# TEXTLE INSIGHT

Trends in Apparel & Footwear Design and Innovation · May/June 2017



Footwear Steps Up Eco Performance

Tech Elevates Denim Developments

Workwear Taps into USA-Made Demand

By the Numbers: Charts & Stats

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**Corrections:** In the cover story of the March/April print edition of *Textile Insight* the correct information regarding Crawford Knitting is that the company can produce 12,000 dozen (socks) per shift, multiplied by three shifts, and knit that in a week. Also, the correct background information for Crawford exec Marty Oliver is 12 years calling on Walmart, and five years with Renfro. The photo on page 20 of the March/April issue was shot by Dave White, davewhitephoto.com.

#### TEXTILE TALK | EMILY WALZER

#### **Amazon and Re-Framing the Future**

It's hard to remember that not long ago, Amazon was a bargain bookseller.



mazon's custom-clothing patent was featured in a *New York Times* article the other day. This was attention getting in many ways. Despite textiles being much in the news this year — the areas of trade, domestic production and worker rights all being hot-button issues — it is nonetheless unusual for a materials supply chain to be diagrammed so boldly in a business story. Sure, we talk about supply chain all the time, but to feature five graphics that outline nitty-gritty processing details on everything from pattern making to packaging is remarkable. But then again, by the end of 2017 Amazon is projected to have the largest apparel business in the U.S. Talk about remarkable.

It's hard to remember that not long ago, Amazon was a bargain bookseller. In an online article posted recently, Mark Bozek explores Amazon's evolution. He writes, "The neophyte from Seattle, whose startup

was selling unprofitable low margin books now has an astounding market cap of over \$430B (and its founder is the second richest man in the world) as well as fast becoming one of the largest producers and distributors of film and television on the planet," he continues, stating, "The company that just now delivered seven huge green boxes of fresh produce, toothpaste and Honey Nut Cheerios my wife ordered this morning on her IPhone, also distributed the great award-winning movie, Manchester By The Sea."

Bozek speaks with authority. If his name rings a bell its because he has spent his entire career in commerce and entertainment. His bio reports that Bozek worked with Barry Diller for over fifteen years; first as a producer at "start-up" Fox TV, then at QVC and later as CEO of HSN. Bradley Cooper played Bozek in David O. Russell's 2015 movie "Joy."

So what's this got to do with textiles? Pretty much everything. How goods are made and sold is undergoing major disruption and our industry is feeling it. Textile execs I talk with routinely bring the conversation around to Amazon. These suppliers recognize that the "this is the way things have always been done" type attitude doesn't cut it anymore.

A similar message came through loud and clear at the Struktur Event held in Portland, OR in late April. In presentation after presentation — whether on technology, design, branding, manufacturing, or leadership — the takeaway was about the need to "re-frame" our approach to business, and indeed, re-evaluate our perspective on the world at large.

Finding a new perspective can happen in unexpected ways. I'm a believer. Earlier this spring when I was feeling dispirited about an upcoming milestone birthday, I got myself to a Saturday morning yoga class. We spent a lot of time doing inversion poses; there I was doing headstands, amongst mostly young 20 and 30-somethings, and feeling optimistic about the future. The instructor explained that there are times when a change of perspective allows us to go forward in a better way.

Cheers,

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#### IN THE MARKET | TRADE SHOW REPORT / PERFORMANCE DAYS

Biodegradable Solutions Come to the Forefront at Munich Fair. By Louisa Smith

## A Natural Direction

This 94 percent poly/6 percent spandex stretch blend gets a futuristic look with texture and contrasting color combo of yellow and gray. Also on trend: a lightweight 100 percent polyamide from Li Peng in vibrant orange. he message was clear: For future fabrics, it's back to nature, as a responsible and sustainable use of resources. This resonated strongly at Performance Days where both natural and new-generation synthetics are in the spotlight for Fall/Winter 18/19.

Biodegradable options were a highlight at the Munich Fair as focus shifts to eliminating landfills as the global population rises. Fast decomposition of natural fibers is par for the course, with cotton, wool and cellulosics

> requiring a few months to a year. But with performance being paramount to our industry, the need for synthetics to be used in multi-blends is key, and as such has textile mills now looking to biodegradable synthetic yarns. Derived from plant-based ingredients such as corn, the new biodegradable synthetic materials have to meet the minimum standard for decomposition.

The Solvay Group has developed Amni Soul Eco, an enhanced polyamide 6.6 formula that takes less than three years to biodegrade — unlike most synthetic fibers. The biodegradability properties of the nylon yarn only become apparent under specific landfill conditions where there is no oxygen and where bacteria specializing in anaerobic decomposition are found. Otherwise the yarn looks, feels and behaves as a traditional nylon.

Global Merino won the Eco Performance Award at the show, with a fabric made from 64 percent polyester and 36 percent merino. The product is categorized as biodegradable due to the special polyester used, a recycled polyester from CiClO that decomposes much faster than conventional polyester.

Tested under the standards for Anaerobic Biodegradation of Plastic Materials, the result showed the merino wool used is 26 percent decomposed after 149 days. Over the same time period, the polyester fiber, when used as staple fibers, is at 20.7 percent, or as a filament yarn, at 17.6 percent. A virgin polyester fabric will only decompose a maximum of four percent after 991 days, whereas fabrics containing the CiClO polyester would have already reached 78 percent degradation in that time.

Recycling continues to see new developments on both the natural and synthetic front from fiber to membranes. New from Thermore is Ecodown, a product made from recycled plastic bottles — 10 PET bottles for one jacket — giving kudos to the insulation sector.

#### **Environmentally Sound Multi-Functionality**

Interest in biodegradable developments was evident in the number of exhibitors opting for natural fiber content in pure or multi blends. Challenge Textile, for example, had two offerings of note: a 100 percent wool, easily biodegradable, with a multi-functional finish that has UV protection and bi-stretch, and also a 47 percent wool/53 percent Tencel blend single jersey. Tintex' natural multi-blend double knit of 40 percent cotton/10 percent wool/ 50 percent recycled cotton hit all the parameters for biodegradability.

Kapok, a sustainable natural fiber, is becoming more available in the market. Wiechert Eco showed a Kapok blend with organic cotton for a sensual single jersey. Linen was also featured at Performance Days. For example, Latex used linen in a cotton blend in a pique structure.

Newly available bio-based synthetics were also shown in pure content from Pontetorto. The company offers a 100 percent biodegradable fleece fabric with thermal regulation, moisture management and UV protection. Singtex used pure APEXA, a corn-based nylon from DuPont that decomposes under appropriate conditions and reduces waste.

Many mills are placing more resolute direction on sustainability through water conservation.

Schoeller, for instance, launched ecodye in collaboration with auxiliaries and dyes specialists at Textilcolor, for use particularly in polyester dyeing processes. (For more on ecodye, see Page 12.)

The importance of water conservation was outlined by daily workshops with We are SpinDye, a company that dyes the polyester at the extrusion stage rather than at the spun stage. The advantage is not just on the 85 percent reduction in water consumption and 70 percent less chemical consumption combined with improved energy consumption, but there is unprecedented color consistency, UV resistance and color fastness, according to the firm.

Performance Days reflected an industry-wide effort to reduce its impact on the environment with recycled options, biodegradable innovations and reduced water and energy footprints. It's a balancing act getting the sustainable aspect but also achieving the high level of function consumers expect. As we progress, and investment in R&D continues, a step-by-step approach seems to be the best solution. •









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#### IN THE MARKET | TRADE SHOW REPORT / SYFA

Current Macro Trends with the Potential to Disrupt the Industry. By Trish Martin

## **Global Realities**

Synthetic fiber companies that want to position themselves in front of "digital born" and "next gen" apparel companies need to move away from commodity selling.

With store traffic and sales trending down, the industry must find new ways to engage consumers. ■ irst quarter GDP results came out during Mark Vitner's presentation at the Synthetic Yarn & Fiber Association's spring conference held in Charlotte during the last week in April. A senior economist at Wells Fargo Securities, Vitner nailed his 0.7 percent growth prediction (the government reported 0.8 percent.) He was not concerned since the first quarter is usually the slowest. This year, an unseasonably warm winter, which hit utilities, and a late Easter, which affected tourism, constrained growth. Vitner expects a rebound to two percent based on the assumptions of less regulation, recovering global economy, infrastructure investment, tax reform, and strong corporate earnings. Vitner also anticipates benefits from the improving manufacturing sector and the productivity benefits it generates throughout the economy.

Consumer confidence is up mainly due to jobs, Vitner reported. Many workers are moving from part time to full time work. This positive shift will also help the housing market, despite the Fed's anticipated two interest rate hikes this year. Vitner is concerned about the effect of Uber on the car rental market, a major part of the auto industry, and the looming threat of a Korean conflict that would trigger a global recession if it materializes. Closer to home, the retail inventory build up due to dramatically lower foot traffic in traditional stores could have negative consequences for the textile industry.



Freefall: Retail Traffic and Sales Per Shopper

Global economics was one of a handful of influential macro trends and ideas discussed at the SYFA semi-annual conference. Other presentations focused on topics such as the changing face of retail, the importance of sustainability and addressing "next gen" business opportunities.

Judith Russell, global marketing strategist with Nilit America, reviewed the changing state of retail. Malls and their tenants are in crisis, she noted, explaining that foot traffic has dropped double digits. Store closings are rampant. Deep discounts are the norm. However, she added that for "digital born" and "next gen" brands and retailers, or those with roots deep in social media and online stores rather than just bricks and mortar, the future is bright.

Mobile phones and other innovations have shifted power from producers to consumers, according to Russell. The millennials, those 95 million 20-36 year olds, have used technology to redefine shopping. Millennials research products online before they ever consider buying. They want to know whether the brands that make their products are ethical. Millennials rely heavily on friends and social media advisors to make their purchase decisions. They are early adopters of new retail models such as subscription clothing sales, rentals, and swapping. For these young adults, the shopping experience and the product far outweigh price.

Synthetic fiber companies that want to position themselves to these next gen apparel companies need to move away from commodity selling, says Russell. Quality, social responsibility, environmental consideration, integrity, transparency, and value not just price, are compelling elements of a company's story that appeal to next gen retailers and their shoppers.

