TexSPACE Today
SUSTAINABILITY - PRECISION - AUTOMATION - CIRCULARITY - ENERGY
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AI and sustainability take centerstage at HEIMTEXTIL 2024

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Dilo Group advancing sustainability through decades of innovation and detail
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Content

January 2024

AI and sustainability in focus: Heimtextil 2024 highlights scalable sustainable solutions

Md Muddassir Rashid

The recent edition of Heimtextil 24, a prominent trade fair showcasing home and contract textiles in Frankfurt, Germany, concluded with remarkable success. The event experienced a notable increase in both exhibitors and visitors, establishing new standards for a sustainable and artificial intelligence-driven textile industry.

Heimtextil 2024 ended with 46,000 visitors from around 130 nations and 2,838 exhibitors from 60 nations with 25 percent growth. With a plus in visitors, the show overcame difficult travel conditions due to nationwide rail strikes and regional demonstrations.

Through a series of discussions, tours, and workshops, Heimtextil also focused on two of the most important key topics of the coming decades: sustainable production and action as well as artificial intelligence.

"Heimtextil ends with overwhelming participation. The increase in space, exhibitors and visitors in 2024 makes the following clear: the leading trade fair for home and contract textiles remains on course for growth - and sets new standards for a sustainable and AI-driven textile industry", says Detlef Braun, Member of the Executive Board of Messe Frankfurt.

Sustainable Development Goals (SDG)

Figure: Texpertise Network at Heimtextil 2024

Heimtextil is an integral part of the Messe Frankfurt Texpertise Network, dedicated to accelerate innovation and transformation within the textile and fashion sector. The network is committed to advance the Decade of Action to achieve the Sustainable Development Goals by 2030.

Figure: Trend Space at Heimtextil 2024

To do this, the Texpertise Network leverages the extensive reach of its 50+ textile events held globally. The objective is to raise awareness and disseminate knowledge about the Sustainable Development Goals (SDGs) across all Messe Frankfurt textile events worldwide - from Frankfurt to New York, Atlanta, Shanghai, and Paris.

The Messe Frankfurt Texpertise Network is a proud member of the United Nations Fashion and Lifestyle Network. The network is a dynamic online platform bringing together industry stakeholders, media, governments, and UN system entities to collaborate and showcase responsible business practices guided by the Sustainable Development Goals.

New sensitivity: Transformative textile innovations

The focus of Heimtextil's 24/25 edition was addressing change at scale. The exhibition presented different transformative textile innovations under the headline "New Sensitivity."

New Sensitivity in home textiles has been categorized into three different approaches: plant-based, bioengineered, and technological textiles.

In Hall.03 under New Sensitivity, the new cellulosic fibres from fast-rising Scandinavian companies such as Renewcell and Spinnova were heavily featured, alongside natural fibres such as hemp, jute, and wool.

Figure: Bananatex®

Plant-based: Textiles made from plant crops or plant by-products

The sustainable advantage of plant-based textiles is that their origin is natural and, therefore, more able to recirculate in existing ecosystems.

Among the less popular natural fibres Bananatex® was displayed which is a durable, technical fabric made purely from the naturally grown Abacá banana plants.

Oleatex by Oleago exhibited an alternative leather made from waste derived from the olive oil industry. Oleatex is a plant-based next-generation leather that is 100% vegan, and sustainable innovation for the textile industry. it is crafted from bio-wastes with an awarded formula.

Desertto is another sustainable initiative displayed by Mexican company Adriano Di Marti. It is a plant-based vegan textile derived from the Mexican Nopal cactus and its properties make an alternative to animal leather.

Another sustainable innovation showcased is Banb□ Leather by Von Holzhausen. This is a leather alternative that's 83 % plant-based (bamboo), biodegradable in a landfill, yet as supple and durable as leather.

Bioengineered: Engineered to enhance bio-degrading

Figure: Textiles by CiCLO®, Amadeau Materials and Von Holzhausen

To a certain degree, bio-engineered textiles represent a fusion of plant-based and technological textiles. Bio-engineering bridges nature and technology and transforms the way textiles are made. We found CiCLO®, Modern Meadow, and NOOSA® under this category.

CiCLO® synthetic textiles behave like natural fibers when they end up as pollutants in the environment. Pillow from Earth & Home using CiCLO® 100 % Polyester staple fiber fill.

The textiles have been embedded with biodegradable spots. These spots act like nutrient sources for microbes that naturally exist in the environment helping the synthetic textile to biodegrade more in comparison to unembedded synthetic textiles. Modern Meadow produces bio-engineered textiles with the use of nature's building blocks: proteins. Bio-Tex™ is a coated textile that delivers colour vibrancy and performance while reducing GHG emissions by over 90 % compared to traditional, chrome-tanned leather, based on an LCA.

NOOSA® is another innovative staple fibre that is bioengineered and made from corn. It can be 100 % upcyclable without being deteriorated.

Technological textiles: Technology and technical solutions transforming textiles

Figure: Fibre52

Technology can support the transformation of textiles through the use of different methods: upcycling and recycling of textiles, textile construction, and textile design. Due to decades of production, textiles are now a material we have in abundance. Developing technologies for recycling textile waste and methods for upcycling textiles increases the circular usage of existing textiles and thus reduces the need for virgin production.

Jute Globe is a lamp shade made from jute and bioplastic. Design by Mathilde Fly Heegaard from VIA University

College, VIA Design and Business. The base is Renewcell Cellulose fibers to be used in their Circulose® process.

Fibre52 is a prepare for dye (PFD) and dye technology that retains cotton's natural properties, resulting in a stronger, kinder fabric. This means the cotton can last longer and be recycled in several loops.

Suntex is a lightweight woven solar textile made by Studio Pauline van Dongen and Tentech. This new material can be used in tensile architecture, textile shading structures and textile façades which can harvest solar energy while providing passive sun shading. Photography by Anna Wetzel.

Dinamica® by Miko is a microfibre made in Italy that resembles suede. It is produced in part by using recycled polyester without the use of organic solvents but using a water-based process.

Future materials by FranklinTill

Figure: Cutting-edge textiles and materials displayed by FranklinTill at Trend Space

FranklinTill is a futures research agency working with global brands and organisations to explore and implement design, material and colour innovation. At Heimtextil 2024, FranklinTill showcased globally curated cutting-edge textiles and materials to illustrate the principles of regenerative design. UK materials science company Ponda makes planet-positive textiles from plant-based raw materials. BioPuff® is a fibre filler material with insulating properties made from bulrush plants grown on wetlands. Created with low-energy, waterless processes, this high-performance product naturally biodegrades in compostable conditions, safely re-entering the environment with a traceable life span.

Led by multidisciplinary designer Jess Redgrave, UK-based Climafibre is working on material solutions for the fashion industry that support regenerative farming and food systems using sunflowers. Using the whole plant, Climafibre produces fibre for textiles from the stem, natural dyes from the flower and water-resistant coatings from sunflower seed oil industry by-products.

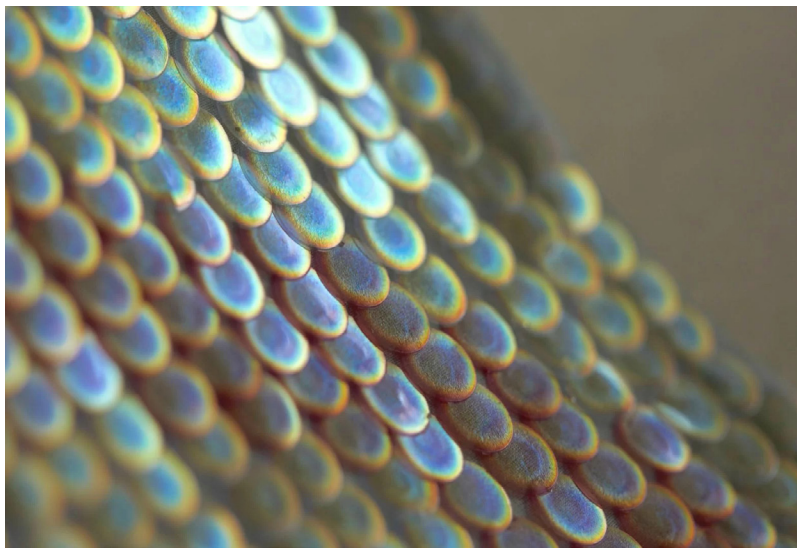


Figure: Radiant Matter

Netherlands-based Flocus is creating a responsible supply chain and new uses for kapok, a regenerative, soft organic fibre traditionally used as a stuffing filler. Lightweight, antibacterial, moisture and temperature regulating, Flocus fibre is recyclable and biodegradable, and can be spun into fine yarn or blended with other materials to create more sustainable fashion, interior or industrial textiles. UK-based Radiant Matter is a material science company creating naturally sparkling and vibrantly coloured materials from highly-renewable cellulose, an abundant polymer found in plants, fruit skins or recycled paper. Inspired by the natural iridescence of peacock feathers and jewel beetles, Radiant Matter's structurally coloured and shimmering material is created from cellulose. Radiant Matter's first application, the BioSequin, has captured the excitement of the apparel industry as seen in their partnership with fashion brand Stella McCartney.

US-based innovation platform Keel Labs is exploring the ocean's regenerative power and potential as a climate-focused material resource, creating a textile industry yarn made from kelp. Its star product Kelsun™ is a seaweed-based yarn created from an abundant polymer found in kelp. A naturally regenerative organism that is easy to grow, kelp absorbs carbon dioxide in the ocean while improving local habitats.

FibreTrace® connects digital traceability with physical technology to track and verify fibres throughout the global supply chain, from raw material to retail store, to reuse and recycling. With a focus on transparency, honesty and accountability, FibreTrace® Verified embeds patented luminescent pigment markers within raw fibres, which are then tracked and verified with unique scanning devices in real-time, and recorded as a digital twin.

"Econogy" combines economy and ecology at Heimtextil

"Econogy" stands for all sustainability activities of Messe Frankfurt's Texpertise Network across international trade fairs and provides orientation. The term "Econogy" combines economy and ecology in one word and shows

Figure: TreetoTextile team at Heimtextil 2024

how decisive sustainability is today for the economic success of a company. For more than ten years now, Heimtextil has been promoting this theme using a series of measures and giving green pioneers a platform. Swedish-based TreeToTextile Technology™ exhibits its new generation of bio-based cellulose fiber. Supported by it's strong owners H&M Group, Inter IKEA Group, Stora Enso and LSCS Invest, it has developed and commercialized a new innovative cellulosic fiber. The fiber has a dry, cotton-like hand feel, a semi-dull luster and high drapability, like viscose. It is versatile and has a strong potential to complement or replace both cotton and viscose as stand alone or in blends, depending on application.

Its unparallelled environmental footprint and functionality, makes the fiber among the top choices on a global scale, helping the textile industry to accelerate the transition to net zero. The process uses less chemicals, allowing for a more sustainable and cost-efficient process compared to conventional technologies and fibers.

Artificial Intelligence in textile product design

Figure: Augmented Weaving allowed visitors to explore how augmented reality can influence Jacquard weaving techniques

Never before have transformations such as artificial intelligence and sustainability been so intensively at the center of Heimtextil and presented effective levers for a future-oriented approach to key technology. For the first time in 2024, the trade fair provided fascinating insights into the textile application of artificial intelligence and the use of AI-controlled sorting to refine recycled textile waste into new yarns. In the trend space, visitors' textile design ideas were also brought to life at interactive stations using tools such as ChatGPT-4 and Midjourney.

In addition, Heimtextil once again made state-of-the-art sustainable production and action tangible. One of the main points of contact were the Heimtextil Trends with New Sensitivity: the concept focused on the ongoing transformation of the textile industry and presented numerous market-ready and scalable solutions. One example was the company Ever Dye, whose self-developed color pigments enable dyeing at room temperature. Variant 3D, on the other hand, offers AI-driven knitting software that can be used to produce even complex shapes such as lampshades without creating patterns.

