

2024 Fashion Landscape & Strategic Directions for 2025



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2024 fashion landscape & strategic directions for 2025

■ M A Mohiemen Tanim

The fashion and beauty industries are entering a transformative phase. Trends in consumer searches, behavior, and industry responses in 2024 reveal profound shifts that will influence strategies for 2025. From sustainability and automation to personalization and digital integration, I’m trying to explore an in-depth scenario of the evolving landscape in brief with actionable insights.

Consumer Trends and Economic Landscape

1. Sluggish Economic Growth with Regional Nuances

Global fashion revenue growth is

projected to stabilize at low single digits in 2025. While Europe will benefit from falling inflation and increased tourism, Asia remains pivotal. However, with China’s recovery showing mixed signals, brands are pivoting towards robust markets like India, Japan, and Korea (McKinsey).

In the U.S., high-net-worth individuals continue to anchor luxury spending, while middle-market brands focus on value-driven consumers. These dynamics necessitate localized go-to-market strategies and pricing flexibility.

2. The Silver Generation’s Rise

The “silver generation” (50+ years) represents an untapped opportunity.

This demographic, which values comfort, quality, and ethical practices, is becoming increasingly prominent as Gen Z maintains its influence with trend-driven purchases

Fashion Trends: Insights from 2024 Searches

1. Revival of Bold and Nostalgic Styles

Search data points to strong interest in nostalgic fashion, with items like reimagined polo shirts and bold patterns (animal prints, metallics) gaining traction. Colors like vanilla yellow and saffron, along with aquatic-themed designs, are forecasted to dominate Spring/Summer 2025 collections (Heuritech)

2. The Era of Mass Customization

Consumers are demanding personalized garments, with mass customization becoming mainstream. Searches for “custom-fit clothing” and “personalized fashion experiences” have surged, supported by technologies like 3D printing and AI. Direct-to-Consumer (DTC) brands are leading this trend, leveraging digital tools to deliver bespoke products

Beauty Industry Innovations and Search Insights

1. Sustainability and Transparency

Eco-conscious consumers are driving demand for transparency in product origins and sustainability claims. Searches for “clean beauty,” “refillable packaging,” and “vegan cosmetics” reflect this shift. Brands that integrate

transparency systems can capture loyalty from these ethically minded consumers

2. AI and Virtual Engagements

The integration of AI in beauty is reshaping the shopping journey. Virtual try-ons, AI-driven skin analysis, and personalized recommendations are making online beauty experiences more engaging. For example, searches for “AI skincare tools” and “virtual beauty tutorials” indicate growing consumer interest in tech-enhanced solutions

Technological Transformations and Operational Shifts

1. Automation in Manufacturing

Robotics and AI-powered machines are taking over tasks like cutting, sewing, and finishing, enabling faster, more consistent production. By 2025, automation will account for significant efficiencies, though it necessitates reskilling workers to manage advanced machinery. Searches for “automated fashion production” highlight increasing industry focus on this trend.

2. Digital Transformation Across Supply Chains

Fashion brands are leveraging digital tools for supply chain optimization. AI-powered inventory management, real-time data analytics, and demand forecasting are helping reduce waste while enhancing responsiveness. Brands integrating these technologies saw a 20% reduction in lead times in 2024.

Key Strategic Priorities for Brands in 2025

1. Sustainability as a Competitive Advantage

Consumers expect brands to prioritize the planet. While only 28% of global brands scored high in transparency in 2023, those that address this gap in 2025 will secure long-term trust. Circular fashion models and low-impact materials are critical investments (Fashion Revolution).

2. Enhancing the In-Store Experience

Physical retail is seeing a resurgence. Consumers now demand immersive, service-oriented shopping environments. Well-trained staff and curated product displays will differentiate successful stores. Searches for “best in-store fashion experiences” and “personal shopping assistants” surged in 2024.

3. Resilient Supply Chains

The geopolitical landscape and climate challenges demand agile supply chains. Nearshoring and sustainable practices are key to mitigating risks and achieving operational efficiency.

Challenges and Opportunities

1. Balancing Cost and Innovation

Rising material costs and inflation challenge profitability. Fiscal agility—dynamic pricing and strategic inventory management—remains essential. Brands must also address climate regulations, reducing emissions while maintaining margins.

2. Adapting to Consumer Expectations

As customization and personalization grow, traditional production models face obsolescence. Brands must innovate with flexible systems to cater to unique consumer preferences.

Looking Ahead: 2025 Forecast

The fashion and beauty industries will see dynamic shifts as they adapt to:

Technology Integration: Brands investing in AI, automation, and digital platforms will streamline operations and enhance consumer engagement.

Ethical and Sustainable Practices: Transparency will not just be an expectation but a key differentiator.

Diverse Demographics: Catering to both younger, tech-savvy consumers and the growing older demographic will expand market share.

Brands that leverage these trends with agility and innovation will emerge as industry leaders in 2025.

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Denim PV Milan testifies to dynamic of collaboration and innovation

■ Md Muddassir Rashid



Photo: Denim Première Vision 2024 latest edition went beyond a traditional one and stood out for its strong emphasis on sustainability and circular fashion.

Sustainable denim innovation was displayed at Milan's lively Superstudio Più for the Denim Première Vision 2024 latest edition, on December 4 and 5, 2024. This year the show went beyond a traditional one and stood out for its strong emphasis on sustainability and circular fashion.

Over 70 exhibitors from 14 countries showcased their latest sustainable innovations at Denim Première Vision Milan 2024. The event highlighted cutting-edge dyeing techniques that conserve water, as well as the increasing use of recycled and biodegradable fibers. This reflects the industry's commitment to reducing its environmental footprint.

Première Vision, CEO, Florence Rousson said, "Denim is evolving with a unique versatility from casual to elegant and is more than ever a pillar of the luxury sector. Today, it reflects the great

aspirations of our industry as a whole: to combine excellence, ecological responsibility and innovation."

"This new edition of Denim Première Vision embodied an exceptional collective energy with a resolutely forward-looking spirit. In a global context characterized by uncertainty, the success of this event testifies to the strong determination of our industry to continue its dynamic of collaboration and innovation. The number of visitors was in line with expectations, both in terms of volume and in terms of both volume and the wide variety of profiles," she added.

At the show's 23 conferences, industry experts presented their latest innovations and sustainable initiatives on stage. They provided a space for the exchange of thoughts, ideas and solutions to shape the future of denim highlighting how innovation, sustainability and collective intelligence



DENIM NEXT SHOW SAVE THE DATE MILAN 21-22 MAY 2025

Photo: Md Muddassir Rashid, Europe Bureau Chief, Textile Space Today.

come together to master the challenges of tomorrow.

Experts on stage shed light on the importance of innovations in the manufacturing processes, particularly in the areas of washing dyeing and sustainable materials management.

Among others, Pioneer Denim presented its new Denim Couture concept in an exclusive talk featuring Christian Recca, head of marketing, being interviewed by Maria Cristina Pavarini, senior editor of The SPIN OFF/ Fashion, stressing the importance of creating and reinventing the heritage of traditional 5-pocket jeans and transform them into real fashion statements.

Orta presented its Bioawake by Orta project emphasizing the future of environmentally friendly denim and showing how companies can integrate sustainability into their production strategies.

Craftsmanship and technology were also at the center of the exchange, especially with a focus on Made in Italy and responsible washing methods

given by Blue Jeans Lavanderie.

Officina39's Andrea Venier presented the company's "Zero PP" concept and provided valuable insights into new approaches to eliminating plastics in denim production.

Amy Leverton, founder of Denim Dudes, explored topics from pop culture to protest movements and showed how every meme, movement and attitude will influence the design, manufacture, and marketing of jeans by 2026.

The event also explored the socio-cultural nuances of the Middle Eastern market and the role of women in shaping fashion trends. Additionally, denim expert Julieta Mercerat provided insights into upcoming denim trends for the Spring/Summer 2026 season.

The Fashion Forum was a highlight of the event, showcasing innovative garments and sustainable concepts for the upcoming season. The focus was on denim's versatility and eco-consciousness, with a strong emphasis on recycled fibers, sculptural silhouettes, and bold color palettes.

Trump vows new tariffs on China, Canada, & Mexico from day one

Donald Trump, the U.S. president-elect, has announced plans to impose sweeping tariffs on goods from Mexico, Canada, and China as a cornerstone of his policy agenda upon taking office on January 20, 2025. In a statement, Trump declared that a 25% tariff would apply to all imports from Mexico and Canada, while goods from China would face an additional 10% tariff, on top of existing duties, unless those nations address issues related to illegal immigration, drug smuggling, and fentanyl production.

The proposed tariffs represent a significant escalation in trade tensions with the U.S.'s largest trading partners, which account for approximately 40% of the \$3.2 trillion in goods imported annually. Critics warn that such measures could disrupt global supply chains and lead to higher prices for U.S. consumers.



Trump defended the tariffs, claiming that Mexico and Canada could “easily solve” drug trafficking and migration problems, adding, “It is time for them to pay a very big price.” He accused China of failing to curb the export of fentanyl precursors, which he said have fueled an opioid crisis responsible for nearly 75,000 U.S. deaths last year.

Responses from the targeted countries were swift. Mexico’s finance ministry highlighted the importance of the U.S.-Mexico-Canada Agreement (USMCA) for bilateral trade, while Canada’s Prime Minister Justin Trudeau

stressed the comparative insignificance of Canadian migration to the U.S. during a phone call with Trump. Meanwhile, China dismissed the accusations and warned of mutual economic harm from a trade war.

The move has drawn sharp criticism domestically and abroad. Ontario Premier Doug Ford described the tariffs as “devastating,” and Mexico’s Senate leader Gerardo Fernández suggested retaliatory measures. Economists caution that the burden of tariffs would likely fall on U.S. consumers and businesses, as importers would pass costs down the supply chain.

SRG investigation exposes fashion industry's reliance on texas fracking



Photo: Stand.earth outlines fashion and fracking connection

A new investigation by the Stand.earth Research Group (SRG) has exposed links between more than 100 fashion brands and fracked oil and gas from Texas's Permian Basin.

Using customs records, corporate disclosures, and investor reports, SRG's research connects U.S.-produced ethane from fracked natural gas to polyester fabric production, revealing supply chain ties to 107 major brands. The organization has also launched an interactive Fracked Fashion Map to visualize these connections, allowing users to track specific brands and parent companies tied to the fracking industry.

The investigation emphasizes the environmental and social toll of fracking, including water pollution, community health risks, and significant contributions to the climate crisis. The

Permian Basin, dubbed the world's largest potential "carbon bomb," could emit 27.8 gigatons of CO₂ if its reserves are fully exploited. Fracked gas from the region is a key input in the petrochemical industry, which has become the largest industrial consumer of fossil fuels after transportation.

Alarmingly, synthetic fibers already account for over two-thirds of global textile production and are projected to dominate 73% by 2030. Yet only 57 of the 107 implicated brands have policies to reduce virgin polyester use, and just one has committed to phasing it out completely. Many brands rely on recycled polyester (rPET) sourced from plastic bottles—a controversial alternative that experts argue sustains fossil fuel demand, sheds microplastics, and cannot be effectively recycled.

Milliken sets benchmark with Non-PFAS firefighter gear



Milliken & Company has become the first textile manufacturer to offer non-PFAS materials for all three layers of firefighter turnout gear, ensuring safety without compromising on performance. These innovative fabrics—Horizon™, Assure™, and Equinox™—address concerns about PFAS (per- and polyfluoroalkyl substances), providing safer and more environmentally friendly alternatives.

Milliken's materials form a complete system comprising the outer shell, thermal liner, and moisture barrier, simplifying testing and manufacturing processes for garment producers. This advancement aims to minimize delays and expedite gear distribution to firefighters.

"Milliken is proud to offer non-PFAS fabric for every layer of turnout gear," said Marcio Manique, Senior Vice President of Protective Fabrics at Milliken. "Our certification results prove

firefighters don't have to compromise on health, protection, or comfort when choosing the right gear."

Innovative Fabric Layers:

Horizon™: A durable, lightweight outer shell with unmatched strength retention and appearance over time.

Assure™: A flame-resistant, non-halogenated moisture barrier exceeding NFPA 1971-2018 requirements.

Equinox™: A slick thermal liner offering superior moisture management and comfort.

Third-party testing confirmed these fabrics outperform the stringent NFPA 1971-2018 standards, surpassing reduced benchmarks set by the 2025 NFPA 1970 standards. Performance metrics for Milliken's composites show Total Heat Loss (THL) and Thermal Protective Performance (TPP) well above minimum requirements.



Archroma showcases DENIM HALO process for laser-friendly denim

Archroma, a global leader in sustainable specialty chemicals, showcases DENIM HALO process at two major industry events in December: Sustainability Talks in Istanbul, Turkey, and Denim Première Vision in Milan, Italy.