#### **Sustainability Outlook**

Alasdair Carmichael of PCI Wood Mackenzie shared the outlook for the petrochemical markets, which he believes will be stable for the next several years. However, he warned that recycled PET could be in short supply as demand from beverage bottle makers increases. The U.S. recycles only 20 percent of water bottles, the largest source of RPET, much less than other countries. Therefore, if the synthetic fibers industry wants to continue to incorporate RPET in its sustainability story, increasing consumer recycling is necessary.

Carmichael shared a video of China's new rail system that follows the historic Silk Road to London. Built in just two-and-a-half years, the transcontinental railroad transports good across Asia to Western Europe in two weeks at one quarter the cost of shipping by sea. By the way, China recycles 90 percent of its water bottles.

A sustainability strategy is important to Eric Henry, founder of TS Designs. His focus on quality, local sourcing, and sustainability gave his company a new lease on success in recent years. TS Designs' Cotton of the Carolinas "Dirt to Shirt" program creates t-shirts with raw materials from within a 600-mile radius.





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#### IN THE MARKET | TRADE SHOW REPORT / STRUKTUR

Exploring Future Possibilities in Outdoor, and Outer Space. By Emily Walzer

## Spotlight on Design

nd on the third day, Struktur Event went to Mars. Contemplating the future was a key theme of this year's conference so it made sense that the closing keynote was given by Amy Ross, a NASA lead engineer on the design development of the Mars Spacesuit. Ross' talk touched on narratives that defined Strukur 2017: design leadership, design research, future tech, future manufacturing and material science.

Now in its fourth year, Struktur re-located to a new space in the Lloyd District of Portland, OR, to accommodate a larger crowd and a more diverse schedule that consisted of main-stage speaker presentations, a variety of workshops, panel discussions and several casual breakout sessions.



Designers enjoyed the opportunity to take an up-close look at Woolmark fabric innovations during one of the handful of textile sponsored workshops offered at Struktur Event. The 250 or so attendees, a lively group of designers and execs from in and around the active/outdoor industry, listened and learned from high-level creatives at major brands, local makers, trend forecasters, educators and fabric specialists. Representatives from Rapha, Arc'teryx, Woolrich, Oru Kayak, Biolite, REI, and The North Face among others presented to an audience that consisted mainly of designers from the likes of Patagonia, Icebreaker, Stanley, Columbia and a slew of others, and individuals from varied fields, including electronics.

"Struktur allows designers to come together to connect in a participatory event that embodies the collaborative nature of our industry," said Michelle Rose, who together with Sam Ward launched Struktur as a creative conference to give voice to designers and advance the important role design plays in the identity and success of the active/ outdoor community.

Textiles, too, play a critical role in this industry, and at Struktur. Fabric suppliers participating as Struktur 2017 sponsors were Concept III, Cordura, Cotton Incorporated, Woolmark and Schoeller. (*Textile Insight* has been a sponsor since Struktur's inception.) Execs from these firms shared the latest fabric tech and market trends formally, and informally, over the course of the three-day April gathering. New collections and concept pieces were on display on the main floor.

Keeping with the future theme, Struktur 2017 addressed sustainability, domestic manufacturing, wearable technology, biomaterials and women's leadership in business. In other words, what's next in science, and the art of design.

#### **Expansive Thinking & Meaningful Innovation**

The conference was more big picture than product specific. Alex Valdman, Rapha creative director, explained principles of creating impactful experiences, while Lisa Cram, TNF director of color, explained how designers define and drive success. Cordura brand ambassador Linda Keppinger lectured about textiles reflecting contemporary consumer trends. *(See page 24 for a Trendsetter profile of Keppinger.)* Cotton Incorporated's "Cotton in Motion" workshop offered examples of seamless construction, bonding natural fibers, water repellency and durability. Woolmark's Sarah Schlenger schooled attendees in "Wool 101" and showed innovations featuring wool in in footwear applications and technical garments.

Stephen Kerns, president Schoeller Textiles USA, was a panelist on a discussion that aimed to re-frame wearable tech beyond wrist devices with biometrics to garments with built in health and wellness attributes. Schoeller recently introduced an e-Shell conductive material and a super-high-tech moisture management technology.

#### Sustainable & Local

Following a 17-year stint at Nike, Elizabeth LeMay founded Studio 317, a prototyping and innovation studio. "I love product and thinking about new ways to make



product," said LeMay. "I'm not satisfied with the status quo." A recent project, a collaboration with Intel, resulted in the development of a bra with advanced wearable tech. LeMay's business is part of Portland's growing innovation/ manufacturing hub that includes Britt Howard, founder of Portland Garment Factory (PGF) and Spooltown bag maker Sara Tunstall. They, like LeMay, expressed optimism regarding growth in local, small batch production.

Efforts on the eco front also garnered attention at Struktur with presentations by Futuremade, Biomimicry Institute and Promostyl highlighting social and environmental responsibility. Futuremade exec Jeff Nash described the



complexity of today's sustainability world as resembling a "supply web" versus a traditional supply chain and stressed that brands identify a cohesive sustainability strategy. "We try to integrate a need to have a unified vision when it comes to sustainability," said Nash, who previously held posts at The North Face and Black Diamond.

Struktur attendees with a vision for the future will likely re-visit Ross' stellar presentation. After all, planetary exploration, like active/outdoor endeavors entails designing for new environments such as factoring in temperature extremes to create garments and gear with advanced functionality and fit. •

The Vibram Sole **Factor Cobbler** RV was busy re-soling up to 30 pair of shoes daily. Struktur is a hotbed for networking. Shown here, from left to right: Jessica Hemmer, founder, Hemmer Design, Cordura global brand director **Cindy McNaull** and Gia Whitney Stanfill, owner, gcw design.

## Stretching Beyond



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#### IN THE MARKET | ECO UPDATE

A Round Up of Developments in the Sustainability Sector

#### Swiss Firms Develop New Polyester Dyeing

A Swiss collaboration between textile manufacturer Schoeller and auxiliaries and dyes specialists at Textilcolor, has resulted in ecodye, a new eco-friendly and cost-saving dyeing process for polyester yarns and piece goods. The technology shortens the heating phase, thus accelerating process time by more than 30 percent. At the same time, it reduces energy consumption by 20 percent and the water requirement by 25 percent, as the goods can be cleaned in the cooling dye bath. According to the companies, ecodye provides good shade stability and avoids reproduction problems from batch to batch, thus reducing the rate of double staining and increasing the capacity utilization and



productivity of the dyeing mill on a longterm basis. ecodye is bluesign-certified and is suitable for all textile forms, machines and substrates, as well as existing dye recipes. It requires no additional investment or conversion.

The technology is being used by polyester-processing customers in categories including outdoor, sportswear and technical knitted fabrics, primarily in Europe, South and Middle America, Turkey, Bangladesh and China.

"ecodye is an auxiliary of the future. It requires not only great expertise in the development of the auxiliary concept but also in the textile application," says Hans Kohn, COO of Schoeller Technologies AG. •

#### Two Down Standards Merge into One

In an effort to release one standard that includes the best components from two leaders in the field, the Textile Exchange and NSF International will work together to merge the Responsible Down and the Global Traceable Down Standards. Currently more than 80 brands have chosen to certify their down supply chain to either the Responsible Down Standard or the Global Traceable Down Standard. As is, both standards ensure that best practices are in place to respect the Five Freedoms of birds throughout

#### Bolt Threads Debuts Commercially Available Synthetic Spider Silk Product

Bay Area-based biotechnology company Bolt Threads recently unveiled a limited edition knit necktie made of 100 percent Boltspun spider silk—the first spider silk product available for purchase. The unisex tie is 100 percent spider silk using the company's proprietary technology, and the culmination of seven years of development. "We wanted to demonstrate the reality of a completely new way of manufacturing textiles, one that has nearly unlimited potential for innovation and also produces a sustainable product," says Dan Widmaier, Bolt Threads CEO. Last year, the company announced a \$50 million round in Series C funding, along with a partnership with Patagonia.

the supply chain. (The Five Freedoms, according to the Farm Animal Welfare Council, include freedom from hunger and thirst, freedom from discomfort, freedom from pain, injury or disease, freedom to express normal behavior and freedom from fear and distress.)

An international working group with representatives from brands, suppliers, animal welfare groups and other interested parties will lead the effort. These same stakeholders were involved in the development of the current standards. • *For more information contact Integrity@TextileExchange.org.* 

#### eVent Fabrics Becomes bluesign Partner

A comprehensive bluesign audit at eVent's manufacturing facility in Lee's Summit, Missouri, confirmed that the company's membrane manufacturing operations apply the bluesign system and meet high standards for worker safety, responsible use of resources, and that the company is continuously improving its environmental performance. The bluesign system, based on Input Stream Management, ensures that approved chemical products and raw materials are used in all steps of the manufacturing process and that substances posing risks to people and the environment are eliminated. On-site inspections verify the proper application of chemical products and raw materials

> in controlled processes and ensure the responsible use of resources to guarantee the highest level of consumer safety. •

#### Durability Gets an Eco Boost

Sharing a common background, and celebrating major milestones, Invista's Cordura brand and DuPont Tate & Lyle Bio Products are partnering on the development of new durable performance fabrics incorporating sustainable materials. DuPont Tate & Lyle's Susterra propanediol durable coatings and waterproof, breathable membranes are manufactured through a proprietary fermentation process using plant-derived glucose. Susterra is manufactured using a sustainable process that produces 50 percent less greenhouse gas emis-

sions and consumes 42 percent less non-renewable energy than equivalent petroleum-based diols.

The first innovations from this collaboration are three types of blends: Tiong Liong is the mill partner for a Cordura EcoMade recycled poly yarn/ Susterra TPU bio-based membrane product as well as a Cordura AFT (Air Flow Technology) knit/Ariaprene foam/ Susterra TPU bio-based membrane product. A Cordura Naturalle fabric with Susterra bio-based membrane is being produced by the apparel fabric mill Everest. •

#### **Organic Growth from Farm to Fashion to Home**

"Its cool to be conscious," said Marci Zaroff speaking at the "Live Organic from Farm to Home" pop up event held recently in New York City. Her company, MetaWear was one of about two-dozen or so businesses showcased at the evening gathering hosted by the Organic Trade Association. In addition to being socially and environmentally conscious, the participating firms are also committed to the highest standard of clean manufacturing and lead the sustainability category in terms of being GOTS-certified. Organic fiber brands on hand offered goods ranging from bedding to bags to an assortment of lifestyle apparel. Also onsite for the event, held at the Treehaus MiMA, a new organic



Terra Threads backpack from Gallant Intl., is Fair Trade-certified, 100% organic cotton.

café and food market, were organic farmers, retailers and industry organizations.

