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Automation & nearshoring are set to revolutionize the European garment industry

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Better Cotton Conference 2024: Key Highlights

M A Mohiemen Tanim

The Better Cotton Conference 2024, held in Istanbul, brought together over 400 participants to address pressing issues in the cotton industry under the theme "Accelerating Impact." Over two days, the conference highlighted the need for sustainable practices, farmer empowerment, and collaboration across the supply chain. Here's a concise overview of the conference's major highlights.

Day 1: Empowering Farmers and Driving Change

The first day of the conference focused on two main themes: "Putting People First" and "Driving Change at Field Level." The discussions revolved around ensuring better livelihoods for farmers and implementing impactful changes on the ground.

1. Putting People First

The day began with sessions centered on improving the lives of cotton farmers and workers. Key discussions emphasized the importance of ensuring a living income and decent working conditions. Aarti Kapoor, founder of the human rights agency Embode, delivered a powerful keynote address, urging stakeholders to prioritize the well-being of individuals within the cotton value chain. The session highlighted the need for equitable opportunities, particularly for women in agriculture.

Lars Van Doremalen, Impact Director at Better Cotton, shared insights from a study conducted in India, focusing on income disparity among farmers. The study stressed the need for better social safety nets and community support systems to uplift vulnerable groups. Nazia Parveen, a farmer from Pakistan, shared her inspiring journey of overcoming barriers and advocated for

greater empowerment of women in agriculture.

2. Driving Change at the Field Level

The latter half of Day 1 focused on practical approaches to making changes at the field level, with a strong emphasis on climate action and regenerative agriculture. A notable panel discussion, led by Lewis Perkins of the Apparel Impact Institute, explored the role of carbon markets in supporting cotton farmers. The conversation highlighted the complexities of carbon insetting and offsetting and their potential impact on the industry.

Field-level representatives from India, Tajikistan, and the U.S. shared their experiences with adopting regenerative practices, highlighting the benefits and challenges of implementing sustainable farming methods.

Day 2: Policy, Industry Trends, and Traceability

The second day of the conference shifted focus to "Understanding Policy and Industry Trends" and "Reporting on Data and Traceability," emphasizing the growing need for data-driven decisions and staying ahead of regulatory changes.

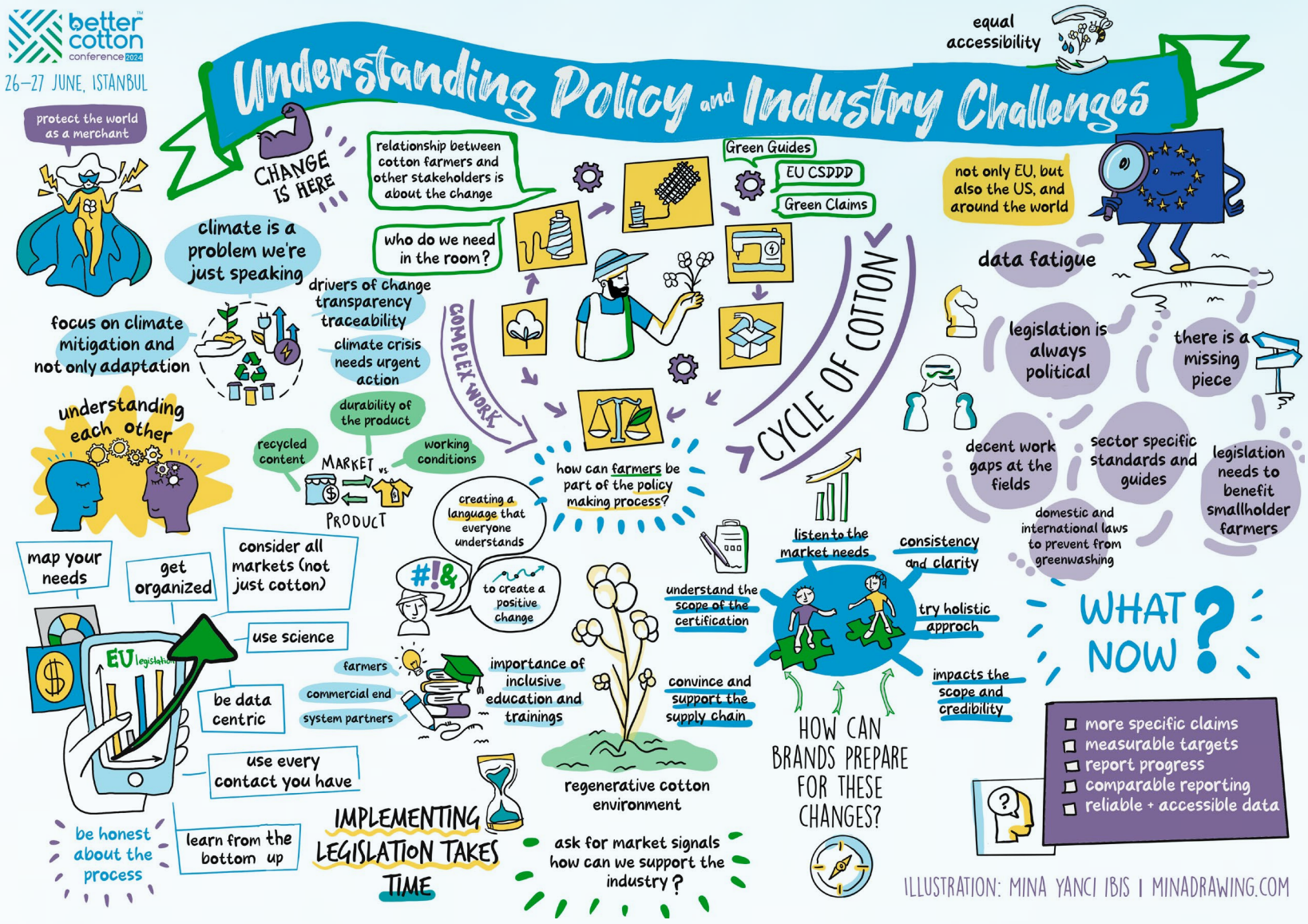


Figure: Understanding Policy & Industry Challenges , By bettercotton

1. Understanding Policy and Industry Trends

The morning sessions delved into how emerging regulations and industry trends are reshaping the cotton supply chain. Vidhura Ralapanawe, EVP of Innovation and Sustainability at Epic Group, urged the industry to move beyond compliance and embrace collective action for transformative change. Discussions emphasized the importance of involving smallholder farmers in policymaking and fostering collaborations between the private sector and policymakers.

2. Reporting on Data and Traceability

In the afternoon, the focus shifted to data and traceability, as the industry grapples with increasing demands for transparency. Better Cotton's Director of Traceability, Jacky Broomhead, led discussions on how traceability systems can support sustainability goals, particularly in light of the industry's net-zero ambitions. Panelists explored how AI and automation could streamline data collection, making traceability more accessible for all stakeholders.

The Path Forward

The Better Cotton Conference 2024 underscored the need for collaboration and collective action in the cotton industry. From empowering farmers to embracing data-driven traceability, the conference highlighted that sustainable progress depends on the active participation of all stakeholders across the supply chain. As Alan McClay, CEO of Better Cotton, aptly put it, "Our commitment remains steadfast in driving positive change for cotton communities worldwide."

The insights and discussions from this year's conference will guide the industry in addressing the challenges and opportunities that lie ahead, as it works towards a more sustainable and equitable future (Better Cotton) (Specialty Fabrics Review) (Better Cotton).

JAY Chemical commissions new specialty chemicals plant

JAY Chemical Industries Private Limited has taken a significant step forward with successfully commissioning its newest plant in Saykha, near Dahej. This state-of-the-art facility, officially inaugurated on June 28, 2024, is dedicated to producing ethylene oxide and propylene oxide-based derivatives, as well as formulated products. These chemicals play a critical role in reducing surface and interfacial tension while enhancing the stability of various substances.

Figure: Inauguration ceremony of Jay Chemical New Plant

The new plant showcases the company's commitment to growth and innovation and is equipped with the highest standards of safety and environmental compliance. This strategic expansion strengthens JAY Chemical Industries' position in the global specialty chemicals market, with the new vertical being overseen by Director Mr. Ravi Kabra. The plant marks a new chapter in the company's 57-year legacy, reinforcing its dedication to sustainable and innovative solutions.

LYCRA advances decarbonization with SBTi targets

LYCRA, a global leader in sustainable fiber solutions for the apparel and personal care industries, has achieved a significant milestone with the Science Based Targets initiative (SBTi) approving its near-term emissions reduction targets. The company aims to reduce absolute Scope 1 and 2 greenhouse gas (GHG) emissions by 50 percent by 2030, based on 2021 levels, and to cut Scope 3 GHG emissions from purchased goods and services by 25 percent in the same period.