The DENIM HALO process, a innovative pretreatment and dyeing technology, offers a laser-friendly and environmentally conscious solution for denim manufacturing. Developed as part of Archroma's PLANET CONSCIOUS+ approach, the process enables denim brands to achieve distinctive, worn looks and intricate design effects through resource-saving and cleaner production methods.

The process combines Archroma's DIRSOL® RD pretreatment with its DENISOL® indigo dyes, including an aniline-free formulation, or DIRESUL®

sulfur-based dyestuffs. This innovative technology facilitates superficial ring-dyeing, which is ideal for laser effects, reduces yarn shrinkage, and enhances garment tensile strength. The DENIM HALO process minimizes the environmental impact by cutting caustic soda use in dyeing, reducing effluent loads, and eliminating harmful practices like manual scraping and potassium permanganate spraying.

In collaboration with Kipaş Denim and Jeanologia, Archroma is also introducing a hangtag for the Contra Denim collection. This range leverages DENIM HALO to create long-lasting distressed denim looks while conserving water, energy, and reducing greenhouse gas emissions. The hangtags will communicate these eco-benefits to consumers, fostering transparency and trust.

Leather industry's greenwashing exposed in new report

■ Rahbar Hossain

A recent report, “Fabricating the Truth,” by Collective Fashion Justice has exposed significant disinformation and lobbying practices by the leather industry. While the leather sector portrays itself as a sustainable ally for ethical fashion, the report uncovers that this image is systematic greenwashing and lobbying against regulatory measures aimed at promoting sustainability.

Key Findings from the Report

Disinformation Campaigns:

Social Media Myths: The leather industry disseminates myths such as leather being a harmless by-product of the meat industry, ethical



production claims, and assertions that leather is plastic-free. These claims are refuted by evidence linking leather to environmental degradation, unethical animal practices, and frequent plastic coatings.

Eight Myths Identified: Examples include misleading statements about leather’s impact on deforestation, methane emissions, and its role as a sustainable alternative to synthetic materials.

Lobbying Against Regulations:

EU Deforestation Law: Leather industry groups have lobbied to exclude leather from regulations targeting deforestation-linked products,

arguing impracticality in supply chain transparency.

COP Participation: The industry leveraged events like COP28 to promote “biogenic methane” myths and advocate against emissions regulation, mirroring tactics used by the oil industry.

Impact on Sustainability:

Animal-derived leather contributes to biodiversity loss, greenhouse gas emissions, and unethical labor conditions.

Alternative materials like bio-based and recycled options are systematically disadvantaged due to the disproportionate subsidies and

lobbying power held by the leather sector.

Recommendations for Progress

The report advocates for urgent action from all stakeholders:

Industry: Transition from animal-derived leather to innovative materials, while avoiding misleading marketing practices.

Governments: Strengthen transparency, curb lobbying influence, and reallocate subsidies to support sustainable alternatives.

Citizens: Demand accountability from brands and policymakers, and support shifts toward ethical material choices.

Myths about leather debunked in this report

Myth 1: Leather is a recycled by-product of the meat and dairy industries, using it does not impact cattle rearing.

Myth 2: Leather is not tied to deforestation.

Myth 3: Leather is ethical and produced with high welfare for animals, no animals are harmed for leather.

Myth 4: Leather does not use harmful substances dangerous to workers.

Myth 5: Leather is more responsible than alternatives.

Myth 6: The leather industry has a positive climate and environmental impact.

Myth 7: Leather can reduce methane levels in the atmosphere and can be regenerative.

Myth 8: Leather is plastic-free.

GROK X1

Exotic skin banned at london fashion week

London Fashion Week (LFW) has taken a groundbreaking step by banning exotic animal skins, such as crocodiles and snakes, in its collections. The decision, announced by the British Fashion Council (BFC) deputy director of policy and engagement David Leigh-Pemberton, marks a significant expansion of LFW's existing fur ban, enacted last year.

While many LFW designers, often emerging talents, already avoid exotic materials, the policy solidifies London's position as a leader in ethical fashion among the "big four" fashion capitals, ahead of Paris, Milan, and New York. This move follows Copenhagen Fashion Week's similar ban in March, further signaling a shift in the industry.

The use of exotic skins has long been a contentious issue. While some brands view them as symbols

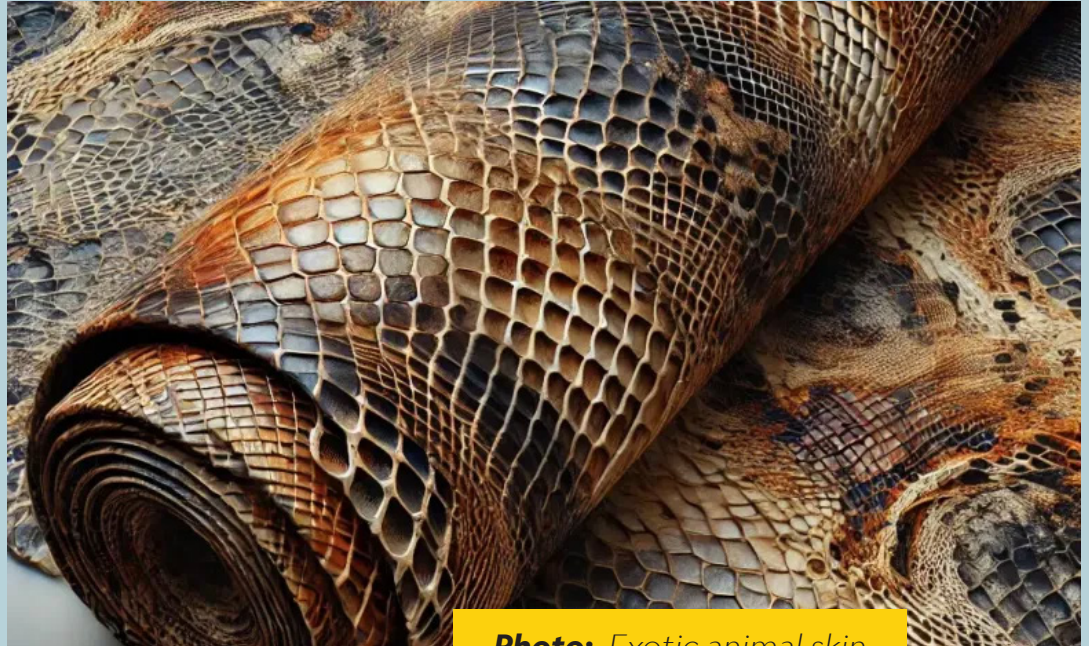


Photo: Exotic animal skin

of luxury, others have begun abandoning such materials. Chanel banned exotic skins as early as 2018, while Marc Jacobs joined the trend earlier this year. However, prominent houses like Hermès, Prada, and Kering continue to utilize exotic materials, citing their association with high-end craftsmanship. Critics of bans argue that exotic skins can be sustainable when sourced from invasive species. For instance, Gabriela Hearst's use of python leather from Florida-based Inversa for her Spring/Summer 2025 collection highlights this

perspective. Yet, animal rights activists like Peta, who have protested extensively at fashion events, applaud LFW's stance.

"Tens of thousands of Peta supporters called for this move," said Yvonne Taylor, Peta's VP of corporate projects. "We salute the compassionate British designers who championed this policy."

As the industry evolves, LFW's bold decision underscores a growing shift toward ethical, sustainable practices in luxury fashion, setting a precedent for other major fashion weeks.

AbTF partners with TextileGenesis™ to enhance traceability of CmiA fiber

■ AH Monir

The Aid by Trade Foundation (AbTF) and TextileGenesis™, a subsidiary of the Lectra Group, have announced a renewed partnership to enhance the traceability of Cotton made in Africa® (CmiA) verified fibers. This collaboration, leveraging TextileGenesis’ advanced Fibercoins™ technology, reaffirms both organizations’ commitment to transparency, sustainability, and ethical cotton production.

CmiA, one of the foremost standards for sustainable cotton, is dedicated to improving the livelihoods of smallholder farmers in Africa while protecting the environment. By integrating TextileGenesis’ innovative traceability solutions, the partnership enables brands to verify the journey of CmiA

“This partnership strengthens our mission to drive authenticity and sustainability in textile supply chains while supporting African smallholder farmers.”

Amit Gautam

Founder and CEO of TextileGenesis



At Cotton made in Africa®, we value transparency and strive for meaningful change. TextileGenesis equips brands to source ethically while benefiting from proven tracking tools, promoting long-term sustainability for farmers and the environment

Christian Barthel

Head of Business Development, AbTF

cotton from field to fashion. This ensures sustainability claims are accurate, bolsters consumer trust, and enhances annual reporting for brands.

Building on the success of their earlier collaboration on The Good Cashmere Standard®, this extension into cotton highlights the growing importance of traceability in textile supply chains. TextileGenesis’ Fibercoins™ technology empowers brands to track CmiA cotton through every production stage, providing visibility across the entire supply chain. Brands can utilize this technology alongside CmiA’s SCOT system, offering flexibility and efficiency in managing sustainable cotton sourcing.



Photo: Universal Fibers, Bristol Campus ©Universal Fibers

Universal Fibers® expands Nylon 6,6 capabilities amid fiber market shifts

Universal Fibers, a global leader in innovative fiber solutions, has announced a significant expansion in its Nylon 6,6 capabilities to address evolving customer needs and changes in the fiber market. This strategic move comes in response to Ascend’s recent exit from the bulked continuous filament (BCF) fiber business, creating opportunities for Universal Fibers to further strengthen its position as a reliable partner in the carpet and textile industries.

The company’s latest investments focus on increasing spinning capacity for Solution Dyed Nylon (SDN) and natural yarn offerings in Nylon 6,6. These enhancements will enable Universal Fibers to meet growing market demands for durable, high-performance, and sustainable fiber solutions. The emphasis on Nylon 6,6

underscores its continued importance in the carpet industry, where its performance qualities are highly valued.

“Universal Fibers is excited to capitalize on this opportunity,” stated Marc Ammen, CEO of Universal Fiber SystemsSM. “These new resources will not only enhance our product portfolio but also reaffirm our commitment to customer satisfaction, innovation, and long-term growth. Supporting our customers through these industry transitions remains our top priority.”

Renowned for its expertise in diverse fiber chemistries, Universal Fibers is uniquely positioned to offer flexible and tailored solutions. The company’s investment highlights its dedication to delivering innovative, sustainable, and high-performing products, further solidifying its role as a trusted partner in the industry



VIATT 2025: A platform for Eurasian & ASEAN textile excellence

As Vietnam's textile and garment exports project a remarkable USD 44 billion in 2024, the Vietnam International Trade Fair for Apparel, Textiles, and Textile Technologies (VIATT) 2025 is set to play a pivotal role in the industry's ongoing growth. Scheduled for February 26–28, 2025, at the Saigon Exhibition and Convention Center (SECC), the event will showcase the latest innovations and solutions across the textile value chain, strengthening Vietnam's position as a global manufacturing hub.

Spanning 15,000 sqm, VIATT 2025 will feature products ranging from apparel fabrics and accessories to technical textiles and advanced technologies.

Notable exhibitors include:

Bossa Ticaret Ve Sanayi Isletmeleri TAS (Türkiye): A leading producer of high-quality denim fabrics.

Chargeurs PCC Asia Limited (France):

A global leader in inner component solutions with diverse market applications.

Hohmann GmbH & Co. KG (Germany):

Renowned for home and contract textiles with extensive production capabilities.

Technical Absorbents Ltd (UK):

Innovator in superabsorbent fibers and nonwoven technologies.

Asian exhibitors will also make a strong showing, including Japan's Murata Machinery with its VORTEX yarn technology and Vietnam's IDFL Vietnam, highlighting local expertise. Organized by Messe Frankfurt (HK) Ltd and VIETRADE, VIATT 2025 will connect ASEAN buyers with global textile leaders, reinforcing Vietnam's role in driving innovation and sustainability in the global textile market.