"You care about what you put into your body ... you should care about what you put on your body as well," said Jimmy Wedel, an organic cotton farmer from the Texas, who serves as president of the Texas Organic Cotton Marketing Cooperative (TOCMC) in Lubbock. (TOCMC farmer members produce most of the organic cotton grown in this country.) Zaroff emphasized the mainstream potential of organic product, saying to the crowd, "We are at a tipping point. It's time to make noise about organic fiber and have a cohesive voice to forge the next frontier of organic lifestyle." To help promote this effort, the pop up shop would be open to the public for a few days.

Organic **Textiles do** not contain allergenic, carcinogenic or toxic chemicals. More than 80% of U.S. households buy organic food, textiles and personal care products.

#### IN THE MARKET | COMPANY NEWS



#### **Gore Fabrics Campaign Wants** Users to Find their "Flow"

W.L. Gore & Associates' new Gore-Tex brand campaign encourages people to focus on their passions, not their gear. "People who are passionate about being outdoors are often all about getting into that state of 'flow' that's achieved when you focus your attention fully on whatever activity you most enjoy doing," says Achim Ewers zum Rode, brand leader for Gore-Tex fabrics. "Our 'Don't Think About Gore-Tex products' campaign reinforces what people already know about our brand - that you can completely trust our products."

The campaign signals Gore's effort to expand into the lifestyle market with an eye on users looking for versatile footwear and apparel with weather protection to wear for a range of activities both in the city and outdoors. To

Gore-Tex brand will explore as part of its #ThinkProject campaign that is running in conjunction with the global ad campaign "Don't Think About Gore-Tex products." illustrate this idea of the beauty of trying

new things, artists Cenci Goepel and Jens Warnecke from Lightmark, equipped with Gore-Tex gear, created light-painting pictures in Iceland by photographing moving light sources at night.

#### **Coolcore Debuts Apparel Collection**

Coolcore's inaugural direct-to-consumer clothing collection will be available starting June 1, with a second offering to follow in July. The performance apparel features Coolcore fabrics in styles that are designed for running and yoga but are wearable for a range of activities. The men's and women's tops and bottoms come in a handful of different looks from tanks and shorts to leggings and long-sleeve shirts. The proprietary thermo-regulating Coolcore fabric technology offers advanced wicking, dry-time and cooling properties.

#### Nilit America Fills Key Posts

Nilit recently announced changes to key management positions. Robert Ferree has been promoted to President, Nilit America Fibers. Ferree assumes responsibilities from Basil B. "Sonny" Walker who announced his retirement in January after eight years as Nilit America Fiber's President. Ferree joined Nilit America in 2011 as Plant Manager at the Martinsville Nylon 6.6 manufacturing facility, one of Nilit Fiber's four vertically integrated facilities globally. In 2015, he was promoted to VP Sales and Market Development with focus on growth within the critical warp knitting and weaving industry sectors. According to Boaz Roseman, Managing Director, Nilit Fiber Division, "Ferree's technical background and strategic market development skills give him the balanced, long term perspective to accelerate growth of Nilit's premium Nylon 6.6 products in the North American market."

Nilit also brought in new talent for its sales management team. Ed Gaskins joins Nilit America as Director of Sales/ Technical Support for warp knit and weaving clients in North America. Gaskins has held a variety of senior management positions in operations and marketing at leading companies including Bayer Fibers/Ashai Kasei Spandex and other textile product manufacturers.

#### A Round Up of the Latest Industry **Developments**

#### **NCTO Names Officers**

At the recent Annual Meeting of the National Council of Textile Organizations, members voted in officers for the 2017 term. South Carolina fiber manufacturing CEO William "Bill" V. McCrary Jr., was named NCTO Chairman and Georgia yarn supplier CEO Mary Moran was named NCTO Vice Chairman, McCrarv is Chairman and CEO of William Barnet and Son LLC, a synthetic fiber/ yarn/polymer firm headquartered in Spartanburg, South Carolina with plants and/or offices in the Americas, Europe, and Asia. Moran is CEO of Buhler Quality Yarns Corp., a leading fine-count yarn supplier with a manufacturing plant and its U.S. headquarters in Jefferson, Georgia.

#### TREND | DENIM

Denim with Performance Attributes Piques Consumer Interest. By Emily Walzer

## **Functionally** Fit Jeans

ccording to recent market research, jeans with performance features are capturing the attention of consumers. For example, the latest Cotton Monitor Lifestyle survey data shows that about half of all consumers plan to purchase jeans with thermal regulating (56 percent) and odor resistant (44 percent) properties in the coming year. Monitor data also reveals the popularity of: moisture wicking (36 percent), active inspired design (25 percent) and waterproof (23 percent) denim. (See chart below for details.)

While cotton remains the primary fiber for denim, synthetics that offer stretch, cooling and water repellency are being used with more regularity. This is happening in denim offerings across the board form high-end jeans to mass-market jeans with jeans alike. performance

The Monitor report provides specific examples of this trend. For instance, it states: NYDJ offers the "Future Fit" jean with compression technology for contouring, while Old Navy has its line of "Stay-White" denim technology jeans that repel stains and spills.

Multifunctional jeans

Odor resistant jeans

Thermal regulating jeans

Last summer, the New York City-based apparel brand Outlier introduced its highly durable Armalith denim, a black denim that was rated as being able to "skid on asphalt for 2.5 seconds at 100 kph."

**Bi-stretch denim** with creora Fit 2 technology offers more comfortable wear and a perfect silhouette.

features are

capturing the

attention of

consumers.

**Partners** in Fit Jeans that wick moisture away from your skin Jeans that look like sweatpants or athletic pants

#### AGE GROUP FORECAST: Types of Jeans Likely to be Purchased in the Coming Year



yosung has partnered with Prosperity Textile to introduce TRANS-FORM, a fit and comfort collection of denim fabrics featuring creora Fit2 technology. Hyosung is a leading global elastane producer with the creora brand. Prosperity Textile denim fabric manufacturer is known for providing innovation, rapid response and a wide range of products. "We know that flattering fit continues to be the most important consumer need in denim. As new technologies emerge, standards for fit are evolving. We developed this new TRANS-FORM collection as our next generation offering for more sculpted and streamlined looks," said Bart Van de Woestyne, creative director, Prosperity Textile.

Ria Stern, global marketing director, Hyosung Textiles Division, explains creora Fit2 technology was developed to meet consumer demand for second skin fit with 360-degree comfort. "The technology capitalizes on superior setting performance of creora elastane for 4-way stretch development with reduced shrinkage and better recovery."

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#### MADE IN AMERICA / WORKWEAR

A Textile Focus Transforms the Utilitarian into Something Special. By Emily Walzer

## **Bay State Modern**

hat sets the brand 1620 apart in today's contemporary workwear category is the unexpected. From the material in its product line to the music on its website video, 1620 has a unique point of view that elevates workwear essentials beyond the everyday.

Textiles play an important role in 1620's brand identity. With highly functional stretch wovens made in Massachusetts and Midwest-based garment manufacturing, 1620 puts its own spin on the Made in America story. Technical performance fabric domestically sourced and sewn is at best an emerging category, and a challenging one at that.

The company also takes an unconventional approach to design and development; the clothes sport a modern fit and an athletic DNA, drawing from outdoor, skiing, and snowboarding to bring active lifestyle functionality to



1620 founders Edward (Ted) De Innocentis, at right, and Josh Walker are passionate about making product here in the United States, including working with mills in their home turf of Massachusetts. workwear. The result is a contemporary look and feel that relates to young workers.

Indeed the sweet spot for the 1620 audience ranges from a 19 year-old fresh out of trade school on a job site to a 45 year-old experienced worker. "This is a demographic that has money, and disposable income they are willing to spend, whether that be on a truck or on tools or on boots or recreational equipment, and it matters that it is made in USA," explain 1620 founders Edward (Ted) De Innocentis and Josh Walker, who believe that the American blue-collar worker has been devalued as a consumer.

Additionally, this demographic is used to wearing performance apparel in other aspects of their lives, and now seek similar qualities in their workwear. The com-

#### What's in a Name?

**1620** is the year the Pilgrims landed on Plymouth Rock and when the Mayflower Compact was signed, shortly after construction began on Plymouth Colony. pany's marketing efforts identified, for instance, that workers spend \$300 on boots by makers like Red Wing and Mendl; \$100-\$200 on tools from Leatherman, or handmade models; and a couple of hundred dollars on performance outerwear Face and Patagonia

from brands such as The North Face and Patagonia.

These performance qualities debut in the 1620 pant offering. The Double Knee pant, for example, features 4-way stretch Tweave DuraStretch fabric, military spec construction, DWR treatment, re-enforced ankles, fully articulated knees and a total of nine pockets for a variety of uses. The Shop Pant features a lighter weight nylon/ spandex stretch fabric designed more for indoor use — auto garages, machine shops, or wood shops — yet retains the focus on functionality. Price tags for 1620 pants fall around the \$200 mark.

This level of performance, not to mention the makelocal sourcing, comes at a price, and the brand has gotten some pushback. But De Innocentis and Walker are not deterred. "We like the reaction because it means people are talking about it. As it is, consumers are forced to buy workwear that uses 100+ year-old fabric technology and is produced off-shore."

The founders are also confident that 1620 is on target; based on in-house research they project that their addressable market size is \$2.3B. They list competitors in the technical segment as Arc'teryx, Kuhl, Helly Hansen workwear, Mascot and Engelbert Strauss, but point out that there is no dominant player; together Carhartt, Dickies and Red Kap represent just 40 percent leaving a significant 60 percent open for others.

#### "Mass Produced" Gets New Meaning

Both De Innocentis and Walker have industry experience. De Innocentis helped launch a number of brands while living in Mainland China and working at manufacturing giant KTC, an international leader in textiles. Walker was a founding member of action sport helmet brand Bern Unlimited, responsible for marketing and branding for the last 12 years.

"My China experience shaped how we want to take 1620 forward," explains De Innocentis, whose five-year stint there included working with brands Arc'teryx, Mammut and Norrona among others. "I got a real textile education. I learned best practices of those leading brands including sourcing, sustainability and lean development. I got my 10,000 hours in."