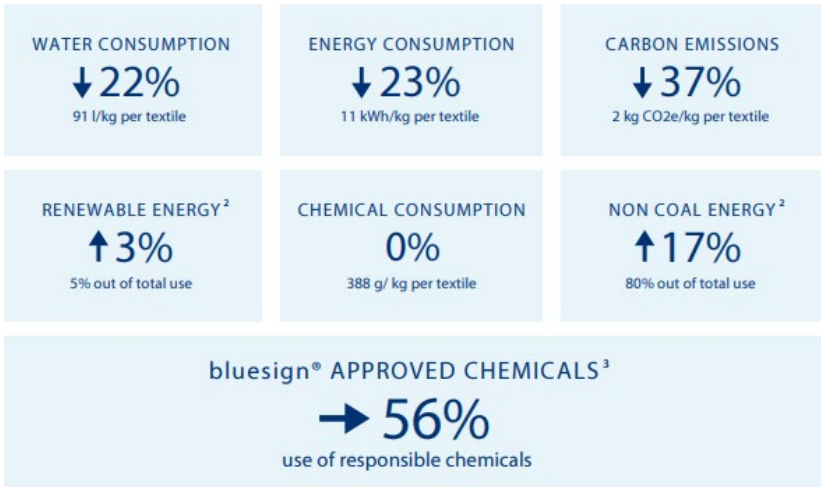
To lower Scope 1 emissions, The LYCRA Company is transitioning to cleaner energy sources at production sites, including a project in Maydown, Northern Ireland, set for completion by early 2025. For Scope 2 reductions, the company has converted purchased electricity to renewable sources at sites in Foshan, China, and Maydown, with more sites to follow. Additionally, The LYCRA Company collaborates with suppliers like Qore® to develop bio-derived LYCRA® fiber, aiming to convert nearly 30 percent of its spandex capacity over the next few years.

CEO Gary Smith emphasized the importance of these initiatives for both business success and environmental responsibility, highlighting the company's commitment to reducing its emissions and those of its customers.

Bluesign's 2023 Impact: Setting the Benchmark for Sustainable Textiles

Bluesign®, a leader in sustainable textile production, has unveiled its 2023 impact numbers, demonstrating significant environmental achievements. Through its global network of 864 System Partners, Bluesign has pioneered industry standards for sustainability, focusing on reducing water usage, energy consumption, and carbon emissions.

Key accomplishments from 2019 to 2023 include saving over 6.2 billion liters of water and reducing carbon emissions by more than 3.2 billion kilograms. Bluesign's approach aligns with six key UN Sustainable Development Goals, emphasizing global collaboration for a healthier, more sustainable future.



The company's 2023 report reaffirms its leadership in creating a responsible textile industry that balances efficiency with environmental stewardship, ensuring that consumers can trust in the sustainability of the products they purchase.

https://www.bluesign.com/wp-content/uploads/2024/08/bluesignImpactScorecard_2023.pdf

Turkey increases customs duties to combat Shein & Temu

Turkey has introduced stricter customs regulations, significantly raising taxes on goods ordered from foreign websites like Shein and Temu. President Recep Tayyip Erdoğan approved the changes on August 6, which include reducing the overseas fast cargo shopping limit from 150 euros to 30 euros, effective August 21. The import duty on European packages will rise from 18 percent to 30 percent, while goods from non-EU countries will face a tax hike from 30 percent to 60 percent.

These measures aim to protect local businesses from competition with international e-tailers. Additional taxes will be imposed on luxury items, and goods valued between 30 euros and 1,500 euros will require full customs procedures.

Turkey joins other countries, including the U.S.

and the EU, in tightening import regulations to curb the influence of fast-fashion giants. The U.S. recently introduced the FIGHTING for America Act to reform de minimis trade provisions, while the European Commission plans to remove duty-free thresholds on low-priced imports.

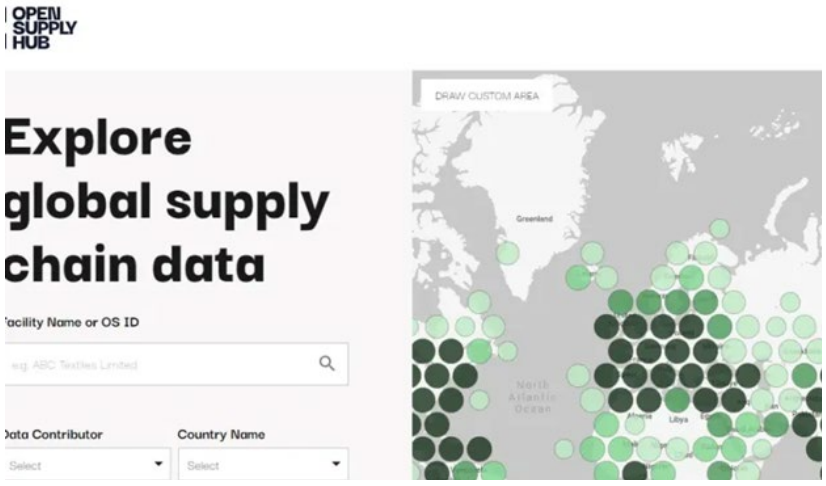
These global efforts reflect growing concerns over the impact of cheap, foreign-made goods on domestic industries. Neither Shein nor Temu has commented on the new regulations.

https://www.yahoo.com/news/turkey-latest-country-customs-crackdown-183000741.html

ESCP partners with OSH for enhanced transparency

On August 13, 2024, the Ethical Supply Chain Program announced its collaboration with Open Supply Hub, aiming to make supply chain data more open, accessible, and trustworthy through a global data platform. This partnership enables factories certified by the Ethical Supply Chain Program to publish their details on Open Supply Hub, allowing for greater transparency and visibility.

As part of this collaboration, data from nearly 700 ethically certified factories has been added to the Open Supply Hub platform and will be updated bi-annually. This initiative benefits both buyers and suppliers by offering a broader selection of ethical suppliers and enabling factories to be more easily discovered by potential business partners.



The platform complements the Ethical Supply Chain Program's existing sourcing tool, Connect, used by members to share and manage ethical supply chain information.

This collaboration marks a significant step toward building a more transparent and responsible global supply chain.

https://www.ethicalsupplychain.org/news-events/ethical-supply-chain-program-and-open...

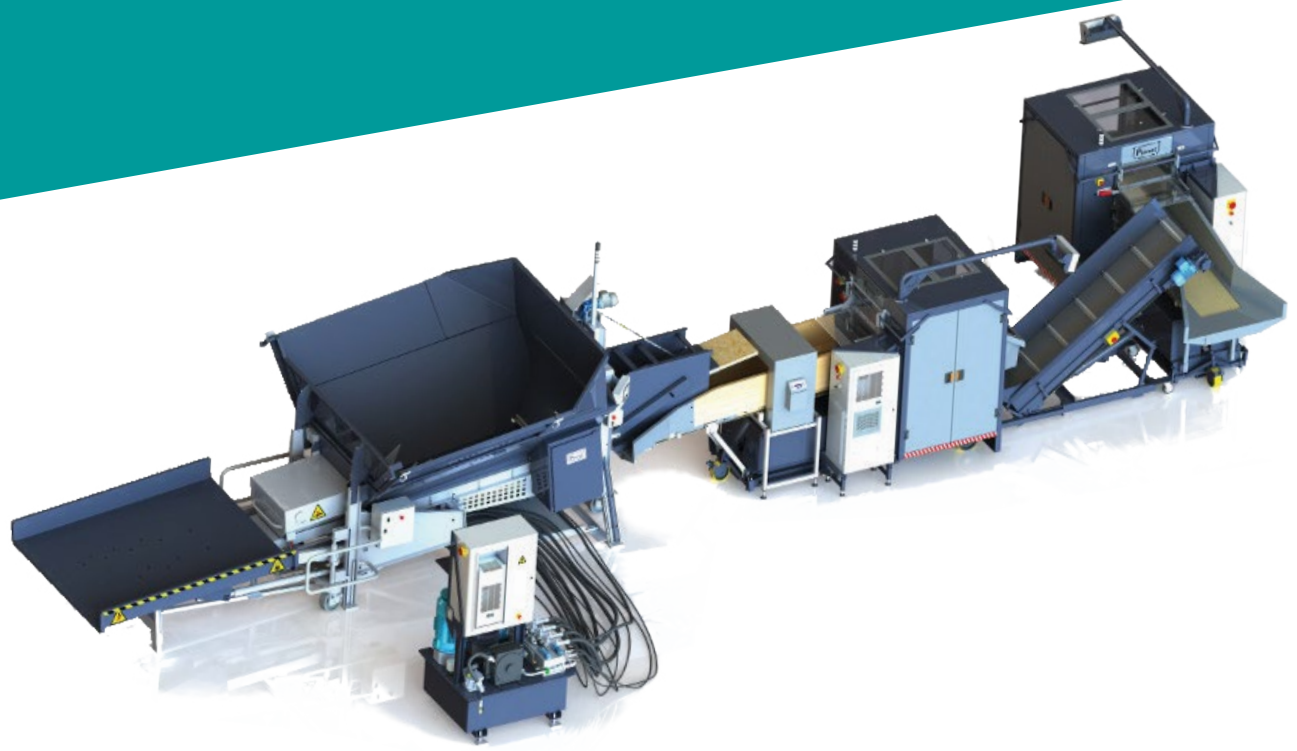
Archroma secures Gold EcoVadis sustainability rating

