

## FOOTWEAR TECHNOLOGY: ISPO 2020

Sustainability was the over-riding theme for winter footwear at ISPO 2020 in Munich. The focus was not just on materials and where they come from but on the challenge of achieving carbon-neutral status across the entire sports and outdoor footwear production chain.

# Sustainable winter sports footwear at ISPO

by Penny Leese

**S**ustainability was the word on every footwear brand's lips at ISPO 2020, which took place in Munich in late January. Veja, for example, won ISPO Award Product of the Year with the Condor, made in Brazil. This running shoe uses as little fossil fuel as possible. Instead, the production uses new raw materials such as rice waste, banana oil, sugar cane and castor oil as well as natural rubber. It consists of 53% natural raw and recycled material. The shoe was

launched in 2019 and is still being gradually improved to further reduce its environmental impact. Uppers are made of recycled mesh, the outsole is 30% natural rubber from the Amazon, 31% rice waste and 39% synthetic rubber. The midsole is 45% natural origin, with 8% banana oil, 22% sugar cane, 15% rice waste; the rest is regular EVA. The shoe still aims to meet the highest technical standards and offer runners stability, comfort and control, and has a heel-drop of only ten millimetres. Lower heel-drop seems to

*Enda impressed the ISPO Brand New judges with its holistic approach, and this product, the pioneering Kenyan brand's Lapatet running shoe, was chosen as the winner in the Body and Mind category.*

 Enda

be a trend influenced by the popularity of barefoot technology. Even the logistics and shipping are run by Ateliers Sans Frontières, a rehabilitation organisation.

### Forest vision

Chiruca of Spain had a hiker made with 100% recycled materials. The synthetic upper which looks like nubuck is sustainable and compostable according to the brand. Recycled polyester from plastic bottles and material of plant origin derived from crops not suitable for human consumption are the components of this material. Canvas made from 70% recycled cotton on the front and PET from recycled plastics on the reverse are also part of the material mix. Recycled rubber shavings make up 25% of the sole, as Chiruca is trying to use its own waste PU to achieve a more circular production system. The insole, which is antibacterial and recycled, is made of 40% biodegradable bamboo, produced in a sustainable plantation, and 60% recycled polyamide. The inner lining is also 100% PET, laces are 100% recycled polyester, hooks are recycled metal sheet, the labels are 100% recycled polyester. The upper is bonded to the sole with water-based cement.

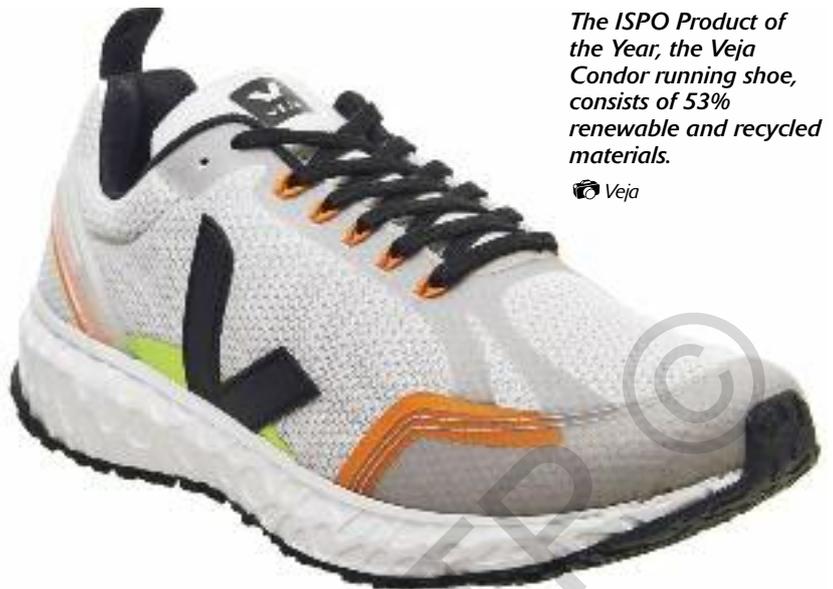
Calzados Fal, Chiruca's parent company, is doing other work in the field of sustainability and the environment, such as the 15-hectare Chiruca forest where 16,000 trees have already been planted. The intention is to expand it by 10 hectares, to help offset the company's carbon footprint.

The point is that it is not just the product that is being considered today, but the entire chain. Adidas has had no plastic bags in its stores since 2016, no plastic in its offices since 2017 and is transitioning to recycled plastic bags in 2021. It has said it will shift entirely to recycled polyester by 2024 and has a goal of achieving carbon neutrality by 2050.

### Exacting standards

Vaude looks at the entire product lifecycle with its own strict standards – from design and production to maintenance, repair and disposal – as its Green Shape collection shows. This means that not only the primary materials but also all production sites have to meet high environmental standards; about half of its footwear collections meet these standards.

