EU mandates separate textile waste collection by 2025

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✉ monir@textiletoday.com.bd

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Editor in Chief
Tareq Amin

Managing Editors

Eousup Abu Abdullah
SK Saha
Rahbar Hossain
M A Mohiemen Tanim

Executive Editors
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Design
Easen Miah
Hasan Miah

Cinematographer
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EU mandates separate textile waste collection by 2025

■ **Jack Thompson**

The European Union has mandated that all member states establish separate textile waste collection systems by January 1, 2025. This directive, a component of the EU Waste Framework Directive, marks a major regulatory milestone aimed at reducing the environmental burden of textile consumption.

Currently, over 5 million tonnes of textiles are discarded annually in the EU, with only a small fraction being recycled. Much of the waste ends up in landfills or is incinerated, leading to significant greenhouse gas emissions and resource loss. The new directive seeks to change that by enabling better sorting, reuse, and recycling of post-consumer textiles.

Member states are now in a rush to establish national-level infrastructures, including drop-off centers, extended producer responsibility (EPR) schemes, and sorting facilities. The legislation also encourages partnerships between local governments, recyclers, and brands to create circular systems. To support this transition, the EU is funding R&D initiatives focused on textile sorting technologies, fibre-to-fibre recycling innovations, and digital product passport systems. Brands operating in the EU are being asked to label garments more transparently and design with recyclability in mind.

Industry experts applaud the policy shift but caution that implementation gaps— particularly in newer EU states—may slow down the intended impact. Still, the move is seen as a clear signal to the global fashion industry that regulatory pressure for circularity is intensifying.

US textile sector urges closure of De Minimis for all countries

■ **Luke Wilson**

The United States textile industry is ramping up its calls for the closure of the de minimis loophole for all countries, not just China and Hong Kong. In a strongly worded joint statement, the National Council of Textile Organizations (NCTO) and the American Apparel and Footwear Association (AAFA) emphasized the urgent need for broad policy reform, warning that the current loophole undermines domestic manufacturing and enables unfair trade practices.

The de minimis provision in U.S. customs law allows imports valued under $800 to enter the country without paying duties or undergoing rigorous inspection. While originally intended to streamline customs for consumers and small businesses, industry leaders argue that international sellers and major e-commerce platforms have exploited the rule to flood the U.S. market with cheap, under-declared goods, often without regard for safety standards or origin transparency.

"This is not just a China problem—it's a global issue," said Kim Glas, President

and CEO of NCTO. "Every country that leverages de minimis to ship low-value, unregulated products into our market is harming American workers and manufacturers. We need uniform enforcement that treats all countries equally and protects the integrity of U.S. trade laws."

Recent moves by the U.S. government to exclude China and Hong Kong from de minimis privileges were applauded by domestic manufacturers. However, the exclusion stops short of addressing goods from other major exporters, such as Vietnam, Bangladesh, and Mexico, that continue to benefit from this loophole

Textile and apparel manufacturers argue that the loophole contributes to a two-tier trade system, putting U.S.-based firms at a disadvantage while eroding tax revenue and consumer protections. Some companies also report increased difficulties competing on price and speed with overseas sellers who avoid standard customs compliance and tariffs.

Retailers and consumer advocates remain divided. While some e-commerce companies argue that de minimis benefits small businesses and consumers through faster delivery and lower costs, others acknowledge the growing misuse of the rule and its potential to undermine long-term competitiveness.

The industry is urging Congress to pass bipartisan legislation that would lower the de minimis threshold or impose additional verification requirements. Proposals on the table include country-specific restrictions, import volume caps, and mandatory origin declarations for all parcels entering under the $800 exemption.

In a joint letter to lawmakers, over 300 U.S. manufacturers and supply chain companies expressed concern that failure to act could jeopardize thousands of American jobs and compromise product safety. They highlighted examples of substandard textiles and counterfeit goods slipping through customs under the current regime.

The Biden administration has signaled openness to revisiting de minimis policies. U.S. Trade Representative Katherine Tai noted in recent remarks that supply chain fairness and enforcement of trade rules are top priorities for the administration. However, concrete action on comprehensive de minimis reform has yet to materialize.

As global trade flows become more digitized and decentralized, the textile industry's call for de minimis reform represents a broader reckoning over how trade policy must evolve to reflect digital commerce realities, national competitiveness, and consumer responsibility.

India challenges indonesia's cotton yarn safeguards at WTO

■ Luke Wilson

India has formally requested consultations with Indonesia under World Trade Organization (WTO) protocols concerning the extension of Indonesia's safeguard measures on cotton yarn imports. This move underscores India's commitment to addressing trade barriers that impact its textile exports.

Background on the Dispute

Indonesia initially imposed safeguard duties on cotton yarn imports to protect its domestic industry from a surge in imports that threatened to cause serious injury. These measures, which include additional tariffs, have been extended beyond their original duration, prompting concerns from exporting countries like India.

India, a major exporter of cotton yarn, contends that the prolonged application of these safeguards

adversely affects its textile industry, which relies heavily on export markets. The Indian government argues that the extension lacks sufficient justification and may not comply with WTO rules governing safeguard measures.

WTO Consultation Process

By seeking consultations, India aims to engage in a dialogue with Indonesia to resolve the issue amicably. This step is a prerequisite under WTO dispute settlement procedures before a formal panel can be established. The consultations provide an opportunity for both parties to present their views and seek a mutually agreeable solution.

Should the consultations fail to resolve the dispute within 60 days, India may request the establishment of a WTO panel to adjudicate the matter. Such a panel would examine the legality of Indonesia's safeguard measures under WTO law.

Implications for the Textile Industry

The outcome of this dispute holds significant implications for India's textile sector, particularly cotton yarn producers. Indonesia is a key market for Indian cotton yarn, and the continuation of safeguard duties hampers the competitiveness of Indian exports.

A resolution favorable to India could lead to the removal or reduction of these duties, thereby enhancing market access for Indian exporters. Conversely, if the dispute escalates without resolution, it may strain trade relations and impact the broader textile trade between the two nations.

Broader Trade Context

This development occurs amid a global environment where countries are increasingly scrutinizing trade measures that affect their domestic industries. India's proactive approach in addressing such issues through the WTO reflects its commitment to upholding fair trade practices and protecting the interests of its exporters.

The case also highlights the importance of adherence to international trade rules and the role of multilateral institutions like the WTO in resolving trade disputes.

Next Steps

Both India and Indonesia are expected to engage in consultations in the coming weeks. Stakeholders in the textile industry will closely monitor these discussions, given their potential impact on trade dynamics and market access.
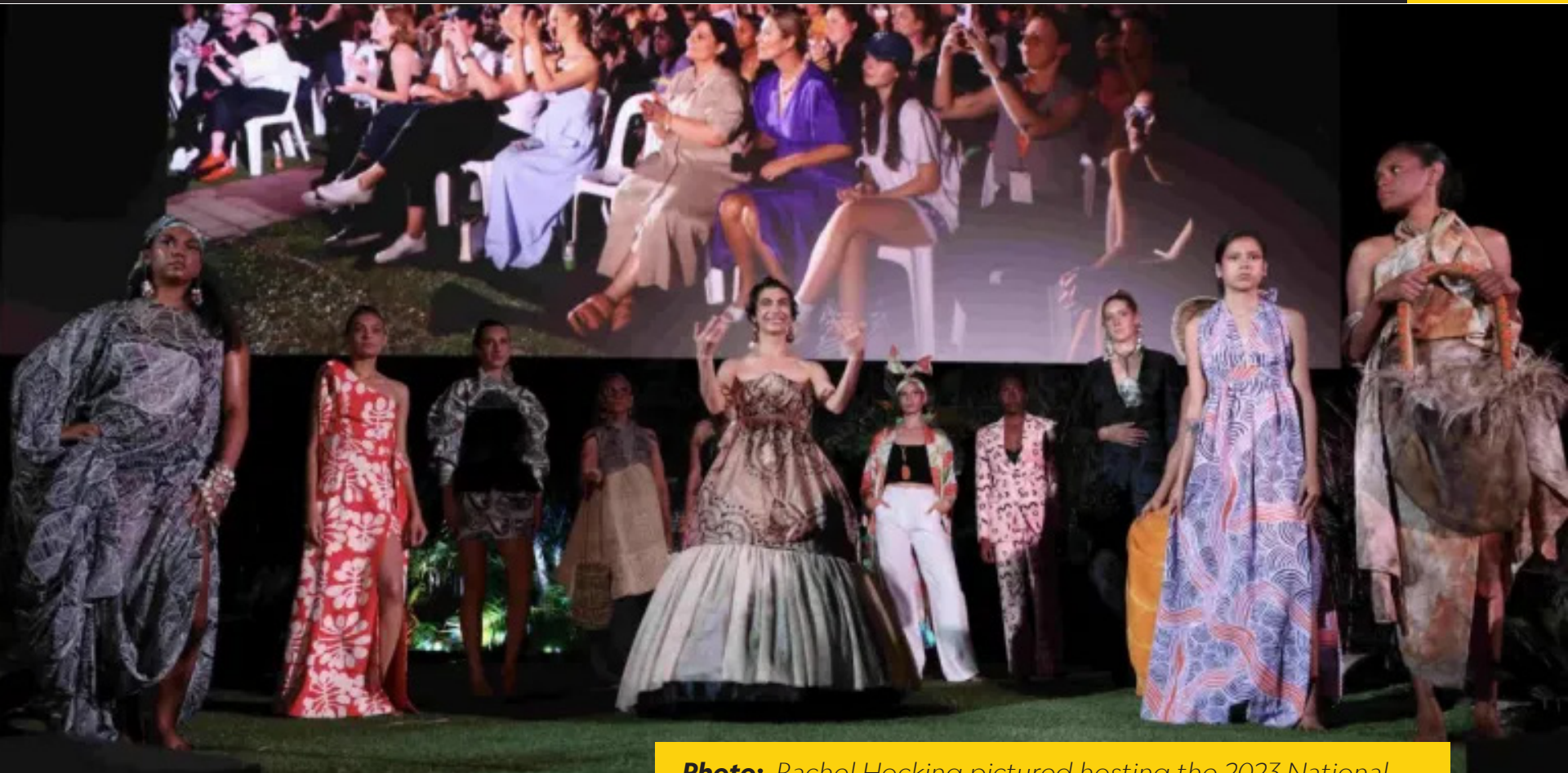
Photo: *Rachel Hocking pictured hosting the 2023 National Indigenous Fashion Awards. (Image: Marley Morgan)*

Shortlisted NIFA 2025 nominees announced, celebrating indigenous creativity

■ **Jack Thompson**

The National Indigenous Fashion Awards (NIFA) 2025 (Darwin, Australia) has officially announced its shortlisted nominees, highlighting the exceptional creativity, cultural knowledge, and innovation of First Nations designers and artists. Presented by Indigenous Fashion Projects (IFP), and supported by the Northern Territory Government and leading industry sponsors, NIFA continues its mission to celebrate Aboriginal and Torres Strait Islander contributions to fashion and textile artistry.

A Showcase of Indigenous Talent

Now in its sixth year, NIFA has evolved into a prominent platform celebrating Indigenous voices in fashion. The 2025 edition spans seven award categories, each showcasing the richness of design, storytelling, and cultural heritage. The event not only honours individual and collective achievements but also fosters economic opportunities and wider

Threads), Samala Cronin (MumRed), Natisha Tabua (Off The Plantation), Melissa Greenwood (Miimi & Jiinda).

Cecilia Cubillo Young Achiever Award (Supported by Franchesca Cubillo)

Recognising emerging talent aged 15–25 in fashion, textiles, modelling, styling, and wearable art, with a $3,000 prize.

Nominees: Cindy Rostron, Jake Powers, Tiesha Munnich, Elliot Mango Aplin.

Textile Design Award (Supported by RMIT University)

Highlighting innovation in textile techniques, including printed, woven, dyed, or digital work, with a tailored professional development opportunity from RMIT's School of Fashion and Textiles.

Nominees: Rhonda Sharpe (Yarrenyty

recognition for Indigenous creators.

The NIFA 2025 winners will be announced on Wednesday, 6 August, at a ceremony held at the Deckchair Cinema on Larrakia Country in Darwin, coinciding with the Darwin Aboriginal Art Fair (DAAF).

2025 NIFA Nominees

Fashion Designer Award (Supported by Country Road)

Celebrating designers who combine originality, cultural storytelling, and commercial viability. The winner receives either a $5,000 cash prize or a 12-month mentorship with Country Road.

Nominees: Clair Helen Parker (Clair Helen), Tahnee Edwards (Gammin

Winners receive a $10,000 cash prize shared between collaborators.

Nominees: Gapuwiyak Culture and Arts x Helen Kaminski, Djilpin Arts artists x Kate Sale and Fiona Gavino, David Leslie (GALI Swimwear) x Jake Simon, IYDA and Michal Nicolas (TEAMM8), Wendy Hubert (Juluwarlu) x Emily Wright (Nancybird), Jilamara Arts and Crafts Association, Gina Bundle.

Arltere Artists), Larissa Brumby (Ikuntji Artists), Karen Shuan (Yalanji Arts), Greg Salt (Yalanji Arts), Laurence Gibson (Yalanji Arts), Joyce Dixon (Ikuntji Artists).

Community Collaboration Award (Supported by Canberra Centre)

Honouring collaborations between Indigenous communities and designers, prioritising shared agency, cultural integrity, and economic benefit.

Traditional Adornment Award (Supported by Helen Kaminski)

Recognising an item of cultural regalia—such as head-dresses or ceremonial attire—highlighting cultural preservation. The winner receives a $3,000 prize.

Nominees: Cassie Leatham (Yanggurdi), Yarran Bundle, Ngaire Pakai, Rena Ngalinggama, Jenny Fraser.

Wearable Art Award (Supported by Eastland)

Honouring a single, expressive piece that combines art and fashion with cultural storytelling. The winner receives a $5,000 prize.

Nominees: Julieanne Gitjpulu Malibirr (Gapuwiyak Culture & Arts), Andrew Wanamilil (Bula'bula Arts), Cathy Ward (Waringarri Arts), Cassie Leatham (Yanggurdi), Cleonie Quayle (CQ Aboriginal Jewellery), Ellen Trevorrow.

A Celebration of Culture and Innovation

Cassandra Dimitroff, reporting for NIFA, commended the diversity and quality of submissions, reflecting the vibrant and evolving Indigenous fashion landscape. With its continued support from institutions such as Country Road, RMIT, and Eastland, NIFA remains a beacon of recognition and opportunity for Indigenous creators.

As the awards ceremony approaches, anticipation builds to see who will be recognised for their remarkable contributions to fashion and culture. The event will not only celebrate artistic achievement but also affirm the significance of cultural storytelling and innovation within the Australian fashion industry.

