

20TH ANNIVERSARY: 20 IN 20: FOOTWEAR

In the 20 years since we began publishing *WSA* there have been enormous milestones in the field of outdoor and sports products. In the first of two articles on this subject, we look here at 20 eye-catching developments in the last 20 years in athletic and sports footwear. There is no order of preference and nor is the timeline important on this occasion. These are simply stories centred around footwear developments that created headlines in *WSA* and beyond and helped shape the performance footwear industry of today.

20 in 20: Footwear



Nike Shox

It was probably no shock at all that the Nike Shox cushioning system led to legal drama. Shox are columns that Nike incorporated into shoes to provide cushioning in the midsole and heel and to give a springy 'energy return' to the wearer. The technology first appeared at the turn of the century and, by 2006, was the subject of a legal complaint that Nike filed against its biggest rival, adidas, saying that their a3 cushioning system infringed its Shox patents. Nike's sport research lab set out to find midsole alternatives to EVA foam and Air bags to cushion loads generated by the body when running, while also helping "motion control". Fibreglass and carbon fibre were not durable enough, so the sports brand ended up using columns moulded in high-resilience foam. Nike still refers to Shox as one of its most successful technologies of the early 2000s.

Wolverine Worldwide

A quick glance at the results of Wolverine Worldwide ought to be enough to convince anyone that outdoor footwear is an important and potentially lucrative market. When it moved to acquire the performance and lifestyle brands that Collective Brands ran until 2012, Wolverine said it was creating a \$2.5 billion group. It added Sperry Top-Sider, Saucony, Stride Rite and Keds to its existing group: Hush Puppies, Chaco, Patagonia, Caterpillar, the Wolverine brand itself, Merrell, Sebago, Cushe, Harley-Davidson and, in the workwear space, HyTest and Bates. In spite of terminating its licence agreement with Patagonia midway through the year, Wolverine grew this revenue figure in 2014 to \$2.75 billion. It said at the time of the acquisition that it saw "numerous opportunities for further growth" in outdoor footwear.



Heelys

Tacoma-born entrepreneur Roger Adams used an old pair of running shoes, a hot knife and some components from a skateboard to develop the first Heelys shoe, with wheels in the heels to allow the wearer to roll as well as walk or run. He launched Heelys formally in 2000 and the shoes soon became a phenomenon in Europe and Asia, as well as in North America. Now owned by New York-based Sequential Brands, Heelys has survived complaints about injuries and even bans in some towns and cities and is still going strong.

PrimeAsia

If it's true that everything goes in circles, a return of manufacturing to expensive more locations such as Europe or North America may be part of the future or may even be happening already. However, in looking at the sports and outdoor footwear market over the last two decades, it's impossible not to record the enormous change that has occurred in most shoe brands' supply chains. Not only have most of them ceased to produce their own shoes, but they have placed huge proportions of their shoe-producing requirements in the hands of a small group of large, specialist, Asian outsource manufacturing partners, including the Pou Chen and Stella International groups. In turn, these groups' own supply chains have been transformed in the last 20 years, with key partners emerging in the tanning sector in particular. PrimeAsia is a prime example, proving that it's possible not just to make the volumes of high-quality American lifestyle leathers outdoor footwear brands demand their manufacturing partners use, but that it's possible to do so using the highest environmental and social standards in the global industry. PrimeAsia is a prominent member of multi-stakeholder organisation the Leather Working Group and its tannery in Huangjiang in southern China won the accolade of Global Tannery of the Year in 2013.

Puma Suede

First launched in the late 1960s, the soft and colourful Puma Suede shoe was something of an icon in 2012, when the German brand gained widespread publicity by comparing the Suede to a new shoe, the InCycle Basket. It claimed its new creation's environmental cost was one-third that of the more traditional shoe. However, the figures it used to make the comparison caused controversy, which led to a much lower-key commercial launch of InCycle Basket in early 2013. Today, a search for information about the InCycle Basket on Puma's official website returns the message 'no products were found'. The Suede is still available, in no fewer than 12 colours. Puma is even selling a Suede-themed phone case these days.