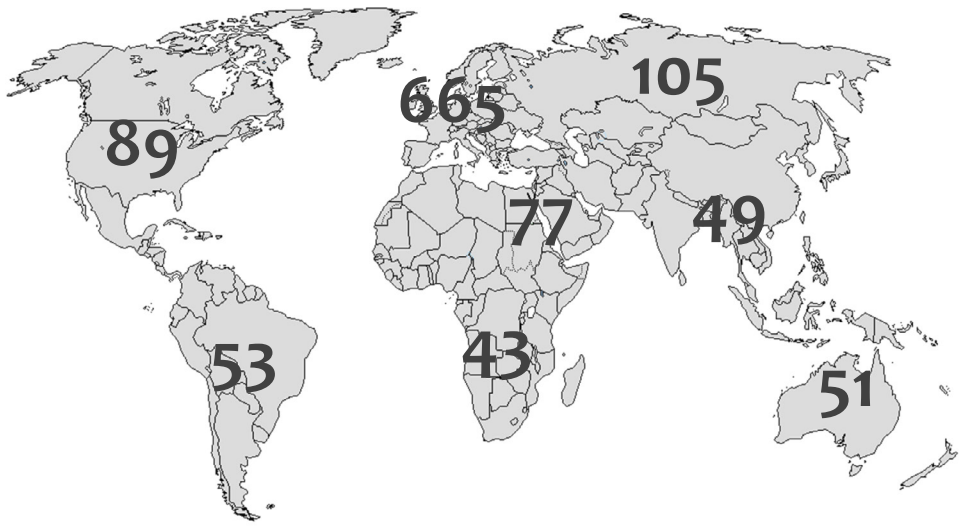
This year, Heimtextil also announced a partnership with Studio Urquiola for 2025 and emphasized their joint commitment to innovation, sustainability, and design in the textile industry.

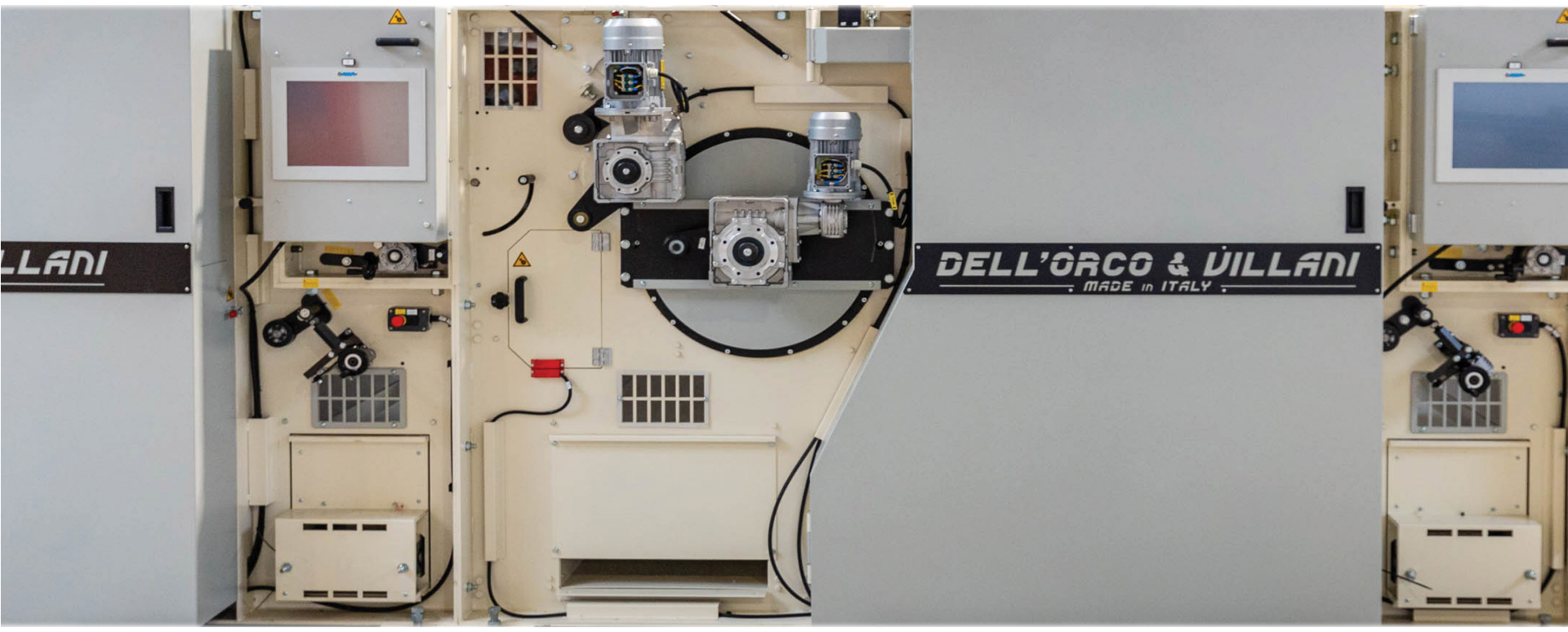
Messe Frankfurt (lit. 'Frankfurt Trade Fair') is one of the world's largest trade fairs, congress and event organizers with its exhibition grounds. The organization has more than 2,300 people at 28 locations around the globe. Its services include renting exhibition grounds, trade fair construction and marketing, personnel and food services. Headquartered in Frankfurt am Main, the company is owned by the City of Frankfurt (60 percent) and the federal state Hesse (40 percent).

DELL'ORCO & VILLANI D&V 1964

Textile Recycling & Blending

3500+
MACHINES sold





Complete lines for textile & garment waste recycling (waste to fiber) from Italy

"Delta Start" System confirms Less Power Consumption

Highest Level of Fire Protection

Big Drum Size for High Level Production

Special Technology for Homogeneous Fiber

Auto Blending System for Uniform Fiber Length

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Let's Grow Green
and Build an Eco Bangladesh

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Why techwear clothing is getting popular all over the world?

US Shampa

When just you look around you will know why, at every instant of time, you are surrounded by technology. As you are working or resting, you are always using technology. It is used everywhere and all the time. It has made life easy.

As per in terms of clothing, nothing is better than Techwear because it is based on technology. Techwear is a unique type of clothing that has hit the world without warning. Technical wear or Techwear is clothing made with materials of the highest quality. It's made to be comfortable to be in, yet still very stylish. Also, the high quality of their materials makes them long-lasting and durable against the elements.

The fashion industry has been adopting and deploying innovative technologies in several areas as the relationship between technology and fashion has been dynamic and ever-evolving, with the fashion industry embracing new technologies to enhance the shopping experience, improve sustainability, and drive innovation.

This is known as fashion technology or fast tech. Fashion technology is a generic term that describes the tools the fashion industry uses to improve the production and consumption of fashion.

Techwear is an umbrella word for various sub-categories that expands and broadens by expressing an extensive sub-culture. They all are forwarding with a certain trend, which results in hybrid forms complementing one another. Technical means sharper, more industrial-looking aesthetic.

All these make Techwear of clothing concept for the future. The unique ability to be both functional and stylish at the same time has made Techwear popular.

People started techwear during the 1970s when outdoor activities became widely popularized among other things, mountaineering, climbing, or trekking. The environment and weather conditions specific to these activities are very specific, the development of new clothing and technologies is quickly felt in the world of outdoor clothing.

Now techwear is about winning a combination of dystopian techwear and casual streetwear. To an inexperienced user, it might seem like futuristic clothing

from 198 w 0s movies, but the shades introduced by their innovative designs, higher quality materials, and meticulous research elevate it to an emerging, extremely sophisticated style. It has a similar look to other urban styles, yet it distinguishes out with its techno look.

Army gear has always been a source of inspiration for Techwear; in this case, it's simply a bit more obvious. This kind of look often includes cargo pants and bomber jackets, which is what modern fashion icons that have seen service in the military tend to prefer. There might also be modular storage pockets for equipment.

As technological innovation in healthcare is growing at a rapid rate, wearable technology has proven useful in many ways.

With all of these possibilities, there is a wave revealing the dark side of Techwear. The aesthetics of the latter mainly revolve around the iconic punk style. Many high-end fashion companies have made it the key emphasis of their collections.

Revolutionizing textile recycling in Bangladesh:

A Journey with Dell'Orco & Villani

Desk Report

Yearly, 92 million tonnes of textile waste are produced around the world. Imagine throwing away a garbage truck's worth of textiles per second. Textile recycling, which refers to the process of collecting pre and post-consumer waste and processing materials for fiber-to-fiber recovery and reprocessing the material into new, useable goods, could be an effective solution.

DELL'ORCO & VILLANI D&V 1964
Textile Recycling & Blending

Potentiality of the Recycling RMG Industry

Bangladesh, with a substantial cotton fiber clothing manufacturing base, could benefit from $1.2 billion in recycled textile and garment products. Currently, only five percent of the 600,000 tonnes of pre-consumer textile waste generated each year is recycled locally. Local producers often import recycled fiber and yarn made from waste and scrap fabrics exported from Bangladesh. If 100% of cotton waste is recycled in Bangladesh, it could save $500 million on cotton imports.

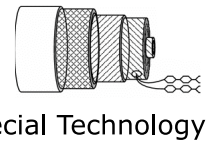
Introducing Dell'Orco & Villani

In Italy, Dell'Orco & Villani's revolutionary textile recycling machine, developed since 1964, is transforming the textile industry. This state-of-the-art innovation converts textile and garment waste into reusable materials, offering a sustainable solution to address environmental concerns.

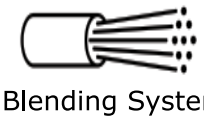
"Delta Start" System confirms Less Power Consumption

Highest Level of Fire Protection

Big Drum Size for High Level Production



Special Technology for Homogeneous Fiber



Auto Blending System for Uniform Fiber Length

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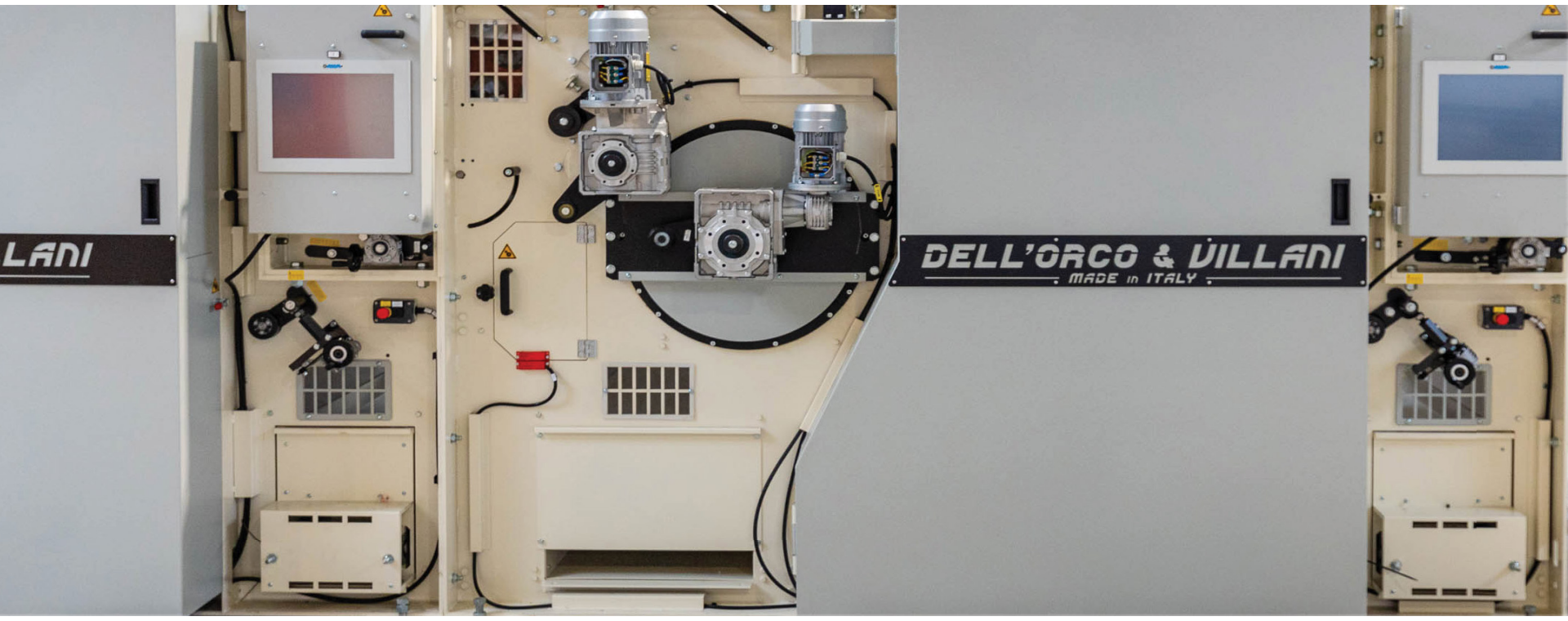
An Overview of the Textile Recycling Market:

The global textile recycling market is expected to grow from USD 6.5 billion in 2022 to USD 9.9 billion by 2030, at a CAGR of 6.2% throughout 2023 and 2030. The EU's Sustainable and Circular Textiles 2022 initiatives aim to boost textile durability, repairability, reusability, and recyclability, in addition, to combat fast fashion and textile waste while preserving social rights. Fashion brands are on board with this approach, aiming to incorporate recycled or sustainable fibers into RMG production by 2025-30, with the ultimate goal of using 100% recycled materials.



