



There were a great number of interesting products on display at the recent outdoor and sportswear-focused events in Germany and the US. We pick out handful.

Finding inspiration on the show floor

A trip around the aisles of Germany's OutDoor Friedrichshafen and Ispo, and Outdoor Retailer in the US revealed the sector is healthy and pushing new ideas in terms of lighter, stronger, more convenient and more ecologically sound product. Mammut CEO Rolf Schmid said the outdoor industry has "done more" in the past 12 months than it has in the last 12 years. The outdoor market in Europe grew 1.2% in value and 1.4% in volume in 2014, and had an overall retail value of more than €10 billion. We review some of the products and stories that caught our attention in recent months.

Südwolle

German group Südwolle's Naturetexx Plasma is billed as a sustainable alternative to the

industry standard superwash, chlorine-hercosett process for wool. Plasma is created by the controlled discharge of an electric voltage across a non-conducting gas; the voltage ionises the gas into a more reactive state. When the wool top passes through the plasma field, the surface of the fibre reacts with the energised gas, modifying the cuticle scales and removing the wool felting effect.

"The process uses electricity and air and is a huge environmental leap forward," said Hamish Allan, Südwolle marketing manager. "It delivers fibres with the same strength, the same or better pilling performance and improved ability to absorb moisture than conventionally processed yarns." The process has been certified organic under the GOTS and IVN Best systems and is undergoing bluesign certification. "We are now

Shows such as OutDoor in Germany and China, ISPO and Outdoor Retailer give brands the chance to show off their latest products.

OutDoor Friedrichshafen

investing significant resources to speed production capacity," added Mr Allan. "Once modifications are complete, we will be able to process up to 1.5 million kilos per year on a dedicated production line. With this scale will come the consistency and efficiency to make this technology a real commercial alternative."

Cotopaxi

Cotopaxi is a new online retailer, which says it can offer lower priced products by cutting out the retail mark-up. It encompasses the spirit of the times with a social element, funding non-profit organisations to focus on health, education and livelihoods. "Everyone can make an impact" says CEO Davis Smith. "You don't have to be a millionaire, you don't have to be the most intelligent person. You just have to care."

The start-up is listed as a B-corporation, which allows it to pursue social and environmental goals as well as profit. Mr Smith sought funding from Silicon Valley venture capital firms. "Investors loved my vision of building an outdoor gear brand with a humanitarian mission," he says.

The company offers a lifetime guarantee (61 years) on products, which include backpacks, t-shirts, soft shells and waxed jackets, appealing to the 'millennials' and casual althleisure market rather than the hardcore outdoor fans.

Sealskinz

UK-based performane sock-maker Sealskinz attracted attention with its Neoprene Halo Overshoe. The sock uses an LED built into the back which emits a continuous or flashing light, visible from over 500 metres, ensuring cyclists are seen when out in low light. The material is mainly neoprene with added nylon and includes Kevlar at the heel and toe for strength, a silicone leg gripper and a lockable YKK grip.

LA Sportiva

LA Sportiva's G2 SM is a dual-layer shoe for extreme mountaineering. It uses Cordura for strength, a Honeycomb Tech midsole and a quick-locking system. Sun Bin, director of the Tibet Outdoors Association, described the boots as "lighter, warmer and easier". "They are probably the world's lightest dual-layer boots with gaiters, allowing for easier and quicker ascents," he said. "Compared with the previous version, the new boots are double-layered, with a warmer liner that is also easier to dry. That's a great benefit for high-altitude expeditions."

Ramtect

Ramtect USA has produced a collection of lightweight jackets, vests and pants using its wool insulation to demonstrate its advantages to brands. The thin insulation has all the properties of wool and is a natural alternative to down. It is



