

# TEXTILE INSIGHT<sup>®</sup>

Trends In Apparel & Footwear Design and Innovation • January/February 2017

## iNvEnToLoGy

HOW THE TEXTILE INDUSTRY IS INVENTING ITS FUTURE

Fall '17 Footwear Trends  
Smart Textiles Tech Advances  
Trade Show Previews & Recaps  
Making it in America

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Biosteel is the latest knit upper shoe technology from Adidas set to debut this year.

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## Welcome to a New World Order



**Let's be honest, these are challenging days in business.**

**T**here has been a burst of expression lately as individuals and corporations deal with this moment in time. People are dubbing it “The Age of Disruption,” or using taglines such as the “Era of Change,” and the “Year of Uncertainty.” But a phrase I happen to think best captures the essence of today’s marketplace is, “it’s really weird out there.”

Thank you Chris Parkes of Concept III for that spot-on description of the state of the market. Chris and other textile execs shared their thoughts with us about the direction of the outdoor industry going forward,

and strategies they are putting in place to navigate winds of change. These were fun interviews. Topics ranged from exploring new markets and emerging business models to industry consolidation and constricting supply chains, to political commentary and personal beliefs – the latter often requested to be strictly “off the record.” All in all great conversations, jammed with interesting information. The main take away, for me anyway, was the spunk these execs bring to our industry. Let’s be honest, these are challenging days in business, and a “wait and see” approach would be understandable. Not so for the active/outdoor crowd. Instead textile leaders are focused on seizing new opportunities with gung-ho spirit. I was impressed. And when you read the story (starting on Page 28), I think you will be, too.

With so much agitation and movement in the industry, forecasting the future is tricky at best. However, paging through this issue of *Textile Insight*, trends and market influences bubble to the surface, offering ripples of indication of where the business of outdoor performance is going. Here are five to keep in mind as we kick off the New Year:

- Creativity is the rallying cry
- American ingenuity and heritage traits are strong drivers
- Athletic meets lifestyle designs are consumer priorities
- Expect to see more corporate ownership changes
- Denim and workwear have momentum

Of course there are many other things on the radar for 2017. Sustainability and the cost of compliance look to be hot topics. Footwear tech continues to ramp up. And footwear in general is top of mind, as one exec commented, “footwear has become today’s statement piece; the ‘it’ accessory for many consumers.”

And last but not least we have an incoming administration promising change. No matter which side of the aisle you are on when it comes to politics, we can agree that discussions of trade, the environment, defense spending and government will abound in the months ahead. Will this new administration be a shot in the arm for America and bring positive change? Send me an email and let me know what you think.

*Emily*

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# IN THE MARKET | OR PREVIEW: SUPPLIERS

The Latest Fabric Developments Have Performance Stories to Tell. *By Emily Walzer*

## A Good Yarn



Above: Schoeller's new denim with reflective yarn and c-change tech. Below: New fabric with MIPAN Aqua x and creora Fresh from Hyosung in partnership with Best Pacific.

**F**or the season ahead the sustainability story is strong, but so too is the comfort story, the heritage story, the partnership story, the supply chain story, and the list goes on. Textile suppliers increasingly understand the use of story telling as a compelling and effective way to explain and enhance the appeal of new technologies and fabrications in the active outdoor category.

Performance continues as a main theme. Lightweight is a common refrain but in new ways: lightweight laminates, for example, are a major talking point. Weather-protection remains a driver, however, versatility is equally critical.

Collaborations play a big role in next season's story telling. And advances in tech, as well as improvements in comfort features and aesthetics, are more often being told in tandem by suppliers and brands.

As the outdoor market becomes increasingly lifestyle oriented, new ways of selling and telling the outdoor performance story is an important industry yarn. Here's just a handful of the fabric developments previewing at ORWM17:

**Concept III:** Several advancements are on tap for upcoming seasons. Highlights include: Dry-Tex innovative lightweight softshell and technical laminates that continue to gain traction in active/outdoor applications; a large collection of sustainable textiles with an array of technical fleece fabrics from

Kingwhale that feature the company's Low Impact Technology (LIT) manufacturing method; Polygiene bluesign approved odor-control technology; and Bolger & O'Hearn's PFC-Free DWR treatment.

**Cordura:** A 50th anniversary brings forth a slew of activity under the umbrella of "Heritage meets Innovation." A highlight is a new fiber technology, two-plus years in development, called T420HT. The military grade high tenacity fiber will debut with Dickies workwear Pro line. A Combat Wool collaboration with Marlane delivers performance wool fabrics for men's premium suiting. New denims will also preview.

**eVent:** A slate of brands are coming on board for Fall/Winter. eVent's newest, toughest waterproof tech, DVexpedition, will launch with Flylow. DVexpedition is eVent's most durable, air permeable and waterproof membrane, purpose-built for skiers and serious adventurers. Rab, Motorfist, Eddie Bauer, K2 and Strafe are other new eVent partners in apparel.

**Halley Stevensons:** With its unique features, textile heritage, and sustainable attributes waxed cotton is drawing interest in contemporary outdoor. The company has new programs with Mission Workshop, Triple Aught Design, Filson, Burberry and Carhartt, along with a new waterproof wax alternative, called Discovery, that is a high-performance material with a soft, lux fabric hand.

**Hyosung:** A partnership with Best Pacific Textiles will launch new cool and fresh fabrics with MIPAN Aqua x and creora Fresh. The strategic co-operation is designed to offer the needs of consumers looking for performance with moisture management, UV protection, comfort, fit and freshness from odor neutralizing technologies. Applications for the fabric collection, available in various weights, includes performance underwear, sports bras, and base layer applications.

**Insect Shield:** 2016 was a busy year for Insect Shield with growth in all

channels including military, outdoor and pet. The Zika virus continues to be a concern, especially with locally contracted cases reported in FL and TX, and Lyme disease continues to spread to different parts of the country. Brand partners are exploring a wider assortment of products. ExOfficio, Craghoppers and Toad&Co are expanding offerings, with new partners in the wings for 2018.

**Pertex:** The UK-based supplier has a new brand structure. Fabric sub-brands are redefined and categorized by end-user benefits. The new sub-brand structure consists of three distinct series: Pertex Quantum – insulation/wind fabrics, Pertex Shield – waterproof breathable fabrics, Pertex Equilibrium – double weave fabrics. Multiple sub-brands exist between these series.

**PrimaLoft:** Recently introduced is PrimaLoft Black Insulation ThermoPlume, a high-performing blowable synthetic insulation with the look and feel of natural down. The new product is a blend of water-resist PrimaLoft fibers that deliver loft, wet weather protection and compressibility. Its construction allows for it to be blown through traditional down-blowing manufacturing equipment.

**Schoeller:** Winter 2018/19 features new water-repelling Schoeller-shape reflex fabrics that incorporate reflective yarn unnoticeable during the day, including denim styles with c\_change and elegant mulesing-free wool tweeds. Schoeller also expands its ECONYL collection with an ultra-light, bielastic Schoeller-dynamic, a very soft, fine Schoeller dryskin and a light double-Schoeller-WB-400. The ECONYL regeneration system collects regenerable materials from landfills and oceans and recycling them into production lines.

**W.L. Gore:** Celebrating a milestone birthday, the company will feature product innovations from the past 40 years that are now industry staples. Gore-Tex fabric was made commercially available 1976 in tents made by Early Winters and sleeping bags and down garments by Marmot. ●



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# IN THE MARKET | OR PREVIEW: BRANDS

Brands Choose Fabrics, Tech with End User in Mind.

## Fit to Function



Voormi RMEF Access Vest in Blaze Orange with PHASE-HVis Technology.



North Sails' Typhoon Jacket is technical and tailored with a breathable membrane and signature "double hood" lined in Tyvek fabric for extreme functionality.

**P**erformance is the common thread in a Fall '17 season that offers a wide range of apparel options. No matter if garments are positioned as lifestyle or as hard-core technical outerwear, functional fabrics are a defining feature. However, brands realize the need to differentiate, so along with calling out components that enhance comfort, weather protection, and versatility, the latest goods also highlight materials and technologies that are an ideal fit for a particular end user, whether that consumer is a traveler, a hiker, a skier, a sailor, or an eco-minded adventurer.

The latest styles of cold-weather wear make use of technical insulations, water and wind resist technologies, adaptive fabrics and anti-odor treatments. Among popular performance textile picks

for next season are top-line insulations for lightweight warmth, fabric tech for enhanced breathability, wools that combine function with fashion, and super-soft lux yarns for keeping toes toasty.

Voormi gives cyclists, runners and endurance athletes a new look. The Colorado-based wool specialist offers PHASE-HVis technology that will deliver a range of color and high visibility options.

Unlike synthetic fibers, wool is a naturally light absorbing fiber that struggles to present bright/fluorescent color, according to the company. By strategically interlacing a matrix of advanced high-visibility fibers with fine micron merino wool, Voormi is able to offer a bright color

palette in a natural fiber.

Says Voormi CMO Timm Smith, "While much of our development to date has focused on improving things like durability and wicking performance, we're always on the hunt for opportunities to push natural fibers in to new performance spaces."

North Sails takes a technical approach as well with apparel that is created with the same level of craft the company is known for in sail making. Performance fabrics are featured throughout the new Fall 2017 line of jackets. Two good examples are the use of Dyneema, an extremely strong yet lightweight and cut/abrasion resistant material

**By strategically interlacing a matrix of advanced high-visibility fibers with fine micron merino wool, Voormi is able to offer a bright color palette in a natural fiber.**

and an innovative Hydrowool with DWR treatment. Interestingly for the watersport users, the Dyneema fabric is stronger than carbon steel yet floats on water.

Darn Tough shows both a hard-core performance side, as well as a softer side in its Fall '17 product lineup. The sock maker has reengineered its Vertical and Endurance lines of performance sport-specific products, but also has a new lux yarn on tap. The fine gauge, high-density knit wool is featured in the women's Diamond Lifestyle sock as well as other styles for Fall '17.

### Comfort in the Cold

With the needs of the modern traveler front and center, ExOfficio brings to market SoWarm Technology. Developed with versatility and comfort for cold weather travels, SoWarm is an efficient layering system made up of a family of adaptive performance yarns and fabric treatments that provide a high warmth-to-weight ratio.

Treatments are designed into garments to provide the traveler with the right technology for each layer of their outfit, according to the company. First layers have SoWarm technology that converts water vapor from the body to thermal energy. Second layers work to trap body heat without bulk, and outer layers provide warmth through insulation even when wet. Additionally, ExOfficio has incorporated IR reflection technology into all layers of the SoWarm collection to trap body heat and reflect it back to the skin.

### For Eco Outdoorists

Sustainability is top of mind this season. Royal Robbins' new line, for example, features the brand's switch to fluorocarbon free DWR for all temperate wear. Eco-friendly manufacturing methods are of interest to consumers, who increasingly want to know how and where their clothing is made.

The new PFC-free DWR is available in Royal Robbins men's and women's products. The men's Waterproof Three for all Jacket, features the new PFC-free water repellent technology with performance fabrications and a lifestyle look. The insulated, breathable jacket can be worn as one piece, or as separate pieces. A zip out liner that attaches to the shell has anti-order technology.

New products from Aventura and Ecoths stay true to the companies' sustainability roots. Aventura offers a mixture of styles, patterns and colors that are representative of nature and natural colorways. Throughout, the focus is on using eco-friendly organic cottons, merino wool and bamboo. Ecoths' one for one mission continues in Fall '17, with dedication to feeding one person for one day for one garment purchased. In addition to their giveback campaign, Ecoths also uses organic cotton or merino wool blends in all of their shirts and pants. ●



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## Innovation Engineered



Performance Days debuted diverse looks and fabrics blends including: (left to right) Brugnoli, Optimer Brands and Mectex.



### Top Trends in Performance Fabrics:

*As Seen at Performance Days*

Lightweight fabrics continue in base and outer layer fabrics - dense in construction but lighter in weight.

Hybrid blends - natural and synthetic combinations.

Double-faced fabrics in 2 and 3-layer combinations - the decorative aspect features with contrasting colors/prints and fabrics.

Decorative surface effects through structure or prints.

Reflective prints and trims remain a staple in the market, but are updated through decorative effects teaming a stronger fashionable appeal alongside the desired function.

Sustainable textile processes continue.

**P**erformance Days is really establishing itself as an essential show for the European market, as brand developers and designers use this mid-season slot to source across seasons. Developing collections for Spring/Summer 2018 were on display, along with a preview for Fall/Winter 18/19. Visitors weren't disappointed with the latest developments and trend directions shown at this niche show.

The key focus of the recent Munich show was continued interest in the hybrid theme. Originating in the yarn sector and textile construction, hybridization has extended through to fabric construction and garment design. Fabrics are being more specifically engineered via different compression and performance zones within the construction, allowing for brand developers and designers to reduce seaming within a garment.

On the fiber front the synergetic approach of merino wool with synthetics continues. Evertex, a bluesign partner, has developed a 42 percent merino wool, 58 percent polyester and four percent spandex/elastane knit weighing only 155 g/sm. The combination of the two yarns heightens the performance, with moisture management and thermal

applications integral to the product.

The cellulosic fiber Tencel is gaining ground in the performance sector. Known for its sustainability and soft touch, Tencel is being incorporated in hybrid blends. Labtex offers an 85 percent polyester, 15 percent Tencel blend with a lightweight feel of 142 g/sm. J & B also blends Tencel with polyester with a burn out finish offering a floating camouflage look on a transparent base. Both new developments highlight the partnership that can be achieved from contrasting fiber foundations.

