

FOOTWEAR TECHNOLOGY: ISPO MUNICH

ispo Munich 2015 took place at the start of February. **Penny Leese** was on hand to capture details of many of the outstanding outdoor footwear innovations on show.

Buzzing sports

The German economy is healthy again, and the ispo sports fair in Munich was buzzing with activity, freshness and newness in February 2015. This was in clear contrast to the relatively quiet fashion-focused shoe fair GDS with which it overlapped.

Much technical sportswear is also worn on the street, and technological innovation here also filters through into street wear. ONOO, for example makes urban clothing with the same waterproof sealed seams and zipper and wearable technologies (headphones inside) integrated into the design of the jackets, which look as if they are made from urban materials like wool and felt. It is this hybrid attitude that is driving sportswear and footwear now.

A trend in using warm and natural materials means more real wool, such as merino wool especially in underwear, and wool felt. It's also being used in boots by companies like ZDAR and BAABUK, a Swiss company that makes hand-felted boots in Nepal in 100% wool from New Zealand.

Neutral colours

In the ispo Vision section of the event, which was full of top-notch designer brands, it was noticeable that there is also a movement towards more neutral colours. Black and white still predominate in the upper part of the market, especially in skiwear and accessories, but now pale off-white and beige are coming in, too, as could be seen in the subtle winter camouflage-type print on the Emporio Armani moon boots. Men's smooth full grain leather sneaker boots in all black or all white have wide touch-and-close bands or buckles for fastenings, as did Armani.

Hands-free lacing

The ispo fair creates a buzz with its award ceremonies and parties. Treksta of Korea, a pioneer of the Boa technology system, in which a wheel on the shoe tightens a wire lacing system when turned and gives quick release when pulled, won a gold product award this year. In the new Treksta boot the system has been made hands-free with the button or wheel



transformed into a small roller at the heel base of the sole (like in the Heelys idea, only smaller) so that the wearer can simply tighten the lacing wire by rolling the foot backwards. The laces can be released easily by treading with the other toe on a small bar at the back of the heel. This means no bending down. The company says this idea will have multiple uses in sports and medical applications.

No need for lasting

ArcTeryx, the Canadian brand famous for minimalistic functional innovative jackets and clothing, has launched a footwear line with the same principles. The designers looked at the first principles, to reduce everything to a minimum. The shoes and boots are made in two parts. There is an inner liner, which is stretchable, breathable and waterproof. The brand calls its system Adaptive Fit since the stretch material cushions impact and conforms to the foot shape. They function as tent boots too. Minimal seams on the liner create comfort with no pressure. The inner boot is a sock shape, higher than the boot so as to keep out the water. There is a seamless one-piece upper made from a PU-coated nylon yarn, that is woven after coating so as to be breathable. TPU film of 0.2 mm adds upper support, while thicker 0.35mm high-abrasion TPU film reinforces more exposed areas such as

ArcTeryx's Adaptive Fit system offers separately constructed outer and inner shoes. The inner shoe can be used on its own as comfortable footwear in a tent, mountain hut or at base camp.

 ArcTeryx.



Keen trail shoes with injected nonslip soles and Gore-Tex for waterproofness.



the toe. The toe and heel protection are pre-moulded rubber and pre-shaped, one mould for every size, so there is no need for lasting. The midsole is covered by the upper to protect it and the outsoles are designed in collaboration with Vibram.

Room to breathe

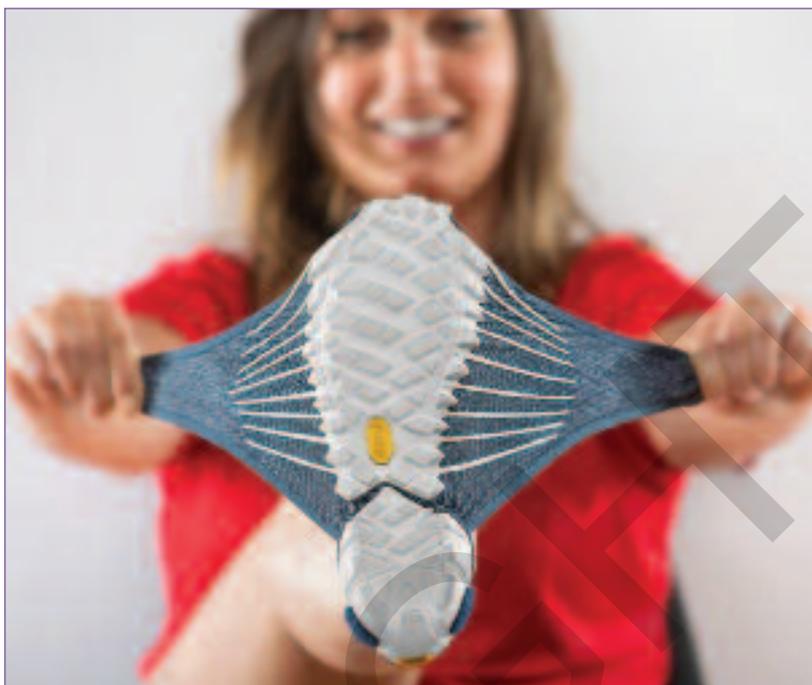
Breathability is an issue, even in winter footwear, especially in active footwear. Alfa of Sweden is generally considered a conservative outdoor boot company, but this time won an award with its new breathable boot. The entire upper is breathable thanks to mesh on the sides and the punched synthetic upper material. Inside, it has Gore-Tex Surround technology, and a Vibram sole with small holes in the centre panels, making it an extremely breathable boot.