 **Read more:** For more information, visit www.viatt.com.vn.

Heberlein introduces low-denier yarn processing innovations at GTTES

■ Tanvir

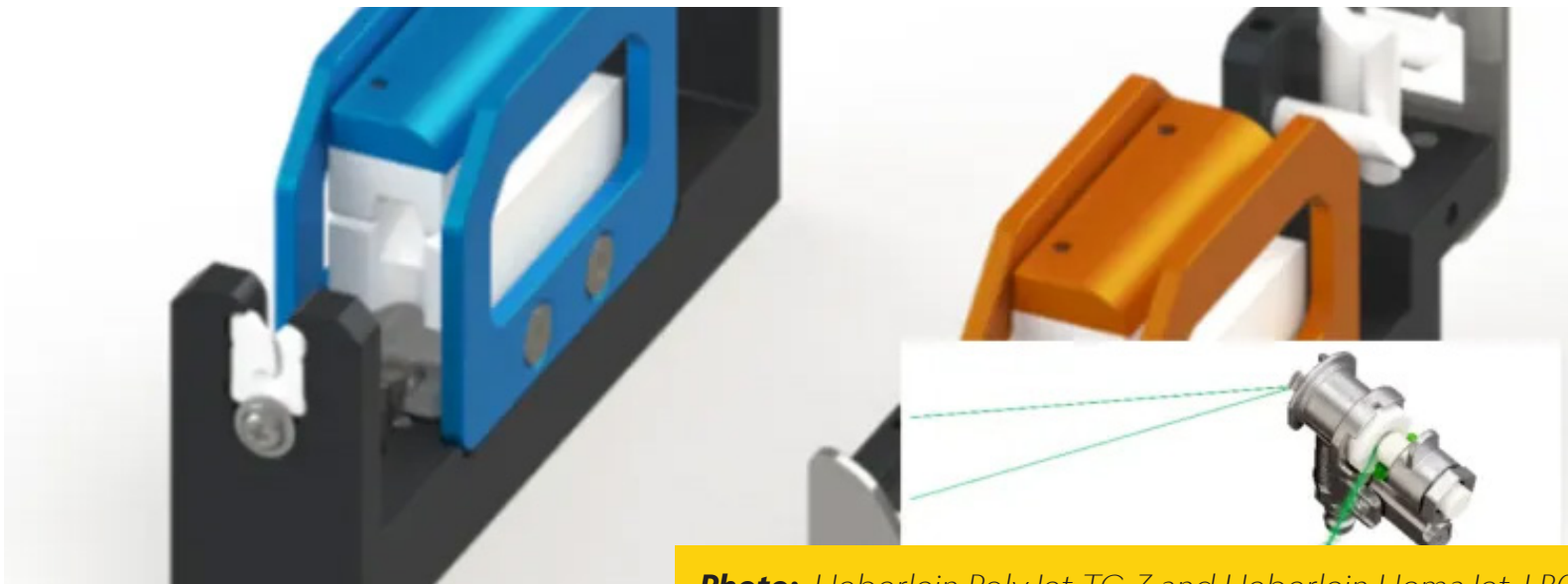


Photo: Heberlein PolyJet-TG-3 and Heberlein HemaJet-LB06

Heberlein Technology AG, a global leader in air interlacing and texturing solutions, will showcase its latest advancements at the upcoming Global Textile Technology & Engineering Show (GTTES) in Mumbai, India, in January 2025. Among the highlights are the DTY Jet Insert APe043 and the new HemaJet-LB06, which will set new benchmarks for efficiency, quality, and performance in the textile industry.

APe043 Jet Insert: Redefining Low-Denier Yarn Processing

Designed for ultra-fine yarns as low as 20 denier, the APe043 Jet Insert features a record-small 0.65 mm orifice. This precision minimizes yarn displacement and ensures a smooth, knot-free production process. Catering to the rising demand for lightweight, high-quality fabrics, this innovation significantly enhances productivity and profitability for manufacturers.

HemaJet-LB06: An Economic Solution

for Air Texturing

Heberlein's new HemaJet-LB06 jet housing supports its comprehensive jet core series (T, A, and S), offering a versatile, robust, and cost-effective solution for air texturing (ATY). The adjustable impact body-to-core distance enables precise texturing control, facilitating the production of yarns ranging from compact and uniform to soft and overfed styles.

PolyJet Series: Excellence in Spinning and Technical Yarns

Heberlein's PolyJet-SP3 and TG-3 series are game-changers for spinning and technical yarns. The PolyJet-TG-3, in particular, delivers unparalleled knot density—achieving over 12 knots per meter for high-tenacity yarns. Its quick-release system allows for rapid jet pack changes, enhancing efficiency while maintaining exceptional yarn quality with consistent tensile strength, elongation, and elasticity.

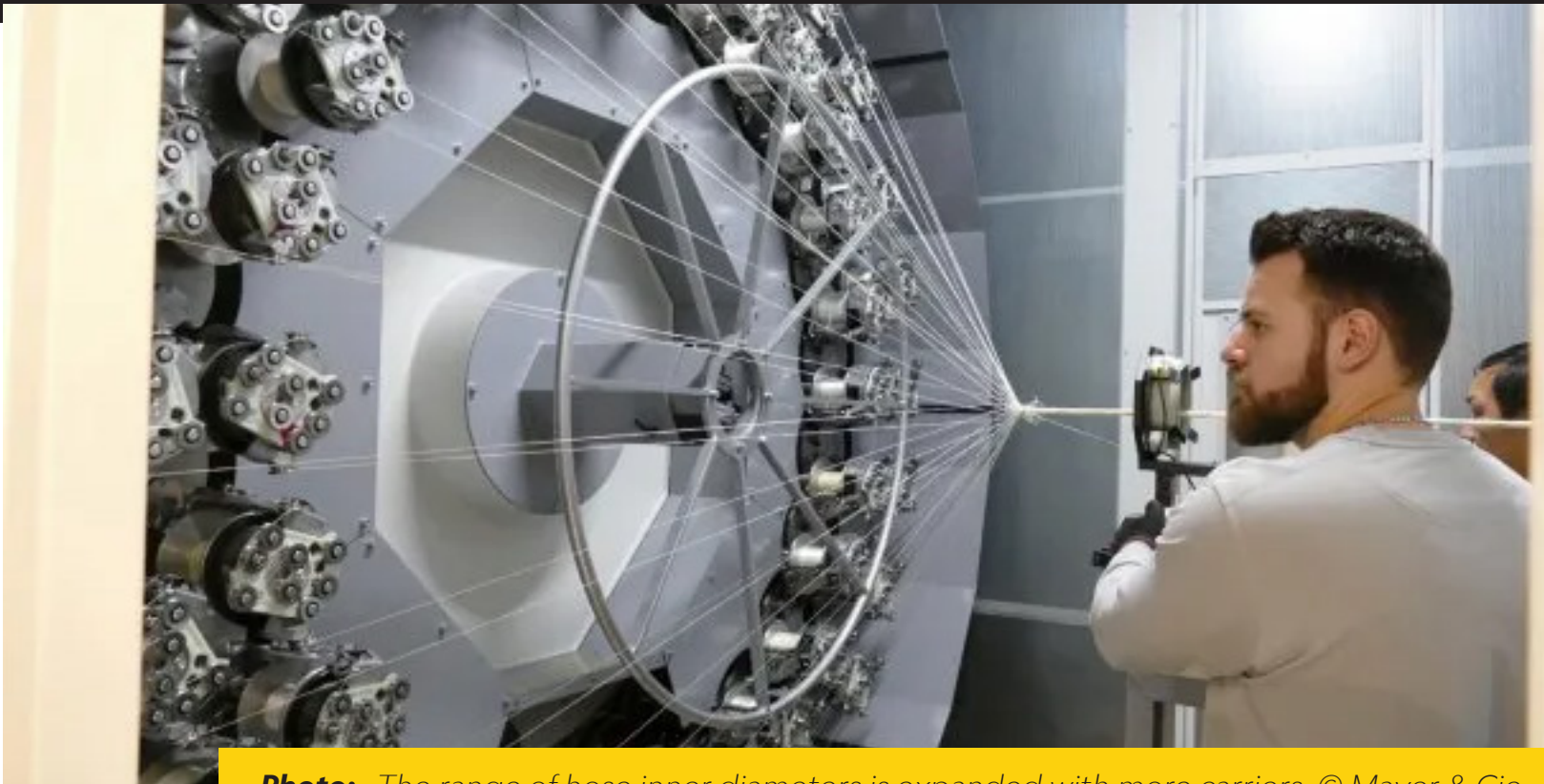


Photo: The range of hose inner diameters is expanded with more carriers. © Mayer & Cie

Mayer & Cie introduces 48-carrier braiding machines for wires & yarns

■ Farin Tasnim

Mayer & Cie, based in Albstadt, Germany, is set to deliver its first MR-11 braiding machine with 48 carriers to a customer before Christmas, followed by the MR-15 model early next year. This innovative advancement allows for greater inner tube diameters and enhanced efficiency in processing both wires and yarns.

Previously available with 16, 20, 24, and 36 carriers, Mayer & Cie's braiding machines now support up to 48 carriers, significantly expanding their capabilities. For high-pressure hoses reinforced with wire, the machines can produce inner diameters of up to 50mm. When used for textile braids, the inner diameters can reach up to 150mm, making the machines versatile for a range of applications.

The machines retain the same coil volumes across all configurations, with bobbin sizes tailored for different needs. The Bobbin Standard holds 1,580 cm³, while the Bobbin Long and Extra Long provide 3,920 cm³ and 5,170 cm³ respectively. This allows operators to process larger material quantities before requiring spool changes, resulting in shorter setup times and increased productivity. "With more carriers and higher coil volumes, users can handle greater material loads with fewer interruptions," says Patrick Moser, head of the company's braiding business unit.

Despite the increased carrier count, the rotor speed remains constant across all MR-11 and MR-15 models, ensuring consistent performance. The speed of individual carriers is adjusted to accommodate the larger number of carriers.

Hohenstein & Under Armour launch test kit to combat textile microfibre shedding

■ Farin Tasnim



Photo: For the test, the textiles are cut into round pieces and stirred by magnetic mixers in a glass of liquid. After this process, the fibres are filtered and visually assessed. © Hohenstein

In a collaborative effort, testing provider Hohenstein and Under Armour introduced a new fiber-shed test kit to reduce microfibre shedding in textiles. This innovative tool allows textile companies to assess and develop materials that release fewer fibers during production, wear, and laundering.

The kit enables companies to conduct in-house testing or engage Hohenstein as a service provider for technical advice and testing. "This new method perfectly complements our current portfolio as a leading research and testing lab for textile fibre release," said Dr. Timo Hammer, CEO of Hohenstein. "We are proud to support Under Armour and its suppliers as a neutral, third party for testing." The kit is available for a one-off purchase, with additional materials available from project

partner James Heal.

This initiative will help Under Armour evaluate supplier materials' quality and shed rate more effectively. For Hohenstein customers, it serves as an affordable and quick preliminary test, adding value to their ongoing microplastic testing efforts. The test kit is expected to significantly reduce fiber shedding, addressing an ongoing environmental challenge. "Integrating fiber-shed testing has traditionally been costly and time-consuming," said Kyle Blakely, Senior Vice President of Innovation at Under Armour. "Our test method eliminates these barriers, enabling earlier intervention to mitigate shedding." A step-by-step instructional video from the Hohenstein Academy ensures users understand the correct testing process.



Read more: www.texspacetoday.com/hohenstein-under-armour-launch...

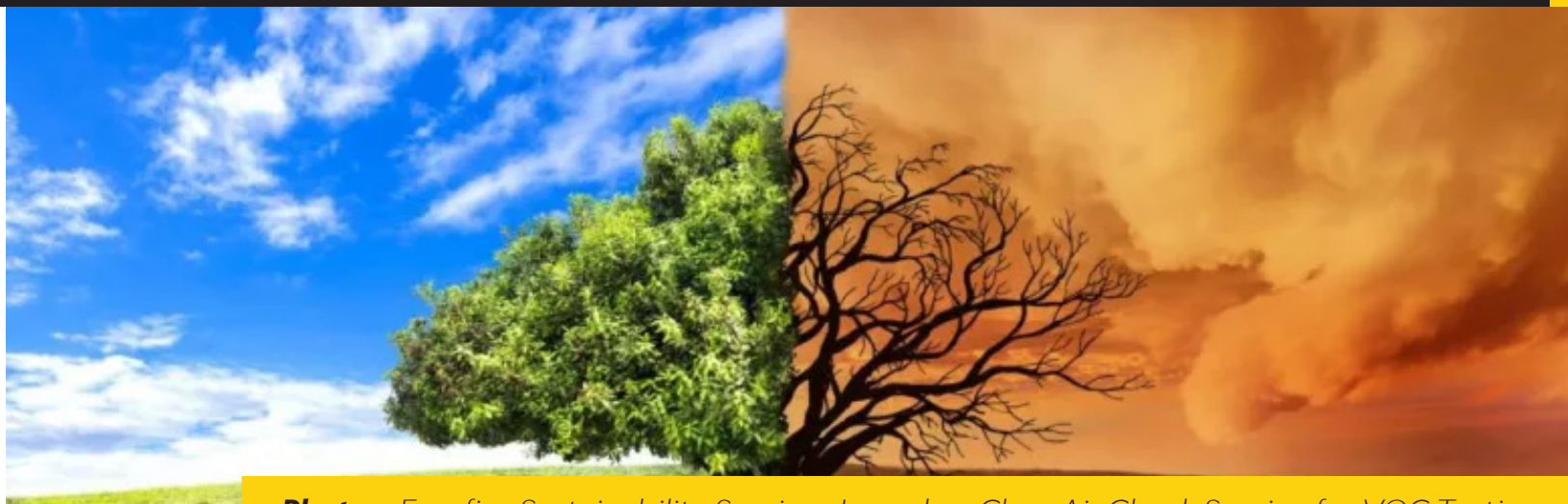


Photo: Eurofins Sustainability Services Launches CleanAir Check Service for VOC Testing

Eurofins launches CleanAir check service for VOC testing

■ Faysal Ahmmad

Eurofins Sustainability Services has expanded its offerings to include the CleanAir Check service, designed to support businesses in managing Volatile Organic Compound (VOC) emissions effectively. This development aligns with the recently issued Zero Discharge of Hazardous Chemicals (ZDHC) Air Emissions Guidelines V1.0, which emphasize controlling VOC emissions across supply chains.