Hybridization applies beyond the use of contrasting yarns, to culling expertise from other sectors of the industry. Brugnoli is a case in point, with its innovative crochet melange effect, achieved from the nylon content that also attains a contrasting colored result through one dye bath, pushing a more sustainable approach. The final product is innovative and draws from the intimate apparel sector, delivering a crossover approach to visual aspects yet with high levels of performance for the sports sector.

### Zoned for Performance

Penn Textile Solutions has developed a range of warp knit fabrics with zoned compression and open mesh structure for ventilation in key areas that will

add function and style to semi-seamless garment. H-One focuses on a polyester/spandex blend in a circular knit, but again offering the zoned ventilation detail.

The new trend in hybridization is evolving precision engineering with the fabric construction, enabling brand developers to eliminate seams without compromising the zoned function. Today's new fabrics allow for a hybrid garment, that combines seamless and cut-and-sew, with precise performance in key areas. The result of enhanced support and comfort is key in the contemporary marketplace.

### A Focus on Style & Sustainability

A stronger sense of fashion features in functional fabrics for the season. Forget the basics, decorative surface effects through prints are emerging. A good example is seen with prints on high performance fabric at Mectex. A decorative approach is also happening with jacquard effects and blistered surfaces, both a refreshing approach to the traditionally flat bases.

This decorative and textured surfaces mood continues through to reflectivity. The functionality of safety combining with decorative aspects has a wide appeal. Many outer shell wovens and high performance knits have had the added option of a reflective print or finish with J&B offering a reflective honeycomb print on a reflective base.

Sustainability continues to be a major part of the industry's development, with recycled polyester featuring in pure qualities and blends. Unifi offers a double sided knit with windproof, waterproof and breathable functionality for example.

While sustainability stays on course, the hybridization influence seen at Performance Days is a significant new trend in the industry, as this more efficient use of fibers and yarns carries over to fabric construction. ●

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– *BackcountrySkiingCanada.com, October 2016*

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Digital Print Market Turns to Textiles for Growth. *By Emily Walzer*

## Favorable Tailwinds



Kornit Digital offers printing system options for entry level as well as mass customization.

**A**t a recent sold-out conference in Durham, NC, presenters and panelists provided a snapshot of innovation within the digital print market that is generating enthusiasm and growth in the textile space. Tech advances, consumer trends and reshoring efforts are seen as clear indications that digital printing is a fit for today's textile industry.

Aptly titled, "Digital Textile Printing: The Future is Now" the conference brought together a diverse crowd consisting of manufacturers, researchers, textile execs, product developers and fashion designers. Interest in the topic was such that question and answer sessions often stretched past the allotted time, and breaks for networking were buzzy. Obviously digital textile printing is a subject domestic businesses want to explore.

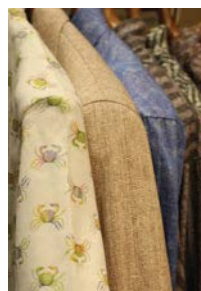
Jointly sponsored by the AATCC and SGIA (Specialty Graphic & Imaging Association) the two-day conference drew 130 participants and included tabletop exhibits of products and services by a dozen suppliers including Freudenberg Performance Materials, Hohenstein/Oeko-Tex, Lubrizol, Testfabrics, Inc., and Top Value Fabrics.

While digital textile printing is still in its infancy execs believe there are exciting times ahead for the industry. "The market has evolved since 2010 and in the last five years there have been significant strides made within textiles sector," said Mark Sawchak, with Expand/MS.

"This is an exciting time," added Bill Finley, Meno Enterprises. "There are lots of things lining up for us, really for all of us, to really grow." ●



Carrie Yates with Cotton Incorporated print innovations.



Menswear looks by designer Alexander Julian.

### Cutting-Edge Tech + Consumer Trends

A manufacturers' panel discussion made a compelling argument for implementing digital textile printing. Participants explained new technologies, outlined trends and defined the advantages of digital printing for today's business needs.

Bob Rychel of Durst Image Technology emphasized progress made using pigment dyes, and highlighted the company's new Alpha Series and the Greentex-P One Step Soft Pigment products. "There are lots of tailwinds with pigment technology," said Durst. "Machines are running pigment fast, and can print on almost any fiber."

He said business is growing, with pigment only two percent of the business in 2014 but projected to be nine percent by 2019.

"We now have the speed, the hand and the quality. We're getting closer and closer to the holy grail," said Durst, who also noted a step change in pre-treatment. "Our Swiftjet products are more robust and feature resource conservation using 50 percent less water, 30 percent less pre-treat chemicals. And it is GOTS certified."

Expand executive Sawchak said his new machines use two different ink chemistries

so they can print on cotton, nylon and polyester. This gives customers more flexibility and can use the tech to serve a broader customer base. "The beauty of digital is the short runs and fast response. Now companies are implementing the technology in the supply chain."

Sharon Donovich of Kornit Digital agreed. "There is a huge trend of shorter runs," said Donovich who listed other advantages including: simplicity, no set up costs, infinite design flexibility and no minimum order quantity – in other words a MOQ of one.

Donovich also cited four key consumer trends driving growth: Social media, personal experience, immediate gratification, and consumer awareness of sustainability issues.

Panelist Ken VanHorn of Mimaki USA, said, "From a manufacturers' perspective the goal is to address broadest appeal." What today's market wants, according to VanHorn, is defined by three factors: "just in time," "just what I want, and "whole piece delivery."

He said that the textile market consists of three segments: Interior Décor, Soft Signage, and Wearables/ Garment. "We see movement into wearables." ●

### Fabric, Fashion and Forward-Thinking

In an afternoon session focused on Sustainability and Product Design, Ben Mead of Hohenstein USA spoke to the audience about how to know the inks and other chemicals used will meet customer environmental objectives. The topic sparked a prolonged Q&A period as attendees were clearly interested in learning more about sustainable properties and how to address eco responsibility with digital printing.

An engaging presentation by fashion designer Alexander Julian was a crowd pleaser. Well-known from his high profile apparel collections while in New York years ago, Julian was an early adopter of digital printing. He continues to advance his level of expertise in the field with his latest apparel offerings, some of which he displayed at the conference. The selection of top-shelf menswear items including sport jackets, tailored shirts and a knit polo were extraordinary examples of digital print used in fashion design.

"I was always mesmerized by cloth," said Julian who is a North Carolina native. When asked about the biggest benefit of digital textile printing, Julian responded, "To dream. You can do anything. All you have to do is think it up." ●

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# IN THE MARKET | ECO UPDATE

A Round Up of Industry Sustainable Developments.

## ECO Helmet Innovation



Isis Shiffer designed a folding, recyclable bike helmet.

**A**ccording to the Bicycle Helmet Safety Institute, more than 800 cyclists were killed on U.S. roads in 2015. And with millions of people globally taking part in bike share programs – many of whom rarely wear helmets – that number of accidents looks to increase. Isis Shiffer, a recent graduate from the Pratt Institute of Design in New York City, has come up with a solution: EcoHelmet, a folding, recyclable helmet for bike share users.

EcoHelmet uses a unique honeycomb configuration to protect the head from impact, and folds flat when not in use. A biodegradable coating makes it resistant to rain for up to three hours. The lightweight, durable design of EcoHelmet empowers cyclists to ride safely and confidently.

The cell structure of EcoHelmet distributes any impact evenly around the head as effectively as a traditional polystyrene helmet. Due to the radial nature of the cells, it will protect the user from a blow coming from any direction. The simplicity of the EcoHelmet's construction, coupled with its inexpensive materials, will keep the manufacturing costs low – meaning they can be sold for \$5 at bike share stations.

As international winner of the James Dyson Award 2016, Shiffer will be awarded \$45,000 to further develop her invention. "I was lucky enough to be studying at Royal College of Art and the Imperial College of London for a semester, and was granted access to Imperial's crash lab," says Isis. "They had a European standard helmet crash setup that allowed me to gather enough data on Ecohelmet's proprietary honeycomb configuration to know it was viable and worth developing." ●

## Mt Khakis Grows Organic Cotton & Recycled Materials Offering



The Women's Old Faithful Coat from Mountain Khakis features recycled polyester.

**F**or Fall '17, Mountain Khakis will feature more product using organic cotton and recycled polyester. Legacy pieces such as the iconic Original Mountain Pant now use 100 percent organic cotton, while the popular Old Faithful collection is entirely composed of recycled polyester. "One of every five items we ship in fall 2017 will be made of organic or recycled materials," said Noah Robertson, co-founder of Mountain Khakis and director of product development. "Our apparel collections present thoughtfully designed modern looks that convey the mountain lifestyle, while focusing on sustainability and performance. Consumers

are looking for practical and stylish apparel that aligns with their values and fits equally in urban landscapes just well as it does in the mountains."

Organic cotton pant styles for men include the Flannel Original Mountain Pant, the Alpine Utility Pant and the Original Field Pant. Combining comfort and style, the classic fitting Lundy Flannel Shirt is made of 100 percent cotton flannel yarn dye. For women, the popular Old Faithful Coat now utilizes 100 percent recycled polyester. It features a brushed interior for comfort, a textured knit sweater exterior with six pockets and falls at the mid-thigh for increased warmth and style on cold nights. ●

## 50 U.S. Firms Now GOTS Certified

There are now 50 companies in the United States certified to GOTS, the Global Organic Textile Standard. Ramblers Way Farm, Inc. of Kennebunk, Maine, manufacturer of garments made from GOTS certified organic wool, recently became the fiftieth company to be added to the GOTS public database for the United States. Canada now has seven companies certified to the program. The GOTS public database at [www.globalstandard.org](http://www.globalstandard.org) is filled with useful information about how to get certified. GOTS is the stringent voluntary global standard for the entire post-harvest processing (including spinning, knitting, weaving, dyeing and manufacturing) of apparel and home textiles made with organic fiber (such as organic cotton and organic wool), and the standard includes both environmental and social criteria. Key provisions include a ban on the use of genetically modified organisms (GMOs), highly hazardous chemicals (such as azo dyes and formaldehyde), and child labor, while requiring strong social compliance management systems and strict wastewater treatment practices. In 2015, more than 3,800 facilities were certified to GOTS in 68 countries. The number of workers reported in 3,419 GOTS certified facilities exceeded 1,050,000. ●

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*innovation*

A Round Up of Recent Industry Developments.

## U.S. Textiles Start the New Year Strong



Taiwan, China and Thailand. This is its first U.S. operation.

Scott Chen, VP, Everest Textile, stated, “As a native North Carolinian, it is exciting to see Everest Textile USA investing in the state and people of North Carolina, while also creating innovative products.”

Everest Textiles qualifies for about \$3.1 million in state and local incentives, according to local reports. The largest is a \$3 million state Job Development Investment Grant that will be paid to Everest over 12 years.

### Lenzing Expands Domestically

Lenzing’s announced expansion with a new facility, combined with previously announced debottlenecking projects at the other Tencel fiber sites, looks to boost overall capacity by more than 50 percent by 2020. Global Tencel capacity is currently 220,000 tons. The state-of-the-art plant, with a production capacity of

90,000 tons per year, will be the largest Tencel fiber plant in the world, according to a company statement that also noted that the new operation in Mobile comes with an investment of \$293 million.

Explained Lenzing CEO Stefan Doboczky, “This expansion also underscores our commitment to all our Tencel fiber customers, who continue to make their products even more sustainable using Tencel fiber.”

A significant feature of Tencel production is that the solvent used is kept in a closed loop system with 98 percent being recycled, making for a more eco-responsible operation that most of the rayon processes. ●

Investment in domestic manufacturing continues as the momentum from year-end 2016 looks to be carrying over into 2017 with big name textile companies reporting expansion plans.

Everest Textiles, for example, has announced its plans to open an operation in North Carolina and Lenzing intends to add to the reshoring effort with a Tencel fiber plant scheduled to open in 2019 in Alabama. Here are details on these positive signs of growth on the home front:

### Everest Plans U.S. Production

Taiwanese company Everest Textile will spend \$18.5 million over five years on a new fabric

operation that will employ 610 people in Forest City, NC. Production is expected to start during the first half of 2017.

Everest is taking over an existing building in Forest City, which is located in Rutherford County, in western NC. The facility is approximately 400,000 square feet, and will serve as a weaving, dyeing and finishing plant for active apparel.

Everest is a well-known supplier in the active/outdoor space, making innovative goods for the likes of Nike, Columbia and Patagonia. Founded in 1988, the publicly held parent company is a vertically integrated developer and supplier of performance textiles products with factories in

## Hosiery Update: Acquisitions in the Sock Market

Twin City Knitting, a leading sock maker for team sports has been acquired by Sock & Accessory Brands Global, a unit of (SABG), Huron Capital Partners LLC. Founded in 1961, Twin City is a designer, manufacturer and wholesaler of performance athletic socks, and the majority of its products are manufactured in the United States. It will continue to operate out of its existing facilities in North Carolina and the prior owners, Joseph Lamb and Fran Davis, will retain their roles with the business. In addition, Fran Davis will join the Board of Directors.

“TCK is a well-recognized name in the American team sports apparel market,” says Tom O’Riordan,

CEO of SABG. “The acquisition of TCK is expected to provide SABG with access to a variety of new buying organizations and distribution channels. It will also add domestic manufacturing capabilities to SABG’s current operations, which we expect will allow for faster turnaround times to meet customer needs.”

Fox River Mills has been bought by LongWater Opportunities, a private equity firm headquartered in Dallas, Texas. Fox River has been owned and managed by the Lessard family since 1975, producing high-quality knitted technical socks and handwear for the outdoor, athletic and casual markets. Founded in 1900, Fox River is the longest, continuously run-

ning hosiery brand in the U.S. and manufactures all of its products in its 240,000 square foot facility in Osage, Iowa. Fox River President and Co-Owner John Lessard said, “We knew it was important to find a partner that believed in U.S. manufacturing and investing in the people and the community. We believe we’ve found that in LongWater. We’re excited about the future of Fox River Mills.”