Italy's fashion industry signs accord to combat labour exploitation

■ **Daniel Brown**

In a concerted effort to address labour exploitation within its esteemed fashion sector, Italy's leading fashion houses, legal authorities, and trade unions have collaboratively launched a new voluntary initiative aimed at enhancing transparency and accountability across the supply chain. This landmark agreement is anticipated to set a precedent for ethical practices within the global fashion industry.

Background

Italy, renowned for producing approximately half of the world's luxury fashion items, has faced increasing scrutiny over labour practices. Investigations have revealed instances of underpayment and the employment of undocumented workers in the production of goods for prominent brands, including Dior, Armani, and Valentino. Notably, a Valentino unit was placed under judicial administration for a year following revelations of labour violations.

Key Features of the Accord

The newly signed memorandum introduces several measures to promote ethical labour practices:

Voluntary Supplier Database: A digital platform will be established where suppliers can voluntarily record details regarding tax compliance, social security contributions, and adherence to labour laws. This database will be updated biannually to maintain accuracy and relevance.

Brand Participation: While participation in the system is not mandatory, fashion brands are encouraged to promote its adoption throughout their supply chains, urging suppliers to input their data.

Transparency Certification: The regional government of Lombardy plans to issue renewable six-month transparency certificates to firms that comply with the initiative, aiming to incentivize adherence to ethical practices.

Judicial Oversight Reduction: The initiative seeks to reduce the need for court interventions in labour exploitation cases by fostering a culture of voluntary compliance and transparency.

Industry Response

The fashion industry has responded positively to the initiative, recognizing the importance of maintaining ethical labour practices to uphold brand reputations and meet consumer expectations.

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Renaissance Fiber secures investment to scale US hemp refining

■ **Matthew Davis**

Hemp stalk   Raw fiber   Degummed fiber   Carded fiber (yarn spinning ready)

Photo: *Technology of Renaissance Fiber*
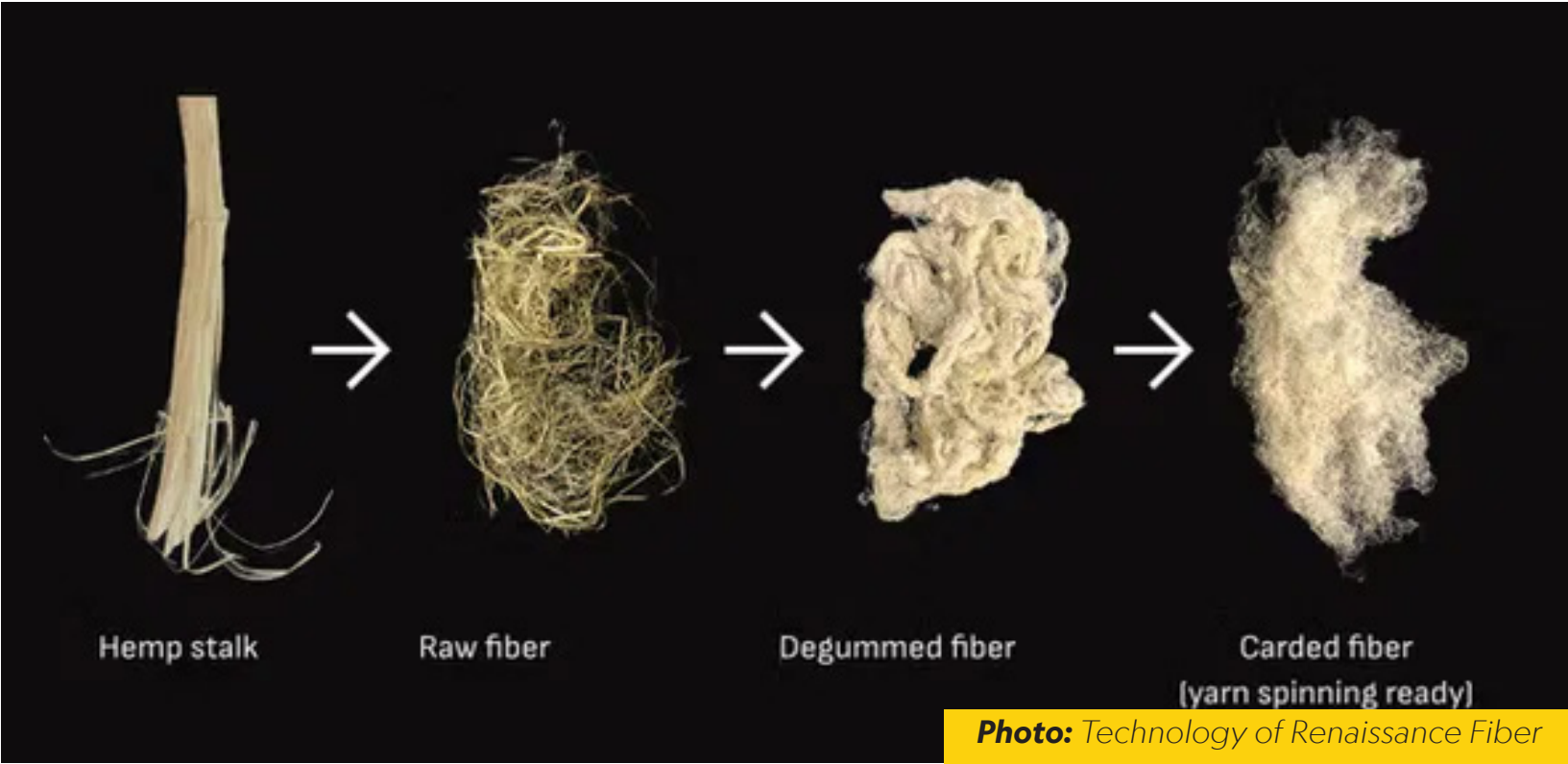
Renaissance Fiber (RF), the USA's first manufacturer of hemp fiber for textiles, announced an investment from Equilibrium Impact Ventures (EQIV). This initial funding will support the development of RF's state-of-the-art fiber refining infrastructure in Mocksville, North Carolina, marking a significant step toward integrating domestically grown hemp into the U.S. and global textile supply chains.

Innovative Processing for Sustainable Textiles

The new Mocksville facility will utilize RF's proprietary, clean processes to refine U.S.-grown hemp fiber. This method prepares the fiber for blending with cotton and other textile fibers, creating a high-quality textile input that enhances performance. The $75,000 investment is crucial for scaling these operations and strengthening a transparent farm-to-fabric supply chain that guarantees traceability from American farms to finished apparel.

Processing hemp into a textile fiber compatible with existing cotton machinery—a process known as "cottonization"—has presented significant challenges. Conventional methods often require chemicals that are hazardous to workers and water supplies, making domestic processing

unfeasible. RF's approach combines clean degumming with precise refining to control fiber length, fineness, and surface quality. This represents a breakthrough for short-staple hemp, unlocking its potential as a versatile fiber for textiles.

Strategic Investment for Sustainable Growth

"This investment from Equilibrium Impact Ventures is crucial for launching the initial phase of our infrastructure buildout in Mocksville," said Daniel Yohannes, CEO and co-founder of Renaissance Fiber. "For the first time, we can scale our process to integrate degummed hemp as a versatile fiber into U.S. and global textile production. By building this advanced refining capacity here in North Carolina, we are not just enabling sustainable, domestic fiber production—we are creating vital new opportunities for American farmers and manufacturers to lead the global shift towards eco-friendly textiles."

EQIV's investment aligns with its mission to support companies that drive environmental sustainability and social impact. "This is an exciting investment for Equilibrium Impact Ventures because not only are we supporting a company that is making the planet more sustainable, but we are able to continue to prove our fund thesis that the gaps in the funding landscape can be closed with the help of foundations and philanthropic dollars," stated Kasem Rodriguez Mohsen, General Partner at EQIV.

Implications for the Textile Industry

The development of RF's refining facility is poised to have significant implications for the textile industry. By providing a domestically sourced, sustainable alternative to traditional fibers, RF's hemp fiber can help reduce reliance on imported materials and decrease the environmental footprint of textile production. Additionally, the integration of hemp fiber into existing manufacturing processes can lead to the development of new, innovative textile products that meet the growing consumer demand for sustainability.

Furthermore, the success of RF's facility could serve as a model for similar initiatives across the country, encouraging investment in sustainable textile manufacturing and supporting the growth of the domestic hemp industry. As the textile industry continues to seek ways to reduce its environmental impact, innovations like RF's hemp fiber refining process represent a promising path forward.

Looking Ahead

With the support of EQIV, Renaissance Fiber is set to begin construction of its Mocksville facility, with plans to commence operations in the near future. The company aims to expand its production capacity and explore additional applications for its refined hemp fiber, including in apparel, home textiles, and industrial products.

Fiber52, PLUVIA, Dystar join AII to decarbonize textile wet processing

■ **Najmus Sakib**

Wet processing is one of the most energy- and water-intensive parts of apparel production, a major driver of chemicals and emissions and notoriously hard to decarbonize.

Apparel Impact Institute (AII) spur collective action in the fashion industry to select, fund and scale projects to reduce environmental impacts. By 2030, AII aspires to enable the reduction of 100 million tonnes of CO_2e from the apparel and footwear supply chain.

Fiber52, PLUVIA, Dystar registered to AII to prove that decarbonizing textile wet processing is not that hard.

FIBRE52™

FIBRE52™ has introduced Wax-On, Bleach & Dye Technology. This technology reduces process demand for energy through a patented wax-on, low temperature bleach and dye system that replaces outdated preparation methods for cotton and other cellulosics. The unique drop-in solution works with existing machinery, using bio-friendly products instead of harsh chemicals, such as caustic soda.

Mills can immediately reduce Scope 1 emissions, and use less temperature and water to achieve superior end fabrics of all shades with increased strength and natural softness.

PLUVIA

The Pluvia Circum Print Machine is designed to reduce energy use by operating at low pressure between the nozzle and J-box, while maintaining a low liquor ratio. It is specially built for washing fabric after dyeing and printing, helping to lower water and chemical consumption. Additionally, all Pluvia machines come with heat recovery systems, which boost overall efficiency and reduce resource usage.

Pluvia ensures maximum production efficiency with its prewashing chambers that provide a long dwell time. It also delivers excellent washing performance in rope form through high mechanical washing effects.

Thanks to its strong mechanical action and flexible overflow system, Pluvia uses less water. On average, water consumption is around 15–25 liters per kg of fabric during print washing.

Due to low water usage and low water capacity in the chambers, Pluvia also helps save steam. The average steam consumption is about 1.0–2.5 kg per kg of fabric in print washing.

DyStar®

DyStar's® Cadira® Polyester process lowers the energy and water demand compared to traditional polyester pretreatment, dyeing, and aftertreatment methods. It also improves the right-first-time dyeing performance. By optimizing the process for speed and reliability, it reduces the need for reworks, shortens lead times, and enhances material quality. Fewer process steps are required, helping to conserve resources.

Photo: *Traditional textile wet processing significantly contributes to carbon emissions and environmental degradation due to its intensive use of water, energy, and chemicals.*

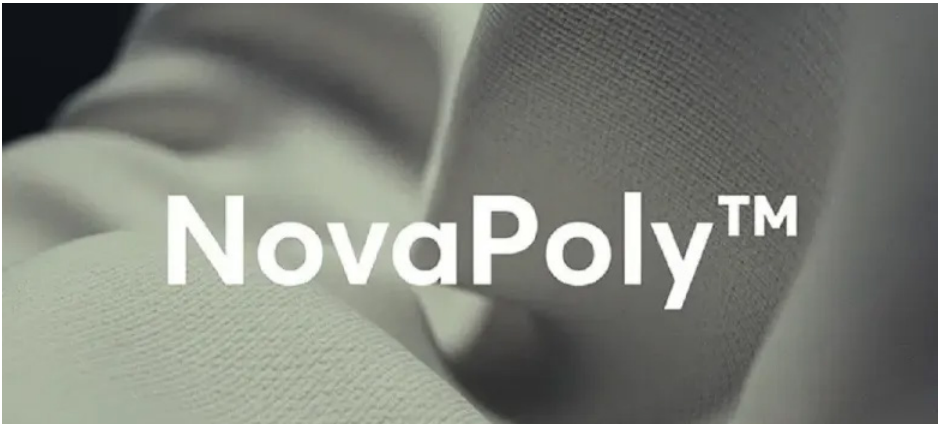# Hugo Boss introduces eco-friendly NovaPoly™ yarn

■ **Luke Wilson**

In a significant stride towards sustainable fashion, Hugo Boss has introduced NovaPoly, an innovative recycled polyester yarn designed to address environmental concerns associated with synthetic textiles. This development aligns with the company's BOSS THE CHANGE initiative, emphasizing its commitment to environmental responsibility and circular fashion.

Innovative Composition and Environmental Impact

NovaPoly is crafted from both pre- and post-consumer textile waste, collected during clothing production and from discarded garments. The yarn is enhanced with a natural additive that mimics the behavior of natural fibers, enabling it to degrade more readily in the environment. This feature aims to mitigate the persistent issue of microplastic pollution associated with traditional synthetic fibers.

The development of NovaPoly was a collaborative effort between Hugo Boss and its suppliers, Jiaren Chemical Recycling and NBC LLC. Holding the trademark and exclusive usage rights for the first year, Hugo Boss plans to license NovaPoly to other industry partners in the future, promoting wider adoption of sustainable materials in fashion.

Integration into Product Lines

The first products featuring NovaPoly will debut in the BOSS Green collection, with a global launch scheduled for October 2025. These products will be available online, in BOSS stores, and through selected wholesale retail partners. The integration of NovaPoly into performance wear pieces is part of the Spring/Summer 2026 collection, reflecting the company's dedication to combining innovation with sustainability.

Strategic Sustainability Goals

NovaPoly supports Hugo Boss's strategic target to combat microplastics, a key pillar of the company's sustainability strategy. This initiative complements previous efforts by Hugo Boss to develop alternatives to polyester and polyamide fibers, such as the partnership with HeiQ AeoniQ.

"Corpcore" emerges as post-remote fashion trend

■ **M A Mohiemen Tanim**

After years of casual work-from-home attire, a polished revival is sweeping fashion capitals—ushering in the rise of "Corpcore." A blend of corporate tailoring with modern comfort, Corpcore is defined by structured blazers, pencil skirts, pleated trousers, and button-downs updated with flexible, sustainable fabrics.

