in developing materials which contribute to a smarter world. They generated sales of around 860 million Euros in 2017 and as of December 31, 2017, the company had approximately 4,200 employees worldwide in 34 locations in Europe, North America, and Asia. The company offers materials which offer sustainable mobility, new energies and cross-industry digitization. Their focus of developing advanced textile products is supported

by the demand for efficient, networked and sustainable solutions.

The BMW Group and SGL Carbon partnership on the BMW iNEXT is the result of years of pioneering collaboration between the two companies in the field of fibre-reinforced plastics and they have collaborated together in the past. In their previous joint venture, SGL Automotive Carbon Fibres worked with BMW to produce the first completely series-production-ready passenger compartment made from carbon fibre-reinforced plastic in the BMW i3. SGL Carbon's innovative uses of the material have also been incorporated into the BMW i8 and BMW 7 series.

Tetex.int

INTERNATIONAL CREATIVE AGENCY



OUR SERVICES

MARKET STRATEGY



We offer a range of services for your business or organisation including translations in 35 languages, catalogues, and leaflets, copywriting, branch events, virtual office, transcreation, mailing strategy, packagings translation, social media, business partners, online ads. Everything that helps build a successful brand, create a professional and effective promotion and strengthen your brand popularity.



CREATIVE SOLUTIONS

Our specialists will help you choose a marketing strategy so that your company can grow even faster. Are you looking for advice on how to promote your company? Let our specialists take care of it. You will not be disappointed!



BUSINESS

We work with the largest fairs and companies in the industry. If your company cannot attend, we will be happy to represent you.

SMART SOLUTIONS

Our team consists of qualified specialists in their fields so the contact with the client is efficient and fast.

SERVICE:

MARKETING
TRANSLATIONS
BUSINESS TRADE

PROFESSIONAL DESIGN
PRODUCT ADVERTISING
CREATIVE IDEAS

CONTACT!

www.tetex.co.uk
info@tetex.co.uk
+48 22 101 39 98



techtexsil

Międzynarodowe, wiodące targi
tekstyliów technicznych i włókien

14–17.05.2019
Frankfurt nad Menem



Be Part of the Future. Space for Innovation.

techtexsil.com

info@poland.messefrankfurt.com
tel. (22) 49 43 200



Agrotech



Buildtech



Clothtech



Geotech



Hometech



Indutech



Medtech



Mobiltex



Oakotech



Packtech



Protech



Sporttech

W tym samym miejscu
i czasie odbywa się:

texprocess



messe frankfurt



Intelligent Clothing which Maintains Body Heat

Instead of using an app to control the heating in your house why not use an app to regulate your clothing? SKIINCORE Heated Base Layer offers a range of clothing which is soft and comfortable to wear but also uses advanced technology to provide efficient, targeted heat to the parts of the body which need it most.

Developed by SKIIN, a textile computing company based in Canada, SKIINCORE, has been designed to respond to body temperature in order to maintain it to its optimal temperature in which the base layer applies heat directly to the skin.

Benefits of alpine skiing:

Be Stylish and Warm

SKIINCORE features cutting edge technology combined with high quality materials and an innovative design. The garments have 48% merino wool content which means that they are super soft to wear. Currently available as a long-sleeved top and leggings it is slim-fitting which means that it can comfortably be worn under other clothing making it ideal for skiing or any other outdoor activity.

It is also ribbed on the outside and smooth on the inside. This means that you will be able to wear it comfortably without fear of bunching. It is also machine washable and does not require any special care.



Technology Integrated with Comfort

SKIINCORE might feature clever technology but it is also extremely comfortable. The technology (including the heating elements) is knitted into the garments sandwiched between the synthetic inner layer and a heat-trapping outer wool layer. We challenge you to tell where the clothing ends and the technology begins!

In order to achieve thermal comfort the design balances core temperature and sweat. The SKIINCORE base layers are designed to deliver heat to only those parts of the body which usually experience cold. This includes sides, feet, thighs and hands. Parts of the body which are often sweaty such as the back and chest are not heated.

When the temperature drops, the base layer switches on automatically to heat up your bodies extremities which are most sensitive to the cold. It turns off automatically when it senses you are at the correct temperature. For additional comfort you can also control the temperature manually with a smart phone.

The battery has a life of eight hours so this clothing is ideal for a wide range of activities including skiing and work. The battery is compact and fits easily into an elegant docking station which is strategically placed so that it is unobtrusive.