Fox River is the fourth investment in LongWater’s second equity fund. The Osage mill will be a division of Standard Merchandising Company, a Camden, New Jersey-based domestic manufacturer of socks and hosiery products acquired by LongWater in December 2015. ●



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Updates on Shows, Suits and Senior Positions.

## PGA Highlights Textiles

**H**ot topics including “Sourcing Merchandise in the New Political Environment,” “New Technology/Innovation,” and “What’s Next in Active Lifestyle,” are on the docket for discussion at the 2017 PGA Merchandise Show. The Performance & Sports Textile Sourcing section at the upcoming Orlando fair will feature these along with other seminars as part of the daily educational program. Additionally, more than 40 international fabric mills and factories with expertise in high-performance fabrics will exhibit in the specialized Textiles sourcing area. Domestic suppliers as well as leading mills from Asia and Europe will display their latest developments and innovations.

“We are pleased to have growing participation by international textile companies and a full educational calendar in our second year of the Performance & Sports Textile Sourcing at the PGA Merchandise Show,” said PGA Golf Exhibitions Event Director Marc Simon. “The par-

ticipating companies, complimentary workshops and sourcing consultants on hand combine to offer a premier opportunity for exhibitors and apparel development executives to expand their sourcing matrix and develop a deeper knowledge of performance fabrics, manufacturing and international trade opportunities.”

The 64th PGA Merchandise Show, to be held Jan. 25-27, 2017, in Orlando, will welcome some 1,000 top golf companies and brands and more than 40,000 industry professionals from around the world to the industry’s annual global summit for the business of golf. ●

### Microban Wins Judgment in Trademark Case

Microban, a leader in antimicrobials and odor control technologies, won a judgment and damages from Shanghai’s Greenchem Fine Chemicals Ltd., for fraudulent use of its AEGIS Environmental Management Inc. (a subsidiary of Microban International) trademarks. The Putuo District Court order declared that Greenchem

Fine Chemicals Ltd. unlawfully continued to use the AEGIS brand in sales and marketing materials after Microban terminated its distributor agreement in 2013, and throughout the trial. During its distributorship with Microban, Greenchem Fine Chemicals Ltd. secured several fraudulent trademark registrations for the AEGIS trademarks in certain Asian territories. Greenchem Fine Chemicals Ltd. has been ordered to immediately discontinue its use of the AEGIS trademark registrations. A public apology has been ordered to be published in the China IP Daily, before year’s end.

“This is an important victory for Microban,” said Lisa Owen, senior business director, global textiles for Microban. “Microban has always prided itself on the quality of its products, and we want to maintain the integrity of our brand. AEGIS comes from only one place and that is Microban and its authorized distributor network”

Greenchem Fine Chemicals Ltd. is no longer an authorized distributor of AEGIS products, and is not permitted to sell any products produced by AEGIS Environmental Management, Inc. or Microban Products International.

AEGIS Environmental Management Inc. is the lawful owner of the AEGIS, AEM and AEGIS Microbe Shield trademarks, in Asia, Europe and the U.S. For more than 30 years, Microban has been manufacturing AEGIS, an odor control technology for apparel and footwear, and is the sole owner of its antimicrobial product registration in Canada, China, Europe and the U.S.

### Champion Thread Promotes Matt Poovey to President



Champion Thread Company, maker of industrial sewing threads, engineered yarns, and other textile and sewn products supplies, has named Matt Poovey President of the Gastonia, NC-based firm. “The resurgence of

soft goods manufacturing in the United States and across the Americas has fueled our strong growth in recent years. This has empowered us to accelerate innovation of existing products, expand into new products, and increase market share,” said Poovey. In the new role, Poovey will extend his current sales and operations duties to include responsibility for all day-to-day activities. He assumes the position from his father and company founder Bob Poovey, who will continue to actively serve as CEO. Matt Poovey also currently serves as a Director and Vice President of SEAMS, the National Association for the Sewn Products Industry. ●

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# FOOTWEAR | ACTIVE LIFESTYLE

For Both Style and Performance, Knit Uppers Are Footwear's Latest Must-Have. *By Jennifer Ernst Beaudry*

## Knit Knack

**K**nitted uppers burst onto the footwear scene in 2012, when Nike debuted its Flyknit woven technology ahead of the London Olympic Games and Adidas released its Primeknit material. (The fact that both techniques were one-piece constructions using interwoven yarns was, not surprisingly, the subject of a court battle ultimately won after a German court tossed Nike's patent on the process.) Today, the flexibility and adaptability of the knitted fabrics and the increasing availability of new yarns and weaving techniques — to say nothing of the red-hot fashion appeal of the close-fitted, sock-like uppers — has made wovens a go-to for an increasingly broad swath of brands. Consumers are flocking to knit styles that are designed to perform in the gym as well as on the street. ●

The next evolution of Nike's pioneering Flyknit material debuted this fall with the \$200 LunarEpic Flyknit Shield style, which uses a DWR-coated TPU yarn and marries it to a moisture-repelling internal bootie to create an all-weather runner.



Adidas' latest knit, set to debut in 2017 is Biosteel, an engineering fiber that's 15 percent lighter than conventional synthetic fibers — and it's completely biodegradable.



APL's TechLoom technology, seen here on the \$165 TechLoom Phantom running style, uses performance fabrics in a seamless one-piece upper for a snug fit with four-way stretch.



The new \$100 Revel casual runner from Brooks, debuting in Fall '17, is the brand's first to feature a flat-knit knit, made with a hot-melt yarn that resists stretching.



Hoka One One's \$115 Hupana speed trainer for Spring '17 features a seamless upper with the brand's first open-knit designed for breathability.



Puma is bringing its evoKnit technology into the lifestyle area with the \$110 Ignite EvoKnit Lo style for Spring '17. It will feature heathered sweater-like color packages.



The \$160 UA SpeedForm Gemini 3 RE by Under Armour for Spring '17 features the brand's Threadborne knit technology in the midfoot for breathable but supportive fit.

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# FOOTWEAR | MIDSOLES

Outdoor Brands Adopt an Athletic Approach to Upgrade an Underfoot Experience. **By Jennifer Ernst Beaudry**

## SNEAKER SENSE

The appeal is in marrying athletic midsole technology with a classic outdoor silhouette.



It's no secret that sneakers have become the go-to look for a whole generation of consumers; for work or play, these days individuals turn to the comfort and springy underfoot feel of their favorite athletic shoes. And outdoor brands have noticed.

Heading into 2017, more and more outdoor brands are taking inspiration from the ride and feel of athletic styles. However this new generation of performance shoe isn't letting the sneaker influence stop at just the upper. In fact, for some brands, the appeal is in marrying athletic midsole technology with a classic outdoor silhouette.

With new midsole compounds, constructions and technologies that borrow an aesthetic and springy cushioning from the athletic world, trail runners, hikers and even outdoor casual shoes are

feeling more and more like classic running shoes, whether they look the part or not.

Here's how brands are innovating around materials to give outdoor a new athletic feel.

### Timberland AeroCore Energy System

If you ask Gregg Duffy, senior director of performance footwear for Stratham, NH-based Timberland, having athletic cross into the outdoor word makes nothing but sense.

"There's a really heavy athletic trend right now, and the consumer's acknowledgement of heritage is as strong as ever. It's never been as good or as popular to be an athletic brand, and it's never been as good and as popular to be Timberland right now," he said. "Strict heritage looks are giving way to unexpected combinations,

and in Fall '17 there's this cross-linking of features and functionality and how that combines with sneakers. We're both feeding off each other."

One major result of that cross-pollination is AeroCore, a proprietary PU-based midsole material that Duffy describes as "really cushy, really comfortable, really durable." The AeroCore Energy System sole design, which is highlighted in the Flyroam collection of sneaker boots for men and women for Fall '17, uses the high-rebound material for cushioning, and adds a rubber outsole for durability. The sleek, aggressive design language of the outsole package is definitely athletic inspired. As is the feeling underfoot, even if the uppers leverage the brand's boot making heritage.

"It's a really nice merge between the comfort and speed and lightness of athletic and the crafted leathers that Timberland is known for," he said.

### Salomon Opal

"What we've found is that the millennial customer, the brands

1. Hi-Tec Altitude Aल्पina Mid boot. 2. Salomon Outpath Pro GTX. 3. Timberland Flyroam Leather Hiker. 4. The North Face Enduras TR. 5. Hi-Tec V-Lite Wild-Life. 6. Salomon Outpath GTX. 7. Timberland Flyroam Hiker.

they've been influenced by have been very athletic. The colors and more athletic styling resonated with them," said Lance Taylor, U.S. commercial manager for footwear, Salomon. "We're the athletic outdoor brand, so we're poised to take advantage of that shift from day hikers to using more athletic materials."

Chief among them is Opal, a polypropylene compound central to the anti-vibration VIBE Technology midsole system developed by former Asics biomechanics guru Simon Barthold. The cushy Opal foam makes it debut in the \$150 ultra-cushioned trail runner Sense Pro Max style for Spring '17, where it's dropped into the heel and forefoot impact zones to reduce the vibrations that add to muscle fatigue, and encapsulated by a denser foam to keep the foot stable and provide greater energy return. Coming full circle, the technology makes its way back to the pure ath-

**"Strict heritage looks are giving way to unexpected combinations, and in Fall '17 there's this cross-linking of features and functionality and how that combines with sneakers."**

GREGG DUFFY, SENIOR DIRECTOR OF PERFORMANCE FOOTWEAR, TIMBERLAND



**“We’re the athletic outdoor brand, so we’re poised to take advantage of that shift from day hikers to using more athletic materials.”**

**LANCE TAYLOR, U.S. COMMERCIAL MANAGER FOR FOOTWEAR, SALOMON**

letic world for Fall '17, when it will be found in the brand's new Sonic and Sonic Pro 2 road shoes.

**The North Face XTRAFoam**

Developed with extensive insight from sponsored athlete Dylan Bowman, The North Face is bringing its cushioned Enduras TR trail runner to shelves for spring '17, and with it, its new XTRAFoam technology. Consisting of a softer durometer of EVA in the sweet spot underfoot and surrounded by a stiffer durometer of EVA acting as a perimeter containing it, the \$130 style gives runners the softness they want for long runs but keeps the foot stable.

**Hi-Tec Ortholite Impressions+**

Luke Schnacke, product, marketing & eCommerce director for Portland, OR-based Hi-Tec, said the athletic influence on the outdoor has evolved, and the feel of the

product is what counts. “In previous seasons, product has been heavily athletic orientated, and there was a huge push in this direction with very bright color accents and extreme design details,” he said. “However, as this product hit retail, the consumer for the most part didn’t make the adoption. We believe products need to be familiar to the outdoor audience in order to entice them, with silhouettes they already understand, and then surpass their expectations by bringing athletic influence into these by delivering added benefits.”

And at the top of the list? Comfort. For 2017, Hi-Tec partnered with OrthoLite on the upgraded Impressions+ footbed, which brings the immediate comfort of memory foam into outdoor performance hiking and multisport silhouettes but provides arch support for athletic looks like fall's \$130 Altitude Alypina Mid boot. ●

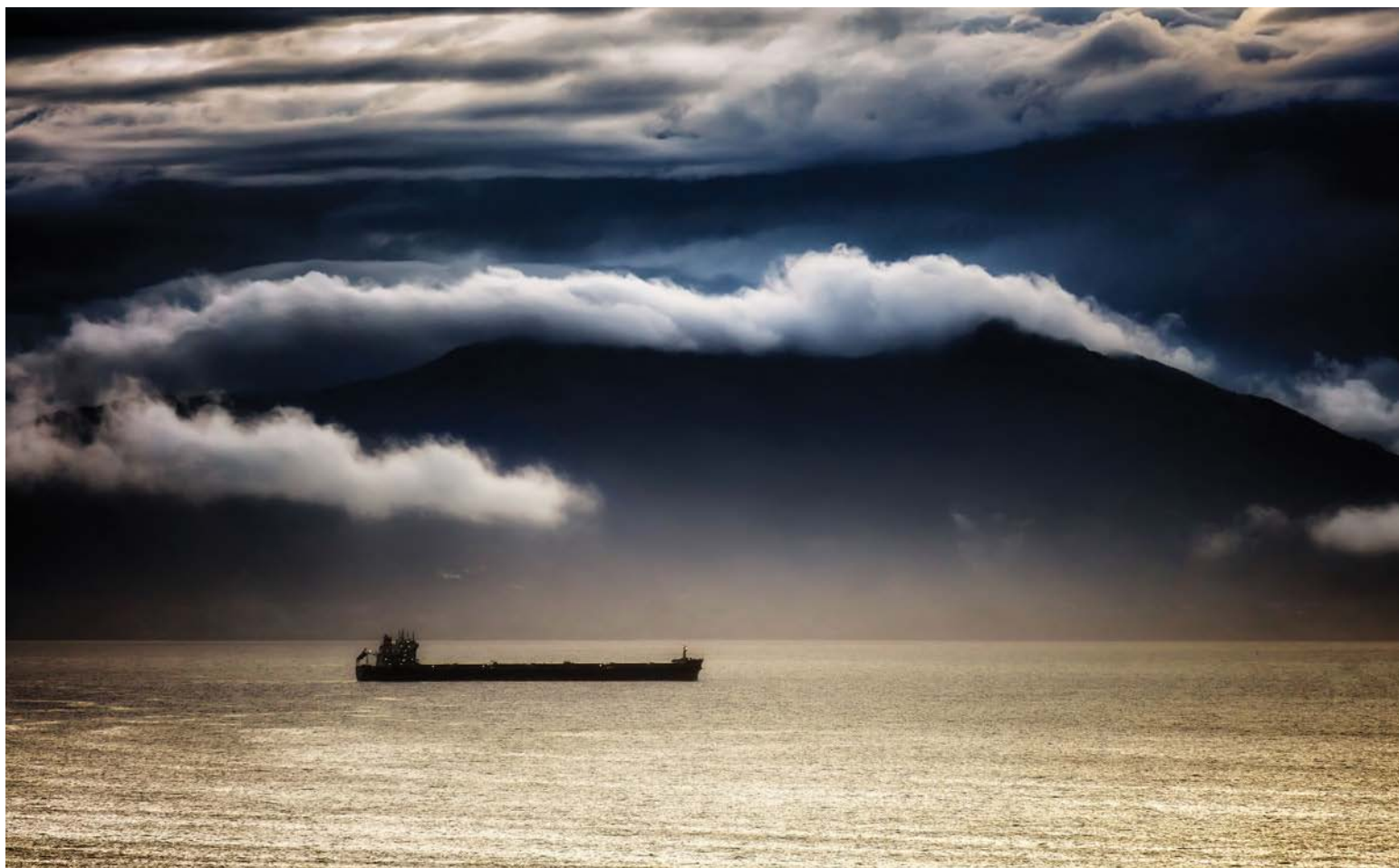


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## Trade Talk Floats



By Bob McGee

**T**he Trans-Pacific Partnership trade deal may be dead on arrival in a Trump Administration, but key components of the long negotiated but never ratified pact could move forward in new bilateral trade agreements.