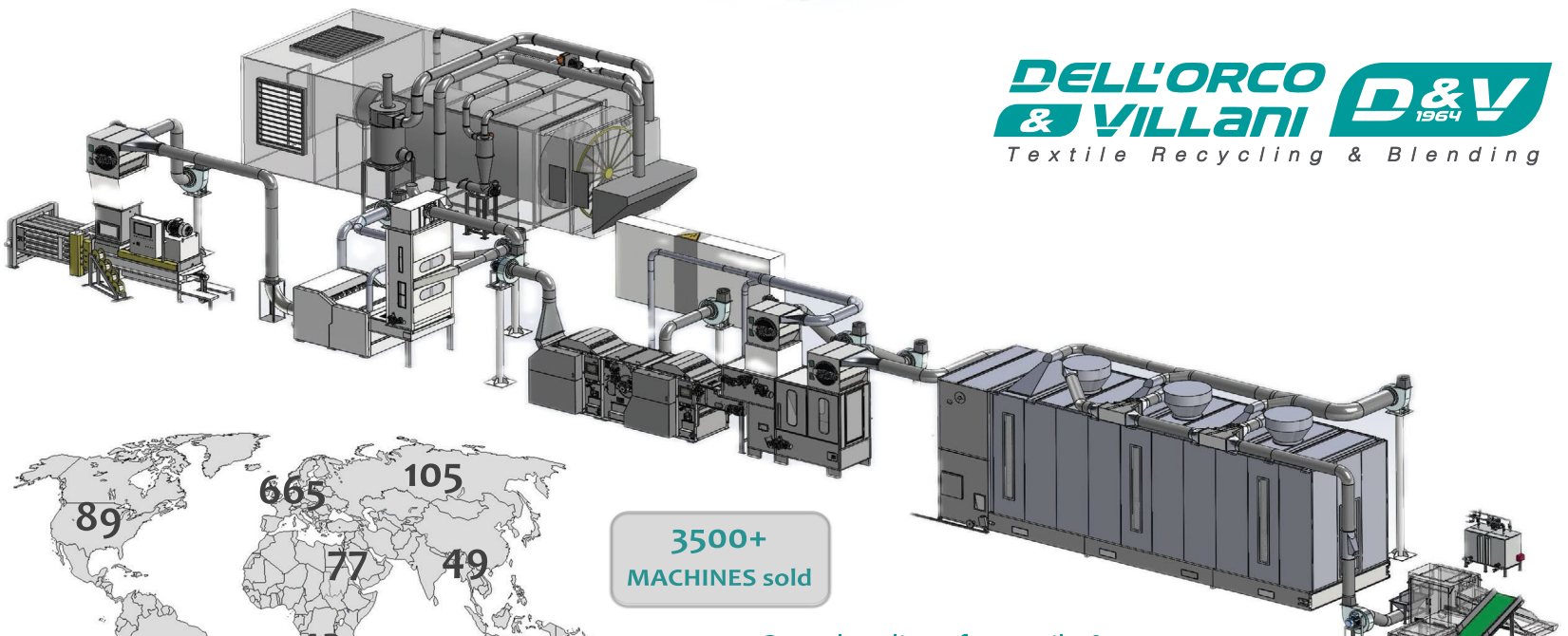
Archroma, a global leader in specialty chemicals, has earned a Gold rating from EcoVadis, placing it among the top 5% of over 130,000 companies assessed worldwide. This recognition highlights Archroma's strong commitment to sustainability across environmental performance, ethics, labor, human rights, and sustainable procurement.

The company has set ambitious targets for 2030, including reducing water intensity by 40%, energy intensity by 15%, and waste intensity by 10%, while aiming for zero hazardous waste to landfill. Additionally, Archroma plans to cut its Scope 1 greenhouse gas emissions by 20% and Scope 2 emissions by 40%. These efforts underscore

Archroma's dedication to driving sustainability in its industry and contributing positively to the environment.

https://www.archroma.com/press/releases/archroma-secures-gold-ecovadis-sustainability-rating





Transforming textile manufacturing through precision in advanced machinery

Robert Heymen

The global textile market was valued at around $993.6 billion in 2023, and it is expected to reach over $1.3 trillion by 2027. The global apparel market was valued at approximately $1.5 trillion in 2023, with projections to reach nearly $2 trillion by 2027. Combined, the textile and apparel industry accounts for roughly 2-3% of the total global economy.

That means the textile industry, a cornerstone of global manufacturing which is now undergoing a significant transformation driven by advancements in machinery precision.
As demand for high-quality, sustainable, and customized textile products increases, the role of precision in textile machinery has never been more crucial.

The evolution of textile machinery

Textile manufacturing has evolved from manual processes to highly automated systems. The introduction of computerized machinery and robotics has enabled the industry to achieve super levels of precision. This shift not only enhances productivity but also reduces waste, energy consumption, and operational costs.

The importance of precision in modern textile manufacturing

Precision in textile machinery impacts every stage of the production process. From yarn spinning and dyeing to knitting, weaving and finishing, accurate and consistent machine operations are essential. Precise control over parameters like tension, speed, temperature, and alignment ensures uniformity in the final product, reducing defects and rework.

Advancements in machinery precision

Recent innovations, such as computerized control systems, AI-driven diagnostics, and IoT-enabled sensors, have revolutionized textile machinery. These technologies allow for real-

time monitoring and adjustments, leading to more precise and efficient production processes. Advanced machinery can detect even the slightest deviations, ensuring consistent quality and reducing downtime.

Sustainability through precision

Precision in textile machinery also plays a critical role in sustainability efforts. By optimizing resource usage—whether it's water, energy, or raw materials—manufacturers can significantly reduce their environmental footprint. For example, precision dyeing machines minimize water and chemical usage, aligning with the growing demand for eco-friendly textiles.

Challenges and opportunities

While the benefits of precision in textile machinery are clear, challenges remain. High initial costs, the need for skilled operators, and the integration of new technologies into existing systems can be barriers to adoption. However, these challenges present opportunities for innovation and collaboration within the industry.

The future of textile manufacturing

The future of textile manufacturing lies in the continued advancement of precision machinery. As the industry moves towards greater automation and digitalization, the importance of precision will only grow. Companies that invest in cutting-edge machinery will not only improve their competitive edge but also contribute to a more sustainable and efficient textile industry.

Lastly, I want to say, precision in textile machinery is no longer a luxury but a necessity in today's competitive and sustainability-focused market. By incorporating advanced technologies and prioritizing precision, textile manufacturers can enhance product quality, increase efficiency, and lead the way towards a more sustainable future. The time to invest in precision is now, as it holds the key to unlocking the full potential of the textile industry.

VORN and Stoll partner for sustainable microfactory in Berlin

VORN – The Berlin Fashion Hub has teamed up with Stoll and KM.ON, both under the Karl Mayer Group, to launch a cutting-edge microfactory in Berlin's Bikinihaus. Using Stoll's advanced ADF machines and KM.ON's digital solutions, this microfactory aims to revolutionize the fashion industry with sustainable, on-demand production. The facility will serve as a collaborative space for academics, brands, and startups, focusing on economic sustainability and innovative production methods. The microfactory, set to open in October, promises efficient customization, reduced environmental impact, and resilient supply chains.

Figure : Marte Hentschel (left) and Oliver Lange (right), the co-CEOs of VORN – The Berlin Fashion Hub and Michael Händel, Vice President Sales & Service at STOLL, after signing the contracts for the delivery of the STOLL machines.

https://textiletoday.com.bd/vorn-partners-with-stoll-to-equip-microfactory-effects-for-future-textile

From Needle to Fabric: How Groz-Beckert is transforming flat knitting

M A Mohiemen Tanim

Groz-Beckert has established itself as a pioneer in the textile machinery industry, thanks to its innovative and unique technologies designed specifically for flat knitting machines. These technologies not only enhance the performance of the machines but also ensure high-quality, efficient production processes. Here are the key technological innovations that set Groz-Beckert apart:

Advanced Needle Technologies

01. Precision Latch Needles with Transfer Function

Groz-Beckert's latch needles are designed with cutting-edge precision, ensuring seamless performance in various knitting applications. The unique features include:

- **Transfer Clips and Slots:** These features are precisely executed with exact edge rounding, providing high security during the transfer process. This results in a smooth, reliable operation and reduces the risk of knitting errors.
- **Spring-Loaded Mechanism:** The spring-loaded latch needles incorporate a latch spring beneath the needle latch. This spring ensures automatic raising of the latch in both the closing and open positions, facilitating consistent yarn insertion and preventing loose loops. This technology is especially beneficial when knitting with bulky or multi-threaded yarns, producing a uniform loop structure.