Targeting industries such as textiles and footwear, where VOC emissions are prevalent, the CleanAir Check leverages advanced analytical techniques to ensure compliance with ZDHC guidelines. The service calculates the full Potential to Emit (PTE) VOCs, measures actual emissions, and detects trace amounts of hazardous chemicals. These insights are vital for Environmental, Social, and Governance (ESG) reporting and regulatory compliance.

“Our CleanAir Check is a game-changer for businesses aiming to achieve both

sustainability and regulatory goals,” said a Eurofins representative. “By providing accurate VOC testing and actionable plans, we empower companies to lower emissions and protect human and environmental health.”

The service offers multiple advantages, including alignment with future updates to air emission guidelines and comprehensive reports for the ZDHC Supplier Platform Air Emissions Module. Eurofins will also provide guidance to reduce emissions through tailored recommendations.

A white paper detailing relevant regulations and the CleanAir Check service has been published, and a webinar is scheduled for February 13, 2025, to share further insights.

Eurofins Sustainability Services consolidates sustainability solutions, offering services like microplastics testing, life cycle analysis, and supply chain audits. With this latest initiative, Eurofins continues to lead in helping businesses achieve their sustainability objectives.

Revolutionizing textile recycling in Bangladesh: A Journey with Dell'Orco & Villani

Desk Report

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



Potentiality of the Recycling RMG Industry

Bangladesh, with a substantial cotton fiber clothing manufacturing base, could benefit from \$1.2 billion in recycled textile and garment products. Currently, only five percent of the 600,000 tonnes of pre-consumer textile waste generated each year is recycled locally. Local producers often import recycled fiber and

yarn made from waste and scrap fabrics exported from Bangladesh. If 100% of cotton waste is recycled in Bangladesh, it could save \$500 million on cotton imports.

Introducing Dell'Orco & Villani

In Italy, Dell'Orco & Villani's revolutionary textile recycling machine, developed since 1964, is transforming the textile industry. This state-of-the-art

An Overview of the Textile Recycling Market:

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



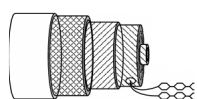
"Delta Start" System confirms Less Power Consumption



Highest Level of Fire Protection



Big Drum Size for High Level Production



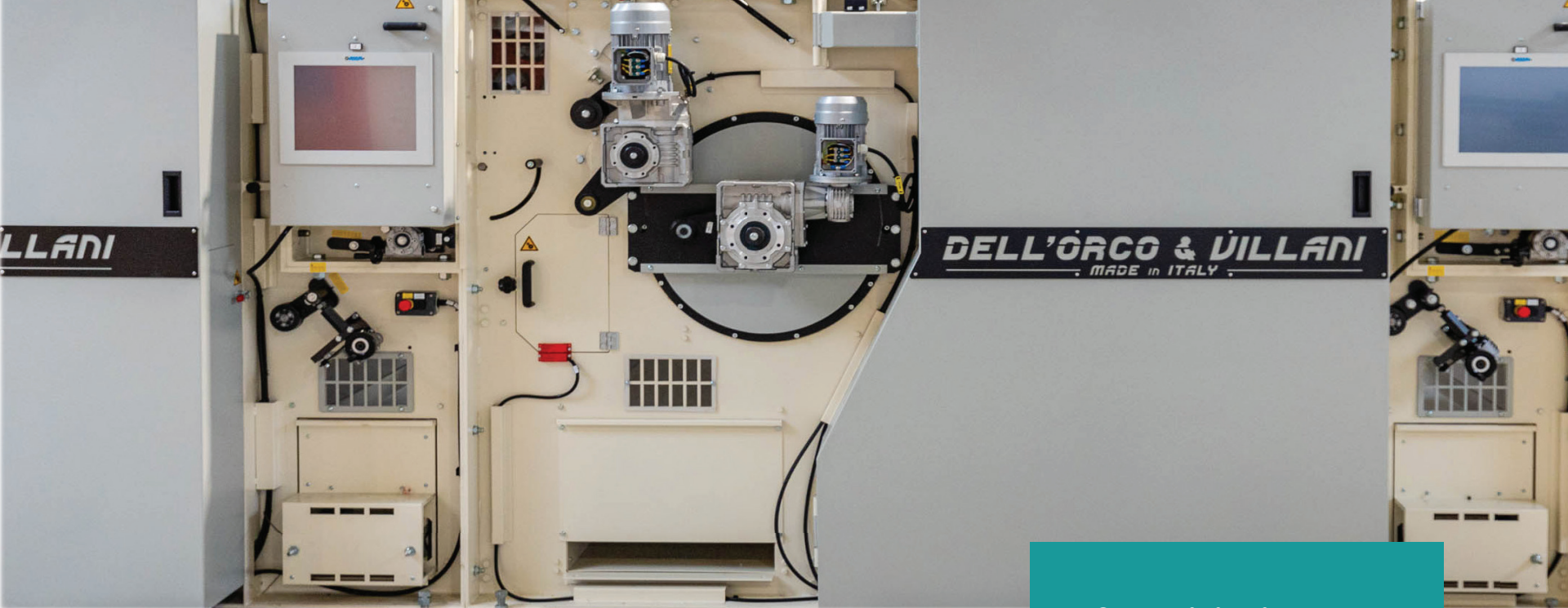
Special Technology for Homogeneous Fiber



Auto Blending System for Uniform Fiber Length



Member of Association of Italian Textile Machinery Manufacturers



innovation converts textile and garment waste into reusable materials, offering a sustainable solution to address environmental concerns.

Distinguished features:

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

power consumption reduction compared to alternatives, coupled with cutting-edge dust control technology (User's feedback).

RH Corporation & SAS Enterprise: Pioneers in Textile Recycling

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

Engaging with Stakeholders

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

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

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

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

Myant & Coapt collaborate on textile-based neural interfaces for pain management



Photo: Integrated textile-based neural interface system combining Myant's sensors and Coapt's EMG control for enhanced prosthetics.

Myant Corp., a leader in textile computing for healthcare, and Coapt, an innovator in neural interface systems, have announced a strategic partnership for assistive technology. The collaboration will focus on developing textile-based electromyography (EMG) interfaces to enhance prosthetic devices and therapeutic solutions.

This partnership merges Coapt's advanced EMG intent-decoding technology with Myant's expertise in textile innovation. Together, they aim to deliver solutions offering superior comfort, precision, and control for prosthetic limb users. The collaboration also holds potential for addressing phantom limb pain and advancing biofeedback therapies.

"Myant and Coapt are aligned in their commitment to improving quality of life through seamless integration of

technology with the human body," said Tony Chahine, CEO of Myant. Coapt's CEO, Blair Lock, emphasized the shared objective of developing solutions that enhance user autonomy and functionality while ensuring optimal comfort. The collaboration will extend into virtual and augmented reality applications for medical therapies, with research and clinical trials planned to explore broader implications. These initiatives aim to set new benchmarks globally for assistive technology and patient care.

Myant integrates sensor and actuator technologies into textiles, enabling continuous interaction with the human body to deliver health, safety, and connectivity. Coapt is a leader in AI-driven myoelectric prosthesis control systems, offering solutions compatible with over 450 unique prosthetic configurations.



Top technologies for photorealistic & high-resolution textile printing

■ Shahrose Ishraq Khan

In the ever-changing world of textile design, demand for photorealistic and high-resolution prints has skyrocketed. This revolution is being driven by advances in printing technologies, which allow designers to bring elaborate and vibrant pictures to life on fabrics with incredible detail and color fidelity. From fashion to home décor, current textile printing has reinvented what is possible, making it easier than ever to create sophisticated, visually captivating designs on a large scale.

Leading Textile Printing Technologies

Dye sublimation printing

Dye-sublimation is a common digital textile printing technology for creating lifelike prints, especially on synthetic materials such as polyester. This method converts solid dye particles into gas, then permeates and bonds with the

cloth strands. As a result, the colors are brilliant, the patterns are long-lasting, and the fabric remains soft and flexible.

Key features:

High resolution (up to 1440 × 1440 dpi) allows for clear, detailed printing.

Excellent color reproduction, making it suitable for designs with gradients.

Long-lasting, featuring prints that do not fade over time.

Direct-to-Garment Printing (DTG)

Direct-to-Garment (DTG) printing is a method of printing graphics directly onto fabric with water-based inks. DTG technology allows printers to produce highly detailed, full-color graphics, making it an excellent choice for custom textile designs, particularly in small quantities. DTG printers often have

resolution capabilities of up to 1440 dpi, ensuring that minute details are captured beautifully.

Key features:

- » High-resolution, detailed prints (up to 1440 × 1440 dpi).
- » Full color spectrum with seamless gradients.
- » Provided with soft touch because the ink is absorbed into the fabric rather than sitting on top.

UV printing

UV printing employs ultraviolet light to cure ink as it is printed, resulting in accurate, high-quality prints on a wide range of substrates, including fabrics. Although UV printing is commonly used for hard surfaces, modern UV textile printers can now provide photorealistic effects on fabrics. This technology allows you to print on both natural and synthetic materials, producing a long-lasting finish that resists fading, scratching, and wear.

Key features:

- » High resolution with excellent color accuracy.
- » Used ink cures instantly, allowing for faster production times.
- » Prints are extremely durable and suitable for both indoor and outdoor usage.

Solvent and Eco-Solvent Printing

Solvent and eco-solvent printing employ solvent-based inks to produce

brilliant, long-lasting prints on fabrics, particularly synthetic fibers. These printers can produce high-resolution prints with sharp detail and vibrant colors. Eco-solvent inks are a better environmental solution since they reduce hazardous emissions while maintaining quality.

Key features:

- » High resolution (up to 1440 dpi) is ideal for detailed artwork.
- » High color brightness and long-lasting prints.
- » Suitable for outdoor textiles and materials that must withstand wear and weather conditions.

Reactive Dye Printing

Reactive dye printing uses dyes that chemically bond with natural fabrics like cotton. This method produces rich, bright colors and excellent print quality. Reactive dyes provide high color fastness and are ideal for making photorealistic graphics on cotton and other natural materials.

Key features:

- » High-resolution prints with sharp details and vibrant colors.
- » Suitable for natural materials such as cotton and linen.
- » Excellent washability and lightfastness.

Leaders in the Industry and Their Technology

As the textile printing sector develops

further, a few businesses stand out for their capacity to push the limits of high-resolution and photorealistic printing. Here, we examine five companies that are at the forefront of innovation and the technologies they employ.

SureColor Series by Epson

Epson is at the forefront of digital textile printing, especially in the field of dye sublimation. Their SureColor SC-F printer series is well known for producing outputs that are photorealistic, high resolution, and remarkably accurate in terms of color. Epson's dye-sublimation printers are utilized in a variety of industries where high-quality, colorful prints are crucial, such as fashion design, sportswear, and home décor.

Key Technologies:

- » MicroPiezo Inkjet Technology
- » UltraChrome DS Dye-Sublimation Inks
- » SureColor SC-F3000, SC-F5000, SC-F7000 Series

Mimaki: TS55-1800 and JV300 Series

Mimaki is well known for its eco-solvent and dye-sublimation printing solutions. A very effective dye-sublimation printer, the Mimaki TS55-1800 is made to create

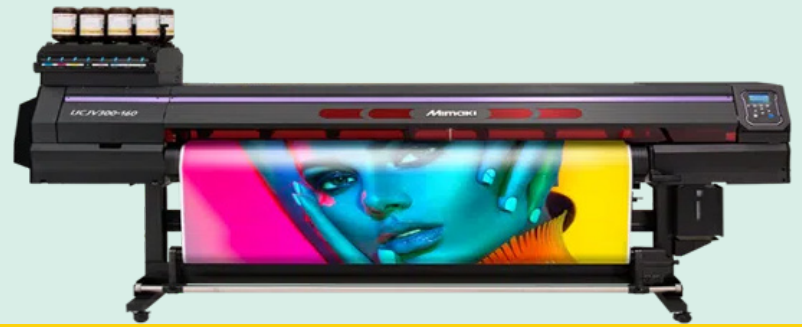


Photo: Mimaki UCJV300 Series. ©<https://www.mimakiusa.com>

high-resolution prints on textiles, which makes it perfect for creating photorealistic textile designs. Each print from Mimaki's JV300 Series maintains fine details and brilliant colors thanks to a combination of eco-solvent printing and outstanding resolution.