It's a wrap

From Vibram, the next new thing after the highly successful Five Fingers shoes, was the Furoshiki wrapping shoe, designed in Italy by Vibram and the Japanese product developer Masaya Hashimoto. The word Furoshiki means wrapping in Japanese and they are already hitting the shops in 2015. It is a soft rubber sole laminated to a cross-over bandage-effect on the upper, which wraps around the foot for an individual fit, closing with Velcro. Each pair comes in a matching cylindrical bag. The newer versions for winter have a longer shaft and an integrated toecap inside, and longer wraps for higher leg protection. The company at the moment is experimenting with different upper materials, from neoprene to stretch PU.

In the grip of winter

For those who like to run or hike in winter, icy surfaces are a hazard. In Sweden, where much of the terrain is granite rock, they know all about this. Icebug was innovative with its retractable spikes for running on icy ground and now midsole technology is getting more attention. Icebug's Zeal, led by elite athletes and engineers Peter Öberg and Erik Öhlund, uses what they call HGMS2 technology (Holy Grail Midsole Soft And Stable technology). The big challenge in off-trail running is to provide both stability and flexibility, they say, and this shoe has a moulded midsole cradle, whose U-shape makes it torsionally rigid, while the level of flexibility and softness is still high. The midsole not only adds superb fit, it also turns into a reinforcement protecting the foot on hard terrain. The height of the heel cup dips at the back in order to reduce the pressure at the Achilles tendon. The very low sole profile, in a choice of two versions, (OLX version with studs or the traction rubber RB9X) gives good ground control. Treksta's Hyper grip soles have



special softer, highly abrasive rubber plugs, which act like non-slip studs. Vibram also has anti-slip lugs; in fact, this is now almost a prerequisite for winter outdoors running shoes today, as are waterproof membranes.

Furoshiki wrap around boots by Vibram.



Warm thoughts

Wearable technology is a buzz word now, not just in the sports industry but with all younger tech savvy people in this computer age. In keeping with this, Digit Sole has insoles that can be connected via Bluetooth to a phone so that they can be heated up. There is a thermostat in the insole, so once it meets the desired temperature it just maintains it and there is no further battery drain. The insoles keep their heat for between seven and ten hours. The same insoles can measure stride, distance walked and so on, with all the information going directly into a custom-made application on a mobile phone. The same company also produces entire shoes in which the heating system is integrated not just under the foot but all over the vamp and the heel area.

For spring 2015, Icebug will introduce the new Zeal trail shoe.





The On lightweight running shoe with flexible 'zero-gravity' sole and easy-entry lacing system.

 On

High jump

Athletic Propulsion Labs from the US launched at the Brand New area. This brand has already had awards from *GQ* magazine and *Women's Health* for its innovative approach. The two brothers behind it are former UCLA basketball players who tested lots of boots when they were players, so they know their product very well. They have developed a propulsion system for basketball boots, which they believe can improve a player's game. The system works so well that at one point the product was banned by the NBA. They call it Load N Launch sequence.

There is an EVA nest in the sole on a firm bottom plate, and a top plate for energy transfer, with the two linked by a hinge system. At foot strike, athletes apply forefoot and midfoot force as they begin their jumping motion. The midsole and the Load N Launch device compress in unison and the exerted energy from the downward force is stored in the compression springs and in the EVA nest. When the athlete moves from mid stance to toe off the energy is exerted upwards. Now the brothers have used similar technology for running shoes to give better forward propulsion rather than upward propulsion. They call it Propellium technology and they claim that it has resulted in immediate faster lap times for most users.

Final round-up

Lightweight running shoe company On won an award for performance footwear with its ultra-light running shoe and innovative asymmetrical tongue and lacing system with knotted elastic laces installed metrically, as on Camper shoes.

Hybrid and retro looks are popular from winter sports brands; Dolomite, Acu and Scarpa of Italy have long included retro classics in their collections. The designer of Lundhags in Sweden, a classic hiking and hunting boot label, had gone into the archives and recreated some classic boots with a modern twist. He took the format of some old boots, like a luxurious soft full-grain leather and raw edges on the top of

the tongue, and made them into the perfect urban boots, even better and more comfortable than the originals would have been. Keen, with its signature natureform lasts are a hybrid brand, blending comfort and functional injected nonslip soles and Gore-Tex for waterproofness.

ispo is also the place to see high technical sporty footwear such as ski boots, mountain boots and snowboard boots. La Sportiva won an award in the outdoor category with its G2SM extreme mountaineering boot. It is an ultra-thermal, dual layer boot. The lining gives maximum thermal resistance, and the inclusion of Boa technology (see first page) makes it easy to get in and out of the boots. The honeycomb midsole reduces weight. 



The award-winning La Sportiva G2SM is an ultra thermal, dual-layer boot for extreme mountaineering.

 La Sportiva