Vibram's contribution to sustainability is the N-Oil compound launched in 2019, which uses more than 90% petrol-free ingredients and is coloured with dried plant extracts and charcoal for the black colour. The Wrap Tech is another technique developed by Vibram where the outsole is pressed and the entire edge is not trimmed away but wrapped up the wall of the



*The ISPO Product of the Year, the Veja Condor running shoe, consists of 53% renewable and recycled materials.*

 Veja

shoe, thus eliminating waste. This process has been implemented by Brand Black from the US, and factories in China have also learned to use the technique. Global sales director, Nicoletta di Vita, explains that small actions, such as reducing the amount of cardboard used as stuffing inside the Five Fingers shoe, also reduces waste.

### What it means to be climate-positive

Icebug of Sweden claims to be the world's first climate-positive outdoor brand. The autumn-winter 2020 collection contains 97% Leather Working Group gold-rated leather, 84% recycled polyester, 100% recycled wool, 20% Bloom algae foam and 14% recycled rubber. "When we made the decision, we plunged into the unknown," says Icebug chief executive, David Ekelund. "We didn't know if it would cost 20 cents or 20 euros per shoe, but we just felt that we had to do it to play our part. The fact that we have put a lot of effort into sustainability work in past years helped, but in the end the climate-positive part was easier than we thought."

Being climate-positive means that Icebug follows the Climate Neutral Now initiative, launched by the UN Climate Change Secretariat and consists of three simple steps. It has had to measure its entire greenhouse gas emissions, including production, transportation, and operations. It has had to commit to reducing emissions as much as possible and, annually, has to compensate for the emissions that cannot be avoided by contributing to UN-certified emission offsetting programmes.

Another company that emphasises its ethical credentials is Oboz. Founder, John Connelly, refuses to have his shoes sold in outlets that also sell guns. He is also responsible for the planting of more than 2 million trees all over the world, one for every pair sold since the company started up in 2007.

Oboz has a carbon-negative insole using

Bloom algae, but its big selling-point is comfort. Instead of being pointed at the toes like most running shoes, the brand's trail runners have a narrow cup at the heel, but the shoes have a deep toe box and the forefoot is roomy, while offering good support and adjustment across the instep.

TropicFeel at the Brand New area wanted to reduce waste by creating a single shoe that can be used for multiple purposes. It is a very lightweight shoe, perfect for travel, which can be used as an aqua shoe, a walking shoe, a hiking shoe and a casual shoe. It is quick-drying with drain holes in the sole wall and the insole, so it can even be worn for swimming. It is super light, and each shoe is made from four recycled PET bottles. The original shoe, Monsoon, was the most funded ever shoe on Kickstarter with over €2.6 million. The new drainable style Canyon raised €2.5 million and launched last year.

### Out of Africa

Enda, which means "go" in Swahili, is a footwear brand that won the Body and Mind category at the ISPO Awards. Its running shoes are manufactured in Kenya and have small details to show the brand is proud of its home country, such as having Rift Valley integrated into the Harambee outsole design. The shoes were made for Kenyan runners, and what they asked for was lightweight trainers. Designed in cooperation with Kenyan athletes and sports professionals, the Lapatet sports shoe supports the natural metatarsal footprint, which is key to



*Uyn X Cross Tune seamless running shoe with knitted merino wool layer:*

Uyn

the typical Kenyan running style. As the company says, pronation control does not reduce injuries, so these shoes are designed for mid-foot strike.

UYN was a gold winner for its fitness and team sports shoes at the fair. The company is a knitted textile specialist making, for example, garments for motorbike racing promotions.

The X Cross Tune shoes are made from totally seamless knitted textile with a 3D Reverse construction that stabilises the front and the sides, while technology called X-Cross provides a stable fit on the mid-foot without constricting.

### Not to dye for

Dyestuffs cause a great amount of pollution. The Merrell undyed collection reduces the amount of water and energy used to produce the shoes. At the same time they use recycled content in the laces, mesh and overlays to reduce the amount of virgin materials wherever possible. The outsoles are 30% recycled scrap rubber.

Kamik warm winter boots are still made in Canada and each pair of the warm liners for the shell boots uses three recycled water bottles.

Minima by Aku is made with zero impact leather by Dani. Aku has decided to fully offset the CO<sub>2</sub> emissions linked to Minima's complete lifestyle through the initiative of the UN

*Kamik winter boot liners are made from recycled content. Every pair uses a minimum of three plastic water bottles.*

WTP



framework convention on climate change. All Aku shoes are made in its own factory and each of the components is tracked. The midsole is made of partially recycled EVA and cork, the footbed from coconut fibre.

Swedish brand Kavat has increasingly moved its focus away from kids' to adults' shoes. For winter 2020 it showed a small collection of shoes made by a freelance designer with experience from Acne and Vivienne Westwood. All materials and components are pre-considered, however, so that the shoes will be repairable – another aspect of sustainability. Kavat offers a repair service, which was launched last October. Old shoes can be made into new in the Swedish town of Kumla. Production is around 50 pairs per month at the moment. The idea here is not just to be sustainable, but to make some money.