Mimaki's versatile printing technology allows it to serve various textile applications, from fashion to advertising banners, all while maintaining excellent resolution and color accuracy.

Key Technologies:

- » Mimaki Inkjet Technology (Piezoelectric)
- » Mimaki Sb610 Inks (Dye-Sublimation) JV300-160, TS55-1800 Series

Kornit Digital - Avalanche and Atlas Series

In the Direct-to-Fabric (DTF) and Direct-to-Garment (DTG) printing industries, Kornit Digital has established a solid reputation. NeoPigment™ inks, which are used in their Avalanche and Atlas printers, provide lifelike, high-resolution prints with brilliant colors and remarkable durability. Cotton, polyester, and mixes are just a few of the materials that these printers can print on.

Kornit's technology is excellent for businesses seeking high-quality,

Mimaki



Photo: Mimaki TS55-1800 Textile / Dye Sublimation Printer.



Photo: Kornit Avalanche HD6 Printer. © <https://www.kornit.com>

environmentally responsible solutions for custom garments, fashion, and home textiles.

Key Technologies:

- » NeoPigment™ Inks (DTG and DTF)
- » Avalanche 1000, Atlas Series
- » Direct-to-Fabric (DTF) and Direct-to-



Photo: Kornit Atlas. ©<https://www.3-print.com>

Garment (DTG) Technology

Roland DG, Texart RT-640

Roland DG's Texart RT-640 is an excellent choice for dye-sublimation printing. The RT-640 printer boasts Precision Dot™ technology and ECO-SOL MAX® inks, resulting in bright prints on fabrics. It can easily print high-resolution images, ensuring that every design, from photographic prints to detailed graphics, is reproduced to the finest possible standard.

The Texart RT-640 is frequently utilized in the fashion, sportswear, and décor industries, which require high-resolution, photo-quality prints.

Key Technologies :

- » Precision Dot™ Technology
- » ECO-SOL MAX® Inks
- » Texart RT-640 Dye-Sublimation Printer

Polyprint: TexJet Series

Polyprint's TexJet printers use Kornit's NeoPigment™ inks to print directly to garments (DTG). The TexJet Echo and TexJet Shortee printers provide fine detail, high resolution, and great color fidelity. These printers are ideal for small-scale custom garments and personalized textile designs.

Key Technologies :

- » NeoPigment™ Inks
- » TexJet Echo, TexJet Shortee DTG Printers



Photo: Texjet NG Series DTG and DTF Printer. ©<https://www.amayauk.com>

Conclusion

The way designers approach fabric printing has been completely transformed by photorealistic and high-resolution textile printing technology. These technologies—whether it's the durability of UV printing, the accuracy of Direct-to-Garment printing, or the adaptability of dye-sublimation—are making it possible to create beautiful, realistic images on a variety of textiles. Prominent businesses include as Roland DG, Epson, Mimaki, Kornit Digital, and Polyprint

Italian excellence in textile machinery to showcase at Colombiatex 2025

■ Abrar Hossain

Italian innovation and expertise will take center stage at Colombiatex 2025, the premier Colombian textile trade fair scheduled in Medellín from January 28 to 30, 2025. A total of 23 Italian textile machinery manufacturers are set to participate, underscoring the enduring partnership between Italian technology providers and the Colombian textile industry.

Strengthening Ties Despite Market Challenges

While demand for textile machinery in Colombia experienced a dip during the first nine months of 2024, Italy remains a key player in the region's textile machinery market. In 2023, Italy was the second-largest supplier of textile technology to Colombia, with exports valued at approximately €13 million. During the first three quarters of 2024, Italian exports reached €8 million, showcasing resilience in a challenging market environment.

Marco Salvadè, President of ACIMIT (the Association of Italian Textile Machinery Manufacturers), remarked,



“The Colombian textile and clothing industry has seen remarkable growth in recent years, driven by technological advancements where Italian machinery has often been pivotal. Colombiatex remains an essential event for our manufacturers to deepen collaborations with Colombian partners.” Italian Pavilion: A Hub of Innovation

The Italian pavilion at Colombiatex 2025, organized by the Italian Trade Agency and ACIMIT, will feature cutting-edge solutions from 23 exhibitors. Among the prominent ACIMIT member companies participating are:

Biancalani, Btsr, Color Service, Danti, Dettin, Fadis, Flainox, Isotex, Itema, Kairos Engineering, Lonati, Mcs, Mts, Monti-Mac, Ratti, Reggiani Macchine, Salvadè, Santoni, Stalam, Tecnorama, Tonello, and Triveneta.

Showcasing Italian Innovation

With a focus on sustainability, efficiency, and advanced technology, Italian textile machinery manufacturers aim to support the Colombian textile industry's continued growth and modernization.



Photo: On a production line, an Orthopac RVMC-15 controls the distortions at the infeed. (Olonia / Italy) ©Mahlo

SAATI Germany optimizes fabric production with Mahlo

■ Shahriar

SAATI Germany, a leader in advanced technical fabrics, has elevated its production processes with cutting-edge measurement and control systems from Mahlo. The company, renowned for producing high-precision materials for critical industries like medical technology and security, continues to push the boundaries of quality and efficiency.

The Wilot WMR width measuring system from Mahlo records the fabric width as it passes through the stenter frame. (Pezzoli / Italy)

Since its initial adoption of Mahlo systems in 2020, SAATI has made significant strides. The recent installation of the Orthopac FMC-15 distortion control system and the Famacont PMC-15 yarn density meter at the stenter frame's outfeed has refined

their production capabilities. The PMC-15's camera-based technology ensures precise thread count monitoring, while the FMC-15 eliminates back sheet distortion, maintaining consistent quality in their technical fabrics.

In 2024, SAATI took further steps by integrating the Orthopac GRVMC-15 straightening machine at the stenter frame infeed. With a 2,800 mm working width, this robust system corrects skew and bow distortions in raw fabrics, preventing defects that could compromise usability or appearance. Combined with the FMC-15, this fully automated setup ensures maximum monitoring and control for flawless production. "Our collaboration with Mahlo has significantly enhanced fabric quality and production reliability," said Thomas Brockmeier, Operations Manager at SAATI.



Photo: SWG-XR® WHOLEGARMENT®

Tech Review: Shima Seiki’s SWG-XR® WHOLEGARMENT® knitting machine

■ Farin Tasnim

Shima Seiki has long been recognized for its contributions to knitting technology, with the WHOLEGARMENT® concept marking a significant step forward in seamless apparel manufacturing. Developed in the early 1990s, WHOLEGARMENT® technology introduced a method for creating three-dimensional, seamless garments directly from yarn, minimizing the need for additional sewing.

The latest addition to this innovative series, the SWG-XR® WHOLEGARMENT® knitting machine, brings enhancements in productivity, design flexibility, and sustainability. With advanced automation features and precision

engineering, the SWG-XR® is designed to meet the evolving needs of the textile industry.

History of SWG-XR® WHOLEGARMENT® Machine

The WHOLEGARMENT® technology, which Shima Seiki launched at the beginning of the 1990s, represented a break from conventional knitting techniques. The objective was to produce seamless, three-dimensional apparel without the necessity for sewing by using yarn.

The SWG series has continuously improved over the years. One of the latest versions is the SWG-XR®, which

has cutting-edge benefits like high-speed knitting, more design flexibility, and smart touchscreen controls.

Key features of SWG-XR® Machine

Enhanced Productivity: The compact of this machine, lightweight 4-system carriage, and automated yarn carriers boost productivity by over 25% compared to previous models.

» **Design Versatility:** The SWG-XR® supports a wide range of yarns, facilitating the creation of diverse, all-season knitwear with complex patterns like punch lace and intarsia.

» **Sustainability:** The machine minimizes material waste by producing garments without seams, contributing to more sustainable manufacturing processes.

» **Faster Production:** Automates multiple steps, significantly reducing manufacturing time.

Components that make this machine different

Four Needle Beds: Equipped with Shima Seiki's original SlideNeedle™ technology on four needle beds, the SWG-XR® enables high-quality

WHOLEGARMENT® production using all needles.

» **Advanced Sinker System:** A redesigned sinker system allows for intricate knit structures and super-3D patterns, enhancing fabric quality and design possibilities.

» **Auto Yarn Carriers:** Automated yarn carriers improve efficiency in complex knitting techniques, such as intarsia, by precisely managing yarn placement.

Industrial advantages

» **Cost Efficiency:** The elimination of post-production sewing reduces labor costs and accelerates the manufacturing timeline.

» **Market competitiveness:** Offering seamless, high-quality garments can attract international clients seeking innovative and sustainable products.

» **Adaptability:** The machine's ability to handle various yarns and patterns allows manufacturers to swiftly respond to changing fashion trends.

Eco-Friendly Branding:

WHOLEGARMENT® technology aligns with global sustainability trends, attracting eco-conscious buyers.





“As we celebrate this milestone, we are proud of our heritage and excited about the future within the ANDRITZ Nonwoven & Textile global team. Our focus is to provide sustainable, resource-efficient technologies and economically viable solutions that support the green transformation of the nonwovens industry.”

Bruno Roche

Managing Director of ANDRITZ Perfojet

Photo: Bruno Roche, Managing Director of ANDRITZ Perfojet

ANDRITZ Perfojet celebrates 40 years of innovation & leadership in nonwovens

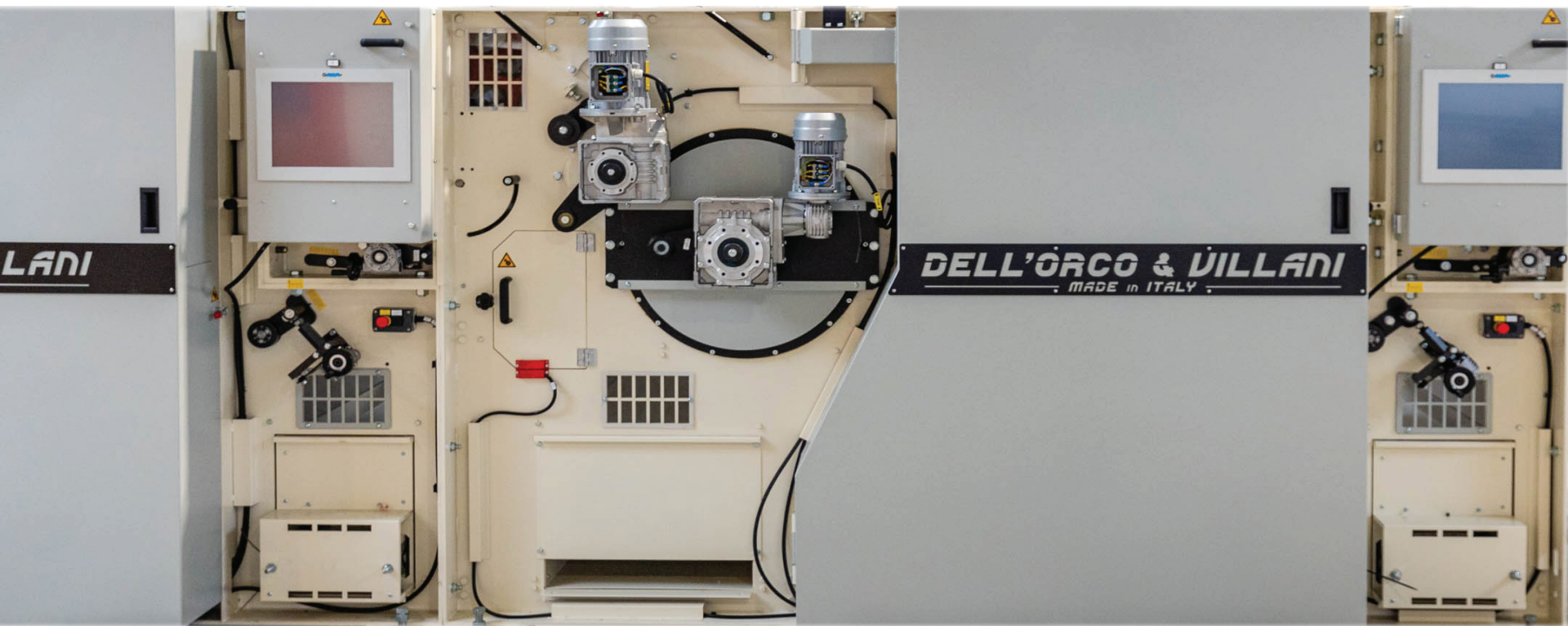
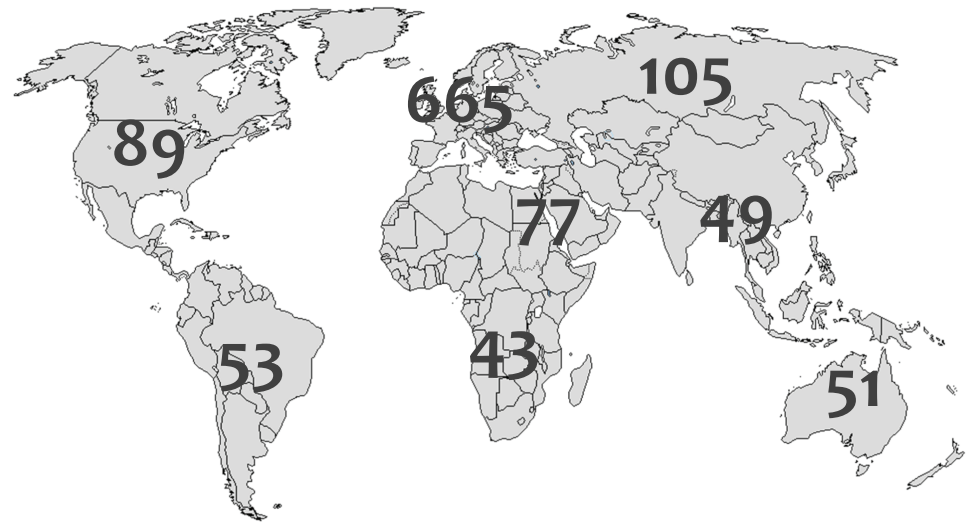
ANDRITZ Perfojet, a global leader in nonwovens technology, is celebrating a significant milestone this year: its 40th anniversary. Known for pioneering hydroentanglement technology, Perfojet has revolutionized the production of nonwoven fabrics by enabling the bonding of nearly any type of fiber without the need for additional binders. This innovation has significantly impacted various industries, including hygiene products, personal care, geotextiles, filters, artificial leather, battery separators, and gas diffusion layers.