Walker executes the marketing and branding and he brings a strong textile point of view to the messaging. From the soulful music to the photos of old textile mills, 1620's online presentation creates an emotional connection that centers on the heritage of factory work in Massachusetts, and across the American landscape. Also as a Direct-to-Consumer brand, "We can tell the story we want to tell," says Walker.

Bringing their experience, and a supplier base, back to their home state of Massachusetts was important to both Walker and De Innocentis. That effort connected 1620 with Tweave, a stretch wovens specialist located in Norton, MA (see below for more on Tweave). But the founders learned they would need to stretch their search for suppliers outside the Bay State to create what they wanted. Cordura, Polartec, YKK and 3M are also 1620 suppliers. Production facilities in Texas and LA are being tapped for a new line of shirts.

"Everyone manufacturing in America wants it to come back," says De Innocentis. "They don't want to close their factories and they are always looking for new ways to sell products and are open to new ideas." However, it is often the case that price point demands takes domestic production off the table. Still, 1620's "best in class" approach and DTC model makes U.S. production viable. De Innocentis, states, "We think the American worker cares a lot about buying American and buying local, and we're sourcing in the USA bringing technical stretch wovens to the workwear category which no one else has done." • **BY THE NUMBERS** 

\$10.2**B** 

Projected total size of the North America workwear market in 2017.

#### **21M**

Number of U.S. workers between ages 25-54 working in natural resources, construction, maintenance, production, transportation, and material moving occupations (U.S. Department of Labor 10/16).

#### **598M**

Number of workwear garments sold in North America in 2014.

## **New England Know How**

How a Pioneer in Stretch Wovens Stays Contemporary

WHEN MARY REARDON BEGAN her career at Tweave almost 20 years ago, the primary business of the Massachusetts-based mill was women's foundation garments and Playtex girdles were a hot seller. Nowadays Tweave serves an array of industries with a close eye on emerging markets all the while staying true to the company's roots as a stretch wovens specialist.

"We look to see how our fabrics can have meaning in different markets and also consider how we can adapt the fabrics we have to today's market needs," explains Reardon, VP sales and marketing. "Diversification has become our corporate mantra."

Tweave has consistently built strong representation in military, tactical, sports/athletics and outdoor markets. Medical and industrial are other areas Tweave is exploring. During a recent tour of the Norton, MA facility, apparel from Beyond Clothing, Mission Workshop and Wild Things along with a variety of other styles were on view in the company's showroom.

"We make a unique textile, and are lucky to have a unique product that keeps us going," says Reardon, who explains that the company, established in 1951, originated stretch in two directions. Indeed, the name "Tweave" comes from "two weaves."

The New England firm also keeps

current when it comes to equipment and textile technologies. While touring the weave room, one longtime Tweave associate quipped, "I've seen it go from ancient to modern." In the last 15 years, the factory has been totally re-done.

Broadening the product line is top of mind. "We knew lightweight was important so that has been a focus on product development," Reardon points out. The company has also received positive feedback on the new double weave product that has a rugged face with soft backing. "This (material) is prevalent overseas and we think it will come this way. We look to grow the category," explains Reardon.

Gehring Textiles bought Tweave in 2008. The new owner is adamant about diversity, believing one industry shouldn't represent more than 20 percent of the overall. "As we've morphed into Gehring, we follow this diversified portfolio approach," says Reardon, making the point that Gehring sees the value in R&D investment.

Tweave's dying and finishing has re-located to a Gehring facility in upstate New York, and "Gehring does a great job" states Reardon. Recent capital investment has gone toward the purchase of two new looms for the Norton facility.

While Tweave has succeeded as other New England mills have faltered, Reardon admits challenges remain. "There just aren't that many



Yarns being spooled after the yarn covering process at Tweave's Norton, MA facility.

choices and so prices are high. There is only one spandex supplier domestically. Finding technical expertise is also challenging."

Executives from workwear brand 1620 contacted Reardon when configuring its USA supply chain. "They wanted to do a New England supply chain, but it now has broadened to being USA-made," says Reardon.

Reardon reports that Tweave is getting more and more inquiries of domestic production and she feels a resurgence of domestic product. "We try to support and help start-ups and make concessions regarding smaller runs, etc. We want to save our industry. But we also have to be smart about it."

# performance on demand

#### How the Latest Innovations in Fiber, Yarns & Wearables Level Up Functionality

Textile specialists are digging deep to find new ways to enhance performance. One area in particular that has material suppliers excited is the ability to engineer structural changes in fiber and yarn construction to achieve new levels of functionality. Be on the lookout for the phrase "tunability" as textile insiders believe this concept is key to elevating performance efficiency and effectiveness going forward. Wearables is another category to watch. Let's face it, no one really wants to wear a t-shirt with a chunky battery attached. Nor do we yearn for \$2,000 one-of-kind dresses wired with blinking lights. Thankfully, significant progress is being made on the wearable apparel front as expensive, niche, artisan products and activewear design misfires give way to clothes with lifestyle good looks and everyday wearability. Here, we focus on 2017 performance trends and shed light on what's coming next.

#### **Cross Section Creativity**

Complex cross section shapes in conjunction with innovations in yarn componentry are ushering in the next generation of performance fabrics. The latest offerings provide heightened functionality not previously achieved in lightweight, feel-good fabrics that brands and consumers are demanding today.

Unifi's new XS collection is a prime example of this contemporary trend. The underlying concept is how the shape of the individual filament can impact the function of the textile. What was once only round, can now be a variety of shapes depending on the desired outcome. When these modified yarns are used along with round filament yarns the results go beyond the norm.

The XS technology adds significant surface area that yields a roster of benefits, most notable for apparel applications are advanced wicking, accelerated dry time, better coverage and aesthetic features including a soft hand. Some of the combinations also work with tonal heathers and luster variations. Using Repreve yarns is also an option if sustainability is a desired factor.

"XS supports demand for lightweight, high-performance fabrics," says Jay Hertwig, VP global brand sales, marketing and product development, Unifi. The challenge for brands is that a lightweight, three-ounce circular knit fabric, for instance, gets sheer. Hertwig explains, "The modified yarns have a larger surface area and as such provide more coverage. The fabric is still lightweight but not as sheer as round filament yarns. If you compare a regular round shape 70-denier yarn with a modified XS yarn you can see the difference, especially when wet from sweat."

By strategically placing XS modified yarns within the fabric, performance can be customized and accentuated. How you use it, and where you use it, is what's become known as "tunability."

"I think tunability is the wave of the future, as the desire for newness in the marketplace continues, and as consumers and



## performance on demand

brands want something new every season, not just every year," says Hertwig. With XS, Unifi is able to identify performance and/or improve the technology based off the ability to switch components accordingly. "This allows quicker innovation and changes in textile materials," Hertwig adds.

Unifi is also involved with cutting edge technology on the manufacturing front. Following the introduction of Avra Performance Fibers last August, Eastman Chemical Company is expanding its production capacity for the product and the additional capacity will be at the Unifi's Yadkinville, NC manufacturing facility. Says Dawn Allen, Eastman business director, "This capacity will be used to satisfy current and anticipated demand in the North American performance apparel market."

Eastman's now large-scale production of Avra reflects brands' interest in offering products that feature escalating levels of functionality in fabrics with aesthetic attributes as well.

Avra's ultra-thin polyester fibers are extruded and held together by a proprietary removable polymer. The bicomponent fibers can be knit or woven into fabrics on conventional mill equipment. Once the fabric is made, the removable polymer completely washes away in hot water, resulting in ribbon-like fibers that are smaller than traditional fibers. The result is a distinctly silky fabric with advanced moisture management and comfort properties.

Eastman views Avra as a step change. The tech-



Eastman fibers provide 4x more denier per filament (dpf) area than traditional round microfibers to offer a substantial increase in fabric surface area.

nology is new, but the size and shape of the fiber is also new and is linked to the technology. "We launched our first commercial Avra product in August – a small flat fiber developed for base layer applications. But that only scratches the surface of what this technology can do," says Eastman VP Tim Dell. "The fiber technology enables the production of fabrics with unique combinations of performance and feel that are also desired in other textile applications. We can tune the size and shape of the fiber, which provides a great deal of design versatility in other applications."

#### Synthetic and Natural Newness

Makers of synthetic insulations are also focusing on fiber structure as a means to advance the function and feel of featherless products. PrimaLoft's upcoming Fall 2017 product, for example, uses a fiber technology to create an insulation that most closely mimics down.

Mike Joyce, PrimaLoft president and CEO explains: "We developed PrimaLoft Black Insulation ThermoPlume to meet the growing demand for innovation from designers, brands and consumers looking to move away from down, without sacrificing performance and style features. We were able to change the structure of the fiber itself, maximizing aerodynamic properties to create the highest performing blowable synthetic insulation - a solution that acts as a true replacement for down. The blowable structure replicates down's performance, design aesthetic and traditional manufacturing

## wearable intelligent innovation



xecs in the field of smart fabrics are optimistic about a new era of wearables innovation matched with commercial viability. In a presentation earlier this year Manufacture NYC CEO Bob Bland stated that wearables are projected to be a \$70B market by 2024. She

attributed the growth to two main factors: increased ability to customize the technology to user applications, and advances in materials science allowing for a higher level of comfort.

"There aren't many companies that don't have aspirations to be in this space," comments Joel Furey, chief commercial officer, Noble Biomaterials, adding, "We try to make it easy to find a path to commercialization, and in general that path is clearing for smart fabric apparel wearables."

While the issue of hard batteries remains,



execs report big growth in the area of soft circuitry. "Batteries are getting more powerful and smaller. And electronics are getting less power hungry and rapidly more sophisticated," says Furey.

"Soft circuitry for textiles is needed," comments Bland. "Circuits need to be flexible and washable. Textiles with circuits 'etched' into the fabric are another area."

Integrating electronics into apparel has been fraught with manufacturing challenges, however, Furey believes that a new "apparel first" platform will diminish production woes and create wearables that feature comfort, durability and "use-ability." "It should be design first, then electronics, or at the very least design and conductivity in concert during development," explains Furey.

To his point, Noble Biomaterials has collaborated with Bemis Associates to develop a seamless, conductive advanced material that allows for simple and durable integration of electronics into apparel. This fully bonded, conductive material process. PrimaLoft Black Insulation ThermoPlume simplifies the supply chain, combats the volatility of down prices and provides piece of mind when it comes to the ethical sourcing of materials."