Distinguished features:

1. Utilizing Dell'Orco's exclusive wire-based technology, the super opening system ensures superior fiber homogeneity (only Dell'Orco has this technology in the market).
2. The production line features advanced safety measures, including fire protection and a metal detector for efficient impurity removal by not having back-processing friction.
3. An auto-blending system enhances fiber uniformity to maximize the use of fiber length.
4. Increased productivity is facilitated by higher drum diameter.
5. Based on the production plan, it is feasible to implement line skipping with D&V
6. The system boasts a 15%-20% power consumption reduction compared to alternatives, coupled with cutting-edge dust control technology (User's feedback).

RH Corporation & SAS Enterprise: Pioneers in Textile Recycling

In Bangladesh, RH Corporation and SAS Enterprise have taken the initiative to represent this ground-breaking machine. By providing technological support, they are actively involved in the textile recycling process to provide waste management solutions, fostering the development of a resilient textile recycling industry under the circular economy.

Engaging with Stakeholders

The journey towards a sustainable textile industry is not a solitary one. It requires the collective effort of diverse stakeholders. From spinners to brands and policymakers, RH Corporation and SAS Enterprise engage with a wide range of stakeholders to promote and implement recycling practices.

R&D Initiatives: Turning Waste into Wealth/ Transforming Waste into Usable Fiber

In addition to their recycling efforts, RH Corporation & SAS Enterprise are spearheading R&D initiatives that focus on transforming diversified waste into usable fiber by integrating technological and technical insights with different stakeholders. Their initiatives aim to innovate waste management and enhance sustainable production processes.

The collaboration between RH Corporation & SAS Enterprise and Dell'Orco & Villani signifies a promising step towards a sustainable textile and garment waste management future that not only revolutionizes the textile industry in Bangladesh but also contributes to a global movement towards sustainability.

DTG 2024 to unveil innovation in textile & garment industry

Sayed Abdullah

Source:DTG 2023

Dhaka Int'l Textile & Garment Machinery Exhibition – DTG 2024 will kick off at ICCB - International Convention City Bashundhara from 1st to 4th February 2024, which is concurrent with DitaTex - Dhaka Int'l Textile & Apparel Accessories Exhibition and DYECHEM - Dhaka Int'l Dyeing & Chemical Industry Exhibition. Mahir Group focusing recycled garment accessories. The prestigious 3-in-1 exhibitions are a collaborative effort between BTMA - Bangladesh Textile Mills Association and Yorkers Trade and Marketing Service Co., Ltd. These exhibitions showcase cutting-edge techniques, innovative solutions, and the latest trends within the textile and garment industry. Additionally, they contribute to fostering technological innovation across various facets of the entire textile and garment supply chains. Throughout the exhibition, suppliers from around the world will interact with local customers and develop new business opportunities. It is predicted that more than 40,000 trade visitors will attend and conduct purchasing on-site in the 4-day show.

Cutting-edge machinery from top global brands

Expect a convergence of over 1,100 globally renowned brands from 32 countries and regions, occupying 1,600 booths across 9 fully opened halls. As the cornerstone of Bangladesh's flourishing economy, DTG 2024 is the driving force behind the nation's rapid growth, with the textile and garment industries taking the lead. Global manufacturers are drawn to this mega platform, eager to establish a presence and explore lucrative business opportunities in the country.

Witness a comprehensive array of equipment, materials, and accessories essential for various stages of the textile and garment industrial chains, including spinning, weaving, knitting, dyeing, printing, finishing, and garment manufacturing segments. Among them are top spinning equipment suppliers TRUETZSCHLER, RIETER, SAURER, MURATA, LMW, and CTMTC; weaving equipment brands ITEMA, and TOYOTA; Iconic knitting machinery brands LISKY, PAI LUNG, FUKAHAMA, CIXING, SHIMA SEIKI, KARL MAYER STOLL, and BEWORTH; major dyeing equipment suppliers CANLAR, FONG'S, and DILMENLER; high-profile international brands of printing machinery specialists such as MIMAKI, COLOREEL, and HOMER.

Furthermore, IMA, KURIS, RICHPEACE, and FK Group will showcase garment-cutting machines; TAJIMA will feature the number one embroidering machines; and there will be the world's leading provider of industrial machine needles from GROZ-BECKERT and KERN-LIEBERS–DTG 2024 is your gateway to the latest advancements.

Source:DTG 2023

Hall 3 will special feature in DitaTex for various kinds of apparel fabrics, accessories, and fibers to meet market demands. The Taiwan Textile Federation (TTF) will lead a group of high-quality Taiwanese companies, adding an international flair to the vibrant showcase. Notably, renowned industry giant ASIA FIBRE will participate for the second consecutive year, underscoring the significance of DitaTex and highlighting the exhibition's appeal as a prominent industry event.

A series of seminar sessions will be hosted from 1 to 4 February. Numerous keynote speakers from influential industry associations and enterprise, sharing professional expertise and exploring advancements of technologies on a topic of industry analysis, technology and process, automation, and implementing sustainability in textile industry. The seminars are an important opportunity for the textile and garment industry to come together and discuss how they can address the challenges and opportunities facing the sector.

Source:DTG 2023

The Rise of Bangladesh’s Textile and Garment Industry

Bangladesh's textile and garment industry is gearing up for a thrilling growth trajectory, poised to claim more than 10% of the global market share by 2025, as forecasted by the Bangladesh Garment Manufacturers and Exporters Association (BGMEA). This optimistic outlook is driven by an anticipated surge in demand and a strategic advantage in the evolving global sourcing landscape, where countries are increasingly diversifying their supply chains.

According to the insights provided by CAL Bangladesh, a leading financial services firm in Sri Lanka, the apparel sector in Bangladesh had a brief dip in 2023. However, all signs point to a strong rebound in 2024 which will help the sector’s exports reach US $56 billion by 2026. DTG provides comprehensive solutions for the entire textile and garment manufacturing chains

DTG 2024 is more than an exhibition; it's a comprehensive solution provider for the entire textile and garment manufacturing chain. As we head into 2024, DTG remains committed to aligning with global industry

DTG	2024 The 18th Dhaka Int'l Textile & Garment Machinery Exhibition 2024 The 18th Dhaka Int'l Textile and Apparel Accessories Exhibition 2024 Dhaka Int'l Dyeing & Chemical Industry Exhibition
Venue:	ICCB - International Convention City Bashundhara
Date:	1-4 February 2024:
Time:	February 1 (Thu.) - 3 (Sat.), 2024 12:00 – 20:00 February 4 (Sun.), 2024 12:00 – 19:30
Admission:	1.Trade visitors and professionals only 2. Children under 16 are not admitted entry

trends, connecting with worldwide supply chains, and addressing the ever-growing demands of the sector.

Don't miss the chance to engage with key players in the industry, both international and domestic, all under one roof. This platform offers a unique opportunity to stay ahead of market trends and immerse

yourself in the innovative currents of the textile and garment sector. Stay tuned for further updates on DTG 2024 – where innovation meets opportunity!

For further information, please visit the official website: https://www.chanchao.com.tw/DTG , or Facebook: https://www.facebook.com/DTGexpo .

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Pompeii's ancient textile dyeing technique comes to life

Asif Iqbal

Pompeii, the ancient Roman city that was buried under volcanic ash and pumice in AD 79, is famous for its incredible frescoes, mosaics, and sculptures that showcase the artistic and cultural achievements of its people. However, there's a lesser-known aspect of Pompeii's history that deserves attention: the textile industry. Textile dyeing, in particular, was a thriving craft that involved intricate techniques, various materials, and vibrant results.

Reviving Ancient Techniques:

A new project inside the Pompeii archaeological park is bringing back ancient textile dyeing techniques to shed light on the daily life of Pompeii before its tragic destruction. This project aims to show that history isn't just about grand monuments and beautiful paintings but also about the ordinary activities and skills of the people who lived in the past.

The project takes inspiration from frescoes discovered within the archaeological site. These frescoes depict winged cupids dyeing cloth, gathering grapes for wine, and creating perfumes. These images highlight the significance of textile dyeing in Pompeii's society, as it was used for clothing, furnishings, and rituals. Textile dyeing also provided income and social status, especially for women who were actively involved in its production and trade.

The project is led by Gabriel Zuchtriegel, the director of the archaeological site, in collaboration with Claudio Cutuli, one of the world's few remaining master dyers. Cutuli uses natural ingredients like rose madder, walnut husks, elderberries, and cardamom to recreate the Pompeiian color palette, which includes shades of red, brown, black, gray, yellow, and green. He dyes scarves with motifs inspired by the House of Vetti frescoes, which belonged to a wealthy merchant family.

Supporting Restoration Efforts:

Half of the profits from the sale of these scarves will contribute to further restoration efforts at Pompeii. Recently, gardeners recreated a nursery with plants that were used for dyeing before the city's destruction. Garden historian Maurizio Bartolini explains that roots, bark, and flowers were commonly used in dyeing, with rosehip being a popular choice for creating a soft pink color.

Frescoes within the archaeological site depict wealthy Pompeiians dressed in vibrant colors. Achieving these hues involved boiling dyed textiles in metal-lined vats at workshops run by slaves, who wore plain brown tunics.

Designer and traditional dyer Claudio Cutuli prepares a rubia tinctorum, rose madder, to make a Pompeii red to dye his own line of clothing-Trisha Thomas/AP

Archaeologist Sophie Hay reveals that the working conditions for these slaves were harsh, as they had to endure the heat, noise, and fumes of the dyeing process.

Bringing Pompeii to Life:

For Zuchtriegel, textile dyeing is a way to bring Pompeii back to life for modern visitors. He emphasizes that history isn't just about grand monuments and beautiful paintings but also about the daily life, economy, and experiences of the majority, which are often overlooked. Additionally, textile dyeing remains a relevant and sustainable craft that can inspire contemporary fashion and culture.

This project is part of a larger initiative called the Pompeii Commitment, which aims to promote the conservation and enhancement of the archaeological site as well as its social and environmental responsibility. The initiative includes various activities and events such as exhibitions, workshops, concerts, and conferences that explore the themes of heritage, sustainability, and innovation.

The project is supported by the Italian Ministry of Culture, the European Union, and the UNESCO World Heritage Centre. These organizations recognize Pompeii as a unique and universal treasure that needs protection and appreciation from the global community.