Over the past four decades, ANDRITZ Perfojet has installed more than 300

Jetlace™ hydroentanglement systems worldwide, transforming nonwoven fabric production processes. These systems have greatly enhanced the quality, efficiency, and sustainability of products across several sectors. Perfojet’s technology has not only set new standards in production quality but has also paved the way for sustainable practices in the nonwovens industry.

With 40 years of innovation under its belt, ANDRITZ Perfojet remains at the cutting edge of nonwovens technology, continuing to lead the way toward a more sustainable future in the textile industry.

3500+
MACHINES sold



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



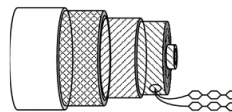
"Delta Start" System confirms
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Highest Level of
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Big Drum Size for
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Auto Blending System for
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Member of Association of
 Italian Textile
 Machinery Manufacturers

*Let's Grow Green
 and Build an Eco Bangladesh*
www.rhcorpbd.com



The State of Fashion 2025

Photo: The State of Fashion 2025: Challenges at every turn

State of Fashion 2025: Trends, data, and strategic insights

■ M A Mohiemen Tanim

Global fashion industry is poised for a transformative year in 2025, marked by a blend of opportunities and challenges. According to the McKinsey & Company's State of Fashion 2025 report, the industry faces economic headwinds, shifting consumer behaviors, and the need to embrace sustainability while navigating complex global trade dynamics.

Economic Outlook: Sluggish Growth and Regional Variances

Global fashion industry is expected to grow at a low single-digit rate in 2025, reflecting economic deceleration and muted consumer confidence. The McKinsey Global Fashion Index highlights that non-luxury segments will outperform luxury, marking a

significant shift in profit drivers. While falling inflation and recovering tourism are bright spots in regions like Europe, economic uncertainties persist in markets like China and the United States.

» **Geographic Drivers:** Europe is set to benefit from increased tourism and lower inflation, while the U.S. market relies on resilient spending by high-net-worth individuals. Meanwhile, Asia remains a focus, but China's slowing growth is prompting brands to look toward India, Japan, and Korea for expansion opportunities.

» **Consumer Sentiment:** Only 20% of fashion executives surveyed expect improved consumer sentiment in 2025, with 39% forecasting worsening conditions. This underscores the

industry's cautious approach to growth strategies.

Shifting Consumer Preferences: Value, Sustainability, and the Silver Generation

Consumer behavior is undergoing a dramatic transformation, with value-consciousness and demographic shifts taking center stage. Amid economic uncertainty, shoppers are prioritizing affordability and practicality, driving growth in segments like resale, off-price, and "dupes."

» Cost-Conscious Behavior:

Approximately 70% of consumers plan to continue shopping at outlets and off-price retailers, even as economic conditions improve. This trend underscores the need for brands to strike a balance between value and quality.

» The Rise of the Silver Generation: Consumers over 50, referred to as the "Silver Spenders," are an increasingly important demographic, holding 72% of U.S. wealth. Fashion brands are beginning to cater to this group with tailored offerings, recognizing their untapped potential.

» Sustainability Challenges: Despite growing awareness of sustainability, consumers remain hesitant to pay a premium for eco-friendly products. This poses a challenge for brands striving to integrate sustainability into their value proposition while managing costs.

Sustainability as a Strategic Imperative

Sustainability continues to be a defining challenge for the fashion industry in 2025. With regulatory pressures mounting and the climate crisis intensifying, brands must innovate to reduce waste, lower emissions, and embrace circularity.

» Inventory Challenges: The industry produced 2.5 to 5 billion excess items in 2023, valued at \$70 to \$140 billion. This highlights the urgent need for improved demand forecasting and inventory management.

» Emission Reduction Goals: About 63% of fashion brands need to accelerate their sustainability efforts to meet 2030 emission targets. Investments in renewable energy, such as Bangladesh's commitment to 40% renewable power by 2041, offer a model for achieving these goals.

» Collaborative Efforts: Brands are increasingly collaborating with suppliers and regulators to drive large-scale decarbonization initiatives. Such partnerships are essential for meeting ambitious sustainability targets.

» The Role of Technology: AI and Digital Innovation

Technological advancements, particularly in artificial intelligence (AI), are transforming the fashion industry. AI-powered tools are enabling brands to enhance product discovery, personalize customer experiences, and optimize supply chains.

AI in Discovery: Over 50% of fashion executives see AI as a key tool for improving product discovery in 2025. Personalized recommendations and curated content are helping consumers navigate the overwhelming choices available online.

» **Supply Chain Efficiency:** Digital tools are being deployed to enhance transparency, predict demand more accurately, and streamline inventory management. These innovations are critical for reducing waste and improving margins.

Evolving Trade Dynamics and Supply Chain Strategies

Global trade is shifting as geopolitical tensions and rising costs reshape sourcing strategies. The fashion industry is increasingly diversifying its sourcing footprint, moving away from reliance on China toward other Asian markets, nearshoring regions, and geopolitically aligned countries.

» **Nearshoring Trends:** The U.S. and EU have seen a 20% and 8% increase, respectively, in foreign direct investment in nearshoring destinations over the past five years. This shift reflects the growing importance of resilience and speed in supply chains.

» **Emerging Sourcing Hubs:** Countries like Vietnam, India, and Bangladesh are gaining prominence as key sourcing destinations. Rising labor costs in China and sustainability pressures are driving this diversification.

» **Trade Barriers:** The number of trade restrictions has increased fivefold since 2015, with ~3,000 imposed in 2023 alone. This underscores the need for agile and flexible supply chains.

» **Market Disruptions:** E-Commerce and Challenger Brands

The e-commerce boom of the pandemic era is waning, with online marketplaces facing declining demand and rising customer acquisition costs. This shift is prompting players to rethink their business models.

» **Marketplace Challenges:** Share prices of non-luxury online marketplaces have dropped by an average of 77% since January 2021, highlighting their struggle to adapt to changing consumer behaviors.

» **Challenger Brands:** In the sportswear segment, challenger brands are capturing over 50% of the market's economic profit, driven by innovative products and targeted marketing. This trend reflects a broader shift toward niche players disrupting traditional incumbents.

» **Regional Highlights:** Opportunities and Risks

Asia's Growth Engines

» **China:** Slowing GDP growth (4.5% in 2025) and shifting consumer preferences present challenges for international brands. However, localization strategies and a focus on quality can help mitigate these risks.

» **India:** With a growing middle class and rising luxury demand, India is emerging as a key market. The mid-market segment is expected to grow by 12-17% in 2025, outpacing global averages.

» **Japan:** A luxury boom fueled by currency depreciation and tourism recovery makes Japan a standout market in 2025.

Europe

Economic recovery, boosted by increased tourism, provides opportunities for growth, especially in luxury and travel retail.

United States

High-net-worth individuals and a robust stock market support steady growth, despite challenges in middle- and lower-income segments.

Strategic Recommendations for 2025

To navigate the challenges and opportunities of 2025, fashion industry stakeholders should focus on the following strategies:

Diversify Sourcing: Expand sourcing beyond China to include nearshoring and emerging markets like Vietnam and India.

Enhance Sustainability: Invest in renewable energy, circular production models, and collaborative initiatives to meet emission reduction targets.



Photo: 'Silver Spenders' Generation

Leverage AI and Technology: Use AI for product discovery, demand forecasting, and supply chain optimization to improve efficiency and customer experience.

Target Overlooked Demographics:

Cater to the “Silver Spenders” and other underserved segments to unlock new revenue streams.

Adapt to Consumer Trends: Offer value-driven products while maintaining quality to attract cost-conscious shoppers.

Conclusion

The fashion industry in 2025 stands at a pivotal moment, shaped by economic uncertainty, technological innovation, and sustainability challenges. Success in this evolving landscape will require agility, innovation, and a deep understanding of regional and consumer dynamics. By embracing these priorities, industry players can position themselves for growth and resilience in the face of ongoing disruption.

ZDHC published recycled polyester guidelines

■ Sayed Abdullah

ZDHC Foundation has published two impactful documents, the Recycled Polyester Guidelines V1.0 and the Industry Standard Implementation Approach V1.0, aiming to enhance transparency and sustainability in the production of recycled polyester.

The global shift toward recycled polyester is significant, with usage increasing by 3.5% in 2023 to 8.9 million tonnes. These guidelines respond to the growing demand for sustainable practices, addressing chemical management requirements for bottle-to-textile and textile-to-textile recycling processes.

The guidelines, structured into three chapters, focus on critical areas of the production process:

Input Management – Outlining standards for the quality of bottle and textile feedstock and the chemicals used during recycling.

Process Management – Highlighting best practices for chemical recovery,

ZDHC Recycled Polyester Guidelines

Version 1.0
December 2024

Photo: *Recycled Polyester Guidelines V1.0 and Industry Standard Implementation Approach V1.0*

safe storage, and handling to protect workers.

Output Management – Defining methods to minimize wastewater, sludge, and air emissions during recycled polyester fiber production.

ZDHC emphasizes that these guidelines set clear expectations for stakeholders across the textile industry. Brands are encouraged to incorporate the guidelines into their supply chain strategies, sharing them with suppliers to promote alignment with sustainability goals. Suppliers are urged to study the requirements and implement relevant practices, while solution providers are advised to evaluate and adopt the testing methods and limits outlined in the document.

These new frameworks are expected to foster greater accountability and transparency in recycled polyester production, contributing to the global movement toward a more sustainable textile industry.



Photo: Circularity gap report 2024 infographic

0.3% circular: Exposing alarming reality of textile industry & path to 2032

■ M A Mohiemen Tanim

The global textile industry is at a crossroads, facing an urgent need for change. Despite its vast scale and economic importance, it operates in a highly unsustainable way, with less than 0.3% of its materials being reused or recycled. This shocking statistic, revealed in the Circularity Gap Report 2024, highlights just how far the industry has to go to embrace a circular economy. From mountains of waste to massive environmental footprints, the challenges are immense—but so are the opportunities. With bold strategies and collective action, the industry has a chance to triple its circularity by 2032, cutting waste, reducing emissions, and creating a fairer system for workers

worldwide.

