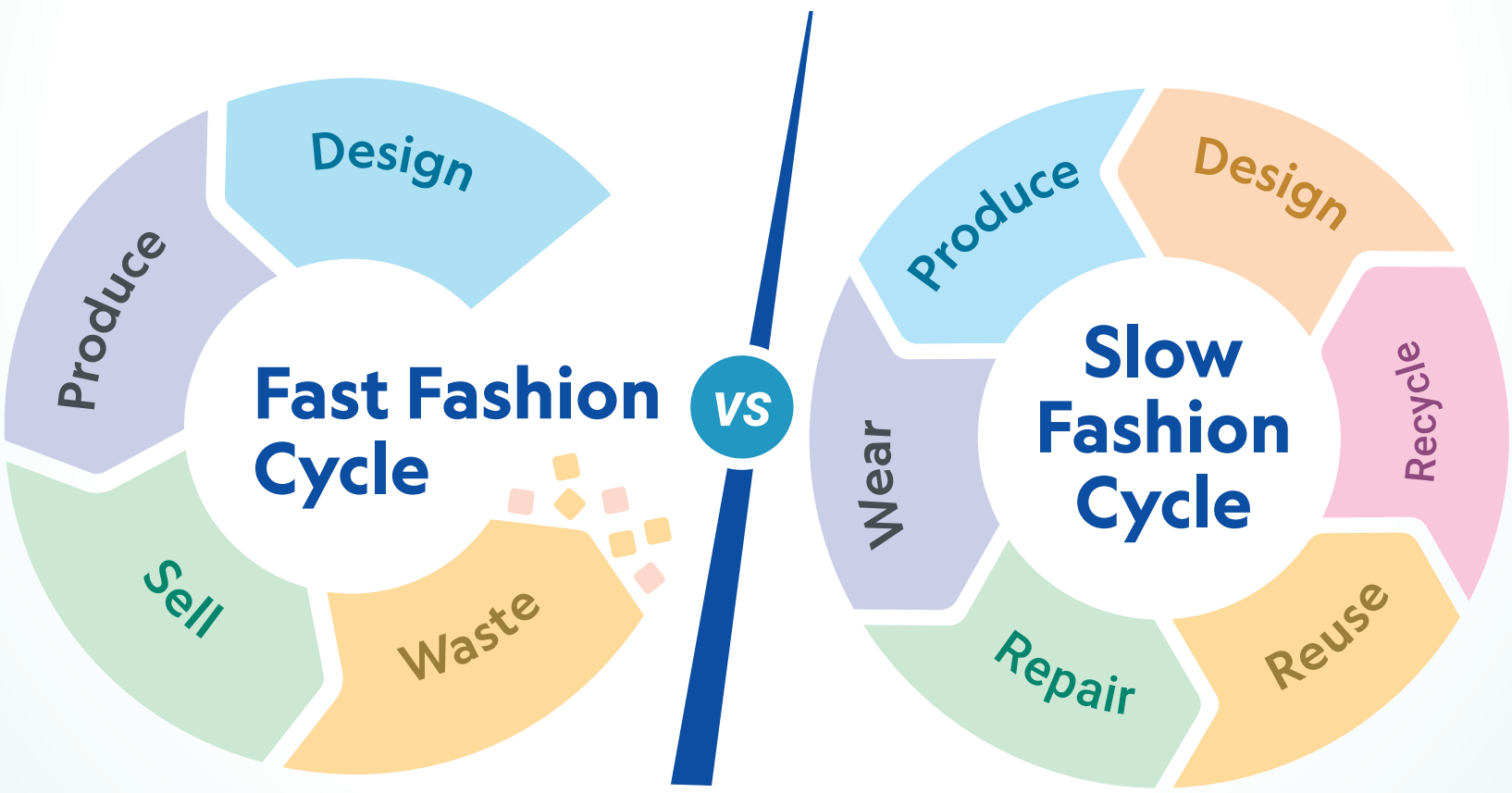
TexSPACE Today
SUSTAINABILITY - PRECISION - AUTOMATION - CIRCULARITY - ENERGY
Volume 03, Issue 01, 52 Pages
January 2025
www.texspacetoday.com

Can Consumer Mindset Shift Towards Longevity?



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+88 01775 999 748
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A Textile Today Innovation Hub publication.

Volume 03, Issue 01 (January 2025)

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Content

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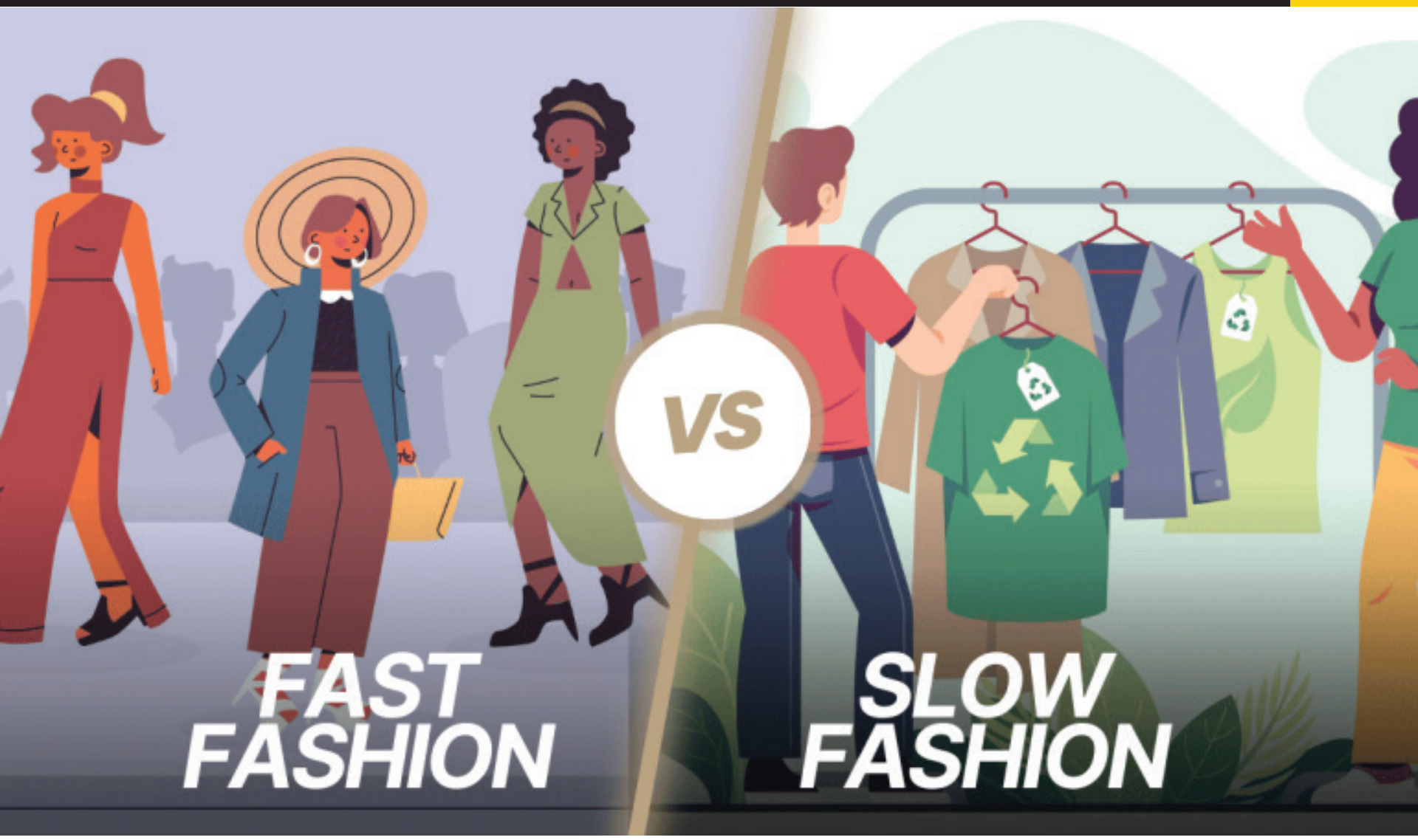


Slow Fashion vs. Fast Fashion: Can consumer mindset shift towards longevity?

M A Mohiemen Tanim

Understanding Fast Fashion

Fast fashion is characterized by inexpensive, mass-produced clothing designed to respond swiftly to the latest trends. Brands like Zara, H&M, and Shein epitomize this model, churning out new collections weekly or even daily. This approach, while profitable, has devastating environmental and social costs. According to the Ellen MacArthur Foundation, the fashion industry contributes about 10% of global carbon emissions and is responsible for 20%

In a world where trends change faster than the seasons, the fashion industry finds itself at a crossroads. The tug of war between fast fashion and slow fashion is more than a style debate; it's about sustainability, ethics, and the future of our planet. But can consumer mindsets truly shift towards longevity, or is fast fashion too deeply ingrained in our culture of convenience?

of wastewater worldwide. The allure of fast fashion is clear: affordability and immediacy. Yet, this comes at a hidden cost. The International Labour Organization (ILO) reports that millions of garment workers, particularly in countries like Bangladesh and Vietnam, endure unsafe working conditions and receive meager wages to meet the demands of fast fashion.

The Rise of Slow Fashion

According to a 2020 McKinsey & Company report, more than 67% of consumers now consider sustainable materials important when making a purchase. This growing awareness signals a shift, albeit slow, towards a more conscious fashion culture.

Environmental and Social Impact

The Global Fashion Agenda estimates that extending the life of clothes by an extra nine months could reduce carbon, waste, and water footprints by around 20-30% each.

Socially, slow fashion promotes fair wages, safe working conditions, and artisan craftsmanship, offering a stark contrast to the exploitative practices prevalent in fast fashion supply chains.

Can Consumer Mindsets Shift?

The question remains: can consumers break free from the fast fashion cycle? Evidence suggests that change is possible. A 2021 survey by First Insight revealed that 62% of Gen Z prefer to buy from sustainable brands, indicating a generational shift towards eco-consciousness.

Barriers exist. Fast fashion's affordability and accessibility are hard to resist, particularly for lower-income consumers. Education and awareness campaigns are critical. Initiatives like Fashion Revolution's #WhoMadeMyClothes movement and documentaries like "The True Cost" have begun to shed light on the dark realities of the fashion industry, prompting more consumers to question their purchasing habits.