The scarves are available for purchase online at the official website of the archaeological site and at the museum shop inside the park. The project will continue until the end of 2024 and will be accompanied by educational materials such as videos, podcasts, and articles that explain the history and techniques of textile dyeing in Pompeii.

By reviving ancient textile dyeing techniques, this project aims to showcase another fascinating aspect of Pompeii's history and celebrate its rich and diverse cultural heritage.

Saurer OpenHouse 2024: a platform for knowledge sharing and innovation

Sayed Abdullah

Figure 2: Keynote speaker Dr Chokri Cherif at OpenHouse.

The textile industry is constantly evolving, and industry leaders must stay updated on the latest trends and innovations. To achieve this, Saurer, a leading textile machinery company, hosted for the first time the OpenHouse 2024 event on January 12 and 13.

This new format brought together industry experts from academia, consulting, and industry, showcasing the latest advancements in textile technology and fostering collaborative discussions on prevailing megatrends.

The event featured an impressive lineup of esteemed speakers, including Prof. Chokri Cherif from Dresden Technical University in Germany and Prof. Thomas Gries from RWTH Aachen University in Germany, who shared their expertise and insights into sustainable business opportunities and future developments in the industry.

Dr Uwe Rondé, Group CEO of Saurer, presented an outlook on the company's latest innovations and its commitment to supporting customers in energy-saving, digitalisation, automation, and recycling. The remarkable speaker's program included representatives from industry partners such as Textechno Herbert Stein (Felix Liebhold) and Tailorlux (Tobias Herzog). Additionally, ITMF (Christian Schindler) provided an outlook on textile market development.

Customers and other visitors had the chance to explore the new Saurer Sustainability Hub, an innovation space that showcases and explores advancements in textile manufacturing. It includes a showroom, a spinning development centre, textile technology consulting services, and a machine research centre. This hub serves as a platform for fostering innovative solutions, sustainability, and collaboration within the textile industry.

One of the highlights was the world-premiere presentations of Saurer's innovative machinery: from the machine-based automation of the BD480 and BD8 machines with doffer to the Autocoro Melange. Saurer has developed a technology for rotor spinning that for the first time allows the production of melange yarns with a flexible mixing ratio directly on the Autocoro. The semi-automatic rotor spinning machine BD Filea specialises in the production of elastane covered yarns. These innovative yarns are suitable for a wide range of applications, including stretch fabrics for garments. Notably, the spinning of 100% cotton on Autoairo also drew significant attention from visitors The Saurer OpenHouse 2024 also featured factory tours and workshops on the Saurer Academy, providing valuable knowledge-sharing opportunities, as well as presentations on Saurer's digital solutions, including the digital Senses platform and the e-commerce solution, Secos.

The central concept of the event was to establish a space for fruitful discussions and idea-sharing that could help tackle the challenges faced by the industry. The visitors' feedback was overwhelmingly positive and showed that the textile industry needs this kind of informative exchange.

Dilo Group advancing sustainability through decades of innovation and detail

TST Interview

Figure: Johann-Philipp Dilo, CEO of Dilo Group

Headquartered in Germany, Dilo Group is a leading supplier of complete lines for nonwoven fabric production, traditionally specialized in all types of needling lines for staple fiber products as well as high-speed needle looms for spunbonds. Recently, Johann-Philipp Dilo, CEO of Dilo Group, spoke to TexSPACE Today about the company's latest developments in the nonwoven sector for sustainability and energy saving.

Philipp Dilo has also been President of Textile Machinery Association of VDMA from 2005 to 2008, and a member of the CEMATEX Board during the same period.

TexSPACE Today: As we know Dilo is a pioneer name among the nonwoven machinery lines, please give us an overview of how important is sustainability and energy saving in the current business landscape for Dilo Group.

Johann Philipp Dilo: Dilo has launched at ITMA 2023 its 'MicroPunch' intensive needling technology which provides a potential for energy savings, particularly when producing light weights in a range of 40 – 100 g/sqm used in the hygiene sector in comparison with other consolidation technologies.

These energy savings are a decisive feature considering the increase in energy costs for gas and electricity. Concerning sustainability Dilo is engaged together with our partners Dell'Orco & Villani and TechnoPlants in the area of

recycling textile garments through a mechanical tearing process to reclaim staple fiber useful as fiber material in the nonwoven process.

TexSPACE Today: What are the latest technological developments that Dilo Group has implemented to enhance sustainability in nonwoven production?

Johann Philipp Dilo: Mechanical recycling for textile fiber requires nonwoven machinery and components specifically designed to provide easy access to machines for cleaning and maintenance through an elaborate concept of dedusting through vacuuming particular areas of the fiber processing machinery.

TexSPACE Today: Can you please discuss Dilo Group's approach to energy efficiency in nonwoven production facilities? Are there any cutting-edge technologies that Dilo Group is incorporating to reduce energy consumption and the environmental footprint?

Johann Philipp Dilo: Up to ca. 50% of the energy consumption in a nonwoven line is associated with the pneumatic fiber transport within the process of fiber preparation, opening and blending and supplying the fiber to the web forming equipment. This includes also the dedusting and recycling of fiber within the production line.

Dilo's DILOWATT system can be applied to reduce the amount of energy needed for pneumatic fiber transport by adapting the fan speed of airflow and the exhaust capacity for dedusting to the real measured requirements.

TexSPACE Today: What challenges does Dilo Group face in implementing sustainable and energy-efficient technologies in their nonwoven machinery? And how did you overcome it?

Johann Philipp Dilo: Through our continued improvement process the requirements to improve sustainability and energy efficiency have been a long-term process over the years through many detailed improvements and innovations.

TexSPACE Today: As the industry cares more about the Circular Economy and Recycling, what steps are Dilo Group taking to support the nonwoven manufacturing industry? Are there any projects or technologies at Dilo Group that focus on recycling or upcycling nonwoven materials?

Johann Philipp Dilo: This whole area of recycling is covered by Dilo as the general contractor and Dilo's cooperation with the specialists of tearing equipment Messrs. Dell'Ocro & Villani and TechnoPlants for specific aerodynamic web formation.

TexSPACE Today: Have you observed any changes in customer preferences or market demand for sustainable nonwoven solutions? How do sustainability and energy-saving features influence the market acquisition of Dilo Group's nonwoven lines?

Johann Philipp Dilo: The awareness of the importance of line installations which provide energy savings and improve sustainability within a recycling process has been improving significantly over the last 3 to 5 years.

The energy savings, however, as a technical feature is ready to be included in complete installations of production lines. The sustainability process and organization of recycling of garment and reclaiming textile clippings through the tearing process is a complex task; particularly when the aim is to deviate from the current "downcycling" principles where garment waste ends in lower-grade nonwovens applications only used as insulation or cushioning as an underlay.

The subject of upgrading waste fiber applications to quality nonwovens requires close cooperation among garment producers, consumers and the recycling industry e.g.

TexSPACE Today: What is the vision for the future of Dilo Group in terms of sustainability and energy-saving practices in the nonwoven sector? Are there upcoming projects or developments that you can share, focusing on furthering sustainability goals?

Johann Philipp Dilo: Dilo Group is ready to include the concepts of "MicroPunch" and DILOWATT in the deliveries of complete lines and is currently providing a testing facility for the development of new nonwoven products through "MicroPunch". Also, applications of artificial intelligence assisting the operation of complete lines is researched in cooperation with our partners. The engineering for complete lines for recycling garments is offered.

TexSPACE Today: Is there anything else you would like to highlight regarding Dilo Group's commitment to sustainability and energy efficiency in the nonwoven sector?

Johann Philipp Dilo: Generally speaking, Dilo is convinced that needling line solutions and the related technology based on staple fiber are offering highly advanced web forming and consolidation. The needling technology particularly features a large potential for energy-efficient production including sustainability through the recycling of textile waste. Needling lines are among those technologies that include a long-term potential for a successful future.

Trützschler TC-30i sets a new standard in carding

M A Mohiemen Tanim

Trützschler TC 30i carding machine unveiled at the 2023 ITMA, it sparked excitement with its innovative features that elevate both performance and sustainability. Now, the TC 30i is officially available, ready to redefine carding for years to come.

Boosting Output and Quality:

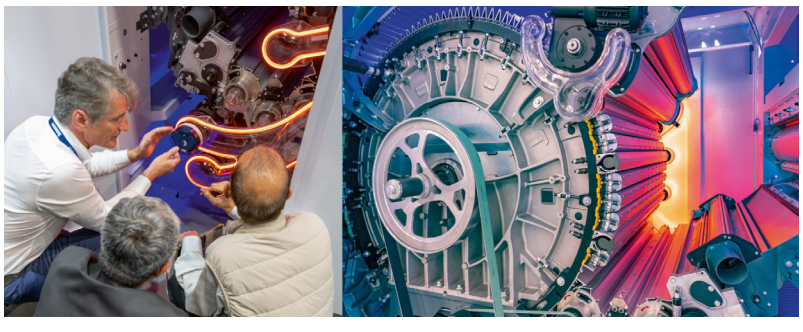
The TC 30i boasts a 35% increase in active flats and a 14% longer carding length, amplified by the intelligent gap optimizer T-GO. This translates to 20% higher yarn production and superior yarn quality thanks to improved fiber distribution.

Consistency Without Compromise:

T-GO doesn't just enhance performance; it ensures operator-independent efficiency. Its automatic and continuous carding gap setting guarantees consistent results every time, regardless of operator skill level.

Sustainable Production, Reduced Waste:

The TC 30i prioritizes environmental responsibility. A redesigned suction system separates waste types, enabling 50% card waste reuse. Additionally, the proven WASTE



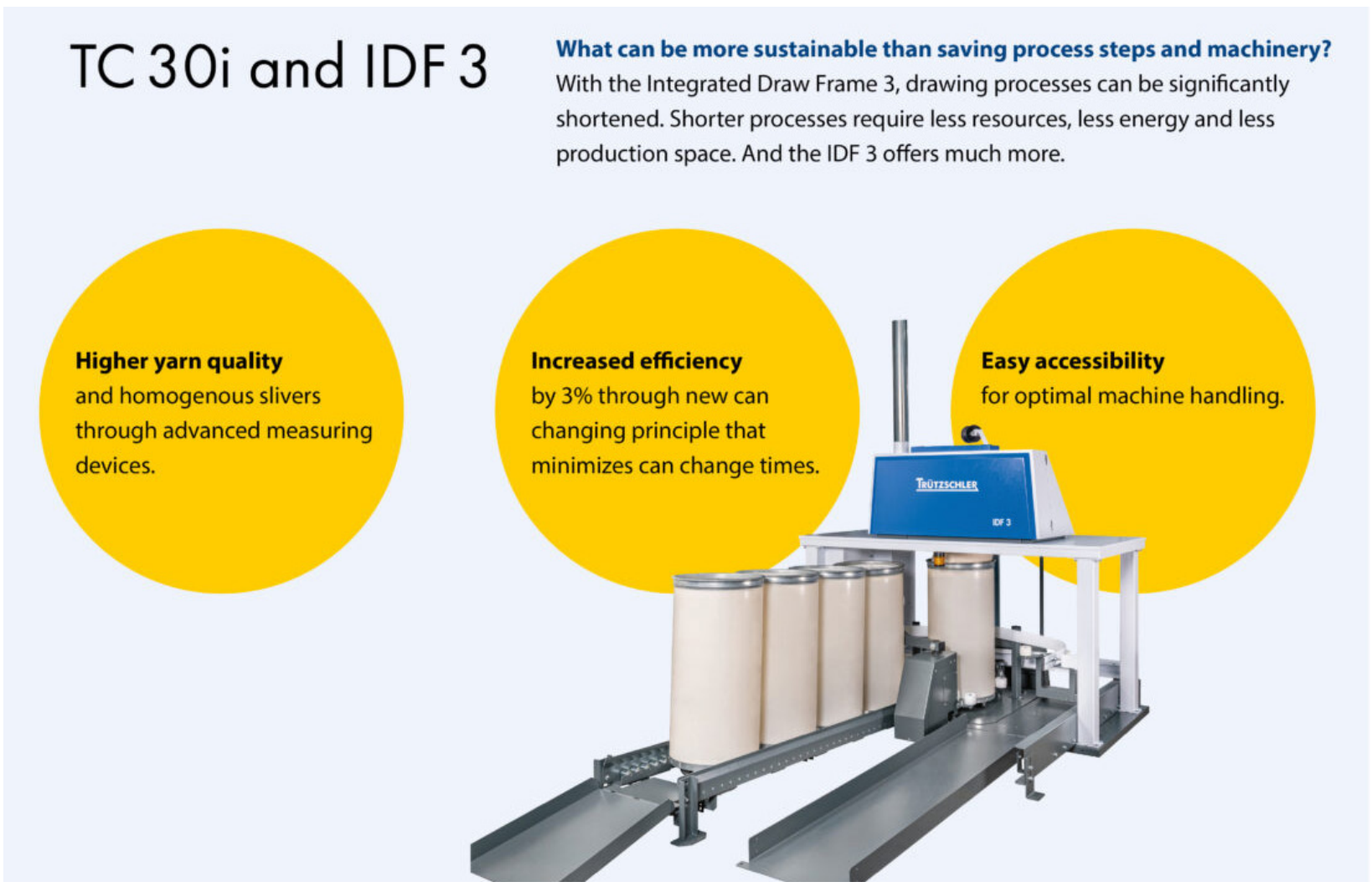
CONTROL system minimizes unnecessary fiber loss, promoting the economical use of raw materials.