When manufactured, the small, silky tufts of fiber plumes collectively form a loose-fill insulation, replicating the lightweight warmth, softness and compressibility of natural goose down. Montane, in addition to a handful of other outdoor brands, are adopting the new technology for F/W17.

Natural fibers are also getting futuristic. Ecco, for example, is bringing to market a new kind of

performance leather. Called Apparition, the soft, transparent cow-skin leather is pliable, strong, and protects from water.

According to the company, a small team of innovators within Ecco leather worked for three years studying old Egyptian and Greek tanning techniques. By combining these with modern industrial applications they reached a break through.

Says Sruli Recht, creative director and lead of the Ecco Leather project, "Apparition came out of the challenge of rethinking leather aesthetics in terms of both visual and touch properties." The goal, said Recht, would be creating a futuristic material that still maintains the properties that we know, love, and require from leather. "Our aim was to identify concrete ways we could combine our deep tanning experience with the significant horsepower of our state-of-the-art R&D facility in the Netherlands to push the technology forward, solving practical issues that have eluded the industry up-to-now like lasting pliability and the ability to get wet."

Apparition is available in a range of colors, and intended for application in anything from bags to shoes and from jackets to shirts.



is engineered with Noble's Circuitex technology and provides for the detection, transmission and protection of electronic signals in a soft and flexible format. Its unique construction provides designers with complete freedom to design smart garments with integrated stretch and durability using Bemis Sewfree Bonding. The product incorporating this new technology is in final prototype stage, according to Furey.

#### What's New, What's Next:

"There are a lot of smart products in the market now, and a lot of amazing companies with a vast product pipeline that are starting to bring smart fabrics and smart apparel products to the sports and fitness and even medical type applications," says James Eakin, Ph.D., chief marketing officer, director, U.S. operations for Xenoma, a Japanesebased company of which e-skin, a smart textile for apparel, is a business division.

"Image if you could improve your golf swing on any course at any time simply by wearing a shirt. That's what our vision is," says Eakin, "I think what we bring to market is an infrastructure to enable a number of sensors to communicate through the shirt with stretchable electronics." Eakin makes the point that it has to look and feel like a regular shirt. With e-skin all the sensors and electronics are on the outside of the shirt, so the user doesn't feel wires or sensors in direct contact with the skin. "If you look at the shirt on the inside, it looks and feels like a regular shirt," Eakin explains.

Florian Miguet, CEO, Clim8, a French company advancing "wearable warmth" for active apparel, likens what's happening in smart textiles with the auto industry of the 1980s. "When cars began implementing electronics and sensors into their engines, that one industrious idea drastically improved reliability, fuel efficiency, and engine lifecycles," says Miguet in commentary on Clim8's website. He explains that he and his team understood they had to implement electronics, digital experience and edge textile construction into everyday garments. "By doing so, we'd not only improve people's comfort, but automatically improve their ability to perform better in lessthan-ideal climates."

Bland believes combining traditional manufacturing with innovative industrial machines and processes is what's next in wearables, along with digital fabrication – 3D modeling, 3D knitting and digital textile printing. She says Manufacture NY is partnering with the NFL on creating a jersey that football fans can wear that allows "you to feel the game" as you're watching. This type of innovation is based on haptic feedback, aka "haptics," which is the use of touch feedback to the end user.

With developers looking to make smart textile apparel softer, more comfortable and versatile for lifestyle, the category is starting to mirror other types of clothing.

"I think we are just starting to scratch the surface in what's possible with smart fabric apparel," says Eakin. •

## industrial designer TRENDINSIGHT

he charts shown on this page represent direct feedback from industrial designers who are in the trenches when it comes to sourcing textiles for leading edge product development. On the topic of Performance, responses were particularly revealing. For example, comfort features surpass weather protection in importance, and designers are equally open-minded about using branded or unbranded ingredient products. However, what really stands out is designers' interest in sustainability. When asked about choosing a durable water repellency product — "do you consider new eco-friendly chemistry comparable performancewise to traditional DWRs?"— a whopping 76 percent responded "yes." A desire for innovation at the fiber level is also of strong. According

to survey results this ranks higher than investment in new coatings and treatments as well as yarn developments.

Trend Insight Industrial Designer is a new feature within Textile Insight that delivers research conducted on the MESH1 Platform. MESH1 collects data from a select panel of 100 industrial designers. For information on the Mesh1 Platform and its industrial design community of 10,000+, contact Brian Bednarek at 603-766-0957 or brian.bednarek@mesh01.com. For more information on Trend Insight Industrial Designer and how your company can participate, contact Jeff Nott at 516-305-4711 or jnott@formula4media.com.

#### Which word most closely aligns with how you describe a performance textile?



What property is a must-have in today's performance fabrics?



#### How important is a branded ingredient in choosing a performance textile?



Do you believe that branded ingredient technologies are generally higher-quality products than unbranded products?



Is 3rd party certification a major factor or consideration when deciding whether or not to source a performance material?



When choosing a durable water repellency product, do you consider new eco-friendly chemistry comparable performance-wise to traditional DWRs?



#### **Carpe**Trendem<sup>®</sup>



What performance property are you focused on currently?



How soon will performance textiles feature useful wearable technologies?



How would you grade textile companies' efforts when it comes to educating designers on performance materials?



Do you believe you "get what you pay for" with today's performance products?



How much more are you willing to pay for a performance textile?



What area of performance do you think textile companies should invest in?



#### TRENDSETTER | MATERIALSMOVE

Linda Keppinger Connects the Dots in the Supply Chain with MaterialsMove. By Suzanne Blecher

## **Material Connection**

fter 20 years at Nike as Global Materials Director, Linda Keppinger is bringing her knowledge of materials innovation, sustainability and design to the greater apparel community. Her passion for textiles stems from her grandmother; she worked in the millinery trade and taught Keppinger how to sew. "My grandmother's act of sharing is a reflection of this industry, which is so much about inspiring and learning from each other," said Keppinger. As CEO and founder of MaterialsMove, Keppinger is currently focusing on enhancing communication between designers/brands and mills. Here Keppinger gives *Textile Insigh*t a peek into her process.

#### What types of services do you provide?

"My consulting business focuses on materials research, innovation and concept development sourcing recommendations; as well as partnering with mills on material and trend research, materials merchandising and palettes

to provide clear representation of the mills' capabilities to brands."

#### How do you work with mills?

"I work with mills that are based in Asia to present their capabilities the best. I do this through a storytelling approach because I find that the Asian culture is more about doing what's requested. What I'm doing is sharing their perspective and explaining what they have the capability of doing. I do this in the context of seasonal trend direction. For example, I have a client in Asia that is a woven supplier. I worked with them to put together a presentation for Spring 2019 around the idea of light weight. So I do research on innovation, trend research and biomimicry and come up with a few themes for them. Then they present their fabrics to customers

using storytelling as a background. I really saw that a lot of mills couldn't explain what they could do. This gives pictures and language without having to talk about it too much. It's really a lot of fun."

#### Why is storytelling so important today?

"Consumers long to hear stories as a way to connect and feel like they're making a difference through their actions and purchases. Storytelling offers hope and possibilities, and a way for brands to connect more deeply with consumers. Materials are an avenue to tell this story, and offer a voice for brands to deliver through performance, sustainability or trends components of the material. The partnership between Adidas and Parley to make products made from reclaimed plastic bottles from the ocean is an excellent example of organizations coming together to share their commitment to the environment with storytelling."

#### What inspires you?

"Whether traveling abroad or in day-to-day life, I'm always in search of unique colors, textures or ideas from culture, nature or architectural elements as inspiration. I always

"I'm always in search of unique colors, textures or ideas from culture, nature or architectural elements." have my camera with me so I can return to my photography, which offers a creative source of inspiration and signifies the curiosity that is at the center of my work. I am very inspired by the work of Nigerian artist El Anatsui. His piece entitled 'Between Earth and Heaven' is made from reclaimed aluminum, wire and plastic disks. The piece is constructed in a way that refers to the West African traditions of strip-woven textiles

namely kente cloth. It is a work that honors local traditions and makes reference to the history of the slave trade."

#### What are some of your favorite materials right now?

"What I find interesting in materials today are those that perform various uses for consumers – for both performance and lifestyle. Consumers appreciate performance materials and have the desire to wear them beyond just their workout. DuPont's Sorona knits crossover for both performance and lifestyle use with an amazing aesthetic and bio-based sustainability solution. Some items are single polymer, that also offer a circular economy solution (instead of throwing something away, you take the fibers back and make them into a higher or equal value product). Functional textile supplier Aesthetictex captures market trends and translates them into unique performance solutions including engineered jacquards, printed warps, unique weave constructions, as well as color and finish effects."

#### What should brands and designers be focusing on?

"On collaboration and partnerships as a means for driving meaningful change in the industry. We've seen tremendous momentum taking place in the outdoor industry with the use of the Higg Index — the self-assessment standard to measure environmental and social sustainability throughout the supply chain, and empowers brands, retailers and suppliers to identify and drive improvement.

For myself, I look to support the revitalization of the textile industry in the U.S. and specifically to promote the Pacific Northwest, and expand my public speaking to inspire young female leaders. I like to offer a story of hope and inspiration and motivating people."



Right: Linda Keppinger. Left: Aesthetictex Woven Jacquard

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#### IN THE STUDIO | FOOTWEAR

Double

Play

Hari Mari x Nokona Marries Two American Treasures: Baseball & Flip Flops. By Suzanne Blecher

Hari Mari x Nokona

leather flip flops.

eremy Stewart grew up playing baseball. Even now, the exec recalls the handmade, American gloves that a couple of kids wore on the field. "All of the other kids would be drooling over these gloves," says the founder of Hari Mari footwear. Crafted of premium leather, Nokona gloves were - and are - lightweight and require minimal break-in. Fast-forward 25 years, and finally

Jeremy Stewart and wife Lila Stewart founded Hari Mari in 2012 with dreams of improving children's lives. One percent of company sales goes toward support of kids battling cancer.