The Role of Brands and Policy

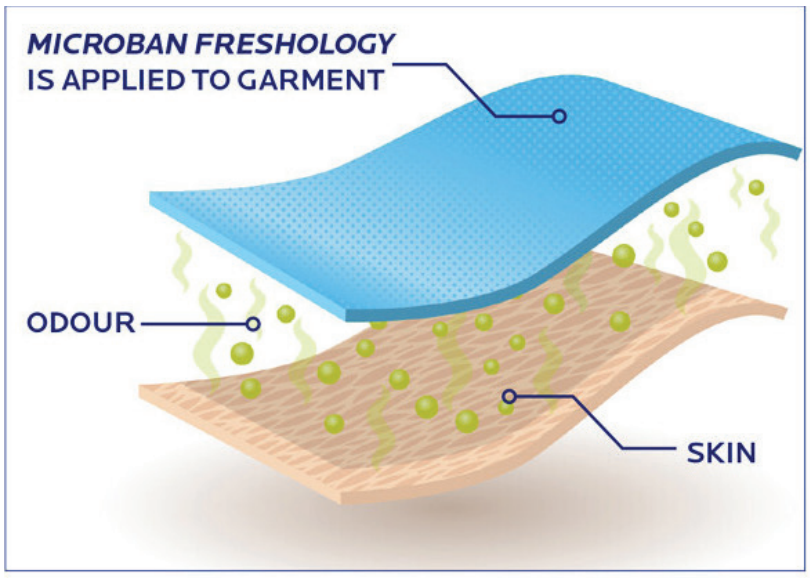
Patagonia's "Don't Buy This Jacket" campaign famously encouraged consumers to consider the environmental cost of their purchases, boosting brand loyalty while promoting sustainability.

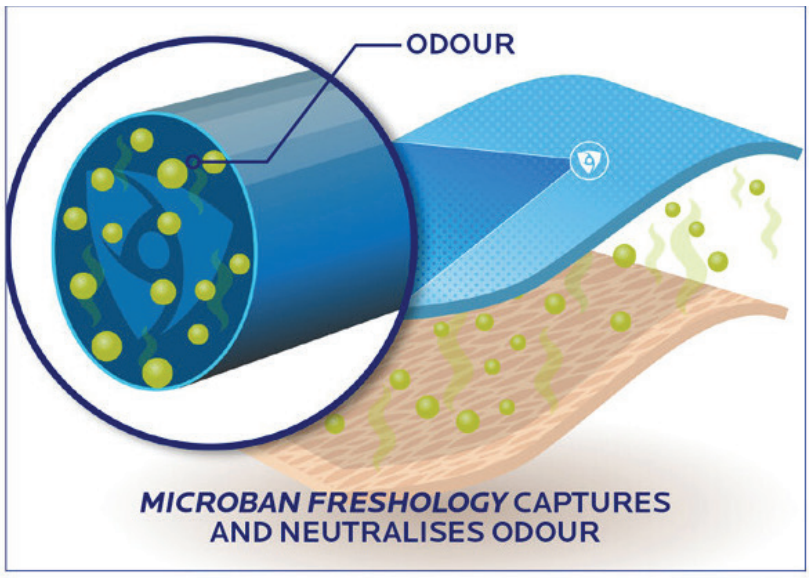
The European Union's Circular Economy Action Plan includes measures to ensure that textiles placed on the EU market are durable, recyclable, and free from hazardous substances by 2030.

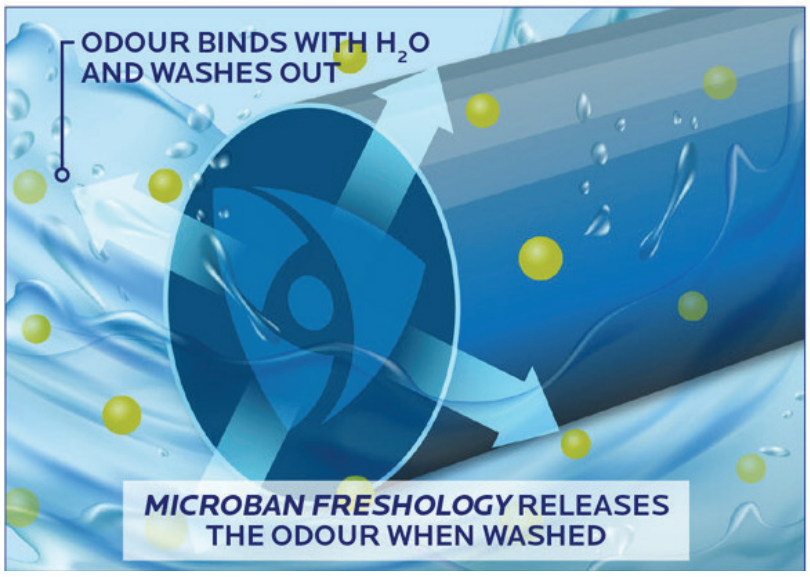
Conclusion

While fast fashion isn't disappearing overnight, the tide is beginning to turn. As more consumers embrace slow fashion principles—prioritizing quality, ethics, and environmental responsibility—the industry has an opportunity to redefine itself. The journey towards longevity in fashion requires collective effort, but with increasing awareness, innovative business models, and supportive policies, a sustainable future for fashion is within reach.

Microban's Freshology: A nature-inspired odour control for textiles







Microban International, a global leader in odour control technology, has unveiled its latest innovation, Freshology. This patent-pending solution is designed to redefine textile odour control with a nature-inspired approach. Freshology effectively neutralizes a broad spectrum of odours, enhancing both fabric freshness and comfort.

Cutting-Edge Odour Neutralisation

Freshology targets four of the most pervasive odour-causing compounds found in textiles— isovaleric acid (IVA), acetic acid (HOAc), ammonia (NH3), and nonenal. Unlike traditional odour control treatments that focus on a single compound, Freshology neutralizes a wide range of odours, making it an ideal solution for sportswear, athleisure, and everyday

apparel. The technology complies with stringent global standards such as GB/T 33610 and ISO 17299.

Ryan Scott, Senior Product Development Chemist at Microban, highlights the innovation's versatility: "Freshology delivers advanced performance by effectively neutralizing odours while enhancing fabric properties like moisture management and softness. Its nonionic nature ensures compatibility with additional textile treatments, providing manufacturers with greater flexibility in their finishing processes."

Related Articles

Eco-Friendly and Mill-Friendly Technology

Freshology is completely free from heavy metals, addressing the increasing consumer and industry demand for sustainable alternatives to traditional odour control treatments. Its seamless compatibility with existing textile manufacturing processes ensures easy adoption by mills producing synthetic fabrics like polyester, nylon, and spandex.

The technology captures odours during wear and releases them upon washing, ensuring fabrics maintain a long-lasting refreshed feel. This not only enhances consumer satisfaction but also helps reduce the environmental footprint associated with frequent laundering.

Nature-Inspired, Performance-Driven

Freshology is inspired by natural plant extracts and minerals, reinforcing Microban's commitment to sustainability and innovation. As consumers and brands continue to prioritize eco-conscious solutions, Freshology presents a compelling choice for textile manufacturers seeking to balance sustainability with top-tier performance.

With over a century of expertise in antimicrobial and odour control solutions, Microban International remains a trusted name across consumer, textile, industrial, and medical markets. The company's flagship brands, Microban and Ultra-Fresh, continue to set industry benchmarks for innovation, enhancing product performance and durability.

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Contacts

International:
Tel: +886-2-26596000 / Fax: +886-2-26597000
Mr. Neal Chen (ext. 202) / Ms. Hannah Chou (ext. 183)
E-Mail: textile@chanchao.com.tw

Vietnam:
Tel: +84-28-38279156 / Fax: +84-28-38279157
Ms. Jen Lau (ext. 107)
E-mail: salesC@chanchao.com.tw

MORE INFORMATION

RH Corporation & SAS Enterprise to showcase cutting-edge innovations at DTG 2025

SAS Story

SAS Enterprise will be showcasing a range of advanced printing and sustainable solutions at Hall 1A, Booth 107. Visitors to their booth can expect to see cutting-edge technology for high-quality, efficient garment printing through their Direct to Garment Printing Solutions. They will also present innovative methods for transferring designs onto various materials with their Direct to Film Printing Solutions. Additionally, SAS Enterprise will display advanced

Aziz Group, a pioneer in the textile industry of Bangladesh for over 50 years, is set to make a significant impact at the upcoming Dhaka International Textile & Garment Machinery Exhibition (DTG) 2025. The event, scheduled from February 20-23, 2025, at the International Convention City Bashundhara (ICCB). The exhibition will be presided over by two of Aziz Group's prominent sister concerns, RH Corporation and SAS Enterprise.

equipment for precise and durable screen printing, along with tools and chemicals designed to enhance the efficiency and longevity of screen printing equipment. New print head cleaning and maintenance solutions will be highlighted to ensure optimal performance and extended lifespan of printing heads. Furthermore, RH Corporation will introduce environmentally friendly dyes and chemicals aimed at reducing the ecological footprint of textile production, alongside new projects focused on promoting sustainability within the industry.

RH Corporation will present a variety of innovative recycling and sustainable textile solutions at Hall 6, Booth 219. Their booth will feature state-of-the-art machinery for recycling cotton waste into reusable materials, as well as advanced systems for processing non-woven textile waste.

Visitors will also learn about a new, sustainable fiber option derived from wood pulp, and eco-friendly yarns made from polylactic acid, a renewable resource. Additionally, RH Corporation will showcase a groundbreaking material that combines the durability of polyester with the benefits of compostability, emphasizing their commitment to driving the Bangladeshi industry towards sustainability.

Apart from all these innovation, RH Corporation is set to make a difference with their newest products featuring special fabric finishes that imitate the CO2 absorption capabilities of trees, mitigating the emission of greenhouse gas and addressing the issue of global warming. The DTG 2025 exhibition is a key event in South Asia's textile machinery market. Aziz Group's participation highlights their commitment to innovation and sustainability. Industry leaders are invited to explore these advancements.

For further inquiries, you can contact RH Corporation & SAS Enterprise at their corporate office located at 3rd Floor, 240, Tejgaon C/A, Dhaka-1208, Bangladesh. You can also reach them via email at info@rhcorp.com.

Modern Synthesis raises $5.5M to grow microbial biomaterials

Photo: *High-Performance Biomaterials from Microbes. © Modern Synthesis*

London-based biotechnology firm Modern Synthesis has successfully raised $5.5 million in an oversubscribed funding round, led by Extantia Capital, with additional backing from Artesian and Collaborative Fund. The funds will support the scaling of its pilot facility and help meet the growing demand for sustainable material alternatives in the fashion industry.

Modern Synthesis develops innovative biomaterials using nanocellulose, a fiber derived from microbial fermentation. The company's proprietary process creates durable, plastic-free alternatives to traditional leathers, synthetic leather, and plastic-coated textiles. Nanocellulose's strength at the nanofiber level—stronger than steel—ensures the resulting materials offer superior performance without compromising on look or feel. This positions Modern Synthesis to help brands seeking sustainable solutions in the face of tightening regulations aimed at decarbonization.

As fashion faces a projected shortage of 133 million tonnes of low-impact raw

materials by 2030, Modern Synthesis' technology presents a solution to mitigate this gap. CEO Jen Keane emphasized that their material offers an exciting, sustainable alternative that can captivate consumers while also promoting circularity in the fashion industry.

The company has already attracted attention through its collaboration with Danish fashion brand GANNI, working toward the commercial launch of the Bou Bag, made from Modern Synthesis' biomaterial. Despite the growing interest in sustainable textiles, they currently represent less than 5% of the $1 trillion global apparel textile market.