2. Innovative Compound Needles

Groz-Beckert's compound needles consist of two distinct parts: the needle and the closing element. The technology behind these needles includes:

- **Two-Part Design:** The needle and the closing element work together to cover the hook during the loop formation process, ensuring

accurate loop creation and high-quality fabric production.

- **Enhanced Durability and Precision:** The compound needles are engineered for durability and precision, making them suitable for complex knitting patterns and high-speed operations.

State-of-the-Art System Parts

1. Coupling Parts

- **Collaborative Development:** Groz-Beckert works closely with machine builders to develop coupling parts that ensure reliable interaction between needles and selecting jacks. This collaboration results in high-quality products that guarantee process reliability.

2. Intermediate Jacks

- **Independent Movement:** Unlike traditional coupling parts, Groz-Beckert's intermediate jacks are not engaged with the needle. They are positioned separately in the needle trick and can move independently, ensuring secure positioning and correct knitting functions.

3. Selecting and Holding-Down Jacks

- **Optimized for High Performance:** These jacks are designed with secured spring force, consistent reaction times, and optimized surfaces at critical points. This technology prevents selection errors and ensures reliable functioning, even at higher machine speeds and finer gauges.

Versatile Applications with Custom-Tailored Solutions

1. Tailored for Specific Needs

Groz-Beckert's technology extends beyond standard applications, offering custom-tailored solutions for various industries:

- **Apparel Textiles:** The needles and system parts are optimized for producing high-quality sweaters, collars, gloves, and other fashion items with precise shaping and intricate designs.
- **Technical Textiles:** The technology is ideal for creating specialized textiles with unique properties for sports, automotive, and other technical applications.
- **Medical Textiles:** Groz-Beckert's innovations facilitate the production of compression stockings and bandages with defined shapes and specific functions.

2. Development Partnerships

As a development partner, Groz-Beckert maintains strong relationships with renowned machine builders and knitting mills. This partnership ensures continuous innovation and adaptation to the evolving needs of the textile industry.

Groz-Beckert's unique technology for flat knitting machines combines precision engineering, advanced materials, and innovative design to deliver superior performance and reliability. From precision latch needles and compound needles to state-of-the-art system parts, Groz-Beckert sets the standard for quality and efficiency in the textile industry. By embracing these cutting-edge technologies, manufacturers can achieve higher productivity, reduced downtimes, and superior product quality, staying ahead in the competitive market.

https://www.groz-beckert.com/en/products/knitting/flat-knitting.html

PolyU's iActive sportswear redefines sweat management & comfort

Dr. Shou Dahua and his research team at Hong Kong Polytechnic University's School of Fashion and Textiles have developed iActive sportswear, featuring groundbreaking technology for efficient sweat removal. Inspired by natural systems, the fabric integrates low-voltage artificial 'sweat glands' and a root-like liquid transport system that aligns with the body's sweat map.

This innovation actively dissipates sweat three times faster than the human sweating rate, reducing the weight and stickiness often caused by sweat during exercise. The lightweight fabric remains dry and breathable, significantly enhancing comfort and performance. Additionally, a mobile app allows users to manage sweat levels wirelessly. The iActive

sportswear, including a Gold Medal at the 49th International Exhibition of Inventions Geneva, has gained international recognition. Beyond sportswear, iActive is ideal for protective clothing and workwear.

https://www.polyu.edu.hk/

40,000-year-old prehistoric needles & dawn of fashion

Rahbar Hossain

A groundbreaking study published in Science Advances revealed that eyed needles, which emerged around 40,000 years ago, played a significant role beyond mere tailoring for prehistoric humans. These needles, fashioned from bones, antlers, or ivory, made sewing more efficient and acted as instruments of self-expression.

The research, conducted by a team led by Ian Gilligan, an honorary associate in the discipline of archaeology at the University of Sydney, analyzed archaeological evidence from various sites across Europe, the Middle East, Southeast Asia, southern Africa, and Australia. The findings suggest that eyed needles were pivotal in the advent of fitted clothing, appearing as the climate grew colder during the last glacial period.

"Eyed needles made sewing more efficient and reflected the advent of fitted or tailored clothing," Gilligan stated. He explained that during colder periods, humans needed to cover their bodies more extensively, leading to the use of clothing as a canvas for social and cultural decoration, replacing traditional body painting, tattooing, and scarification.

The study posits that eyed needles were used not only for practical purposes but also for decorative ones. Archaeological discoveries, such as a burial site near Moscow with skeletons adorned with pierced ivory beads and shells, support the theory that clothing decoration was a significant aspect of prehistoric life. These beads and shells, likely sewn onto clothing, illustrate the dual purpose of eyed needles in tailoring and adornment.

The importance of this discovery lies in its ability to connect us to the past, highlighting the sophisticated technological knowledge and cultural practices of Ice Age humans. According to April Nowell, a professor of anthropology at the University of Victoria, artifacts like eyed needles provide a tangible link to our ancestors, revealing the unexpected richness of their lives.

This study underscores how a seemingly simple tool like the eyed needle marked a profound shift in human history, transforming clothing from a mere necessity for warmth into a vital medium for social expression and cultural identity.

https://www.science.org/doi/10.1126/sciadv.adp2887

Automation and nearshoring are set to revolutionize the European garment industry

Faysal Ahmed

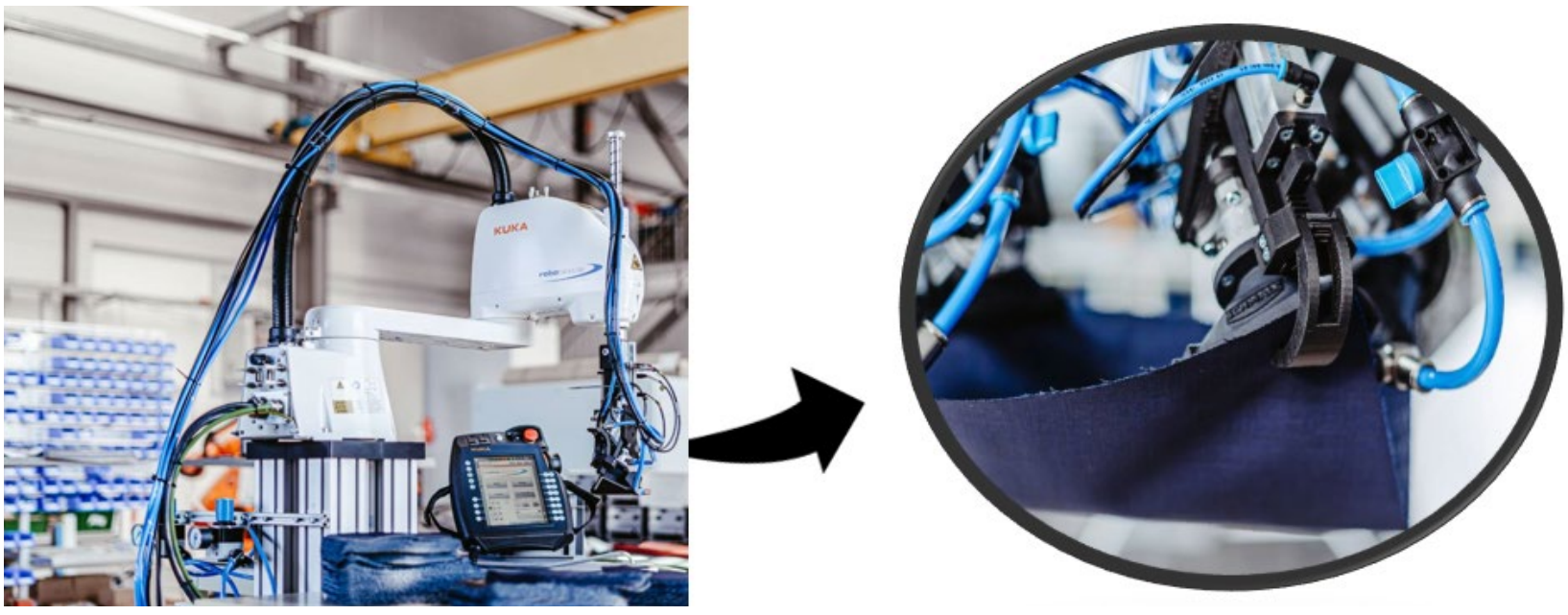


Figure 1 Automated textile grippers produced by robotextiles along with KUKA

The European garment industry is undergoing a transformative shift driven by the twin forces of automation and nearshoring. These advancements are poised to revolutionize production processes, bringing significant benefits in terms of efficiency, cost savings, and sustainability.