Photo: *Calvin Klein Fall/Winter 2025 / Stella McCartney Fall/Winter 2025 / Jane Wade Fall/Winter 2025 - The Impression*

Luxury brands like Prada, Stella McCartney, and The Row have been quick to interpret the movement. Their Spring/Summer 2025 collections feature tailored silhouettes in relaxed knits, organic wool, and recycled polyblends. Even traditional officewear staples like shoulder pads and power suits are making a return—now reimagined for inclusivity and ease.

Behind this trend is the global return-to-office (RTO) movement. Data from McKinsey suggests that over 70% of hybrid workers are spending at least three days in office as of Q1 2025. With this comes renewed demand for formalwear that doesn't compromise on comfort. Fast fashion brands like Uniqlo, Mango, and COS are also embracing the aesthetic, introducing wrinkle-resistant separates, stretch-fabric suiting, and hybrid loafers. On TikTok, the #corpcore hashtag has surpassed 150 million views, proving its traction among Gen Z professionals.

Beyond aesthetics, Corpcore embodies shifting identity politics—where dressing for success merges with sustainable values and diverse body representation. Industry analysts predict a 15–20% YoY rise in businesswear sales across global retail, with tailored categories leading.

Corpcore isn't a flash-in-the-pan trend—it represents the evolving intersection of professionalism, comfort, and self-expression in the modern workplace.

BW Converting to showcase sustainable finishing innovations at Techtextil

◼ **William Moore**

BW Converting Solutions, a global leader in engineered converting solutions, has announced its participation at the upcoming Techtextil North America trade show, where it will showcase a series of innovations aimed at promoting sustainable finishing processes in the textile industry. The company is set to unveil advanced technologies that promise to enhance production efficiency, reduce environmental impact, and elevate end-product quality for technical textiles and nonwovens.

BW Converting comprises several well-established brands including Paper Converting Machine Company (PCMC), Winkler+Dünnebier, STAX Technologies, Hudson-Sharp, and Northern Engraving. Their joint appearance at Techtextil will emphasize a unified sustainability strategy backed by technical leadership.

"BW Converting is redefining finishing systems by integrating technologies that not only enhance operational efficiency but significantly reduce waste and energy use," said Jeff Griffin, President of BW Converting Solutions. "Our latest line of converting machines and process

optimizations is designed to help customers meet their sustainability goals without sacrificing performance."

Key highlights from BW's booth will include:

Low-Energy Drying Systems: Reducing the carbon footprint by minimizing heat requirements during the drying stage.

Precision Coating and Laminating Equipment: Technologies aimed at reducing material usage while improving adhesion and durability.

Closed-Loop Waste Management Features: Systems engineered to reclaim and recycle solvents and fiber waste in real-time.

Advanced Automation Capabilities: Smart control systems with real-time diagnostics for better energy and resource optimization.

These developments align with a growing global emphasis on sustainability and responsible manufacturing. With climate regulations tightening and consumer expectations rising, textile manufacturers are under pressure to innovate across all stages of production.

In addition to product demonstrations, BW Converting will host live seminars at the event to educate attendees on the business benefits of investing in green technologies. Topics will include lifecycle cost savings, regulatory compliance, and aligning corporate ESG goals with production strategies.

Industry insiders view BW's proactive stance as a positive step in an industry that has historically struggled to balance output with sustainability. "The solutions being introduced by BW Converting have the potential to set a new standard in finishing—where efficiency and environmental responsibility go hand in hand," noted Dr. Lina Anders, a sustainability advisor to several European textile firms.

BW's participation in Techtextil also highlights a broader trend in the industry where machine manufacturers are evolving into solution providers, integrating hardware, software, and environmental stewardship into comprehensive platforms.

With a significant portion of the textile value chain seeking transformation, BW Converting's innovations could influence decision-making among mills, brands, and OEMs looking to future-proof their operations.

The event will be held at the Raleigh Convention Center in North Carolina, where BW Converting will be located at Booth 1505. The company is expected to engage with potential clients, offer hands-on trials, and announce upcoming pilot programs in partnership with key global manufacturers.

As the push for sustainable manufacturing intensifies, BW Converting Solutions' showcase is expected to draw attention from industry leaders, regulators, and sustainability advocates alike.

1686 partners invests in True Classic to scale Direct-to-Consumer model

■ **Harry White**

In a significant move that underscores the growing appeal of digitally native fashion brands, True Classic—known for its tailored yet affordable menswear—has secured a strategic investment from 1686 Partners, a private equity firm with a focus on high-growth consumer brands. This investment is expected to catalyze True Classic's global expansion and deepen its market penetration across both online and offline channels.

Founded in 2019, True Classic gained quick traction in the men's apparel segment by addressing the underserved market of basic yet form-fitting wardrobe staples. With a mission to provide "better basics for men," the brand specializes in t-shirts, polos, jeans, and joggers designed to offer comfort, durability, and style at a competitive price point.

While financial details of the transaction have not been publicly disclosed,

sources familiar with the matter suggest that the investment is structured to fuel omnichannel growth, including brick-and-mortar expansion, global logistics development, and marketing acceleration. Currently operating primarily through e-commerce, True Classic has already launched pilot retail outlets in select U.S. cities and is planning store openings in Canada and Western Europe. "True Classic has redefined what a modern basics brand can be by pairing premium quality with accessibility," said Ryan Bartlett, CEO and Co-Founder of True Classic. "Partnering with 1686 Partners allows us to scale with greater efficiency while maintaining our core values of simplicity, quality, and customer connection."

Bartlett emphasized that the partnership would also support deeper community engagement, with part of the new funding allocated to the brand's social impact initiatives. Since inception, True Classic has donated over $1 million worth of clothing to homeless shelters and underprivileged communities across North America.

1686 Partners, which has a strong track record in consumer-focused investments, sees True Classic as a brand with massive untapped potential. "We believe True Classic is poised to become a category leader," said Kevin Harris, Managing Partner at 1686 Partners. "Their customer loyalty, digital agility, and rapid revenue growth reflect a scalable business model that aligns with shifting consumer behaviors."

Analysts believe that True Classic's unique blend of affordability and fit fills a niche gap in a crowded menswear market increasingly dominated by fast fashion and luxury hybrids. The brand's lean supply chain, direct-to-consumer strategy, and strong emphasis on customer reviews and feedback have made it particularly attractive to younger demographics seeking style with purpose.

The investment comes amid broader consolidation and transformation within the fashion industry, as brands race to adapt to post-pandemic realities. With increased demand for comfort-driven apparel and more conscious consumption patterns, True Classic's model appears well-positioned to navigate the evolving landscape.

Additionally, the company plans to enhance its product innovation capabilities, exploring new fabric technologies and sustainability practices. Discussions are underway to introduce a new eco-friendly product line made from recycled and organic fibers.

With this latest capital infusion and a clear growth strategy in place, True Classic aims to double its revenue over the next 18 months, enter five new international markets, and further solidify its reputation as a brand that blends modern aesthetics with responsible business practices.

China's Tangshan Sanyou launches ReVisco fibre pilot line

■ **Oliver Taylor**

Photo: *Chinese viscose supplier Tangshan Sanyou has opened a new test facility aimed at scaling up production of its ReVisco brand of man-made cellulosic fibres (MMCF).*

Tangshan Sanyou, a global leader in man-made cellulosic fibres (MMCF), has officially launched a pilot line for its cutting-edge ReVisco fibre technology. This state-of-the-art facility is a major leap toward circular textile production, designed to convert post-consumer cotton textile waste into high-quality viscose fibres, redefining the future of sustainable textiles.

The facility, located within Tangshan Sanyou's sprawling industrial complex in Hebei Province, leverages innovative chemical recycling processes to recover cellulose from discarded textiles. By transforming waste materials into new fibres, the company is addressing both environmental concerns and resource efficiency—key pillars in the textile industry's drive toward sustainability. The ReVisco process is a proprietary technology developed by Tangshan Sanyou's R&D team. It involves a multi-stage approach:

Cotton Waste Sourcing: Post-consumer cotton textiles, often destined for landfills, are collected and pre-treated.

Cellulose Recovery: Through chemical processing, high-purity cellulose is extracted while minimizing the use of harsh chemicals and reducing emissions.

Fibre Spinning: The recovered cellulose is spun into viscose fibres with mechanical properties comparable to virgin fibres, ensuring no compromise on

quality.

Quality Assurance: Rigorous testing guarantees that ReVisco fibres meet industry standards for strength, dyeability, and sustainability.

Environmental Impact

According to Tangshan Sanyou, the pilot line has the capacity to process approximately 10,000 tonnes of cotton waste annually, resulting in a substantial reduction of textile landfill contributions. Moreover, the chemical recycling process consumes significantly less water and energy than conventional methods, aligning with the United Nations' Sustainable Development Goals (SDGs) on responsible consumption and production.

> "
>
> *"ReVisco is more than just a fibre innovation; it's a commitment to closing the loop in textile production. By integrating waste back into the supply chain, we are setting a precedent for a truly circular economy."*

A spokesperson for the company emphasized the long-term vision:

Industry Collaboration

Tangshan Sanyou is collaborating with major fashion brands and textile mills to test and integrate ReVisco fibres into mainstream production. Initial trials have shown promising results in denim, knitwear, and home textiles. The company is also partnering with local governments and NGOs to expand textile waste collection networks, ensuring a steady supply of raw materials for scaling up operations.

Challenges and Opportunities

While the pilot line marks a significant milestone, Tangshan Sanyou acknowledges the challenges ahead. These include establishing standardized sorting processes for textile waste, developing scalable logistics for waste collection, and overcoming market skepticism regarding recycled materials' performance.

However, with growing consumer demand for sustainable fashion and increasing regulatory pressure to reduce textile waste, the company is confident in the commercial viability of ReVisco. Industry experts predict that such technologies will play a pivotal role in helping brands meet circularity targets and reduce reliance on virgin fibres.

Global Implications

Tangshan Sanyou's initiative has drawn attention from stakeholders across the globe. Environmental advocates, industry leaders, and policymakers view ReVisco as a blueprint for sustainable manufacturing. Its success could inspire similar innovations in other regions, contributing to a global shift toward circular textile economies.

Photo: *Anwar Hossain, Administrator of BGMEA, and Aamir Reyaz Chottani, Vice-Chairman of PRGMEA, signed the MoU on behalf of their respective organizations.*

Bangladesh, Pakistan RMG associations sign MOU to boost bilateral trade

■ **Benjamin Harris**

In a landmark move aimed at strengthening regional collaboration in the textile and garment sector, the Bangladesh Garment Manufacturers and Exporters Association (BGMEA) and the Pakistan Readymade Garments Manufacturers and Exporters Association (PRGMEA) signed a Memorandum of Understanding (MoU) this week. The signing took place virtually, with representatives from both associations expressing optimism about future opportunities for cross-border cooperation and knowledge sharing.

Under the terms of the MoU, the two countries will engage in regular dialogue to explore new business opportunities, share best practices in sustainability and compliance, and promote bilateral trade in apparel and textile-related products. Both associations agreed to conduct joint research, exchange trade delegations, and organize B2B meetings to foster collaboration between members.

The MoU also focuses on capacity

> **"This MoU reflects our mutual desire to work together for the development of our industries and to tap into each other's strengths. Pakistan's strong textile raw material base and Bangladesh's garment manufacturing expertise can complement each other well.**
>
> **Faruque Hassan**
> President, BGMEA

building and training. As part of the agreement, both countries will facilitate training workshops, internships, and professional exchange programs. With sustainability becoming a key concern, the two associations also plan to collaborate on eco-friendly innovations, recycling technologies, and reducing carbon footprints in production.

Industry analysts believe this MoU could pave the way for a more integrated South Asian garment supply chain, potentially increasing exports from both countries. In 2023, Bangladesh exported over $46 billion worth of garments, while Pakistan's textile and apparel exports totaled around $16.5 billion. Joint efforts could help improve competitiveness and reduce overreliance on Western markets.

The collaboration may also help both nations deal with common challenges such as compliance with international

labor laws, increasing wage demands, and environmental sustainability targets. The shared initiatives could help small- and medium-sized enterprises (SMEs) in both countries become more resilient in the face of global disruptions, such as fluctuating raw material prices and trade barriers.

The first tangible initiative under this MoU is expected to be a Bangladesh-Pakistan Apparel Summit scheduled for later this year, to be held in Lahore. The event will bring together manufacturers, brands, sourcing companies, and policymakers to explore business partnerships and investment opportunities.

> **"This is an important step toward creating a South Asian textile corridor. By aligning our supply chains and strategies, we can become more competitive in the global market."**
>
> **Ijaz Khokhar**
> Chief Coordinator , PRGMEA

As geopolitical and supply chain challenges continue to redefine global sourcing strategies, this MOU between two of South Asia's most significant RMG exporting countries may signal a new era of cooperation in the textile and apparel sector.

LYCRA names Melissa Riggs as CMO

■ Daniel Brown

The LYCRA Company, a global leader in sustainable fiber and technology solutions for the apparel and personal care industries, has appointed Melissa Riggs as its new Chief Marketing Officer (CMO). The appointment is a strategic move aimed at enhancing brand positioning, strengthening customer relationships, and supporting the company's ongoing transformation in a rapidly evolving textile industry.

Melissa Riggs brings over two decades of international marketing and brand strategy experience to the role. Prior to joining The LYCRA Company, she served in senior leadership positions at several global fashion and textile firms, including Under Armour and Lenzing AG. Her expertise spans global brand development, digital engagement, sustainability marketing, and product innovation campaigns.

Riggs will be based at the company's U.S. headquarters in Wilmington, Delaware, and will oversee the global marketing function. Her responsibilities will include strengthening the LYCRA® brand and sub-brands, enhancing digital outreach, and aligning marketing strategy with the company's sustainability roadmap and customer engagement goals.

In her first public statement after

Photo: *LYCRA Names Melissa Riggs as Chief Marketing Officer CMO*

assuming the role, Riggs emphasized the importance of innovation and transparency in textile marketing: "Today's customers are more informed and values-driven than ever before. Our task is to connect with them not just through product performance, but through a shared commitment to sustainability, comfort, and innovation. The LYCRA brand already has strong equity, and I'm excited to help expand that legacy in new directions."

Her appointment comes at a pivotal time for The LYCRA Company, which has been actively investing in sustainable innovation, such as LYCRA® ADAPTIV fiber and the company's continued expansion of its EcoMade portfolio signal a clear commitment to addressing the evolving needs of both brands and consumers.