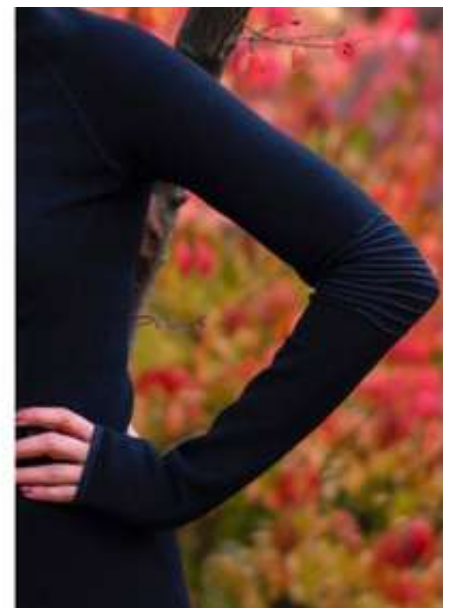
Kickstarter Project

The team at SKIIN have taken three years to develop this SKIINCORE range. Consisting of a multi-disciplinary team of engineers, fashion designers, and data scientists they are extremely proud of their design and currently have a Kickstarter project to develop their product further. In addition to exclusive pricing there is an option to choose whether leggings come with or without the heated foot cover.

For adventurers everywhere, from alpine slopes...



www.kickstarter.com





Continental Sets New Standards on the High Seas with an Effective Floating Oil Barrier

- The hand-made oil barriers from Continental not only protect the environment but also reliably contain oil spills even in turbulent seas

Hanover, October 10, 2018. The technology company Continental has developed a new generation of floating oil barriers for use on the high seas. With a width of 3200 mm, they are especially suitable for use on rough seas.

The energy requirements around the world mean an increase in the amount of crude oil transported by sea. This also brings an increase in the risk of accidents entailing considerable impact on the environment as well as on a company's profitability – both during pumping on the drilling rigs and in the event of maritime disasters involving damage to giant tankers. In collaboration with a partner, the technology company Continental has now developed a highly effective protective measure: a new type of floating oil barrier that can withstand even Arctic storms. The floating barriers are used during regular maintenance for oil drilling rigs as well as in emergency situations because, de-

spite stringent safety measures, accidents on the high seas cannot be completely avoided. Following incidents and accidents, immediate action is essential in order to minimize the extent of the resulting oil slick. The floating barriers surround leaked oil at sea so that tankers can quickly pump it out of the water using hoses. Depending on the swell, this takes place directly at the deployment site or in more moderate waters with smaller waves.

The method of surrounding oil in this way is not new, and the floating barriers have also proven themselves for many years in serial use during maintenance work on oil drilling rigs. However, the latest generation of the oil barrier has a special feature to offer. "What makes it so unique is the special width of the air bags: Products commonly found on the market measure no more than 2000 mm. For production- and material-related reasons, it was previously not possible to manufacture this product with other dimensions. With our 3200-mm-wide barriers, we are setting new standards in environmental technology," said Michael Möschen, an application engineer at Continental. With this development, Continental has succeeded in creating oil barriers that can withstand even heavy fall storms, while conventional designs with a width of just 2000 mm are quickly washed over in heavy swell – with catastrophic consequences for the environment.

Tailor-made environmental technology

The devastating sinking of the Deepwater Horizon in the Gulf of Mexico in April 2010 showed that much wider barriers are needed for reliably containing an oil slick. As a result, the number of inquiries for appropriate solutions increased and work to develop even wider barriers began.

“We are very well positioned in terms of product strategy, and even then our vulcanization process was sufficiently advanced. Production was a real challenge that we successfully overcome. We have since already delivered several of these 3200-mm-wide oil barriers, but of course only after they had successfully undergone testing in heavy storms with meter-high waves,” said Michael Möschen describing the successful project.

The latest generation of the oil barrier is made, assembled and vulcanized at the Continental plant in Northeim. Like the conveyor belts, the manufacture of which has been a specialism of Continental for decades, it is made from rubber and various fabric layers. There is simply no alternative fabric on the market in the required size, which means that the separating layers of the individual pieces of fabric have to be joined together when the oil barriers are being made. The particular challenge during production is therefore the manual assembly of the floating barriers, which makes the production process extremely laborious. On top of that, the units and presses have to work with extreme precision. “The oil barriers have extremely thin walls for their width – no more than 6–7 mm. When they are shipped to the deployment site, they are coiled on strong winches. Every single kilogram counts and so the mass should be kept as low as possible,” added Möschen.