Investor confidence is strong, with Extantia Capital's Yair Reem noting that Modern Synthesis' material not only rivals traditional leather in appearance and feel but also offers something new and innovative that excites designers. This funding will enable the company to expand its material offerings into other industries, including footwear and automotive sectors.

As more than 35 new sustainability regulations are expected to reshape the textile industry, brands that fail to adapt to lower-impact materials could face significant financial consequences. The growing market potential for biomaterials underscores Modern Synthesis' role as a key player in the sustainable materials movement.

Europe's textile leaders form PRO forum to harmonize EPR approaches

S. Abdullah

Photo: *Textile PRO Forum, © EURATEX*

Leading Producer Responsibility Organizations (PROs) and business associations have come together to launch the Textile PRO Forum, a groundbreaking voluntary initiative aimed at harmonizing and enhancing the implementation of Extended Producer Responsibility (EPR) for textiles and footwear across Europe.

This initiative comes at a crucial time as the European Union approaches the mandatory separate collection of textile waste and finalizes revisions to the Waste Framework Directive. EPR schemes are now central to Europe's strategy for achieving sustainability and circularity in the textile industry.

However, with EPR models set to vary significantly across the 27 EU Member States due to differences in national legislation, market conditions, and infrastructure, the challenge lies in ensuring efficiency and reducing complexity for businesses. The Textile PRO Forum addresses this challenge by fostering collaboration, harmonization, and the exchange of best practices among key stakeholders.

Key Objectives of the Textile PRO Forum

The Forum, initiated by Refashion (the first PRO for textiles) and EURATEX (the European Textile and Apparel Confederation), is coordinated by EURATEX and will focus on the following strategic workstreams:

» Reducing administrative burdens for businesses operating across different Member States.

» Harmonizing eco-modulation fees, as mandated by legislation.

» Supporting recycling initiatives to improve the circularity of textiles.

» Establishing frameworks for PRO creation and expansion, ensuring robust and effective EPR systems.

Participants in the Forum

The Textile PRO Forum brings together an impressive list of organizations and associations from across Europe, including: Asociación para la Gestión del Residuo Textil y Calzado, Danish Fashion & Textile, EURATEX, Refashion, RETEX. Green, Stichting Producentenorganisatie UPV Textiel, TEKO – Swedish Textile and Fashion Industries, among others.

Trützschler launches X-Series for nonwoven production

Photo: *(L-R) John Vareldzis (CEO), Sir Lindsay Hoyle MP, Maria Eagle MP, Mike Collins (MD)*

rützschler Nonwovens has introduced its latest innovation, the X-Series, featuring the NC-X and NCT-X nonwoven cards. This next-generation upgrade enhances the company's proven NC and NCT models, offering greater efficiency, superior web quality, and improved accessibility for manufacturers worldwide.

Renowned for its advanced carding, blending, and web-forming capabilities, Trützschler's new X-Series takes production efficiency to the next level. The company has reengineered key features to ensure maximum reliability and performance, making it a future-ready solution for the nonwoven industry.

One of the most significant advancements in the NC-X and NCT-X models is the improved accessibility. Both machines are now mounted on rails, allowing for faster cleaning and effortless maintenance. The modular design enables all card components to be easily moved apart, ensuring smooth operation and seamless access for technicians.

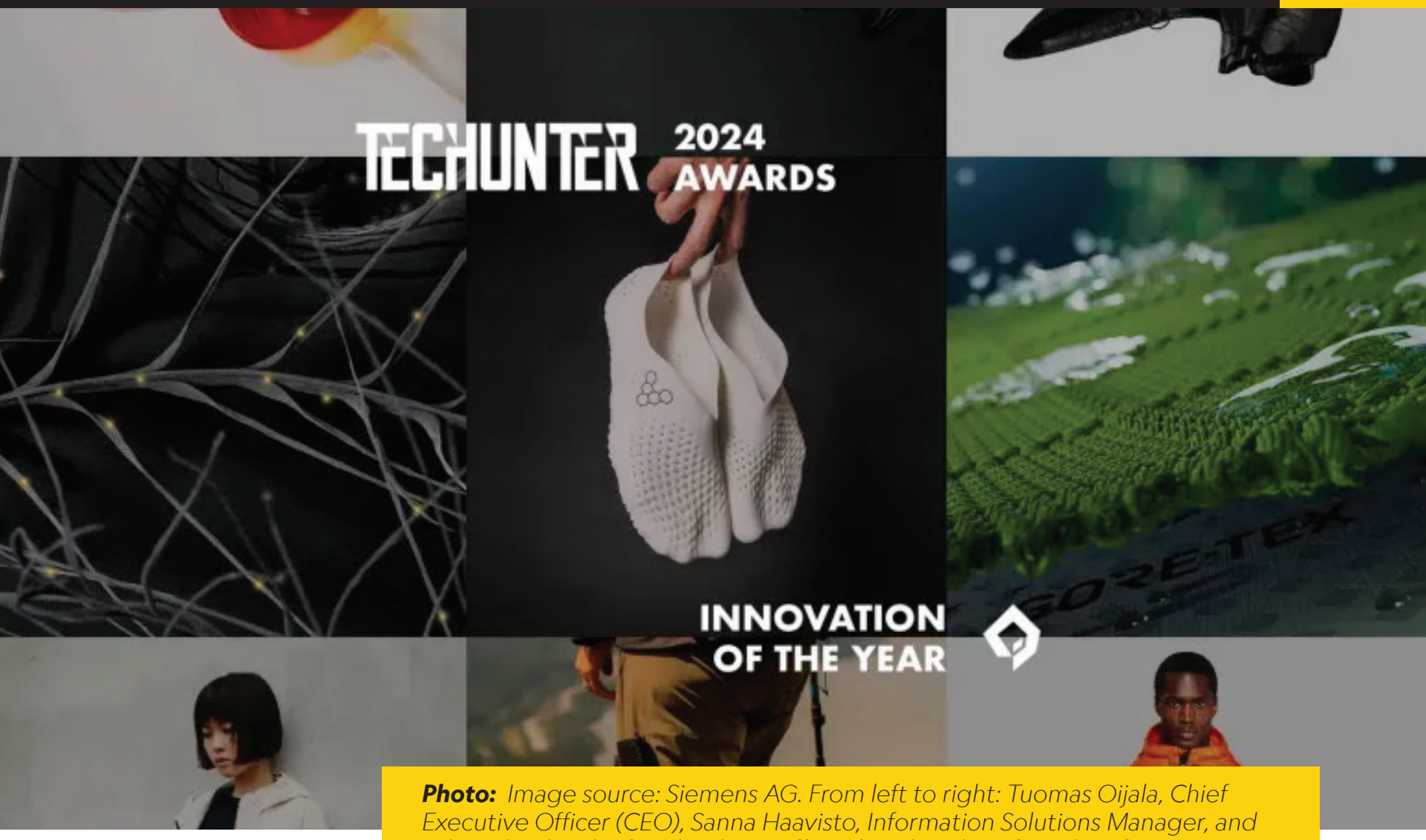

Photo: *Image source: Siemens AG. From left to right: Tuomas Oijala, Chief Executive Officer (CEO), Sanna Haavisto, Information Solutions Manager, and Juha Salmela, Chief Technology Officer (CTO) and Co-founder of Spinnova PLC.*

TECHUNTER awards nine innovations in functional fashion 2024

Tanvir Ahmed

In 2024, the functional apparel and gear industry witnessed groundbreaking innovations that pushed the boundaries of design, technology, and sustainability. TECHUNTER's annual 'Innovation of the year' awards celebrated these advancements, highlighting nine exceptional entries that stood out in their respective categories.

Innovation of the Year: Vivobarefoot's VivoBiome Pioneer Program 02 Mono Shoe

Vivobarefoot's VivoBiome Pioneer Program 02 Mono shoe leads the pack, a testament to the future of bespoke footwear.VivoBiome Mono is designed using 43-foot scan data points and produced through selective laser sintering, a 3D printing method that

enables precise, made-to-measure footwear with minimal material waste. Participants in the Pioneer Program 02 will test this technology and provide feedback on its performance.

Top Innovations of 2024:

VENTETE aH-1 Micro-Collapsible Bike Helmet: This helmet redefines portability and safety for cyclists. Its micro-collapsible design allows for easy storage without compromising protection, making it an ideal choice for urban commuters.

Goldwin's Re-Optimum Paper Series with KODENSHI® Fibers: Goldwin introduces a series of apparel integrating KODENSHI® fibers, known for their thermal properties. This innovation enhances comfort by retaining body heat, making it suitable for various outdoor activities.

Arc'teryx Equipment x Skip MO/ GO™ Exoskeleton Powered Pants: A collaboration that brings forth exoskeleton-powered pants, designed to assist movement and reduce fatigue during strenuous activities. This gear is particularly beneficial for hikers and climbers seeking enhanced endurance.

Spiber Inc.'s Brewed Protein™ Fiber x A-POC ABLE Issey Miyake "Steam Stretch" Technique Dress: Merging biotechnology with fashion, this dress utilizes Brewed Protein™ fibers, offering a sustainable alternative to traditional materials. The "Steam Stretch" technique adds a unique texture, showcasing the potential of bio-fabricated textiles.

GORE-TEX Brand's PFAS-Free ePE Membrane: GORE-TEX introduces an environmentally friendly ePE membrane, free from per- and polyfluoroalkyl substances (PFAS). This advancement maintains the brand's renowned waterproof and breathable qualities while reducing environmental impact.

Vollebak's Martian Aerogel Jacket: Designed for extreme conditions, this jacket incorporates aerogel—the same material used in space suits—to provide exceptional insulation without added bulk. It's a glimpse into the future of high-performance outerwear.

ALLIED Feather + Down's ExpeDRY™ Gold Particles Down: This innovation infuses down insulation with gold particles, enhancing moisture management and drying times. The result is a more efficient and comfortable insulation material for outdoor apparel.

Stone Island's Light Leather Organza: Stone Island presents a unique fabric that combines leather's durability with organza's lightweight properties. This material offers a distinct aesthetic and functional appeal, pushing the boundaries of textile development.

DeepSeek vs OpenAI battle sparks a new era of AI-driven smarter manufacturing

Rahbar Hossain

Key Insights

» AI-driven demand forecasting reduces overproduction waste by **20–50% (McKinsey)**

» Luxury brands like Gucci and Balenciaga use AI for avant-garde designs and virtual try-on experiences (AI Tech Trend)

» The AI-in-fashion market is projected to grow from **$911 million** in 2023 to **$4.4 billion** by **2030 at a 25.2% CAGR (Statista)**

» AI can help the fashion industry cut **347 million** metric tons of CO2 by 2030 (McKinsey)

» Generative AI is expected to automate **50% of fashion** marketing content by 2025, reducing costs for independent designers (Gartner)

» AI-driven trend forecasting reduces unsold inventory by up to **30%,** addressing a **$500 billion** annual loss from overproduction (McKinsey)

» Turkish fast-fashion brand Trendyol used AI-powered TrendPulse to generate **$12M** in two months. (TikTok for Business)

Artificial Intelligence (AI) is revolutionizing the textile, apparel, and fashion industries, driving design, production, and sustainability advancements. A notable development in this landscape is the emergence of China's DeepSeek, which has introduced cost-effective AI models that rival those of established players like OpenAI. This competition is fostering innovation and offering diverse solutions across the industry.