The Linear Economy: A System in Crisis

The global textile industry operates on a linear “take-make-waste” model, consuming vast amounts of virgin resources and generating significant waste. In 2021, the industry consumed 3.25 billion tonnes of materials, a staggering 99.7% of which came from virgin sources like fossil fuels and natural fibers. Synthetic materials, particularly polyester, account for 70% of raw inputs, underscoring the industry’s heavy dependence on oil-based resources.

Despite growing awareness, the Circularity Metric for textiles—a measure of the share of materials from



THE CIRCULARITY GAP REPORT

| Textiles

Closing the Circularity Gap
in the textile industry



Photo: Circularity Gap Report 2024

recycled sources—remains at 0.3%, significantly lower than the global economy's already dismal average of 7.2%. Annually, only 9.6 million tonnes of secondary materials re-enter the textile supply chain, primarily from recycled PET bottles rather than textile waste, signaling an underdeveloped recycling infrastructure.

This linear model drives overproduction and waste, with 30% of garments produced going unsold annually. At the same time, mass-market brands release up to 24 collections per year, contributing to a cycle of overconsumption and resource depletion.

Environmental Impacts: Beyond Carbon Emissions

The textile industry is a major

contributor to global environmental degradation, intersecting with critical planetary boundaries. It significantly impacts climate change, water scarcity, biodiversity loss, and more:

Greenhouse Gas Emissions:

The industry accounts for 3.5% of global GHG emissions, equivalent to 2.1 billion tonnes of CO₂ annually.

Material production, especially energy-intensive processes like wet processing, is responsible for 55% of these emissions.

Water Scarcity:

Textile production consumes 93 billion cubic meters of water annually, about 4% of global water scarcity impacts.

Cotton cultivation alone requires 20,000 liters of water per kilogram, contributing to acute water shortages in regions like South Asia.

Marine and Freshwater Eutrophication:

The sector contributes 5% of marine eutrophication and 4% of freshwater eutrophication, primarily due to fertilizer runoff from cotton farming and chemical discharge during dyeing.

Waste and Recycling:

Of the textiles discarded, 61.4% are incinerated or landfilled, with only 0.3% undergoing closed-loop recycling.

Textile waste in landfills often releases methane, exacerbating climate change.

Biodiversity Loss:

Intensive agriculture for natural fibers and synthetic fiber production drives

habitat destruction, contributing to over 3% of global biodiversity loss.

Social Impacts: Precarity in the Workforce The industry employs approximately 140 million people globally, but the social cost of fast fashion and linear production is steep:

Informal Employment:

Over 61 million textile workers operate in informal sectors, primarily in countries like Bangladesh and India, where 90%+ of workers lack formal protections.

Informal workers, often women, face hazardous conditions, low wages, and limited access to social services.

Gender Inequity:

Women dominate the textile workforce but earn significantly less than men. In Africa, textile workers earn 44% less than average wages in other industries, with similar disparities across Asia and Latin America.

Excessive Working Hours:

Workers in developing regions often exceed 70-hour workweeks, driven by tight deadlines and low wages.

Regional Dynamics: The United States and China The report highlights the disproportionate environmental and social impacts of the two largest players in the textile industry:

China:

As the world's largest producer, China accounts for 40% of global material demand for textile production.

Its energy-intensive manufacturing

processes lead to GHG emissions and air pollution.

United States: The US is the largest consumer of textiles, with per capita impacts on water scarcity and GHG emissions 5–8 times higher than the global average.

Circular Strategies: Pathways to Transformation The Circularity Gap Report 2024 proposes six key strategies to triple the Circularity Metric to 0.9% and reduce environmental impacts by up to 50%:

Shift to Sustainable Fibers:

Transition from oil-based synthetics to natural, local, and recycled fibers. For example, using recycled cotton can reduce water usage by 85% compared to virgin cotton.

Enhance Durability:

Design garments to last longer through durable materials and modular designs. Extending the life of a garment by 9 months reduces its environmental footprint by 20–30%.

Adopt Circular Manufacturing:

Improve recycling infrastructure to enable fiber-to-fiber recycling, which constitutes only 0.27% of secondary materials.

Reduce Overproduction:

Encourage brands to release fewer collections and adopt circular business models like rentals and repair services. Reducing production volumes by 50% could halve resource use.

Regenerate Ecosystems:

Invest in regenerative agriculture and reduce chemical usage in cotton farming, benefiting biodiversity and reducing eutrophication.

Promote Inclusive Transitions:

Improve labor conditions, ensure fair wages, and provide reskilling opportunities, especially for women and informal workers.

Scenario Analysis: Ambition for a Sustainable Future

The report models three scenarios to evaluate the impact of circular strategies:

Moderate Scenario:

Achieves a 20% reduction in environmental impacts by focusing on basic recycling and efficiency improvements.

Optimistic Scenario:

Reduces impacts by 35%, emphasizing garment durability, slow fashion, and advanced recycling.

Ambitious Scenario:

Demonstrates potential reductions of 50% in key environmental impacts, combining all strategies with aggressive policy measures to minimize virgin material use.

Call to Action: Collective Responsibility

Achieving a circular textile industry requires coordinated global action:

Policy Frameworks:

Implement Extended Producer Responsibility (EPR) to enforce recycling, incentivize sustainable practices, and fund circular infrastructure.

Establish international standards for sustainability across supply chains.

Investment in Innovation:

Develop technologies for chemical recycling and regenerative agriculture.

Expand access to advanced sorting and reprocessing facilities.

Consumer Engagement:

Encourage consumers to embrace slow fashion, prioritize quality over quantity, and participate in recycling programs.

Collaboration Across Sectors:

Governments, businesses, and NGOs must work together to integrate circular principles into every stage of the value chain.

Conclusion: A Circular Future for Textiles

The Circularity Gap Report 2024 paints a sobering picture of the textile industry's current trajectory but also offers a clear blueprint for change. Transitioning to a circular economy can mitigate environmental harm, improve social equity, and ensure a resilient future for textiles. By adopting systemic solutions, the industry can decouple growth from resource consumption and align with planetary boundaries. The time for action is now, as the stakes for our planet and its people grow ever higher.

Design for End-of-Life (EoL) in Apparel and Textiles: Innovating for Sustainability (Part 1)

■ Shahrose Ishraq Khan

The rapid growth of the global textile industry has led to significant environmental challenges, with textile waste intensifying rising ecological problems. Designing for End-of-Life (EoL) in apparel and textiles addresses these difficulties by creating products with their eventual disposal, reuse, or recycling in mind.

This article analyses the principles, strategies, and innovative practices that facilitate EoL design and its role in fostering a sustainable future.

The Need for EoL Design

The environmental impact of the textile business is significant, influenced by elements such as quick fashion, composite materials, and ineffective recycling systems. Examine these essential statistics:

- Approximately 92 million tonnes of textile waste are produced worldwide per year.
- Merely 12% of textiles undergo recycling, with the bulk disposed of in landfills or incinerated.
- Blended fabrics, prevalent in contemporary clothing, pose significant recycling challenges due to their composite fiber structure.

These problems highlight the necessity

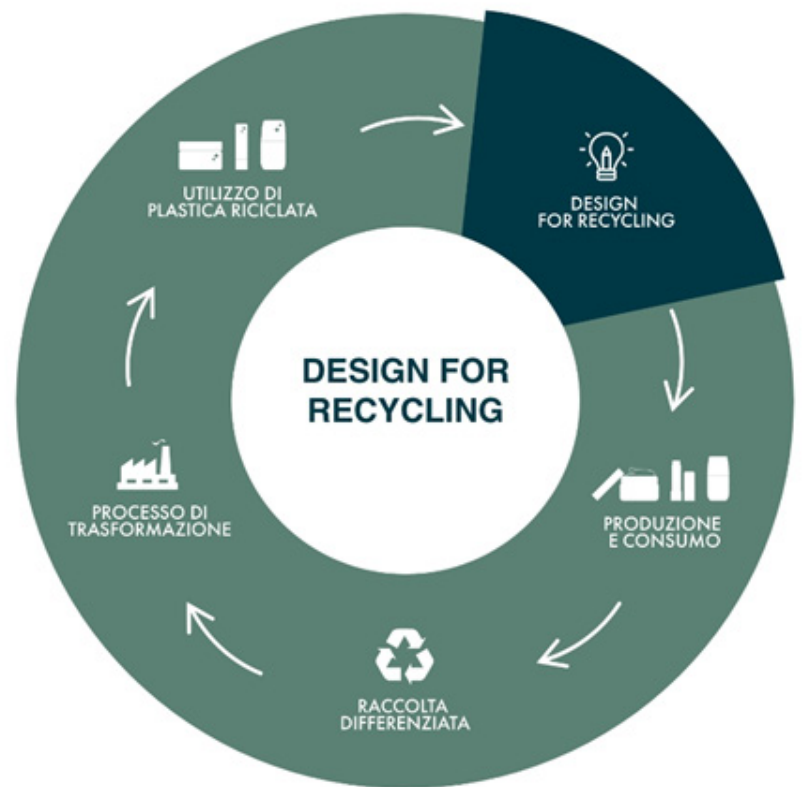


Photo: Figure: Design for Recycling.

for a circular model, wherein clothes are engineered to reduce waste and enhance resource recovery.

Principles of EoL Design

End-of-Life (EoL) design focusses on developing goods that adhere to sustainability goals during their entire lifespan. This entails incorporating innovative solutions throughout the design phase to guarantee that clothing can be efficiently reused, recycled, or securely decomposed. Fundamental principles encompass:

1. Material Selection

The selection of materials is fundamental to sustainable end-of-life design, since it directly affects a product's recyclability, durability,

and ecological impact. Selecting appropriate materials can determine whether a garment exacerbates waste or promotes a circular economy.

Key Features

- **Mono-Materials:** Streamlines recycling procedures by the utilization of single-material architectures, hence minimizing contamination and energy requirements during processing.
- **Biodegradability:** Facilitates safe breakdown in natural ecosystems, reducing landfill waste and environmental damage.
- **Recycled Content:** Utilises fibers derived from post-consumer or post-industrial sources to diminish dependence on virgin resources and promote circularity.
- **Regenerative Properties:** Utilises fast renewable materials, such as algae or mycelium, which spontaneously replenish and need fewer resources for production.
- **Non-Toxic Additives:** Guarantees that dyes, finishes, and treatments employed in textiles do not impede recyclability or present ecological hazards.
- **Traceability:** Integrates certificates and digital tags to ensure transparency about material sources and recyclability.

2. Ease of Disassembly

Designing for disassembly is crucial for the effective deconstruction of clothing at its end-of-life, promoting recycling,

repair, or reuse. This technique reduces waste and improves resource recovery by allowing components to be separated without harming materials.

Key Features

- **Modular Construction:** Design clothing including removable components, like sleeves, collars, or panels, which may be independently replaced or updated.
- **Mechanical Fasteners Preferred:** Utilise zippers, buttons, snaps, or other mechanical fasteners in lieu of permanent adhesives, which hinder disassembly.
- **Accessible Seams:** Construct seams that can be readily opened with conventional equipment, hence minimizing the labor and energy needed for disassembly.
- **Material Compatibility:** Verify that components, including threads, labels, and trims, are constructed from suitable materials to facilitate recycling.
- **Embedded Guides:** Integrate instructions or digital labels into apparel to assist recyclers in the effective disassembly of items.
- **Robust Connections:** Employ fasteners capable of enduring repeated assembly and disassembly, facilitating several cycles of repair or reuse.

3. Durability and Versatility

Durability and flexibility are essential components of sustainable design, guaranteeing that clothing retain functionality, appeal, and adaptability

across their lifespan. These ideas facilitate waste reduction by prolonging the lifespan of garments and augmenting their worth to customers.

Key Features:

- **High-Quality Materials:** Utilise durable materials and components that withstand wear and tear, ensuring clothes preserve their integrity over time.
- **Reinforced Construction:** Utilise methods such as double stitching and fortified seams to augment structural integrity.
- **Timeless Design:** Develop enduring designs that surpass seasonal trends, promoting extended usage.
- **Multi-Functionality:** Create apparel with attributes that provide many styling options, such as reversible coats or convertible dresses.
- **Repairability:** Integrate interchangeable components, including buttons, zippers, and panels, to provide straightforward and economical repairs.
- **Modularity:** Facilitate the updating, replacement, or interchange of garment components to accommodate evolving customer demands and preferences.
- **Adaptability:** Incorporate adaptable features, such as expanding waistbands or extended hems, to meet variations in body size or usage contexts.

4. Design for Recycling

Designing for recyclability is essential

for completing the cycle in textile manufacturing and consumption. This method guarantees that clothing may be repurposed into new materials, minimising waste and preserving resources. By considering material compatibility, processing techniques, and system integration, designers may develop items that facilitate an efficient recycling process.