Tested under special test conditions and at sea, the floating barriers have proven themselves to be extraordinarily reliable and secure. In terms of width, they are unrivaled on the market. To ensure that the barriers remain vertical in the water, chains with weights on them are attached below the water’s surface. This prevents even thick layers of oil from floating into the open sea under the barrier and ensures instead that the oil is reliably contained.

The development team also paid particular attention to strength. Flotsam in the sea can damage the floating barriers. The high-strength fabric and sturdy rubber layer of this Continental development is extremely impressive in this respect, too, withstanding pressures of up to 0.5 bar in the laboratory. That sounds modest, but it is enormous for an air bag of this size. And another aspect is important: The barriers are airtight like a bicycle inner tube – after all, no air must be allowed to escape during deployment. Air is pumped into the barriers as soon as they are lowered into the water by the winch on the ship.

www.continental-corporation.com

The latest generation of floating oil barriers from Continental works reliably – even in fall storms at sea.





The multi-joint soft exosuit consists of textile apparel components worn at the waist, thighs and calves that guide mechanical forces from an optimized mobile actuation system attached to a rucksack via cables to the ankle and hip joints. In addition, a new tuning method helps personalize the exosuit's effects to wearers' specific gaits. Credit: Harvard Biodesign Lab

Fully wearable soft exosuit with automatic tuning helps users save energy and walk outside over difficult terrain

(CAMBRIDGE, Mass.) — In the future, smart textile-based soft robotic exosuits could be worn by soldiers, fire fighters and rescue workers to help them traverse difficult terrain and arrive fresh at their destinations so that they can perform their respective tasks more effectively. They could also become a powerful means to enhance mobility and quality of living for people suffering from neurodegenerative disorders and for the elderly.

Conor Walsh's team at the Wyss Institute for Biologically Inspired Engineering at Harvard University and the Harvard John A. Paulson School of Engineering and Applied Sciences (SEAS) has been at the forefront of developing different soft wearable robotic devices that support mobility by applying mechanical forces to critical joints of the body, including at the ankle or hip joints, or in the case of a multi-joint soft exosuit both. Because of its potential for relieving overburdened soldiers in the field, the Defense Advanced Research Projects Agency (DARPA) funded the team's efforts as part of its former Warrior Web program.

While the researchers have demonstrated that lab-based versions of soft exosuits can provide clear benefits to wearers, allowing them to spend less energy while walking and running, there remains a need for fully wearable exosuits that are suitable for use in the real world.

Now, in a study reported in the proceedings of the 2018 IEEE International Conference on Robotics and Automation (ICRA), the team presented their latest generation of a mobile multi-joint exosuit, which has been improved on all fronts and tested in the field through long marches over uneven terrain. Using the same exosuit in a second study published in the Journal of NeuroEngineering and Rehabilitation (JNER), the researchers developed an automatic tuning method to customize its assistance based on how an individual's body is responding to it, and demonstrated significant energy savings.

The multi-joint soft exosuit consists of textile apparel components worn at the waist, thighs, and calves. Through an optimized mobile actuation system worn near the waist and integrated into a military rucksack, mechanical forces are transmitted via cables that are guided through the exosuit's soft components to ankle and hip joints. This way, the exosuit adds power to the ankles and hips to assist with leg movements during the walking cycle.

"We have updated all components in this new version of the multi-joint soft exosuit: the apparel is more user-friendly, easy to put on and accommodating to different body shapes; the actuation is more robust, lighter, quieter and smaller; and the control system

allows us to apply forces to hips and ankles more robustly and consistently,” said David Perry, a co-author of the ICRA study and a Staff Engineer on Walsh’s team. As part of the DARPA program, the exosuit was field-tested in Aberdeen, MD, in collaboration with the Army Research Labs, where soldiers walked through a 12-mile cross-country course.

“We previously demonstrated that it is possible to use online optimization methods that by quantifying energy savings in the lab automatically individualize control parameters across different wearers. However, we needed a means to tune control parameters quickly and efficiently to the different gaits of soldiers at the Army outside a laboratory,” said Walsh, Ph.D., Core Faculty member of the Wyss Institute, the John L. Loeb Associate Professor of Engineering and Applied Sciences at SEAS, and Founder of the Harvard Biodesign Lab.

