

ISSUE 13: 2024

BEHIND THE SEAMS OF THE GLOBAL DENIM INDUSTRY

# insideDenim

## Gap's water pledge



Recycled cotton advances / Experts debate stretch / Alternative natural fibres  
Malin Ekengren talks trends / Hiut changes tack / Mills' parity plea

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**Cover** Gap Inc is investing in water reduction products and processes through a new centre in India. Its Washwell denim technique has saved 4 billion litres of water, the company estimates.

PHOTO: GAP INC

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杭州

# KINGPINS SHOW



## KINGPINS RETURNS TO CHINA

May 23/24, 2024 HANGZHOU ADM MORE  
+ DENIMKON -A B2C EVENT MAY 23-25



# Ahead of the curve

**I**n the style stakes, the pendulum may have started to swing. While the wide leg, looser and lighter styles still dominate, there could be a swing back to towards low-waist, stretchier and, dare we say it, skinny jeans in the coming seasons, according to this issue's experts. Denim consultant and guest commenter Malin Ekengren explains what impact these opposing design choices will have on fabric and wash selection. Designers looking to cater for looser, slouchy designs will be seeking a fluid drape; curved and sculptural styles will need more textured fabrics; while darker indigo will be used for smarter styles. These new re-interpretations of 90s' staples will have an impact on blends. "Now is the time for new stretch fabrics," she says.

Thankfully, as shown in our new feature, Roundtable, the stretch fibre producers are ahead of the curve, with biobased options and investment in end-of-life research. We hear varying opinions about how the fashions fit with fabrics, and challenges with recyclability, but demand for stretch and comfort shows no sign of waning, as our panel confirms.

Speaking of fibres, several innovative companies are digging into agricultural waste to provide alternative natural options that could find a home in denim collections. Banana stem fibres and pineapple leaves are telling a circular story and providing extra income for growers and local communities, while adding character and texture to a coarser selection of fabrics.

All-natural blends would suit the companies involved in Denim Deal 2.0; removing synthetics would make recycling more straightforward. The chain is taking learnings from the Dutch example and working towards offering recycled cotton content as a standard globally, ironing out the tricky logistics of collecting and sorting waste textiles, and processing them mechanically or chemically. Denim mills are arguably leading the rest of the clothing sector on this front, with investment accelerating over the past five to 10 years and proven solutions already in place. In 'Tipping the scale', we take stock of how far mills have come in terms of post-consumer cotton blends, with many major manufacturers developing their own networks and creating bespoke systems to offer solutions ahead of demand.

For mills to invest in new technologies, they need money. It's too much to expect the manufacturers to take most or all of the financial hit – and in many cases it's not possible – with one prominent manufacturer warning in a new White Paper there is "absolutely no chance" that the global garment industry can meet the decarbonisation targets it has set for 2030. The Transformers-backed and mill-funded paper suggests there will need to be a fundamental rethink on responsibility and financing but presents several options that the contributors believe could work.

Changing the funding structure is also a key change happening at Welsh jeansmaker Hiut, which has recently pivoted to a made-to-order model and is seeking to raise £1.5 million from 30 customers – wanting to grow not in size, but in influence. Co-founder David Hieatt explains more in this issue's Dialogue.

This creative way of approaching business is a key strength of the denim industry. Innovation is not in short supply, there are plenty of inquisitive minds offering ingenious solutions and fresh perspectives. We hope designers, brands (and those in charge of finances) add the new options to their ranges at the volume end. A few years ago, many were touting hemp's ability to offer a more sustainable fibre option for denim, for instance, but it seems this hasn't materialised in the volumes predicted. There are tough questions about how we tell the full story to consumers, so they care and understand more about the manufacturing side. But as Malin comments, brands need to break from the norm and factor in new fabrics and processes at the design stage. As we head into a cycle of opposing looks, and as design constraints loosen, hopefully so too will those purse strings, to make sure the articles offer both style and substance.

We'll see some of you out on the show circuit soon, and we hope you enjoy this issue! ■

**Clare Grainger**

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# Extreme thinking

**A**n important part of my job is analysing and interpreting trends. We have seen a lot of amazing denim in the recent runway shows, I think we're seeing a shift towards two extreme opposites, both for fits and for washes. On one hand, simple, beautifully executed dark washes, authentic and classic, or on the other hand very intense, tinted, highly worked or lasered patterns, washes and treatments. These two extremes will also filter into styles: we've seen the refresh of the low-waist skinny on the catwalk and that will sit alongside the large, super extreme, baggy wide-leg silhouettes that have been around for a while.

I love seeing the redefined essence of a five-pocket jean, and it's especially interesting to see the return of the low-waisted skinny jean. This new reiteration is not like previous versions, fabric-wise. This is the time for new stretch fabrics and we will see innovative stretch constructions, with regenerative bases and different fibre mixes. The customer wants them to feel like a second skin, bounce back, hold in but still look like real denim.

The 90s casual, slouchy, oversized look will remain key; the extra wide-leg jean and the big-volume looks will need new fabrics with the right drape. The look and feel as well as the content of the fabric will have an impact on what designers choose, so this could include blending a recycled cellulosic into the cotton, making that oversized look softer and contemporary. We will also see this extreme curved, almost sculptural jean, which I love, replacing the barrel jean. That type of structured silhouette will in turn need another type of fabric base, more textured, heavier and non-stretch.

We are seeing minimal wash treatments on beautiful dark base fabrics come through, but also hand-crafted looks with micro-embellishments or subtle laser detailing. We've seen quite a lot of clever coatings and metallics on fabrics with a simple main wash. We will continue to see new textures: wash-wise we see needle-punch and bouclé looks to more extreme laser effects and textured fabrics. Slubby yarns, raised twills and orange peel-look fabrics are also coming through.

## GUEST COMMENT

Denim consultant **Malin Ekengren** sees trends evolving with super-wide-leg jeans and the return of the skinny fit. Fibre blends and washes will evolve as designers think of creative ways to revamp style while adding substance.

In terms of washing and dye trends, we're returning to a deep classic indigo colour to mimic the rigid look, also for stretch, especially noticed in the polished and tailored denim out there. Blending classic denim with luxe treatments creates cleaner premium looks, which I love. I have always liked that raw Japanese selvedge look but this new rigid look also lends itself really well to the new stretch qualities.

While some of these trends are currently at runway stage, commercial versions will be in the market soon, everything filters down so quickly. High-end brands are tapping into a younger generation of designers who create what they want to wear and what they see on the street.

### Fabric-first approach

My approach to denim design is to work with a well-constructed fabric, but mix the functionality of the fabric with a thoughtful design and the construction of a beautifully made jean. When I started out in my career, often the types of fabrics we wanted were not readily available. When I worked at Levi's, for instance, we would develop the fabrics in-house and mill direct. Now the mills are so far ahead and they develop newness in a more comprehensive way than they did then.

My personal preference has always been non-stretch fabrics, mainly because it's what I wear daily but also because they can carry the beautiful authentic washes that I like creating, such as the 60s/70s look. I do look at newer fibres and especially like the regen cotton coming through and fabrics with post-consumer content. The premium denim sector is already using a wide selection of these type of fabrics alongside Japanese bases and I'm hoping they will filter down to the wider markets quicker.

I love seeing what the younger generation of creatives are doing with denim. They show great ingenuity, finding unexpected ways of reusing materials, piecing together and upcycling to create newness that's really exciting. As someone who's been in the industry a while, you have your favourite cuts, fabrics and mills, but this new gen can be much more open-minded and without creative boundaries. Maybe they don't have the same emotional connection to traditional cotton and are open to other fibres?

There's so much excitement around new fibres, but there's always a question of how we can explain these to the consumer. Sustainability can be quite tricky to grasp; it needs to be straight-up and factual. We need to widen the audience so that it's not just a small group who can make choices around sustainability, because they may be better informed or have the financial ability to do so. Even for myself, after having been vegetarian, I buy organic produce, especially vegetables and meat. With the food industry, the benefits are clearer: showing people why it matters is when it will hit home. Brands need to align in values and go beyond the price tag, only then will we reach a wider understanding.

In the latter part of my career, I've focused on organic cotton. Remember, organic cotton is such a tiny fraction of the global annual production, which is worrying because growing and producing traditional cotton really takes a toll on the planet. We need to move towards more organic cotton and less-harmful alternatives: linen, flax and similar fibres, that's something that we really need to push for.

The future of denim needs transparency and accountability, and a push towards circular products that can be traced from start to finish. Of course, we all want it to look great and last longer, but can it do good as well? There's so much opportunity to innovate but this needs to start with challenging the norm at the very beginning of the process: when we design. ■

*Malin Ekengren is a denim design consultant, starting her career at Levi's and Gap; holding senior denim and consultancy roles at Celine, Marc Jacobs, Jigsaw and Saint Laurent, among others. She is currently working with UK, European and US brands through her design consultancy Malin Denim and lives in London with her husband, son and cat.*

PHOTO: BEX ASHTON

# Industry News



PHOTO: WTP

## Denim Hunter digs for treasure in disused mines

*Inside Denim* joined enthusiasts and specialists at The Mills Fabrica's Kings Cross space in London for Denim Hunter's UK film premiere, organised by Mohsin Sajid and Sadia Rafique from consultancy Endrime.

The documentary follows Viktor Fredbäck, who amassed a collection of hundreds of jeans from the 1870s to the 1970s, but was missing a pair to complete his timeline, from the 1880s.

Knowing that one of the most likely places he could find this era could be in one of the US's thousands of disused mines – where workers discarded jeans owned by the mining companies – Viktor journeys from Sweden on an epic adventure, meeting a host of colourful characters along the way.

Following the film, Mohsin led a Q&A session with Viktor and film producer Emilio Di Stefano, who explained some of the background to the film, the reason vintage jeans are so sought after, and relayed more about the 'denim hunter' community in the US. Some 19th century items can fetch many thousands of dollars. Viktor also showed some rare items from his collection.

Mohsin said: "Many others collect Levi's, Lee or very obscure workwear brands from the 1870s-1890s, and many historians from brands only really look at their own histories. So getting an independent historian to make a film about the subject is very exciting." ■

## 'Eat your jeans,' says Amber Valletta

In a surprise moment, model Amber Valletta challenged guests to eat their jeans at the Green Carpet Fashion Awards in Hollywood as they were served pasta with tomatoes grown using Candiani's Coreva denim as fertiliser.

Coreva uses a natural rubber, rather than the usual synthetic versions, for stretch, meaning it has been certified as compostable.

The fabric was used to create Valetta's bespoke denim tuxedo dress, designed by Triarchy.

Zendaya, John Legend, Chrissy Teigen, Donatella Versace, Annie Lennox and Trudie Styler were among guests at the awards, alongside leaders and young activists.

This year's Game Changer honouree was Donatella Versace for her activism on LGBTQ+ rights. Other winners were former Irish president Mary Robinson; garment worker and union leader Kalpona Akter; musician and social justice activist John Legend; Ugandan presidential candidate Bobi Wine and his wife, Barbie Kyagulanyi; and Greenland indigenous leader Angaangaq Angakkorsuaq.

Kalpona Akter, who was a sweatshop child worker at the age of 12, said: "This is giving me added responsibility to take this message forward and keep fighting for the living wage. Without a living wage, workers don't have a job with dignity. When you are leaving this room tonight, I would say at least, take one action that is making a difference for the workers down the chain." ■

## AGI launches The Agency

Karachi-based vertical manufacturer AGI Denim has unveiled an in-house creative hub, The Agency. The idea is to help denim brands elevate both their product and overall company image through co-creation, building on AGI's own internal innovation, access to trends and speed to market, said the company.

## HMS gets crafty

Turkish company Baytech, the maker of pumice alternative Hand Made Stone (HMS), has released the HMS Designer Pen to enable students and denim enthusiasts customise their jeans. Working best on unwashed and coarser denim, it abrades the fabric, allowing users to add whiskers and fades.

## Garmon's finishes shine

Chemicals supplier Garmon has launched three coatings for jeanswear and dyed apparel. Legafinish Silvery, a self-polish resin, delivers a "soft and pleasant leather effect", while Legafinish LSP Super provides a shiny, glossy finish. Legafinish CRK leaves articles with "the real old vintage leather look", including cracked and shiny effects.

## Tonello turns 50

Italian technology company Tonello has embraced its 50th year with a look at its record of "responsibility and innovation". Spotlighting fully automated indigo dyeing machine DyeMate, Tonello praised its technologies "for all types of fibres and effects", from natural fibres through manmade cellulose and synthetics, captured in a celebratory video.

## Archroma collates offerings

Chemicals and dyes maker Archroma has introduced Super Systems+, which it says "combines processing solutions and effects to help brands and mills positively impact their sustainability". The suite encompasses wet processing solutions, colours, functional effects and technologies. Products that can be used in Super Systems+ include Avitera SE; Diresul Evolution Black for black denim and aniline-free Denisol Pure Indigo 30 LIQ for blue denim.

## New regenerative standard

Advancing Eco Agriculture has launched a cotton standard called Integrity Grown that aims to increase yields, lower chemical inputs and water usage and improve soil health, and is backed by denim company Citizens of Humanity.

# Synovance to scale up biotech indigo

Synovance, a French biotech start-up, is nearing the first commercialisation of its bioderived indigo pigment, which is in trials for a possible roll-out later this year, it has told *Inside Denim*.

The company, founded in 2017, has recently been awarded a €2 million grant and is in the process of closing an equity investment round to help it scale up production, currently in pilot phase.

Its lab in Bry-sur-Marne, near Paris, is equipped with a 1,000-litre fermenter, and it is preparing to move up to two 10,000 litre units, company co-founder and COO Eftimia Lioliou said.

Synovance is focusing on indigo as its first commercial product, but Ms Lioliou said the company is making good progress on red. Tests on dyeing indigo warps to make denim fabrics have been conducted in Italy at Pure Denim with Luigi Caccia, and are also under way at another partner mill outside of Europe.