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Stewart got his glove, thanks to the firm's newest collaboration. Established in 1926 in Nocona, TX and worn by major leagu-

ers including Nolan Ryan and Tyler Saladino, Nokona gloves are renowned for their durability. The city of Nocona, which is about 100 miles from Hari Mari's Dallas headquarters, is a leather goods hub. Long ago, the locale served as a stopping point for cowboys bringing cattle from Texas to Kansas City, MO. Many cowboys would get fitted for boots going north, then pick them up on their way back south. While the community's origins were in wallets and handbags, the Great Depression had a big impact on business.

> Thankfully around the same time, baseball was evolving as America's pastime, and there was a new need for premium leather gloves. As back then, each glove is still handcrafted. Nokona's full-grain, American-made mitts (the firm works with Horween Leather, Siedel Tanning, Law Tanning and Thiele Tanning) are often passed between generations. "It's a heritage brand and something every kids wants," comments Stewart.

> Marrying Nokona's soft glove leather with Hari Mari's comfort-driven flip flops seemed like a natural fit from the get-go, according to Stewart. The \$110 men's flip flop (women's and youth are a future possibility) is available in three classic leather options and

carry Nokona's iconic chief head logo. "The collaboration is an opportunity for us to showcase our leather in a product outside of ball gloves that is fun and any baseball fan can appreciate," says Jeff Beraznik, chief executive of Nokona. Beyond opening a door into footwear, the collaboration with a younger Hari Mari, "allows us to be a part of a new product offering that we otherwise would not consider on our own," the exec notes.

Featured in the Nokona collaboration, as well as in all of Hari Mari's flip flops, lies its differentiator, the Memory Foam Toe. The post "gently grips toes and eliminates break-in," according to the brand's site. "That piece between first and second toes that bites your toe, it can require a break-in period. But we mitigate that and our shoes are super comfortable out of the box," says Stewart.

With a high-tech twist, each Hari Mari x Nokona pair features a near field communications chip embedded into the midsole for "tasteful communications" The exec notes that when a consumer tries on the flip flops, about 80 percent of the time, it converts to a sale. Other flip flops from the firm are crafted of smooth Nubuck and water-friendly nylon.

The Hari Mari x Nokona flip flops feature jersey-lined stitch and turn straps to keep feet cool, soft memory foam-filled straps, firm arch support, soft squeeze midsole and a non-marking outsole. "They aren't going to fall apart in six months. They will last six

to 10 years," notes Stewart. One percent of all sales for all of the company's flip flops goes to support kids battling cancer. With philanthropy close to their hearts, Jeremy and wife Lila founded Hari Mari in 2012 with dreams of improving children's lives.

With a high-tech twist, each Hari Mari x Nokona pair features a near field communications chip embedded into the midsole for "tasteful communications" from Hari Mari. Simply, the consumer holds their phone up to the sandal and the chip picks up proximity, prompting the user to download Hari Mari's app in return for free lifetime shipping and exclusives on upcoming collaborations. The process is explained via a sticker on the shoe. The CRM technology is owned by Prova Group, which is owned by former Dallas Cowboy star Emmitt Smith. The Smartag NFC chip is embedded in all Cowboy game-worn jerseys and helmets for authentication purposes. "We can communicate with online buyers through social media, but it's harder with brick and mortar," notes Stewart. Now in beta testing with Hari Mari, the chip can change that dynamic.

#### **EDUCATION | FINLAND**

Bio-Based Research Results in Yarn Made from Spruce and Pine Fibers. By Kathlyn Swantko

## **Eco Textiles Efforts**

TT Technical Research Centre of Finland Ltd., is advancing the success of bio-based research with its innovative wood fiber Spinnova Yarn technology. The sustainable Spinnova method develops yarn filaments directly from wood fibers, and is now producing bio-based finished apparel from spruce and pine fibers without the need for chemical processing.

The VTT Technical Research Centre is the leading research services organization in the Nordic countries, and has a national mandate in Finland. VTT uses its technical knowledge to provide expertise for domestic and international customers in both the private and public sectors. Its research solutions provide a competitive edge that paves the way for future smart technologies, like Spinnova Yarn, to partners all over the world.

**For More Information** T Technical, Finland nne Poranen, CEO, innova: janne.

anen@spinnova.fi, -400-138-711.

"The original idea for Spinnova Yarn dates back to 2011 when Juha Salmela, Spinnova co-founder and CTO, attended a spider silk presentation at Oxford University," explains Janne Poranen, Spinnova co-founder and CEO. "The seminar was focused on the way spiders spin their silk, and the similarities between spider silk protein and nano-fibrillated cellulose."

Salmela, whose background at VTT was in Finland's

pulp and paper research, came up with the idea to combine papermaking and nano-cellulose rheological properties (the deformation and flow of matter) to start producing yarns directly from wood fibers, just like spiders spin their silk. Poranen, who at the time worked as a research manager at VTT, joined Salmela in starting a new company, Spinnova Ltd.

#### The Technology

"Our technology uses the same raw material, pulp fibers, that are used for paper making," says Poranen. "The pulp is refined to fibillate (split up into fibrils) the fibers and rheology of the water-fiber suspension is adjusted so the long wood fibers can go through small nozzles without clogging the holes."

Inside the nozzle, the fibers are oriented with the flow. As the yarn dries, strong chemical bonds between the fibers hold the yarn together. The Spinnova technology uses no dissolution chemicals to dissolve wood fibers to polymers, and then regenerate them back to cellulosic fibers. Poranen notes, "In our



technology, all the good properties that nature has created in wood fibers are used as the building blocks for the Spinnova Yarn."

During testing, the Spinnova Yarn is evaluated for normal tensile strength, dye susceptibility, fire-retardancy, water absorption, abrasion-resistance, wash durability, and the yarn's bend strength before and after washing. Test results vary depending on the type of yarn produced. The Spinnova Yarn production can range from 1dTex fiber to a 30 Tex monofilament.

Spinnova Yarn production is cost-effective and provides other major environmental benefits. Spinnova is 100 percent recyclable,

uses 99.5 percent less water and 80 percent less energy than cotton production, and is 60 percent cheaper than cotton.

#### **Spinnova Applications**

Currently, Spinnova owns five international patents. Along with its Finnish partner, Melli EcoDesign, an infant apparel manufacturer, Spinnova is producing test t-shirts as its first application, which is receiving very positive feedback. Future Spinnova applications will focus on home textiles and technical textiles. An important driver for these applications is the natural fire-retardant quality of the Spinnova Yarn. The company is also developing soft and strong fibers, which can be used for other apparel products and may advance other applications.

"Our Spinnova Yarn has very interesting and controllable water-absorption properties, which may open several opportunities in medical applications," states Poranen. "Bio-degradable composites are another possible use, and we are also developing non-woven applications."

The long-term goal for Spinnova is to obtain financing to scale production to 300 tons annual capacity. Poranen states, "We want Spinnova Yarn to be truly sustainable globally as a cost-competitive alternative to cotton and oil-based yarns. We are looking for industrial partners to join this development." •

Kathlyn Swantko, president of the FabricLink Network, created TheTechnicalCenter.com for Industry networking and marketing of specialty textiles, and FabricLink.com for consumer education involving everything fabric.

## The FabricLink Network

How will they find you, if you're not there?



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#### TECHNOLOGY | SUSTAINABILITY

Finding Traction in a PFC-Free World One Step at a Time.

## Profile in Perseverance

olger & O'Hearn, a Massachusetts-based specialty chemical supply company had good reason to be optimistic about its latest innovation, an advanced environmentally-friendly fluorine free water repellent, especially considering the escalating buzz surrounding the need for eco-alternatives in the performance textiles market, and deadline pressure on outdoor brands to eliminate not just C-8 products for sustainable options, but tension surrounding C-6 chemistry, too. However, instituting change in the textile world is no simple flip of a switch.

Consider that Bolger & O'Hearn's Altpel F3 PFC-free DWR product was introduced in 2014. In the three years hence, Bolger & O'Hearn has systematically checked off a series of requirements for market acceptance: A product priced right that performs well; agents in place for Asia manufacturing; bluesign system partnership; important industry connections; and good conversations with leading brands with follow up including sampling.

"We felt we had a premium product that the market is demanding. We were at shows and people would be coming up to us asking about the product. They were interested," Shawn Honeycutt, sales manager, told us during a recent interview at Bolger & O'Hearn's Fall River, MA offices. "We've been at the doorstep a number of times."

And yet, the long, winding road to success continued. Along the way, Bolger & O'Hearn, which has a

portfolio of chemistries for diverse markets, has added technical staff, invested in new equipment, consulted with fabric tech specialists, partnered with outdoor specialist Concept III, and obtained influential third party certification.

Honeycutt estimates that efforts regarding F3 have been in the ballpark of 1M – a significant investment for a company of Bolger's size. "It's a lot of work, and acceptance takes a while in the outdoor industry in particular," explains Honeycutt. "There's more testing, and triple checking, as brands want it to be right. We've learned it's about a five year cycle."

#### Here's the Backstory

"Looking back at it now, it is sort of amazing that Dick's was the brand that got the ball rolling," comments Honeycutt. This was three years ago and the sporting goods retailer was sensing the trend. Bolger & O'Hearn had worked with Dick's on the development of an antimicrobial, and impressed by the technology and the quick turnaround, Dick's continued the relationship asking Bolger about a PFC-free product. Frank Keohan, an applied polymer scientist hired in 2012, who had developed Bolger's Odor Armor antimicrobial, turned his attention to PFC-free chemistry and the development of F3.

"Dick's is saying 'ok, we need containers in Asia next month,' and we were trying to line up the raw materials and then orders never materialized," Honeycutt explains.

However, in retrospect there was a bright side: "As soon

Instituting change in the textile world is no simple flip of a switch. as we developed F3, we could see a bigger need for this. This put us in the game. F3 was out on the market well before others. We outperformed what was out there, and especially in durability," Honeycutt states.

Talks continued over the next two years with all the big players, the likes of Timberland, Adidas and Patagonia, and Bolger focused on the outdoor market as that seemed the best fit—there was a lot of talk about PFC-free.

Polartec was the first major brand to come on board, with grand plans for using F3. Honeycutt recalls that Poltertec wanted to turn its Lawrence, MA plant into 100 percent PFC-Free. "We couldn't have been more excited," recalls Honeycutt. And then upheaval at Polartec shifted business away from Lawrence.

Here again, a silver lining; Polartec was the impetus to gaining bluesign approval, and was a conduit to Concept III and then Hohenstein. Results of the extensive testing by Hohenstein Institutes validated F3 as a very durable finish.