AI-Driven Demand Forecasting

AI has become instrumental in demand forecasting within the fashion sector. A 2023 McKinsey study found that AI-driven demand forecasting can reduce overproduction waste by 20–50%, addressing a significant issue in an industry known for substantial waste. By analyzing vast datasets, AI models predict consumer preferences more accurately, enabling manufacturers to align production with actual demand.

Enhancing Design and Customer Engagement

Luxury brands are leveraging AI to push creative boundaries and enhance customer experiences. For instance, Gucci and Balenciaga utilize AI tools to generate avant-garde designs and offer virtual try-on experiences, allowing customers to visualize products before purchase. According to the Business of Fashion, brands employing OpenAI's tools have reported a 30% increase in customer engagement through personalized product recommendations.

Market Growth and Sustainability

The global AI-in-fashion market was valued at $911 million in 2023 and is projected to reach $4.4 billion by 2030, reflecting a compound annual growth rate (CAGR) of 25.2%. This growth is driven by the demand for hyper-personalization and rapid prototyping. The Ellen MacArthur Foundation also estimates that AI could help the fashion industry cut 347 million metric tons of CO2 by 2030, contributing significantly to sustainability efforts.

DeepSeek's Disruptive Entry

DeepSeek, a Chinese AI startup, has disrupted the AI landscape with its cost-efficient models. The company developed a world-class AI model for just $5.6 million, a fraction of the typical cost incurred by industry giants. DeepSeek's V3 model rivals offerings from companies like OpenAI and Google, demonstrating that high-quality AI solutions can be achieved with lower financial investment.

Impact on the Fashion Industry

DeepSeek's affordable, open-source models empower small and medium-sized enterprises (SMEs) and independent designers by providing access to advanced AI capabilities without prohibitive costs. This democratization of technology enables a broader range of industry players to innovate in design, production, and marketing.

Enhancing efficiency with lean six sigma from conventional to optimized approaches

Farin Tasnim

1.0 Introduction:

Defects, overproduction, waiting, non-utilized talent, transportation, inventory, motion, and extra-processing are the eight categories of wastage which is known as 'DOWNTIME' [1]. The Lean management approach identifies, reduces, and eliminates wastage [2]. "Six Sigma" highlights techniques and tools applied to optimize the manufacturing process [3]. The DMAIC phases of Six Sigma are used in Lean Six Sigma. The abbreviation of DMAIC indicates Define, Measure, Analyze, Improve, and Control [4].

2.0 Materials & Methodology:

2.1 Methods of Lean Six Sigma: These methods and resources are used to fulfill the goal of the Lean Six Sigma approach:

2.1.1 Kanban: Kanban utilizes workflow management methods that improve work efficiency and foster ongoing development, like activity visualization and restricted work in progress [5].

2.1.2 Kaizen: The Japanese term "kaizen" relates to improvement or change for the better. Its focus is on integrating

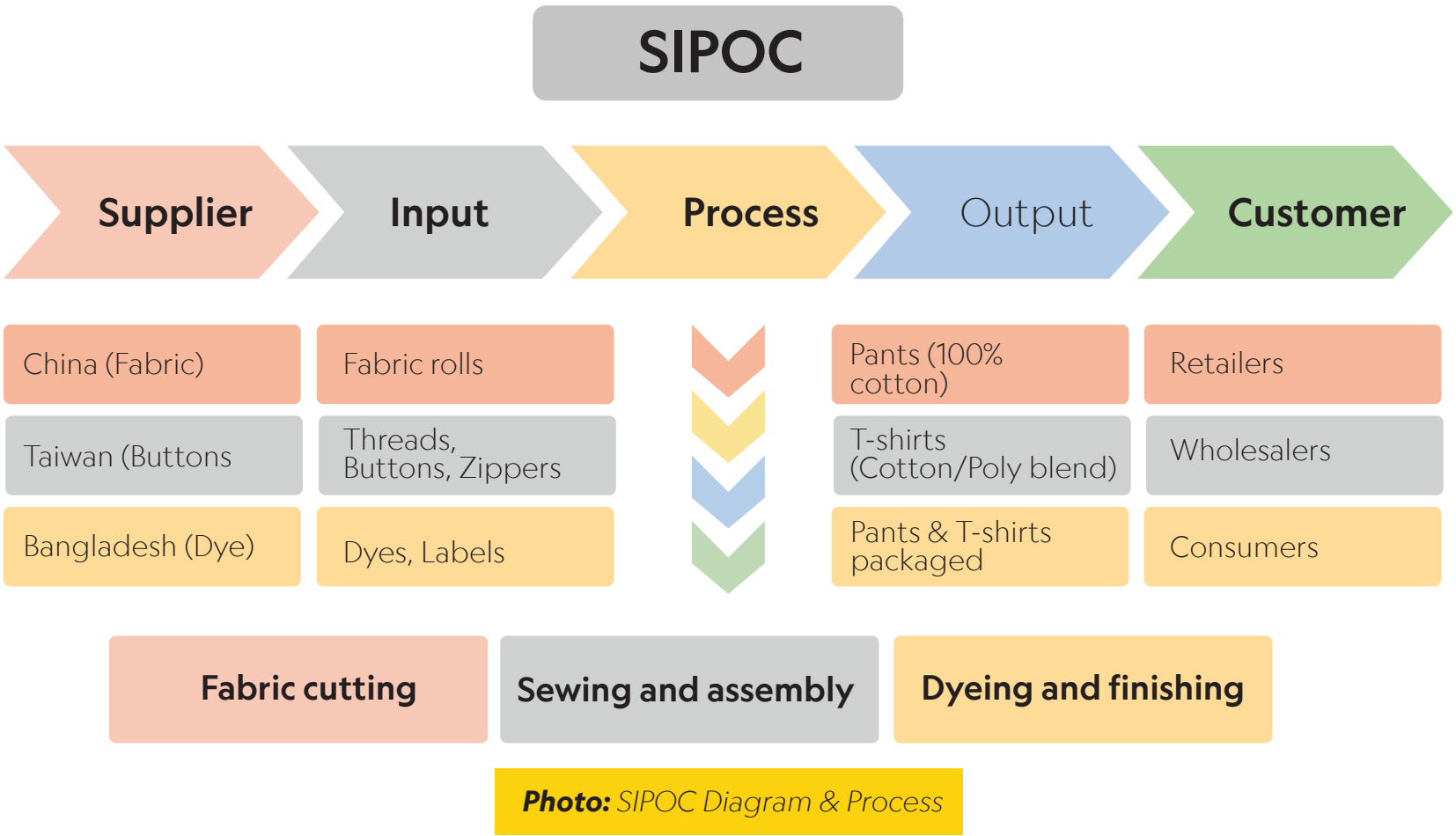

Photo: *SIPOC Diagram & Process*

practices that foster a work environment that encourages constant enhancement and self-development [6].

2.1.3 Value stream mapping: This analyzes areas to cut down on wastage and streamline procedures [7].

2.1.4 5S tool: The 5S tool is a technique to make sure that the workplace is reliable, secure, productive, and efficient [8].

2.2 DMAIC Methodology: DMAIC is a data-driven method that is applied in Six Sigma to methodically solve challenges or difficulties and improve processes [9]. It is divided into five sections, each with a specific objective and methodology:

2.2.1 Define: The primary objectives of this section are to determine the problem, establish particular objectives, and comprehend the requirements of the consumer [10]. It begins with creating a project charter, detailing the steps, and determining the scope of the improvement. Specifically, the significant number of defects and unnecessary shifting of the workpieces in their production line make it challenging for the line to achieve its goal production plans and manage quality issues. From Figure 1, The manufacturers may minimize lead times by improving supplier cooperation and eliminating supply chain delays. For example, a 10% decrease in lead time may outcome in a 15% increase in monthly productivity. Again, a manufacturer can observe the full process from first to last.

Read Full Article

Heimtextil 2025 weaving tradition & modernity into future

Md Muddassir Rashid

Heimtextil 2025, held at Messe Frankfurt, once again proved why it's a global leader in home and contract textiles. This year, the event welcomed participants from over 142 countries, showing a 10% rise in visitor attendance. The show beautifully combined innovative technology with timeless craftsmanship, creating an inspiring mix of tradition and modernity.

AI, Circularity, and Sustainability

Artificial intelligence took center stage, with exhibitors using AI to transform textile design, production, and the consumer experience. Heimtextil 2025 also emphasized sustainability, with companies making impressive progress in eco-friendly practices.

AI-powered solutions helped identify greener alternatives, reduce waste, and increase transparency in supply chains. The focus on circular production and sustainable partnerships to lower CO2 emissions set a positive example for other industries.

Textile Trends 2025/26 A Journey Through Past and Future

The Heimtextil Trends 25/26, curated by Alcova Milano, offered a fascinating look at design evolution. Led by Valentina Ciuffi and Joseph Grima, the trend themes—'Naturally Uneven', 'Radically Restructured', and 'Regenerative'—explored both the beauty and ethics of modern design.

The motto 'Future Continuous' reflected a timeless

Photo: *Heimtextil 2025 reaffirmed sustainability as an industry cornerstone, with exhibitors making remarkable strides in eco-conscious practices.*

connection between past, present, and future, encouraging collaboration and forward-thinking ideas. Alcova's debut in the Trend Arena made a strong impression, showing how sustainability and ethical practices are shaping high-quality, durable products that respect the planet.

Patricia Urquiola's 'among-us' Installation Where Art and Innovation Meet

A standout feature of the event was the immersive 'among-us' installation by renowned designer and architect Patricia Urquiola. This creative textile space showed how textiles can transform architecture and interior design. More than just a design showcase, the installation combined artistic craftsmanship with innovative textile techniques. Visitors experienced a captivating space that demonstrated how textile design can shape the feel of a room. Sustainable materials were a highlight, including Cimento, a new-generation cement made with leftover Econyl threads from the tapestries—proving the creative possibilities of circular design.

> *"The steady growth and high internationality confirm Heimtextil's strength as an indispensable partner for the global industry. Particularly in challenging times, Heimtextil offers companies opportunities to strengthen their market position, identify potential, and forge global partnerships."*
>
> **Detlef Braun**
> Member of the Executive Board of Messe Frankfurt

The installation also featured unique printing techniques, like a watercolour-inspired method applied to textiles, reinforcing Heimtextil's dedication to sustainability and innovation.