“The main question everyone asks us is will we be cost-competitive, and the answer is yes,” she said, of the company’s bioderived pigment that is a drop-in alternative to synthetic indigo.

Synovance believes it has an edge over other biotech companies for its ability to optimise strains, which Ms Lioliou said is the result of extensive R&D, and in the engineering of the vats themselves. “The fermenters are made to our specifications and we have developed in-house various features that automate the process, this contributes to bringing the price down,” she added. The company has patented its genetic process, and is considering patenting the design of its bioreactors.

Synovance’s plan is to scale up to 10,000 litre fermenters in its pilot plant. A first industrial scale factory could be launched in 2025 with production commencing in 2026.

“The regulatory landscape is changing fast and is quite favourable to our technology,” she pointed out, referring to the presence of aniline in synthetic indigo and the improbability of scaling up natural indigo to address market demand. ■

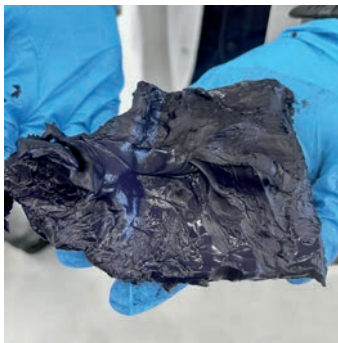


PHOTO: SYNOVANCE

## EU directive adds clout to ozone research

A new European directive that bans greenwashing and requires proof of sustainability claims has added impetus to a research project on ozone, said one of the organisers, Dalia Benefatto.

The founder of consultancy Devalia has said companies will now need to prove any claims they make, and the project to map out the potential risks, or otherwise, of using ozone to treat denim fabrics will provide them with data to substantiate their claims.

Ms Benefatto told *Inside Denim*: “The European Union is asking that every sustainability claim must be substantiated with scientific data provided by well-known institutions. This gives complete validation for our project.”

Project partners machinery manufacturer Nexia Italy and Italian research centre STIIMA-CNR aim to increase knowledge of ozone reactions in the treatment of different categories of fibres and, more generally, to investigate the potential of the technology.

So far, fabrics made from 100% cotton, 99% cotton and 1% elastane, and 71% recycled cotton and 29% conventional cotton have been analysed. They have been treated in ozone in water, with and without final neutralisation. STIIMA-CNR has measured ozone presence in the fabrics at the end of treatment, mechanical resistance and abrasion resistance, with the results to be published soon.

“The Digital Product Passport of a textile product could include indication of the chemicals used in the manufacturing processes and presence of concerning substances,” added Ms Benefatto. “Through scientific analysis it can be assured accuracy, compliance and transparency in product composition and safety standards, and our process can validate data for DPP requirements.” ■

## Hiut seeks funding

Welsh jeansmaker Hiut plans to cap production at 10,011 pairs annually, effectively becoming a “no-growth business”. The team will focus on growing in influence, rather than scaling in size. To fund itself, recruit staff and pay off debts, Hiut has asked 30 backers to each invest £50,000, with the goal of raising £1.5 million to be paid back within 10 years.

## Big brands ‘drop weapons’

Following the December partnership statement, denim brands Lee and Diesel’s capsule collection made from unsold stock has launched globally. Each DieselovesLee jean either has Diesel denim on front and Lee on the back, or vice-versa. Glenn Martens, creative director for Diesel, said: “This is two denim giants, dropping our weapons and teaming up to address overconsumption and make something beautiful.”

## Guess targets \$3bn

Denim brand Guess has reported a 3% revenue increase for fiscal 2024 to \$2.8 billion, and predicts a 12% rise in the next year. The company relaunched Guess Jeans in January and bought US brand Rag & Bone in February. CEO Carlos Alberini said: “We expect to exceed \$3 billion in revenues for the first time this year.”

## Jeanologia’s water record

Technology developer Jeanologia marked World Water Day, March 22, by reporting record-level water efficiency and reduced toxic emissions for 2023. The company said its “technological advances and services” saved 20,265,581 cubic metres of contaminated water last year. For comparison, it saved 19 million cubic metres of water in 2022.

## Free course for laser tool

US-based software developer KolAi Denim, which has created a platform for laser design, is offering a free training and certification programme. KolAi Designer launched in 2021, and is described as an artificial intelligence-based design tool made specifically for denim laser designers.

## Hugo’s fresh Gen-Z brand

US brand Hugo Boss has unveiled a Gen Z-focused denim brand, Hugo Blue. At a launch event in Germany, attendees received a denim tote or jacket with a badge featuring an integrated NFC chip, connecting to an immersive experience. ■



# The rise of alternative natural fibres

**T**hey come in many forms. Banana stem fibres can measure up to four metres, those of kapok seeds are considered too short to spin into yarn, the cellulose in wheat or rice straw is only a few millimetres long, but could, with adequate processing, become a viable raw material for a new class of biofibres. Some of these, abacá and jute, not to mention hemp and palm, have been used to make ropes, matting and roofing for centuries. The inherent strength of these fibres has made them a valuable resource for many indigenous communities. Their transformation into materials suitable for modern-day garment manufacturing and laundering may be a challenge but might also have the potential to offer a larger array of natural fibres for the denim industry.

In 2018, Swiss eco-brand Qwstion introduced Bananatex, a material derived from banana stems, into its collection of bags and accessories. The result of diligent research by company founders Hannes Schönegger and Christian Kägi, it is made from a wild banana plant, *Musa textilis*, also known as abacá, that grows in the Philippines and whose fruit is inedible.

In the wide world of agricultural waste lie many long and strong fibres that can be spun into textile yarns. Driven by demand for fabrics that have a cotton-like hand feel and by the plastic-free movement, pineapple, banana and even straw-derived materials are weaving their way into our wardrobes. Denim is an obvious candidate for these relatively coarse raw materials.

“This genus produces a very strong fibre that can measure up to four metres in length, but it is fairly coarse and thick,” says CEO Hannes Schönegger. To make a fabric from these rustic fibres, the company applies a paper-making technique, known in Japan as *washi washi*. The sheets of paper are cut into fine filaments that are twisted into a yarn and can then be woven or knitted into a textile. The individual fibrils are 2 mm long, he adds, and this is what gives the fibre its resilience, high tear strength and abrasion resistance, perfect for backpacks. It does, however, tend to wrinkle, he notes.

*Derived from abacá banana plants, Bananatex was developed by Swiss bag brand and material innovator Qwstion, in collaboration with a yarn specialist and a weaving partner in Taiwan.*

PHOTO: LAUSCHSICHT

Qwstion saw great potential in this new, yet old, textile and decided to make it available to others. “We were quite naïve,” says Mr Schöneegger. “We received hundreds, even thousands of requests, and this took too many resources away from Qwstion.” To address demand, Bananatex was spun off into a stand-alone company to develop new applications and markets. One of these new markets could be denim, which is in the works and the first samples could be finalised this summer. “Denim is a logical step forward for us, as it is so prominent in fashion,” he says. To remain true to the 100% natural ethos of the company it would need to be dyed with natural indigo. The fabric will also need to undergo all denim laundering processes, such as enzymes, lasering and others. Mr Schöneegger is confident it will work, but he admits it will face the challenge of pricing.

Production can be scaled, he says. Musa textilis plants grow in Ecuador, Costa Rica as well as the Philippines, where 80% of the rainforest has been destroyed. As part of biodiversity initiatives, it could provide small holder farms with a new source of revenue. “These banana plants need the shade of trees and the presence of other plants to thrive,” he says. “Thousands of hectares of land could be rewilded in the Philippines to supply fibre.”

It is nonetheless a rather expensive fibre, due to the manual labour involved in its production, and costs twice the price of organic cotton, says Mr Schöneegger. “No economies of scale are possible, its transformation is either the result of human hands or diesel machines.” He does point out though that “the true cost of polyester, or even recycled polyester for that matter, is not reflected in its market price. Taking a macro perspective, Bananatex would not be more expensive than synthetics, as its real cost is not kicked down the road to future generations.”

### Banana bonanza

Banana fibres can also be extracted from the stems of the edible variety of the popular fruit, as does Pakistan-based Interloop. The company operates a facility in the Sindh province, where the fibre is harvested from banana farming waste. “Banana fruit farms in Pakistan generate some 10 million tonnes of waste annually that are usually burnt or discarded,” says Noor Jehan Sadiq, Interloop’s head of marketing. The company has built a fully integrated supply chain, from fibre extraction and processing to spinning a yarn it calls Loomshake. The 80% cotton/20% banana fibre blend yarn has been used to make denims, showcased in a capsule collection designed by Simply Suzette founder Ani Wells, and in a range of Guess jeans.

“A natural cellulosic fibre, it possesses good moisture absorption properties and dyes well, in addition to conserving land and reducing water usage typically associated with cotton growing,” says Ms Sadiq. She adds that it not only offers a solution for the disposal of biomass waste but also creates a new source of income for farmers.



Ani Wells of sustainable fashion consultancy Simply Suzette created a capsule collection using Interloop’s Loomshake yarn, composed of 20% banana fibre. Unpeeled, the name of the range, presents a fresh take on the farm-to-fashion narrative.

PHOTO:  
INTERLOOP / SIMPLY SUZETTE

Banana is not the only alternative natural fibre in Interloop’s product offering. It makes kapok/cotton yarns in various counts, with a maximum of 25% kapok fibre. Ms Sadiq says the company is also working on extracting jute fibre from post-consumer waste and exploring the potential of extracting fibres from corn and pineapple agro-industry waste.

Gencrest, a division of Indian conglomerate Samta Group, sees in banana crop waste the potential to make a man-made cellulosic fibre, which it has branded Vybrana. The company has developed a patented Fiberzyme technology to process the raw material and designed custom machinery for a manufacturing line that can produce up to 50 tonnes per month. Indian denim mills Arvind and Raymond UCO have integrated the banana-based viscose-type fibre into their collections.

### Pineapples too

Pineapple leaves are another form of crop waste that is being tapped as a source of a new alternative natural textile fibre. Ananas Anam, a certified B Corp company based in London with production facilities in Spain, the Philippines, Bangladesh and the Ivory Coast, first developed Piñatex, a non-woven material combined with polyurethane. “But we always knew that fibre had the most potential and would be the best market application,” Riika Juva, head of communications and business development tells *Inside Denim*. The company founded in 2013 has been working on developing a method to make fibres suitable for spinning and building up a full supply chain.

Pineapple leaves produce a very long and strong fibre, drawn from the 20 or so leaves that grow around the fruit, and are usually left to rot, says Ms Juva. But the sheer volume of these leaves, an estimated 27 million tonnes annually, makes it impossible to leave them to rot on the field, which means that some 80% are burnt, she adds. Ananas Anam's suppliers are both small holder farms and global organisations, such as Dole and Compagnie Fruitière.

In the production process created by Ananas Anam, the pineapple leaves are now collected and decorticated on the field. The biomass residues from this operation can be used as fertiliser, or sold for fuel, creating a potential third revenue stream for farmers, says Ms Juva. The textile fibre itself is obtained via a proprietary and patented enzymatic process that removes impurities. All further processing is purely mechanical, the company says. The resulting fibre is then marketed as Anam PALF, for PineApple Leaf Fibre, or spun by Ananas Anam's spinning facility in Spain into Piñayarn.

The fibre possesses high tensile strength and high moisture absorption due to its cellulose content. "It dries quickly," says Ms Juva, "and is also a bit coarse." It is most often blended with cotton or one of Lenzing's manmade cellulose fibres, in proportions of 30% Piñayarn or Anam PALF. This keeps the price down and offsets the rusticity of the pineapple fibre. "As we have scaled, the price has come down, and can now be compared to linen, though this is still high for mass market applications," she notes.

Both Piñayarn and Anam PALF are, again, good candidates for applications in denims. "They work well in blends with cotton, and they dye well too," she says, noting that Ananas Anam partner mill Textil Santanderina has made denims in pineapple fibre blends.

### The last straw

Earth Protex is a company that originated in the 1990s as a supplier of hemp, introducing the original alternative natural fibre to Levi's, Nike, Patagonia and VF at the time. Founders Yitzac and Samuel Goldstein had previously co-founded Circular Systems, which they left in 2021. The father-and-son team is now expanding some of the technologies developed at the time on their own. AgRefinery, one of several research projects at Earth Protex, seeks to make the most of various types of crop waste by extracting micro and nanocellulose to produce fibres, films or coatings. The technology developed is not a viscose process, Yitzac Goldstein tells *Inside Denim*, but is rather similar to the method developed by Finnish company Spinnova.

*Ananas Anam now markets a yarn, Piñayarn, and fibre, Anam PALF, derived from pineapple leaves. Spanish weaver Textil Santanderina made some of the first denims from the new fibre.*

PHOTO: ANANAS ANAM/SANTANDERINA

### In defence of alternative natural fibres

Launched in 2022, the Fibril Material Alliance was created to support alternative natural fibres, from abacá to kapok, and to all plant-derived materials. The organisation whose founding members include Ananas Anam and Bananatex, now counts 67 members. Along with Gencrest and Interloop, Pyratex, FarFarm, Himalayan Wild Fibers, Canvaloop and Native Fibres have joined. It is a loose organisation designed to support alternative natural fibres, says Hannes Schöneegger. "We see it as a platform to grow awareness and share experiences as it is a very fragmented space and we all face similar challenges."

"We fractionate crop residues through various gentle processes to keep the polymer chains intact as micro and nano scale fibrils." He believes it will be possible to extract a wide variety of compounds, from wheat or rice straw to sugarcane bagasse, corn stover or soy stems. Mr Goldstein says it is a "tunable" technology for fibres, in that they can be treated to be hydrophobic, hydrophilic, antimicrobial and so on. "We can produce a variety of ingredients," he says. The research phase is ongoing, in collaboration with the Bio Products Institute of the University of British Columbia in Canada. Mr Goldstein expects staple spinning fibre, textile coatings and biopolymer additives to be commercially available by 2026. "We see great opportunity for cotton-like natural fibres," says Samuel Goldstein.