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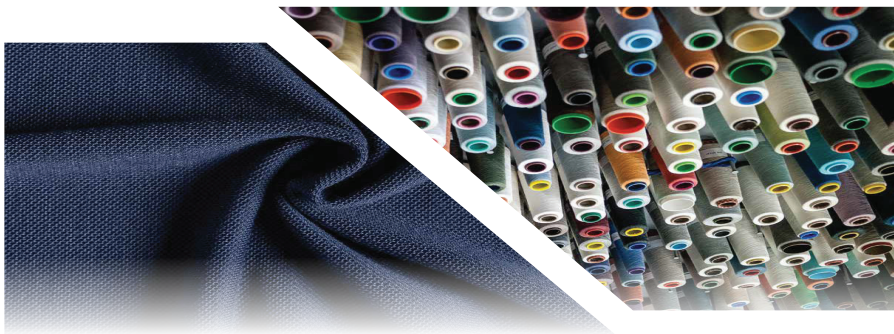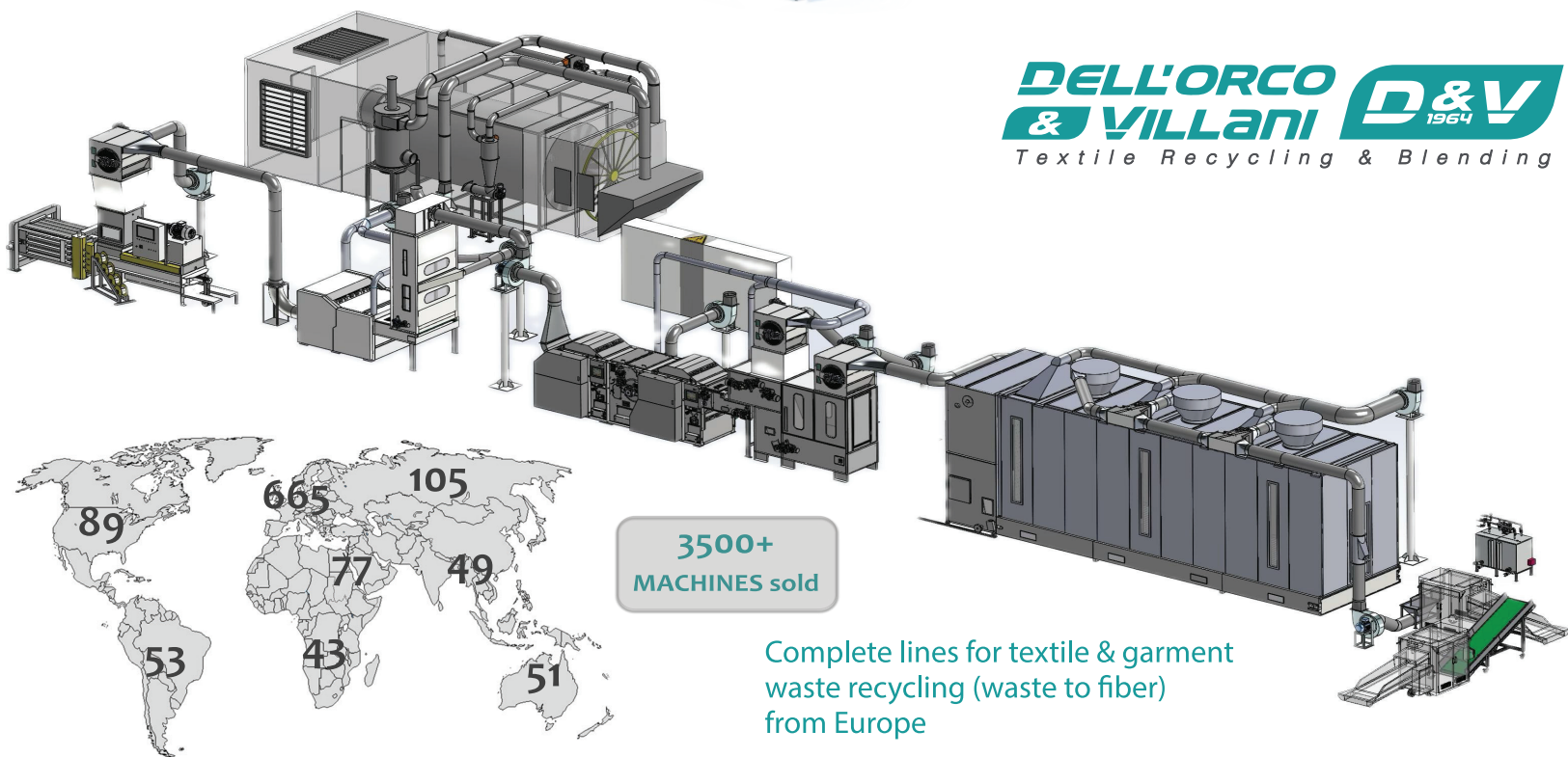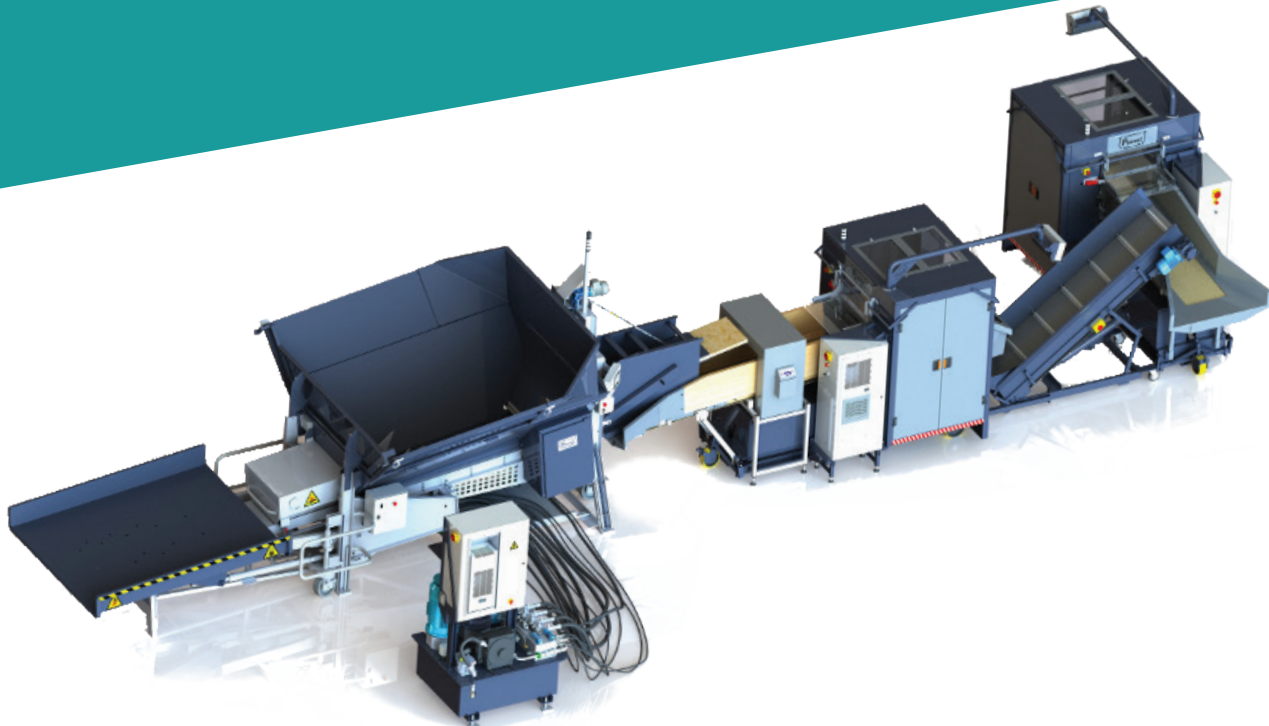
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Let's Grow Green BANGLADESH

James Heal introduces martindale motion for abrasion & pilling testing standards

■ **Jack Thompson**

James Heal, a leading manufacturer of textile testing instruments based in the United Kingdom, has unveiled its latest innovation: the Martindale Motion. Designed to redefine abrasion and pilling testing standards, this new-generation testing instrument enhances reproducibility, traceability, and ease of use for quality control professionals and research laboratories.

The Martindale method, widely used across the global textile industry to evaluate a fabric's durability, has long been the gold standard for testing resistance to abrasion and pilling. James Heal's new Martindale Motion builds upon this legacy by introducing intelligent design improvements and digital enhancements that respond to industry feedback and emerging testing needs.

"Martindale Motion is not just an upgrade—it's a transformation," said

Amanda McLaren, Product Director at James Heal. "We worked closely with our global user base to understand the evolving requirements of apparel and technical textile manufacturers. This instrument embodies accuracy, repeatability, and a user-first experience." Key features of the Martindale Motion include:

Smart Test Control: A fully digital touchscreen interface allows operators to set up test parameters, track progress in real time, and review historical data.

Multi-Load and Multi-Head Capability: The system supports simultaneous testing of multiple samples with independently controlled heads, increasing efficiency in high-throughput labs.

Ergonomic Design and Safety: Redesigned loading mechanisms and safety interlocks improve usability and operator protection.

Cloud Connectivity: Seamless integration with LabConnect™, James Heal's proprietary cloud-based data platform, enables centralized result storage, report generation, and compliance auditing.

The company also emphasized sustainability in the development process. The Martindale Motion is built using recyclable materials, reduced packaging, and energy-efficient components, in line with James Heal's corporate responsibility commitments.

Initial market reactions have been positive. Independent textile labs in Europe and Asia participating in pre-launch trials reported increased throughput and reduced training time for new technicians. "The Martindale Motion sets a new benchmark for both performance and usability," said Dr. Reiko Yamamoto, Head of Materials Testing at Tokyo Fiber Research Institute. "It's clear that this tool has been developed with both technical rigor and user insight."

James Heal plans to officially debut the Martindale Motion at the ITMA Asia exhibition later this year. Live demos will showcase the product's performance on various fabric types, including sportswear knits, denim, upholstery textiles, and technical fabrics for automotive and medical use.

The launch reinforces James Heal's role as an innovator in textile testing technology. As the global textile industry increasingly prioritizes quality assurance and regulatory compliance, tools like the Martindale Motion offer manufacturers a pathway to improve product standards, reduce waste, and optimize R&D efforts.

In a market where material performance and product lifecycle are under intense scrutiny, James Heal's Martindale Motion may well become the preferred instrument for brands, suppliers, and labs aiming for reliable and future-ready testing solutions.

How Micro-Sensors Are Changing Yarn Quality Monitoring

■ **Mohammad Mithun**

The textile industry is no stranger to change, but in recent years, one trend has stood out: the introduction of micro-sensors. Adding these small devices straight to spinning lines is changing how we check the quality of yarn. Micro sensors of provide real time data on important characteristics such tension, twist, and contamination instead of waiting for flaws to show up after production—all while the yarn is still being produced. This sort of change not only improves quality but also increases the whole efficiency of the production process.

The Problem with Traditional Yarn Monitoring

If you have worked in textile industry, ensuring high-quality yarn is not an easy job to do. In the past, manufacturers depends on the manual inspections and post production testing which leads more time consuming, extra cost, wastage and hamper on production speed, reduce the efficiency.

This is where the digital spinning and micro-sensors takes the place. Rather than waiting until the yarn is completely produced to check its quality, the micro-
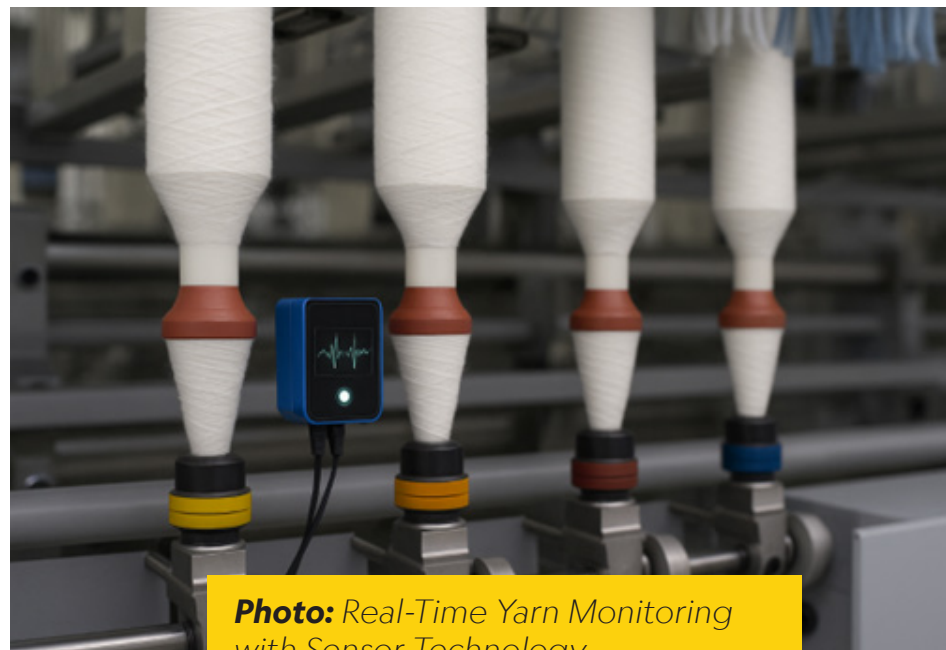
Photo: *Real-Time Yarn Monitoring with Sensor Technology*

sensors monitor the quality during the production of yarn. This real time monitoring helps the manufacturers to check continuously and adjust the issues before it turn into costly defects.

What are micro-sensors, and how do they work?

Micro-sensors are little devices that are implanted in spinning machines. They act as the manufacturing line's eyes and ears, gathering data on variables such as yarn tension, twist, and contamination.

1. **Tension:** Yarn tension is one of the most important thing in the production of yarn. Too much or too less tension causes weak or inconsistent yarn. Micro-sensors measures the tension as the yarn is created and adjusting

the process by real time monitoring to reduce the chance of yarn breakage and inconsistency.

2. Twist: Yarn twist is another important factor that affecting yarn strength and performance. Micro-sensors trace how tightly the yarn is twisted, maintain the correct range. If there is too much or too less twist, the sensors immediate detect and make an adjustment.

3. Contamination: Foreign materials, dust, others fibers can reduce the quality of the yarn. Micro-sensors detect the contaminations during the production, alerts the operator and ensuring these contamination are removed before the yarn are going to next step.

Sensor Fusion: A Game-Changer

Sensor fusion is process of gathering data from various sensor to make more accurate, reliable and comprehensive understanding of a system.

For example, one sensor monitor yarn tension, another one monitor yarn twist. By combining those data, operator gets the clear understanding on overall the yarn quality during on production.

Let's look a real world example, Rieter, a renowned spinning system manufacturer. They have implanted sensors in their spinning machines to monitor yarn quality continuously, result? Increase yarn quality, improved consistency, reduce defects and increase efficiency. According to their data, their efficiency increased by 15% and decreased the defects by 20%. A clear understanding that how technologies make differences.