Timberland

It wasn't all about money and market share when VF Corporation acquired footwear brand Timberland in 2011. The group, whose other brands include The North Face and Vans, also said it wanted to bring on board Timberland's sustainability ethos. It said it was pleased with its own progress in this area, but acknowledged there were lessons for it to learn from the way Timberland, through projects such as its Earthkeepers range of footwear and its commitment to sharing information about the environmental impact of its footwear through its Green Index label initiative, had made sustainability a "driver for product innovation".

Icebug

Sometimes it can take a long time to win recognition in your own back yard. For specialist outdoor footwear brand Icebug, winning the award for best sporting goods brand in Sweden in 2013 was an important milestone, but it came fully 12 years after the company had won an ISPO Outdoor Award for the best innovation in footwear for BUGGrip. This traction technology's retractable spikes have "radically improved people's ability to be active outdoors all year round", Icebug has said, with runners able to take to the road or trail even when it's icy. It has continued to innovate, introducing other ideas such as RB9X, a new traction rubber that will allow runners to negotiate rocks in wet weather safely.

New Balance and 3D printing

Sports brand New Balance was one of the first to try its hand at 3D printing, developing a process to customise spiked running shoes in 2013. It used race-simulation technology, biomechanical data, in-shoe sensors and a motion-capture system to collect data, converting it into athlete-specific 3D-printed spike designs. It then used selective laser sintering (SLS) technology to transform

RB9X is a new traction rubber from Icebug.

 Icebug





WL Gore has called Surround its first major development in footwear in more than a decade. It incorporates a new version of its membrane technology into a specific shoe construction to deliver what it says will be breathability under as well as above the foot.

 Gore-Tex

materials in powder form into solid cross-sections, layer by layer. New Balance said at the time it believed the technology would be “the future of performance footwear”.

Reebok EasyTone

Sports brand Reebok was reported to be delighted with the initial response to its EasyTone toning shoes in 2010. An innovative sole design featuring “instability pads” increased activity in the leg and gluteus muscles, promising wearers an extra work-out while walking or running in the normal way. It said that by creating “micro-instabilities”, the shoes would force the body to correct its posture by activating more muscle groups and in doing so provide a 28% increased work-out to the upper thighs and buttocks, and an 11% increase to the calves and hamstrings. Advertising campaigns emphasised the ease with which wearers of the EasyTone shoes would be able to attain “the perfect lower body” and “beautifully shaped legs”. But 18 months later, the tone changed completely when Reebok agreed to pay \$25 million as compensation to consumers who felt their legs were not quite beautifully shaped enough after wearing the shoes. It said it disagreed with a claim from the Federal Trade Commission in the US that its presentation of the product had been “deceptive” and was standing by its own claims for the shoes, but said it wanted to avoid a “protracted legal battle”. EasyTone shoes are still for sale.

Gore Extended Comfort

Waterproof, breathable technology provider for footwear and textiles WL Gore claimed a major breakthrough in footwear in 2002 with the launch of its Extended Comfort membrane technology, which it designed to incorporate underneath the upper material of a boot or shoe. It was 2014 before it followed this up with

a new five-component system called Surround. And Surround includes a layer of Extended Comfort membrane technology as one of those components.

Outdry

Nextec Srl, the Italian company behind the OutDry laminated waterproofing technology for footwear, won an important legal victory over a rival, W.L. Gore, in 2008 after a four-year battle over patents. Nextec said that the long, painful (for a small company) process had ended up making its patent stronger. Years of scrutiny by lawyers and technical experts meant, by the court’s decision, that the Nextec patent covers not just footwear but any application in which you can take a piece of leather and bond a membrane to it. Following the decision, Nextec spent two years listening to offers from much bigger companies and, in 2010, announced it had been acquired by Columbia Sportswear.

Ecco Golf

Many companies have long-lasting endorsement agreements with star athletes, but the one between former Masters champion Fred Couples and Danish footwear firm Ecco has endured longer than most. The arrangement started in 2006 and both parties agreed to renew it in 2013. Fred Couples has said that his preference previously was always to wear classic golf shoes, but that now he swears by models such as Ecco’s Biom, saying that one of things he likes best, apart from the look, is that he can wear the spikeless shoes from home to tee. While Ecco was not the first footwear brand to bring spikeless golf shoes to market, its partnership with Fred Couples helped it spread the spikeless message across the game.