In the JNER study, the team presented a suitable new tuning method that uses exosuit sensors to optimize the positive power delivered at the ankle joints. When a wearer begins walking, the system measures the power and gradually adjusts controller parameters until it finds those that maximize the exosuit’s effects based on the wearer’s individual gait mechanics. The method can be used as a proxy measure for elaborate energy measurements.

“We evaluated the metabolic parameters in the seven study participants wearing exosuits that underwent the tuning process and found that the method reduced the metabolic cost of walking by about 14.8% compared to walking without the device and by about 22% compared to walking with the device unpowered,” said Sangjun Lee, the first author of both studies and a Graduate Student with Walsh at SEAS.

“These studies represent the exciting culmination of our DARPA-funded efforts. We are now continuing to optimize the technology for specific uses in the Army where dynamic movements are important; and we are exploring it for assisting workers in factories performing strenuous physical tasks,” said Walsh. “In addition, the field has recognized there is still a lot to understand on the basic science of co-adaptation of humans and wearable robots. Future co-optimization strategies and new training approaches could help further enhance individualization effects and enable wearers that initially respond poorly to exosuits to adapt to them as well and benefit from their assistance”.

“This research marks an important point in the Wyss Institute’s Bio-inspired Soft Robotics Initiative and its development of soft exosuits in that it opens a path on which robotic devices could be adopted and personalized in real world scenarios by healthy and disabled wearers,” said Wyss Institute Founding Director Donald Ingber, M.D., Ph.D., who is also the Judah Folkman Professor of Vascular Biology at HMS and the Vascular Biology Program at Boston Children’s Hospital, and Professor of Bioengineering at SEAS.

Additional members of Walsh’s team were authors on either or both studies. Nikos Karavas, Ph.D., Brendan T. Quinlivan, Danielle Louise Ryan, Asa Eckert-Erdheim, Patrick Murphy, Taylor Greenberg Goldy, Nicolas Menard, Maria Athanassiu, Jinsoo Kim, Giuk Lee, Ph.D., and Ignacio Galiana, Ph.D., were authors on the ICRA study; and Jinsoo Kim, Lauren Baker, Andrew Long, Ph.D., Nikos Karavas, Ph.D., Nicolas Menard, and Ignacio Galiana, Ph.D., on the JNER study. The studies, in addition to DARPA’s Warrior Web program, were funded by Harvard’s Wyss Institute and SEAS.

www.wyss.harvard.edu

A multidisciplinary team at Harvard’s Wyss Institute and Harvard SEAS has developed a mobile multi-joint soft exosuit using an automatic tuning strategy that could reduce fatigue in soldiers, firefighters or other rescue workers. Credit: Wyss Institute at Harvard University





Genetically Engineered Clothes

THE ETHICS OF SYNTHETIC BIOLOGY IN FASHION

Genetically engineered clothes. The fashion and technology sectors have been buzzing lately about high-tech fabrics obtained from biomaterials and genetically engineered microorganisms.

In its recent endeavour to support organic textiles and in opposition to genetic engineering, Patagonia Inc. has teamed up the biotech startup Bolt Threads to help propel innovative clothes to the apparel market. However, a new report released by the civil society experts cut through the hype.



Genetically Engineered Clothes: Synthetic Biology's New Spin on Fast Fashion

The report suggests that any commercial-scale expansion of biotech textiles could create a dangerous new source of biotech waste that puts additional pressure on ecosystems and divert support away from the sustainable natural fibre economies.

“Genetically Engineered Clothes: Synthetic Biology’s New Spin on Fast Fashion” report was released by technology watchdog **ETC Group** and natural textile collaborative Fibershed details on how the use of ‘biosynthetic’ fabrics could

disrupt supply chains and displace the natural fibre production.

In particular, it examines the false promises and unproven claims that are accompanying so-called 'spider silk' as well as DuPont's bioengineered Sorona fabric. Despite being promoted as a 'green' option, biosynthetic fibres made by companies such as **Bolt Threads Inc.** depend on industrial feedstocks like sugar, which is linked to deforestation and diminishing labour conditions.



Beyond supply chain disruptions, the “**Genetically Engineered Clothes**” report calls attention to the potential new forms of biowaste created by the microorganisms engineered to produce the new materials. ‘B-waste’ for example, a byproduct of microorganisms found in the production of genetically engineered clothes that have never been released into the environment, may be difficult to dispose of safely and creates risks of new microorganisms spreading through the water and air.