The cellulose content of these alternative fibres should make them comfortable to wear and easy to care for. They should also benefit from the growing plastic-free and synthetic-free movement. And though cotton is the leading natural fibre, with a market share of 22%, its production has been stable over the past years. This leaves a wide-open space for a new crop of natural fibres direct from the farm. ■



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SHARABATI

# Tipping the scale

**M**ajor forces are driving the scaling of textile-to-textile recycling and the denim industry arguably leads other apparel sectors. Thanks to experience gained through the Dutch Denim Deal, the integration of reclaimed cotton fibres into new fabrics is becoming something of a standard. The baseline chosen by the project, which is now expanding globally (see article page 20), is to make 20% a minimum threshold for recycled content. Denim mills largely consider this a realistic target.

The momentum is real as full-scale recycling facilities have sprung up out of the ground at mills in Pakistan, India, Turkey and elsewhere in the past five or so years. Re&Up, a new company founded by textile group and Isko-owner Sanko, is the latest in the series. The Turkey-based conglomerate is setting the bar high as it plans to recycle 1 million tonnes of textile waste by 2030. Headquartered in the Netherlands and headed by Andreas Dorner, a former Lenzing executive, Re&Up intends to process both cotton and polyester. Combining these two fibre groups “means we can take 60% of all discarded textiles,” Mr Dorner tells *Inside Denim*. Sanko established the new company in Eindhoven to make it a European entity that will benefit from the bloc’s push for circularity in textiles.

Hundreds, nearing on thousands, of tonnes per month. While still marginal, the volumes of textile waste recycled into new fabrics by denim mills have dramatically scaled up in recent years.

Mr Dorner says the mixed feedstock coming into a Re&Up facility will take one of two paths. If it is cotton-rich, it will be decolourised, its elastane content removed using a thermomechanical process, and then mechanically recycled. “If we can obtain raw cotton fibres measuring 20mm, they can be spun into open-end yarns,” he notes. If incoming waste textiles are polyester-rich, they will be thermomechanically recycled. Here, too, shredded feedstock will first be decolourised, elastane removed, and then heated to separate the polyester, converted into chips, from the cotton, which, in the form of cellulose powder, will be sold to manmade cellulosic yarn producers. This technology is the fruit of a collaboration between the Hong Kong Research Institute of Textiles and Apparel (HKRITA) and Sanko engineers to optimise a method that, as its name implies, combines heat and mechanical processes to melt synthetic textiles back into fibre-grade polyester chips.

*The denim industry has a natural preference for used jeans in the post-consumer waste it recycles into new yarns. Shown here, bales at Soorty’s unit.*

PHOTO: SOORTY

Sanko currently recycles 80,000 tonnes of cotton, polycotton and polyester waste per month in Turkey, says Mr Dorner. This is a far cry from 1 million tonnes, but the group plans to set up recycling hubs around the world in the coming years to expand capacity and reduce shipping and logistics. It envisions establishing Re&Up hubs in Central Europe, close to its customers, in Mexico, to serve the Americas, and eventually in Asia. Shipping waste across borders is not sustainable, adds to operating costs and is often simply illegal, the company points out.

Re&Up is casting a wide net over the textile waste it plans to treat, but used jeans are a key focus for the company. “This industry has an advantage over other sectors and it also has a head start,” says Mr Dorner. “Denim mills have been investing in recycling for the past five to ten years. This industry uses a limited range of raw materials, and it is also highly concentrated and vertical, so innovation can go fast.”

### A new industrial landscape

In the past few years, many denim mills have built their own recycling facilities. Turkey-based Kipaş has worked closely with its partner Sântis Textiles to develop a machine, RCO100, that improves on existing shredding techniques. Its recycling plant in Kahramanmaraş can process 30 tonnes per day on two shredding lines that take in the mill’s own waste and post-consumer goods from “trusted sorters and brands to eliminate any concerns about hazardous chemicals,” Yücel Bayram, the company’s head of denim sales and marketing, tells *Inside Denim*.



Isko-owner Sanko has formed a new company, Re&Up, specialising in textile-to-textile recycling of both cotton and polyester.  
PHOTO: ISKO

The mill’s regular denim fabrics contain a minimum of 5% recycled content. A second tier of fabrics combines 15% pre-consumer waste with 5% post-consumer, blended with virgin cotton. It also offers 100% recycled cotton denims made entirely from pre-consumer fibres or from a mix of pre- and post-consumer waste, he says. Some of these are blended with recycled polyester, and the company is currently building a plant to recycle the synthetic fibre.

Sooty operates an industrial scale recycling facility in Pakistan, where it is based, and now markets its reclaimed cotton fabrics under the brand SecondLife. “The current capacity of this unit is 900 tonnes per month,” says Ebru Debbağ, head of sales and marketing, which makes it roughly equal to that of Kipaş. It generally runs 70% post-consumer and 30% pre-consumer waste, although she says this proportion can change depending on demand. The overarching goal, she insists, is to “increase the use of textile-to-textile recycled materials”. She further points out that Pakistan could be an important cotton recycling hub and estimates that capacity could be in the order of 250,000 tonnes. Artistic Denim Mills is the local partner of Recover, a pioneer in marketing mechanically recycled cotton, operates a large-scale plant.

*Kipaş worked closely with Sântis Textiles to optimise and finalise the RCO100 shredding device.*

PHOTO: KIPAŞ DENIM

Circular Park, the ‘fibre recovery’ facility of Karachi-based denim maker Artistic Milliners opened in 2022. The 70,000-square-foot factory is equipped with advanced sorting and automated shredding machinery manufactured by its technology partner Laroche and it is powered by clean energy, the company says. This unit centralises all internal waste streams from the mill’s manufacturing operations and takes in post-consumer waste as well. At full capacity it can ‘recover’ 6,000 tonnes of fibre annually, or 500 tonnes monthly, the company says. “This facility covers all our recycled cotton needs,” says Saqib Sohail, in charge of responsible business projects at Artistic Milliners. A standard of 20% recycled content is not uncommon and offers customers the quality they expect, he notes. The proportion of post-consumer recycled content can go to 40% or 50%, but he says the fabric will lose some strength. Pre-consumer waste, however, can make up 100% of a textile. “Our experience and expertise is growing, and the reality is that post-industrial waste yields higher staple length fibre,” he says.

The origin and make up of pre-consumer textile waste is generally known, which makes it possible to ensure integrity of content and traceability. This is not the case for post-consumer waste (PCW). “Traceability is a challenge, as we don’t know where the original cotton came from. There is no easy solution for this, we would need to use DNA testing,” says Mr Sohail. For now, Artistic Milliners can certify the “location of collection” of discarded jeans, the only PCW it takes in, which traces the feedstock back to a collection and sorting point. The company is working with Reverse Resources, a reverse supply chain specialist, and a local university, to map a local supply chain for reclaimed waste and develop a traceability tool. “The recycling industry is very diverse and this project involves a lot of groundwork,” he says, adding that most post-consumer waste comes from outside of the country.

Sharabati, which operates a recycling unit in Egypt, faces a similar issue with regards to PCW. “Few clothes are discarded in the country, and it is not possible to import used clothing, as the authorities want to avoid then being sold on the local market,” says Ghayth Miro, Sharabati’s total quality control and sustainability manager. The mill is a partner in a United Nations Industrial Development Organisation (UNIDO) programme to increase recycling capacity in Egypt by offering training on the collecting, sorting and pre-processing of textile waste. Daily, the company collects 10 tonnes of post-industrial waste from its operations and buys 10 tonnes from other suppliers, including UNIDO centres. It manufactures 60 tonnes of fabrics having varying levels of recycled content every day, says marketing manager Dr Dilek Erik.



A member of the Dutch Denim Deal, Sharabati is aligned on making 20% recycled content an industry standard. “It is possible,” says Mr Miro, but he adds that brands need to be realistic in their demands. “Recycled content won’t work well in a smooth and flat fabric but it is fine for more authentic and slubby looks,” he notes. Producing high quality ring spun yarns with high recycled content is not “realistic”. But he believes improvements in pre-processing and innovation in machinery will, in time, make it possible to increase the proportion of recycled content without sacrificing quality. Looking ahead, and as a member of the Denim Deal 2.0, he adds that Sharabati “is one of the largest denim mills in North Africa, and we could be a part of a future North African recycling hub”.

Bossa and Orta, both based in Turkey, and both Denim Deal members, have been increasing their recycling capacities and networks. Bossa has focused its efforts on optimising shredding processes to achieve longer staple fibres. Besim Özek, business development manager said that a third of the mill’s production is GRS certified for pre- and post-consumer cotton. The mill’s transparency report for 2022 indicates that it was expecting to increase its recycling capacity to 240 tonnes per month.

Orta offers a wide range of denim fabrics having 20% post-consumer recycled cotton. “It is our ‘golden ratio,’” says Sebla Onder, marketing and sustainability manager. “It allows us to maintain quality and colour and avoids generating too much waste.”



*(Top:) Soorty develops multiple fabric constructions with reclaimed cotton and the standard recycled content is 20%. This season it is launching a new fabric range made from 100% post-industrial cotton waste.*

PHOTO: SOORTY

*(Below:) Artistic Milliners’ new Circular Park facility is where the company continuously works on making the shorter recycled staple fibres stronger to increase the percentage of recovered cotton in its fabrics.*

PHOTO: ARTISTIC MILLINERS



### Further unlocks needed

Mills are quick to point out that *post-industrial* waste is relatively easy to process and reuse, but *post-consumer* waste is an entirely different matter. Chemical contamination and identifying the original provenance of the cotton fibres pose issues, says Ms Onder, at Orta. The segregation and sorting of used clothing is far from optimal, notes Ghayth Miro, at Sharabati. He keeps a close eye on all new developments in automated separation and sorting machines. The presence of elastane and polyester-based stretch yarns is another difficulty raised by Saqib Sohail at Artistic Milliners. Kipaş is said to be working on a hybrid mechanical and chemical process to remove the stretch component from feedstock. After the harsh processes that post-consumer goods undergo, fibre length has a big impact on the quality and aesthetics of a fabric. This is why many mills, including Kipaş and Bossa, have been working on optimising shredding.

PurFI believes it has a solution that avoids degrading fibre length. The technology is in operation in Belgium, in a joint venture between local textile group Concordia and the US-based company. “We call this process ‘reverse spinning,’” says Jean-Baptiste Tuytens, global sourcing and supply chain manager for PurFI Belgium. The method takes used jeans cut into pieces and slowly reverts them back into fibre on a machine that measures 160 metres long. “It is a slow and gentle mechanical recycling that preserves fibres. We lose only 10-15% of a fibre’s initial length,” he says. The company strives to obtain fibres that are at least 23 mm long to ensure a high-quality finished fabric.

Another key unlock needed is a lift on bans on the transportation of used clothing across borders. Their status, some say, should not be waste but rather resource. Many mills are keeping watch on the evolution of European regulations. “The EU Waste Directive will have an impact on our resources,” says Andreas Dorner, at Re&Up. “It means retailers will become our suppliers.” It should increase the volumes of unsold stock and post-consumer goods that are directed to collection and sorting facilities, at least in Europe.

In its 2023 Materials Market Report (formerly the Preferred Textiles Report), Textile Exchange estimates that 300,000 tonnes of recycled cotton were produced in 2022. A number in the hundreds of thousands, admittedly, but representing a mere 1% of global cotton production. This volume could be double, according to a report, “Scaling for Circularity”, by the Circular Fashion Partnership. It found that apparel manufacturers in Bangladesh generate around 330,000 tonnes of post-industrial cotton waste annually, and only 5-7% of it is recycled into new fibres. This is a huge untapped opportunity, the report rightly states. It does not, however, rule out possible issues related to contamination and provenance. ■

# 將軍

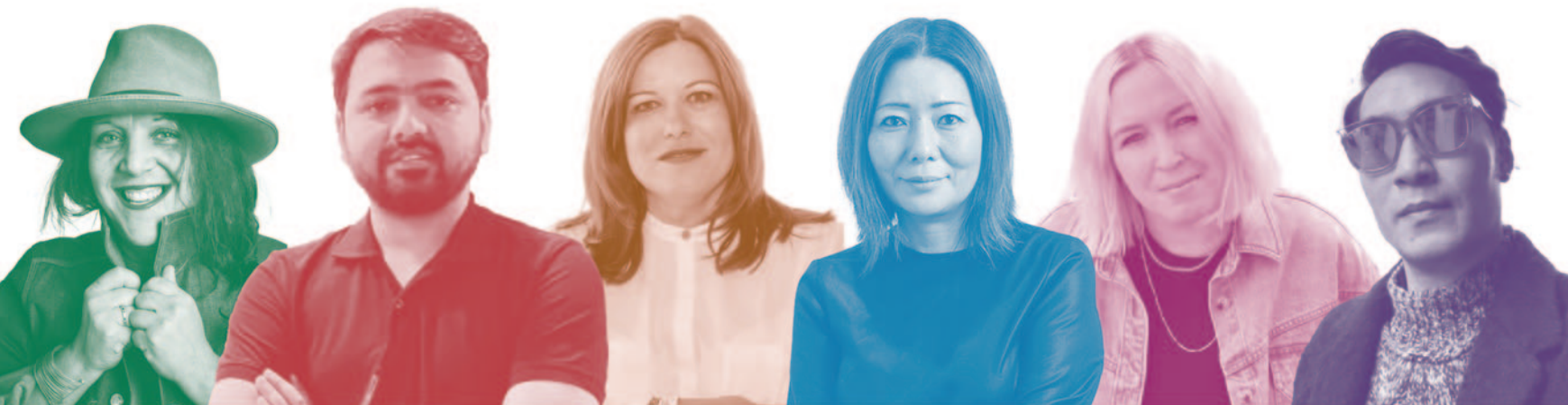
S h ō g u n

Artistic Milliners × Masaaki Sakaguchi





*Inside Denim's* new **Roundtable** feature will assemble a cross-section of denim experts to delve into innovation, trends and hot topics. This panel considers how fashions are affecting demand for stretch fibres, what challenges arise and what developments we can expect from the comfort side of the sector.