La Sportiva's G2 Sm won Product of the Year at ISPO

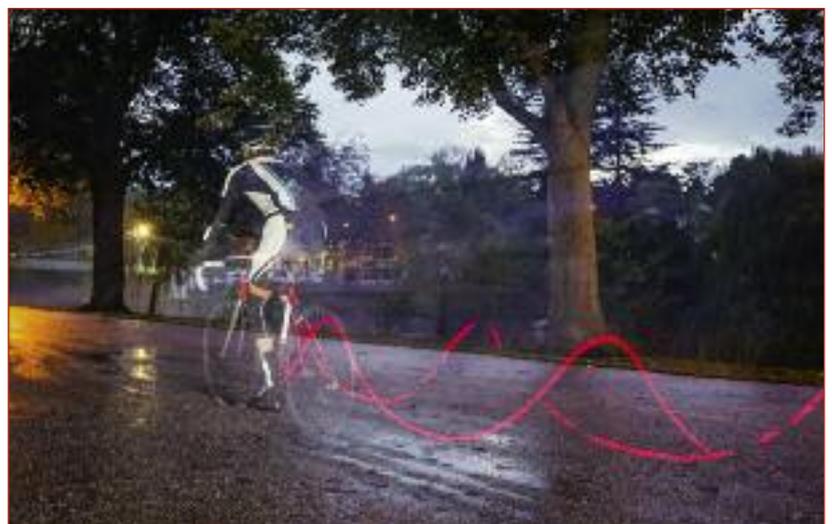


a breakaway from puffy down jackets, which makes it a possible "down sweater" alternative. Doug Hoschek, Ramtect outdoor director, said: "Whatever the customer wants, the retailer will soon be asked to find it." Wool fillers are a growing trend in active sportswear. Icebreaker and Ortovox use wool fillers made by German company Baur Vliesstoffe and HD Wool in the UK is also introducing wool insulation to the active sports market.

Hydroduct

A new wool finishing technology, partly funded by Australasian Wool Innovation, enables the rapid absorption of liquid sweat into the fabric and transfer to the outer side for evaporation away into the atmosphere. Hydroduct has been developed by Diyang Merino Textile, a China-based manufacturer with dyeing, finishing and knit garment production capabilities that supplies to the

Sealskinz's LED-embedded oversock makes cyclists more visible in low light.





Sidas' heated boot improves comfort for skiers (left); Judges admired Aarn's weight-balancing system. (right); and Mammut's sleeping bag is handy for walking in, too (below).

ISPO/OutDoor/Mammut

outdoor and sports markets.

Technical director Michael Yang explained: "The technology applied to merino wool results in the fibres changing from hydrophobic to highly hydrophilic – that is, prone to absorbing liquid – thereby quickly moving sweat to the fabric's outer side. Not only is sweat on the skin uncomfortable, but it can be potentially be dangerous in cold environments that are encountered during outdoor pursuits such as mountaineering or skiing. Hydroduct ensures that the wearer remains dry at all times, even throughout the most rigorous of sport or outdoor activities."

Sidas

Sidas' ski boots are aimed at the rental market and have a heating system integrated in the liner. The boots feature a 3D insole and three heating levels. Alfredo Tradati, a test manager at Italy-based buyers' guide Outdoortest, said: "The ski rental business is growing everywhere, and it helps people to go to the mountains, spend less on skiing and simplify planning. Thanks to Sidas and its new heated rental ski boot, even occasional skiers and those who do not want to invest in perishable equipment will be able to experience the comfort of warm feet."

Aarn Design

New Zealand-based backpack brand Aarn Design showed off an update to its carry system for the Natural Body Pack, which distributes weight to the pack and front pockets and ensures good load distribution and carry comfort. The brainchild of founder Tate Aarn,

the bodypacks are said to solve the postural problems of backpacks by using a 'natural balance' system and result in an upright posture. "When you get rid of the leverages created by an offset load on your body, everything works together beautifully to achieve the best performance with the minimum effort and the minimum impact on the body," he says. "A balanced load provides the greatest safety in rough challenging terrain."

Judges at OutDoor said the pack had well thought-through details and effective back ventilation. "This is the most innovative backpack submitted for the award," they said.

Mammut

Acknowledging that bivouacking (temporary shelters) is now a major part of many alpine tours, German brand Mammut has developed a sleeping bag to be used in combination with a jacket. The Sphere Eigerjoch 3-Season has been designed to fit snugly to the Biwak Jacket Women or the Eigerjoch Jacket Men. Two half-length zips with anti-sag webbing make it easy to get in and out and provide ventilation. The volume of down has been reduced in the upper body area and the bag has arm openings and a foot opening to allow the user to walk while in the sleeping bag.

Adidas Terrex

Adidas won a number of awards for its Terrex ranges, including the Agravic Down Jacket and the Skyclimb Top. The down jacket impressed



judges with well thought-out down chamber construction, collar solution and fit.

The Skyclimb combines Polartec Power Grid in the sleeves and back for wicking, with Polartec Apha in the chest and shoulders for warmth and fast drying, and as such scooped an Apex Award from Polartec. Adidas designer Tim Maud said: "I found the fabrics and imagined a product that could be worn from the day's start to end, from the valley to the summit. The next challenge is to continue to innovate in the Terrex space, for fast moving and multi-sport athletes. Materials, construction and styling are all areas where we are trying to push the envelope."