The report particularly points up the confusions and contradictions of Patagonia, a brand trying to establish itself as an organic leader while simultaneously lending its green credentials to a biotech startup. These organisations are joined by other environmental, farming, and social justice groups who are together urging Patagonia and other investors to reconsider genetic engineering and switch their focus to socially-just and sustainable natural sources of fibres.



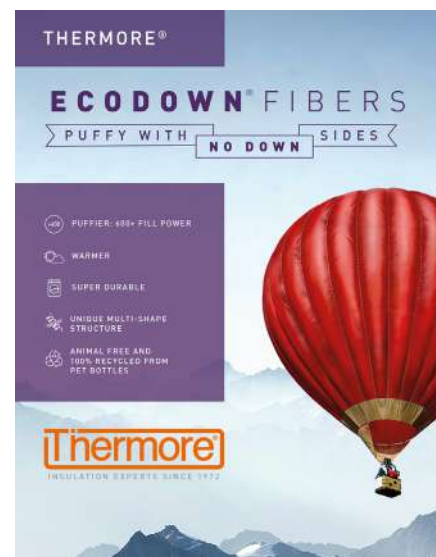
www.wtvox.com

ECODOWN® FIBERS

The insulation with no down... sides

Despite the efforts of the apparel industry to move towards a more sustainable and cruelty-free approach, recent surveys report that 80% of cold weather clothing is still insulated with duck feathers. This is mainly due to the lack of a synthetic solution that provides the same look and loft as down. Thermore® takes the first step towards sustainability by releasing a truly revolutionary and blowable product: **Ecodown® Fibers**.

Ecodown® Fibers ensure the same loft as high quality 90/10 feathers and can likewise be blown into a garment. The loft of down products is calculated with the “fill power test”: fibers are blown through a cylinder and their volume is measured. The higher the “fill power”, the puffier the jacket. Tests performed on Ecodown® Fibers have reported an outstanding fill power of over 600, which is how the product is able to guarantee that “puffy” look. Moreover, this insulation is incredibly durable: its one-of-a-kind multi-shape structure allows high resistance and prevents it from clumping when washed.



Ecodown® Fibers advertising campaign.

Not only are Ecodown® fibers animal-free, but they are also made from 100% PET bottles. Every jacket insulated with Thermore®'s fibers allows recycling up to 10 post consumer bottles. Along with a warm feel, the insulation achieves a soft touch without the use of microfibers, which would contaminate oceans and, ultimately, our own food.

You can expect to see Ecodown® Fibers presented at the forthcoming trade shows around the world: Milano Unica (10-12 July), Performance Days New York City (23-24 July), Outdoor Retailer (23-26 July), Munich Fabric Start (4-6 September), and Première Vision (19-21 September). For those who cannot make it to the shows, Thermore® has also recently released their new ad campaign with a catchy video to promote the product, featuring Thermore®'s best friend, Zorba the Duck



Close up of Ecodown® Fibers unique multi-shape structure



Ecodown® Fibers advertising video featuring Zorba the Duck.

www.thermore.com

Designers can finally let their creativity flow with no limitations, knowing Ecodown® Fibers will allow them not only to recreate that puffy down look, but also to support environmental sustainability.

**fast
textile**

INTERNATIONAL
TEXTILE FAIR

6TH EDITION

500 EXHIBITORS

40 COUNTRIES

33 000 VISITORS

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

NEWS!

HOME TEXTILE | READY TO WEAR | ADVERTISING TEXTILE

20-22 NOVEMBER 2019

COLOUR CHANGING CLOTHES

Smart Clothes that will Revolutionise your Wardrobe

What colour will you wear today? Will it be pink, beige, stripes or zebra print? Imagine buying your favourite bag design and being able to change the fabric pattern to match your outfits, or even the weather, whenever you felt like it? With the latest colour-changing smart fabric it is possible to change the colour of your wardrobe simply by pressing a button on an app.

Developed by researchers at the University of Central Florida, the latest wearables can now change colour via an app. The fabric, which is known as ChroMorphous is battery-powered and has a similar texture to canvas, making it ideal for accessories such as bags.

Technology as an Add-On

Of course, attempting to combine technology with textiles is not unheard of. Pizza Hut has developed trainers which can pause a TV, Samsung has developed a suit which can unlock a mobile phone and Levi has designed a jacket which will connect to Uber. But whilst some of these textile and technological combinations appear to be slightly incongruous, the colour changing fabric is designed from the inside out.