That is a positive as the debate chatter over trade heats up, including the future of the North American Free Trade Agreement (NAFTA) and possible repercussions from the President-elect's pushback against the decades-old One-China policy. Any NAFTA withdrawal, which would require Congressional approval, would undoubtedly force retailers that import from either Canada or Mexico to rethink supply chains and possibly raise prices to offset higher tariffs.

"While we are disappointed with President-elect Trump's statement that he will withdraw the U.S. from the TPP... we remain bullish on Vietnam, which will continue to be an important source of apparel, footwear and travel goods for the global market," said Stephen Lamar, Executive Vice President of the American Apparel & Footwear Association.

"Access to global markets and global supply chains is essential for the success and competitiveness of the U.S. apparel and footwear industry, and we encourage the incoming administration

to include many of the benefits of the TPP in future bilateral agreements," Lamar added, "including cutting large tariffs and protecting intellectual property rights."

Six weeks ahead of his inauguration as the 45th U.S. president, Trump made it clear that he will not be bullied by China although he offered no additional clarity about his campaign threats to brand the country "a currency manipulator" as soon as he takes office and slap a 45 percent tariff on its U.S. exports. The latter likely sent shivers down the spines of many in the sporting goods industry who still rely on China for a majority of their wholesale goods.

Still, not everyone has been rattled by Trump's hard positions on trade or has had apprehension about his early Cabinet picks. The Outdoor Industry Association said it believed it would have "a productive and collaborative relationship" with Congresswoman Cathy McMorris Rodgers (R-WA), the likely nominee as the next Secretary of the Interior to replace Sally Jewell. The OIA points out that McMorris Rodgers understands public lands and waters are the foundation of the \$646 billion outdoor recreation economy, represents several outdoor businesses in her district and was an original co-sponsor of the Outdoor REC Act. Signed into law by President Obama, the legislation ensures the outdoor recreation industry is included in the U.S. gross domestic product (GDP). ●





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<sup>1</sup> Bio-based content as certified in accordance with ASTM D-6866

<sup>2</sup> Recyclability is based on access to a readily available standard recycling program that supports such materials. Products may not be recyclable in all areas.

**F**ootwear and apparel brands expect today's materials to multi-task, delivering not just one performance feature but instead a roster of attributes. Lubrizol's portfolio of new technologies and revolutionary materials keeps pace with this strong industry trend.

"We are listening to our customers and their consumers, and additional multi-functionality is the mantra," says Cathy Knowles, global manager, performance apparel, Lubrizol. Innovative, versatile textiles that offer cooling, durability and stretch are setting a new standard in performance and active lifestyle garments and footwear.

Lubrizol also recognizes the importance of providing more sustainable materials. As a member of the Sustainable Apparel Coalition (SAC), the company supports a common approach to measure and reduce environmental impact of materials for apparel and footwear. In addition, Lubrizol has completed a full Life Cycle Assessment (LCA) to quantify the reduced impact of its breakthrough stretch fiber X4zol™-J.

Lubrizol has depth and breadth throughout the value chain with a platform of performance solutions that includes resins, fibers, films, adhesives, foams and coatings. Working directly with footwear and apparel brands, Lubrizol is also engaged in fabric care technologies, digital printing, formulations, textile processing and footwear manufacturing.

Here's an overview of how Lubrizol innovation brings exceptional performance and comfort properties to apparel and footwear:

## Fibers

Lubrizol's new revolutionary elastomeric fiber, X4zol™-J, is bringing innovation to the Performance Apparel industry. Applications for fabrics with X4zol™-J include performance athletic apparel, base layer, athleisure, intimate apparel, shapewear and stretch denim.

X4zol™-J fiber is made from thermo-plastic polyurethane (TPU) resin, available exclusively from Lubrizol and our partner network for circular, warp knit and denim fabrics, and seamless garments. Fabrics with X4zol™-J offer balanced stretch and recovery, comfortable compression and breathability, for exceptional wearer fit and comfort.

X4zol™-J fiber is produced without solvents and with the capability of being recycled in fabric form. (See opposite page for more about X4zol™-J fiber.)

## Adhesives

Lubrizol recently introduced the Pearlbond™ Thermoplastic Polyurethane (TPU) 300 Series for hot melt adhesives (HMAs). Plasticizer-free, the Pearlbond 300 series is designed to provide soft hand feel with high elasticity and good wash resistance.

## Coatings

The Performance Coatings group offers a world-class portfolio of water-based resins, polymers and additives for demanding multi-functional textile applications. Lubrizol coating technologies help fabrics performance in ways beyond how they do in their natural state. This includes combinations of flame retardance, durability, stretch restriction and thermal regulation as well as a range of look-and-feel characteristics. ■



←  
Garments with X4zol™-J have balanced 360° compression for enhanced fit and comfort.



## The Power of Partnership:

### Lubrizol Teams with Tefron for Next Generation Comfort Compression

**T**efron is one of Lubrizol's key global partners for X4zol™-J fiber. "I'm always looking for breakthroughs in yarns, so when I came across a fabric with X4zol™-J fiber, I immediately saw the possibilities and all the wheels started turning," states Sigi Rabinowicz, Tefron's Global Innovation Adviser. Tefron is a state-of-the-art textile company known worldwide for expertise in body size and seamless garment innovation and manufacturing. The Israeli-based company has a strong presence in active wear and performance apparel, as well as a leadership position in intimates.

"We are always looking for new solutions and re-inventing product," Rabinowicz explains. "Not just a new fabric or a new feel, or new print or a new color, but something totally different."

Tefron views X4zol™-J fiber as a difference maker. "There is no other yarn that offers the fit, feel and functionality of X4zol™-J fiber. It has a lot of pluses that other elastanes do not," states Rabinowicz.

#### Advantages Beyond Traditional Spandex

What makes X4zol™-J fiber different from conventional spandex has to do with the shape of the fiber and how it is produced. X4zol™-J is a monofilament fiber that is finer and stronger than traditional elastomeric fibers and enables thinner and lighter weight fabric with unique stretch and recovery and comfort features.

Traditional spandex fibers are multi-filament. "Knitted garments made with multi-filament spandex tend to heat the body because the fabric doesn't let the sweat out," explains Rabinowicz. "But when you knit X4zol™-J fiber it has inherent breathability and air movement, so the garment feels more comfortable."

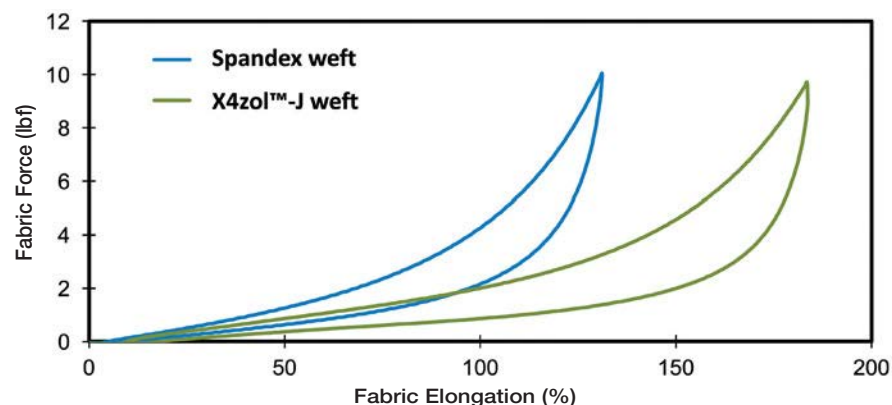
The X4zol™-J fiber gets its name from a stretch/strain curve that resembles a J shape characteristic of a softer, more consistent, and balanced stretch. Ravi Vedula, global market development manager for Lubrizol explains that the physical proof of a fiber's unique stretch properties is its stretch/strain curve. "An S-shaped stress/strain curve illustrates an initial resistance to stretch, or elongation; a period of low resistance to continued stretch; and then a rapid increase in resistance to the point of full elongation, or breakage."

X4zol™-J fiber also features sustainable properties. "If you can say to a manufacturer this product is solvent-free, and recyclable, that is huge for eco-minded companies, and ultimately will be important to everyone," says Rabinowicz. "The industry is much more conscious of ingredients and managing chemicals now. Awareness of sustainability is on the rise."

Consumers today are looking for products with added value. "Consumers want products that are lighter, thinner, softer, more breathable and comfortable to wear," says Gil Shimon, Tefron's CEO. "Tefron is always ahead of the curve with innovation and bringing to market a new technology. That's why working with Lubrizol's X4zol™-J fiber fits us very well." ■



Fabrics made with X4zol™-J feel weightless on the body with "easy on, easy off" comfort compression combined with cooling and contouring benefits.



#### Benefits of X4zol™-J in Fabrics

- Thinner and lighter, yet stronger and more durable
- Comfortable compression
- Breathable and cooling touch
- Balanced 360° compression for enhanced fit
- Sustainable benefits include processing at lower temperatures and recyclable\* fiber
- Engineered moisture movement throughout fabric

# iNvENtoLoGy

## WHAT NOW?



## Execs Look Ahead with Eyes on New Opportunities for Outdoor Performance.

**T**extile execs point to seismic shifts as well as subtle influences that are directional in how the industry goes forward from here. Interestingly, weather, once a dominant “make or break” type element in this business now plays a lesser role. Sure it’s helpful if winter comes early and stays cold, but execs concur that there are bigger conversations to be had. For instance, how and why consumers shop; where and how to connect with today’s consumer; what gaps can be filled in a maturing outdoor category; and where performance makes the most sense, and how to deliver it.

In terms of trends, authenticity reigns supreme and a genuine brand identity is critical. New business models are taking shape with transparency top of mind. Testing is key, as quantifying performance is a differentiator in today’s crowded sea-of-sameness product selection. Strategies focused on partnerships and collaboration are powerful because these days, relationships matter. And yet, with all these challenges jostling the business world, execs from leading textile firms say the same thing: In times of change, opportunities await.

Here’s how textile specialists are inventing the future of outdoor performance.

### **Fundamental Shifts, Authenticity & the “m” Factor**

“We are certainly in a state of change,” states PrimaLoft president Mike Joyce. “There has been more change in the past two years than in last 10.” When it comes to fundamental shifts, Joyce highlights globalization and millennials as the biggest forces at play.

“As e-commerce intensifies, borders are basically eliminated,” explains Joyce. “You’re now talking globalization at point of sale. Go to Amazon, for example, and any global brand can be found. This intensifies competition,” adds Joyce, “If consumers can buy whatever they want, at a touch of button, then that levels the playing field.” He concludes, “The question then is, how to be different.”

With today’s proliferation of technologies, differentiation through product is crucial. New PrimaLoft products that address this theme include PrimaLoft Gold Active, designed for lightweight warmth, breathability and versatility, and the new PrimaLoft Black Insulation ThermoPlume, the industry’s highest-performing blowable synthetic insulation with the look and feel of natural down. Says Joyce, “This is our most down-like product, and has been our most sampled product in last 10 plus years.”

Joyce asserts that today’s chase for authenticity is a reaction to globalization. And what group has made authenticity their mantra? Millennials. “They want authenticity. They buy on necessity and how it relates to an experience,” says Joyce. “Authenticity is a game changer in terms of how and why millennials buy.”

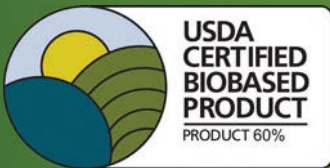
Joyce is joined by other textile execs on this point. “Growth at the macro level goes to millennials, and how they value performance and experience it,” states Cindy McNaull, global marketing director, Cordura brand. She describes millennials’ “less is more” type culture that is based on smart purchases made by savvy shoppers interested in knowing where product is made and what it’s made of, too. In other words, explains McNaull, it’s all about “the hunt for authenticity.”

Cordura celebrates its 50-year anniversary in 2017, and



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**“Textiles on a global basis, not unlike other industries, is on the edge of change. There are economic drivers that we’re seeing in the manufacturing, and in the brand level, that are driving change.”**

**BOB BUCK, CHEMOURS**

according to McNaull new product launches are all about how “heritage meets innovation.” One example is a partnership with Cone Mills to launch a special 50th Anniversary edition Cordura Selvidge Denim collection, sourced from Cone’s White Oak facility. This is the first Cordura Selvidge Denim ever produced.