Nearshoring involves relocating production closer to the end market. For European garment manufacturers, nearshoring means shorter supply chains, reduced transportation costs, and faster response times to market demands. Thus, European manufacturers can better manage inventory, reduce lead times, and respond more quickly to fashion trends.

While nearshoring addresses geographical challenges, automation tackles the intricacies of the garment production process itself. Automation in garment manufacturing encompasses a wide range of technologies, from advanced robotics and computer numerical control (CNC) cutting machines to intelligent software solutions for optimizing production workflows such as:

1. Precision and Efficiency with Automated Cutting Machines

Automated cutting machines, including laser and water jet cutters, offer unparalleled precision in fabric cutting. These machines can handle complex patterns and cut through multiple layers of fabric simultaneously, significantly reducing material waste and improving overall efficiency

2. Intelligent Fabric Handling

In traditional textile manufacturing, fabric handling tasks account for a significant portion of labor costs. These tasks are often monotonous and physically demanding, such as placing trouser pockets or collars before sewing. Automation addresses these challenges by deploying robots equipped with specialized grippers to handle fabrics with care and precision. These robots can adapt to varying fabric types and shapes, ensuring smooth and efficient handling throughout the production process.

3. Robotic Material Handling

Robots and automated systems are increasingly being used for material handling within production facilities. From moving fabric rolls to transporting cut pieces, these systems reduce the reliance on manual labor, enhance workflow efficiency, and minimize the risk of human error. This integration of robotics streamlines the entire production line, enabling manufacturers to achieve higher output with fewer resources.

Case Study: Robotextile and KUKA Robotics

Robotextile and KUKA Robotics. Together, they have developed an advanced system solution that combines robotics with intelligent fabric handling technologies. This system addresses industry challenges, such as the variable nature of textiles during processing, by using adaptive gripper technologies and precision robots.

KUKA's small robots, like those from the KR AGILUS and KR SCARA series, operate efficiently in confined spaces and achieve high precision at fast speeds. These robots ensure consistent manufacturing quality, with capabilities such as handling layers of fabric with integrated sensors for sensitive and precise movements. The result is a highly automated production line that enhances efficiency, reduces costs, and maintains high product quality.

The future of the European garment industry is exemplified by initiatives like the Textile Factory 7.0 (T7) project. This collaborative effort involves academic institutions, industry associations, and leading manufacturers, aiming to reshape the textile industry through innovation and technology. T7 focuses on making textile production more sustainable and bringing it closer to target markets, aligning with the broader goals of nearshoring and automation. By leveraging advanced technologies and strategic geographic shifts, manufacturers can enhance their competitiveness and meet the evolving demands of consumers. As initiatives like the T7 project continue to push the boundaries of innovation, the future of textile production in Europe looks promising, with automation and nearshoring at the forefront of this transformative journey

ARTiTEX offers time Study App to digitalize every workstation in a sewing line

The ARTiTEX Time Study mobile app records live production data at sewing workstations, measuring sewing and handling times, counting output, and tracking work interruptions in real-time. The data is transferred to a web monitor for analysis. Workers receive task-specific instructions and tutorials through the app and can view their performance. Add-ons allow quality inspectors to document and analyze visual inspections, including defects, and use AI to recognize anomalies like skipped stitches. The platform also offers tools for automatic line balancing and organizing worker borrowing across lines. This retrofit solution can be used at any workstation in a sewing production line

Figure 1 Make the data science and AI accessible to the sewing line

https://play.google.com/store/apps/details?id=de.artitex.app&hl=en

Innovative sewing machine called the "DDL-10000DX brings Texprocess Innovation award 2024 to JUKI

One of three Texprocess Innovation Awards in the "Economic Quality" category was awarded to Juki Central Europe for the innovative "DDL-10000DX" sewing machine, which allows any user to perform three-dimensional sewing. Juki claims this technology is a "world first in the sewing machine industry." The DDL-9000C, JUKI's new direct-drive, high-speed, lockstitch sewing system with an automatic thread trimmer, is the latest flagship model from the world's largest industrial sewing machine manufacturer. The machine is digitalized, enabling easy adjustment of settings such as the feed mechanism, thread tension, and feed locus through the operation panel. Optimal parameters

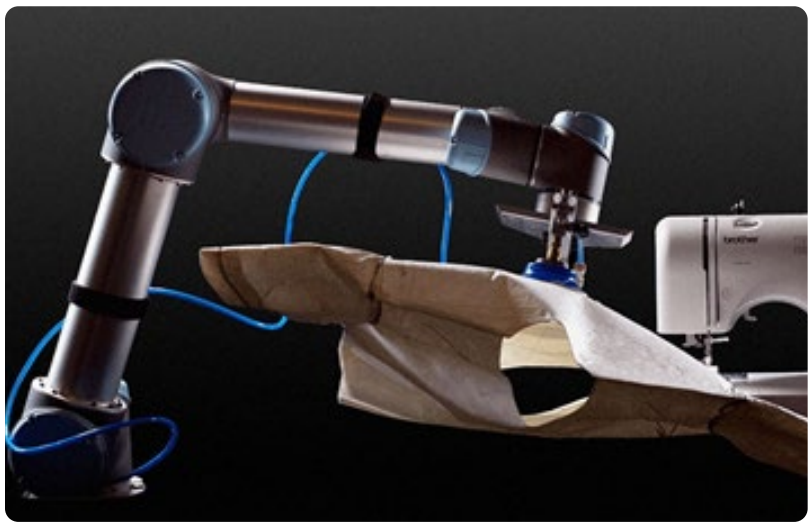
for high-quality seams can be achieved digitally, eliminating the need for manual adjustments. The digitalization allows for the storage and easy reproduction of optimal adjustment values for different materials in the machine's internal memory, which is beneficial for factories producing diverse products, ensuring stable seam quality efficiently.

https://www.textiletechnology.net/technology/news/techtextil--texprocess...

Robotic 3D Sewing Technology by Philipp Moll GmbH

The cutting-edge robotic 3D sewing technology is redefining the horizons of garment manufacturing, ensuring high-quality output. This innovative technology, pioneered by Philipp Moll GmbH & Co, brings the concept of 3D sewing to the fore. The machine is uniquely designed to manufacture trousers, shirts, jackets and other staple garments using a 3D seam. Beyond traditional garments, this technology is adept at sewing automobile textiles, encompassing items like seat covers and airbags.

The 3D approach empowers manufacturers to produce items with unparalleled efficiency and



superior quality. Additionally, it provides a slew of benefits, including a reduction in labour costs and lead time, while simultaneously enhancing productivity.

https://www.researchgate.net/publication/233895854_Automated_Garment...