Woven Tech

Rather than simply taking an existing item and adding technology to it, The University of Central Florida has woven the technology into the fabric itself by

incorporating micro-wires and colour changing pigments into the material itself. The prototype design features a slightly cumbersome battery pack but the long term vision is that it will be both reduced in size and detachable so that garments can be washed.

If the team at UCF are able to scale the technology it will be possible to mass produce it using a process known as fibre-spinning. The researchers are currently working with fashion designers to develop a range of colour changing dresses which would feature even thinner threads.

Smart Threads Boost Wireless Signals

Researchers at The Ohio State University are also investigating the use of smart clothing. By using lightweight washable antennas embroidered into clothing they are investigating the possibility of boosting wireless signals or transmitting data. In the future it may also be possible to use the antenna to control virtual reality games or smart home devices.

Wearable Smart Tech

Samsung's SmartSuit Body Compass monitors the body's performance during a workout and can give a real time reading, whilst the Welt or Wellness Belt recognises if you have eaten a large meal and expands accordingly. Whatever the future of smart textiles, there are endless possibilities which promise to be both practical and fun.

www.ucf.edu






avantex
PARIS

High Technology + Fashion Industry

11 – 14 February 2019
Paris Le Bourget
France

www.avantex-paris.com

 **messe frankfurt**

FFK

FASHION
FOR KIDS



2nd B2B Clothes
and Textiles Expo

26-27.06.2019
Kielce, POLAND

www.fashionforkids.pl



International Advertising and Printing Trade Fair

**15TH EDITION
REMADAYS**

OVER
52 COUNTRIES

**800 QUALITY
EXHIBITORS**

**21 000
PROFESSIONAL
VISITORS**

SEE MORE

AT A TRADE FAIR FULL OF IDEAS

**WARSAW – NADARZYN
13-15.02.2019**

WWW.REMADAYS.COM

The Fairyland for Fashion: trade shows for professionals from the fashion sectors

This is the banner under which the twice-yearly Paris trade fairs held by Messe Frankfurt France at the Le Bourget exhibition centre are grouped. They are dedicated to materials, clothing production and forward planning for textiles, clothing and accessories.

Join us at the upcoming Apparel Sourcing, Avantex, Leatherworld, Shawls&Scarves, Texworld and Texworld Denim Paris shows, which go to create the Fairyland for Fashion between **11 and 14 February 2019** in Paris Le Bourget.

"These shows have established themselves as an absolute must for anyone involved in designing collections of clothing and accessories: heads of innovation and research, production managers, buyers of fabrics and finished products, designers and consultants" says Michael Scherpe, President of Messe Frankfurt France.

The Fairyland for Fashion means:

- Four days of discoveries and business thanks to the expertise and skills of over 1800 exhibitors, producers from every continent, who will on average be meeting with over 14,000 principals.
- An unmissable event where you can see and handle the fabric collections, form an opinion of manufacturing skills, discover the latest innovations and trends, get your fill of information, learn from strategic studies and share experience.
- The added value provided by Messe Frankfurt France: lectures and round-table discussions, catwalks, specific itineraries for fabrics

In short, come away with all you need to work in confidence on future projects relating to textile materials, clothing production and innovation for brands, from ready-to-wear through to haute couture, accessories, shops and independent designers.

The Fairyland for Fashion is a Messe Frankfurt France event

The French agency for Messe Frankfurt in France, set up in 1921, was established in Paris in 1953. The Messe Frankfurt France subsidiary was founded in 2002 in order to acquire the

Texworld trade fair. Since then, its portfolio has expanded with Apparel Sourcing Paris, Avantex Paris, Leatherworld Paris, Shawls&Scarves Paris and Texworld Denim Paris. The company is firmly rooted in the global fashion industry environment while actively promoting young design at the same time. Today, with twenty staff, a turnover of 26.2 million euros and 75 marketing agencies throughout the world, the company is in a position to organise every type of trade fair in France. In 2017, the company's trade shows brought together around 3000 exhibitors from 21 countries and 30,000 visitors from 110 countries.

Providing maximum convenience for visitors, Apparel Sourcing Paris, Avantex Paris, Leatherworld Paris, Shawls&Scarves Paris, Texworld Paris and Texworld Denim Paris belong to the cluster of related trade shows organised by Messe Frankfurt France, held in one and the same location, on the same dates and where entry is free upon presentation of professional credentials.