# Where are we heading with stretch?

## Thinking about recent fashions, how have trends for wider-leg styles affected demand for stretch and how will this develop?

**Christine Rucci:** I see the wide-leg trend continuing, with a slightly slimmer, relaxed kick flare and bootcut leg having more longevity. If designed with the right fit and construction, stretch fibres are important. I feel that comfort stretch (1-2%) is gaining the lead over high-stretch denims which are "gummy" and usually made with a lot of polyester. I see the straight leg as part of a brand's core offering over the skinny (tapered at the hem) in both men's & women's.

**Imogen Nulty:** As legs get wider, fabrics can be less stretchy. At Scotch & Soda, we are moving towards a collection that is around 50% stretch and 50% non-stretch. Slimmer fits with some stretch are still relevant for our customers of classical bestsellers, and also important for all of the kids' jeans, where the amount of movement is key. The sweet spot for us in terms of sales is a straight or tapered fit for men's and boys or flared fit for women's and girls, in a fabric with around 20% stretch. The majority of our innovative styles are in the straighter and looser fits, so we are expecting a shift in that direction.

## What are consumers seeking?

**CR:** I often hear comments that customers want 'real' jeans. And consumers are starting to think about 'sustainability' when making jeans purchases and want to improve their carbon footprint. They are also looking for jeans that will last. I think brands tend to get on one trend and that's all they offer. Jeans wearers are multi-generational and many customers comment that brands cater to the younger generation, while younger consumers feel fits offered are too high rise and too stretchy. So, knowing your consumer and offering options is important over trends and fashion styles, which are usually marked down. Consumers are also looking for brand consistency. Nothing worse than finding the right fit and buying a jean you love and it's no longer offered.

## Why is stretch so important to denim companies and what market trends do you see?

**Denise Sakuma:** Stretch is crucial to denim companies because consumers are demanding more comfortable garments that adapt to their changing lifestyles. Size inclusivity is a key factor, and stretch fabrics allow denim to cater to the needs of everybody's shape and type. We believe that market trends, such as the notable shift towards casualisation, versatility and inclusivity, will continue. Retro-inspired silhouettes, vintage looks, tailored denim with muted washes, and dark colours inspired by recent catwalks are key trends for s/s25 collections. Another emerging trend we're observing is men opting for stretch denim and skinny trousers for enhanced comfort. Most importantly, there's a growing emphasis on sustainability, with denim collections incorporating outdoor and workwear design details and featuring sustainable fibre blends, such as recycled and renewable fibres, to extend the wear life of jeans with long-lasting fabrics.

## Roundtable panel

### Christine Rucci

Denim consultant, Godmother NYC, US.

### Imogen Nulty

Director of denim, Scotch & Soda, The Netherlands.

### Mirela Slowik

Category leader, Isko, Turkey.

### Intizar Ali

General manager of research and business development, US Denim Mills, Pakistan.

### Denise Sakuma

Vice-president of brand marketing communications, The Lycra Company, US.

### Simon Hong

Denim lead, Hyosung, South Korea.

**Mirela Slowik:** Lately, stretch fabrics have gained new momentum and their demand has increased. The Y2K trend is moving from high-waist mom jeans to low-waist denim. This requires stretch fabrics to provide that perfect fit that complements the silhouette while offering freedom of movement. ISKO's fabrics combine the high elasticity aspect with a very authentic look that both brand and retailers expect as it translates in not having to compromise the design or wash.

**Simon Hong:** Comfort is the most important quality to consumers – and stretch in denim makes this happen. Given concern over the environment, denim brands and their consumers are seeking planet-friendly jeans with planet-friendly materials that will make them feel good about purchasing and wearing.

**Intizar Ali:** The prevailing trend leans towards rigid and comfort stretch denim, with higher stretches being less fashionable, albeit some bootcut and flare fits remain relevant. In our recent seasonal collection Denim Alchemy, we featured 40% rigid fabrics, 40% comfort stretch, and 20% higher stretch materials.

**CR:** There is a nostalgia trend in the global denim market and heritage brands need to go back to their roots and archives but with a focus on youth culture, including lower rises, less rips / tears, heavier weights and heritage archival fits, which are being sought after at vintage stores.

### What do you look for when choosing stretch fabrics with your mill partners?

**IN:** We are definitely looking for a stretch that doesn't look stretchy! We love authentic-look fabrics with a great construction and visual that surprise us when we realise they contain a little bit of stretch.



**CR:** I am looking for my mill partners' commitment to reducing their environmental impact, traceability and quality. I also choose vendors who have running items so that there is consistency from season to season. That also helps my smaller clients who can't meet minimum order quantities. I am also looking for mills which are working with branded fibres, like Lycra, over cheap spandex and polyester. I also choose vendors who are committed to sustainability and circularity and have eco-certification, zero output and traceability in their fabric offerings and mills that use recycled fibres. It's overwhelming when a mill has so many options, even as a denim expert, sometimes I can see hardly any difference. I prefer to see one or two options in a weight category and have them show me the finishing options that one quality offers.

*US Denim Mills says its customers are looking for authentic-looking fabrics that offer both rigid and comfort stretch. Here, its focus lies on easy-stretch denim, which demands less effort to flex, ensuring maximum comfort for the wearer.*

PHOTO: US DENIM MILLS

## How do fibre companies work with mills to create new stretch fabrics? How do you help promote these to brands?

**SH:** We believe great innovation is a collaborative process! We work across the entire value chain to create new products, which include mills, brands and consumers – even other yarn suppliers. We are always researching/listening to consumer trends to anticipate our value chain needs. There are times when we first work with a mill to develop fabrics with our specialty fibres. There are also frequent times when we first begin working with a brand looking for a material solution it needs.

**DS:** We are a solutions provider and pride ourselves on being “more than a fibre” supplier to our B2B customers. When you invest in Lycra fibre, you gain access to a range of services, from technical expertise to sustainable solutions and marketing support. We created the Lycra One portal, our latest digital platform designed to facilitate collaboration between customers, including mills and retailers. This online hub features our newest innovations, a fabric library, a knowledge centre, certification services and merchandising assets.

## Can you tell us about any recent developments, or what you are working on?

**DS:** We're thrilled to announce that we'll be unveiling an exciting new innovation at Kingpins in April, accompanied by a press conference. Unfortunately, I'm unable to disclose any details as everything is under embargo until the official launch on April 24.

**SH:** Hyosung is expanding its regen Bio-Based spandex offering to include options for the yarn to be made with both 70% and 98% renewable resources. According to an independent lifecycle assessment (LCA), the manufacture of 1kg regen Bio-Based spandex reduces its carbon footprint by 20% as compared to the production 1kg of conventional spandex. We will have LCA certification on our regen Bio-Based spandex made with 70% and 98% renewable resources soon. Circularity is also top of mind for brands and the Ellen MacArthur Foundation's Jeans Redesign guidelines require that denim be made with a minimum of 98% cellulosic material, leaving 2% of the content for stretch or synthetic material – a challenge as consumers are accustomed to high stretch and comfort. Hyosung's Creora 3D Max spandex delivers high-performance stretch and recovery with a very small portion of spandex content. Hyosung has now added sustainable and functional versions of the fibre that match the same performance and recyclability benefits as the conventional version, including new USDA and SGS-certified regen Bio-Based 3D Max spandex; RCS-certified, 100% recycled regen 3D Max spandex made from reclaimed production waste; and Creora Easy 3D Max spandex, which provides soft power with excellent stretch and recovery.



*Hyosung's expanded offering of regen Bio-Based elastane is made with higher content of renewable resources. PHOTO: HYOSUNG*

**MS:** Our most recent stretch-related advancements include Reform100. This technology reaches 100% elasticity with an authentic, even open-end look, granting maximum comfort, excellent shape retention, stressless fit, limitless movement, no bagginess and flexible size advantages. But stretch properties play a pivotal role also in other segments like non-denim, activewear etc., where stretch is mandatory for a perfect fit and comfort and Isko has been working hard in that direction too.

## What challenges do different types of stretch present?

**MS:** There are a lot of aspects to take into consideration, such as shrinkage and lower width, especially when dealing with stretch fabrics. But Isko's long-standing expertise as an experienced denim manufacturer ensures that any challenge can be handled and easily dealt with.

**IA:** When producing fabrics with increased stretch, greater attention to detail is necessary compared to standard rigid and comfort stretch materials. However, the primary difficulty lies in maintaining the denim's characteristic texture when employing higher levels of stretch.

**CR:** As a designer, stretch denims make it easier with fit than when designing in 100% cotton. The main issue from consumers is often recovery, which is why it is important to have fabrics with branded fibres which are rigorously tested. At the manufacturing level, it's important to focus on spreading and cutting to relax stretch goods properly, which takes time, as well as shrinkage and price, which is often an issue. That is why so many denim brands opt for cheaper qualities with a higher polyester content.

### How about the issue of recycling stretch fabrics, and what progress is being made in this regard?

**DS:** One of the challenges is the need for separation and recovery processes that do not destroy the stretch component. The Lycra Company is actively working to develop fibres that can withstand these processes across a variety of fabric types, including fabrics where Lycra fibre is used in combination with cotton, polyester or nylon. At the Dornbirn Global Fiber Congress in September 2023, we showcased our successful collaboration with a polyester recycler, demonstrating the successful separation of a special type of Lycra fibre from polyester in a fabric. The recovered Lycra fibre was then mixed with virgin polymer and re-spun into new fibre with a recycled content of 33%. Importantly, the performance was equivalent to virgin fibre. Our ongoing efforts involve collaboration with industry partners across the value chain, from sorting facilities to mills and brand retailers, to collectively advance circular solutions for the textile industry.

**SH:** Recycling stretch fabrics is a challenge, and organisations such as Ellen MacArthur Foundation's Jeans Redesign guidelines for recyclable denim are helping brands to develop jeans that are recyclable. Circularity is the ultimate solution over time, and we will get there if we all work together.

**MS:** When it comes to recycling fabrics blended with stretch fibres, Re&Up, [Isko parent group] Sanko's latest venture, is bound to broaden the scope of accessible waste streams thanks to its ability to recycle poly/cotton blends, including elastane.

**IA:** The primary obstacle in recycling lies in ensuring traceability. However, recycled cotton, polyester and elastane are readily available in the market. There is a growing customer demand to transition from virgin materials to recycled ones, a trend expected to escalate in the future.

**IN:** The elastane does bring a challenge in terms of recyclability so it's a positive thing for us to reduce the amount of stretch fabrics in the collection and see a move towards more non-stretch. The long-term key for us is to design desirable products that you can guarantee will sell and that are wearable and have longevity and by doing that you avoid a short lifecycle and landfill.

### Where do you see the sector heading in terms of stretch designs or usage?

**IN:** I think we are at the peak of a strong trend for looser shapes. This will come full circle and the trend will move back to slimmer and then skinny shapes again. The skinny jean will make a comeback, and with that will come a demand for more performance stretch fibres. Technology is constantly evolving to find alternative fibres that can give stretch characteristics but are biodegradable. Hopefully, by the point that skinny is back, there will be more widespread commercial availability for these fabrics.

## “Brands need to move away from cheap denim fabric and start to make quality jeans that last.”

CHRISTINE RUCCI, GODMOTHER NYC

**CR:** Stretch denim will never fade away. But we first need to dispel the notion that stretch jeans alone ruined the planet, through marketing to educate consumers. Brands need to move away from cheap denim fabric and start to make quality jeans that last. I see denim fabrics getting heavier and a return to classic fit and cleaner washes which makes them last longer. I feel comfort stretch will take the lead over super high-stretch denim and I am very excited about the new bio-derived Lycra fibre made with Qira, launching in 2025. We are also seeing the move towards denim made from post-consumer cotton fibre and Tencel. I am hoping that the denim industry will stop using single-use plastic, which is one of the biggest pollutants, from the mills to the consumers. This would be a huge reduction of waste and carbon footprint, not only for the denim sector, but the entire fashion industry as a whole. ■

### Alternatives vie for greater adoption

- Sportswear brand Under Armour and materials developer Celanese unveiled a stretch fibre in January called Neolast, produced using a melt-extrusion process, which allows spinners to “dial power-stretch up or down”. “While we are just beginning to unlock the potential of Neolast, we believe the product’s chemical resistance is well-positioned to bring additional value to the denim sector,” Peter Wing, Celanese marketing director, tells us.
- Japanese group Asahi Kasei offers stretch yarns including Roica V550, described as “a pioneer in circular stretch” as it decomposes into CO<sub>2</sub> and water after degradation. Partners including Artistic Milliners, Prosperity and Candiani helped unveil a Roica Eco-Smart denim collection last autumn. The fibres division also exhibited at Genova Jeans through a partnership with Italian mill Pure Denim. The 'Blue di Cupro' line-up features fabrics made from 100% Bemberg or blends with cotton and wool. Bemberg is a brand of Asahi's Cupro regenerated cellulose fibre.
- Candiani's Coreva, launched in 2020, was the first fabric to use a natural rubber to provide stretch, making it biodegradable at the end of life. The Italian mill has launched a consumer-facing brand, Coreva Design, that demonstrates its versatility. It made an appearance at the Green Carpet Awards in the US in March, highlighting an innovative farming project in Umbria that used Coreva denim offcuts to grow tomatoes.
- Austrian fibre producer Lenzing has unveiled a processing technique for Tencel tailored to create stretch fabrics. During the wet process, fibres undergo significant swelling in diameter, leading to increased yarn crimps in the width-wise direction. This translates into a fabric that can stretch with enhanced recovery and does not shrink or wrinkle easily, according to Lenzing.
- Xlance is also seeking greater penetration into the denim market. This stretch yarn was developed by Dow in the 1990s and the makers of the polyolefin-based elastomer say advantages include a comparatively low setting temperature, saving energy, and excellent resistance to chemical agents.

A four-year collaborative project to increase the amount of post-consumer recycled cotton in jeans sold in the Netherlands, the Denim Deal, is now looking to replicate the concept on a larger scale.