#### An Insider's View of Market Acceptance

"We have learned that brands can specify, but then they are loath to go through with it," Honeycutt explains. "There is a lot of interest in benchmarking of PFC-free products in general. We have a great product and the interest is there, so it's very frustrating."

Some believe that until there is a mandate to use PFCfree, brands will wait to switch from C-6. That was the case with a 2015 deadline to remove C-8 from the marketplace. The year 2020 is often cited as a deadline to be rid of C-6, however, the general feeling is to wait it out and see what happens. Others say that without consumer clamor for an eco product, brands will hold off.

Hohenstein's Dr. Jan Beringer, Head of Development, Department of Function and Care, explains that brands and



consumers are used to the performance of C-8 chemistry and to attain that level in a PFC-free product takes time. He has been testing PFC-free products since 2014-2015 and observed consistent improvement. However, he mentions that the pull from the USA market is not that strong yet for PFC-free. "I feel that brands are on a kind of 'stand by' position waiting on the right pull from the marketplace."

Honeycutt agrees, stating, "Until brands are up against

the wall, PFC-free will sit on the shelf."

In the meantime, Bolger is working diligently on a Gen 2 product and is dedicated to coming up with new ideas. "We have four chemists here, with about 100 years combined experience, a full lab and manufacturing facility. We feel we can handle just about any brand's request for water and stain repellence particularly in the high end," says Honeycutt.

#### TECHNOLOGY | ECO NEWS

#### DownTek Partners in Debut of Sustainable-Treated Product

DownTek ZeroPFC is headed to store shelves in partnership with Enlightened Equipment. ZeroPFC is a naturally-applied PFC-free



DownTek ZeroPFC is featured in this Revelation Camo sleep system by Enlightened Equipment.

DownTek. Sustainable Down Source is the Cincinnatibased parent company of DownTek; Enlightened Equipment will use DownTek ZeroPFC throughout its entire down product line, a range of premium, ultra lightweight sleep systems, including quilts and sleeping bags. Instead of perfluorocarbons, DownTek ZeroPFC uses lipids - an idea derived from nature - to coat the down and render it highly waterrepellent. "This technology was designed around the trend-setting environmental demands coming out of Europe," said Daniel Guigui, president, DownTek. "As it turns out, a boutique, handmade company from Winona, Minnesota is first to market with it. The brand name fits; they are truly enlightened."

version of high-performance

#### A&E Launches Repreve Recycled Core Spun Sewing Thread

American & Efird (A&E) has engineered a new eco-friendly, performance sewing thread option for environmentally conscious customers. Called Perma Core, the thread features Unifi's Repreve product. It combines a recycled continuous filament polyester core and A&E's

signature polyester staple wrap. Chris Alt, A&E's SVP global sales, explained, "Perma Core using Repreve is extremely versatile. It can be dyed, finished and delivered from any of A&E's global manufacturing locations and is available across A&E's global color range. The portability of this product is important to our global customers and prospects that are already incorporating Repreve fabrics into their products, allowing them to complete

their sustainability efforts in a cost-efficient way, no matter where in the world they place their sewing production."

Jay Hertwig, VP global brand sales, marketing and product development for Unifi, added, "At Unifi, we're dedicated to providing a transparent recycled product through our U Trust program with Fiberprint technology, which verifies products contain Repreve in the right amounts." •

#### **Got GOTS**

THE NUMBER OF FACILITIES CERTIFIED TO THE GLOBAL ORGANIC TEXTILE Standard (GOTS) demonstrated a substantial increase, from 3,814 facilities in 2015 to 4,642 facilities in 2016. GOTS certified facilities are now located in 63 countries around the world. Growth is continuously, evenly spread across all market segments including the mass market and the big brands. GOTS certification covers the processing of organic fibers along the entire supply chain from field to finished product. Countries or regions with the largest increase in GOTS certification in 2016 are (in rank order): Bangladesh (+121), China (+68), Italy (+54), Germany (+41); India (+47) and Pakistan (+30). To date the 18 GOTS accredited independent Certification Bodies report more than 1.4 million people in 4,354 (out of the actual 4,642) working in GOTS certified facilities. The number of GOTS certified companies in North America continues to grow each year. Currently there are six companies in Canada and 54 in the U.S. The GOTS Representative in North America, Lori Wyman, is focusing her work this year on retailer education regarding screening for current GOTS certification and proper labeling. •

Visit: ota.com/advocacy/fiber-and-textiles or global-standard.org.

#### FOOTWEAR | MATERIALS

Firms Looking for Sustainable Outsoles Have No-Compromise Options. By Jennifer Ernst Beaudry

# **Green's Gold Standard**





hoe firms seeking sustainable materials is nothing new; increasing recycled content, promoting organic sources and generally improving the cradle-to-grave (or cradleto-cradle, for the ambitious) impact of footwear is a pursuit that's driven a number of brands for years. But the prevailing story is almost always one of compromise — fewer options, less performance, more money. The latest materials, however, of-

fer advanced environmental characteristics and challenge conventional wisdom. The more expensive, less-technical options that let brands check a "green" box in the past are giving way to new midsole and outsoling materials that compete on their own merits.

#### Reebok

For Bill McInnis, Head of Future for Canton, MA-based Reebok, the Cotton + Corn initiative that will launch footwear made "from things that grow" for Fall '17, is the culmination of five years of research and work. "It's a long time coming," he said.

The as-yet-unrevealed first shoe will have an organic cotton upper, but the real innovation is in the midsole-outsole. Made with Susterra propanediol, a polyurethane ingredient made from corn, the material, a building block in the manufacture of polyurethanes, is renewably sourced and USDA certified bio-based. And according to manufacturer DuPont Tate & Lyle, it generates 50 percent fewer greenhouse gas emissions over its lifetime than the petroleum-based alternatives.

McInnis said discovering Susterra was a game-changer for renewability. "There's other bio-based materials out there like cork, but they didn't hold up the way we wanted. This felt like materials people are used to, has the traction and durability that people want, and we can shape it into shapes that are recognizable," McInnis said. "This was the first one that really checked all the boxes."

Laurie Kronenberg, global marketing director for DuPont Tate & Lyle Bio Products Co., said that the partnership with Reebok has been a transformative one. "Reebok's Future team had such a vision — I don't think we've ever worked with a faster brand," she said. "They pushed us to incredible levels of bio-based content, levels we've never reached before."

The PU formulation with Susterra that Reebok will debut in its initial shoe will be proprietary to the brand, and will be meant for lifestyle use. "This generation is closer to rubber — going forward, we'll keep adding

Bloom Foam can be foamed and injection molded and used in insoles, midsoles or outsoles, even at high concentrations — up to 20 or even 25 percent algae.

to the menu of materials," McInnis said.

That menu could be a long one.

According to Kronenberg, as an ingredient in any TPU or PU material, Susterra can be "the coating on the synthetic leather, a durable coating on a natural leather, the sole, midsole, insole, we can be in the bio-based membrane, in durable water-

"We see this as a pretty rich story with a lot of legs there's a long path to it." Bill McInnis, Head of Future, Reebok proof coating, adhesives and the little TPU logos on heel tabs and tongues."

And a key advantage? Per Kronenberg, the energy return or responsiveness from foams made with Susterra is higher than without it. "We're better," she said.

The Reebok shoe will launch in fall over Reebok's direct-to-consumer channels. There's a small cost premium for the product (as there often is on new material launches), McInnis said, so the DTC route will keep costs down.

And the brand will work on not only growing the line, but also creating a plan to compost the shoes post-use, ideally using that composted soil to grow the batch of ingredients. "We see this as a pretty rich story with a lot of legs — there's a long path to it," McInnis said.

#### **Bloom Foam**

Bloom Foam's Mike Van Drunen wasn't looking to go into footwear when he founded Bloom parent company Algix in 2010. "We were trying to basically clean up the world's garbage," he said. The firm focused on algae blooms, the rapid growths of algae in bodies of water that can be harmful to the local ecosystems, and discovered that the algae they harvested was a natural polymer.

In 2013, the firm turned its attention to the footwear world. The first shoes with Bloom Foam components (mostly insoles) will debut this summer; the first shoes built around a substantial Bloom Foam element should be ready for Spring '18. In total, Van Drunen said approximately 30 footwear firms from the athletic and outdoor worlds and others were testing or us-

"We were trying to basically clean up the world's garbage." Mike Van Drunen, Founder, Bloom Foam ing the material. It can be foamed and injection molded and used in insoles, midsoles or outsoles, even at high concentrations — up to 20 or even 25 percent algae.

The material's green stats are impressive: For every pair of shoes with a Bloom midsole and insole, the firm estimates it returns 62 gallons of clean water, as well as taking 47 birthday balloons' worth of carbon dioxide out of the atmosphere. That's in addition to being a renewal biomaterial being used in place of non-renewable petroleum.

The material performs, too. "It's equally as good as anything out there. In some places, it improves," said Van Drunen explaining that the material can be customized to a customer's specifications. According to Van Drunen, some customers have reported improved elongation, improved peel strength on insoles, improved tear strength and superior mold detail



thanks to the algae's inherent properties.

Of course, the material does have drawbacks: "We can't make a bright white foam with the pigments in the algae," said Van Drunen, adding, "We thought it was a negative, but customers don't want something that looks exactly the same."

#### **Austin Rubber Company**

To create APX, the signature rubber product of Austin Rubber Co., parent company Green Source had to figure out how to "un-bake a cake," as brand president Donald Drew put it. The material, a virgin rubber compound substitute, is created from old tires and post-industrial waste. The resulting rubber crumb is de-vulcanized via chemicals added to the material that break the carbon-sulphur bond and allow it to be re-vulcanized. The resulting material can be incorporated back into new rubber for outsoles, and other rubber goods at substantially higher percentages than other recycled rubber compounds. For example up to 25 to 50 or even 60 percent of the weight, versus the two or three percent that is the current standard, according to Drew.

Additionally attractive, from a green standpoint: creating APX is a closed-loop process. Austin Rubber also reclaims the chemicals used, and separates out and sells the plasticizer oil it removes. "I have no waste products," said Drew.

The material has already been put to use by Bata Shoes and by Green Holding's brand Treadagain, and Drew said a number of other large American brands, including "a company with many subsidiaries that make work boots, hiking boots and sandals."