EPR for textiles is key to a circular fashion economy

A. Peter Tessa

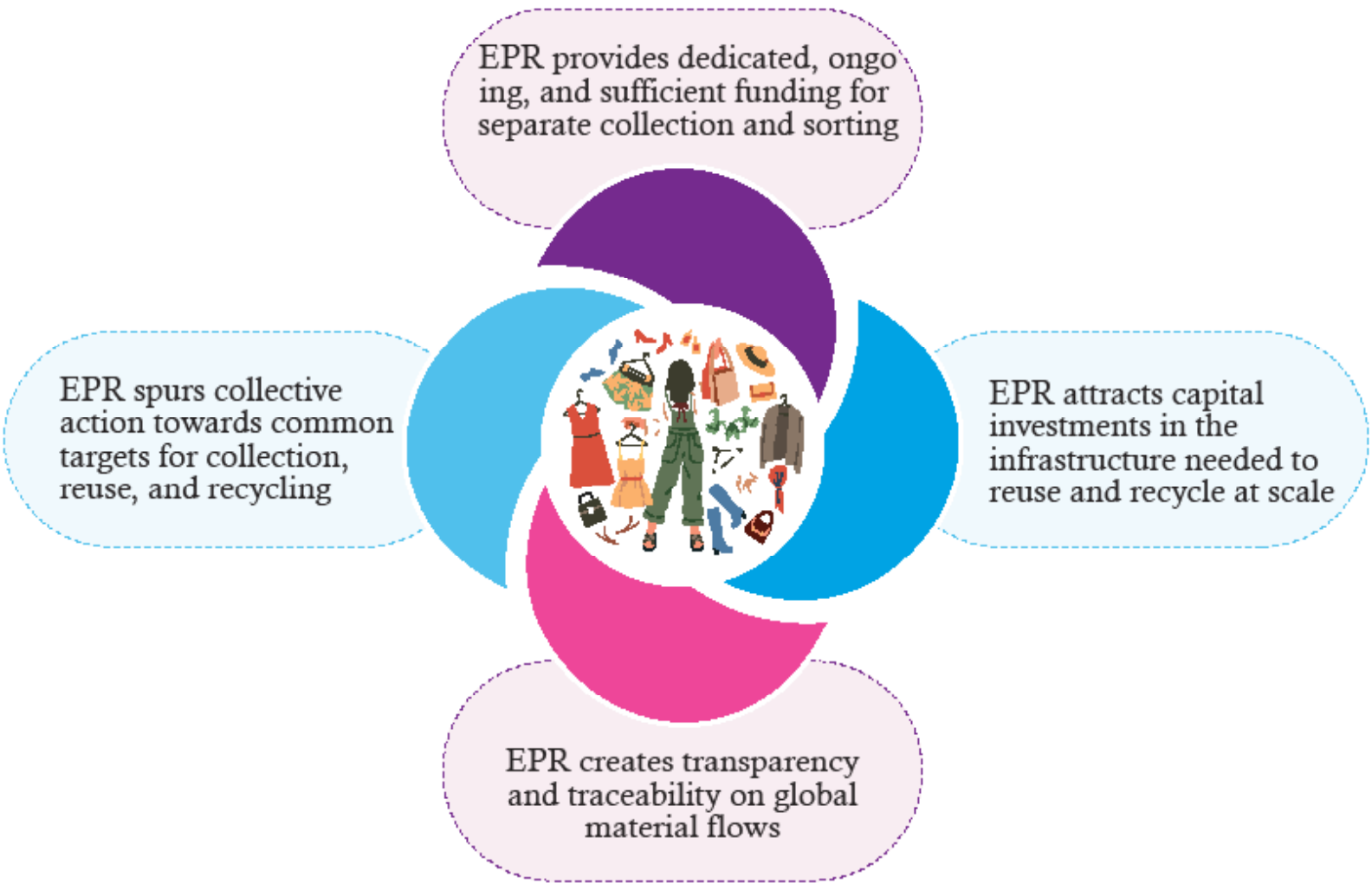


Figure: EPR offers four key benefits, ©ellenmacarthurfoundation.org

Extended Producer Responsibility (EPR) is emerging as a crucial policy for creating a truly circular fashion economy. The concept of EPR places the obligation on producers to manage the lifecycle of their products, including end-of-life collection, recycling, and disposal. This policy shift is crucial for addressing the massive environmental impact of the textile industry and promoting sustainability.

In our current textile system, most business models are linear: they are based on high volumes of new products, made from virgin resources, which are often used for a short time and then thrown away. Currently, products are not always designed to last and are often hard to recycle.

A latest report, titled Pushing the boundaries of EPR policy for textiles (2024), published by Ellen MacArthur Foundation (EMF), said, "A comprehensive circular economy approach is the only solution that can match the scale of this global problem. In this system, businesses contribute to supporting infrastructure in proportion to what they place on the market."

Separate collection is the only way to keep textiles

from ending up in the waste stream or worse, the environment, according to the Ellen MacArthur Foundation. It also said that the collection rates for textiles hover around 14% on average, with up to 86% of textile products being discarded as municipal solid waste. This highlights the urgent need for more efficient collection and recycling systems to manage textile waste sustainably.

While EPR for textiles is gaining traction globally, its implementation varies significantly. In the European Union, countries like France, Hungary, and the Netherlands have already mandated EPR schemes for textiles, aiming to create a cohesive approach to waste management and recycling. However, other regions, such as Australia, Colombia, Ghana, Kenya, California, and New York, are still in the early stages of adopting these policies, often on a voluntary basis.

One of the key challenges in implementing EPR is the lack of a universal definition for textiles and the scarcity of reliable data on collection rates and recycling outcomes. This fragmentation hinders the development of effective EPR schemes and the establishment of clear responsibilities among producers.

Effective EPR schemes must balance economic viability for producers with ambitious environmental goals. This includes setting fees that cover the net cost of collection, sorting, reuse, and recycling without creating perverse incentives to reduce collection volumes.

Additionally, complementary policies, such as the EU's Ecodesign for Sustainable Products Regulation (ESPR), aim to enhance the quality, durability, and recyclability of textiles, supporting the broader goals of EPR.

The report outlines four primary global goals for optimizing Extended Producer Responsibility (EPR) in the textile industry:

» **Enhance collection volumes:** Expanding and establishing textile collection systems is crucial to divert textiles from mixed waste streams and prevent environmental leakage. Setting targets to increase absolute volumes of separately collected textiles and measuring the relative growth of these volumes will be pivotal.

» **Boost reuse rates:** Maximizing textile reuse before recycling preserves their highest value. The report suggests measuring this objective by assessing the proportion of textiles entering reuse markets relative to those sorted. Efforts and targets should prioritize domestic reuse to extend product life and minimize negative impacts linked to exporting reusable textiles.

» **Increase recycling rates:** Prioritizing textile-to-textile recycling over downcycling and other lower-value applications is essential in EPR strategies. When reuse isn't feasible due to textile conditions or market availability, sorted textiles should be recycled to retain their material value within the economy.

» **Decrease waste volumes:** Implementing EPR policies aligned with the above objectives should lead to a reduction in textiles reaching their end of life. This reduction should be measured against time-bound targets for waste reduction or diversion, ensuring progress over time.

Fashion brands and retailers are being encouraged to align their product designs with circular economy principles. Otherwise, the effectiveness of funding raised through EPR schemes could diminish if brands and retailers fail to design products for extended use and recyclability after their maximum lifespan.

"Brands and retailers will have a key role to play to support this emerging landscape by investing in reverse logistics infrastructure, and by engaging in long-term sourcing agreements with recyclers in order to support the early stages of commercialization for textile-to-textile recycling," said the report.

Furthermore, fashion brands and retailers can play a crucial role in ensuring that any new materials they use come from renewable sources and are produced using regenerative agricultural practices.

RH Corporation & SAS Enterprise: Fostering the Circularity into Bangladesh's Textile and Garment Industry

In the vibrant landscape of Bangladesh's textile industry, RH Corporation & SAS Enterprise stands as a paragon of sustainability and innovation. As a sister concern of Aziz Group, they have been a trailblazer in providing eco-friendly chemical solutions, advanced machinery, sustainable fabrics, and comprehensive service support to the textile sector for over 50 years. Their unwavering dedication is directed towards fostering a clean, transparent, forward-thinking textile industry, poised to adorn the emerging global market.

RH Corporation & SAS Enterprise's Sustainable Endeavors:

Their ethos is built on the foundation of delivering high-performance products that align with the needs of their customers while adhering to environmental sustainability. Their offerings span a diversified portfolio of ecologically safe chemicals & dyes, diversified fabrics, state-of-the-art machinery & auxiliaries, and customer-oriented services & support. With a vision to meet and exceed international compliance standards, RH Corporation & SAS Enterprise is dedicated to contributing towards a greener environment and mitigating the environmental impact.

At the forefront of innovation and continual enhancement, we aspire to establish an industry benchmark for a new era of sustainable practices.

In collaboration with esteemed partners, we adhere to the following principles:

Pierret:

A Belgian company founded in 1925, is at the forefront of textile preparation with its acclaimed guillotine-cutting machines and automatic feeders.

Dell'Orco & Villani:

Pioneers in Textile Recycling Machinery, Dell'Orco & Villani have been at the forefront of textile recycling machinery since 1964, a longtime member of the Association of Italian Textile Machinery Manufacturers (ACIMIT).

Their technology offers a second life to textile waste materials, maintaining a good staple length of reopened fiber from textile and garment waste. Dell'Orco & Villani (D&V) provides comprehensive waste management solutions by integrating pin-based tearing drums and wire-based Super Opening Drum - TCO Carding, a unique technology in the market exclusive to Dell'Orco, ensuring the highest level of fire safety at all stages. This complete line is applicable for pre-consumer and post-consumer waste due to the line skipping system and auto blending including diverse sensors, transforming textile waste into reusable fibers by setting a new standard in textile recycling, a considerable saving in power consumption of about 10%–15% compared to others.

Craftevo:

Craftevo, a leading Japanese fabric manufacturer and retailer, is redefining the industry with its innovative and sustainable solutions of patented compostable polyester. This groundbreaking material is not only eco-friendly but also offers the same durability and versatility as traditional polyester, and decomposes into water and CO2 under specific conditions.