Talks, Lectures, and Seminars Inspiring a New Era of Knowledge

A rich program of talks and seminars added depth to the Heimtextil experience, giving attendees insights into industry trends, new technologies, and sustainability strategies. The mix

Photo: *Talks & Workshops at Heimtextil 2025*

of lectures, workshops, and guided tours created an engaging learning environment, with sessions tailored to different market segments, from home textiles to technical fabrics.

"Through collaborations and new insights, we enable the industry to respond to changing markets," said Olaf Schmidt, Vice President Textiles & Textile Technologies.

The Texpertise Network Connecting Tradition with Tomorrow

Heimtextil's Texpertise platform once again connected the global textile industry. With over 3,000 exhibitors, the event showcased the sector's energy, offering networking opportunities and business solutions. The Texpertise Network, linking more than 50 trade fairs and events worldwide, encouraged collaboration and knowledge exchange, helping attendees explore new markets and build meaningful partnerships. By bringing together stakeholders from across the textile value chain, the network continues to drive important conversations and shape the industry's future. From sustainable production to digitalization, the Texpertise Network reflects Heimtextil's commitment to addressing the challenges and opportunities in the textile sector.

Conclusion

Heimtextil 2025 was more than a trade show—it was a vibrant hub where design, technology, sustainability, and knowledge came together. The event offered a complete view of the future of home and contract textiles with its groundbreaking displays, AI-powered innovations, and thought-provoking talks and seminars. The next edition of Heimtextil is set to take place at Messe Frankfurt from January 13th to 16th, 2026.

DTG

The 19th Dhaka Int'l
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Contacts

Tel: +886-2-26596000 / Fax: +886-2-26597000
Mr. Neal Chen (ext. 202) / Ms. Hannah Chou (ext. 183)
E-Mail: textile@chanchao.com.tw

https://dtg.chanchao.com.tw

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DTGexpo

Cascale acquires BBI for responsible sourcing

Photo: *Colin Browne, New CEO of Cascale.*

Cascale, the global nonprofit alliance formerly known as the Sustainable Apparel Coalition, has announced the acquisition of key assets from the Better Buying Institute (BBI). This strategic purchase includes the Better Buying Purchasing Practices Index (BBPPI) and the Better Buying Partnership Index (BBPI), marking a significant step toward advancing responsible purchasing practices and fostering fair, accountable supply chains worldwide.

The integration of BBI's tools and methodologies strengthens Cascale's ability to address critical supply chain challenges. Unfair purchasing behaviors, such as last-minute order changes, delayed payments, and below-cost pricing, have long disrupted manufacturers and negatively impacted workers' well-being. By incorporating BBI's proven solutions and welcoming its expert staff, Cascale is now better positioned to work alongside brands and manufacturers to promote fair purchasing practices. This move directly supports Cascale's "Decent Work for All" strategic pillar, which seeks to improve labor conditions, empower suppliers, and ensure fair wages throughout global supply chains.

A Commitment to Fairer Supply Chains

"Incorporating Better Buying's tools into Cascale is a pivotal step in transforming supply chain relationships," said Colin Browne, CEO of Cascale. "These proven methodologies will enable us to tackle systemic challenges such as unfair purchasing practices, amplify supplier voices, and advance meaningful industry-wide change. Moreover, this work will align seamlessly with our Decent Work for All strategic pillar, furthering our mission to foster fairer,

Cascale

Better Buying

more equitable supply chains that prioritize people and the planet."

Through the acquisition, Cascale gains access to BBI's robust data-driven approaches, which have been instrumental in holding brands accountable for their purchasing decisions. By leveraging these insights, Cascale aims to drive transparency and industry-wide improvements, helping suppliers navigate challenges while fostering stronger, more resilient relationships with buyers.

A Strategic Partnership for Greater Impact

Dr. Marsha Dickson, president and co-founder of BBI, emphasized the significance of this transition in advancing BBI's mission on a larger scale. "Better Buying Institute's decision to align with Cascale is a strategic choice to ensure our mission—to improve purchasing practices—can achieve greater scale and impact. By integrating our tools and methodologies into Cascale, we can continue driving positive change while benefiting from Cascale's extensive networks and strategic resources to maximize industry transformation."

BBI has long been recognized for its commitment to responsible purchasing and has played a crucial role in shifting the conversation on purchasing practices across the industry. By joining forces with Cascale, the initiative will reach a broader audience, influencing more brands and manufacturers to embrace ethical and sustainable sourcing strategies.

Driving Industry-Wide Transformation

With many shared members and subscribers, the alignment between Cascale and BBI is a natural step toward a more responsible industry. The acquisition enables Cascale to provide enhanced tools, better advocacy, and greater support to suppliers navigating the complexities of global supply chains. By integrating BBI's methodologies, Cascale strengthens its commitment to creating ethical business environments where fair treatment of workers is at the core of purchasing decisions.

US tariffs push Shein to shift production from China to Vietnam

Desk Report

Ultra-fast fashion giant Shein is reportedly urging its key Chinese suppliers to establish production bases in Vietnam as a strategy to bypass new US tariffs on Chinese goods. According to Bloomberg, Shein is offering attractive incentives to suppliers making the move, such as procurement price increases of up to 30% and promises of larger orders.

This strategic push appears to be a direct response to the US government's decision to eliminate the "de minimis" rule, which previously allowed direct-to-consumer shipments under $800 to enter the US duty-free. The removal of this exemption marks a significant shift, as companies like Shein and its competitor Temu heavily benefited from the policy.

A 2023 report indicated that Temu and Shein account for around 30% or more of the daily package deliveries to the US under the de minimis clause. The same report noted that roughly half of all shipments qualifying for this status originate from China, underscoring the reliance of these retailers on low-cost Chinese manufacturing and streamlined shipping. With the de minimis provision eliminated and an additional 10% tariff on Chinese goods announced as part of former US President Donald Trump's broader trade agenda, the pressure on fast fashion brands to diversify their supply chains has intensified.

Though reports suggest Shein is moving swiftly to expand its production footprint in Vietnam, the retailer is reportedly denying these claims.

Still, the potential shift could signal a broader trend of fashion manufacturers seeking alternative production hubs in Southeast Asia to mitigate the financial impact of rising trade barriers.

Vietnam has long been a favorable destination for textile and apparel production, offering competitive labor costs, well-established manufacturing infrastructure, and trade agreements with major markets like the US and the EU.

As Shein navigates these evolving trade dynamics, its reported push to relocate supply chains could reshape the landscape of global fast fashion production, with Vietnam emerging as a critical player in the industry's future.

Exploring innovation behind SoftWear Automation's Sewbots®

Robert Heymen

SoftWear Automation's Sewbots represent a significant leap forward in the automation of apparel manufacturing, offering a glimpse into the future of the industry. These robotic systems, developed by Atlanta-based SoftWear Automation, combine advanced machine vision and robotics to automate the sewing process, addressing challenges related to labor costs, supply chain sustainability, and production efficiency. With the capability to produce a variety of sewn goods, including T-shirts, bath mats, and parts of blue jeans, Sewbots is poised to transform how garments are made.

Origins and Development

SoftWear Automation was established in 2012 to fully automate sewn products and reimagine supply chains. The company's origins can be traced back to research and development efforts in collaboration with Georgia Tech, the Defense Advanced Research Projects Agency (DARPA), and the Walmart Foundation. This collaborative environment fostered the development

of innovative technologies that address the complexities of handling and sewing fabric.The initial focus of SoftWear Automation was on creating robots that could produce home goods such as bath mats and towels. This allowed the company to refine its technology and gain practical experience in automating the sewing proces. Over time, SoftWear Automation expanded its capabilities to include apparel items, with a particular emphasis on T-shirts and jeans.

Technology and Features

Sewbots utilize a combination of high-speed computer vision and lightweight robotics to manipulate fabric and guide it through the sewing process. Small cameras map the fabric, enabling the robots to identify fabric distortion and make real-time adjustments. This technology allows Sewbots to handle soft fabrics with precision and accuracy, replicating the micro and macro manipulations of a human seamstress3.

Key features of SoftWear Automation's Sewbots include:

» **Machine Vision:** Sewbots use computer vision to analyze the cloth, discern where to sew, and replicate human adjustments to stitch seams or finish edges.

» **Robotic Manipulation:** Lightweight robots steer fabric to and through the needle with greater speed and accuracy than a human.

» **Real-Time Adjustments:** Sewbots recognize textile distortion and adjust the material in real-time as it travels through the sew head.

» **Flexibility:** Sewbots can be programmed to change sewing patterns from outfit to outfit, allowing for the production of various garment style.

» **Accuracy:** Sewbots commit mistakes only 0.7% of the time, significantly reducing errors compared to manual sewing.

Performance and Capabilities

SoftWear Automation's Sewbots have demonstrated the ability to significantly increase production speed and reduce manufacturing costs. For example, Tianyuan Garments Company, a major supplier for Adidas, aims to produce massive volumes of T-shirts using Sewbots in its Arkansas plant. Tang Xinhong, the chairman of Tianyuan Garments, stated that the automated system can produce one T-shirt every 22 seconds, resulting in a production rate of 800,000 T-shirts per day.The use of Sewbots also reduces personnel costs, with estimates suggesting that the labor cost per T-shirt could be as low as 33 cents4. This cost reduction makes it economically viable to manufacture garments in countries with higher labor costs, potentially bringing manufacturing closer to consumers and reducing the carbon footprint associated with long supply chains5.

Advantages and Benefits

The adoption of SoftWear Automation's Sewbots offers several advantages and benefits for apparel manufacturers:

» **Increased Production Speed:** Sewbots can produce garments much faster than human seamstresses, leading to higher production volumes.

» **Reduced Labor Costs:** Automation reduces the need for manual labor, resulting in lower personnel costs.

» **Improved Accuracy:** Sewbots are more accurate than humans, reducing errors and improving product quality.

» **Greater Flexibility:** Sewbots can be programmed to produce a variety of garment styles, allowing for greater flexibility in production.

» **Enhanced Sustainability:** By bringing manufacturing closer to consumers and reducing raw material waste, Sewbots can help reduce carbon emissions and improve sustainability.

» **Reshoring Opportunities:** Automation makes it economically viable to reshore manufacturing to countries with higher labor costs, creating new job opportunities and boosting local economies.

Challenges and Considerations

While SoftWear Automation's Sewbots offer numerous benefits, there are also challenges and considerations associated with their adoption:

» **Initial Investment:** The initial investment in robotic sewing systems can be significant, requiring manufacturers to carefully evaluate the return on investment.

» **Technological Complexity:** Operating and maintaining Sewbots requires specialized technical expertise, which may necessitate additional training or hiring of skilled personnel.

» **Job Displacement:** The automation of sewing tasks may lead to job displacement for some workers, requiring retraining and reskilling initiatives.

» **Scalability:** Scaling up Sewbot production to meet large-scale demand may require significant investments in infrastructure and equipment.

» **Material Handling:** Ensuring consistent and reliable material handling is crucial for maintaining the efficiency and accuracy of Sewbots.