Besides a dramatically increased recycled rubber content, APX offers other advantages, per Drew: It can be compounded to meet the performance specifications of a given brand, and it seems to have strong anti-slip properties. And, of course, the big one: it's less expensive than virgin rubber compounds.

"Shoe companies, they like the fact that it's recycled material," he said. "The big-picture guys tend to like the story, the materials, the fact that we're using green chemicals, but say, just don't charge me more money."

Above: Reebok's Cotton + Corn Initiative footwear has a midsole-outsole made with Susterra propanediol. Below: APX, the signature rubber product of Austin Rubber Co. is created from old tires and post-industrial waste.

#### STRATEGIES | ALPACA GROWERS

The Alpaca Industry Is Making Moves to Increase Supply in the U.S. By Suzanne Blecher

## Soft Sell



n April press release announced the formation of the U.S. Alpaca Fiber Council, which will focus on processing activities for domestically produced fleece. The mission of the group is to "assist U.S. manufacturers in production, promotion, profitability and marketability of U.S. alpaca fiber."

The new organization looks to "move fiber off the farms to a centralized location and clearing house for distributors of alpaca,"

explained Chris Riley, founding organizer of USAFC and owner of New England Alpaca Fiber Pool. Hopes are to also provide manufacturing and technical support to users, as well as to get "more people interested in U.S. alpaca," the exec said.

While the first commercially imported alpacas arrived in the U.S. in 1984, until now, the supply chain has not been able to support alpaca fleece at a notable scale. "We would collect from small, local farms and move alpaca through the supply chain, then move back to farmers to sell. But to bring fibers to the masses, we need to also do product support," said Riley. The group supports about 3500 farms nationwide and also includes artisan and commercial mills, agricultural cooperatives and industry experts.

Founders of the council include the Alpaca Coalition of America, Alpaca Fiber Cooperative of North America, Alpaca Owners Association, Inc., Artisan Mill Network, New England Alpaca Fiber Pool, Natural Fiber Producers, Suri Network and Sorting Grading Classing.

In terms of education, the USAFC is coming up with standards for alpaca and has seminars in the works for alpaca farmers, designers and manufacturers. The organization is reaching out to this audience via social media and its website, with plans to attend design shows in the future.

#### **Attractive Attributes**

As we continue to live in a world where terms like slow (as in slow food), eco-friendly, natural and local are important, alpaca has some notable qualities. "Alpaca is almost half the weight of wool, comes in 22 natural colors — so it doesn't have to be dyed — is very fine and has a very soft hand," noted Riley. And since alpaca was imported to America, there is a DNA registry for traceability purposes. Fibers tend to be consistent because of strong breeding programs. Large herds are in Ohio, Washington and Colorado, where land tends to be reasonable and grazing is affordable. Alpaca take cold weather well and are efficient eaters.

Finer grades of alpaca fleece (baby alpaca) are hypo-allergenic and unlike sheep's wool, contain no lanolin so they are ready to spin after nominal cleaning. Alpaca requires no harsh chemicals in preparation, which lessens the chance of skin reactions. Fleece can also be combined with other fibers such as merino wool, cashmere, mohair, silk and angora.

Outside of America, alpaca can be found in Peru, New Zealand, Australia and England, among other regions. •

#### **Alpaca Industry News**

SENATOR JEFF FLAKE (R-ARIZ.) made headlines in April with his report "Tax Rackets: Outlandish Loopholes to Lower Tax Liabilities." In the report, Flake claimed, "immediate expensing of livestock has been exploited to reduce or eliminate income tax bills with the purchase of alpacas."

Flake explained that the purchasing of the livestock can be deducted as a business costs, expenses of machinery and other equipment are typically depreciated, tax code provides immediate expensing which can be writtenoff in one year and the tax filer can avoid paying federal income tax. "Alpaca

> associations promoting the write-off acknowledge is partly responsible for the steady growth in the domestic alpaca population," according to the report. Turning a backyard into an alpaca farm can also cut property tax bills, the report noted.

> Riley disagreed with Flake's findings. "There is no special tax incentive for owning alpaca. We take the same tax breaks as other sheep farmers," Riley commented.

> Sen. Flake also released a short video to promote the report in hopes that his constituents will help save "alpacas and other outlandish loopholes from tax code abuse."

> "Sen. Flake's accusations of the abuse of alpacas is disingenuous," said Bud Synhorst, Alpaca Owners Association, Inc. executive director, in an April 5 release. The AOA noted that the alpaca industry has been growing in the U.S. for more than 30 years and creates many jobs for Americans.

> "Sen. Flake, after over 16 years in Washington, D.C. hasn't apparently made a name for himself so he's grasping at ways to gain attention and is attacking small business owners in the process," said Synhorst.

Alpaca is used for a variety of end use applications depending on micron size. Alpaca 18-20 micron for baselayer and high fashion; 20- 23 micron for knitwear; 23-26 micron for woven outerwear; 30+ micron for carpets.



#### SUPPLY CHAIN | INDUSTRY STATS

Charting the Health of the Textile Industry & How Trade Factors In.

# By the Numbers





t the annual meeting of the National Council of Textile Organizations (NCTO), held earlier this spring in Washington, DC, outgoing 2016 Chairman Rob Chapman deliv-

ered the trade association's 2017 State of the U.S. Textile Industry report. Chapman, CEO of Inman Mills, a South Carolina-based yarn and fabric manufacturer, outlined U.S. textile supply chain economic, employment and trade data as well as the 2017 policy priorities of domestic textile manufacturers. Charts shown here offer interesting statistics on the health of the U.S. textile industry; highlight how the United States is especially well-positioned globally in fiber, yarn, fabric, and non-apparel sewn products markets; and illustrates factors influencing the direction of trade policy.

#### U.S. EMPLOYMENT

2016 Textile Supply Chain Jobs in Thousands



#### EXPORT BREAKDOWN BY REGION

In \$ Billions (for the year 2016)



## EXPORT BREAKDOWN BY CATEGORY, 2016 Total \$26.3 Billion \$4.0B \$4.5B \$8.6B \$3.6B \$5.6B Cotton, Wool and Fine Animal Hair Man-Made Fibers & Yarns Fabrics Home Furnishings, Carpet & Apparel Apparel

EXPORTS OF FIBERS, YARNS, FABRICS APPAREL & SEWN PRODUCTS

![](_page_32_Figure_15.jpeg)

#### CAPITAL INVESTMENT

Capital Investment in U.S. Yarn, Fabric, Apparel and Sewn Product Manufacturing. (In \$ Billions)

![](_page_32_Figure_18.jpeg)

#### **TOP 5 STATES FOR TEXTILE JOBS IN 2015**

1. Georgia	 	•••••	48,876
2. North Carolina	 		36,774
3. South Carolina	 		24,446
4. California	 		17,066
5. Tennessee	 		13,840

#### VALUE OF SHIPMENTS

2016 Value of Shipments for Man-Made Fibers, Yarns, Fabrics, Apparel and Sewn Products. (In \$ Billions)

![](_page_32_Figure_23.jpeg)

textileinsight.com

## OUT OF CONTEXT When the Factory Owns the Brand

by Kurt Gray

![](_page_33_Picture_2.jpeg)

Is this a Model for How Made-in-USA Succeeds in the Future?

STONEWEAR DESIGNS WAS STARTED IN Colorado during the mid-90s by rock climber Sari Nichols and quickly found an audience for its realistic fitting women's climbing apparel. During the twenty years the company was part of Boulder's Great Trango Holdings, Stonewear morphed into a regionally important women's active lifestyle brand and fashion bellwether for the outdoor industry. They make beautiful clothes.

Recently I sat down outside Eldorado Springs with Peter Jans, the supply chain manager for Stonewear. Peter has made the company's apparel through various American factories for the last few years and is now working with the new owners, the Walz/Sew Sporty Group, a specialty sewn goods manufacturer based in San Diego California. I asked Peter what kind of advantages might Stonewear find in the new relationship? He excitedly rattled off a handful of simple yet game changing twists to small batch manufacturing and competing with the big brands. For example:

**Minimums:** Obviously the factory can choose to break the usual minimum order quantity requirement and allow Stonewear to sell shorter runs to special customers. This is so important as it allows a small player to make unusual or experimental clothing and pass it into the market. The feedback and recognition that comes from doing something new is huge and the ability to satisfy early adopters with product can change

the way a brand is seen by enthusiasts and the media. It is normally very hard for little companies to try new things.

**In-Season Demand:** Customer service starts with delivery. Promising styles can be overcut and the pieces held for in-season production/ quick delivery. If it means making a key retailer happy during a busy time, and they make a few more dollars on Stonewear product, it's worth it.

**Customization:** Stonewear is already positioned as a local brand in terms of flavor and function, making them an ideal custom and co-branded apparel partner with specialty retailers in the region. Now that the factory is in control, these kinds of trend-right projects can move forward more easily with Stonewear acting as the bridge between the retailers and manufacturing. This type of business is out of reach of the big brands with their offshore production.

**Quality:** When the factory has to answer to the boss regarding quality issues it changes the focus of the workers. The resulting dynamic, i.e. what is it that constitutes a garment being a 'second', becomes a competitive issue and in-house Q/A inspections are through. Quality improves with a sense of ownership, and it happens in real time.

**Development:** The usual three week sample turnaround becomes three days and more importantly, the factory becomes an equal part-

ner in the development process bringing their expertise in decreasing the cost and complexity of new styles. The synergy when production seamstresses are involved in the creation of product is amazing; everything goes smoothly. Margin: The big difference in being owned by a factory is gross margin becomes a bigger tool. Normally the factory would be taking a 20-30 percent margin on the cost of production for their clients and use that money to get them through lean times. With the factory owning a brand like Stonewear, they are able to reach into their dealer's pockets for needed margin and frontload production cost planning into the sales process. This evens out cash flow and labor requirements while maintaining the flexibility to extend gross margin dollars to a targeted retailer in order to close a sale, a luxury few sales managers have. More control over margin means having more cards to play.

Peter knows there will be a learning curve for both sides, however, as we parted ways Peter summed up the new relationship by saying, "You know, this just might be how Made in USA works!" True that.

**Disclaimer:** *Mr. Gray is confused by 'approach'* shoes and not sure where everyone is going. He prefers the term 'sneakers' which he finds more accurate and descriptive. His opinions are not necessarily shared by the publisher.

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