Real-World Examples of Micro-Sensors in Action

1. Südstärke Spinning Mill (Germany):

Südstärke Spinning Mill implanted micro-sensors into their spinning to monitor the yarn quality, especially for yarn tension and yarn twist. Result? A 15% increase in efficiency and 20% decrease in defects. Automating adjustment leads no rework, and ensuring production of high quality yarn.

2. ITM Group (Turkey):

ITM Group use contamination sensors to identify foreign particles in their yarn. These sensors will immediately remove any bad yarn, eliminating the requirement for rework and scrap material.

3. TexTech Industries (USA):

TexTech Industries is another industry that uses sensor fusion and predictive analytics. They added several sensors into their spinning lines, resulting in a 25% reduction in faults and enhanced production speed.

As the technology underlying micro sensors continues to develop, there is a potential impact on textile industry. The future yarn monitoring system will even more interesting by implementing AI and IoT which are capable for real time adjustments and decision-making.

The Needle Knows: Precision Engineering behind Smart Sewing Machine Components

■ **Mohammad Mithun**

In the developing world of textile manufacturing, precision and efficiency become more just goals. They are extremely important to stay competitive. One of the key innovations driving this shifts is smart sewing machine. At the core of this transformation is the sewing needle, which has developed far away its simple role in fabric stitching. Modern technology used in the preparation of today's needles enable real time position tracking, adaptive tensioning and precise management of delicate textiles. These shifts are being reflected in industries such as technical textiles and lingerie, which require a level of precision and quality that was previously unachievable.

The Development of Needle Design: Accuracy and Sturdiness Meet

Sewing needles were originally made with the sole purpose of consistently rupturing fabric. But as the textile industry has moved toward producing high-performance materials from lingerie lace to high tech fabrics that used in medical, aerospace and sports applications, traditional needles simply couldn't keep up. The growth of fine fabrics and flexible materials has required
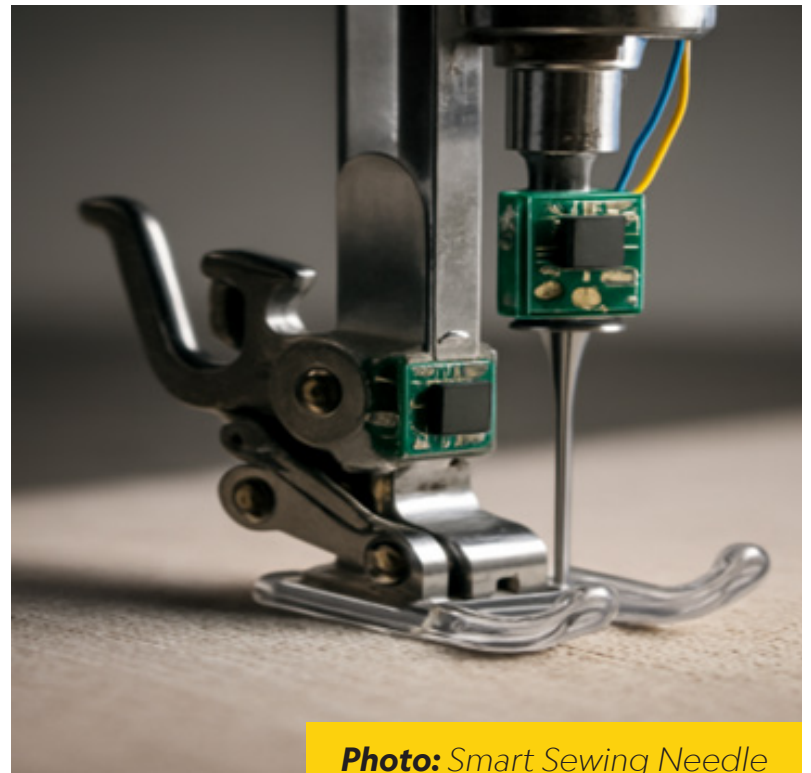
Photo: *Smart Sewing Needle with Sensor Technology*

needles that are not only sharper and more durable but also accomplished of managing a range of materials deprived of causing damage.

Innovative needles designs now feature laser-cut tips and specialized coating like tungsten carbide or ceramic, which are impervious to wear and help reduce abrasion. For example, ceramic-coated needles are usually in lingerie manufacturing, where the fine laces and flexible materials require a subtle touch. In fact, according to the study by the International Journal of Clothing Science and Technology, the use of high-performance needles in the lingerie sector reduced thread breakage by

20%, improving quality and production efficiency.

Real-Time Position Tracking: Perfect Stitching, Every Time

One of the ground-breaking innovations in modern sewing is real time position tracking. Conventionally, sewing machine couldn't monitor the exact position of the needle in relation to the fabric as it moved. This meant that stitch reliability could differ, especially when dealing with complex or subtle fabrics.

Using Adaptive Tensioning to Handle Fragile Textiles Easily

Another significant advancement in sewing technique is adaptive tensioning, which is particularly useful for textiles with varying degrees of flexibility and depth. Traditional sewing techniques applied a fixed force to the thread, which was effective for basic materials but could cause problems with delicate textiles. Traditional sewing techniques applied a fixed force to the thread, which was effective for basic materials but could cause problems for delicate textiles. Too much or too little tension could lead to puckering or tearing and loose seam respectively.

Smart sewing machines now derived prepared with adaptive tensioning systems that adjust the thread tension constructed on real-time fabric behavior. These devices automatically adjust tension as necessary during the sewing process by using sensors to measure thread movement and fabric resistance.

Use Cases in Lingerie and Technical Textiles

Lingerie Sector: The production of lingerie involves delicate fabric, and errors can result in damaged products. By using adaptive tensioning systems and laser-cut needles, manufacturers can create lingerie that is not only incredibly accurate but also long-lasting. Victoria's Screte has decreased production defects by 15% and increased stitching speed by 20% by incorporating smart sewing technology into its production line.

Technical Textiles: Accurate or precise stitching is essential to the production of high-quality products in the technical textile sector. It is difficult to work with multi-layered textiles like carbon fibres or Kevlar. Manufacturers can create high-performance clothing that satisfies safety regulations while providing comfort and flexibility by utilizing position tracking and adaptive tensioning.

DuPont has improves the durability and comfort of the products and reducing production time by 25% integrating smart needles and adaptive tensioning.

Innovations in position monitoring, adaptive tensioning, and needle design have transformed the textile industry and opened up new markets for technical and luxury textiles. These developments are improving product quality and streamlining production processes as the demand for stronger and more durable products rises.

The Rise of Self-Calibrating Machines in Garment Units: Precision without Operators

■ **Benjamin Harris**

The garment manufacturing section, an essential part of the world textile business, is undergoing a transformation due to the introduction of self-calibrating machines. These machines are designed to modify stitch length, pressure and tension according to the fabrics type being processed, are transforming production lines, increasing accuracy, and maximizing productivity.

The mechanics of Self-Calibrating machine

Self-calibrating machines in garments industry are revolutionizing the manufacturing process by providing precision, reducing the need for constant adjustments.

1. Adjustment of Stitch Length

The self-calibrating machine constantly alters the stitch length in real time data from sensors that detect the fabric's thickness, stretch and electricity. Denim, that is thicker and heavier than silk, requires longer stitch to prevent bunching, for silk, requires shorter stitch to keep seams looking neat and durable. This dynamic adjustment ensure that the machine can adjust various types of fabric and produce consistent and error free result without human interruption.

2. Pressure control

To ensure consistent sewing and fabric feeding, it is important to keep presser foot pressure just right. Load cells in this machines measure the force that the presser foot provides on the garments. The machine raises the pressure for smooth feeding and avoid the slippage for thicker fabrics but decreases the pressure to prevent distortion for the lighter fabrics.

3. Load Cells

Load cells are important components for measuring sewing-related pressure and tension, such as presser foot pressure and thread tension. These sensors are strategically distributed throughout the system to provide continuous input. The load cells monitor the forces applied to the fabric as it travels through the machine, ensuring that the correct pressure and tension are delivered.

4. RFID Tagged Fabric Input

The calibration process is much facilitated by RFID, or Radio Frequency Identification, technology. Every fabric roll or piece has RFID tags with required information like kinds of cloth, weight, thickness, and elasticity. When the fabric passes the machine, the RFID readers

scan the tag and automatically changes the machine's settings based on the fabric characteristics.

5. Auto Presets

Self-calibrating machines feature pre-programmed setting called auto presets that allow the machine to easily reply to various fabric kinds and stitching activities. As the machine detect the types of fabric, it automatically change the right presets, altering the stitch length, tension and presser foot pressure. The machine can make precise alterations based on real time sensor data while the setting work as a starting point.

The Benefits for the Garment Manufacturers

Improve Consistency and Precision

The major benefits of self-calibrating machines is the consistency in garment production. With automated calibration, manufacturers can achieve uniform stitching across large batches, reducing error and improving the final product's quality while the traditional machines dependent on manual adjustments which occurs error and variation in output quality. After adopting this system, manufacturers experienced a 30% reduction in stitching error.

Time and Waste Reduction

Self-calibrating machines reduce 15% production time through eliminating human interruption and also 20% waste reduction. This converts to higher throughput, as machines spend less time idle and more time in active production.

Cost Effectiveness

The initial investment in self-calibrating machine could be higher, but the long-term benefits significantly balance the cost. The reduction in waste and defects, time saving and increased efficiency result in lower operational costs as well as profit intensives.

Comparing Self-Calibrating Machines with Traditional Systems

Features	Traditional Systems	Self-calibrating systems
Human Intervention	High	Minimal
Fabric Adjustment Precision	Low- settings are manually set	High- Automated adjustments Confirm optimal settings for each lot of fabric
Production Speed	Slow- Regular stops for recalibration	Fast- continuous adjustments
Error Rate	High because of Human intervention	Low- machine adjustment minimize human error
Maintenance Costs	High – Frequent recalibration and wear	Low – Less wear and tear, fewer errors

The rise of self-calibrating machines in just the beginning. As AI and machine learning develops, the future machine will learn from previous manufacturing process, enabling customize settings and accuracy. Collecting real-time data on fabrics types, machine performance and product quality will make possible continuous optimization. By integrating IoT, improve the machine's capabilities and provide smooth integration and automation.

Smart Factories Need Smarter Needles: Embedding Data Flow in Every Stitch

■ Mohammad Mithun

Photo: *Smart needle*

The textile industry is undergoing a massive revolution, driven by automation and digitalization. The growth of smart factories has opened the path for improved efficiency, traceability and quality control in production. The integration of data-generating components, especially within needles, presser feet and bobbin systems is the core of this revolution. High performance textiles such as technical textiles and personal protective equipment (PPE) is depended on this invention to provide stitch to stitch quality control (QC) and traceability.

The Role of Smart Factories in Textile Manufacturing

Smart factories are transforming the textile manufacturing industry by implementing technologies like IoT, AI and Big Data, providing improved efficiency, quality and sustainability. By monitoring real time data from machine using connected systems improving

production by decreasing downtime and enhancing processes. Important development like automated systems for materials handling and fabric cutting, IoT sensors that enable predictive maintenance and AI powered quality control for real-time defect detection. Mckinsey & Company reported that a potential 30% increase in efficiency and a 25% reduction in operational cost which leads to increase productivity. Through minimizing waste and energy consumption, a report said 20% reduction in energy use and a 30% reduction in water consumption which leads to sustainability. The smart textiles market estimated to reach $2.9 billion by 2025 by adopting these technologies where the demand for high performance textiles, particularly in healthcare and PPE sectors is growing. By means of data-driven insights, manufacturers able to improve traceability, ensuring product quality and satisfying standards.

Data-Generating Needles: Enhancing Quality Control

A revolution in textile manufacturing, sensors inserts within the needle to monitor important variable like temperature, pressure and force during the stitching process, so that improve quality control. For high performance textile like PPE and technical textile fabric, this real time collection is very vital that ensures each stitch meets accurate specifications. These needles are able to allow the adjustments in stitching parameters like stitch length or tension to maintain consistent quality as the needles

detect any inconsistencies such as thread breakage, needle deflection or uneven stitch formation. Industry statistics reported that reduction of defects up to 20% by AI driven quality control systems like those data generating needles. According to International Textile Manufacturers Federation (ITMF) about 72% of textile industry implementing automation, including data-driven systems.

Presser Feet and Bobbin Systems: Critical Data Sources

In data collection for quality control in smart textile manufacturing, presser feet and bobbin systems play a crucial role. Presser feet fitted with pressure sensors measure the forces applied on the fabric when stitching. For preventing some issues like fabric puckering and uneven stitching, this real time data collection helps to maintain optimal pressure. Bobbin system with integrated sensors measure thread tension and detect inconsistence or run outs that can cause fabric breakage or stitch errors. For example, smart presser feet and bobbin systems are used to ensure accurate stitching under different material condition for producing technical textiles like automotive upholstery. Industry data shows that reduce defects up to 18% and improve overall stitching quality by 15% by integrating data embedded presser feet and bobbins. According to ITMF, these innovation led to 35% reduction in operational costs.

Stitch-by-Stitch Quality Control

and Traceability

The most significance benefits of embedding data generating components in sewing machine is able to execute stitch by stitch quality control. In the production of PPE and technical textiles where precision and safety is very crucial, this significance benefits are absolutely crucial. For instance, for making of PPE like medical gowns and face masks, even a minor defects in a single stitch can cause hamper of safety and effectiveness of the garments. Manufacturers can ensure that every garments reach standards by using real time data analyzing and monitoring. Full traceability is possible by recording stitch by stitch data and this allowing manufacturers to monitor productions condition for each garments.

Additionally, this traceability spreads beyond the factory floor. Manufacturers can trace the raw materials, machinery used and even operators involved in the production process by linking stitching data to supply chain management systems. This degree of traceability guarantees responsibility and openness all through the production process, therefore improving the quality of the products.

It is quite clear as the textile sector expands that better manufacturing techniques are needed. Manufacturers may increase the precision and consistency of their goods by including data-generating components to sewing machines, therefore enabling real-time, stitch-by-stitch quality control and traceability.

Particularly in the manufacture of PPE and specialized textiles, data-driven smart manufacturers will transform the textile sector. Tracking the development of every stitch guarantees dependability, openness, and efficiency of the manufacturing process by means of traceability and monitoring of important production elements.

Data absolutely shapes the direction of textile manufacture. Smart factories will become the standard as the sector keeps adopting these technologies; smarter needles will be first in this change.