All details about textile trade shows organised by Messe Frankfurt throughout the world can be found at the new platform: www.textpertisenetwork.messefrankfurt.com

Messe Frankfurt in figures:

Among organisers of trade shows, conventions and events with their own exhibition grounds, Messe Frankfurt is the global leader. With 2400 employees at 30 different sites, Messe Frankfurt posts annual sales of over 669 million euros. The group has resource to in-depth knowledge of the sectors it covers and draws on its international distribution network to provide effective support for its clients' business interests. A comprehensive range of services – on-site and online – guarantees customers all over the world a consistently high standard of quality and maximum flexibility in the planning, organisation and execution of their events. The variety of services offered ranges from renting stand space to marketing services, including stand construction, personnel services or catering. The company has its headquarters in Frankfurt am Main. The City of Frankfurt holds a 60% share in it and the state of Hesse a 40% share.

For further details, go to:

messefrankfurt.com | congressfrankfurt.de | festhalle.de
Image credits: Messe Frankfurt France

Apparel Sourcing Paris

he biggest trade fair in Europe for sourcing comprising on average 600 clothing manufacturers from all over the world. From basics to high-end, the offer covers the whole range of ready-to-wear for women, men and children, grouped by area of expertise in fashion clothing: knitwear, dressmaking, tailoring, sportswear, evening wear, made-to-measure, lingerie and swimwear, workwear, textile accessories etc. *600 exhibitors from 17 countries in September 2018*



Shawls&Scarves Paris

is the only international trade fair dedicated solely to scarves and shawls. You will also find headscarves, wraps, capes, ponchos, etc. They come in every material: cashmere, wool, silk, cotton, linen, bamboo etc., from entry level to very high end, both woven and knits. These accessories are available in an infinite variety thanks to the skills of companies from every corner of the globe! *33 exhibitors from 17 countries in September 2018*



Texworld Denim Paris

offers a comprehensive denim range comprising fabrics, clothing production and finished products, in one place and in an unconventional way. An enduring fixture in our wardrobes, denim is increasingly becoming an essential material for every collection, whatever the season, for men, women and children. *59 exhibitors from 6 countries in September 2018*



Leatherworld Paris

is the trade fair dedicated to flexible materials used in particular in certain branches of fashion such as leather goods, footwear, gloves and fur items. A vast range of fashion articles and accessories made of leather, fur and related materials that attest to a wealth of technical skills. In this domain, the finished product is certainly not overshadowed and stands its own among the other offers at the trade show, which is now attracting a growing number of retailers, in addition to buyers of fabrics or manufactured products. *58 exhibitors from 7 countries in September 2018*



Avantex Paris

is the first international trade fair dedicated to technological innovation and sustainable development in the fashion industries. It brings together companies, from the design phase through to retail, whose approach is to offer effective solutions for encouraging and shaping tomorrow's fashion. Far more than just an exhibition, it is a real network bringing together the brands, industries and research that share a similar determination to integrate fashion and technologies for the future and to explore the challenges and prospects for tomorrow's markets in a series of highly regarded lectures. *38 exhibitors from 9 countries in September 2018*



Texworld Paris

has for decades remained the trade fair for fabrics and trimmings for the global fashion industry. Twice a year, it hosts one thousand exhibitors. An essential event for the manufacturers of all textiles, the trade fair showcases the great diversity of products, from the most basic to the most creative, from the most profitable to consummate quality, made using an enormous variety of materials and techniques. A remarkable aid for those who are involved in making fashion. *1041 exhibitors from 27 countries in September 2018*



EVENTS CALENDAR

THE MOST IMPORTANT EVENTS
FROM THE TECHNICAL TEXTILE INDUSTRY

2019



TEXWORLD

JANUARY 21 - 23

NEW YORK CITY

Texworld USA is an international business platform and can't-miss industry event that offers a wide product range covering the entire fabric spectrum – season to season attendees discover textiles of innovative structures, material mixes, and surprising color palettes.

avantex
PARIS



Avantex

FEBRUARY 11 - 14

PARIS

Avantex is a professional trade fair for fashion and high-tech experts. The event presents a wide range of interesting ventures into innovative fabrics, materials, components, products, and services. Avantex Paris is an event that creates the fashion of tomorrow and opens new markets!

apparel sourcing
PARIS



Apparel Sourcing Paris

FEBRUARY 11 - 14

PARIS

Apparel Sourcing Paris is the biggest garment sourcing show in Europe with more than 600 exhibitors from all over the world. It offers a wide and consistent sourcing for clothing: knitwear, casualwear, sportswear, outerwear and corporate wear.