*The many stakeholders of the initial Dutch Denim Deal's steering committee, speaking at a conference in Amsterdam last October. From left to right Romain Narcy (Ereks Blue Matters), Nicolas Prophte (PVH Europe), Besim Özek (Bossa), Miriam van de Kamp (in charge of the circular economy, Dutch government), Marten Boels (representing the city of Amsterdam) and Jan Lamme (Lamme/Cibutex).*

PHOTO: WTP

# The Denim Deal goes global

**L**ike many sustainability and circularity projects, the Denim Deal fell short of its stated goal of selling 3 million jeans made with 20% recycled post-consumer cotton (POCR) content in the Netherlands. Pending the release of data for 2023, the final year of the four-year programme, 1.1 million such jeans were commercialised in the country between 2020 and 2022. Considering the size of the Dutch market, where 1 million jeans are sold annually, this is no small feat. The Denim Deal 'compliant' products represent just over a third of all jeans sold in the country. Not bad.

But looking beyond the borders of the Netherlands, over the three-year period the Denim Deal's 50+ members manufactured and marketed 6.5 million jeans having 20% post-consumer recycled cotton. That is more than double the original target and does not yet include data for 2023. So, unlike many sustainability and circularity projects, the Denim Deal has in fact over-achieved its goal, making it a unique and resounding success.

The positive impact of the programme need not only be measured by the number of jeans made with 20% post-consumer recycled cotton. It took a pragmatic approach, initially setting the bar at 5% with the aim of gradually increasing this baseline and working towards 20%, which it wants to make a new industry standard.

"Incorporating 20% post-consumer recycled cotton into denim fabrics is no longer a problem," says Besim Özek, Bossa's strategy and business development director. "It is a continuous learning process, and we have 15 years of experience in recycling cotton. Pre-consumer waste is easier, but post-consumer is growing, and the whole point of the Denim Deal was to use post-consumer waste."

## Learnings & takeaways

"The Denim Deal was quite unique because it brought together all the stakeholders, the collectors, mills, brands and the policy makers," said Nicolas Prophte, head of PVH Europe's Denim Centre at the time, at a press conference presenting the first conclusions of the end of the programme in Amsterdam last October. It is one of his key takeaways: "We need them all," he says of the collaborative and non-competitive public-private framework. The dynamics of the working groups have proved successful, and he stresses the importance of coordinating directly with policy-makers, whose actions can have real impact. "It has been a big win," he says, "but we must now keep the momentum going."

Throughout the programme, the many companies involved got to know each other and better understand their different business models. "The jeans-making side of the industry has little knowledge of how collectors, sorters or fiberisers work," says Mr Prophte. Romain Narcy, Ereks Blue Matters board member and partner, agrees that bringing collectors and manufacturers together was enlightening. "The Denim Deal put people from all these different trades around the same table, and we learned that we all speak a different language: a garment-maker counts in pieces, a mill in tonnes and a collector in kilos," he points out, highlighting one of the many challenges in setting up a reverse supply chain.

Commenting on the technical intricacies of the mechanical recycling of used cotton into new products, Mr Özek says a key achievement has been improved productivity due to better understanding of the importance of the raw material. “We found that in the process of machine shredding, it is not efficiency that counts, but rather quality. It is the difference between obtaining cotton fibres that are 17mm vs 30mm long.” New machines were developed to Bossa’s specifications, improving quality and leading to higher sales. The economics of recycling, he says, are in favour of pre-consumer waste, as he estimates that its cost, in the range of \$1-1.2, is the same as the price of virgin cotton. In production, however, he notes that there is some loss of efficiency in spinning, dyeing and finishing. But “post-consumer waste is a different story,” he says. The pre-processing phases of turning used jeans back into fibres are a major challenge. “Polyester contamination remains our biggest problem in post-consumer waste.” To avoid the presence of polyester sewing threads, the top and seams of a pair of jeans need to be cut away, which removes roughly 40% of the original denim pants. These sections will therefore not be recycled. These extra steps are said to make POOCR cotton fibres about 10% more expensive than virgin cotton.

### Going global

Nicolas Prophte and Romain Narcy now want to take the Denim Deal to the next level and have launched the Denim Deal 2.0. “During the first leg of this journey, we have seen that the Denim Deal’s impact goes far beyond the Netherlands and the project’s initial signatories,” says Mr Prophte, who is now a board member of the Denim Deal 2.0’s steering committee. He insists that the denim industry is ahead of other apparel sectors in its uptake of recycled cotton. “But if we want to have a bigger impact on the industry, we need to do better than recycling just 1% of end-of-life clothes,” points out Mr Narcy. And it is time, they feel, to set a new target: to make 1 billion Denim Deal compliant pieces by 2030.

Romain Narcy has founded a new consultancy, Rematters (see *Inside Denim* issue 12), to assist companies in scaling the recycling of post-consumer goods into new textiles. “We provide engineering services, pre-sorting recommendations, and all the expertise needed to make it a success,” he says. Mechanical recycling is the best scenario for denim. Mixed fibre products may need to be diverted to chemical recycling facilities. “The goal is to send clothing and fabric waste to the best solution. Textile-to-textile recycling is ideal, but it is also possible to develop other products such as insulation material,” he says.

## “Polyester contamination remains our biggest problem in post-consumer waste.”

BESIM ÖZEK, BOSSA

The new Denim Deal builds on the learning acquired during the first one. Above all, “we will focus on a pragmatic expansion based on the reality of the supply chain,” says Mr Prophte. It retains the baseline of making 20% POOCR content an industry standard and collaboration between public and private organisations. “This is essential, as we have seen that it works in the Netherlands,” he says.

To achieve its new goal, the Denim Deal 2.0 will seek to set up recycling hubs in all major jeans-making regions. “Turkey is obviously a good recycling hub for European waste. We have proof of concept thanks to the work of the Dutch Denim Deal,” says Mr Narcy. For Europe, he says it should not be difficult to expand to Germany and France and create a network with companies based in Turkey or Tunisia. In addition to the EMEA zone, the Americas, Brazil, APAC and India and Bangladesh are short-listed for future hubs. In the United States, the team is already in talks with the state of California. A hub between California, New York and Mexico is not inconceivable. Brazil, which has a large local denim market and many big mills, could also create a similar ecosystem, suggests Mr Prophte. Discussions have started in the country to see if there is an appetite from local brands and mills, and engage administrations as well. “We will adapt to the context of each country,” says Mr Prophte, and this may include non-governmental organisations. The same thinking can be applied in Asia. Its manufacturing and recycling hubs will be necessary to reach the 1 billion target by 2030, he notes, adding that 1 billion pieces is only 20% of the global jeans market.

The Denim Deal 2.0 has already begun to connect the dots globally and is also ready to adapt and let each hub grow in coherence with its local infrastructure. Cotton-rich waste is not only found in old jeans but also in bed linens and towels from the hospitality industry. Thanks to learning from the first Denim Deal experience, the new team believes it has the network and the expertise to develop fabric from waste. For Mr Prophte, “the industry will follow, that is not a problem. Policy-makers are on our page. Now we need to stimulate brands and demand.” ■



Gap CEO Richard Dickson cuts the ribbon at the opening of the GWICA in Santej.

ALL PHOTOS: GAP INC

# Liquid asset

**K**nowledge is power, and US brand Gap and its manufacturing partner Arvind hope their newly opened Global Water Innovation Centre for Action (GWICA) will help the industry reduce its reliance on freshwater during manufacturing, particularly in the water-stressed areas where many mills and factories are located. Based at Arvind's Santej unit in western India, the facility will be an open-source resource for manufacturers, academics and environmental stakeholders to share information and collaborate on research.

It houses an R&D facility, which will initially focus on six water solutions, and will create platforms for start-ups to showcase water-saving advancements. The centre will collaborate with external water and clothing experts to curate materials and will offer training programmes and workshops. The labs will also house a testing facility that will be accredited by a national body, income from which will help fund the research.

Gap and Arvind's new Water Innovation Centre aims to help the textile industry develop processes and practices that will reduce its manufacturing footprint and save freshwater for where it's needed most – in water-stressed communities.

"The apparel industry has a significant water footprint, so water stewardship offers Gap and our partners the opportunity to positively impact people's lives and do our part in building a thriving planet," Gap Inc's head of global sustainability, Dan Fibiger, tells *Inside Denim*. "The GWICA is meant to help accelerate the uptake of water management innovations and best practices in apparel manufacturing."

### Denim's example

The companies' water-saving drive started with the unveiling of a sewage water treatment plant at Arvind's Naroda denim unit in Ahmedabad in 2019, which has helped eliminate the reliance on freshwater in processing by using Membrane Bio Reactor technology. The technology treats domestic wastewater drawn by a specially constructed pipeline from the surrounding community, cleaning it so it is suitable for manufacturing needs. The plant now runs entirely on recycled water, a strategy Arvind is replicating in its other factories. "That saved over 1.3 billion litres of freshwater every year," explains Mr Fibiger.

Last October, Gap joined Cargill and GSK, working with WaterAid and The Water Resilience Coalition, to launch Women + Water Collaborative in what they billed as the first time a clothing group had joined pharma and food to tackle water management at supplier level. Reduced water availability impacts agriculture, the backbone of India's economy, leading to lower crop yields and increased food prices. Communities suffer from inadequate sanitation and hygiene, resulting in waterborne diseases. The programme's aim is to improve health, livelihoods and climate resilience, beginning with the Krishna and Godavari basins. It will provide communities with safe drinking water as well as sanitation and hygiene infrastructure, and builds on the success of the previous USAID Gap Inc Women + Water Alliance. This programme, which ran from 2017 to 2023, helped 2.4 million people to improve their access to water and sanitation, according to Gap's estimates. The new ambition is to enable equitable access to water, sanitation and hygiene for more than 300 million people by 2030.

### Freshwater dependence

For its part, Arvind has installed Zero Liquid Discharge systems to use recycled water, adopted a stone-free and water-free enzymatic process for abrasion effects and harvests rainwater in some facilities. It was one of the first denim mills, alongside Spain's Tejidos Royo, to buy a foam dyeing machine. This process, which it calls Quantum Indigo, uses nitrogen to dye yarns and therefore uses almost no water and produces very little wastewater. It has also produced denim fabrics dyed using the CleanKore process. "This saves significant amounts of water, chemicals, energy and process times, at both fabric and garment manufacturing stages," Ashutosh Bhargava, senior marketing manager for Arvind, has previously told *Inside Denim*. "It makes denims 'laser-friendly' and is a good solution for brands looking to move towards waterless laser finishing."



*Gap's head of sustainability, Dan Fibiger, tells us how investing in water-focused projects is a priority.*

In 2022, the Naroda denim mill was the first to be certified to by Kontoor Brands' Indigoood Facility Certification, which recognises facilities using 90% less freshwater than conventional fabric production. Here, production increased by 36% between financial year (FY) 2019-20 and FY 2021-22, whereas the water consumption declined 24%. In FY19-20, it used 31 litres of water per metre of denim fabric, by FY21-22, this had fallen by 20 litres.

### Resilient value chain

The new 18,000-square-foot GWICA will push Gap towards goals set out in its sustainability plan: by 2030, it wants to "empower five million people touched by the apparel industry to improve and sustain their access to clean water and sanitation, and reduce water use and replenish water to nature to balance the water we use in manufacturing apparel and in our facilities," says Mr Fibiger. By 2050, it is aiming for a "water-resilient value chain and a net-positive water impact in water-stressed regions".

But why the big focus on water? More often than not, consumers do not hear about the work that manufacturers and brands do along the supply chain to improve processes or technologies. It is often hard to communicate these messages, and it is unclear what impact they have on buying decisions. However, Mr Fibiger comments it has always messaged the more sustainable production techniques to its customers. The group's Washwell denim process, which reduces water use in denim garment finishing by 20% compared with conventional wash methods, has saved around 4 billion litres of water since its introduction in 2016, he estimates. "We prioritise water because it really matters," "to our ability to grow cotton and manufacture clothes, to the health and wellbeing of workers and farmers throughout the apparel value chain, to the ecosystems we depend on, and, of course, to our customers." he adds. ■

Special yarns from Südwolle have helped Greek clothing brand Pepper Vally develop a collection that “reimagines denim”.

# Denim in the loop

**Y**arn developer Südwolle has announced a new joint project with Greek clothing brand Pepper Vally. The focus of the project is firmly on denim. The two partners have said they want to use wool and wool-blends to make denim fabrics and garments with high levels of sustainability.

In what Pepper Vally has called “an effort to create a denim line that transcends fleeting fashion trends”, it worked with Südwolle on “pioneering fabric manufacturing methods” to create the collection. Turning away from traditional weaving methods, this collection is made from knitted denim fabric.

The partners have said the result is a fabric that is lighter, more naturally elastic than traditional denim and still durable, but with a low environmental impact. Yarn choices include a blend of merino wool and Tencel, and a blend of merino and Coolmax, selected for durability, a high level of moisture management and improved softness and comfort. Blends with cotton feature too. Südwolle says the resulting garments are stylish, attractive and environmentally friendly and that they “challenge conventional notions” of denim apparel.

## Strong foundation

It would be hard to take on a challenge of this kind without a strong foundation. Pepper Vally co-founder Aliko Goritsa is a fashion and textile designer who has been in the business for 20 years. She has a background in textile engineering; she completed undergraduate studies in Athens before moving to Germany to study for a two-year master’s in textile engineering and innovation at Reutlingen. After this, she worked in a number of textile, textile chemicals and garment companies in Greece and other parts of Europe.

In 2011, she and her business partner and husband, Spiros Fragos, invested in new knitting machines and a new business organisation, and set up Pepper Vally. It is what she describes as a conceptualised design studio and workshop that carries out the creative design and scientific engineering of textile-based sustainable concepts. “We met as undergraduates,” Ms Goritsa explains. “Spiros is also the third-generation owner of a family-run, tailor-made, knitted-garment business and this has helped us come up with what we think is an innovative way of doing business.”