W.L. Gore takes a scientific approach to authenticity. The company continues to invest heavily in R&D and as such recently opened two facilities in Delaware, estimated as a multi-million dollar investment. The new Biophysics and Heat & Flame Protection labs allow Gore engineers to measure the properties of component materials, Gore laminates and fully constructed garments, and footwear in new, expanded and relevant conditions.

The state of the art Environmental Chamber, with lab and brand new Rain Tower, goes way beyond traditional testing. Consider that the Environmental Chamber can recreate between 85-95 percent of the environments on the earth’s surface to evaluate fabric performance in specific conditions and collect quantitative data on the protection provided, and the comfort of the wearer.

“Climate comfort solutions,” is how Gore associate Matt Decker describes an overview of what’s going on at the new Biophysics lab. Decker states, “Comfort is really complex. We try to provide science and quantifiable data of comfort.” All aspects of comfort are considered in the lab, including thermal, ergonomic, sensorial and aesthetic, along with what Decker calls the “4 Ps of Comfort: Physics, Physiology, Psychology and Perception.”

“There is a healthy tension for faster to market, but with quality product,” says Decker. “Learning how to provide the most comfort for the broadest range of individuals will meet the needs of today’s marketplace.”

Gore’s new Heat & Flame Protection Sciences lab evaluates all elements of burn protection including flame resistance, thermal insulation and thermal stability. Four times the size of the previous lab, the new space focuses on end use for military, firefighters, industrial and workwear. Noting that obviously there are no user trials possible, Gore associate Shawn Riley, explains, “We want to get as close as possible to the real experience and look to speed development in these markets.”

### **Connecting With Consumers & Filling Market Gaps**

“We’ll have our most profitable year ever in 2016,” says Chris Parkes, partner, national sales manager, Concept III Textiles. He believes companies with a

strong customer relationship are finding success in today’s market. “Weather is a factor and it’s been cold, but the bigger conversation is who can win with the consumer. That’s what’s most important today,” Parkes continued, adding, “just look what Patagonia did. The company made a statement on Monday before Thanksgiving and then sold \$10 million worth of product on Black Friday.”

Parkes says this shows how much contemporary consumers want to be part of something. They want to connect deeply and personally with companies that have a strong brand identity and a company culture they can believe in and relate to. “It is relationships, relationships, relationships,” says Parkes, who cites Arc’teryx and Duluth Trading as two other brands, like Patagonia, that by staying strong to their core are succeeding with today’s consumers.

What does this mean for textile suppliers? How can they connect? Execs say story telling through brand partnership is an emerging business model that is gaining industry traction. Joyce, of PrimaLoft, states that, “If we can work with a brand, find a common strategy, and totally align our visions, then that is very powerful.”

Schoeller has long had strong relationships with established outdoor brands, and that continues. However, Schoeller president Stephen Kerns sees growth opportunities in new markets, as well as new hybrid business models.

“We are seeing a lot of growth in high-end garments designed for direct to consumer, from large to medium-sized brands, to small-scale brands, to even people in the early stages of creating brands,” comments Kerns. “These new style garments have unbelievable, exquisite looks, with technical performance, whether it’s 4-way stretch, or a cool hand, or other functional fabric technologies.” He mentions brands like Alps & Meter and North Sails apparel as driving this “luxe” category as well as the Arc’teryx Veilance collection being a fit for this trend.

“These high-end, “technical fashion” garments are very aspirational and urban,” explains Kerns. “And we see this as continuing to be a hot category.” Kerns is also watching as traditional retail combines with direct-to-consumer selling to form a new hybrid business model. “Direct to consumer is a move to a material story,” he says. “The textile gets called out online, and fabrics and technologies are highlighted as a point of differentiation.”

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**“The parent driving a Range Rover looking to buy a \$14 fleece for his kid’s soccer team wants to know if the factory where the garment is made is doing right by employees. There is an integrity factor.”**

CHRIS PARKES,  
CONCEPT III



**The latest workwear collections highlight textiles and fabric technologies that wick, stretch, and feature odor control.**

according to McNaul. “We’re seeing movement toward lifestyle and the ‘at the Mall’ type brick and mortar stores as well as Cordura being used in footwear,” she adds. “Performance tech in footwear is happening across the board, from Columbia to adidas to ALDO.” The new Cordura partnership with ALDO will launch in 2017.

“People are investing in footwear. It’s becoming a statement piece,” McNaul explains, “For active lifestyle, the ‘it’ accessory now is footwear.”

### **Sustainability for All**

“Textiles on a global basis, not unlike other industries, is on the edge of change,” says Bob Buck, Chemours’ Technical Fellow. “There are economic drivers that we’re seeing in the manufacturing, and in the brand level, that are driving change.”

Within apparel and textiles, for instance, there is a lot happening on the chemical side, with big players changing ownership, consolidating and expanding in new ways. Buck mentions the consolidation of BASF and Archroma, and Huntsman launching a separate textiles effects business as two good examples that support the macro trend of industry change.

“We’re seeing more vertical integration because

that’s where economies are found, and people believe that aggregation creates opportunity,” states Buck. This market movement affords the ability to control costs and control capabilities. Some of what we’re seeing is a natural business cycle, according to Buck, who cites DuPont as a company that went through a similar cycle of spinning off businesses.

As a result, Chemours is now carving out its own future. “We can control our own destiny, and business is really good,” says Buck. Chemours colleague Lisa Hardy agrees. Having worked with Buck at DuPont previously, she, too, asserts, “We control our destiny and because we are our own company we can re-invest in our own business.”

This is having positive results. “We’ve been overwhelmed with the interest in our new EcoElite product. We are looking to expand the offering and are taking a tiered approach to provide the best of the best, but also a more price-conscious sustainable offering, so that we serve the whole marketplace.”

Buck and Hardy believe that performance today is made up of many levels, what they refer to as “the pyramid of performance,” and “we’re seeing that sustainability is not just for the tippy top,” explains Hardy. “Performance means different things to dif-

## **A CATEGORY WITH MOMENTUM**

CULTURAL AND INDUSTRY TRENDS ARE CONVERGING TO BRING WORKWEAR into the spotlight in 2017. Manufacturing has been pegged as a priority of the incoming administration that also seeks to put more money into infrastructure and construction jobs. USA-made and reshoring efforts continue to attract interest as supply chains constrict and vendors seek swift delivery with “closer to home” types of production. Outdoor is also finding workwear brands increasingly receptive to upping the performance factor in garments and footwear. The latest workwear collections highlight textiles and fabric technologies that wick, stretch, and feature odor control, in addition to FR treatment and overall durability. Brands like Carhartt, Dickies, and Duluth Trading, are growing, and other companies are starting to fill in the gaps. Milwaukee Tool, for example, is a brand to watch. So, too, is the company 1620 Workwear with product aimed at a younger, active outdoor oriented demographic attracted to premium goods – along the lines of the hugely successful Yeti brand. Get ready for “bespoke workwear.” ●



ferent people. For some performance equates to 50 washes and for other's the performance needs to last one year."

Overall, there is greater receptivity to sustainability and the advances in chemistry. "These attributes are now strongly affirmed," says Buck. "We see more and more brands talking not just about the product, but how its made, where its made and what its made of."

Execs at Concept III recognize this trend. "There is much more awareness of supply chain transparency," comments Chris Parkes. "The parent driving a Range Rover looking to buy a \$14 fleece for his kid's soccer team wants to know if the factory where the garment is made is doing right by employees. There is an integrity factor." David Parkes, Concept III founder, sees growth in a variety of sustainability efforts. "This category has matured beyond organic and recycled," he explains. Concept III partner Kingwhale uses Low

Impact Technology (LIT) manufacturing methods, while partner Bolger & O'Hearn are finding traction in the market with its new PFC-Free DWR chemistry, and partner Porelle takes advantage of a solar and wind to generate power.

PrimaLoft has committed to more than 90 percent of product move to being post-consumer content within five years. "At the same time we are bound to maintaining the same level of performance integrity," says Joyce. "This requires taking control of the supply chain, all the way to securing the raw material."

Concludes Buck, "No question there is a ground swell in the B2B space that is moving apace with green chemistry. But change takes time. The commitment by suppliers and desire is there, and it is slowly building up to the mainstream. Mainstream retailers now get it." ●



**"As e-commerce intensifies, borders are basically eliminated. You're now talking globalization at point of sale. Go to Amazon, for example, and any global brand can be found. This intensifies competition."**

**MIKE JOYCE, PRIMALOFT**

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# TECHNOLOGY | WEARABLES

The Latest Wearable Tech Tackles Climate Change and Apparel Functionality. By Suzanne Blecher

## FUTURESMART

**W**ith chilling snow forecast one day, and warm sunshine the next, weather is a problem for outdoor brands. Forecasters can explain fluctuations as a reason why sales are off, but can do little to prevent climate dips from happening over and over again. Yet with rapid advances in e-textiles, Erica Orange, COO of The Future Hunters, sees things changing. “In the future, wearables is not going to be about that which is conspicuously worn, but about the injectables woven into our clothing,” said the exec at a November event hosted by the Fashion Group International (FGI).

At the talk, entitled “Future Shock: What’s Ahead,” Orange predicted that we will see self-cleaning and bioregulating garments and accessories in the future, as well as crossover with artificial intelligence, thanks in part to innovation from tech firms.

One example that is in development is Kenzen’s ECHO Smart Patch, which has real time sweat analysis that helps consumers better understand their physiology.

“Personalized health insights and notifications help improve performance, recovery and prevent injury,” according to the firm’s site. The patch is worn on the torso and a digital signal processor detects true body motion.

As we move forward, the key for outdoor, according to Orange, “is helping consumers understand what the utility is to them and make it seem less gimmicky.”

### The Fashion & Tech Connection

At Silicon Valley Fashion Week?!, held last October in San Francisco, designers presented new ideas in 3D printing, prosthetics, drones, and wearable technology. One T-shirt featured an LED pattern able to be rearranged with an app.

To marry fashion and technology, Marija Butkovic, creator of the Kisha Smart Umbrella that operates with an app to provide push notifications when it rains, and Michelle Hua, founder of heated glove company Made with Glove, started Women of Wearables. According to its site, “WoW inspires, supports and connects women in wearable tech, IoT and VR/AR by providing visibility, support, mentorship and connections for our community through our events and wearable tech workshops.”

Women of WoW include Lina Wassong, who created an interactive Equalizer Skirt that reacts to the noise level of the environment and a Frilled Dress with wings that raise and lower with the wearer’s heartbeat and excitement level (measured by pulse via an earring). “Technical advance-



“The Ambiance Skirt has 24 integrated lights that fade in and out to recorded sounds of a river, wind and animals.”

LINA WASSONG

ments like engineering textiles adjusting easier to our body temperature is something I’m really looking forward to,” said Wassong, adding, “We are going to feel more comfortable in our clothing.”

Solar panels for charging devices while hiking or on a long bike trip and integrated sensors in sportswear are a couple of other useful developments in the athletic and outdoor industries, Wassong mentioned.

### Tracking Fitness, and the Weather

In May 2015, Google and Levi Strauss & Co. unveiled Project Jacquard, whose goal is to “confront the historical limitations of wearable technologies by decoupling the touch interface from the digital device.” Jacquard makes garments interactive so that “simple gestures like tapping or swiping send a wireless signal to the wearer’s mobile device and activate functionality, such as silencing phone calls or sending a text message,” notes Levi’s Unzipped blog.

Levi’s was one of the first denim brands to toy with nanotechnology, producing Commuter

by Levi’s products featuring water resistant and dirt repellent NanoSphere by Schoeller Technologies AG in 2011. All Commuter products also featured Sanitized from Clariant, providing protection against odors, and 3M Scotchlite, integrating reflectivity into key areas.

The next generation of uber-functional commuting garments may be ones that use data collected from smart devices including thermostats, cars, smartphones watches. “Wearables are tracking you and spinning all kinds of data,” explained Andy Marks, president of Marks Entertainment + Media at the FGI panel. “As a marketer, you have to ask what the potentials are of the data, how you can leverage it, make sense of it and then hyper target and bring the consumer more of what they are looking for.”

In the field of temperature, IBM recently purchased The Weather Company. The teaming of the two firms will serve as the foundation for the Watson IoT Cloud platform and address issues including climate change. “This rich platform provides our clients significant competitive advantage as they link their business and sensor data with weather and other pertinent information in real-time,” notes John E. Kelly, IBM’s senior vice president, cognitive solutions and research, in a 2016 release.