Tearfil:

A Portuguese spinning mill established in 1973, is known for its diverse Creative, Rethink, and Recycle collection in sustainable yarn solutions. They offer a rich portfolio of yarn compositions, including organic cotton, hemp, siro spun, vortex/air jet, injected, multi-colored, melange, flamé, and jaspé, etc., selected based on quality, traceability, and sustainability attributes. Tearfil's commitment to sustainability is further exemplified by their takeback program, crafting new yarns from production leftovers, and their water-conscious colored melange range, which uses the lowest possible amount of virgin material, aligning the circular practices.

A Sustainable Vision for Bangladesh's Textile Industry:

RH Corporation & SAS Enterprise, in collaboration with global partners, is transforming Bangladesh's textile industry by aligning with the EU's 2022 sustainable and circular textiles initiative. As the need for recycled textile technology increases, these organizations are not just ready but are actively forging a sustainable and thriving future for the industry. Their dedication to innovation, sustainability, and circular economy is revolutionizing the textile field and leading the way towards a cleaner, more responsible global textile market.

R&D Initiatives: Turning Waste into Usable Fiber

In addition to their recycling efforts, RH Corporation & SAS Enterprise are also spearheading R&D initiatives that focus on transforming diversified waste into usable fiber by integrating technological and technical insights with different stakeholders. they aim to create innovative solutions that not only address waste management but also contribute to the sustainable production process.

The collaborative efforts of RH Corporation & SAS Enterprise, Pierret, Dell'Orco & Villani, Craftevo, and Tearfil are paving the way for a sustainable textile industry in Bangladesh, presenting a viable solution for a greener planet. As market dynamics shift towards expanded circular practices, Bangladesh is emerging as a hub for this eco-friendly transition. Well-prepared to tackle these challenges head-on, these approaches are being bolstered by the forward-thinking work of these companies. Their vision is not just transforming the industry but also contributing significantly to a more sustainable future.

Email : rhgreen@rhcorpbd.com, info@rhcorpbd.com	Web: www.rhcorpbd.com	Tel : +880 9609006215-16

CISTM advances textile recycling efforts

A. Peter Tessa

In a bold move towards a more sustainable textile industry, the Circular Systems for Trim and other Ignored Materials (CISTM) program is tackling the challenge of recycling some of the most difficult post-consumer and post-industrial textiles. This innovative initiative, driven by a team including Karla Magruder, Martha Willis, and Alina Rensch, is focused on creating circular systems for materials often overlooked in traditional recycling processes.

Recently, the CISTM team conducted a two-day visit across Europe, engaging with members of their working group to address the critical need for effective sorting systems. Collaborating with industry leaders like Avery Dennison, Coats, Refiberd, YKK, Valvan, Erdotex Group, and TOMRA, the discussions centered on overcoming the hurdles of sorting technology and scaling recycling efforts.

Key insights emerged from the meetings, highlighting the importance of speed in sorting processes due to the low economic value of these materials. Near-Infrared (NIR) technology, while not flawless, was identified as a crucial tool for detecting fiber composition and structure in used textiles. Additionally, the role of legislation in shaping future sorting systems was emphasized.

As CISTM pushes forward, the team remains committed to developing scalable solutions that contribute to a truly circular textile economy.

Wrangler® teams up with Beyond Retro for second Wrangler Reborn™ collection

A. Peter Tessa

Wrangler® has launched the second installment of its Wrangler Reborn™ Collection, this time collaborating with Beyond Retro, one of Europe's largest vintage retailers. This partnership focuses on upcycling discarded denim into sustainable, high-quality apparel.

The new collection, which includes the Greensboro Straight Leg Jean, Reworked Short, Icon Jacket, and Heritage Shirt, showcases Wrangler's dedication to circular fashion. By partnering with Beyond Retro, known for

on-trend and eco-friendly fashion, Wrangler enhances its sustainability initiatives and scales the project globally.

https://www.businesswire.com/news/home/20240725772161/en/Denim...

Global Recycled Apparel Market Analysis & Forecast 2024-2030

M A Mohiemen Tanim

The global recycled apparel market is poised for significant growth, driven by increasing environmental awareness, stringent regulations, and advancements in recycling technologies.

Market Overview

The global recycled apparel market was valued at approximately USD 5.6 billion in 2023 and is projected to reach USD 20.51 billion by 2030, expanding at a CAGR of 9.8% from 2024 to 2030 (Mordor Intelligence).

Key Market Drivers

» **Environmental Awareness:** Increased awareness about the environmental impact of the fashion industry, which accounts for 10% of global carbon emissions and 20% of wastewater, is driving the demand for recycled apparel

» **Regulatory Policies:** Governments are implementing policies to reduce textile waste and promote recycling. For example, the European Union's circular economy action plan aims to make sustainable products the norm

» **Consumer Trends:** There is a growing consumer preference for sustainable fashion, influenced by ethical considerations and social media advocacy.

Regional Insights

» **North America:** Expected to grow at a CAGR of 5.7%, reaching approximately USD 1.7 billion by 2030, driven by high consumer awareness and robust regulatory support .

» **Europe:** Anticipated to grow at a CAGR of 6.3%, with a market size of USD 1.5 billion in 2023, driven by stringent environmental regulations and a strong emphasis on sustainability.

» **Asia-Pacific:** Projected to grow at a CAGR of 7.2%, with significant contributions from China and India due to increasing industrialization and urbanization.

Market Segmentation

» **By Material:** Recycled polyester leads the market due to its wide application in activewear and casual clothing. Recycled cotton is also seeing significant growth due to technological advancements and environmental benefits.

» **By Process:** The market is divided into mechanical and chemical recycling, with chemical recycling gaining traction for its ability to handle complex textile blends.

» **By End-User:** The women's segment holds the largest share, driven by the increasing adoption of sustainable fashion among female consumers.

Competitive Landscape

The recycled apparel market is highly competitive with key players such as Patagonia, Adidas, and Nike leading the way.

» **Patagonia:** Patagonia has integrated recycled materials into its products extensively. As of 2023, Patagonia reported that 68% of its product line was made from recycled materials.

» **Adidas:** In 2023, Adidas announced that it produced over 15 million pairs of shoes using recycled ocean plastic, in collaboration with Parley for the Oceans.

» **Nike:** Nike has also made significant strides, with 75% of all Nike shoes and apparel now containing some recycled material.

» **H&M:** H&M aims to use 100% recycled or other sustainably sourced materials by 2030. As of 2023, the company reported that 64% of its materials were sustainably sourced.

Future Outlook

The market is expected to continue its robust growth, driven by technological advancements in recycling processes and increasing consumer demand for sustainable products. Innovations such as microwave depolymerization for nylon recycling and enhanced transparency in supply chains are expected to revolutionize the market. By 2030, the market size is projected to reach USD 20.51 billion (Mordor Intelligence).

» **Innovations:** Advances in chemical recycling and bio-based materials are set to drive the market forward. Technologies like microwave depolymerization for nylon and enhanced transparency in supply chains are expected to play crucial roles.

» **Consumer Demand:** With growing awareness and preference for sustainable products, the market is likely to see increased consumer adoption and higher demand for recycled apparel.

Investment and M&A Activities

Investment and merger & acquisition (M&A) activities in the recycled apparel market have been vibrant, reflecting the sector's potential for growth and innovation.

Investments: In 2023, the recycled apparel sector attracted over USD 1.2 billion in venture capital investments. Key deals included:

» **Worn Again Technologies:** Raised USD 100 million in a Series B funding round to scale its polymer recycling technology (Worn Again).

» **Natural Fiber Welding:** Secured USD 85 million to expand its plant-based materials production (NFW).

» **Trove:** This company, which powers resale for brands like Patagonia and Levi's, raised USD 150 million to enhance its technology and operational capabilities for branded resale programs (Retail Dive).

» **Patagonia's Merger with Allbirds**: In 2023, Patagonia and Allbirds announced a strategic merger to enhance their sustainable offerings. The deal was valued at approximately USD 1.2 billion.

» V**F Corporation's Acquisition of Supreme:** In 2020, VF Corporation, owner of The North Face and Timberland, acquired Supreme for USD 2.1 billion, aiming to integrate more sustainable practices into the streetwear brand.

» **H&M Group's Purchase of Sellpy:** H&M increased its stake in the Swedish second-hand platform Sellpy to 74% in 2021, aiming to boost its resale and recycling efforts.

» **Lululemon's Acquisition of Beyond Yoga:** In 2021, Lululemon acquired Beyond Yoga, a brand focused on body-positive apparel and sustainable materials.

Conclusion

The global recycled apparel market is set for robust growth, driven by environmental awareness, regulatory support, and consumer demand for sustainable fashion. With ongoing innovations and significant investments, the market is poised to transform the textile industry towards greater sustainability and reduced environmental impact.