*Greek clothing brand Pepper Vally is preparing to launch a new collection that it says “reimagines denim”. This jacket may be the star of the collection with jacquard techniques to create the drawn-on pockets.* ALL PHOTOS : PEPPER VALLY



*“You cannot achieve anything truly innovative if the creative people are not also involved in production.”*

ALIKI GORITSA

### Joined-up thinking

If the normal set-up for clothing and fashion brands is to have the creative and design team in one part of the company, the production team in a separate part (even if in the same country, the same city or the same building) and the team that responds to consumers somewhere else again, Pepper Vally's approach is different. It has brought together all those involved in the creative process, which includes designers, engineers, pattern-cutters and sewers, and made sure they are all involved in the production side of the business as well.

“Traditionally, those different parts of the company are not connected,” Ms Goritsa says. “There are huge gaps between them. The production people usually just produce. Feedback from consumers hardly ever reaches them directly. It's not that they don't care. It's just that they don't receive any feedback about consumers' reactions to the garments they have made. This is still a big problem in the fashion industry and we wanted to tackle that.”

Many in the industry talk, at least in private, about these disconnects in the production flow and describe a situation in which different teams feel as though they are speaking a different language from their colleagues. Sometimes, it seems, the same words mean different things to different parts of the business. The team at Pepper Vally has, from the outset, used its knowledge, its years of experience and know-how to come up with a new, more integrated model with better connections all the way through. “You cannot achieve anything truly innovative if the creative people are not also involved in production, and if the production people do not take into account how customers are reacting to the products,” Aliko Goritsa says. “We are using our knowledge, experience and passion to achieve this.”



*This T-shirt demonstrates well the natural elasticity that Pepper Vally has engineered into the collection. The knitting techniques it has used create natural elasticity, thanks to loops in the fabric.*

### More to the fore

Her view is that it is easier to change the mentality of consumers than it is to change the way a textile and fashion business works. “This was painful and we are still working on it,” she comments, “although we are on the right path.” Organisations she refers to as “intermediates”, the brands and retail groups that are in the middle between producers and consumers, represent “another huge problem”. They are the ones who take by far the biggest share of any profits, while manufacturers and producers often have to get by on what she calls “the bare minimum”. She adds: “Manufacturers and producers cannot be expected to work like machines and make do with receiving just enough to cover their basic needs and no more. They have to come more to the forefront because, again, you cannot have true innovation if you don't change, at a deep level, the way businesses work.”

Pepper Vally's approach starts with the creation of fabrics using the knitting techniques it has developed and perfected. Some customers buy the fabrics while others order the finished garments that Pepper Vally designs. It has a small factory of its own and external partner manufacturers it can rely on when it needs a temporary increase in production capacity. It has strong relationships with a number of boutiques that stock the collections it creates and it also does private-label and co-branding work for others. It has customers in Greece, in other parts of Europe and in the US.

In the case of the knitted wool-denim collection it has created from Südwolle yarns, the target is to launch the garments next winter, although the brand repeats that its approach is seasonless and that it intends this collection, like everything it produces, to last for far more than one season. Two possible names are in the frame: Denim Reimagined and Denim Loops (because the knitting technology it uses is based on creating loops). Perhaps the star component of the collection is a denim jacket. There is also a “very elastic” (thanks to the loops) T-shirt with a denim look, a bustier, some pants, and further jackets, one in a jerkin-style with a zip front, and one more in the style of a cardigan, which Ms Goritsa says is more loose and sleek. “It is more athleisure,” she adds of this jacket. “You can wear it all day, to go to work in the morning, for a walk in the afternoon, to cycle home and to go out in the evening because it is very elegant and comfortable and it is safe to wear all day.”

*Using knitting rather than weaving technology has made it possible for this construction method to skip finishing processes. Finishing takes place during the knitting stage*

### Natural attraction

She says ‘safe’ because she believes extended exposure to heavily treated fabrics, especially those constructed from synthetic fibres, is causing skin reactions in many consumers. “This is definitely a problem, especially if you sweat a little and your pores open,” she insists. “We are rightly careful with the sensitivity of children’s skin, but this affects adults, too. And as we grow older I think we can become more sensitive to these substances. I take this personally because I have worked in this business for many years and I have seen at close hand the difficulty that workers can have with respiratory problems from breathing in fibres. If these are dangerous to breathe in, it must also be dangerous to have them next to your skin for too long.”

She has no hesitation in saying she would like to see synthetic fibres’ share of the global apparel market diminish but she is unsure as to how this can come about. “You couldn’t do it without hurting profits,” she concedes, with the implication that this is not a consequence that big fashion brands would accept too readily. She also accepts that the technology in many garment factories makes yarns developed from natural fibres more difficult to use. “It’s true that it’s very difficult to have 100% control of natural yarns, whereas synthetic fibres are all produced in a laboratory and allow you to control exactly what you want to have in the end product,” she says. “But this is also part of the beauty of natural materials.”

### Impact reduction

The reimagination of denim, which may give the new collection its name, has come from Pepper Vally’s move away from using only standard cotton yarns, weaving technology and finishing treatments. The changes also affect the lengthy washing and finishing procedures traditional denim fabrics go through. “We all love denim fabric and jeans,” the brand’s co-founder says, “but we wanted to change this. These procedures often require a lot of water and chemical products and this, inevitably, has an effect on the environment. We wanted to make denim, keeping its beautiful style, but without these impacts.”

The Greek company experimented with a series of yarns to test what the possibilities might be, basing its tests on Bluesign-approved yarns from Südwolle. In trying out different knitting techniques for these yarns, it realised that it could integrate finishing into the knitting process, skipping an important production stage of fabric production and achieving interesting results.



Visually, the company achieved a slightly faded or slick twill look during the fabrication process and also tried successfully to incorporate a variety of patterns and unusual effects, such as drawn-on pockets on the denim jacket. “They are not real pockets,” Ms Goritsa points out. “We drew them using jacquard techniques.” She adds that it has used no specialist machinery to create the fabrics and the garments in the new collection. She regards this as a positive because no expensive new investment in technology was required; Pepper Vally used the knitting technology it already has in place.

### Performance fabric

“It was still a challenge, of course,” Aiki Goritsa continues. “It was something we had been trying to do for a number of years. What helped us was that Südwolle was also looking for new ways of using its yarns. It has specialised in producing a variety of yarns for use in different fabric manufacturing technologies. Some of the special twisted yarns it has developed have proved to be just what we needed. This has been a very good collaboration.”

As a self-professed “big fan of denim”, she is confident consumers will immediately recognise this as a denim collection. People’s experience of denim is now no longer confined to what she calls the “classic denim” that was originally used as workwear; different versions, ones that use polyester and elastane for example, are familiar now.

“Denim is still a performance fabric,” she concludes, “and we have tried to keep that characteristic. I also think, though, that our knitted denim fabric is easy to wear because of its natural elasticity. It does not have the stiffness of classic denim and this makes it more comfortable. Consumers nowadays are looking for something that is truly sustainable, something guilt-free, while still keeping to the original idea that made these pieces so loved. They are also looking for new features that help solve modern lifestyle problems. When they find all of this, they realise that this is what they were looking for. That’s what I think will happen with our collection. Consumers will feel the difference and they will love it.” ■



# DENIM



**5 & 6 JUNE 2024**  
**SUPERSTUDIO PIÙ, MILAN**



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Co-founder **David Hieatt** tells us how made-to-order, consistency and its 'salt-of-the-earth' GrandMasters are working to keep Hiut's factory lights on along Wales' Ceredigion coast. Maverick style.

# Goodbye to guesswork

**Q: Change is afoot at Hiut. What inspired your pivot to a made-to-order (MTO) model, and what impact, if any, has this had on your GrandMasters thus far?**

**A:** I think the MTO model is really about the desire to stop making stuff people don't want.

When brands make a sales forecast, it is really a guess. Sometimes, the guess is correct. Sometimes, it isn't. And that is why there's a huge amount of waste created by brands that are in the guessing business. Because it's hard to get the guess right. So, when you say to yourself, I'm no longer in the guessing business, and I'm only going to make jeans that have been ordered, you cut down the waste almost to zero. If we want to be a low-impact business, then we must stop making product that hasn't been asked for.

When you begin to think about it, it is common sense, but this approach isn't common practice. My feeling is more and more brands which are keen to minimise the waste will begin to produce using a MTO model. At first, lots of our customers didn't understand what a time slot was, but really it was just like a reservation for a table at a restaurant. A time slot was you making a reservation. Except it wasn't a restaurant but a factory floor.

So, the effect this had on the GrandMasters is that every time they make a pair of jeans, they know it is to satisfy an order. That means that the time they spend making one of the best pairs of jeans in the world is never wasted.

I think that in the future, businesses will stop guessing and only really make what has been ordered.

**How long did it take you to make the shift? Was everybody on board from the start?**

We probably started talking about it for almost a year. We knew that the BBC 'Inside the Factory' documentary would air in January and we would be a hit, with a huge number of orders in a short window of time.

So, we used this as a catalyst to make the move to MTO. When the programme aired, instead of taking orders we told everyone to register to our newsletter. At the time, all January time slots were sold out, so our first email out was telling everyone that the next time slots would be in February. It worked. We were then sold out of February slots. Then March.

Was everyone on board? I think there was a worry about not taking orders when you have the attention of four million people, for sure.

In hindsight, it worked. But that wasn't clear from the start. So, I understand the reservations. But now everyone gets what we are trying to do. It makes the factory and the business more efficient.

**How have sales been, both before and after MTO? And how have Hiut's customers responded? Would you say you've had more sales or more engagement, for example, since making the switch?**

It is early days, but each month has been fully allocated. And you can't be more than 100% capacity. But time will always reveal the truth.

**Did the BBC Inside the Factory feature ultimately help raise brand awareness? Were you already planning on making these changes at the time of filming?**

Yes, Inside the Factory is a big show. Four million people. But it also gets repeated so many times. So, it is a gift that keeps giving. It definitely got us out there again. The move to MTO was going to happen anyway, but the timing helped. We had very low stock, and then we had a huge demand. We used those two factors to help us move over. It was good timing. And a little bit of luck.

**How will working in this new way influence your fabric buying decisions? Are you still working with materials you already had in stock?**

Our core range stays the same, so that is very predictable. But with having the time slots allocated, it gives us more time to plan our short runs, which are limited editions of special or rare denims. I guess it allows us to have more creativity and more time to find the 'story' denims that we love.

**And have you noticed any changes in shopping behaviour, particularly in customers' denim or price-point preferences, since they're now consciously investing in a bespoke pair of jeans?**

Everyone is used to having what they want, when they want it. But when you make an order, that is not the case any more. And, sure, we will lose customers because of that. But there is also a thing called anticipation. To look forward to something. Sometimes, the longer you wait, the more you look forward to it.

The price point of our jeans has always been at the super-premium end. We use the best denim, and they are made by GrandMasters in our factory in Wales. So, for some, the price point was beyond them. Plus, now you have also to wait. That has created an extra barrier that for some is too much.





But, for those who love their denim and want the best, they are happy to wait. As they say, good things come to those who wait. And great things come to those who wait a little longer.

**How closely do you work with suppliers like Candiani on denim R&D? What qualities do you particularly cherish in Hiut-selected denim?**

Candiani are mavericks. They are situated in a nature reserve; they are hell-bent on making the world's first biodegradable jeans. And I want Hiut to be working with them every step of the way. We work with them closely, but I would like to be even closer – like chewing gum stuck to the pavement.

In terms of selecting denim, the sweet spot is how good is the denim and what good does it do? You want to find the intersection. That is the tension. We don't make it easy for ourselves.

**How is your latest round of GrandMaster recruitment going? What special skills, experience or knowledge do you typically look for? And how, what and from whom do trainees learn?**

Ongoing. We thought we had found one. But they couldn't find a dog-sitter.

For real. The essence is to find someone who is missing making. Making is addictive for some. The satisfaction it gives. Then, finding new makers is vital. But this is our biggest challenge. 100%.

So yeah, will keep you posted.

**As a keen wordsmith, has working alongside Hiut's GrandMasters taught you more about patience or pragmatism, would you say?**

The GrandMasters have taught me about consistency. Consistency of effort. Consistency of getting on with it. Consistency of belief. I don't really know what the phrase 'salt of the earth' means, but I know they are it. Good people with world-class skills. I love them. ■

*Main: Co-founders David and Clare Hieatt, both also responsible for the DO Lectures.*

PHOTO: HIUT DENIM CO

*Inset: Hiut's factory in Cardigan, whose jeans-making past was revived on Mr Hieatt's return to his hometown to start up Hiut Denim Co in 2012.*

PHOTO: FELIX RUSSELL-SAW

# BLUEZONE

INTERNATIONAL DENIM TRADE SHOW



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# Fresh pearls in Shanghai

**T**he spring-summer 2025 edition of Intertextile Shanghai Apparel Fabrics welcomed close to “90,000 visitors from 116 countries and regions between March 6 and 8”, according to a post-show report by organiser Messe Frankfurt’s Hong Kong office. Spring’s fair marked the exhibition’s penultimate event before Intertextile Apparel celebrates its thirtieth anniversary from August 27 to 29, in time for autumn. Remarkably, the tally of overseas visitors was up 99% compared to a year previous, then the show’s first outing since 2021, Messe said, owing to in-country covid prevention and containment measures which eventually eased beginning December 2022. International visitors from South Korea, Hong Kong, India, Russia and Japan ranked highest.