In November 2016, xAd, a firm that pushes app and web ads based on a user’s location, announced its planned acquisition of WeatherBug, a weather application. Users can request temperature conditions for specific locations, allowing for hyperlocal targeting by marketers. Mobile targeting makes sense, as on average, people check their phones 150 times each day, with 50 percent of that mobile activity taking place outside the home, notes xAd. ●

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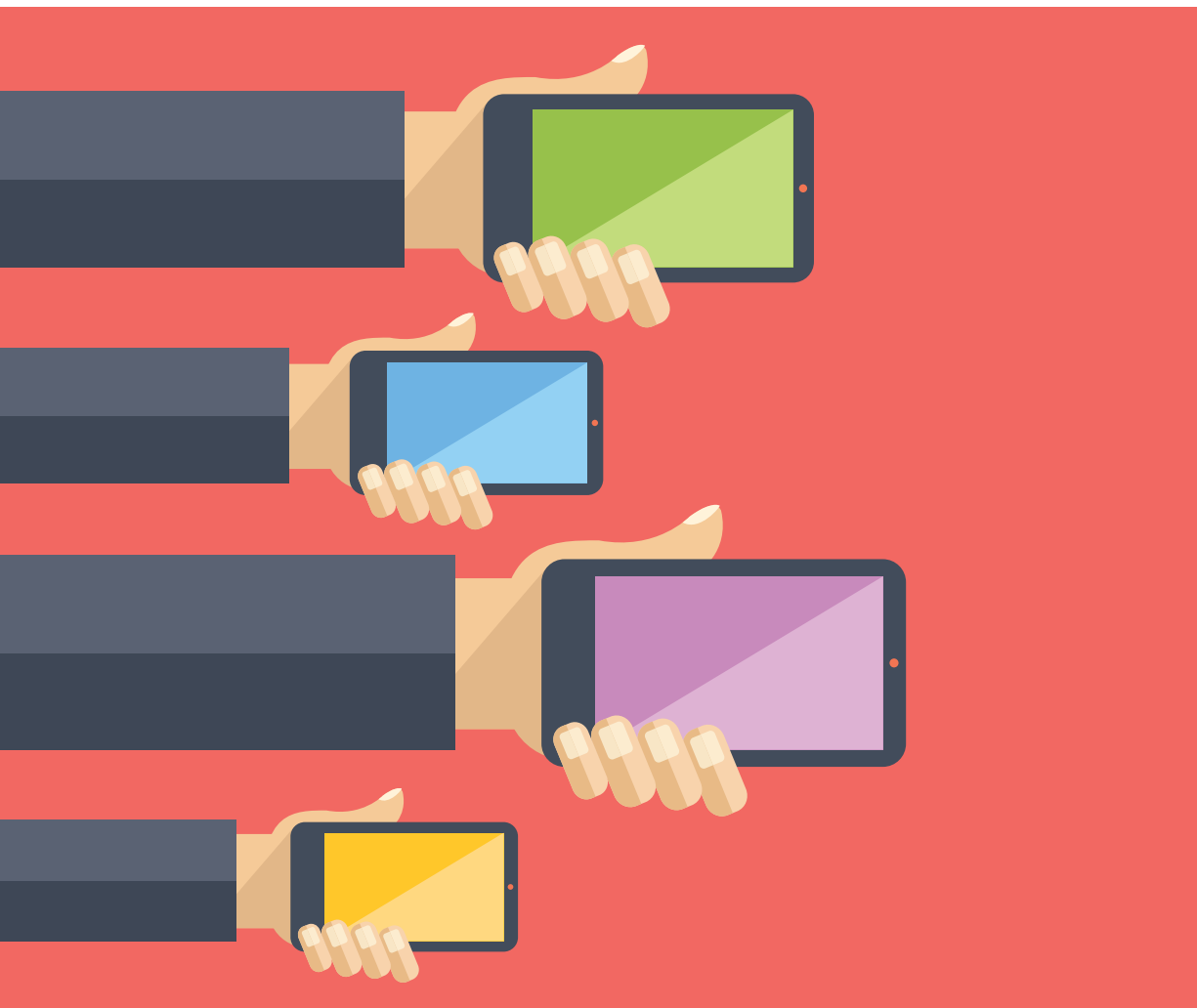
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## Work Tech

Textile Insight Asked Execs to Share their Favorite Work-Related Digital Outlets. Here's What They Said:



**Liz Barrett**  
Senior Marketing Manager, STIO

**Faves:** SMCcurrent, @theplaidpenguin, and the following podcasts: WNYC's "On the Media," "ReplyAll" and "StartUp" – both from Gimlet Media.

**Why:** "ReplyAll" is a fun exploration of the weird world of the Internet, which keeps me current on Internet culture. "StartUp" is like a reality TV show, featuring the challenges, victories and heartbreaks of businesses in various stages of development. It keeps me fueled and inspired to dig in with young businesses.

**How They Relate to Work:** The daily email from Social Media Current keeps me on top of the constant flow and changes of social media technology. The Plaid Penguin is a design, branding agency I used to work with in Charlotte, NC and I follow them for graphic design, brand experience and typography inspiration.

**Chase Heard**  
Co-Founder, Howler Brothers

**Faves:** Instagram and NPR's "How I Built This."

**Why:** I follow lots of artists and style-minded folks on Instagram and it always provides some fresh inspiration. When I get stuck creatively it always helps me out of a rut.

**How They Relate to Work:** It is always enlightening to hear about other entrepreneurs' path to success. It's a definite motivator and place of inspiration, and helps give perspective to the big picture when you are down in the trenches.

**Treya Klassen**  
VP Of Product Design + Brand, RYU

**Faves:** LeadingBlog from LeadershipNow, Harvard Business Review, The Design Blog and Design Cloud on Tumblr. I also follow car design and urban house design.

**Why:** I have two main areas I focus on really - leading people and developing people to be

their most creative. I spend many hours training myself to understand people, cultures and creativity. I also lead courses around the world on this subject.

**How They Relate to Work:** If people are empowered and free to create they always will. My job is getting as much out of the way for them to thrive and create.

**Chris Koens**  
Director Marketing, Shefit Sports Bras

**Faves:** "StartUp" and "How I Built This." Most every day, I check Fast Company, Inc. and Entrepreneur magazine websites, as well as their Facebook and Twitter feeds. I also stop at Runner's World and Shape - and I get the daily download of Women's Wear Daily. I also subscribe to several of those same masthead's print versions and I get Google alerts.

**Why:** "StartUp" and "How I Made This" podcasts are heavy in inspiration - information about other people who've started companies and how they succeeded or failed. The magazines do deeper dives into what is going on in business.

**How They Relate to Work:** Sports-related sites help me see what the competition is doing. It's also helpful to stay on top of trending topics in sports and sportswear, and to know what our customers are doing/saying/buying. It is important to learn from other's experiences; to listen to their successes, and their failures, and use their learnings as helpful pit stops on our road to success.

**Evan Wert**  
President, Icebug USA

**Faves:** Facebook, Twitter, and Instagram. We also try to use blogs, but have found them to not produce the value if we try to use their affiliate programs.

**Why:** Facebook seems to produce the best results for us as it's more of a community and that works best for what Icebug is all about. Instagram works well for a segment of our users (OCR/Obstacle Course Racing Athletes), to be able to share quickly what they are doing and where.

**How They Relate to Work:** This allows us to reach our end users more often and continue to build a strong personal relationship with each of them. We have fun with it, also we provide them with useful information, events going on in their area, and a chance to meet and talk to other users just like them. ●



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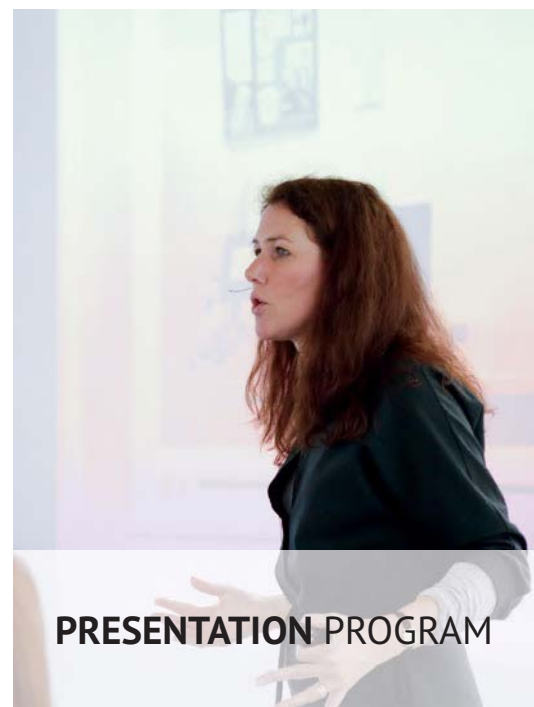
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# IN THE STUDIO | RUNNING

Menswear Makes a Run for It with Heightened Style & Tech. *By Emily Walzer*

## On Your Mark

**C**heck out these headlines: “No Signs of Slowing in Global Menswear Market,” “Men’s Clothing Outpacing Camera, Computers and Beer in Growth,” and “The Rise of Man Shopping.” Then figure in some industry stats: Research from Barclays shows that menswear sales are projected to reach \$40B by 2019. Morgan Stanley estimates that the activewear industry could add \$83 billion in sales by 2020. And clearly men’s fitness is on the move.

So what do men want? Performance for sure, but increasingly men want duds that feel good, have a dash of style, and offer a fresh take on workout wear. A recent entry in the online blog of EDITED explains that “Sneaker culture, relaxed modes of dressing and technical capabilities have changed menswear, potentially for good. Activewear’s profile lift means there’s a greater range of options, more suited to functional lives.”

In the run category that translates to lightweight performance pieces that transcend the traditional runners’ uniform. Functional fabrics that keep pace with moisture management, stretch, temperature regulation and anti-odor technology are out in force for next season. A heightened focus on combining soft-to-the-touch comfort with a slim fit and modern good looks is also important. Together these design elements elevate men’s run apparel and accessories to a new level of sophistication.

This trend came to light at The Running Event (TRE) 2016, an annual trade show now in its 11th year, that hosts run specialty retailers, major footwear and accessory brands and manufacturers contributing to North America’s \$4.5 billion running industry. Organized by *Textile Insight* parent, Formula4 Media, the recent event attracted over 850 buyers and 278 exhibitors eager to learn what’s new for 2017.

*Here are a handful of products on track for the coming season:*

**Balega:** The company’s Silver sock gets its functional value from an encapsulating compressive mid-foot arch and silver liner with inherent anti-bacterial properties, and gains style points for a sleek look and cool colorway.

**2Udr Performance:** The 1st Layer PowerShift is based on feedback from professional athletes with a high-tech poly blend, quick dry fabric that provides support with a compression-like feel.

**Craft Sportswear:** The Active Intensity Baselayer is made with performance grade polyester stretch fabric and features precise body mapping for temperature regulation during workouts. A seamless construction eliminates chafing to enhance comfort.

**Rhone:** The Mako Run Short bumps up the performance factor with a XT2 compression liner and outer fabric blend of durable nylon/poly/spandex. An above the knee length and minimalist design are on trend.

**Ashmei:** This high-end Brit active brand is now crossing the Great Pond with a classy collection of apparel that features super-fine merino wool. The line ranges from waterproof outer layers, to comfy mid-layers and base layers plus shorts and accessories, all sporting true athletic colorways.



# SAXX Underwear Nets Major Investment

Only weeks before its ventilated, strike compression short is slated to hit specialty run shops in January, SAXX Underwear Co. landed a nearly \$50 million private equity investment from Los Angeles-based Brentwood Associates. The Vancouver company, owned by No Limits Group since 2010, intends to use the cash infusion to broaden its product portfolio, enhance its digital presence and expand internationally. No Limits Group investors retain majority ownership in SAXX following the deal with Brentwood, whose other current and previous apparel investments include Allen Edmonds, Ariat International and Filson.

Tim Bartels, CEO of SAXX, a former Columbia Sportswear, Keen

and Nike executive, welcomed the investment in the company, which in September was forecast to exceed \$40 million in 2016 revenues, calling SAXX's new product pipeline robust and suggesting customer support and enthusiasm for the men's active lifestyle brand has never been higher.

"We will continue to support the company (SAXX) in such areas as product innovation, targeted print and digital marketing, and operational excellence across its global distribution and fulfillment platform," said Eric Reiter, a partner at Brentwood.

SAXX, which has exceeded 75 percent annual revenue growth since 2012, counts World Series champion pitcher Jake Arrieta and surfer Mark Healey as wearers of its product and endorsers. ●



SAXX innovative underwear is seamlessly integrated into the brand's new performance Kinetic Run Short.

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- Jason Magness, Team Yoga Slackers

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Flexibility and Creativity Make for an IDEAL Business.

**ZIP IT!**



IDEAL is a family-owned business with 2nd and 3rd generation family members actively involved in the company. Founder Elie Gut, shown here, and on the next page, CEO Ralph Gut between his son's Jeff, left, and Steven, right.

**L**ong before the phrase “Think locally, act globally” became a popular business mantra, IDEAL Fastener Corporation was putting the strategy to work. By maintaining a strong regional presence here in the States while continuing to expand its reach around the world, IDEAL is now celebrating 80 years successfully manufacturing an assortment of product lines for a wide variety of industries.

IDEAL is a family-owned, domestic zipper operation and the second largest zipper manufacturer worldwide. Oxford, NC is the U.S. headquarters, where two plants have a combined space of approximately 175,000 square feet. One facility is dedicated to zippers in an extensive range of styles, colors and materials; the other site, located just down the road, manufactures Hook & Eye Tape for the intimate apparel industry. IDEAL employs 225 people in Oxford and approximately 2500 people in its overseas operations.

“Our zipper business does a lot in denim, outerwear, and footwear as well automotive seating, furniture, home furnishings, luggage/

backpacks, military, uniforms, work-wear, and specialty,” explains company CEO Ralph Gut. Walking the factory floor recently Gut points out different areas of the vertical zipper operation as he stops to greet employees along the way. Here narrow fabric for zipper tape is made, processed, dyed and finished. Zipper components – sliders and teeth – also made here.

“We do everything from basics to sophisticated products. We always try to have something new and different,” states Gut, who highlights two recent introductions: StretchTek and MagZip.

StetchTek, as its name implies, features stretch fabric to allow more give without sacrificing strength. Used in a boot application, for example, StretchTek provides stretch and recovery for enhanced comfort and fit. Used in luggage, StetchTek allows travelers to get those extra essentials into an already stuffed suitcase securely.

The MagZip launched in 2014 in an exclusive with Under Armour. Like StretchTek, MagZip is an innovative, sophisticated zipper with performance features. The magnetic

zipper automatically aligns and locks itself into place, affording users ease and speed of use. And for snowsports fans, outerwear with MagZip eliminates the need to remove bulky gloves and mitts in order to fasten.

IDEAL worked closely with Under Armour on the development of MagZip, relying on the strong relationship between the two companies with executives working hand in hand to create MagZip.