Tailored Solutions for Every Need:

Recognizing the diverse needs of the industry, Trützschler offers a dedicated TC 30i version specifically for textile recycling. This model tackles the challenges of processing secondary fibers, ensuring efficient and eco-friendly production with recycled materials.

The Future of Carding is Now:

The TC 30i isn't just a machine; it's a revolutionary leap in carding technology. Its focus on performance, consistency, and sustainability makes it the ideal partner for textile manufacturers seeking to maximize quality, optimize production, and minimize environmental impact.



Manifattura Ceccarelli and Halley Stevensons collaborate to make waterproof denim

M A Mohiemen Tanim

Manifattura Ceccarelli, an Italian brand founded in 1998 by Giuliano Ceccarelli, has partnered with Candiani Denim and Halley Stevensons Ltd to create a capsule collection of waterproof denim jackets. The collection, called "Water-Repellent and Warm Denim," includes three jackets: the Denim Fisherman Parka, the Denim Heavy Shirt, and the Denim Deck Jacket.

The Challenge of Waterproof Denim

Denim is a popular fabric known for its durability and functionality. However, it is not traditionally waterproof. This makes it unsuitable for rainy or snowy weather. Giuliano Ceccarelli wanted to find a way to use denim in his collections all year round, so he partnered with Candiani Denim and Halley Stevensons Ltd to develop a waterproof denim fabric.

The Solution

Candiani Denim provided the raw denim for the collection. Halley Stevensons Ltd then finished the fabric with a special process that makes it waterproof while retaining its traditional look and feel. The inside of the jackets is lined with pure wool from sheep raised in Italy, 90% wool fur, and 100% cotton tartan fabric.

The Collection

The "Water-Repellent and Warm Denim" collection will be available in fall-winter 2024. The three jackets in the collection are:

» The Denim Fisherman Parka: A long parka with a hood and plenty of pockets.

» The Denim Heavy Shirt: A thick shirt that can be worn on its own or under a jacket.

» The Denim Deck Jacket: A short jacket with a classic sailor style.

The Future of Waterproof Denim

The collaboration between Manifattura Ceccarelli, Candiani Denim, and Halley Stevensons Ltd shows that it is possible to make denim waterproof without sacrificing its traditional look and feel. This could lead to the development of more waterproof denim garments in the future.

Arvind & Gap partner on world's first water innovation hub for apparel sustainability

Asif Iqbal

Water is a major challenge for the textile and apparel industry, which is one of the largest consumers and polluters of water in the world. According to the World Bank, the textile industry uses about 93 billion cubic meters of water annually, equivalent to 4% of the global freshwater withdrawal. Moreover, the textile industry discharges about 20% of the global industrial wastewater, which contains harmful chemicals, dyes, and microfibers that contaminate the environment and affect human and animal health.

Arvind Ltd. and Gap Inc. have come together to address an urgent and complex issue by launching the Global Water Innovation Centre for Action (GWICA) at Arvind's Santej unit near Ahmedabad, India. The centre, inaugurated on January 13, 2024, aims to improve water management practices in the global textile and apparel industry. It will provide a collaborative platform for apparel companies, manufacturing suppliers, vendors, sustainability experts, academics, and environmental stakeholders. GWICA will showcase innovations, share best practices and technological advancements, and offer training and education for industry professionals and students. This partnership demonstrates a shared commitment to sustainability, collaboration, and making tangible changes in the apparel manufacturing industry.

Arvind and Gap have a long-standing relationship that spans over two decades and share a common vision of taking action to address the water crisis. Arvind, which is one of the largest textile manufacturers in the world, has been a pioneer in water conservation and stewardship in India, where water scarcity and pollution are severe problems. Arvind has implemented various initiatives to reduce its water footprint, such as rainwater harvesting, water recycling, zero liquid discharge, and water replenishment. Arvind has also developed innovative products and processes that use less water, such as waterless denim, indigo dyeing, and digital printing.

Gap, which is one of the largest apparel retailers in the world, has also been a leader in water sustainability in the industry through its comprehensive water stewardship strategy that covers its entire value chain, from design to sourcing to stores. Gap has set ambitious goals to reduce its water consumption, improve its water quality, and increase its water efficiency, as well as to support water access and sanitation for the communities where it operates. Gap has also launched various programs and partnerships to promote water innovation and collaboration, such as the Water Quality Program, the Mill Sustainability Program, the Women + Water Alliance, and the Apparel Impact Institute.

GWICA is the culmination of Arvind and Gap's joint efforts to create a global hub for water innovation in the textile industry and to inspire and empower other industry players to join the movement. GWICA is located at Arvind's Santej unit, which is a state-of-the-art facility that showcases Arvind's water-saving technologies and practices, such as the sewage water treatment plant that uses membrane bioreactor technology to eliminate the use of freshwater in denim processing and the rainwater harvesting system that collects and stores rainwater for irrigation and groundwater recharge. GWICA covers an area of 18,000 square feet and is constructed from sustainable materials such as bamboo, recycled wood, and fly ash bricks.

Refiberd: Revolutionizing Textile Waste Management with AI and Advanced Imaging

Faujia Mushtari

In the heart of the global textile waste crisis, a formidable team of engineers has risen to the challenge. Refiberd, a women-led initiative, was founded with a vision to leverage cutting-edge AI research to revolutionize the fashion industry's approach to sustainability. Spearheaded by Sarika Bajaj as the Co-Founder & Chief Executive Officer and Tushita Gupta as the Co-Founder & Chief Technology Officer, along with Julia Chatterjee, Research Associate, and Georg Menzl, PhD, AI Research Scientist, the team is on a mission to bring about a 100% circular economy.

Technology at the Core

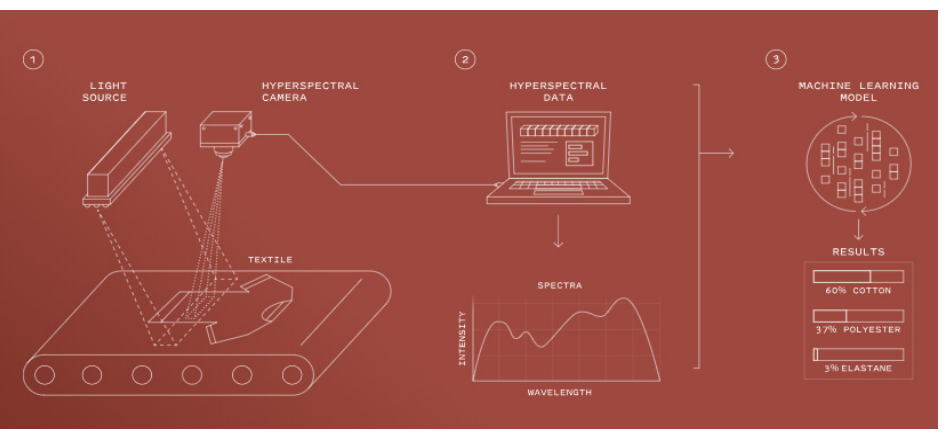
Refiberd's approach to addressing textile waste is grounded in a fusion of artificial intelligence and textile engineering. They firmly believe that the key to a sustainable future lies in innovative technological applications and cutting-edge processes. To realize this vision, they have developed an advanced material detection system using AI-based hyperspectral imaging.

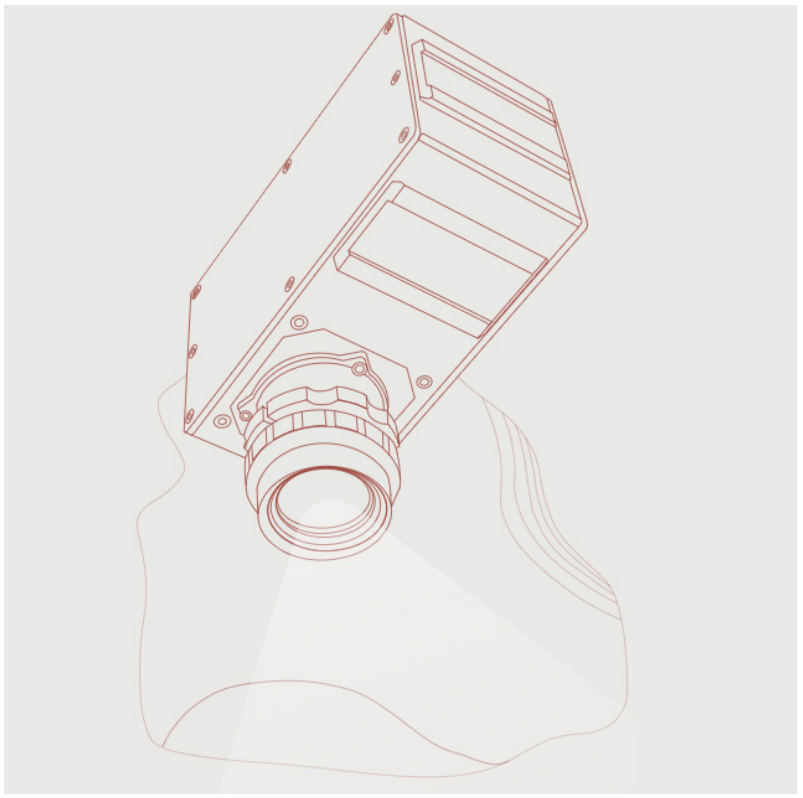
Advanced Material Detection through Hyperspectral Imaging

At the heart of Refiberd's technology is a state-of-the-art hyperspectral imaging system. This technology operates on the principle of analyzing how light interacts with different materials based on their chemical composition. This unique approach enables the identification of various materials by detecting their distinct light absorption and reflection patterns. The hyperspectral imaging system is meticulously tuned for the most sensitive detection of textile fiber types. It can even discern trace amounts of materials and contamination, showcasing its efficacy in addressing the intricate challenges of textile waste management.

The Process Unveiled

Hyperspectral Imaging: The textile is placed beneath the hyperspectral camera along with a line light source.





The camera captures lines of hyperspectral data from the moving textile at a specified framerate.

Data Stitching: The collected data is then stitched together by a computer to create a hyperspectral cube. In this cube, each pixel of the image represents a spectrum.

Machine Learning: The hyperspectral cube is processed by a machine learning model, which has been trained on a proprietary dataset of thousands of custom textile samples. The model outputs a prediction of the material composition of the textile, providing a comprehensive understanding of the fibers present.