On stepping inside the megacity’s National Exhibition and Convention Center, they were met by 3,000-plus suppliers, spanning seven halls across 190,000 square-metres of fairground, among whom 22.9% more made the trip from abroad than last spring. Delegations from Spain, Ethiopia, Singapore and Indonesia participated for the first time. Italy, Japan, Taiwan and South Korea, officially represented by Korea Textile Center, each took their own pavilion, whereas France and Turkey both staged national “zones”. Swiss-based certifying body Oeko-Tex and Austrian manmade cellulose or MMCFs producer Lenzing likewise carved out exclusive exhibition areas in the form of dedicated pavilions. Just under 1,100 fabric samples were displayed inside the event’s turbulence-themed Trend Forum alone. Meanwhile, the fair’s Beyond Denim section (hall 7.1) saw domestic producers such as Prosperity Textile, Advance Denim, Black Peony, Freedom Denim and others share the floor with overseas manufacturers such as Turkey’s Orta Anadolu and Siddiqsons from



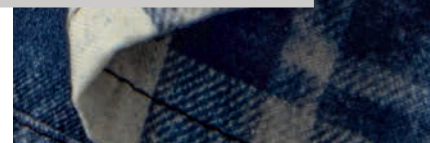
FACTORY TALK

## FACTORY TALK: INTERTEXTILE APPAREL

Ahead of its thirtieth anniversary this August, Intertextile Shanghai Apparel Fabrics still knows how to draw a crowd.

### Fresh to market

Over in hall 7.1, Guangzhou-headquartered mill Prosperity Textile’s Intertextile-ready innovations included Peach-Skin Denim, a blend of 95% wood-based Tencel fibre from Lenzing and 5% nylon. The material optimises Tencel’s fabrication to produce a still soft, yet not quite as shiny fabric surface, similar in feel to natural peach skin. A special spinning technique wraps the nylon yarns in Tencel. Such was its newness, hang tags were only printed a day before the fair opened, marketing representative Jenny Li shared with us at the show. Elsewhere inside the booth, Prosperity-owned strategic business unit Stella Blu, presented an entirely new application of water-saving textile colouration technology Cooltrans, a joint-venture with NTX in Singapore. AOP or All Over Print takes the colour-dosing process beyond double-printed denim effects on greige fabrics to tie-dye, checked and even chunky ‘knits’ for the very first time.



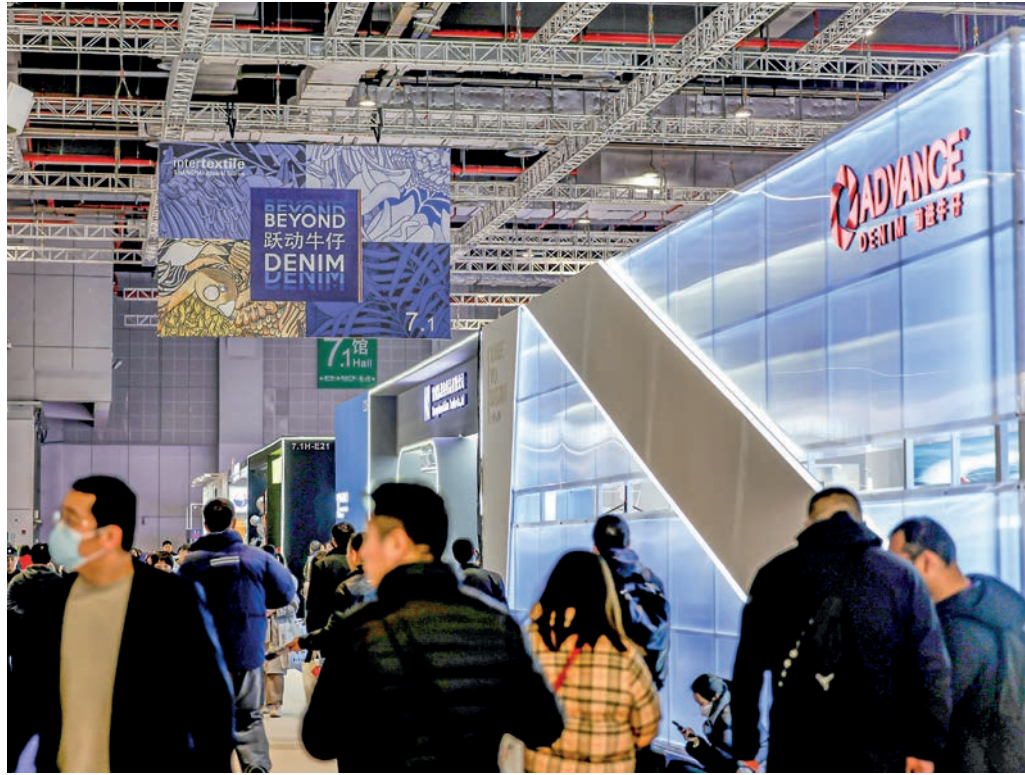
*Different denim fades printed within an all-over checked pattern, supplied by Cooltrans’ new AOP Pattern colour-dosing application.*

PHOTO: STELLA BLU/NTX

It relies on the same Cooltrans technology, which prints garments' various elements, including individual pieces and denim finishing effects, panel-like onto rolls of greige fabric. Panels are subsequently laser-cut, before being matched with precision at the sewing stage. AOP brings two fresh printing methods to the table: AOP Pattern or AOP Solid. Both methods print the full width of the fabric, front and back, in a single pass, as director of marketing and business development at Stella Blu, Marco Stefanelli, told *Inside Denim* post-show. The former is designed to replicate yarn-dyed looks through printing all-over, repetitive motifs like stripes, checks and jacquards, he explained, while the latter produces solid colours to imitate piece-dyed or garment-dyed effects. Colours might be the same front and back, or clients may choose different hues for either side of the fabric. As pointed out by marketing director Andy Zhong and Ms Li during our tour of Prosperity's booth, the denim-like fades within sample number NB02SG-1's back-face check print, achieved with AOP Pattern, would be impossible to recreate in traditional woven denims.

In the international zone, hall 5.1, US fibre and filament manufacturer Eastman launched a series of Chinese-market 'firsts' during the three-day event, from an embroidered jean shirt by Italian fashion brand Miss Sixty, marking the staple fibre's first-ever commercial application in denim, to the domestic debut of Naia Renew ES yarns. The opportunities for Naia in denim were showcased along a dedicated jeanswear rail. Eastman's work on Naia Renew, which contains 20% less recycled material than Naia Renew ES, led to it becoming the first MMCF producer globally to obtain Global Recycled Standard (GRS) certification for the fibre's chemically recycled content in December. Nowadays, Naia Renew is blended from 60% sustainably sourced wood pulp and 40% GRS-approved waste from textiles, post-consumer carpet material and other sources. Swedish retailer H&M's Conscious line was first to market with it in 2020.

There are already plans to up Naia Renew's proportion of recycled content to 100%, global marketing communications lead at Eastman, Karen Yang, shared with us from Naia's booth. Other prominent displays included one of three silky, wedding-appropriate gowns released by Californian eco-label Reformation as part of this past January's bridal collection. The dress is significant, since it embodies the very first commercial order of Naia Renew ES, itself typically made from 60% recycled content. Reformation's endorsement is proof that Naia Renew ES, launched with Ventura-based outdoor brand Patagonia in 2022, is no mere demonstration project, Ms Yang says.



Alongside the dress was a Patagonia tee blended from recycled polyester and Naia Renew, representative of one of Eastman's latest collaborations that was announced in February, which involves upcycling unusable Patagonia clothing waste into molecular building blocks for Naia Renew.

### The ties that bind

Notably, although the Japanese pavilion did feature some denim samples throughout, including from cottons specialist Toyoshima, director of international communications for Japan Fashion Week's textile division, Yuko Watanabe, tells *Inside Denim* that its organising committee does not typically receive as many applications from denim suppliers as in the run-up to high-end fabrics and ready-to-wear trade show Milano Unica, for instance. Here, several of the country's producers tend to put together a dedicated denim booth within the equivalent Japan Observatory space, but the majority mainly exhibit at denim-focused events. "Maybe [Intertextile Apparel] is not competitive enough in the market...in Europe, high-end denim is more easily accepted compared with Asia," she remarks, "although it is not easy to compete with other overseas suppliers", pointing to European and Turkish manufacturers, especially. "In the future to come, maybe the situation will change," Ms Watanabe concludes.

(Top:)The biannual event's Beyond Denim section was once again staged inside hall 7.1.

PHOTO: MESSE FRANKFURT

(Below:)Italian brand Miss Sixty was first to market with Naia staple fibre in denims.

PHOTO: WTP



Elsewhere in hall 5.1, Hong Kong's Advance Textile showed a selection of knitted denims inside its own sprawling booth, also home to its recycled cellulose content Innocell fibres and "machine washable" Silkology silks. Nylon producer Prutac (Prutex) exhibited chemically recycled polyamide or nylon 6.6, PruEco, which commercial director Lin Zhu described as only the second of its kind in the world. The company, based in Jiaxing, Zhejiang province, said it expects to reach 20 kilotons capacity by mid-year, with the objective to scale up to 80 kilotons annually after that, although demand means production of 100 kilotons a year would "still not be enough", he told us. Its two primary feedstocks are waste nylon fabrics and fishing nets. "This show is not only about the display of goods, but also about reflecting the whole industry's present and future, and applying conceptual ideas to production, which is very exciting and rewarding," commented senior fabric design and development manager at US fashion label Jonathan Simkhai, Rebecca Sales. The brand introduced denim to its ranges in 2017.

**“The exceptional return rate of overseas buyers bodes well for the global market.”**

WILMET SHEA, MESSE FRANKFURT

"The exceptional return rate of overseas buyers across the three days bodes well for the global market and speaks to the multitude of sourcing options at our comprehensive platform," added general manager for Messe Frankfurt in Hong Kong, Wilmet Shea, framing August's anniversary edition as "unmissable". Across the board, Intertextile Apparel's visitor return rate over days two and three was a higher-than-usual 87%. Sales manager at Italian cashmere and noble-fibre fabrics supplier and exhibitor Lanificio Luigi Colombo, Andrea Rossi, was optimistic enough to liken the atmosphere to "back to the fairs of 2016-2018, where [business] was really profitable". The event certainly lacked nothing of the agility, presence and growth potential required by local buyers and brands. Whereas denim-heavy launches do, of course, typically concentrate around industry-exclusive trade shows, the majority of which take place in Europe, the scale and diversity of this exhibition's platform not only help sourcing professionals map domestic market demands, but also do not fall out of step with them. ■

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# Cash for carbon cuts

**A** new, supplier-funded white paper has outlined the urgent need for innovative funding models in the clothing sector's journey towards decarbonisation. The document, 'From Catwalk to Carbon Neutral: Mobilising Funding for a Net Zero Fashion Industry', offers a deep dive into the challenges and solutions for funding climate action in apparel manufacturing.

Representing the denim industry, Sustainability platform Transformers Foundation and German sustainable development organisation GIZ (through a project it runs called Fabric Asia) have supported the publication of the report. Transformers Foundation has commented: "The apparel sector is currently responsible for an estimated 2%-8% of the world's greenhouse gas emissions. By some estimates as much as 80% of those emissions are in the supply chain."

Online discussions took place in March to present the white paper and help inspire a broader examination of this issue. Supplier organisations involved in commissioning the white paper and in the March discussions included Artistic Milliners, Epic Group, MAS Holdings, NITEX, TAL Apparel, Pactics Group and Simple Approach.

## FACTORY TALK: DECARBONISATION

Achieving net-zero in the apparel supply chain by 2050 will require huge investment. Experts say the money is there, but that only joined-up efforts, with brands and manufacturing partners working together, will secure the necessary funding.

### Key challenges

It is clear from what she said during the March discussions that the director for sustainable business at MAS Holdings, Nemanthie Kooragamage, believes that, although each of the companies in this diverse group has its own approach to decarbonisation, they all share one key challenge: funding. "If we do not come up with more creative and innovative funding models," Ms Kooragamage says, "we will not hit our climate goals and nor will the brands. Manufacturers' voices are a missing piece in this conversation."

Interviews with more than 20 manufacturers and stakeholders have informed the new report and give, the commissioning companies say, a fair representation of where the apparel industry finds itself now on the road to net-zero. To meet the promises and pledges that are already in the public domain, stakeholders will have to reduce supply chain emissions by 50% by 2030 and to be net-zero by 2050.

*“There is no sharing of the risk along the supply chain; all the pressure to achieve decarbonisation and find the funding for it lies with the suppliers.”*

SAQIB SOHAIL, ARTISTIC MILLINERS

Mr Sohail also points to “bottlenecks in the financing” because the view is that the responsibility for taking these steps lies at the feet of the manufacturers. Therefore, it is the manufacturers who are being left to find the capital expenditure required. “There is no sharing of the risk along the supply chain,” he says. “We feel that all the pressure to achieve decarbonisation and find the funding for it lies with the suppliers.”

#### Debt doubts

An executive vice-president of garment manufacturing group Epic, Dr Vidhura Ralapanawe, agrees with this. He thinks there is an assumption among many brands and retailers that their upstream supply chain partners can use debt to finance any actions they need to take to meet the targets.

“This is not possible,” Dr Ralapanawe points out. “A lot of small and medium enterprises will not have the ability to take on more debt. A lot of organisations in the apparel sector are highly geared [have a lot of debt] already and cannot take more on. And there are certain business models, for example, those of many family businesses, that are much more debt-averse than others.”

Inevitably, he explains, the conversations that have informed the white paper have included questions about the impact this expense might have on consumers. The cost of putting in place measures that will help companies meet decarbonisation targets will make garment production more expensive. Does this mean finished product prices will have to go up? Dr Ralapanawe says the business models that would allow this to happen smoothly are not in place anywhere at the moment. “We don’t have a model that would allow the cost of these increased operating expenses to be shared, either across the value chain or with the consumer,” he explains. “That’s not the way the industry is organised. But without that, there are projects that will not move forward.”

He lists a number of important garment manufacturing countries that are in what he calls “economic crisis”, mentioning Bangladesh, Sri Lanka, Pakistan and Egypt as examples. Interest rates there are high, making borrowing expensive. He finds two main faults with the funding that has been available so far on the road to 2030. The first is that it has been mostly for short-term payback rather than for long-term improvements. The second is that, even so, only the top 5% of operators in the garment manufacturing industry have managed to get their hands on any of this funding. The money has not been accessible for smaller companies or those that are highly leveraged.