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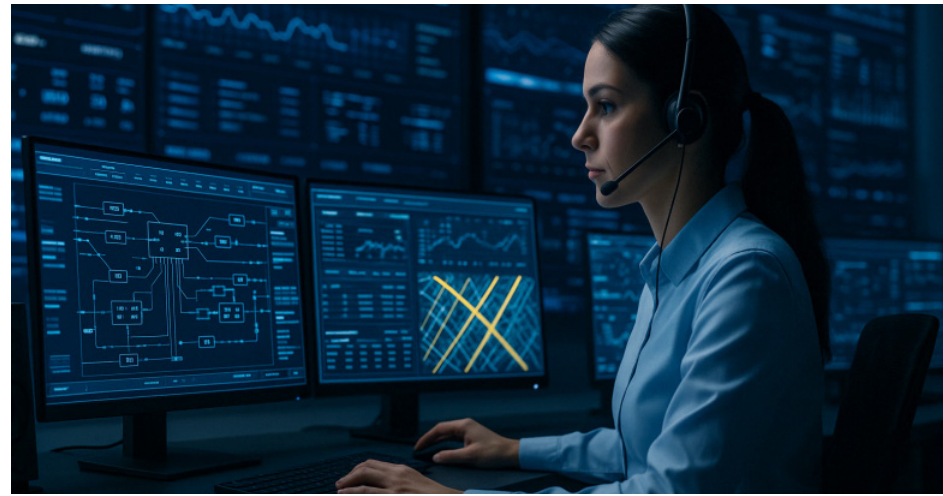# AI makes drilling cheaper, faster in energy sector

■ Matthew Davis

Artificial intelligence is transforming oil and gas drilling, delivering dramatic improvements in cost, efficiency, and operational safety. Companies like BP and Devon Energy are leading the charge by integrating AI into nearly every stage of the drilling process.

At the heart of this transformation is AI's ability to analyze real-time sensor data from drill heads, geophysical scanners, and pressure gauges. Algorithms process this data to adjust drilling parameters on the fly, helping engineers avoid hazards, reduce downtime, and extract resources more efficiently.

Traditional drilling operations relied heavily on manual interpretation of subsurface data—a time-consuming and often error-prone process. Today, AI models trained on historical drilling patterns and geological data can predict the optimal drilling path, anticipate mechanical failures, and prevent costly interruptions.

For example, BP's use of machine learning in its Gulf of Mexico deepwater projects has reduced drilling time by 20% and cut operational costs by millions of dollars. Similarly, Devon Energy's AI-enabled rigs can steer drill bits with unprecedented precision, accessing complex shale reservoirs previously considered unreachable.

These advances are also having ripple effects across the textile value chain. Lower production costs for oil-based feedstocks such as polyester, nylon, and spandex may help stabilize raw material prices in global apparel manufacturing.

Moreover, AI's success in energy extraction underscores its broader potential in predictive maintenance, smart logistics, and process optimization—critical functions in both textile production and supply chain operations.

While critics point to environmental concerns, proponents argue that AI allows producers to do "more with less," using fewer resources and reducing unplanned emissions. As energy and textiles both seek to decarbonize, cross-sector learnings in AI application will be key to achieving more sustainable outcomes.

Warehouse to Cutting room: Rise of automated logistics in garment manufacturing
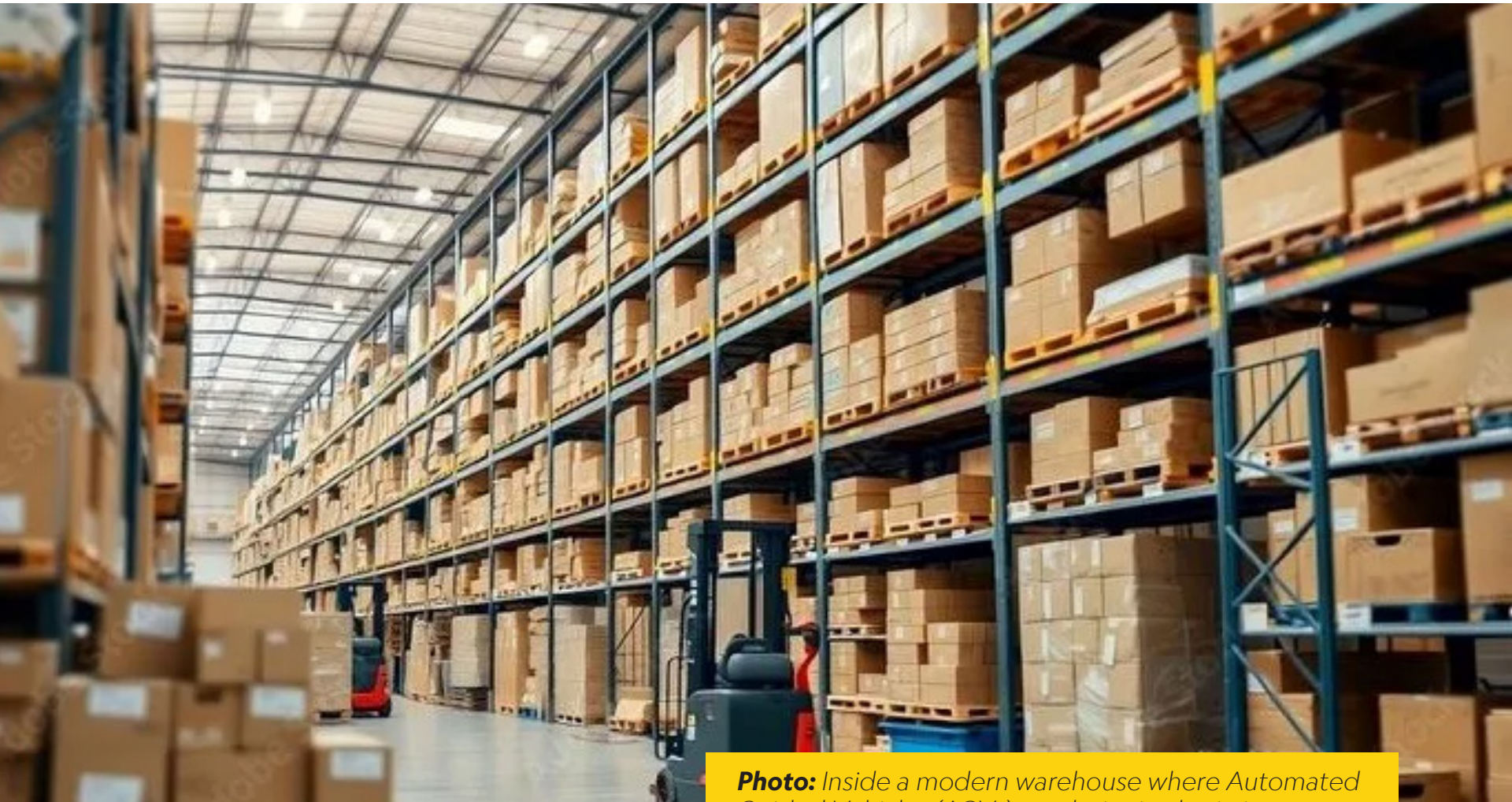
■ **Farhana Zaman Tithi**

Photo: *Inside a modern warehouse where Automated Guided Vehicles (AGVs) revolutionize logistics*

In today's fast-paced garment industry, efficiency is no longer just a competitive advantage—it's a necessity. From global fashion brands to local apparel manufacturers, businesses constantly seek new ways to streamline operations, reduce labor dependency and minimize errors. One of the biggest transformations reshaping the manufacturing floor is the integration of automated logistics, from the warehouse to the cutting room.

This shift is powered by cutting-edge technologies like Automated Guided Vehicles (AGVs), RFID-tagged inventory systems and robotic role handling solutions. These innovations are no longer just part of futuristic visions, they are already revolutionizing how garments are produced.

Why automated garment logistics?

The traditional logistics flow in garment

manufacturing often involves high manual labor, repetitive handling and time-consuming tasks. This leads to challenges such as

» Inefficient material movement between departments

» Inaccurate inventory tracking

» Increased the chances of material damage or misplacement

Labor shortage and rising wages

Automating logistics helps eliminate these bottlenecks. With the smart system in place, manufacturers can enjoy seamless material flow, better space utilization, and significant time savings.

AGVs-Smart Fabric transporters

Automated Guided Vehicles (AGVs)are robotic vehicles that move material across the factory without human drivers. They navigate through predefined routes using sensors, magnetic tape or lasers.

How AGVs work in the garment industry-

In garment manufacturing, AGVs are typically used to:

» Move fabric roll from the warehouse to the cutting room

» Transport cut panels to the swing departments

» Deliver finished goods to the packaging stations

AGVs are programmed to pick up

materials at scheduled times and deliver them with pinpoint accuracy. This reduces the need for manual trolleys or forklifts and keeps the floor organized.

Advantages-

Labor efficiency: A single AGV can replace the need for two to three workers dedicated to manual material movement

Consistency: AGVS ensures timely and consistent delivery of material, improving the overall workflow.

Safety: Equipped with obstacle detection and emergency stop features, AGVs reduce the risk of workplace accidents.

Case Example:

Leading textile manufacturers in China and Vietnam have adopted AGVs in large-scale facilities. One such manufacturer reported a 25% increase in material flow speed and a 40% reduction in labor cost within one year of AGVs integration.

RFID-Tagged Inventory – Smart Tracking

RFID (Radio Frequency Identification) uses radio waves to identify and track tags attached to fabric roles or garments. Unlike barcodes, RFID tags can be scanned without direct line-of-sight and from several meters away.

How it works-

Every fabric role is tagged with a unique

RFID chip containing data like:

» Fabric type and color

 » Batch number

» Supplier details

» Roll length and weight

 Fixed or handheld RFID readers scan these tags at various points during storage, dispatch or cutting.

Advantages-

 Real Time Inventory -Instantly view available stock on digital dashboards.

 Error Free- Produces manual entry mistakes and Misplacement of materials.

Faster Audits- Warehouse can be audited in minutes using mobile RFID scanners

Use in the Cutting Room

When fabric rolls arrive at the cutting table, RFID ensures the right material is used for the right order. This avoids mix-ups and helps maintain production accuracy.

Sustainability Angle

By preventing overstocking and reducing fabric waste, RFID contributes to more sustainable production, the growing demand in the global apparel market.

Robotic role handling- Automation with precision

Handling large and heavy fabric rolls manually is not only labor-intensive but also poses a risk of injury and role deformation. Robotic role handling systems are designed to automate this process with precision and care.
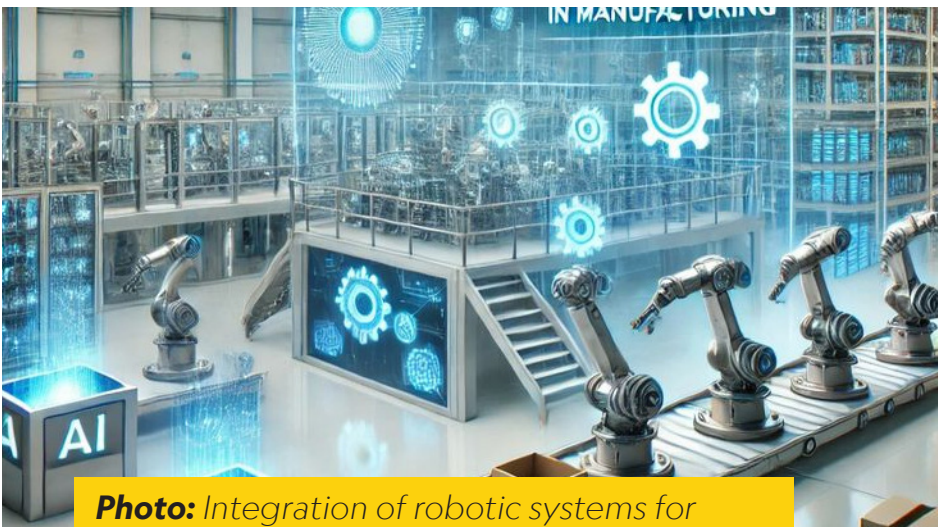
core features:

 Robotic arms with vacuum or clamps grippers to lift fabric rolls

 Sensors for weight, diameter and orientation detection

 Integration with conveyors, AGVs, and storage racks.

These robots can:

Pick up Rose directly from the delivery pallets

Place them into particular horizontal

storage racks

Feed rolls to spreading or cutting machines with millimeter accuracy.

Impact on production quality:

Robotic handling. Minimize the risk of-

Fabric edge damage,

Wrinkling or distortion.

Incorrect roll placement.

Additionally, this system can operate continuously, supporting 24/7 production with minimal supervision.

The Power of Integration

While each technology is powerful on its own , the real impact comes when they are combined.

For example-

An RFID reader detects the need for a certain fabric roll.

The system signals an AGV to bring the roll from the warehouse.

The robotic arm receives the roll and loads it into the cutting machine.

These seamless chain eliminates wait times, reduces coordination errors and improves production speed, something manual processes simply cannot match.

Challenges to Consider

Adopting automation isn't without its hurdles:

Initial Investment: AGVs, RFID system and robotic handlers requires capital

Technical Training:Workers need to be trained to manage and maintain automated systems.

System Integration:All technologies must connect smoothly with existing ERP or production systems

However, most manufacturers report ROI within 1-2 years, thanks to reduced labor costs,better inventory control and faster production cycles.

The garment industry is moving towards Industry 4.0, where machines, systems and data work together in real time. In future smart factories, we will see:

LoT-enabled machines

AI-based production planning

Fully automated warehouses

From the warehouses to the carting room, logistics will be driven by data and machines, with humans focusing more on design, supervision and innovation.

Written by:

Farhana Zaman Tithi

Innovation Apprentice, Textile Today Innovation Hub

Lab-to-Line: Integrating Fabric Testing Sensors in Production Floors for Zero-Defect Manufacturing

■ **Harry White**

Today's fast-paced textile sector depends critically on quality control. The increased demand for luxury textiles and clothing puts manufacturers under continuous pressure to ensure that every product meets the highest standards. Any defects found were costly to repair and usually required rework or scrapping of finished items as fabric testing was generally conducted in labs following manufacturing.

Moving from lab testing to in-line testing

Formerly using laboratory research to assess important fabric properties including weight (GSM), color stability (colorfastness), shrinkage, and pilling resistance, fabric producers. Typically performed post-fabrication, these tests aimed to verify the quality of the finished product, although they were obligatory. Usually, when problems were discovered, they caused significant delays influencing the whole production process.

How In-Line Testing Sensors Work

GSM Testing Sensors: GSM (gram per

Photo: *Integrating sensors in production line*

square meter) is useful technique to identify the fabric weight and thickness. When fabric gone through to the production line, the in-line GSM sensors measure its weight. The fabric justifies the weight requirement, avoiding high or less weight materials from causing product inconsistencies.

Colorfastness Sensors: in- line colorfastness sensors act on washing and light exposure to deliver quick fabric performance response. Manufacturers save money and time by recognizing color concerns earlier.