Peak Performance

Peak's Dryedron ski jacket is made from recycled or mechanically recyclable polyester, and coloured using the DryDye system, made by Dutch company DyeCoo. Supercritical carbon dioxide is heated to 120°C and pressurised to 250 bar. In its expanded liquid state, the CO₂ penetrates the textile fibres, acts as a swelling agent and enhances the diffusion of dyes into the fibres.

"The brand manages to combine aesthetics with ecological responsibility by only using polyester materials, some already recycled, and not applying any of the controversial PFC surface treatments," commented Dominik Fuss, founder of textile consultancy FUSS-ion. "But the real innovation is the new method that allows the brand to revolutionise the dyeing process of the textiles."



Peak's jacket is dyed using no water.



Incremental steps lead to radical change for Keen

US outdoor brand Keen's Uneek uses a new knitted construction and is the result of three years' research and development.

"The idea really started from a few people questioning just how and why we made shoes the way we did and how we could do it differently, and of course we looked at the foot and end use, with the main goal of increasing comfort," Uneek's creator, Rory Fuerst, tells us.

"If you look at shoe production, it tends to use a lot of flat goods cut into small pieces and put back together to conform to a very complex and dynamic 3-D shape, the foot. We just said, let's start with small pieces of cord, conform them to a 3-D shape and see what happens. The other side of it was not adding too much reinforcement or additional structure as this would take away from the gains made in material and assembly changes."

The brand has this year expanded its team of designers and developers to focus on new product, and hired a design director from Merrell, a development director from Wolverine and a vice-president of product from Ecco. For Uneek, it worked with existing suppliers to develop the processes and says the key to success was not the supplier's history in traditional manufacturing, but its willingness to try something new.

"Around 75% of Uneek uses new methods," explains Mr Fuerst. "We still use traditional sewing machines for the small micro-fibre pieces and use a traditional stock fitting line for attaching the rubber sole to the PU midsole, but most of the upper and upper-to-sole attaching uses completely new methods."

The process involves a combination of hand work with a progressive positioning system that allows the shoe to be built using no permanent fixing methods that could affect the fit of the final product.

"The most challenging part of the process is controlling cord tension and length, transitioning of the components from one process to the next, and a standardisation of the hand-making process."

The updated version for spring/summer 2016 features an 8mm flat cord which allows for more colour combinations and reportedly improves comfort. "The key was not taking the 'easy outs' that would have made it easier to make but would have affected the fit and experience of the final product. When trying something new, it's those little yesses or nos that at the time seem trivial, but when you add these up you find yourself doing it the same old way. We were stubborn when it came to making these seemingly small and easy changes, and sticking to our vision. I think that is why Uneek ended up the way it did." 

Treksta

Korean outdoor group Treksta has launched what it claims is the first hands-free shoe. A system within Zerotic's heel is activated by rolling the foot backwards, tightening the laces. To loosen, the wearer presses on a small lever on the heel.

Jonas Hellentin, from Swedish retailer Team Sportia, said: "We don't want to promote laziness, but I can imagine many situations when circumstances make it necessary to hurry up or when you need your hands for more important tasks than adjusting your lacing. Or for people who are physically restricted. This innovation definitely has potential, and this shoe offers all the functions required for any condition in the outdoors."

Combat Flip Flops

A brand with a strong social story, Combat Flips Flop was set up by US army veterans Matthew Griffin and Donald Lee who had initially hoped to source from an Afghan factory they came into contact with while serving in the country. However, problems with quality, and issues with raw material meant the supplier closed the factory and the pair were left with materials for thousands of sandals. After a brief stint manufacturing 4,000 pairs in Mr Griffin's garage in Issaquah, US, they found a Colombian supplier at MAGIC Las Vegas, who impressed with the quality of materials, craftsmanship and pricing. "Plus, the Colombians had a great vibe about them that made us want to work with their growing footwear industry," Mr Griffin tells us. "All of our materials are made within a short drive of the final assembly location in Bogota. It's truly eased logistics, enabled rapid quality assurance along the entire manufacturing

process, and minimised our carbon footprint," he adds.

The premise has always been that giving people jobs and income in war-torn countries is the best method for peace. After an introduction by a government agency, they have returned to Afghanistan to source product, this time Afghan cashmere headscarves, made in a women-only factory. "After serving multiple tours in the Middle East and Southeast Asia, the Shemagh (scarf) became an indispensable travel/performance accessory. The Afghan products have a look, style, and feel that we enjoy, so we started exporting products to round out our accessory line."

Over the past year, scarf sales have climbed to make up nearly 20% of the business, and for every piece bought, a donation is made to Aid Afghanistan for Education.

The ambition now is to create a full clothing, footwear and lifestyle brand "that puts little girls through schools, clears regions of land mines, and rehabilitates veterans". 



 *Combat Flip Flops*

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