Impact on the Fashion Industry

SoftWear Automation's Sewbots have the potential to revolutionize the fashion industry by transforming how garments are designed, manufactured, and distributed. The ability to automate the sewing process enables manufacturers to respond more quickly to changing consumer demands, reduce waste, and improve sustainability.The adoption of Sewbots could also lead to a more localized and responsive supply chain, with manufacturing facilities located closer to consumers. This would reduce transportation costs and lead times, enabling faster delivery of products to market.

Will automation bring factories back to developed markets?

Najmus Sakib

Introduction

For decades, apparel manufacturing has been offshored to regions with lower labor costs, particularly in Asia. However, rising wages, supply chain disruptions, and advancements in automation have reignited discussions on reshoring—the process of bringing production back to developed markets. Countries like the United States, the United Kingdom, and Germany are now seeing a renewed focus on localized manufacturing, driven by the potential of automation to reduce costs and improve efficiency.

This shift is not without challenges, but with robotics, artificial intelligence (AI), and digitalization, many brands are exploring the feasibility of reestablishing apparel factories closer to home. According to the U.S. Reshoring Initiative, the number of reshored manufacturing jobs in the U.S. reached 350,000 in 2022, marking a 53% increase from 2021. As automation continues to evolve, the question remains: can it truly bring large-scale apparel production back to developed markets?

The Factors Driving Reshoring

Several key factors are making reshoring a more attractive option for apparel brands and manufacturers:

1. Rising Labor Costs in Offshore Markets

While developing countries historically offered low-cost labor, wages have been increasing. In China, for example, the average manufacturing wage has grown by 250% since 2005. Similar trends are observed in Vietnam, Bangladesh, and India, making offshore production less cost-effective.

Photo: *Adidas's Speedfactory, run by robots for sneaker manufacturing*

2. Supply Chain Disruptions and Geopolitical Risks

The COVID-19 pandemic and ongoing geopolitical tensions have exposed vulnerabilities in global supply chains. Shipping delays, material shortages, and increased tariffs have led brands to rethink long-distance production. According to McKinsey's State of Fashion 2023 Report, 67% of fashion executives are planning to increase nearshoring efforts to mitigate risks.

3. Consumer Demand for Speed and Sustainability

With the rise of fast fashion and e-commerce, consumers expect shorter lead times. Localized production can reduce shipping times, enabling just-in-time manufacturing and on-demand production. Additionally, sustainability-conscious consumers prefer domestically produced garments to reduce carbon footprints.

How Automation is Making Local Manufacturing Viable

Automation is at the heart of reshoring efforts, offering solutions to traditionally labor-intensive processes. Here's how technology is bridging the cost gap and improving efficiency:

1. Robotics and AI-Powered Sewing Machines

One of the biggest hurdles to reshoring has been the complexity of sewing garments, which traditionally requires human dexterity. However, innovations such as SoftWear Automation's "Sewbot" can autonomously stitch garments with up to 90% accuracy, drastically reducing labor costs.
Brands like Adidas have experimented with automated production through initiatives like Speedfactory, leveraging robotics to produce shoes in Germany and the U.S.
3D knitting technology, used by brands like Nike and Uniqlo, allows garments to

be produced in one seamless process, reducing fabric waste and manual labor. Shima Seiki's WHOLEGARMENT technology enables fully automated knitting, supporting localized, small-batch production.

3. Smart Factories and AI-Driven Quality Control

AI-powered computer vision is improving quality control by detecting defects in real-time. Industry 4.0 smart factories use IoT (Internet of Things) to integrate automation, ensuring consistent quality and minimizing waste. According to a study by Capgemini, AI-driven automation can cut production errors by 30-50%.

4. On-Demand and Custom Production

Reshoring aligns with the growing trend of made-to-order apparel, reducing inventory waste. Companies like Printful and Teespring leverage automation to produce customized clothing on demand, eliminating the need for large stockpiles and improving responsiveness to market trends.

Challenges of Reshoring with Automation

Despite its potential, reshoring through automation presents several challenges:

1. High Initial Investment Costs

Setting up automated production requires significant capital investment in robotics, AI, and digital infrastructure. While automation reduces long-term labor costs, the upfront expenses can be prohibitive for smaller brands.

2. Skilled Workforce Shortages

While automation reduces reliance on manual labor, it increases the demand for highly skilled workers in robotics, AI programming, and machine maintenance. A report from the National Association of Manufacturers estimates that 2.1 million U.S. manufacturing jobs will go unfilled by 2030 due to skill gaps.

3. Flexibility and Customization Challenges

Mass automation works well for standardized products, but fashion is inherently diverse in design and materials. Adapting robots to handle intricate sewing patterns and soft fabrics remains a challenge.

4. Competitive Offshore Markets Still Exist

Countries like Vietnam, Bangladesh, and India continue to invest in modern manufacturing technologies while maintaining lower labor costs, keeping offshore production an attractive alternative.

The Future of Reshoring in Apparel Production

The long-term viability of reshoring will depend on the balance between automation efficiency and cost competitiveness. Here's what the future may hold:

Photo: *Shima Seiki's WHOLEGARMENT technology enables fully automated knitting, supporting localized, small-batch production.*

1. Hybrid Production Models

Rather than complete reshoring, many brands may adopt a hybrid approach, keeping certain labor-intensive processes offshore while automating high-efficiency operations domestically. For example, Inditex (Zara's parent company) combines nearshoring with local automation to maintain rapid supply chain responsiveness.

2. AI-Powered Fashion Supply Chains

As AI improves predictive analytics, brands will optimize inventory management, reducing waste and improving demand forecasting. This will make localized production even more cost-effective.

3. Government Incentives and Policies

Governments in developed markets are supporting reshoring initiatives through tax incentives, grants, and subsidies. The U.S. CHIPS and Science Act and the European Union's Industrial Strategy are examples of policies aimed at strengthening domestic manufacturing resilience.

Conclusion

Automation is redefining the future of apparel manufacturing, making reshoring a viable alternative for brands seeking efficiency, sustainability, and supply chain resilience. While challenges remain, the adoption of AI-driven production, robotics, and digitalization is narrowing the cost gap between offshore and local manufacturing. The shift won't happen overnight, but as automation technology advances and labor costs continue to rise in traditional manufacturing hubs, reshoring could become an increasingly attractive solution. Brands that strategically invest in smart manufacturing today may well lead the fashion industry of tomorrow.

Recovo, IVN Industria, & Salsa Jeans partner to repurpose surplus denim fabrics

In a significant move towards sustainability, Recovo, IVN Industria, and Salsa Jeans have joined forces to repurpose surplus denim fabrics and reduce textile waste in the fashion industry. This collaboration is driven by the industry's growing focus on sustainable practices and aligns with the United Nations' Sustainable Development Goals for 2030.

Recovo, an innovative platform that facilitates the redistribution of surplus materials, will oversee the repurposing of leftover textiles from IVN Industria, a Portuguese company specializing in laundry, dyeing, and special finishes. By optimising the use of excess denim fabrics, the partnership aims to prevent these materials from ending up in landfills and contribute to the development of a circular denim economy.

Through its platform, Recovo helps brands buy and sell leftover materials from previous collections, fostering inventory efficiency and enhancing circularity within the textile industry. The platform also offers waste management solutions that enable the reuse, resale, and recycling of surplus textiles throughout their lifecycle, reducing environmental impact while helping companies cut costs.

Mónica Rodríguez, CEO and co-founder of Recovo, highlighted the importance of the partnership in driving the fashion industry toward more sustainable practices. "With Recovo, companies like IVN Industria can easily sell their surplus fabrics, pushing the sector to transition toward better sustainability standards and meeting the vital goals set for 2030," Rodríguez said.

IVN Industria, which works with over 100 global brands, brings its expertise in advanced dyeing and finishing techniques to the partnership. João Martins, Executive Director of IVN Industria, emphasized the role of the collaboration in addressing textile waste: "We aim to repurpose unused fabrics and create innovative denim solutions, proving that environmental stewardship and high-quality manufacturing can go hand in hand."

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Circ & Fashion for Good launch 'Fiber Club' to boost recycled material adoption

Md Muddassir Rashid

Circ, a textile recycling technology company, has launched the Fiber Club, an initiative designed to support the integration of recycled materials into fashion supply chains. Developed in partnership with Fashion for Good, a platform dedicated to sustainable innovation, and Canopy, an organization focused on forest preservation, the Fiber Club aims to foster collaboration among key industry players to enhance circularity in textiles.

The Fiber Club's first offering is Circ's lyocell staple fibre, created from polycotton textile waste. With future plans to expand the range of sustainable fibres, the initiative includes leading fashion brands such as Bestseller, Eileen Fisher, Everlane, and Zalando. Supply chain partners, including Arvind, Birla Cellulose, and Foshan Chicley, are also participating to support fibre production and material development.

> *"Fiber Club represents an important step forward in textile recycling and circularity. By fostering collaboration with brands and streamlining supply chain processes, we are making it easier than ever to integrate recycled and Next Gen materials—starting with our Circ Lyocell."*
>
> **Peter Majeranowski**
> Circ CEO

Overcoming Supply Chain Challenges

Integrating new recycled fibres into existing supply chains often involves meeting high minimum order requirements and making significant financial investments. These factors have historically posed challenges to the widespread adoption of Next Gen materials. The Fiber Club seeks to ease these obstacles through a structured, four-stage approach: sample testing, trial production, brand commitments, and large-scale sourcing. By consolidating brand orders, the initiative reduces minimum order quantities and associated costs, making supplier engagement more accessible.

Industry Leaders Show Support

Several key industry figures have expressed their support for the Fiber Club. Alexander Granberg, Recycling & Innovation Material Manager at Bestseller, highlighted the importance of ensuring consistent access to sustainable resources, stating, "For Bestseller to reach our material goals, it is essential to embrace cross-industry collaboration that drives meaningful progress."
Everlane's Sustainability Director, Katina Boutis, echoed these thoughts, stating, "At Everlane, we are committed to fostering a cleaner fashion industry. We are excited to be part of Fiber Club, working together to advance circularity in fashion."

> *"The Fiber Club accelerates the adoption of innovative materials like Circ's staple lyocell. This initiative simplifies supply chain integration, making it easier for brands like ours to embrace sustainable solutions."*
>
> **Inka Apter**
> Director of Material Sustainability & Integrity at Eileen Fisher

With Birla Cellulose producing Circ's lyocell staple fibre and Arvind and Foshan Chicley developing textile fabrications, the initiative is well-positioned to support the wider adoption of recycled materials. By facilitating large-scale sourcing and integration, the Fiber Club is helping to create a more sustainable and circular future for the textile industry.

Avantium & University of Amsterdam jointly introduces new polycotton textile waste recycling tech

Photo: *Light transmission photo*

Avantium N.V., a global leader in renewable and circular polymer materials, has developed an innovative approach to recycling polycotton waste, offering a practical solution to the challenge of managing mixed textile materials. In collaboration with the Industrial Sustainable Chemistry group at the University of Amsterdam, the company has created a patented technology that efficiently separates polyester and cotton components for recycling.