He adds that the wider garment industry has been suffering a downturn in business for the last 18 months. The industry has six years in which to make the necessary investments for meeting the 2030 targets. But he fears any preparations could take at least another two or three years. This would leave only three more years for putting the investment in place and taking the necessary action to meet the targets.



*The big burden in decarbonisation efforts in the apparel supply chain is on the shoulders of manufacturers.*

PHOTO: FASHION FOR GOOD/LALIT KUMAR/UNSPLASH

“Clearly, this will require significant investment,” says another sustainability practitioner at MAS Holdings, Dhanujie Jayasapala.

He points out that the players in the supply chain who have the highest emissions and, therefore, the most work to do, also have the lowest share of profits from apparel sales. This affects their ability to access loans and other revenue streams that could help them carry out the necessary work on cutting emissions.

#### Funding bottlenecks

Something Saqib Sohail, who is responsible for sustainability projects at Artistic Milliners, emphasises is that the white paper takes into account that mills and manufacturers in different parts of the world have to come up with strategies for cutting emissions that are in keeping with the particular context in which they have to work. In theory, shifting from fossil fuels to biomass as a source of energy on site may appear to be low-hanging fruit, he argues, but some companies operate in areas where biomass is in short supply and expensive. “What is good for manufacturers in one region may not be so good for others,” he says.

Textile workers at a Fairtrade project in India. A 'Fair Climate Fund', which would build on the Fairtrade model, is one of eight ideas that the new white paper puts forward as a means of funding decarbonisation across the apparel supply chain.

PHOTO: THE FAIRTRADE FOUNDATION

### Hopes for 2030 fade

Asked about this by *Inside Denim*, Dr Ralapanawe concludes that, in reality, there is no hope that the global garment industry can meet the decarbonisation targets it has set itself for 2030. "I'm sorry to say there is absolutely no chance," he says. "The kind of mobilisation that would be required for the industry to make that shift is not happening on the ground. We are not even having the conversations that need to happen first."

He insists that, already, not enough time remains between now and 2030 for garment brands and their supply chain partners to put in place and then execute decarbonisation plans for a 50% reduction in emissions. "I am going to say openly that we will be lucky to get to a reduction of 15% by 2030," the Epic vice-president says.

However, he goes on to say that it is important for companies across the apparel supply chain to remember that 2030 is only an interim target. The real target is that the industry is aiming to reach net-zero emissions by 2050. He explains that this is why the new white paper has come out now. "We don't want to wait until 2027 and start scratching our heads," Dr Ralapanawe says. "Even if we don't get to where we want to by 2030, we need to think about what happens in 2035, what happens in 2040 and what happens in 2045. We need to work on this until we completely decarbonise the value chain."

He argues that work that can begin now to mobilise the funding and the will to bring emissions down can still make the 2050 target achievable. "But unless we re-couple the investment cycle and the business cycle, we will not hit those targets," he warns.

### Eight possible funding solutions

Suggestions that the white paper makes for taking this forward include eight concrete proposals for putting together the funding for the necessary decarbonisation to happen.

First on the list is the idea of establishing a 'Fair Climate Fund', which would build on the Fairtrade model. Fairtrade International is an organisation that works to make available to consumers products that offer farmers and agricultural workers a fair return for their work. The white paper suggests that it should be possible to apply this to the apparel industry's decarbonisation funding challenge. This would consist of each player along the supply chain donating a proportion of its revenues to a central fund, which would then disburse the money in the form of grants to help finance emissions-reducing projects on the ground.



The second proposal opens up the question of debt once more. In this case, though, it would be "brand-supplied debt". Big brands, according to this suggestion, could convert some of their earnings from selling clothes into loans for the supply chain partners who make those clothes to cut carbon emissions. Paying the loans back would still be a challenge, but the white paper says that transforming this debt into product discounts for the brands would make it easier to overcome.

Cost-sharing with consumers comes up as well. This would involve launching clothing lines with slightly higher prices than brands and retailers might usually charge, but with clear information to show consumers that the extra cost will exclusively fund decarbonisation of the product's supply chain.

A fourth proposal is that the apparel sector could increase its efforts to capitalise on what the white paper calls "growing interest in green bonds". This is a reference to the appetite among investors to put money into projects that specifically aim to bring about climate and environmental improvements.

It goes on to suggest that, particularly (although not exclusively) in garment manufacturing countries with large Muslim populations, Islamic finance could be a good option. This is an investment idea that has its roots in Islamic teaching that investment should generate goods and services or asset ownership rather than interest.

Suggestion number six is that companies in the supply chain should be able to borrow money to carry out these important projects, but that they should also take out business-cycle insurance to mitigate against disruptions that might affect their ability to repay the loans.

Governments, development banks, other finance institutions and export credit agencies could also become involved. These bodies could provide credit guarantees for apparel manufacturers, which would be another way of helping them access funding.

The white paper's final proposal is for what it calls "a just transition fund". It foresees this being created through "regulatory levies". The money this fund accrues would be accessible to manufacturers in developing countries to support decarbonisation in those crucial parts of the value chain.

### What is \$1 trillion among friends?

Author of the report, Revan Philip Wickramasuriya, has a background in analysing risk management in financial markets. He has analysed the comments on decarbonisation of the clothing sector that a non-profit collective called the Apparel Impact Institute (AII) has made. He quotes AII as estimating that industry decarbonisation will require total investment of \$1 trillion between now and 2050.

Groups including Levi Strauss & Co, Abercrombie & Fitch, VF Corporation and PVH are Apparel Impact Institute partners, along with New Balance, Puma, adidas, Columbia Sportswear, Under Armour and others. What AII does is identify solutions that can make "a meaningful carbon reduction in textile production" and then secure financing to create "customised decarbonisation plans". The money it raises comes from grants from the partner brands and from philanthropic organisations. Its \$1 trillion figure comes from a joint report that AII released in February 2024 with textile innovation incubator platform Fashion For Good. This report presents \$1 trillion not as a challenge or a target, but as an opportunity.



Reflecting on this, Revan Philip Wickramasuriya repeats that there are significant pools of funding out there that are open to investment opportunities that will help fulfil environmental, social and governance (ESG) ambitions. "The apparel sector needs to start tapping into these pools of money," the author of the new white paper says. "This figure, \$1 trillion, may sound like a big number but if you come from a financial background it is just a drop in the ocean."

He explains that total banking assets, globally, stand at \$183 trillion at the moment. He adds that the top 500 asset management companies alone control \$113 trillion in assets and are already putting some of this money into projects that could work in the garment sector. "The funding is out there," Mr Wickramasuriya says. "If you want \$1 trillion you can get it in the blink of an eye. If it is not coming into the apparel sector for decarbonisation it is partly because the policies and regulatory frameworks are lacking. But, more importantly, I think that if you come from the financial sector, it's because you don't see the necessary synergies and connectivity in the apparel sector. This is a problem right across the value chain and all the stakeholders need to work together on it. Instead, everybody seems to be trying to do their own thing." ■

*There is an assumption among brands and retailers that upstream supply chain partners can use debt to finance decarbonisation actions. However, many of those partners are small and medium enterprises that do not have the ability to take on more debt.*

PHOTO: THE FAIRTRADE FOUNDATION



*Brands could launch clothing lines with slightly higher prices, with clear information to show consumers that the extra cost will fund decarbonisation.*

PHOTO: SHUTTERSTOCK/SORAPOP UDOMSRI

*Enhancing the details and contrasts of premium jeans using low-impact alternatives drives innovation at Soko.*

ALL PHOTOS: SOKO CHIMICA



# A beacon of innovation

**I**n the thirty years since the denim industry made authentic worn-in effects a sine qua non, Soko Chimica's innovation hub has been busy introducing alternative low-impact solutions for laundries at its headquarters in Florence, Italy.

In its Lumia platform, which fades jeans using ozone in dry conditions, its latest discovery, Diamond, introduces a novel application method using pieces of textiles. This, says Luca Braschi, Soko's denim laundry expert, is a smarter way of applying Lumia. Its "towel touch" brightens abrasion markings by exalting high-low contrasts. It is easy to use and saves time as it takes place during the obligatory drying phase. This acid wash alternative eliminates the need for pumice stones and hazardous chemicals, it is conducted in waterless conditions and doesn't degrade fabric strength while delivering the desired bleached effect.

Another example of the company's out-of-the-box thinking can be seen in its recently launched Hydrogel process. "Real revolutions happen when we decide to

## FACTORY TALK: SOKO

Finishing is a critical phase of jeans-making to create the industry's requisite authentic effects but also for its potential impacts on the environment. In both areas, Soko has devised novel solutions that enhance a product's aesthetics without taxing the planet.

leave the path everyone else is following to blaze a new trail. This is the mindset of our innovation team," says Mr Braschi. Hydrogel is the result of the company's quest to drastically reduce water consumption. "It creates a different environment inside the washing machine, leading to new effects while protecting the fibres, especially elastane yarns, from aggressive chemicals," he explains.

The beauty of Hydrogel, he continues, is that it reduces processing down to a single bath to go from raw to bleached. It is, he believes, one of the least water-hungry fading treatments in the industry. The innovative compound is said to include everything needed to obtain a stone-washed look and is compatible with a wide range of chemicals. “As it changes the physical state of water to form a highly viscous solution, garments are enveloped in a safe bubble of gel,” he says. The technology could evolve to produce other effects, including dyeing, the company claims.

### Keeping up with trends

Always on the lookout for novel solutions that meet market trends, Soko is currently focusing on coated and leather-like aesthetics. “This is a look that returns cyclically and that our Resoko Glossy, made from natural raw materials, delivers,” says Mr Braschi. Depending on the application method, this self-polishing finish creates either a permanent glossy or a vintage leather aspect.

The growing popularity of natural raw materials has inspired the company to develop a new range of dyestuffs called Rare. These natural mineral colours are applied using a fully natural dyeing process and auxiliaries derived from food industry by-products. “This means that the colours come from nature and can return to nature without any negative impact. We like this radical no-compromise approach which does not use any synthetic chemicals to expand shades or depth of colour,” he points out.

The company works closely with manufacturers, suppliers and brands to accelerate the industry’s ecological transition. “Our Projects Division provides technical support to our customers to help them achieve higher green scores, optimise process efficiency and improve the aesthetics of fabrics and garments,” says Mr Braschi. At Kingpins this April, denim mills Naveena and Rajby will be presenting developments using Soko solutions to help lessen the industry’s environmental footprint. Adriano Goldschmied, who is a fan and has been collaborating with Soko for his Daily Blue line, will present a new capsule collection featuring garments whose finishing has been optimised to save up to 70% of water and without pumice or hazardous chemicals.

Research and development is continuous at Soko, well aware that the industry seeks to produce jeans that have character, but do not tax the planet. “Our goal is to create products that help the industry switch to better and greener solutions by simplifying processes, achieving better aesthetics and performance as new eco-fabrics and technologies develop,” says Mr Braschi.

The denim laundry business is only 30 years old, says Soko CEO Matteo Urbini. The company has been in the textile business for much longer and chose to develop denim solutions “because it is a very creative field that strives to make beautiful products”. And, he adds, “it is all the more beautiful when there is a good story to tell.”■



*Every new product or application developed by the company passes through rigorous trials and tests to understand its potential and adjust procedures for laundries.*



*Doug Gunn is managing director of the Vintage Showroom, which he co-founded in London with Roy Lockett in 2007. The company runs two by-appointment showrooms showcasing their vintage clothing collection, available for creatives and designers. As well as being available to buy or rent for commercial projects, the archive is used for education and inspiration.*

PHOTOS: DOUG GUNN

## CLOCKING ON...

Doug Gunn preserves a precious part of denim's history through the vast collection of jeans and men's garments at The Vintage Showroom.

# Sartorial haven

### 6.30am

Miles Davis' Kind of Blue is my wake-up call and the cure-all track of my life. I am married with two teenage daughters, so getting everyone out of the door in one piece with everything they need is a collective effort (quarter-backed by my amazing wife!). Today is World Book Day and the Mr Bump costume needs some last-minute work.



### 10.00am

I have hit the gym, showered and caught the tube over to our West London Studio in time for my first meeting. It's via Zoom with an old friend and collaborator, David Tring, an early-stage concept meeting about an exhibition in Hong Kong for later in the year. It's still in the discussion stage but very exciting if it happens! We talk denim and put the world to rights.



### 12.00pm

The Vintage Showroom team is a small, highly skilled, tight unit that constantly punches above our weight! We slot in a social media session celebrating the amazing new Belstaff 100-year anniversary book, which we contributed to and just received.

### 2.00pm

It's a quick Uber ride over to our new Central London showroom and head office. Back on Zoom for a catch-up with our colleagues at denim mill Orta Anadolu, who we have been consultants for for many years. It is an exciting part of the season, discussing new concepts and fabrics. We are working on a top-secret new Black and Grey story to launch in Amsterdam, but let's keep that between ourselves!

### 6.00pm

I am locking up and heading out. I call my wife and kids to check in as I walk over to Shoreditch. We usually eat dinner as a family every night, so if I'm travelling or out, I always try and check in and say hi.

### 7.00pm

Tonight is a special dinner organised by Belstaff to celebrate the book launch, a lovely evening with lovely people and superb food from the Rochelle Canteen kitchen team. I am a Negroni and a couple of glasses of wine to the good, but tonight is a school night so I head home around 10:30. Andre 3000's album keeps me company on a packed Northern line tube back to Wimbledon, I love London!

### 4.00pm

It's espresso time at TVS and I go down to my favourite part of the archive, our denim room, prepping for a meeting with a team from Paris for the next day, looking at workwear and washes from our collection for new-season developments.



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Inside Denim Issue 13 2024

A close-up photograph of a dark denim jacket pocket. The denim is a deep indigo color with some yellowish-brown wear and tear, particularly around the pocket edges and the button. The pocket is a flap style with a single brass button. The stitching is visible, and the texture of the denim is clearly shown. The background is dark and out of focus.

# Soko

## Resoko Glossy

*The self-polishing  
leather coating.*

*The more you wear it,  
the shiner it gets.*