Shrinkage Sensors: Shrinkage is a common problem, when the fabric

meets washing. Shrinkage sensors measures the fabric size and make adjustment and reduce future size variation by tracking fabric measurements and calculating possible shrinkage during manufacturing.

Pilling Resistance Sensors: Pilling, a process in which fibers loosen and form little balls, degrades the appearance and durability of textile. Pilling sensors detect pilling during the process and alert the operator to reduce it, maintain fabric lifespan and appearance.

Benefits of Integrating Testing Sensors on the Production Floor

The integration of fabric testing sensors directly into production pipelines brings a host of benefits:

Reducing Waste and Rework: By exposing defects in real time, manufacturers can fix mistakes before they become widespread and prevent expensive scrapping or rework. This results in lower costs, less waste, and more sustainable production.

Standardizing Quality: Consistency in fabric quality is essential to satisfying customer demands. A more consistent product is produced by testing each batch of cloth in-line according to the same stringent standards. Human error and inconsistent lab-to-production testing are reduced by standardization.

Improved Production Efficiency: Real-

time sensor feedback allows quick repair, therefore reducing downtime and preserving the productivity of the production line. Manufacturers can avoid retesting delays and fabric fault corrections gone wrong.

Faster Time to Market: In-line testing helps to lower fabric manufacturing and delivery times, therefore accelerating time to the market. Finding defects during manufacturing helps customers turn around faster, therefore lowering the demand for delays in post-production testing. Real-

World Examples and Industry Impact

The well-known textile machinery manufacturer, Picanol has equipped their weaving machines with GSM and pilling resistance sensors. With this integration, manufacturers have reduced fabric defects by 30%, which has significantly increased their productivity and improved the quality of their products.

Companies like Karl Mayer have also upgraded their game by adding real-time colorfastness sensors to their warp-knitting machines, so enhancing dyeing accuracy and lowering color inconsistencies. This shift to in-line testing is causing great disturbance in the search of zero-defect manufacturing.

From Click to Cut: CAD-CAM Integration with Real-Time Order Customization Engines

■ **Mohammad Mithun**

In the modern competitive manufacturing environment, small-scale producers are looking to enhance productivity, minimize errors, and reduce lead times. The most effective solution to these ends is the convergence of Computer-Aided Design (CAD), Computer-Aided Manufacturing (CAM), and Enterprise Resource Planning (ERP) systems. This convergence empowers manufacturers to simplify the operation, automate key procedures, and react effectively to customer needs.

As Direct-to-Consumer (D2C)

Photo: *CAD-CAM linking to ERP*

and e-commerce firms expand, consumers' expectations rise, making customization, speed, and precision in production more important than ever. By integrating the systems for design, production, and business administration, firms may produce high-quality customized goods in a shorter period of time while decreasing cost and waste.

The Essence of CAD-CAM-ERP Integration

Let us break down it. While CAM converts ideas into machine-readable code for manufacture, CAD allows designers construct
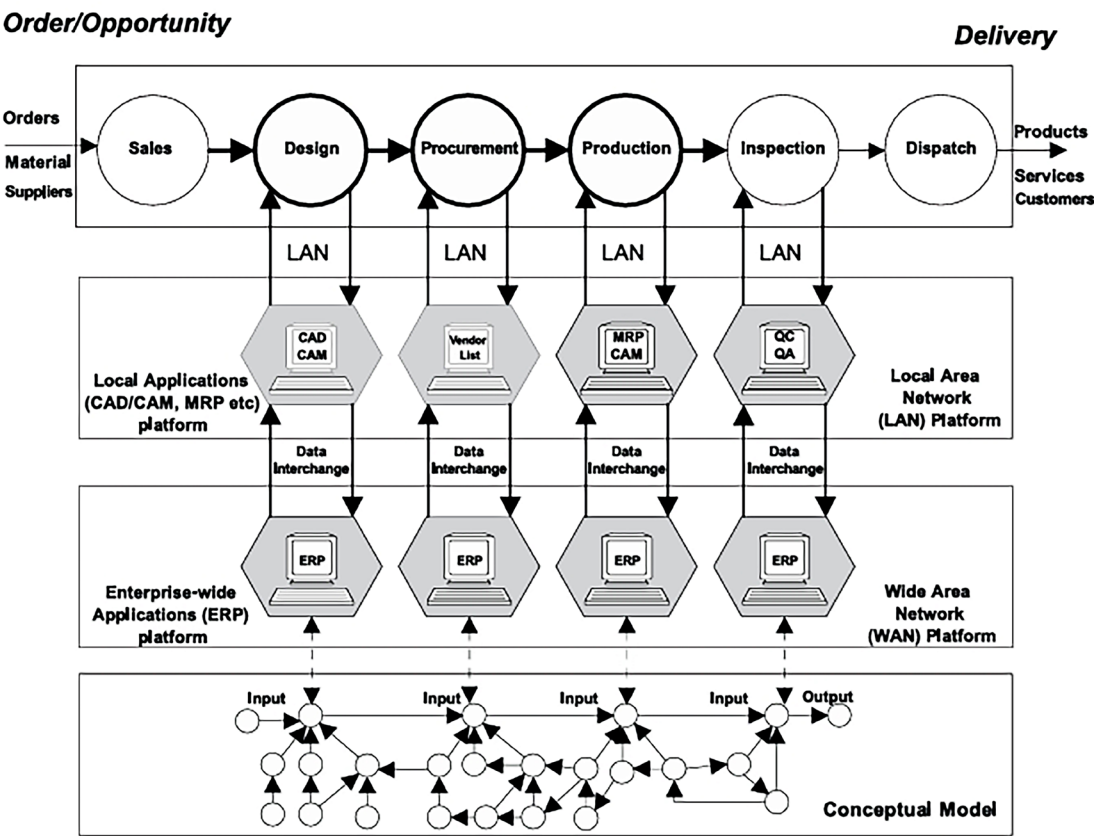

Photo: *Flow diagram of CAD-CAM-ERP Implementation*

complex digital models of items. These systems used to run separately traditionally caused inefficiencies. Manufacturers may simplify processes, lower mistakes, and react fast to consumer needs by tying these with ERP—which controls inventory, orders, manufacturing schedules, and financials.

The ERP system assures flawless communication between design, procurement, manufacturing, and distribution, so functioning as the core nervous system of the whole business. An order arrives; the ERP system sends it into the CAD system for customizing, then the CAM system scans the design to ready the machines for manufacturing. It follows: a speedier, more precise, more reasonably priced method.

Features of Smart Automation and Why They Work

Precision and Reduced Errors

Making the correct product every time is one of manufacturing's biggest challenges. By automating data transfer across systems, CAD-CAM-ERP integration minimizes the probability of human error. Improved output quality is the result of seeing precisely what the machine is capable of producing in the design.

Real-Time Customization

Manufacturers can instantly satisfy the customized demands of today's consumers with the help of CAD-CAM-ERP integration. The ERP system immediately informs the CAD system

of the customer's customized order, allowing for real-time updates. No more continuous design updates since the CAM system receives the file immediately and starts producing it right away.

Reductions in Processing Time

There are typically lengthy delays between the design, review, and production phases when using traditional methods of order management. A lot less time passes between placing an order and receiving the merchandise when clever automation is used. With real-time modifications, manufacturing may begin right after a design is approved, resulting in faster delivery times. For direct-to-consumer companies and online retailers, where speed is essential this is invaluable. Faster accomplishment, faster delivery, and happier customers are the results of reduced lead times.

Cost efficiency

Automation reduces costs by minimizing errors and reducing the demand for human control. ERP systems also allow the best use of materials, hereafter reducing waste and control of inventories. Efficiency and accuracy taken together in notable reductions.

Perfect for D2C and E-Commerce Brands

D2C and E-commerce businesses depend on fast delivery and customized services. Whether it's a custom product or a speedy order

turnaround, these companies require tools that allow them to respond quickly to consumer demands. CAM-CAD-ERO integration is the ideal option, allowing manufacturers to handle customized orders quickly and make real-time adjustments to production and delivery within
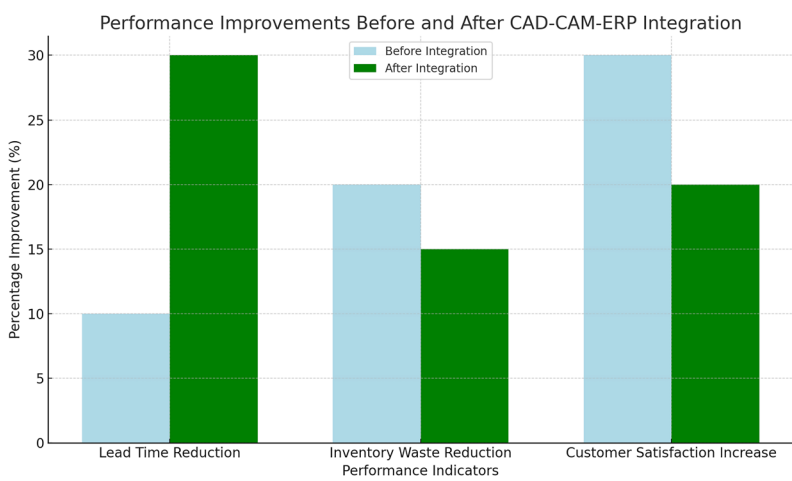

Photo: *Performance Improvement Before and After CAD-CAM-ERP Integration*

timeframes. This reduce lead times, resulting in the outstanding customer experience that e-commerce

enterprise aspire for.

A Case study and comprehensive comparison

A textile company that focuses in customized fabric printing and garment production put in place a combined CAD, CAM and ERP system to get rid of waste. After the integration, the company had 5-week lead times for special orders. After adopting the technologies, the lead time was reduced by 30%, to 3.5 weeks.

Material waste was also reduced by 20% because to improve inventory management and real time data exchange across platforms. These enhancements resulted in more accurate, fast manufacturing and more customer satisfaction and the increase efficiency by 25% while lowering operating costs.

Key Aspect	Before Integration	After Integration (CAD-CAM-ERP)	Impact/ Improvement
Order Customization	Manual updates, delays in design revision	Real-time order customization based on customer details	Speed of customization improved by 30%
Production Time	Long setup time due to manual data entry and adjustments	Automated data flow from ERP to CAD to CAM	20% faster production turnaround time
Error Rate	High risk of human error in design and data transfer	Automatic updates and precise design transfer	50% reduction in errors due to human intervention
Inventory Waste	High inventory stock, overproduction, material wastage	Real-time inventory tracking and optimized material use	15% reduction in material waste

Machine Utilization	Inefficient machine scheduling and maintenance	Real-time machine status and predictive maintenance	20% improvement in overall equipment efficiency (OEE)
Production Flexibility	Limited customization, fixed designs	Highly flexible design modifications in real time	Enhanced ability to handle custom orders at scale
Cost Efficiency	High overhead costs due to inefficiency and rework	Reduced operational costs, automated workflows	10-15% cost reduction due to automation and precision
Lead Time from Order to Production	Long delays from order intake to production start	Instantaneous production once order is finalized	30% reduction in order-to-production time
Customer Satisfaction	Delay in meeting custom requirements	Faster delivery and high-quality custom products	Improved customer satisfaction due to faster, accurate delivery
Data Accuracy	Manual data entry, prone to errors	Automated data transfer with real-time updates	95%+ accuracy in data handling from order to production

Small-batch manufacturers are improving their internal processes by combining CAD, CAM, and ERP tools. They are also making customers happier and setting themselves up to do well in a very competitive market. This integration is a game-changer for direct-to-consumer (D2C) and e-commerce brands because it lets them react faster, cut costs, and offer personalized goods very quickly.

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With 30 years at IKEA, Lena Julle steps into CSO Role

■ **M A Mohiemen Tanim**

Inter IKEA Group has officially appointed Lena Julle as its new Chief Sustainability Officer (CSO), effective May 1, 2025. Lena steps into the role after serving as Acting CSO since September 2024, in parallel with her responsibilities as Sustainability Manager at IKEA Range.

With over three decades of experience at IKEA, Lena has played a key role in shaping the company's global sustainability efforts, driving forward its climate and circularity ambitions. She has contributed significantly to developing sustainable products and solutions that support IKEA customers

Photo: *With 30 years at IKEA, Lena Julle steps into CSO Role*

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> *"The IKEA goal – to be more affordable, accessible, and sustainable, especially for those with limited budgets – resonates deeply with me," Lena shared. "Creating smart, well-designed, functional products for everyday life while making consistent progress on our sustainability agenda presents a tremendous opportunity."*

in living healthier, more affordable, and environmentally conscious lifestyles. As CSO, Lena will oversee IKEA's continued transformation into a circular and climate-resilient business, ensuring sustainability is embedded in the company's entire offer – from product design to customer use and end-of-life. Her leadership comes at a pivotal time, as IKEA intensifies efforts to limit global warming to 1.5°C, aligning with the Science Based Targets initiative (SBTi) Net-Zero Standard.

Teijin launches recycled polyester that mimics natural fibres

■ **Luke Wilson**

Teijin Limited has taken a major step towards sustainability in the textile industry by unveiling a cutting-edge recycled polyester that mimics the softness, texture, and breathability of natural fibres like cotton and wool. This innovative fabric is crafted from post-consumer plastic waste, offering both environmental and aesthetic benefits for fashion, sportswear, and home textile applications.

The newly developed recycled polyester addresses a growing demand for sustainable alternatives to virgin polyester and resource-intensive natural fibres. By closely replicating the look and feel of natural fibres, it bridges the gap between eco-friendly materials and consumer expectations for comfort and performance.

Teijin's proprietary technology behind this recycled polyester ensures enhanced fibre morphology and surface finish, enabling the fabric to achieve softness and drape similar to natural materials. Additionally, the recycled yarn offers durability and resilience, making it suitable for

diverse applications from everyday apparel to performance wear. Industry leaders have praised this innovation for advancing circular economy practices. By transforming plastic waste into high-value textile materials, Teijin is contributing to the reduction of landfill use and marine pollution while promoting resource efficiency. According to internal estimates, the adoption of this technology could lead to significant reductions in carbon emissions compared to conventional polyester production.

Teijin plans to collaborate with leading fashion and sportswear brands to integrate this recycled polyester into commercial products. The company aims to scale up production and expand market availability in the coming years.

Recover™–Intradeco Team Up for Recycled Cotton in El Salvador

■ **Luke Wilson**

In a bold step toward transforming textile production in the Western Hemisphere, sustainable materials science company Recover™ and global vertical manufacturing leader Intradeco have announced a strategic joint venture to accelerate the production of recycled cotton fiber in Central America.