A New Approach to Textile Recycling

Polycotton, a blend of polyester and cotton fibers, is widely used in the textile industry, but its mixed composition makes recycling difficult. Most polycotton waste currently ends up in landfills or incinerators. Avantium's latest development addresses this issue by utilizing hydrochloric acid (HCl) to break down the cotton component into glucose while preserving the polyester for reuse. This method allows for a more efficient fiber-to-fiber recycling process and contributes to a more circular textile economy.

Dawn Technology: A Scalable and Sustainable Solution

Avantium has been committed to sustainable chemical innovation, with its proprietary Dawn Technology™ playing a key role in this new textile recycling process. Previously tested in its pilot

plant in Delfzijl, the Netherlands, Dawn Technology has demonstrated its ability to convert non-food plant-based materials into valuable industrial glucose and lignin.

Applying this technology to polycotton waste, Avantium's researchers successfully hydrolyzed the cotton cellulose using highly concentrated HCl, yielding high-purity glucose while leaving the polyester intact. This enables the complete recycling of polyester fibers, which can be used to create new textiles, reducing reliance on virgin polyester production. Meanwhile, the extracted glucose can be further utilized in producing Avantium's lead product, 2,5-furandicarboxylic acid (FDCA), a key component for bio-based plastics such as polyethylene furanoate (PEF).

Implications for the Textile Industry and Circular Economy

The ability to recycle both cotton and polyester at high yields offers an alternative to current waste disposal methods and aligns with upcoming regulations requiring textile producers to take responsibility for their waste management.
Avantium's approach also presents opportunities for collaboration with textile manufacturers, brands, and policymakers to implement large-scale recycling programs.

Collaboration and Future Prospects

The success of this research was made possible through a partnership between Avantium and the University of Amsterdam's Industrial Sustainable Chemistry research group, with PhD student Nienke Leenders playing a key role in advancing the study. Avantium provided laboratory space and resources for the research, reinforcing its commitment to fostering innovation in sustainable chemistry.

Photo: *Post consumer polycotton after hydrolysis*

Photo: *Prof Sujit Sen with the innovative wastewater treatment system*

NIT-R team develops an efficient process to treat industrial wastewater

Researchers from the National Institute of Technology (NIT), Rourkela, have developed a process to efficiently treat industrial wastewater containing persistent dyes, such as Bismarck Brown R. This method, which has received a patent, offers a practical approach to improving wastewater treatment in industries like textiles and dye manufacturing.

The research was carried out by Sujit Sen, a professor in the Department of Chemical Engineering at NIT Rourkela, in collaboration with research graduate Madhumita Manna and Binay Kanti Dutta, a former professor at IIT Kharagpur. The project was supported by the Department of Science and Technology (DST) under the Ministry of Science and Technology and was published in the Journal of Environmental Chemical Engineering.

Addressing the Challenge of Industrial Wastewater

Industries such as textiles, dye manufacturing, and chemicals generate wastewater containing dyes that are difficult to remove using conventional filtration techniques. Dyes like Bismarck Brown R are particularly challenging because they are small enough to pass through standard microfiltration membranes. Existing treatment methods, including ultraviolet light-based techniques, often struggle with large-scale applications. They may not always be effective in completely

Photo: *NIT-R develops innovative tech to treat industrial wastewater*

removing dyes, making it necessary to explore alternative solutions.

A New Approach to Wastewater Treatment

To address these issues, the research team designed a hybrid treatment system that combines two techniques: a ceramic membrane coated with an industrial-waste-derived zeolite and zinc oxide nanocomposite, and a microbubble-assisted process to improve dye removal.

The ceramic membrane is coated with a special photocatalytic material that breaks down dye molecules when exposed to light. The addition of zeolite, a material derived from industrial waste, enhances this process while also promoting a more sustainable use of resources.

The second part of the system involves the use of microbubbles, which are generated through a simple air diffuser. These tiny bubbles help improve the breakdown process by increasing contact between the contaminants and the photocatalyst. This combination of techniques allows the system to effectively treat dye-laden wastewater in a way that is both efficient and practical for industrial applications.

Performance and Potential Applications

The research team tested the system using wastewater samples from different industries. The results showed that the process could achieve 95.4% decolourisation of Bismarck Brown R and a 94% reduction in Chemical Oxygen Demand (COD) within 90 minutes. These findings indicate that the method has the potential to significantly improve the treatment of wastewater containing persistent dyes.

The system has been designed to be easy to transport and assemble, making it suitable for industries looking to enhance their existing wastewater treatment processes.

Dutch launches bold policy programme for circular textile 2025-2030

O. Henry

Photo: *Avantium Introduces New Technology for Polycotton Textile Waste Recycling*

The Dutch government has announced its groundbreaking Policy Programme for Circular Textile 2025-2030—a strategic initiative designed to transform the nation's textile sector by championing sustainable production and consumption practices.

A Vision for a Sustainable Textile Future

At its core, the Policy Programme for Circular Textile 2025-2030 lays out a comprehensive roadmap for transitioning from the traditional linear "take-make-waste" model to a circular system that emphasizes reuse, recycling, and responsible resource management. By focusing on extending the lifespan of textile products, reducing waste, and promoting eco-friendly design, the government aims to minimize the environmental footprint of one of the country's most resource-intensive industries.

Key features of the programme include ambitious targets for reducing textile waste, incentivizing the development of high-quality recycling technologies,

and fostering closer collaboration between manufacturers, designers, and consumers. The policy sets forth measurable goals to ensure that by 2030, a substantial percentage of all textiles produced in the Netherlands will adhere to circular economy principles.

Policy Measures and Industry Collaboration

According to insights gleaned from the newly released PDF policy document, the programme outlines several critical measures:

Enhanced Recycling and Reuse Initiatives: The government plans to implement stringent recycling targets that will require textile producers to achieve a minimum recycling rate.

Mandatory Take-Back Schemes: To ensure that textiles do not end up in landfills, the policy proposes mandatory take-back schemes for major textile producers.

Innovation Grants and Research Funding: Recognizing the need for technological innovation, the programme allocates substantial funding for research and development in circular textile technologies.

Public Procurement Reforms: The policy also targets public procurement practices, mandating that government agencies prioritize circular textile products when making purchases.

Collaboration Across the Supply Chain: An essential element of the programme is the emphasis on multi-stakeholder collaboration. The government plans to establish partnerships with industry associations, consumer organizations, and academic institutions to create a cohesive network that can drive innovation and share best practices across the sector.

Industry Response and Future Outlook

> "This policy is a game-changer. It not only challenges us to rethink our production methods but also provides the tools and incentives we need to innovate and lead the market in sustainable practices."
>
> **Marieke van Dijk**
> CEO of EcoThreads

Industry leaders have welcomed the new programme as a timely and necessary intervention in an era where sustainability is becoming increasingly important to both consumers and investors.

The Policy Programme for Circular Textile 2025-2030 is expected to have far-reaching implications for the textile industry. By establishing clear guidelines and performance benchmarks, the programme creates a level playing field where innovation is rewarded and environmentally detrimental practices are phased out.

Shein & Donghua Uni. develops new advanced polyester recycling process

Shein, the global e-commerce fashion giant, has announced a significant breakthrough in sustainable textile innovation by developing a new polyester recycling process. The initiative, achieved in collaboration with Donghua University, underscores Shein's commitment to advancing sustainability in the fashion industry under its "evoluShein" framework.

This innovative process broadens the scope of recyclable materials, enabling the recycling of pre- and post-consumer polyester waste, textile scraps, and polyethylene terephthalate (PET) bottles. Unlike existing methods, Shein's recycling process is said to be more cost-effective and versatile. A key advantage of the technology lies in its ability to chemically break down and reconstitute materials at the polymer level, allowing the recycled polyester to be reused repeatedly without compromising fabric quality.

According to Leonard Lin, Shein's president of EMEA and global head of public affairs, the new process is a critical step toward reducing dependence on virgin polyester and addressing the environmental challenges posed by the global textile industry.

"Our goal is to leverage innovation and technology to help solve industry-wide challenges," said Lin in a press release. "This advancement allows us to incorporate a broader variety of feedstock, achieve better cost efficiencies, and recycle polyester multiple times without sacrificing quality." in its branded products to recycled materials by 2030.

Texas A&M partners with four companies for nuclear energy innovation

Texas A&M University System has taken a monumental step toward revolutionizing nuclear energy by selecting four pioneering companies to develop advanced small modular reactor (SMR) technologies at its esteemed Rellis Campus in Bryan. The chosen firms—Kairos Power, Natura Resources, Aalo Atomics, and Terrestrial Energy—will play a key role in shaping the future of energy in Texas and beyond.

As part of this bold endeavor, Texas A&M has applied for an early site permit from the Nuclear Regulatory Commission. If approved, the university will become the first higher education institution in the nation with a commercial nuclear reactor site license. To support the project's ambitious goals, Texas A&M is requesting $200 million from the Texas General Fund for essential infrastructure improvements at Rellis Campus.

Each participating company brings a distinct vision to the table. Natura Resources aims to launch its first commercial reactor by 2030 with an estimated capacity of 100 megawatts, while Aalo Atomics, under CEO Matt Loszak, is focused on delivering nuclear

Photo: *Texas A&M University*

power solutions tailored for data centers. Terrestrial Energy is planning a commercial demonstration plant capable of generating 400 megawatts of electricity, significantly contributing to Texas's energy needs.

Governor Greg Abbott has been vocal about his commitment to positioning Texas as "the global leader in advanced nuclear power." To this end, legislative discussions are underway regarding taxpayer-backed subsidies for nuclear energy expansion. Kairos Power, the largest of the four firms, is poised to make significant strides in commercialization, having already developed a test reactor in Tennessee and secured a partnership with Google.

Texas A&M Vice Chancellor for Research Joe Elabd envisions Rellis Campus as a hub for artificial intelligence and energy research, further attracting investment and innovation.

SHyNE project explores nuclear hydrogen for UK's clean energy future

A. Bennett

Photo: *Equilibrion*

Equilibrion, a leading technical and strategic nuclear consultancy, has been selected by Northern Gas Networks (NGN) and Wales & West Utilities (WWU), with support from the Energy Innovation Centre (EIC), to lead a study on nuclear-enabled hydrogen. This initiative will explore how hydrogen production using nuclear energy could contribute to the UK's transition to a low-carbon future.

Hydrogen is becoming an essential component of clean energy solutions, and nuclear-powered hydrogen presents a promising, stable, and cost-effective alternative to natural gas. Recognized under the UK's Low-Carbon Hydrogen Standard, this approach utilizes nuclear reactors' heat and electricity to generate hydrogen, offering both economic and environmental benefits.