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Global power demand rises with a shift to sustainable energy

Arif-Uz -Zaman

Global Electricity Demand Surges Amidst Growing Manufacturing, with Countries Turning to Sustainable Energy Sources

As the world continues to industrialize, global electricity demand has seen an unprecedented rise. According to the International Energy Agency (IEA), global electricity consumption grew by 2.3% in 2022, and this trend is expected to continue in 2024 as manufacturing facilities expand across the globe. This growth is primarily driven by the rapid industrialization in emerging economies and the ongoing efforts of developed nations to ramp up production capacity to meet increasing consumer demand.

Rising Manufacturing Activities: A Key Driver of Demand

The manufacturing sector is one of the largest consumers of electricity, accounting for nearly 42% of global electricity consumption, according to the World Bank. The surge in demand for electric vehicles (EVs), electronics, and other goods has led to a proliferation of manufacturing facilities worldwide. China, the world's largest manufacturing hub, saw its electricity demand rise by 5.2% in 2023, driven by the expansion of its industrial sector. India, another major manufacturing powerhouse, experienced a 4.7% increase in electricity consumption in the same year.

In the United States, the manufacturing sector's electricity demand grew by 3.1% in 2023, fueled by the resurgence of domestic production and the shift towards advanced manufacturing technologies. The European Union (EU) also saw a 2.8% increase in electricity consumption due to the expansion of manufacturing activities,

particularly in the automotive and machinery sectors.

Sustainable Energy Sources: Bridging the Gap

To meet the growing electricity demand, many countries are turning to sustainable energy sources, such as wind, solar, and hydropower. The global shift towards renewable energy has been driven by the need to reduce carbon emissions, combat climate change, and ensure energy security.

In 2023, renewable energy sources accounted for 29% of global electricity generation, up from 27% in 2022, according to the IEA. This growth has been supported by significant investments in renewable energy infrastructure. Global investments in renewable energy reached $500 billion in 2023, a 9% increase from the previous year.

Wind power continues to be a leading source of renewable energy, contributing 7% to global electricity generation in 2023. China remains the largest producer of wind energy, with a capacity of 380 gigawatts (GW), followed by the United States at 135 GW and Germany at 65 GW. The global solar energy capacity also saw a substantial increase, reaching 1,050 GW in 2023, up from 880 GW in 2022. Solar energy now accounts for 10% of global electricity generation.

Hydropower, the most established renewable energy source, contributed 16% to global electricity generation in 2023. With a capacity of 1,330 GW, China continues to dominate the hydropower sector, followed by Brazil at 110 GW and the United States at 102 GW.

Notable Regional Efforts in Sustainable Energy

» **China:** As the world's largest energy consumer and emitter of greenhouse gases, China has made significant strides in renewable energy. In 2023, the country generated 2,500 terawatt-hours (TWh) of electricity from renewable sources, accounting for 33% of its total electricity generation. The Chinese government has set an ambitious target of achieving 50% of its electricity generation from non-fossil fuels by 2030, driven by its investments in solar and wind energy.

» **European Union:** The EU has been at the forefront of the renewable energy transition, aiming to achieve 40% of its electricity generation from renewable sources by 2030. In 2023, the EU generated 1,200 TWh of electricity from renewable sources, accounting for 39% of its total electricity generation. Germany, Spain, and Denmark are leading the charge in wind energy, while Italy and France have made significant advancements in solar energy.

» **United States:** The U.S. has also made notable progress in renewable energy adoption, with renewables accounting for 23% of its total electricity generation in 2023. The U.S. generated 960 TWh of electricity from renewable sources, driven by the expansion of wind and solar capacity. The Biden administration has set a target of achieving 100% clean electricity by 2035, supported by substantial investments in renewable energy infrastructure and research.

» **India**: India is rapidly emerging as a leader in renewable energy, with ambitious targets to achieve 50% of its electricity generation from non-fossil fuels by 2030. In 2023, India generated 450 TWh of electricity from renewable sources, accounting for 24% of its total electricity generation. Solar energy has been the primary driver of India's renewable energy growth, with a capacity of 70 GW in 2023, up from 60 GW in 2022.

Challenges and the Path Forward

While the shift towards sustainable energy is commendable, several challenges remain. The

intermittency of renewable energy sources, the need for grid modernization, and the high upfront costs of renewable energy projects are some of the barriers that need to be addressed. Additionally, ensuring energy access and affordability for all remains a critical challenge, particularly in developing countries.

Despite these challenges, the global momentum towards renewable energy is undeniable. Governments, businesses, and consumers alike are recognizing the importance of transitioning to sustainable energy sources to meet the growing electricity demand while mitigating the impacts of climate change.

As global electricity demand continues to rise due to increased manufacturing activities, the world is at a critical juncture. The transition to sustainable energy sources is not just a necessity but an opportunity to create a more resilient, secure, and environmentally friendly energy system. With continued investments, innovation, and collaboration, the world can meet its growing energy needs while safeguarding the planet for future generations.

Workers from Arab, Asia & Pacific facing increased heat stress, ILO report finds

A new report from the International Labour Organization (ILO), Heat at Work: Implications for Safety and Health, reveals that workers worldwide are increasingly exposed to dangerous heat stress. This silent and invisible threat can cause severe health issues, including heatstroke and long-term heart, lung, and kidney problems.

Regions like Africa, the Arab states, and Asia and the Pacific are the most affected, with significant percentages of their workforce exposed to excessive heat. Europe and Central Asia, though historically cooler, have seen the fastest increase in heat exposure and related injuries.

The report highlights that heat stress is a year-round issue, not just during heatwaves, causing widespread health and economic impacts. In 2020 alone, heatwaves claimed 4,200 lives and affected 231 million workers globally.

Figure 1 Make the data science and AI accessible to the sewing line

The ILO emphasizes the need for comprehensive heat action plans and stronger legislation to protect workers, particularly in low- and middle-income economies, which bear the heaviest burden. The report underscores that addressing this issue is critical for worker safety, human rights, and economic stability.

https://www.ilo.org/resource/news/more-workers-ever-are-losing-fight-against-heat-stress

www.texmeta.net

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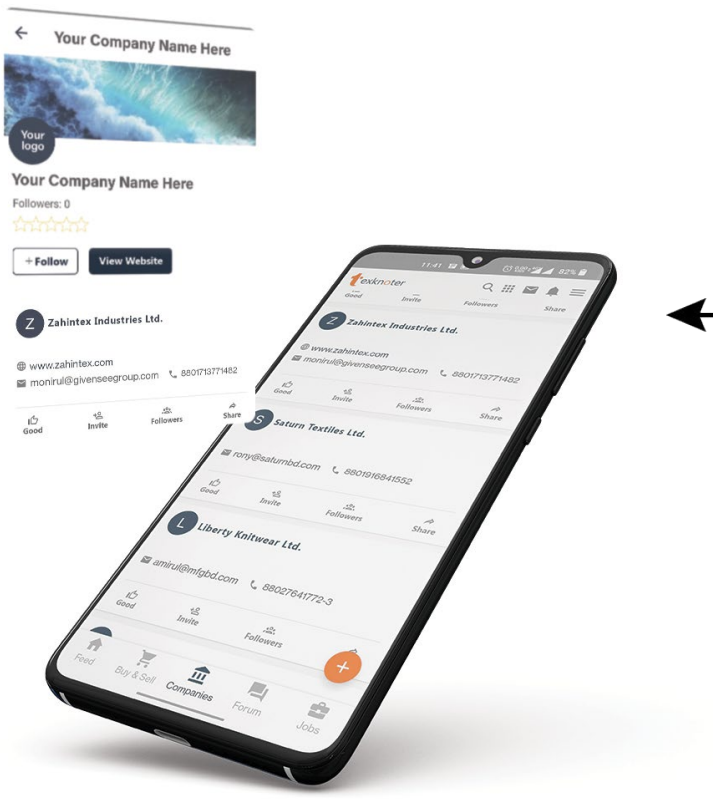

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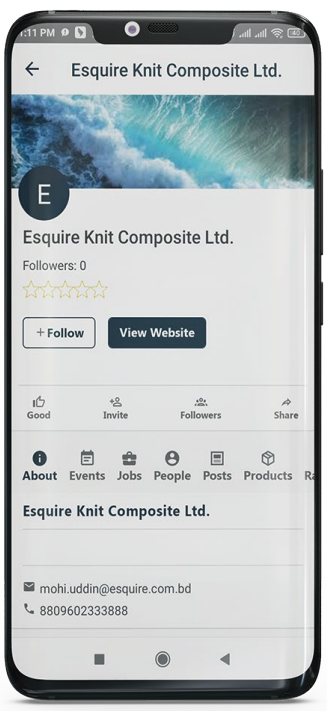

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