AI-Powered Precision

Refiberd's technology goes beyond mere detection; it accurately identifies the composition of materials, including blended and layered fibers. The power of their artificial intelligence lies in its ability to process hyperspectral imaging data with unparalleled accuracy, ensuring a robust solution for textile waste sorting.

Refiberd's commitment to a circular economy is evident in their innovative application of technology. By combining AI and hyperspectral imaging, they have created a solution that not only detects but also comprehensively identifies materials in textile waste. This marks a significant step forward in the journey towards sustainable fashion and a waste-free future.

In conclusion, Refiberd stands as a beacon of technological innovation in the fight against textile waste, showcasing the potential of AI to reshape industries for a more sustainable tomorrow.

Smart Glove is helping stroke patients regain their grip on life

M A Mohiemen Tanim

Imagine losing the ability to perform the simplest of tasks, like buttoning a shirt or tying your shoelaces. For stroke survivors, this is a harsh reality that can be both physically and emotionally debilitating. But what if there was a way to help them regain their independence and control?

Enter the smart glove, a new device that is offering a glimmer of hope to stroke patients struggling with hand mobility. Developed by a team of researchers at the University of British Columbia, this innovative glove is not just a piece of clothing; it's a sophisticated rehabilitation tool that has the potential to transform lives.

The glove is made of a soft, stretchy fabric embedded with sensors that can detect even the slightest movement of the fingers and hand. This data is then transmitted to a computer program that analyzes it and provides real-time feedback to the user. This feedback can take many forms, from visual cues on a screen to gentle vibrations in the glove itself.

The beauty of the smart glove lies in its ability to personalize rehabilitation therapy. By tailoring the exercises to the individual patient's needs and abilities, the glove can help them make significant progress in regaining their hand function. For some patients, this might mean simply being able to grasp a cup or hold a utensil. For others, it could mean regaining the dexterity to write, play an instrument, or even return to their previous job.

> *"Imagine being able to accurately capture hand movements and interactions with objects and have it automatically display on a screen. There are endless applications. You can type text without needing a physical keyboard, control a robot, or translate American Sign Language into written speech in real time, providing easier communication for individuals who are deaf or hard of hearing."*
>
> Dr. Peyman Servati
> UBC electrical and computer engineering professor

The potential applications of the smart glove extend far beyond traditional rehabilitation. The researchers envision a future where the glove could be used in virtual reality environments to help patients practice everyday tasks in a safe and simulated setting. It could also be integrated with augmented reality systems to provide real-time guidance and support during daily activities.

The possibilities are truly endless, and the impact on patients' lives could be profound. Regaining the ability to use their hands is not just about regaining physical function; it's about regaining independence, dignity, and a sense of control. For stroke survivors, the smart glove is more than just a medical device; it's a beacon of hope, a symbol of their unwavering determination to reclaim their lives.

Beyond the Technical: A Human Touch

While the technology behind the smart glove is impressive, it's important to remember that it is just one tool in the overall rehabilitation process. The true key to success lies in the human touch, in the dedication and compassion of therapists and caregivers. The smart glove is not meant to replace human interaction; it is meant to augment it, to provide patients with the support and guidance they need to reach their full potential.

The story of the smart glove is not just about technology; it's about human resilience and the power of hope. It's a testament to the unwavering spirit of those who have faced adversity and emerged stronger. And it is a reminder that even in the darkest of times, there is always a reason to believe in a brighter future.

Vivobarefoot & Balena partner on 3D-printed biodegradable shoe innovation

Saiful Islam Saad

Certified B Corporation Vivobarefoot and Balena are creating circular 3D-printed shoes utilizing biomimetic design ideas, additive manufacturing processes, and Balena's BioCir flex material promising to be biodegradable and recyclable in the must needed era for sustainability.

Vivobarefoot is a minimalist running shoe manufacturer. Their technique, designed by Tim Brennan and developed by British shoe firm Terra Plana, aims to provide the best biomechanics and posture associated with barefoot walking and barefoot running, and is widely promoted in the barefoot movement and barefoot running communities. Balena is trying to give their high tech input in the cause to make the desired goal fulfilled throughout the worldBalena, founded in 2020, is a material science company that provides biobased, compostable, recyclable thermoplastic materials such as BioCir® for a variety of industries. BioCir® uniquely combines the high-performance properties such as durability and flexibility of traditional plastics with the ability to biodegrade safely in industrial compost facilities when the products reach the end of their life.

The production and consumption of textiles generate greenhouse gas emissions, in particular from resource extraction, production, washing and drying, and waste incineration.Textile products consumed in the EU generated greenhouse gas emissions of 121 million tonnes carbon dioxide equivalent (CO2e) in total, or 270kg CO2e per person. While the previous pathways focused on ‘slowing down the loop’, the last pathway on recycling and material reuse ‘closes the loop’. By reducing resource use and prolonging the useful life of textiles, the sustainability model enables the loop to be closed by turning waste textiles into raw material for new textiles or other production chains. Effective and biodegradable materials usage with the footwear can drastically reduce carbon emission from the earth.

Fig: VivoBarefoot and Balena with an ambitious new partnership to address the harmful impacts of the footwear industry through the combination of technology and material science inspired by nature.

Balena’s 3D-printing specific material - the BioCir3D - being based on the BioCir®flex technology, maintains high flexibility similar to TPU, providing reliable and long-lasting 3D-printed products. At the same time, it is biobased and industrially compostable, reducing the environmental impact of discarded prints and for the first time enabling 3D printing of flexible and durable items while giving them the unique property of biodegradability.

Shoes disintegrate slowly, and certain materials can linger in landfills for hundreds of years. The American Textile Recycling Service estimates that the recycling rate for footwear is a meager 13%, yet they make up a

major amount of landfill rubbish. Traditional TPU is not biodegradable and adds to plastic waste. Its BioCir®flex substance is a high-performance, long-lasting, flexible, totally industrially biodegradable, and recyclable thermoplastic elastomer. It has more than 50% bio-based content and actively lowers reliance on harmful, fossil fuel-based materials often utilized in the footwear industry, such as TPU.

The remarkable adaption of 3D printing is also seen in the case of Vivobarefoot shoes and their modification. Shoemakers have been experimenting with 3D printing for years. Adidas, NikeNKE, New Balance, Dior, Reebok, and Fendi are among the top footwear and apparel brands to release 3D-printed limited edition shoes. The use of 3D printing has been causing a revolution in the billion-dollar shoe business for some time now.3D printing allows manufacturers to make each pair of shoes on-demand, or at least fewer pairs, attracting those looking to reduce waste. There's also the appeal of having greater freedom to create shoes for particular consumers and alter designs more frequently without incurring the exorbitant expenditures of new production molds and tooling.

The world is going towards a circular future in this era of technology. Global fashion brands are tyring to cope

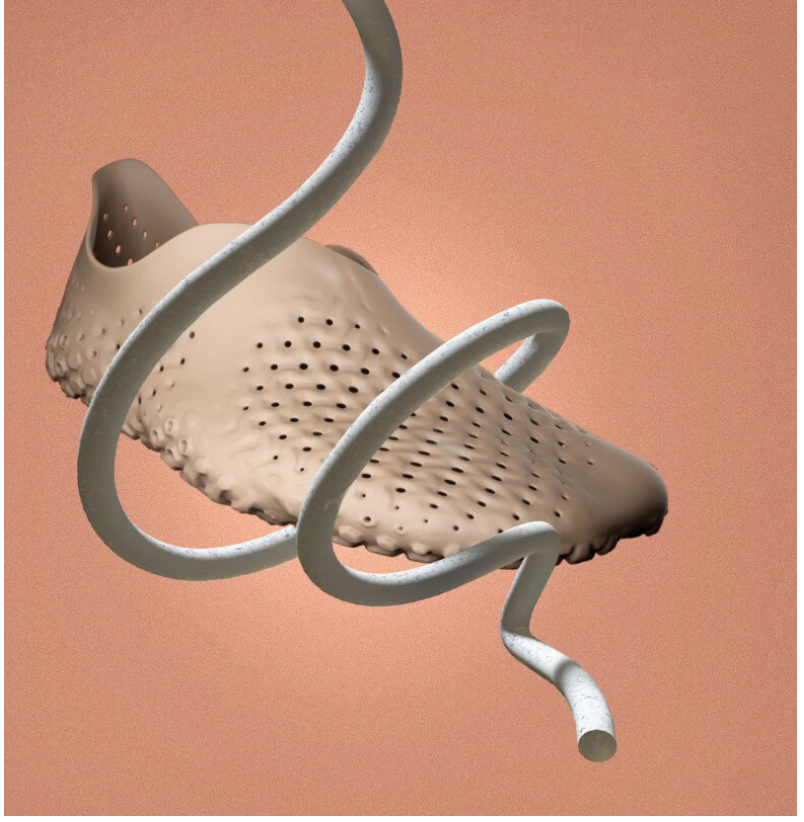


Fig: VivoBarefoot and Balena with an ambitious new partnership to address the harmful impacts of the footwear industry through the combination of technology and material science inspired by nature.

up with the demand of the customers having more down to earth technological fashion items on their shelf. The reasonable understanding of the necessity of nature induced items such as biodegradable shoes can revolutionalize the footwear industry as a whole. More sustainable textiles such as vivobarefoot can be a way ahead for the upcoming war with fashion waste.

Deha & Emana®'s innovative leggings pamper your skin with every step

Sayed Abdullah

DEHA, the lifestyle brand with roots in dance and movement has chosen EMANA® Perfect Skin technology – produced and distributed in Europe exclusively by Fulgar – to create two sets of leggings, a long and a Capri model.

EMANA® Perfect Skin is an OEKO-TEX® Class I certified smart polyamide-based yarn produced using technology that transforms body warmth into energy, developed and patented by RHODIA – SOLVAY GROUP. Through the bio-active minerals contained in the fibre the EMANA® technology absorbs the warmth of the human body and restores it naturally to the skin in the form of far infrared rays, stimulating the micro-circulation of blood in the skin. The action of EMANA® depends on the garment the special yarn is used in. In this way the simple style of the DHA leggings combines with the functional benefits of Fulgar's EMANA® Perfect Skin fibre.

Once put on these garments help reduce the unsightly appearance of cellulite and enhance the skin's elasticity and tone while ensuring outstanding comfort and well-being during movement, as they are super-breathable.

As a result the DEHA leggings, made with Fulgar's EMANA® Perfect Skin yarn, are the ideal choice for all dynamic, sport-loving women seeking a product that provides maximum effectiveness in terms of micro-circulation in the skin. These activewear garments offer a unique combination of distinctive

Figure: DEHA has chosen EMANA® Perfect Skin technology to create two sets of leggings, a long and a Capri model.

benefits and are the ideal response to the requirements of today's aware, demanding female consumers.

DEHA leggings with EMANA® Perfect Skin by Fulgar are on sale at deha.it and at authorised retailers. The price ranges from 59.90 euro for the Capri version to 69.90 for the long version.

Sqim secures €11m to grow mycelium-based sustainable fashion materials

Homayra Anjumi Hoque

A new wave of material innovation is emerging from the natural power of fungal mycelia. A renowned biotech company Inarzo (Italy based SQIM), formerly known as Mogu SRL, holds the credit behind this flagship. The company, which specializes in mycelium-based technologies for various industries, has secured €11m ($12m) in a Series A funding round led by CDP Venture Capital and supported by ECBF VC, Kering Ventures, and Progress Tech Transfer. The funds will enable Sqim to launch a dedicated demo plant to showcase its industrial scale-up and expand its product lines, Ephea and Mogu, which offer sustainable and circular solutions for fashion, automobiles and so on.

Founded in 2015 and globally recognized as a pioneer in mycelium-based technology, SQIM is a multidisciplinary, innovation-driven biotechnology and biomaterials company. SQIM is at the forefront of materials innovation, continuously delivering innovative materials and products by harnessing the natural power of mycelium. Today, SQIM serves markets such as fashion, interior design, furniture and automobiles.