The SHyNE project will focus on creating a roadmap for deploying nuclear-enabled hydrogen in line with user demand. The study will assess potential nuclear sites, existing infrastructure, and hydrogen demand across different regions. A detailed economic evaluation will also be

conducted to determine the feasibility and benefits of this approach. Recent advancements in nuclear technology, including Small Modular Reactors (SMRs) and Advanced Modular Reactors (AMRs), provide new opportunities for efficient and scalable hydrogen production. SHyNE will explore how these innovations, along with flexible siting and financing strategies, can accelerate nuclear deployment and contribute to the UK's clean energy goals.

A key aspect of the study will be analyzing how nuclear power stations, paired with electrolytic hydrogen production, can help balance electricity supply while supporting a reliable and diversified energy mix. By integrating nuclear energy with hydrogen production, the UK can strengthen its energy security and reduce its reliance on fossil fuels.

Equilibrion's Chief Technologist, Allan Simpson, expressed enthusiasm for the collaboration:

"Nuclear-enabled hydrogen offers a unique opportunity to advance the UK's journey to Net Zero. This project will bring the nuclear and hydrogen industries together in a way that can help unlock the full potential of low-carbon hydrogen."

WWU's Head of Net Zero & Sustainability, Matthew Hindle, emphasized the importance of a diverse hydrogen supply:

"To ensure a steady and reliable hydrogen supply, we need to explore different production methods. SHyNE will help us understand how nuclear-enabled hydrogen can integrate with our existing gas network to support the energy transition."

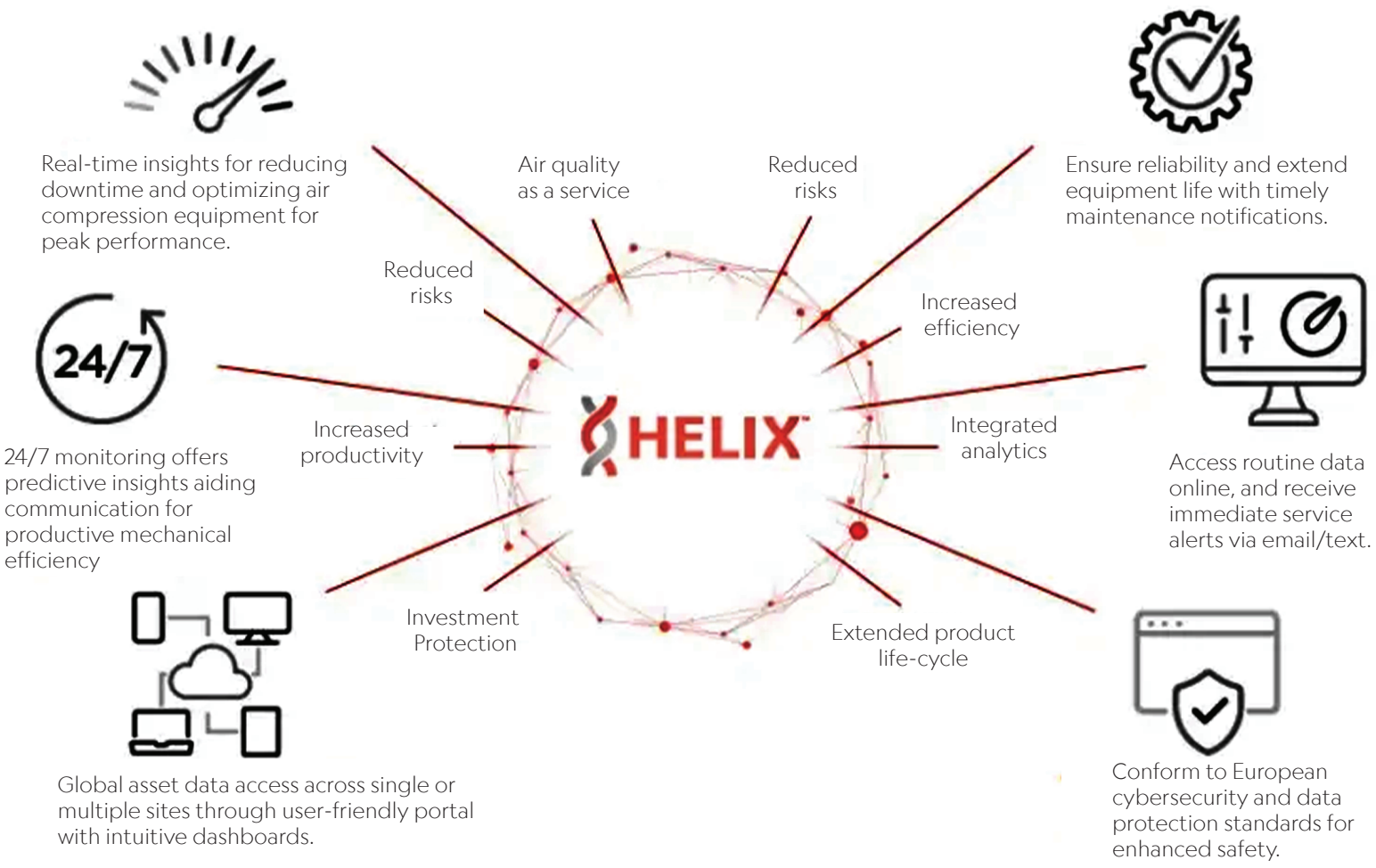
NGN Innovation Manager, Lewis Kirkwood, highlighted the role of hydrogen in decarbonization:

"Hydrogen will play a key role in reducing carbon emissions across various industries. Projects like SHyNE allow us to explore innovative solutions and ensure our infrastructure is ready for the future."

The SHyNE project supports the UK government's plans to expand nuclear energy production, with new siting policies expected in 2025. By leveraging nuclear energy for hydrogen production, this initiative aims to foster economic growth, create jobs, and contribute to a cleaner, more sustainable future.

Ingersoll Rand's Helix™ makes a smart leap in compressed air management

Sayed Abdullah



Introduction

Ingersoll Rand has long been a key player in the compressed air industry, and with the advent of Industry 4.0 and the Industrial Internet of Things (IIoT), the company has introduced a transformative innovation: the Helix™ Connected Platform.

Key Features & Benefits

Maximizing Uptime with Real-time Monitoring

One of the standout features of the Helix™ platform is its ability to maximize uptime by providing continuous performance monitoring. Advanced sensors within the compressor collect real-time operational data, which is then transmitted to a cloud-based system. This information is accessible via an online portal, allowing both users and service providers to detect potential issues before they result in costly downtime.

Cost Savings through Predictive Maintenance

Traditional maintenance models rely on fixed schedules, often leading to unnecessary service costs or unexpected breakdowns. Helix™

shifts the paradigm by implementing a condition-based maintenance approach. By analyzing system data, it determines exactly when service is required, preventing unnecessary part replacements and reducing operational expenses.

Energy Efficiency & Sustainability

With growing concerns about energy consumption and sustainability, Helix™ makes a significant impact by optimizing air pressure based on actual demand.

Ensuring Air Quality and Performance

In industries where air quality is critical, such as pharmaceuticals and food processing, maintaining consistent air pressure is essential. Helix™ provides real-time insights into pressure fluctuations, ensuring that air delivery meets production standards

Seamless User Experience & Remote Access

The Helix™ Connected Platform enhances user experience by offering a comprehensive dashboard accessible from any device. Whether on a computer, tablet, or smartphone, users receive alerts and performance updates, enabling them to manage their compressed air system from anywhere. This level of connectivity brings convenience and control, making it easier for businesses to maintain efficiency.

Real-World Impact in the Ready-Made Garment (RMG) Industry

The RMG industry heavily relies on compressed air for various operations, including sewing, cutting, printing, and pneumatic tools. A disruption in air supply can lead to massive downtime and production delays.

Real-time alerts helped the factory reduce downtime by 40%, leading to higher production efficiency and on-time order fulfillment. The ability to monitor and manage air compression remotely has also helped reduce maintenance costs, as unnecessary service trips were eliminated.

For an industry that operates on tight margins and strict delivery schedules, Helix™ provides the competitive edge needed to meet production targets while reducing overhead costs.

Final Verdict

The Helix™ Connected Platform by Ingersoll Rand is more than just a monitoring tool; it is a game-changer for compressed air management. By integrating IIoT, predictive maintenance, and real-time analytics, it enhances efficiency, reduces operational costs, and supports sustainability goals. For businesses looking to optimize their compressed air systems, Helix™ is a compelling investment that delivers measurable value.

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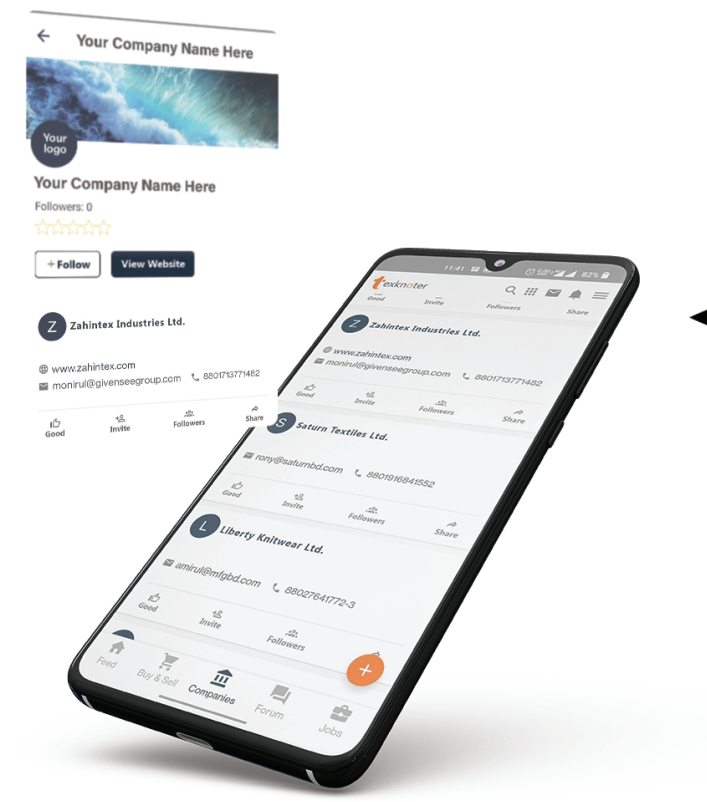

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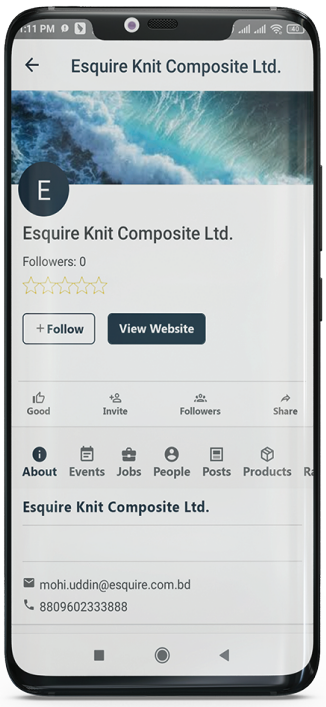

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