Key Features:

- **Single-Material Construction:** Refrain from combining incompatible fibers, as mixed materials hinder recycling and diminish output quality.
- **Compatible Additives:** Employ dyes, finishes, and treatments that do not disrupt recycling processes or emit hazardous compounds.
- **Efficient Sorting:** Integrate embedded tags, tracers, or labels to enhance automated sorting and identification in recycling operations.
- **Process-Ready Design:** Guarantee that materials and components endure mechanical or chemical recycling procedures without substantial degradation.
- **Recyclable Accessories:** Construct zippers, buttons, and trimmings from the same material as the garment or ensure they are easily removable and recyclable.
- **Collaboration with Recyclers:** Engage with recycling facilities to synchronize garment design with contemporary and forthcoming recycling technology, enhancing recovery rates.

5. Transparency and Labeling:

Transparency and labeling are essential for establishing confidence and guaranteeing the proper processing of clothing at their end-of-life. By offering transparent and comprehensible details on a garment's material composition and recyclability, businesses may enable customers and recyclers to make educated choices.

Key Features:

- **Standardized Labels:** Employ consistent labels that provide critical information on material categories, care directives, and disposal methods.
- **Digital Tracking:** Integrate scannable QR codes or RFID tags that provide comprehensive product lifetime information, encompassing sourcing, manufacture, and disposal processes.
- **Recyclability Indicators:** Designate components and materials that are recyclable, biodegradable, or need specialized processing.

- **Certification Marks:** Incorporate acknowledged certifications (e.g., GOTS, OEKO-TEX®) to guarantee customers of a product's sustainability and ethical adherence.
- **Consumer Education:** Utilise labels and tags as instruments to inform customers about appropriate maintenance, repair, and disposal methods.
- **End-of-Life Guides:** Offer clear directions for disassembly, recycling, or composting to facilitate the garment's integration into the circular economy.
- **Traceability Systems:** Utilise blockchain or analogous technology to provide transparency inside the supply chain and facilitate accountability from manufacturing to end-of-life.

Incorporating these concepts into the design process enables the textile industry to produce items that environmental effect and foster a circular economy in which materials are perpetually reused and esteemed.



Achieving carbon neutrality in apparel through energy strategies & profitability

■ Arif-Uz-Zaman



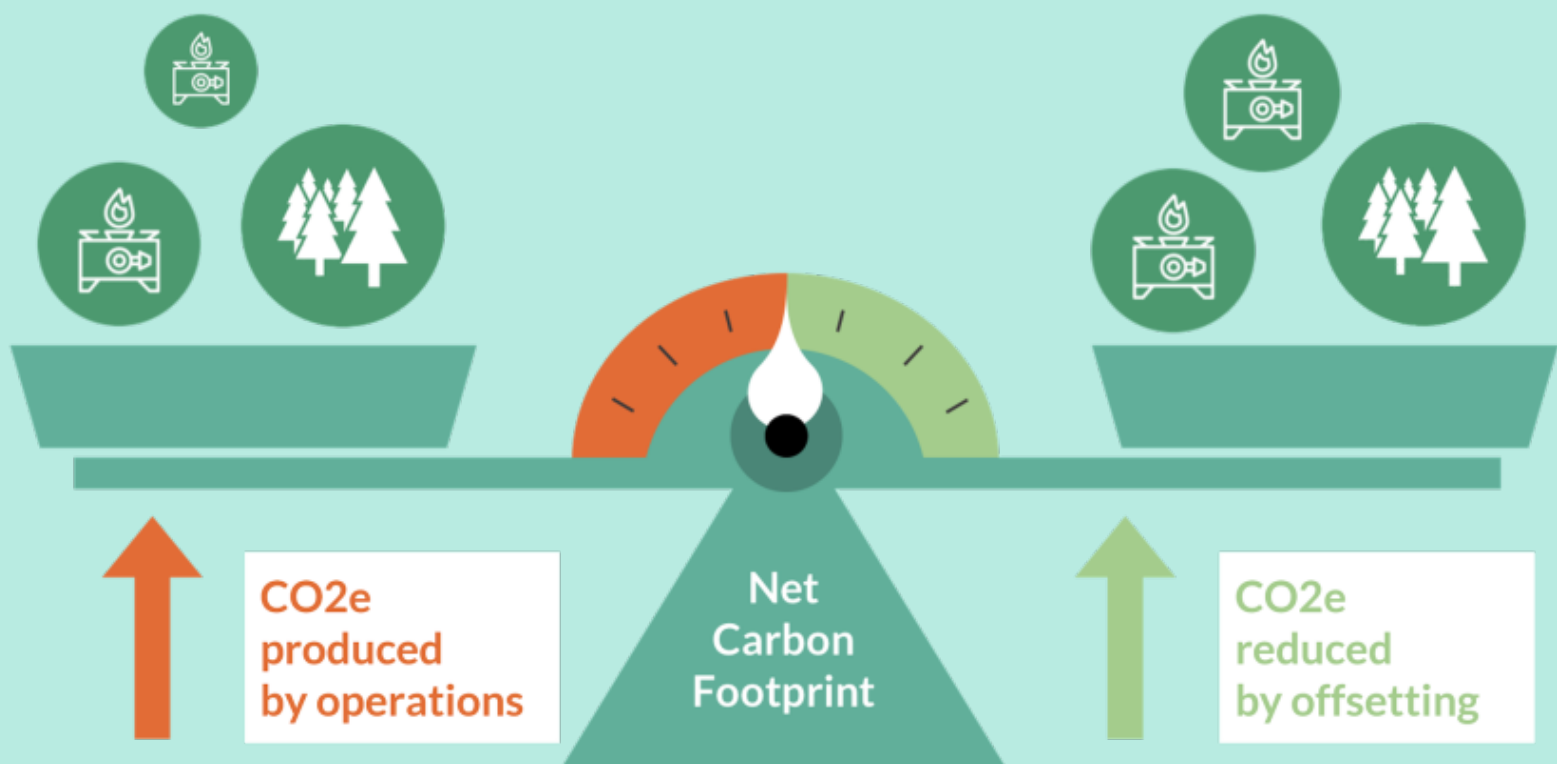
The apparel industry, one of the most resource-intensive sectors globally, is under increasing pressure to reduce its carbon footprint. As sustainability becomes a non-negotiable element of modern business, achieving carbon neutrality has become a critical goal. This article explores the multifaceted challenges and opportunities in the apparel industry's journey toward carbon neutrality, focusing on energy usage, current industry conditions, initiatives by brands and manufacturing plants, government policies, cost optimization, alignment with UN Sustainable Development Goals (SDGs), and actionable recommendations.

Energy and the Apparel Industry

Energy consumption is a significant

contributor to the apparel industry's carbon emissions. According to the International Energy Agency (IEA), the global textile and clothing sector accounts for approximately 10% of total industrial carbon emissions, with a large share stemming from electricity and fossil fuel usage. The dyeing, finishing, and washing processes are energy-intensive, requiring high temperatures and substantial energy inputs.

Renewable energy adoption is a promising solution. Data from the Ellen MacArthur Foundation reveals that transitioning to renewable energy in textile manufacturing could reduce emissions by up to 50%. For instance, solar panels installed at manufacturing facilities and the adoption of biomass for heating purposes have shown



measurable impacts on reducing carbon footprints.

Current Conditions in Apparel Manufacturing

. According to the World Bank, 70% of energy in these regions comes from non-renewable sources, exacerbating the industry’s environmental challenges. Moreover, the fast fashion model drives overproduction, leading to increased energy demand and waste.

Simultaneously, post-pandemic recovery efforts have stretched resources thin, leaving manufacturers balancing sustainability investments with economic constraints. Rising global inflation and energy costs further complicate these efforts, particularly for small- and medium-sized enterprises (SMEs).

Steps Taken by Brands and Manufacturers

Leading apparel brands have set

ambitious carbon neutrality targets. Nike aims for 100% renewable energy in its operations by 2025, while H&M Group targets climate-positive operations by 2040. Manufacturing plants are also innovating by adopting energy-efficient machinery, closed-loop water systems, and digital technologies to optimize production processes.

One noteworthy example is Levi Strauss & Co., which implemented the Water<Less™ process to reduce water usage in denim finishing. Similarly, Bangladesh’s garment factories are increasingly adopting LEED-certified green building standards, with over 200 factories certified by the U.S. Green Building Council, showcasing how structural improvements can drive sustainability.

Government Policies and Their Impact United States

The U.S. has implemented measures like the Inflation Reduction Act (IRA),

which provides incentives for renewable energy adoption and energy efficiency. However, it also includes provisions that could impose carbon border taxes, indirectly affecting apparel exporters reliant on fossil fuel-based energy.

European Union

The European Green Deal and its Carbon Border Adjustment Mechanism (CBAM) aim to level the playing field by taxing imported goods based on their carbon footprint. This poses a significant challenge for apparel-exporting countries, particularly those with limited renewable energy infrastructure. The EU has also introduced Extended Producer Responsibility (EPR) schemes, requiring brands to take accountability for the lifecycle impacts of their products.

Cost Optimization to Maintain

Competitiveness

Sustainability often comes with a perception of higher costs. However, several cost-optimization strategies can enable profitability while pursuing carbon neutrality:

Energy Efficiency: Retrofitting machinery and optimizing production layouts can reduce energy consumption by 20-30%.

Renewable Energy Transition: While upfront costs are significant, solar and wind energy offer long-term cost savings and shield against volatile energy prices.

Circular Economy Practices: Recycling and upcycling reduce raw material dependency, cutting costs and

environmental impact.

Supply Chain Transparency: Data analytics and blockchain can enhance traceability, reducing waste and inefficiencies.

Actionable Recommendations

Adopt Renewable Energy:

Governments and industry stakeholders should invest in renewable energy infrastructure in apparel-exporting regions. Subsidies and low-interest loans for renewable energy projects can incentivize adoption.

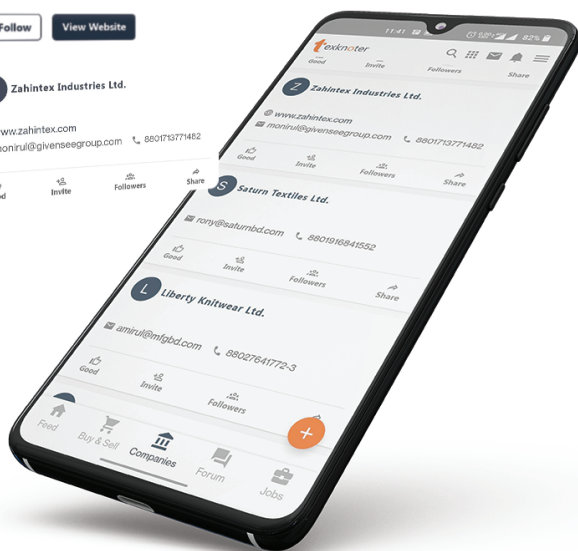
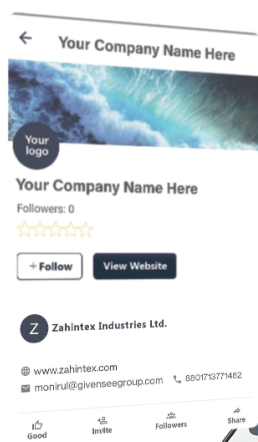
Strengthen Collaboration: Brands, manufacturers, and policymakers must work together to establish clear roadmaps for decarbonization. Initiatives like the Fashion Industry Charter for Climate Action provide a framework for collective action.

Leverage Technology: Implementing AI and IoT in production processes can optimize resource utilization and reduce emissions. Predictive analytics can also enhance demand forecasting, minimizing overproduction.

Encourage Policy Alignment: Exporting countries should align their policies with global regulations, such as carbon pricing and green certifications, to remain competitive in international markets.

Consumer Engagement: Brands should educate consumers on sustainable fashion choices and the environmental impacts of their purchasing decisions. Incentives for recycling and repair services can extend product lifecycles.

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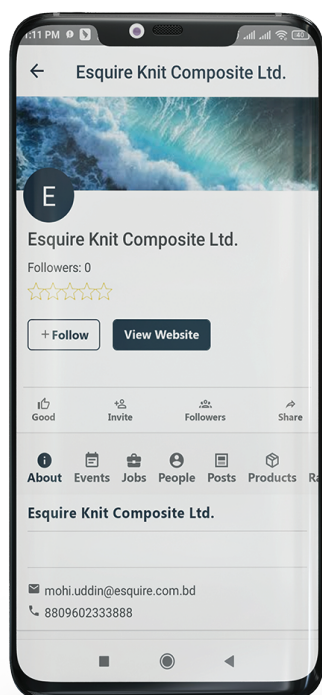
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Create & build your profile

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Jobs

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Post

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