### Winter wear

Climate change and warmer winters have affected the winter sports market. There was not as much snow and ice in 2019 in Europe as hoped for, so many companies are overstocked with highly functional and warm winter products. Lighter-weight shoes and sneakers are being worn all year round, not just by the young.

Despite the warm winter weather, non-slip soles are still very interesting. Despite not so many companies showing blocks of ice for testing as last year, users need to be aware it is not ice that is slippery; it is wet ice that is really slippery. So with warmer temperatures that switch above and below zero degrees constantly, non-slip soles are important still, such as Vibram's Arctic Grip, and Icebug's retractable studs.

The buzzword phrase that inspired Columbia to create the Facet collection is "Why do hiking boots look so ugly?" The Columbia design team realised that most users wore road running and athletic shoes for trail running instead of hikers, even though the shoes were not designed for the activity. So, the Columbia team developed the Facet Collection, a technical trail hiking shoe, with a running-inspired midsole. Three styles were designed within the collection to offer different expressions and tech features. There is a fluid-frame three-density midsole with a grid. A lot of research was done on gait analysis. The unisex Facet collection uses a road running fit for optimal performance and underfoot comfort. This basically means that the shoes have a firm grip across the instep but are not restricted in the toe box like many running shoes. OutDry lamination means that there is no bootie construction as the membrane is laminated to the reverse of the upper, keeping thickness and weight down.

### Quick adjustment

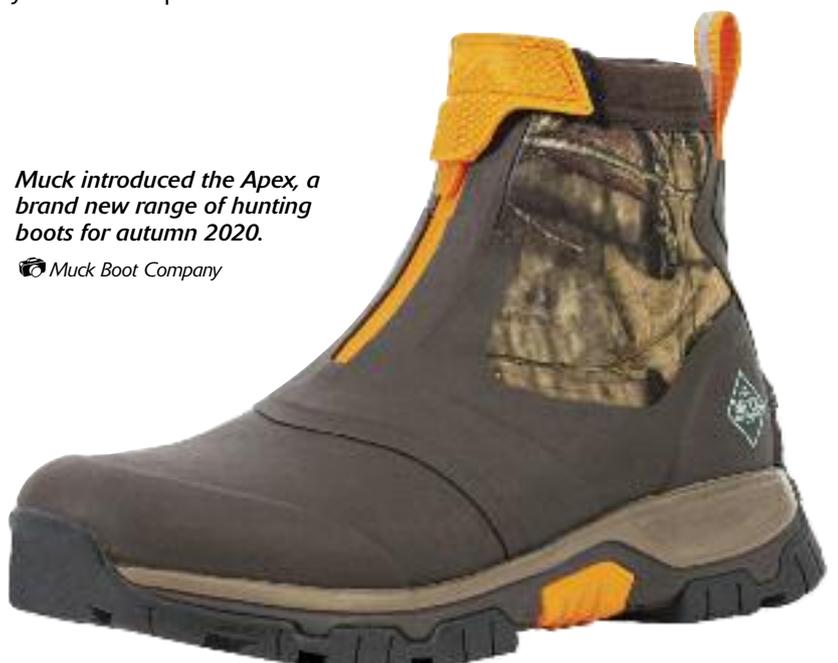
Boa Technology is making further inroads into the softer footwear area. The adidas Terrex Agravic Pro is almost two shoes in one; the light, breathable and comfortable running shoe becomes an alpine "all-round protected" version with ankle padding and a mud flap. The shoe is laced with Boa Fit, which makes it easy to adjust the tension with its wheel-based closure system on the outside of the shaft, even when wearing gloves. It is suitable for running in the park on cold, wet days – as well as for trail running in the mountains.

Muck boots are well known for their combination of real rubber and neoprene. New styles have been more lifestyle directed, and aimed at the European market where shorter boots are more popular. The Apex Mid Zip is designed for hunters who need to move fast through varied terrain and need a lighter weight boot. A Vibram Ice Grip sole adds function, there is a shock absorbing midsole, a waterproof zipper, and the boots are cold-resistant to -10°C. The top collar stops water running down inside as it is padded and sits close to the leg, and the touch-and-close fastener keeps it tight.

### Fashion and fun

There is still room at ISPO for fashion and fun sportswear and shoes. There were plenty of bright colours in clothing at ISPO. Chinese company Peak had some stunning colour combinations of shoes on show, in white or black with multi-coloured uppers, often on thick sporty bottoms.

Although heavy winter snow boots have not been so much in demand, lightweight moon-boot trends are still going strong, often in light colours or white. White sneakers, too, are an all-year-round staple. 



*Muck introduced the Apex, a brand new range of hunting boots for autumn 2020.*

 Muck Boot Company