SQIM's approach incorporates a meaningful demonstration of effective opportunities to truly "make things better", through technologies and products that significantly reduce environmental impact and promote sustainable activities.

Fig: Sqim plans to accelerate research and development activities and strengthen its team to further advance its two prominent business lines and brands – Ephea and Mogu

How SQIM is pivoting the transformation of agro industry residues:

By doing fermentation, Mogu transforms low-value materials and waste from the agricultural industry into functional, low-impact, high-value materials. They utilizes mycelium as a biofabrication agent. To date, the company has developed two main verticals:

» MOGU, a specialized architecture and interior design brand offering a variety of wall, floor and acoustic treatment products

» EPHEA, aims for producing animal free materials for automobiles and luxury fashion industries.

In this project, mushroom mycelia complex substrates (the ingredient base that the mycelium feeds on) are converted into a palatable biomass that is rich in proteins and other valuable nutrients. The production of fungal mycelium can be divided into two main fermentation techniques: solid- or liquid-state fermentation. Both approaches are pursued within the Smart Protein project, with Mogu focusing on the former and Fraunhofer IME-BR on the latter.

The company says this unique fermentation technique interconnects selected mycelial cells to create panels made entirely from mycelial biomass. These raw materials are processed and finished in collaboration with leather industry partners into high-quality, luxury materials for the fashion industry. The process is environmentally friendly and uses no chrome, and Mogu is expected to easily expand into other segments and markets.

Roadmap to an ambitious

Fig: Mycelium- The future is Fungi

Expansion; Words from the CEO:

Stefano Babbini, CEO and co-founder of SQIM, expressed great pride in the company's achievements. He emphasized that SQIM's diligent efforts over the years aiming to demonstrate that innovation, sustainability and industrialization can coexist and add value to various industries.

He said to an interview, “I’m extremely proud of what we just achieved. SQIM team has been working very hard in the last years with the mission of proving that innovation, sustainability, and industrialisation can not only co-exist but even offer added value to different industries whether properly cooked. This amazing company step represents the natural outcome of such efforts, creating the conditions for delivering a real impact in next future. There is a huge excitement around our job, and we feel like we are about to start a new journey. There is no doubt we have found the best Partners supporting our ambitious plan.”

Saurer exploring sustainable potentials for profitable textile business

Amena Kamal Khan

Figure: Silke Huertos López, Senior Manager Laboratory, Saurer Group.

Saurer Group is a globally leading operating technology group focusing on machinery and components for fibre and yarn processing. As a company with a long tradition, Saurer has always been a leader in innovation. On the occasion of Saurer OpenHouse 2024 event in Übach-Palenberg – Silke Huertos López, Senior Manager Laboratory, Saurer Group shared with Tex SPACE Today how Saurer is steering textile industry towards a transformative future with fiber spinning.

Tex SPACE Today: Kindly share your journey.

Silke Huertos López: I am the manager of the Saurer textile laboratory since 2017. My involvement with Saurer is nearly two decades. I have worked for Saurer in different positions – especially in manmade fiber (MMF) processing and in recycled fiber processing.

For nearly two decades I have been working now for Saurer in different positions. I started as a textile engineer for rotor-spinning and could deep-dive in the textile world by visiting customers all over the world.

In 2017, I became the manager of the Saurer textile laboratory. Now the knowledge about the textile chain helps me - together with my team and colleagues - to support our customers and business partners with their needs.

Tex SPACE Today: Kindly share about Saurer textile laboratory.

Silke Huertos López: Here in Saurer textile laboratory is the sustainability hub in Germany. We have here nearly all the Saurer machinery. Here we do trials together with our business partners and customers. And we can see that in recent years, the market shift if going toward recycled fibers and it has become a huge topic. The good thing for the market is that we can spin all types of recycled fibers – be it MMF or regenerated fiber – in all types of spinning machine. Like ring and rotor spinning machine i.e. automatic rotor spinning machine Autocoro 11 or Autoairo Air spinning machine. In our textile laboratory, we can test recycled yarns like MMF or regenerated on our all types of machines. And see how the fibers blend with each other and react. Thus, our customers get benefitted from these extensive outcomes.

Tex SPACE Today: Kindly share about latest Saurer machine we are testing here to increase sustainability.

Silke Huertos López: The latest machine we are testing here is Autoairo Air spinning machine. Which is more regenerated fiber friendly. And this machine can process all types of sustainable regenerated yarns like lyocell, polyester. It blends well with cotton or viscose or any other type of fiber.

But the demand of the market is moving toward recycled extreme – now by extreme means our Autocoro 11 can spin the shortest fiber or really dirty, dusty fiber or delicate material easily.

TreeToTextile bringing new generation of bio-based fiber to market

US Shampa

Figure: Andreas Nilsson, Head of Commercial at TreeToTextile.

Sweden-based TreeToTextile is a purpose-driven technology development company. At Heimtextil - the biggest international trade fair for home and contract textiles - it presented sustainable fiber technology and showed samples of its fiber properties in real applications.

> **Andreas Nilsson,**
> *Head of Commercial at TreeToTextile in an interview with TexSPACE Today shared its different aspects.*

TexSPACE Today: Kindly share about TreeToTextile.

Andreas Nilsson: We are a fiber-producing company – bringing a new generation of bio-based and Research efficient fiber to the market. The company designed a process of converting the cellulose polymer into a textile fiber with a very low carbon footprint at a low environmental impact.

So, TreeToTextile is redesigning a chemical system providing a fiber with a very low carbon footprint. We have also created a new physical appearance of the fiber.

It has also developed a more natural and hand-filled MMCF which is a very good compliment to cotton and MMCF on the market.

Here they are meeting with many value chain partners and the response so far has been very good.

TexSPACE Today: Kindly share TreeToTextile's innovation.

The TreeToTextile technology is a new innovative chemical process – using renewable forest raw material and regenerating the cellulose into a textile fiber by spinning the dissolving pulp.

The process uses fewer chemicals, allowing for a more sustainable and cost-efficient process compared to conventional technologies and fibers. There are no sulphur emissions during the production and the water and the chemicals used are recycled and reused.

The innovation is still in development, now we are ready to scale up the production, intending to bring the fiber to the market to honor their visionary statement and also to inspire and catalyze new game-changing innovations and collaborations.

TexSPACE Today: Kindly share your plan for working with companies in Asia and Europe.

Andreas Nilsson: Recently TreeToTextile is looking forward to working with companies in Asia and Europe to bring their fibre to the market. TreeToTextile has created the possibility to put a new sustainable textile fiber on the market believing that the mix of competence and the global size of owners can give them a unique opportunity to make an impact on the textile industry for the benefit of the planet and everyone living on it.

Products like bed sheets, towels, t-shirts and other close-to-skin applications are the main products of them.

Cloud-Based PLM Software: A Solution for Competitive Fashion

Asif Iqbal

The fashion industry is a highly competitive and ever-changing field.It is also one of the biggest contributors to waste and pollution. The United Nations reports that the fashion industry is responsible for 10% of the world's carbon emissions and 20% of global wastewater. In fact, it uses more energy than both the aviation and shipping industries combined. Additionally, the fashion industry produces a significant amount of textile waste. Only 15% of clothing is recycled or donated, while the remaining 85% is either thrown into landfills or burned in incinerators.

In order to tackle environmental and social issues, the fashion industry should embrace a circular economy approach. This approach focuses on reducing waste and maximizing the use of resources. Instead of following a linear model of take-make-dispose, a circular model of reduce-reuse-recycle should be adopted.

Achieving a circular economy in the fashion industry is a challenging task due to various factors. These include complex and fragmented supply chains, ever-changing consumer preferences, and rapidly evolving market trends.

PLM software is a tool that helps fashion companies manage their products and associated data throughout their entire lifecycle, from concept to end-of-life. This software can greatly enhance efficiency, quality, innovation, and profitability by simplifying processes, minimizing mistakes and rework, promoting collaboration, and aiding in decision-making.

Cloud-based PLM software refers to a type of PLM software that is stored on the internet and can be accessed through a web browser. Unlike traditional PLM software, which needs to be installed on a local server or computer, cloud-based PLM software offers numerous benefits. These include reduced initial costs, increased scalability, quicker implementation, simpler integration, and improved security.

Cloud-based PLM software can also enable sustainable fashion by supporting the principles and practices of the circular economy. Here are some of the ways that cloud-based PLM software can help fashion companies achieve circularity:

- Cloud-based PLM software in the fashion industry enables designers to create products that are aligned with the circular economy. They can achieve this by incorporating renewable and recycled materials, minimizing waste and emissions, and improving durability and recyclability. This software provides designers with a centralized database of materials, trims, and components, along with tools to evaluate the environmental and social impacts of their designs, including carbon and water footprints and social compliance. Moreover, it promotes collaboration with suppliers, manufacturers, and consumers, facilitating feedback and insights to enhance circularity.Cloud-based PLM software is beneficial for fashion companies as it improves their inventory, production, and distribution processes.

- Cloud-based PLM software is a helpful tool for fashion companies to maximize the lifespan and worth of their products. It provides tools and services that aid in product maintenance, repair, and refurbishment.

- Cloud-based PLM software is an effective tool for fashion companies seeking to recycle their products and materials. This software streamlines the collection, sorting, and processing procedures and helps companies locate and organize items ready for recycling. Additionally, it assists in managing logistics and transportation for recycling operations. The software also aids in verifying and validating the quality and composition of recycled materials, ensuring traceability and certification. Moreover, it enables fashion companies to seamlessly integrate recycled materials into new products and effectively communicate their commitment to sustainability to customers and stakeholders.

TÜV SÜD, announced appointment of Liz Fendt as Chief Sales and Marketing Officer

Desk Report

Liz Fendt

TÜV SÜD, a global leader in testing, inspection, and certification services, has announced the appointment of Liz Fendt as Chief Sales and Marketing Officer, effective January 1, 2024. In her new role, Fendt will spearhead Sales, Marketing, CRM, and eBusiness activities at the Group level, reporting directly to Ishan Palit, COO of TÜV SÜD.

With a rich history within the company since 2001, including 13 years in various locations across Asia, Liz Fendt brings a wealth of experience in positioning companies in international markets. Her most recent role as Chief Marketing Officer saw her successfully lead the global marketing efforts of the services group.

"I am thrilled to leverage my extensive experience to enhance the value our solutions bring to customers and contribute to the positive development of TÜV SÜD in the future," stated Liz Fendt. She expressed her commitment to utilizing an integrated approach to marketing and sales, leveraging digitalization to enhance customer interactions and satisfaction.

Fendt emphasized the importance of aligning TÜV SÜD's innovative services in digitalization and sustainability to meet the evolving needs of customers. "Through a cohesive strategy, we aim to utilize digitalization to elevate customer experiences and satisfaction. By combining our diverse and innovative services in the realms of digitalization and sustainability, we aim to better serve our customers," she added.

Based at the Group's Headquarters in Munich, Fendt's role will play a pivotal part in shaping the future trajectory of TÜV SÜD. The company looks forward to achieving new milestones under her leadership and capitalizing on the opportunities presented by the digital age.

The appointment of Liz Fendt reflects TÜV SÜD's commitment to driving growth, innovation, and customer-centric solutions in an ever-evolving business landscape. The company anticipates that Fendt's strategic insights and global experience will further strengthen its position as a leader in the test

BASF and Inditex make a breakthrough in textile-to-textile recycling with loopamid®

Hasan Mia

Figure: BASF and Inditex make a breakthrough in textile-to-textile recycling with loopamid, the first circular nylon 6 entirely based on textile waste

BASF and Inditex have announced a breakthrough in textile-to-textile recycling with the launch of loopamid®, a polyamide 6 (PA6) made entirely from textile waste. Zara has launched a jacket made only from loopamid®, following a "design for recycling" approach that incorporates the material into all the different elements of the product.