RemaDays
WARSAW



RemaDays

FEBRUARY 13-15

WARSAW

The International Trade Fair for Advertising and Printing 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.

Kids' Time



Kids' Time

FEBRUARY 20-22

KIELCE

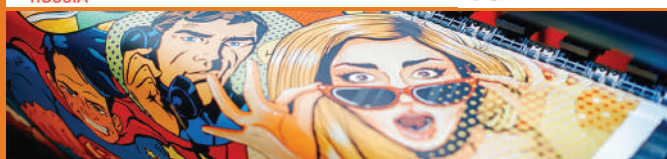
Following the many-year tradition the 10th Fair of Toys and Products for Mother and Child KIDS' TIME has been the business-sector's one-stop-shop in Targi Kielce. KIDS' TIME is where market leaders from around the world meet.




Intertextile Shanghai

MARCH 12 - 14
SHANGHAI

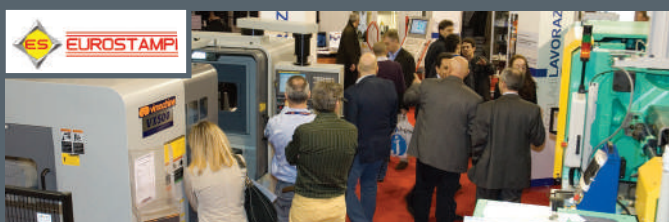
Intertextile Shanghai Apparel Fabrics is a comprehensive platform to showcase your supreme apparel fabrics and accessories. This fair is one of the most important events for the world-wide textile market, and the strong business results shown in previous editions once again validate this.

Russian Textile Week

MARCH 19 - 22
MOSCOW

Russian Textile Weeks is Russia's largest congress and exhibition event devoted to textile and light industry. It is the traditional business platform for the meeting of heads of Russian and foreign enterprises of textile and light industry of domestic and foreign production. It consists of: Inlegmash, Techtextil Russia and Intertkan.

Eurostampi

MARCH 28 - 30
PARMA

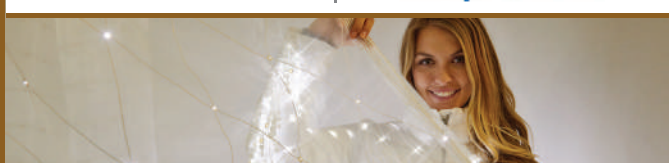
Eurostampi is an international exhibition for molds, presses and injection molding machines. Numerous exhibitors worldwide are represented at this fair to show the latest equipment, processing techniques and applications. The Eurostampi is an important platform for exhibitors and users in the industry.



Baltic Fashion & Textile

APRIL 26 - 28
RIGA

The Baltic Fashion & Textile is the biggest Baltic trade fair for the textile and leather industry. It takes place in Riga, Latvia. This trade fair connects textile and fashion business from the West and the East, in particular between Nordic and CIS countries.

Techtextil & Texprocess

MAY 14 - 17
FRANKFURT

Techtextil Frankfurt is a leading international exhibition for technical textiles and nonwovens. It assembles all vertical aspects of the technical textile industry. From research and development, through raw materials and production processes and finally ending in conversion, further treatment and recycling.




ITMA

JUNE 20 - 26
BARCELONA

The international textile machinery exhibition ITMA has become a leading trade fair of the industry over the past years. Decision makers and entrepreneurs who are active in the textile processing industry, but also students, can get in depth and comprehensive information by visiting the fair.



EUROPE'S LEADING TECHNICAL TEXTILE WEBSITE

UNITING THE TECHNICAL TEXTILES INDUSTRY

- ▶ daily portion of textile industry news
- ▶ calendar of upcoming textile events
- ▶ help with storage surpluses
- ▶ importing materials for special offers
- ▶ trade reports, business analysis, expert opinions



Mailing Database

Nearly
5 000
business contacts



Industry Website

Over
25 000
views per month



Tetex Magazine

Over
100 000
readers



Social Media

Nearly
120 000
users reached
per month



Events Calendar

Over
30
listed events



Visit us at
www.tetex.com



info@tetex.com
+44 788 497 7809



TETEX LTD.
Suite 8 Newton Hall,
Town Street Newton,
Cambridge CB22 7ZE,
United Kingdom