The new venture, headquartered in El Salvador, aims to produce high-quality recycled cotton fibers by leveraging Recover's proprietary technology and Intradeco's robust manufacturing capabilities. This initiative will not only drive circular fashion systems but also support nearshoring trends and low-carbon supply chains in the Americas.

"This joint venture marks a pivotal moment in our mission to enable large-scale sustainable change in fashion," said Anders Sjöblom, CEO of Recover™. "We are excited to partner with Intradeco to bring our solutions closer to the Americas, meeting the growing demand for fast, flexible, and responsible sourcing."

Key highlights of the venture include:

Strategic Location: The plant in El Salvador benefits from proximity to textile waste streams and key production hubs.

Nearshoring Advantage: Supports brands shifting operations to the CAFTA region amid trade uncertainties.

Sustainability Commitment: Aims to reduce the carbon footprint and ensure compliance with UFLPA regulations for U.S. manufacturers.

The joint venture is scheduled to begin operations in 2025, with initial production supported by Recover's facility in Spain.

With this alliance, Recover™ further expands its global footprint—now serving from Spain, Bangladesh, Vietnam, Pakistan, and soon El Salvador—solidifying its role as a key enabler of circularity in the fashion industry.

Syre launches gigascale textile recycling plant in Vietnam

■ **Oliver Taylor**

Photo: *Syre signs MoU with Binh Dinh Province of Vietnam with intention of establishing Gigascale recycling*

Syre, a next-generation textile recycling company, has announced plans to build a gigascale recycling facility in Binh Dinh, Vietnam. This plant aims to process hundreds of thousands of tonnes of textile waste annually, with a focus on mechanically and chemically recycling polyester and cotton blends.

The facility is being developed in partnership with local Vietnamese authorities and global apparel brands committed to circularity. Once operational, it will be one of the largest textile recycling plants in Southeast Asia, positioning Vietnam as a critical node in the global recycling supply chain.

Syre's approach includes integrating automated sorting, fiber identification via spectroscopy, and depolymerization units. The goal is to recover textile-grade raw materials at commercial scale and feed them back into the global garment manufacturing system.

The investment is backed by global impact investors and sustainability-focused funds, who see textile recycling as a key growth frontier. The plant is expected to be fully operational by late 2026 and serve as a model for replication in other key textile hubs. By reducing dependence on virgin materials and preventing textile landfill waste, Syre's initiative could significantly accelerate progress toward a global circular textile economy.

Over 100 exhibitors lead textile recycling innovation at brussel's expo 2025

■ **Oliver Taylor**

The inaugural Textiles Recycling Expo 2025 is set to commence on 4–5 June at Brussels Expo, bringing together over 100 exhibitors and industry leaders to showcase cutting-edge recycling technologies and strategies aimed at fostering a circular economy in the textile sector.

Event Overview

Organized by Applied Market Information Ltd (AMI), the Textiles Recycling Expo 2025 is a free-to-attend event designed to address the pressing issue of textile waste. The expo will feature live demonstrations, technical showcases, and a comprehensive conference program, providing a platform for stakeholders across the textile value chain to collaborate on sustainable solutions.

Exhibitor Highlights

The expo will feature a diverse array of exhibitors, each presenting innovative solutions aimed at enhancing textile recycling processes:

BASF and trinamiX: BASF will introduce loopamid®, a recycled polyamide 6 derived entirely from textile waste, including complex fabric blends with elastane. trinamiX will showcase its PAL Two Spectrometer, a portable NIR-based textile identification tool that streamlines sorting processes.

Valvan: Demonstrating its Fibersort® and Trimclean® systems, advanced technologies for automated textile sorting and recycling, enhancing the quality and efficiency of material recovery.

Mesdan: Presenting its Laboratory Shredding Machine, capable of transforming industrial textile waste and worn-out garments back into their original fiber forms, supporting the production of new textiles.

Andritz and Pellenc ST: Showcasing their automated sorting line at the Nouvelles Fibres Textiles facility in France, capable of sorting garments by composition and color, removing non-textile components, and preparing materials for recycling into fibers suitable for spinning, nonwovens, and composites.

AIMPLAS: Highlighting its research and development initiatives in polymer recycling, focusing on sustainable solutions for textile waste management.

Stadler: Displaying its integrated sorting systems designed to handle complex textile waste streams, improving the efficiency of recycling operations.

Picvisa: Introducing its optical sorting technology, which utilizes artificial intelligence and machine learning to accurately identify and separate different textile materials.

Redwave: Presenting its sensor-based sorting machines, capable of detecting and sorting textiles based on material type and color, enhancing the purity of recycled outputs.

Syre: Showcasing its chemical recycling processes aimed at converting textile waste into high-quality raw materials for new textile production.

Conference Program

The expo's conference program will feature keynote speakers and panel discussions with representatives from leading organizations, including H&M, Looper Textile, Syre, and the European Commission. Topics will cover challenges and opportunities in scaling up textile recycling initiatives, policy developments, and innovations driving the circular economy in the textile sector.

Industry Alliance Hub

A central feature of the expo will be the Industry Alliance Hub, a collaborative space organized by EURATEX, Fedustria, ReHubs, Denim Deal, and Accelerating Circularity. This hub will facilitate networking, dialogue, and knowledge exchange among brands, recyclers, policymakers, and innovators committed to advancing textile recycling. The Textiles Recycling Expo 2025 promises to be a landmark event, bringing together key stakeholders to explore and implement sustainable solutions in textile recycling. Attendees can expect to gain valuable insights, forge strategic partnerships, and witness firsthand the innovations shaping the future of the textile industry.

Dilo Systems & Kansan announce partnership

■ **Benjamin Harris**

Dilo Systems GmbH, a German-based pioneer in nonwoven textile machinery, and Kansan Group, a Turkish manufacturer known for converting and packaging machinery, have entered into a strategic partnership to offer integrated solutions for the nonwovens sector. The collaboration aims to streamline production, improve system compatibility, and offer turn-key solutions for hygiene, filtration, automotive, and technical textile markets.

Announced ahead of the Techtextil North America trade fair, the partnership will see both companies combine their technological strengths to offer customers vertically integrated lines—from fiber preparation and web forming to converting and packaging. The joint portfolio will allow customers to reduce capital expenditure, avoid compatibility issues between equipment from multiple vendors, and accelerate time-to-market.

According to Johann Philipp Dilo, Managing Director of Dilo Systems, "This partnership is rooted in shared values of precision engineering, customer-centric innovation, and long-term service commitment. By aligning our machinery expertise with Kansan's post-processing

and packaging capabilities, we can provide a seamless manufacturing experience that adds value across the supply chain."

From Kansan's side, CEO Emre Kansan highlighted the strategic vision behind the partnership: "We've always believed that the future of nonwovens lies in system thinking. Our cooperation with Dilo means clients no longer have to choose between performance and integration—they get both."

The collaboration is particularly significant in the context of growing demand for nonwovens used in medical, hygiene, and filtration applications post-COVID-19. As global health standards rise and product cycles shorten, manufacturers are seeking solutions that are both efficient and adaptable.

Solar cell fabrics open new chapter in wearable energy

■ **Daniel Brown**

The line between fashion and function is blurring further with the development of solar cell fabrics—textiles embedded with photovoltaic elements that generate electricity from sunlight. From outdoor sportswear to military uniforms and refugee shelters, the applications of energy-harvesting garments are expanding rapidly.

These smart fabrics incorporate flexible, lightweight solar modules laminated or woven directly into the fabric. Innovations in organic photovoltaics (OPVs) and dye-sensitized solar cells (DSSCs) have enabled fabrics that are washable, breathable, and capable of producing up to 200 mW of power per square meter.

For example, a jacket fitted with solar panels can charge a smartphone in four hours of sunlight—particularly useful for remote or off-grid environments. Military forces and first responders are testing solar backpacks and vests that power communication devices and sensors. In the commercial sector, startups like Soliyarn and Powerweave are working on athleisure garments that integrate energy storage, GPS tracking, and temperature regulation. These products target adventure athletes, logistics workers, and tech-savvy


Photo: *Japan researchers (Sphelar Power)invent solar-cell fabric*

consumers.

For the textile industry, solar fabrics also open doors to a new revenue stream: "functional fashion." Apparel brands are now exploring capsule collections featuring solar accessories, charging pouches, and commuter-friendly wearables.

Challenges remain, particularly in durability, affordability, and aesthetic integration. However, advances in printable solar inks and stretchable

Photo: *Wearable ultra-lightweight solar textiles based on transparent electronic fabrics*
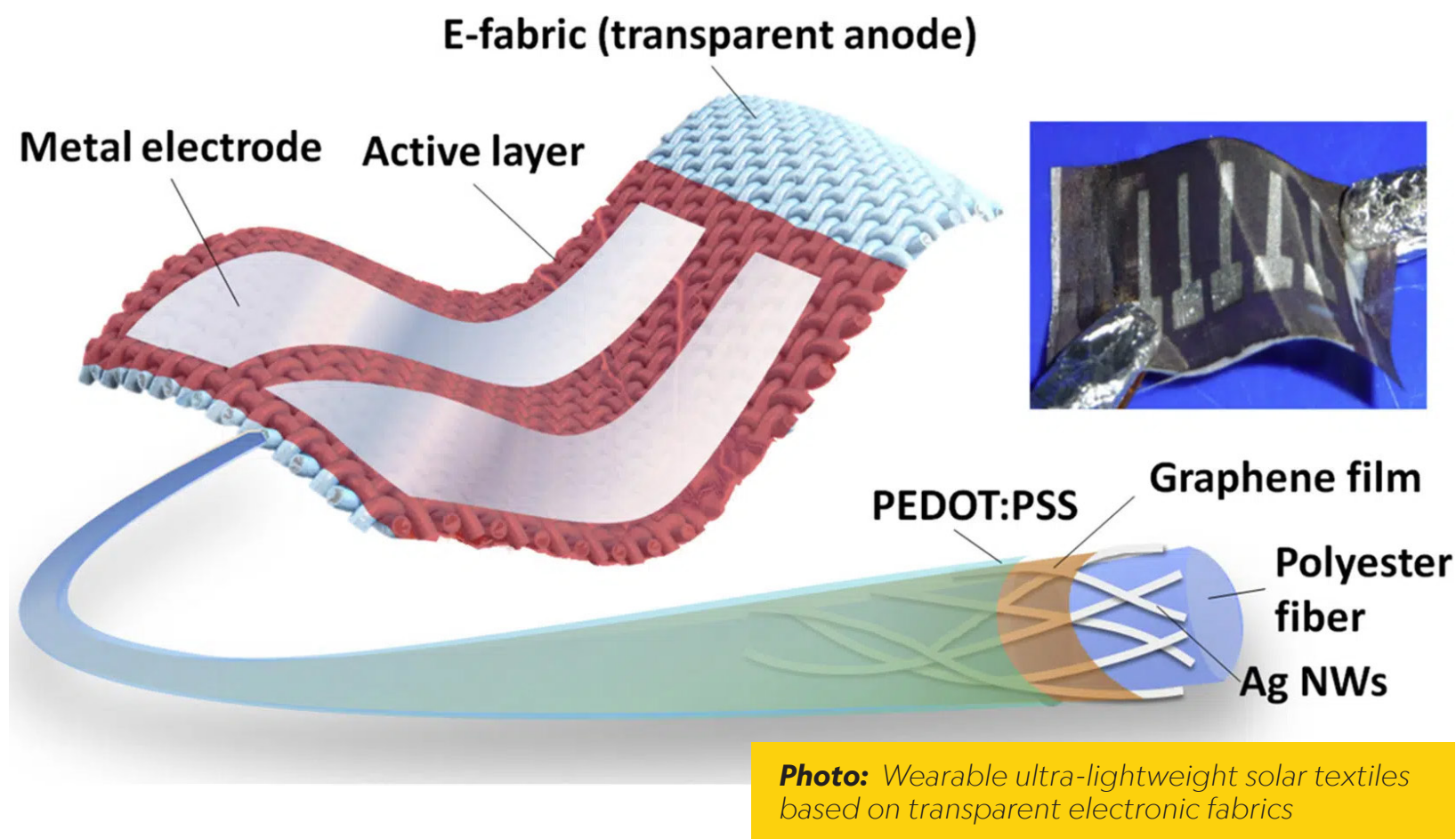
circuit design are addressing these hurdles. Researchers are also developing biodegradable solar materials to avoid adding to e-waste.

Solar fabric development aligns with wider goals of decentralizing energy access and reducing dependence on non-renewables. For apparel factories and brands focused on ESG innovation, investing in solar wearables may prove both marketable and mission-aligned.
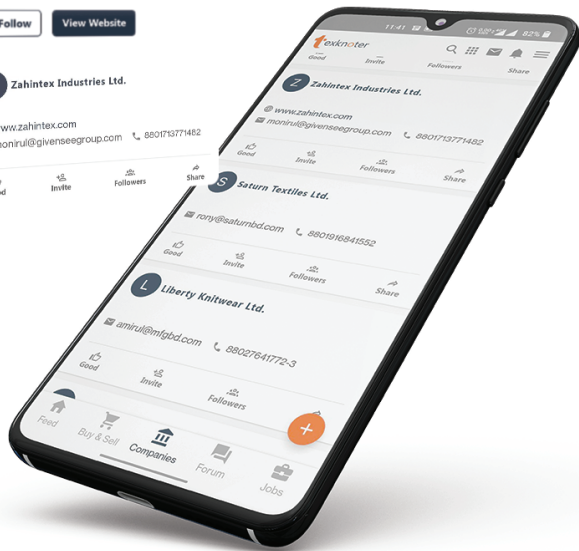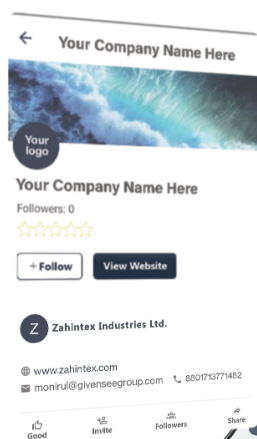
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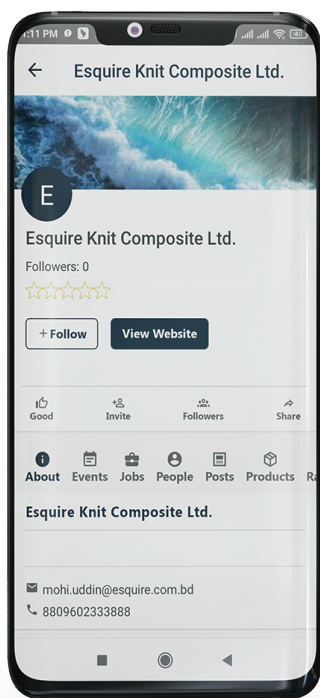- **Companies**
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