Loopamid® is made using a new technology that breaks down textile waste into its constituent monomers. These monomers are then repolymerized to create new PA6 fibers and materials. The process can recycle all types of PA6 textiles, including blends with elastane.

The launch of Loopamid® is a significant step forward for the fashion industry, which is under increasing pressure to reduce its environmental impact. The textile industry is a major contributor to pollution and waste, with around 92 million tons of textiles being discarded each year. BASF is working to scale up production of loopamid® to meet the growing demand for recycled materials in the fashion industry. The company is also working with other brands and retailers to develop new products made from loopamid®.

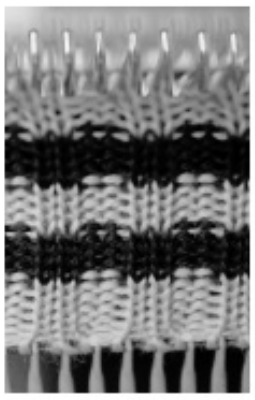
Loopamid® is a promising new technology that has the potential to revolutionize the textile industry. By making it possible to recycle all types of PA6 textiles, loopamid could help to reduce the environmental impact of the fashion industry and create a more circular economy.

> *"Driving innovation is key to advancing towards a more responsible industry. This collaboration is a great example of how, by collaborating all together, we can use the new technology to transform textile waste into a new resource. This project is also a first step to move towards a circular solution, as the industry still needs to boost new collecting and recycling capacities to close the loop and scale recycling for post-consumer waste."*
>
> Javier Losada
> Inditex's Chief Sustainability Officer

EURATEX Manifesto 2024 calls for green transformation

M A Mohiemen Tanim

The European textile and apparel industry, a giant employing 1.3 million people and generating €167 billion across the continent, has issued a clarion call for sustainability in its manifesto for the upcoming 2024 European elections. The document, titled "Manifesto for the European elections of June 2024: Turnovers, Companies, Employment, Investments, Imports, Exports," outlines a roadmap for policymakers to support the industry's green transformation, balancing environmental responsibility with economic competitiveness.



A Balancing Act: Green Goals with Economic Viability

EURATEX acknowledges the urgency of tackling climate change and resource depletion. However, it emphasizes the need for realistic and achievable sustainability targets, cautioning against policies that could strangle SMEs and stifle innovation. Gradual implementation, targeted goals for different areas, and economic feasibility are key tenets of their approach.

From Greenwashing to Green Action

The manifesto slams "greenwashing" and calls for standardized green claims, ensuring consumers can make informed choices about the true sustainability of their garments. Transparency in supply chains is also a major focus, allowing consumers to trace the origins of their clothes and hold brands accountable for their environmental practices.

Circular Economy: Weaving a Waste-Free Future

EURATEX advocates for a circular economy model, promoting initiatives like repair, reuse, and recycling. This not only reduces waste but also creates new jobs and extends the lifespan of garments, further minimizing the industry's environmental impact.

Beyond Borders: A Global Call for Action

Recognizing that environmental challenges transcend national boundaries, EURATEX urges the EU to push for global sustainability commitments. This includes tackling unfair competition from countries with lax environmental regulations and working with trading partners to adopt common, enforceable sustainability standards.

Industry Experts React: A Cautious Optimism

Environmental groups cautiously welcome the manifesto, praising its focus on transparency and circularity. However, they express concerns about the vagueness of some targets and urge EURATEX to translate their words into concrete action plans.

Policymakers, meanwhile, acknowledge the industry's importance and the need for a sustainable future. However, they emphasize the need for a balanced approach that prioritizes both environmental protection and economic growth.

A Call to Action: Weaving a Sustainable Future for Fashion

The EURATEX manifesto marks a significant step in the European textile industry's journey towards sustainability. It's a call to action for policymakers, consumers, and the industry itself to work together to create a future where fashion and the environment can flourish in harmony.

Lifestyle consumers prioritize sustainability, says Stifel survey

Mashia Sahejabin

According to a recent study, cost-conscious consumers prioritize better value and lower prices over durability. Cost-conscious consumers also expect companies to act sustainably, but brands weighing in on social issues is a high-wire act. An average of four in five US consumers believe it is very important for brands to act sustainably.

Despite 89 percent of US consumers valuing sustainability, only 32 percent make it a priority when shopping, influenced by price (68 percent) and price (57 percent).

While 89 percent of US consumers still think it's important for brands to act sustainably, only 32 percent prioritize sustainability in their purchasing decisions, according to a new survey by Stifel in partnership with Morning Consult. U.S. consumers' preference shift toward sustainability is due to better quality (68 percent) and lower prices (57 percent), with emphasis on lower prices increasing significantly from 52 percent in 2022, likely due to ongoing inflationary pressures.

Interestingly, interest in sustainability has remained stable across the board, with 78 percent looking for a sustainable lifestyle. About 63 percent are willing to pay more for a sustainable brand. The Stifel survey revealed that 56 percent of consumers want information about a brand's sustainability practices when considering a purchase, 70 percent consider sustainability factors when choosing between brands, and 59 percent purchase a product specifically because of sustainability. These figures are now relatively stable compared to 2022, suggesting continued interest in sustainable practices.

Bombus, Yeti, The North Face Top "Stifel Sustainable Lifestyle Brands Index "ST. LOUIS, Mo., Dec. 06, 2023 (GLOBE NEWSWIRE) –US consumers' views on the importance of sustainably managed brands have already caught up with Europe's, but concerns about the economy and personal finances remain widespread among consumers.

Now in terms of lifestyle changes, 78 percent of respondents are trying to be more sustainable in their daily lives, an increase from 75 percent in 2022. 70 percent of people are quite concerned about the durability of products over their one-year period. According to the survey, when it comes to ethical business practices, 58 percent of consumers believe they are very important, promoting fair pay and benefits for employees, fair tax contributions, and a

Lifestyle-consumers-sustainability-Stifel survey Figure: Interest in sustainability has remained stable across the board, with 78 percent looking for a sustainable lifestyle.

healthy work-life balance as top priorities.

The survey also highlighted the impact of social media on brand perception, with 67 percent of consumers aware of brands receiving negative attention for their statements or actions on social issues. Additionally, while 60 percent think it is important for brands to take a stance on social issues, 74 percent are willing to boycott a brand if its stance contradicts their own views.

Two-thirds of US consumers (67%) report that they are becoming aware of brands receiving too much negative attention on social media for making statements or taking action on social issues.

By extension, European markets are showing similar trends, according to the survey. In the UK, Italy, France and Germany, sustainability as a purchasing priority has declined significantly from the previous year. 'Good value' has emerged as the top consideration in these markets, with most consumers in each country driving the purchase decision. The importance of low price as a purchasing priority has increased in these countries, reflecting economic concerns similar to those in the United States.

Another thing is that brands' environmental efforts, such as energy and water consumption, use of recycled or recycled materials, reduction of carbon emissions and increased public support for environmental causes, have become less important over the years in these European markets. But concerns about the economy and personal finances have skyrocketed among consumers in the region over the past year, highlighting the broader impact of global economic conditions on consumer behavior and preferences.

Boohoo weighs closing Leicester factory after BBC investigation raises ethical concerns

Mashia Sahejabin

first manufacturing site for breaking promises.

Boohoo's first manufacturing site is 'Leicester's Thurmaston Leninabad'. The site, on Thurmaston Lane, Leicester, is due to open in 2022, with Boohoo also accepting plans to use it as a training facility.

A reporter at the firm's headquarters witnessed reports of staff pressuring suppliers to lower prices, even after contracts were agreed. Buhu said the plans were in no way related to the BBC Panorama investigation.

The Manchester-based company said fewer than 100 employees at the factory could be affected so it assumed "some roles" would be moved.

A spokesman said: "We opened Thurmaston Lane in January 2022 to support the group in a number of ways, including manufacturing, printing and training.

He added "Like any retail business, our site requirements evolve over time and after making a significant investment in our Sheffield distribution center and opening a new distribution center in the US, we now need to take special steps to ensure that we are a more efficient, be able to start a productive and strong business.

He added: "All these factors have led us to take the difficult decision to move some operations to Thurmaston Lane and consider closing the site in due course. We have now reached the decision to consult and ensure that all those affected are fully supported during this process. Working diligently with colleagues.

2020 review found that workers in Boohoo's Leicester supply chain were not always paid their salary wages correctly.

Even before the firm opened its factory, it faced accusations of mismanagement, unethical practices, poor pay and supply chain failures. At the time, Boohoo said it was "committed to the city of Leicester and ethical British manufacturing". However, they could not keep their promise.

In 2020, Boohoo pledged to overhaul its practices after claiming that some of its suppliers in Leicester suffered widespread abuse of employment law.

An independent review of the claims, by Alison Levitt

Figure: Thurmaston Lane in Leicester is Boohoo's first manufacturing site. Courtesy: BBC

QC, found a series of failings. The review concluded that while Buhu did not profit from deliberately poor working practices, the firm's monitoring of these factories was "inadequate".

The company then introduced an agenda for change – including a commitment to pay its suppliers fair prices for clothing.

BBC reporter Emma Lowther worked as an administrative assistant at Boohoo's head office. He too saw these promises continually undermined during his 10 weeks in hiding.

Boohu said that already they have "invested significant time, effort and resources to drive positive change.

BBC investigation published two months ago revealed that Boohoo had put pressure on suppliers to lower prices – even after the order was agreed. It also revealed that hundreds of orders placed with Thurmaston Lane were actually made by seven factories in Morocco and four in Leicester.

Boohoo's lawyers say that Thurmaston Lane only makes 1% of all Boohoo's clothes.

During the investigation, Boohoo said it "has not shied away from addressing the problems of the past. We have invested significant time, effort and resources to drive positive change across every aspect of our business and supply chain".

Fast fashion giant Boohoo blamed poor working conditions of its suppliers in 2020. As a result, they faced severe criticism.

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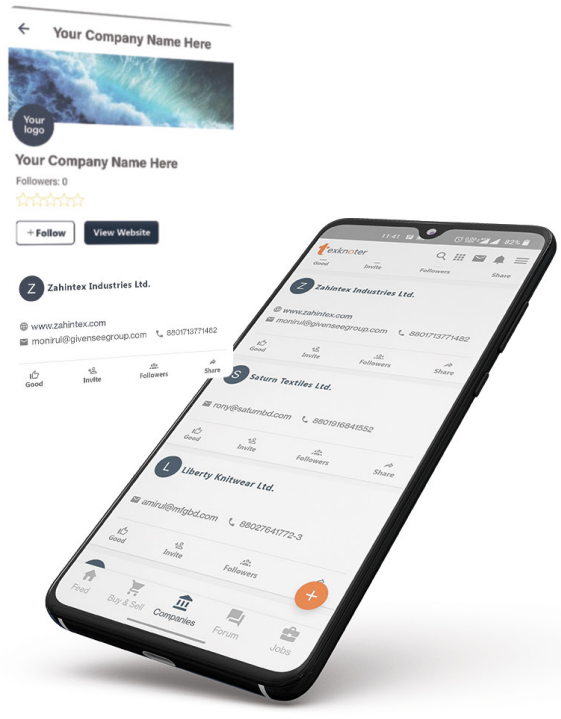

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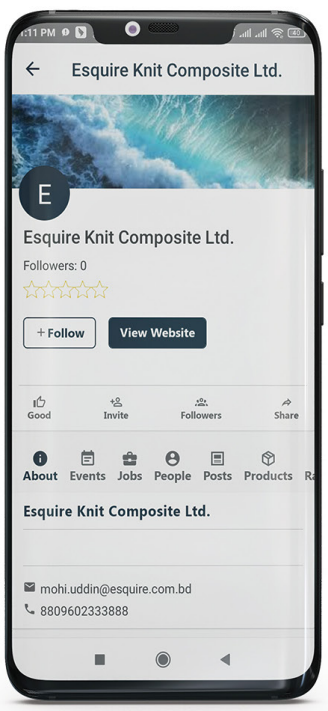

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