## From the Start

Established in 1936 in New York City, by Jacob and Elie Gut, Ralph Gut's grandfather and father respectively, IDEAL continues to be a family business. Ralph Gut, who has been at IDEAL for over 50 years, and CEO since 1984, is joined by his sons, Steven and Jeff, who serve as company co-presidents.

Manufacturing moved from New York to Oxford in 1966. “When I started in the business and doing sales I traveled often in the South and Southeast,” explains Gut. “Oxford, NC was not far from Martinsville, VA where there was lots of manufacturing going on in those days with many vertical plants.”



## An IDEAL Timeline



Oxford's Industrial Park was just being built when IDEAL set up shop; a sleeping bag manufacturer and dressmaker were neighbors then.

Sitting in his Oxford office, Gut talks easily about fun times in the 1960s when domestic producers for apparel, footwear, and accessories dotted the U.S. landscape. IDEAL handled some unique requests for zippers over the years. For example, IDEAL zippers were used to zip together the AstroTurf field at the Houston Astrodome in 1964 as the stadium was built for baseball, not football. "You figure that it had to go from second base to the outfield; that was a big zipper," says Gut.

To augment domestic sales, IDEAL was ahead of the competition looking abroad. In total, IDEAL operates factories, offices and/or distribution facilities in over 20 countries in North and Central America, the Middle East, Europe and Asia. Factories owned and operated currently by IDEAL abroad include three factories in China, and one factory each in India and Indonesia. Slider making, chain making, weaving, dyeing, electro-plating/enameling, in house testing labs and zipper assembly are done at these locations.

Steven Gut explains, "It's critical to

have a U.S. factory. But what makes us strong is that we're global. We can supply worldwide. Better, newer technology is what it's all about. Specialty products that we make here, we can export around the world."

### Looking Forward

Ralph Gut identifies flexibility and creativity as two major strengths of the company. "We can get something done quickly," states Gut. "If you come to us, and we believe in your product and your story, we will bend over backwards to make it happen."

And like many domestic producers, being innovative is a priority. Gut relates a story from early in his career when he was trying to solve a color/dye problem. "The executive said to me, 'you need to get creative.' And that stuck," said Gut.

Asked about the country's focus on domestic manufacturing and the industry's reshoring efforts, Gut says he senses a "newfound excitement" and is "cautiously optimistic" about the future.

On the day of this interview, a banner stating "We're Hiring," hung outside IDEAL's plant. With Fall 2017 product ramping up, seasonal hires were needed and candidates were being interviewed. ●

**1936**

IDEAL Fastener Corporation founded in New York

**1956**

On its 20th anniversary IDEAL introduces Everzip snag-free zipper

**1959**

IDEAL introduces Mytie Mite, #2.2 miniature zippers in brass and nickel

**1964**

IDEAL zippers are used to zip together the AstroTurf field at the Houston Astrodome, Houston, TX

**1966**

IDEAL moves manufacturing headquarters to Oxford, NC

**1972**

IDEAL acquires Prentice Zipper Company, a leading maker of metal zippers for workwear and denim jeans

**1985**

IDEAL manufacturers the longest zipper in the world with over 12,640 teeth and presents it to President Ronald Reagan

**1989**

IDEAL acquires Acme Die Casting & Slider Company

**1991**

On the 50th anniversary of U.S. entry into WWII IDEAL is recognized by the National Air and Space Museum of the Smithsonian Institute

**1996**

IDEAL acquires Scovill Zipper and Conmar Zipper from Scovill Fasteners

**1997**

IDEAL establishes IDEAL Fastener Asia, Ltd, in Hong Kong

**2001**

IDEAL opens sales offices in Bangladesh, Dubai, India, Indonesia and Taiwan

**2001**

IDEAL's high-tech, fire-retardant zippers are used to launch NASA TITAN IV missile

**2002**

IDEAL opens sales offices in Korea and Pakistan

**2005**

IDEAL opens sales office in The Netherlands

**2006**

IDEAL opens factories in Chennai, India and Jiangsu, China

**2007**

IDEAL opens sales offices in the United Kingdom, France and Italy. IDEAL opens another plant in Guangdong, China bringing its total to three factories in China.

**2008**

IDEAL opens sales offices in Vietnam, Thailand, Sri Lanka and Guangzhou, China

**2013**

IDEAL opens factory in Jakarta, Indonesia

**2014**

IDEAL releases MagZip, the first patented zipper using magnets and launches with Under Armour

**2014**

IDEAL introduces the LightRail zipper for 2014 Sochi Winter Olympics and launches with Columbia Sportswear

**2015**

IDEAL expands its manufacturing operations in NC by adding 50,000 square feet of space to its existing operations.

**2016**

IDEAL celebrates 50 years manufacturing in Oxford, NC and its 80th year in business

# TRENDSETTER

Margaret Dunford Puts Textiles to the Test in a Four-Wheeled Environment. **By Suzanne Blecher**

## Automotive Artist



Margaret Dunford  
Director of Design for Sage  
Automotive Interiors.

**“Some of the trends in automotive from apparel had to do with bespoke designs and high-end menswear.”**

If you fancy your car’s interior, Sage Automotive Interiors (formerly Milliken Automotive Division) most likely had something to do with it. The 68-year old firm works with customers including Honda, Toyota, Kia, Ford and General Motors to develop and manufacture innovative automotive bodycloth and headliners. Margaret Dunford, Director of Design for Sage Automotive Interiors, manages the firm’s North American design team, and works hand-in-hand with its additional design teams around the globe. “Global trend development is really much more powerful than just talking about what’s going on here,” said the exec. *Textile Insight* spoke with Dunford about what she’s seeing in the dynamic automotive market.

### What’s entailed in automotive trend development?

“We have a lot of ways that we get information (for a recent five year forecasting trend report, the firm consulted with 33 blogs and websites, 24 news sites, 11 research studies and 22 trend reports). We start with a trend researcher who has a global perspective and gives us their take on what they seeing going on in the market, then we boil that information down to what consider appropriate for automotive. Our global design teams meet to go over this information and then we vet it according to regions. The trend information we do is long term – about 10 years out – so we decide what is relevant for the U.S. market now, in the future and for each country, decide if this trend coming and when. We

do a lot of presentation work with our customers. Some trends may only be North American trends and never translate into other countries.”

### Apparel often garners inspiration from automotive. Which industries do you look to?

“We look to apparel quite a bit. Some of the things happening right now really track apparel, such as the sneaker market with the interesting textiles. Also active apparel. We may look at materials or design for inspiration. In the past, some of the trends in automotive from apparel had to do with bespoke designs and high-end menswear. That’s a bit of a past trend. Apparel is much more short term though. Color comes from those sorts of trends.”

### What’s new and exciting in automotive textiles?

“I’d say using combined materials. They may be layered or there may be some transparency going on. You may look at something one way and see something going on, then from another direction, something different. That has been happening in exterior paints and now it’s going over into the interior. We really look at the interior as a whole, not just what’s happening on the seat, but how it blends with what’s happening on the door and instrument panel. We are trying to take cues and carry an effect throughout the entire interior. There’s lots more real estate now.”

**The firm has some proprietary**

### textiles and interesting partnerships. Please tell me more.

“Many of the products we have were developed internally. YES Essentials is one that’s a stain and soil resistant treatment. Because the automotive market is so global, you are required to be able to manufacture in any region where they produce vehicles. In some regions, if we don’t own textile manufacturing, we will commission a firm to produce product for that region. We also partner with local firms. We are on the campus of Clemson University’s International Center for Automotive Research. They have a graduate course in automotive development. We partner with their students every year to develop a new car for their Deep Orange project (for 2016 it was the Toyota UBOX, an urban utility vehicle for Generation Z). We talk to them about aesthetics since they are more on the engineering side.”

### Do you have a favorite project?

“One of our favorite things to work on is show cars. The customer is always trying to do something that is a little bit different and more of a reach. One thing we have worked on for the past year was featured at the 2016 Geneva International Motor Show. It’s the Opel GT concept car where we attempted to carry over a design concept from one seat to another. It morphed as it went across the two seats. We just thought that was a very cool concept and executed well. It shows this trend of layered types of products.” ●



Woven base with electroweld and stitching in a concept show car.

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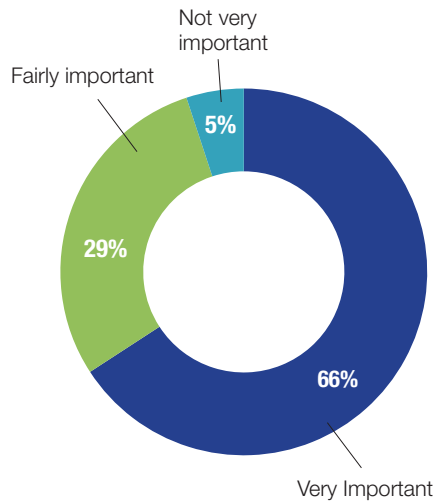
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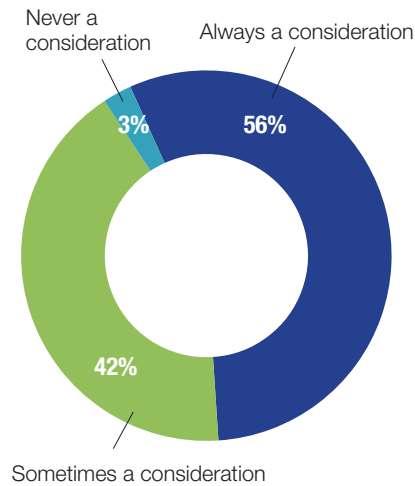
# TRENDINSIGHT

Getting feedback directly from the source is a good way to understand trends. In the textile market there are many factors at play when it comes to key influences on the fibers, fabrics and manufacturing methods driving innovation. The charts on this page offer a snapshot of what industrial designers are focusing on concerning textiles for upcoming seasons. For example, 66% view sustainability as very important, and 56% say eco-correct chemistry is always a consideration. What's also clear is how comfort has emerged as a performance priority, with the role of comfort reported by 85% of respondents as "very big."

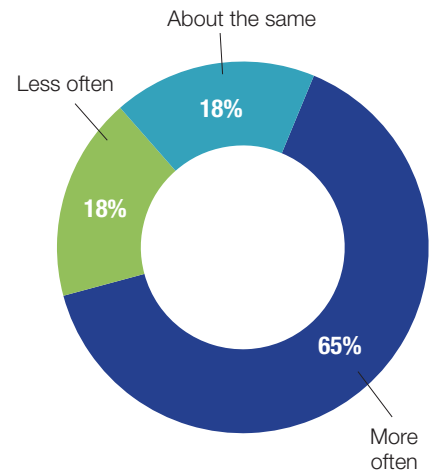
**How important is the use of sustainable materials in product development:**



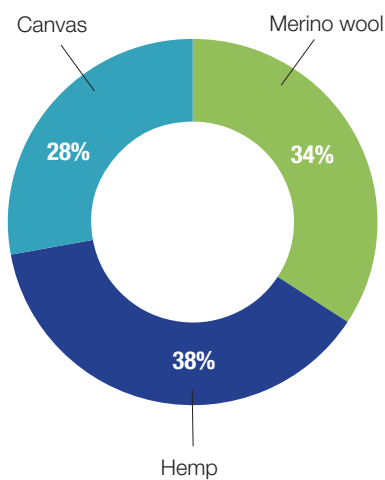
**Using materials made with eco-friendly methods, such as "green chemistry" is:**



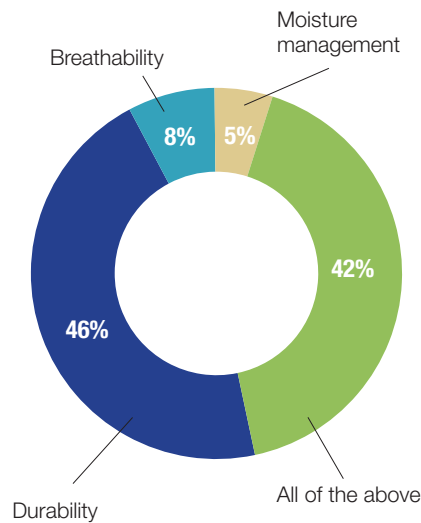
**Compared to five years ago, natural fiber textiles are likely to be used:**



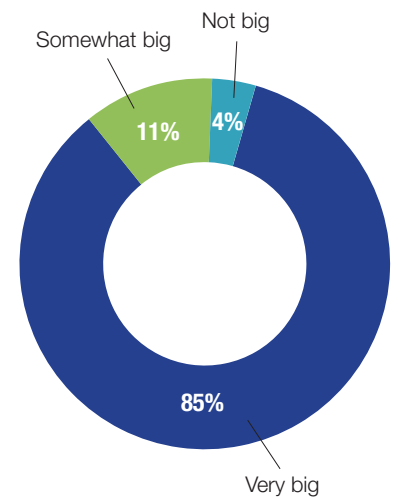
**Of these natural fiber products, which generates the most interest:**



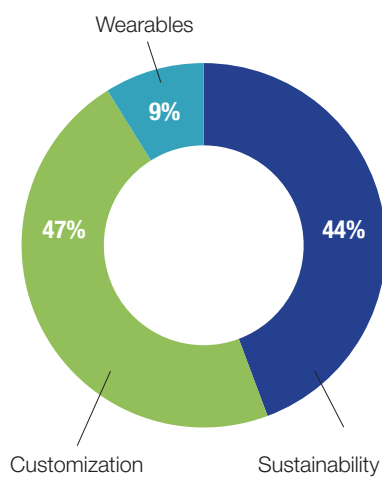
**What textile performance property is number one on your list:**



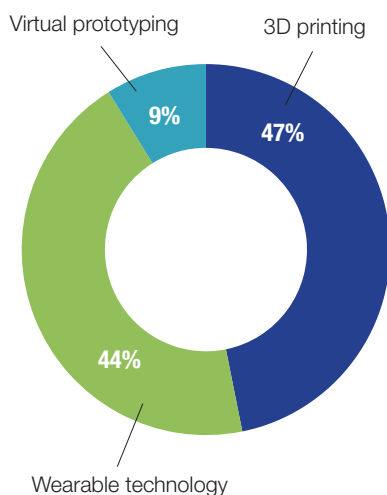
**How big a role does comfort play in product development today:**



**What do you think is the future of product development:**



**Of the new technologies emerging recently which interests you the most:**



Panelists include 100 select industrial designers from the Mesh1 Industrial Design community.



*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](mailto: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](mailto:jnott@formula4media.com).



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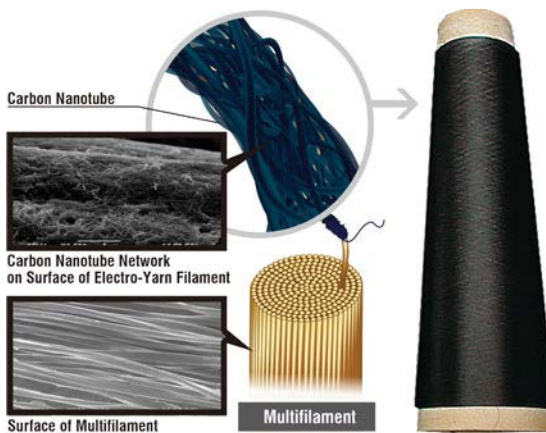
## Super High-Tech Thread

**T**he progression of smart textiles and wearable technology is being driven by the convergence of innovative apparel design, fabric science, embedded sensors, battery technology, and high performance textile research and a good example of this trend is the research happening at Hokkaido University located in Sapporo, Japan.

The program has resulted in the creation of a unique and viable carbon nanotube coating process, which was used to develop “Electro-Yarn,” a polyester multifilament, multi-walled carbon nanotube (MWCNT). Marubeni America Corporation is now marketing the unique “Electro-Yarn” as the world’s first commercially conductive thread.

Under the direction of Hokkaido University Professor Bunshi Fugetsu, the research team developed a carbon nanotube (CNT) dispersed liquid. “Initially, the team injected the CNT dispersed liquid into the thread,” explains Yuji Yasuda, business development manager for Marubeni America. “However, due to the chemical characteristic of CNT, the structural integrity of the CNT injected thread was compromised. So, a request was made from Hokkaido University to involve Mr. Masaaki Hachiya of the Chakyu Dyeing Co., to see if the CNT dispersed liquid could be coated onto the thread.”

Believing in the future potential of the CNT thread, Mr. Hachiya tested a variety of processes. Initially, the conventional method for coating the polyester thread failed to achieve the basic conductive performance that was required. But, Mr. Hachiya’s continued testing a variety of processes, which eventually led to the commercially viable coating process.



This graphic shows the development process of “Electro-Yarn.”

Today, Mr. Hachiya is known as the inventor of “Electro-Yarn.”

“While details on the unique coating technology is proprietary,” Yasuda says, “the coating material compound consists of a CNT dispersed liquid and a binder material, which is highly viscous. This unusual coating technique enabled ‘Electro-Yarn’ to be honored as the Japanese Government’s Grand Prize winner of the prestigious Innovative Manufacturing Award.”

### The Advantages of “Electro-Yarn”

The major advantage of “Electro-Yarn” is its electrical properties, combined with the flexibility that comes naturally to textiles. The reason polyester was chosen as the base material was because the fiber was already being researched for anti-static fabrics. At the same time, it was determined that multifilament would create the ideal base material. After twisting the multi-filament yarn, it was

decided that polyester would be the best fit as a base material from a cost perspective.

Yasuda notes, “Currently, we have the capability to create CNT textiles made from base materials using nylon, aramid, glass fiber, cotton, wool, silk, and others. However, depending on the physical configuration, thickness, and variability of the filament in the vertical direction, the electrical and physical properties will vary from one fiber to another.”

The Electro Yarn-T series, which is a very light solution that heats up rapidly when power is applied, is already being used commercially as a textile heater for snow melting applications. The goal for Electro Yarn-T is to find key partnership companies to explore other applications, and to sell at mass production volume.

Development is still at an early stage, and it is too early to highlight specific applications in outdoor apparel and gear, but Yasuda is optimistic for this market. He notes, “I expect that ‘Electro-Yarn’ can be used for electrically functional outerwear (heating and signal), electrical shoe heaters, and as a signal/power line for body sensors. Perhaps, it can also be used in tents, so that the tent material itself can have wiring pre-built inside.” ●

For more information on the Multifilament, Multi-Walled Carbon Nanotube (MWCNT) and “Electro-Yarn” research project, contact Yuji Yasuda at Marubeni America, [Yasuda-Y@marubeni.com](mailto:Yasuda-Y@marubeni.com), 669-231-7960.

Kathlyn Swantko, president of the FabricLink Network, created [TheTechnicalCenter.com](http://TheTechnicalCenter.com) for industry networking and marketing of specialty textiles, and [FabricLink.com](http://FabricLink.com) for consumer education involving everything fabric.

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Brenda Stambouljian  
Director of Marketing  
Jason Mills LLC



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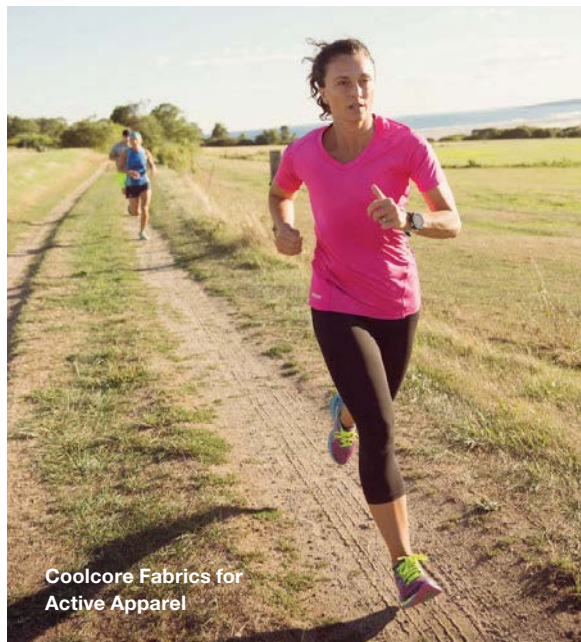
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## Selling Performance



Polygiene Label



Champion Waterproof Icons

**N**ot so long ago, lingo was complicated in the textile world. We heard a lot about beakers and parts-per-million, with a big focus on chemistry and numbers. Today brands have changed the way technological information is disseminated, with the challenge of striking a balance between consumer-friendliness and high-tech talk.

“Our studies have shown that easy-to-understand, branded ingredients are seen as a sign of quality,” said Colleen Nipkow, marketing director for the Americas for Polygiene. Therefore the brand keeps messaging simple with terms including “odor free” and “stays fresh,” along with a QR code for additional information on its website. Providing a solution to prevent the growth of odor-causing bacteria and fungi at the source permanently, as well as general freshness, Polygiene has solutions for all types of textiles, plastics and foams.

In order to engage both partner brands and end-users, Polygiene offers several ways of telling their story. Hangtags (“odor free” for sports and outdoor, “stays fresh” for fashion/lifestyle), care labels (Wear More. Wash Less), sewn-in labels, brochures, in-store events and heat transfers are all available. While according to the brand, it’s true that 60 percent of consumers are willing to pay more for a product that includes a technology that benefits them and truly works, “most people don’t want more hangtags,” noted Nipkow.

“Consumers appreciate clear, honest and transparent communication about technology. Icons and infographics are a great way to present technological information in a way that’s easy to digest,” said David Ludd, VP of global marketing for Coolcore. While lab testing, clinical testing and wear testing information is available for consumers on the brand’s site, the consumer message is “Cooler, drier, chemical-free comfort for maximum performance.”

Coolcore uses a unique combination of blended yarns to deliver three distinct functions: wicking to move sweat away from the body, moisture transportation to avoid saturation and regulated evaporation for a cooling effect. Coolcore technology can be found in Dr. Cool towels, CoolAid equine blankets and gloves.

### Icons & End-Users

With so many proprietary technologies and icons touted on apparel, gear and accessories, it’s easy for a consumer to get overwhelmed. Stio keeps things simple by “pitching the benefits that a fabric technology will provide a

consumer across relatable activities, which we call the ‘epic and every day,’ without going too deep on the technical jargon,” according to Noah Waterhouse, Stio’s VP of sales and marketing. Stio includes a long list of details about the pieces on its site (e.g. Dermizax 3L Stretch Waterproof/Breathable, 100% Polyester, Dermizax Membrane 20,000mm waterproofness, 10,000 g/m<sup>2</sup>/24hrs breathability, 50 denier, 174 g/m<sup>2</sup>, 80/20 DWR).

For some products, the key is in the demonstration of the technology. Asics’ Lite-Show technology offers 360-degree protection with reflective materials designed to enhance visibility during low light hours and keep the wearer warm during cold weather days. While the reflectivity component may not be super-obvious with the naked eye in a retail environment, the brand communicates this story with hangtag details, fixture toppers and rack lanyards showing day/night imagery. Asics also encourages consumers to take a picture (with flash) of the items to see full reflective capabilities.

With new/groundbreaking products, consumers may need additional background information. When Asics launched FlyteFoam earlier this year, the brand explained how it took three years of development and 300 prototypes to maintain effective cushioning in a lightweight shoe. FlyteFoam technology is about 55 percent lighter than the industry standard foam used in other shoes, making it feel “like you’re not even touching the ground,” according to the brand’s site. The story of FlyteFoam is promoted on Asics’ website, its social media profiles as well as through Asics athlete social media profiles.

With a number of notable developments in the creation of shoe uppers lately, Hoka One One continues to advance for Spring 2017 by creating more composite constructions. New meshes allow for both comfort and breathability. The brand is toying with the use of high-density printing applied in a multitude of thicknesses and patterns to allow for abrasion resistance and zonal structure. But the bottom line for consumers is comfort. “We live in a world where every brand is saying that they have the best foam and the most comfortable upper,” noted a Hoka One One spokesperson, adding, “having shoes that evoke comfort due to a specific material or construction is a powerful way to communicate.” While talk about technology and ingredients is important, “the designs that we select are a much stronger message than a hangtag,” the exec said. ●



Hoka One One Vanquish





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Making Small Batch Sewn Goods in the USA.

## Bad Cutting is Forever



Almost everyone I meet who wishes to “make” something in the USA is really wanting to buy their creation from somebody else, a factory that will actually cut and sew the goods. I understand, they have a good idea and would like to get it to market as efficiently and effectively as possible without getting into the nitty gritty of manufacturing. They are perfect new customers for small batch sewing shops because they are often more focused on innovation and selling direct to market instead of the rock-bottom cost of goods a reseller demands. With that in mind, the following is a primer for working with a sewing contractor and preparing to manufacture your million-

dollar idea.

First, you will be making product in way referred to as CMT manufacturing (Cut Make and Trim). That means you will provide the factory with the needed fabric and patterns while the factory takes on the responsibility for cutting the pieces out, sewing them together and using their own generic trim, i.e. thread, elastic, buttons, etc. Note that anything that is color specific or expensive you’ll have to provide, so get ready to buy a lot of parts.

**Design** – This takes on many forms, however, creating the technical specifications, or tech pak, is the threshold to being serious about making a product. The tech

pak consists of the concept drawings and detail art, the list of all the materials (width, color, source, cost), and the measurements of the finished product. Updating spec is a never-ending job on the creative side but it pays off big-time later. Know your details.

**Pattern Making** – The individual with the single greatest impact on your product is the pattern maker. Check references and get to know a good one with experience in patterning your kind of product. They are professionals; pay them well, bring them gifts, and listen closely to what they have to say.

**Fabric** – Nothing “for real” can happen in your product’s development and manufacturing process until the fabric has been selected. Every other detail from pattern to construction is dependent on the fabric being used. If at all possible develop your product with the same fabric you plan to sell.

**Cutting** – This is where design, patterning and fabric converge. The patternmaker will interface with the factory down the road in the most expensive and dangerous event in the product’s life; laying out a pattern marker and cutting up all that expensive fabric. Be ready before then by knowing all the details and double-checking your patterns. Bad cutting is forever.

**Sample Making** – There are three basic kinds of samples you will need; design samples that confirm the pattern, construction and size, sales samples that are meant to be shown to the market, and production samples that will

come from the factory and are absolutely what-you-see-is-what-you-get in nature. Everyone loves sample making because you actually get to see and touch something. What no one likes is how long it takes and how much it costs. Remember, perfect samples are the only route to perfect product. You will be paying not only for what works, but what doesn’t. Revise, resew, repeat.

**Testing** – The good thing about all the samples you are about to make is that they allow for convenient field-testing. Use your design and modify it early in the development process for better function and easier production. You will be amazed how simple changes can lower a product’s manufacturing cost.

**Factory** – Until you are ready to pull the switch on a production order, your good idea is just a distraction to a business that sews for a living. Obviously the most important process in your scheme happens inside the factory. Vet your manufacturing candidate completely. The triad of you, the pattern maker and the factory must be simpatico for any chance of long term success. Rules for a happy factory relationship include: 1) Answer questions immediately. 2) Clearly communicate your timeline. 3) Agree on quality standards. 4) Offer to pay for everything they do on your behalf. Without a doubt, you will save time and money throughout the entire process by being well prepared and polite.

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Disclaimer: If time is indeed money then Mr. Gray should be a millionaire. His opinions are not necessarily shared by the publisher or those who understand false equivalence. ●

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