The Flyknit is Nike's lightest, fastest shoe yet.


Desma

Footwear production automation specialist Desma was already responsible for one major shift in the outdoor and athletic footwear market (thanks to its development of direct injection soling, in which the rubber, polyurethane or thermoplastic polyurethane material a footwear brand chooses for its soles is injected directly, rather than stitched or stuck, onto the upper) when it promised further revolution in 2014. It presented Quadwrap, a concept athletic shoe it had made using four layers of polyurethane and a new version of its Amir machinery. The machine can make one pair every three minutes, but Desma's view is that the reduction Quadwrap promises in labour costs will make the biggest difference. It said the new system could help footwear firms reduce their labour needs by 90% and can make it viable for them to 're-shore', bringing production back from Asia to comparatively expensive locations in Europe or North America.

Nike Flyknit

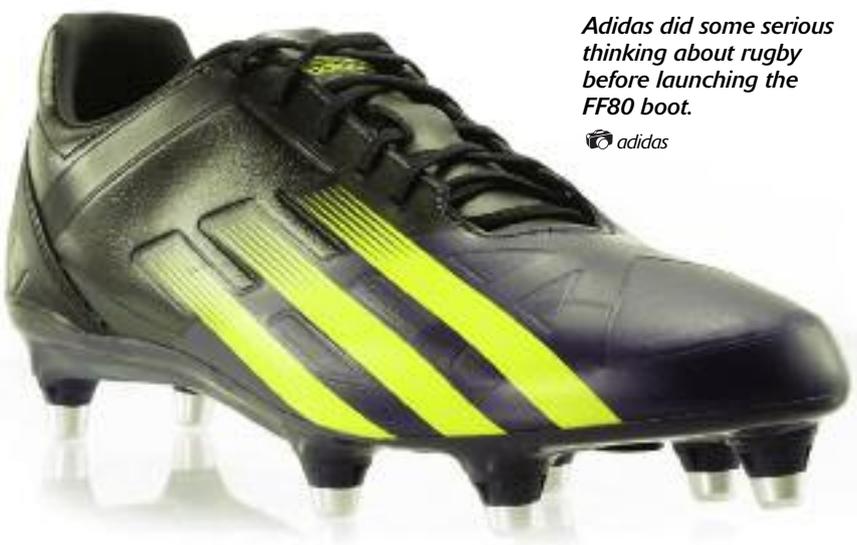
Seasoned footwear industry commentators saw something special when, in 2012, Nike announced the launch of the Nike Flyknit, a new running shoe using new knitting techniques to create a one piece upper that it said was "virtually seamless" and creates the feeling of a second skin for runners. Nike holds a number of patents which cover the knitting of one-piece trainer uppers using both flat and circular knitting technologies. One early product, the Nike Flyknit Racer, had an upper and tongue weighing just 34 grammes, with a whole shoe weighing 160 grammes in a UK size 9. In presenting its version of the same idea, Primeknit, rival brand adidas argued that the knitting technique is far from innovative because the first constructions of this type were presented as early as 1940.

adidas FF80 rugby boot

Sports brand adidas announced a new rugby boot, the FF80, just before the 2013 Six Nations Championship. The new product displayed a substantial amount of rugby-specific thinking. With a 5x2 stud configuration, the boot is designed to cater for the "unique requirements" of specialist flankers and number 8 forwards, with every aspect designed to help increase traction in scrums, rucks and mauls. Years of research had shown that flankers use their feet differently from players in other positions, spending a lot of time on the sides of their feet during scrums, on their toes during rucks, and often needing to change direction quickly to make tackles and reach breakdowns.

Crocs

Crocs was a 2002 creation, based on a proprietary closed-cell resin material that its founders were able to use to make clog-sandals that are colourful, lightweight, non-marking,



Adidas did some serious thinking about rugby before launching the FF80 boot.

 adidas

slip- and odour-resistant and unusual looking. They quickly became popular for leisure and beachwear, as well as for boating, fishing and other water-based activities. Lots of observers assumed the footwear's popularity would prove short-lived, but by 2013, the company claimed to be the eighth biggest shoe brand in the world, having achieved sales the previous year of \$1.2 billion. The following year went less well, follow an overestimation of demand in China, but it maintained its sales performance and has embarked on a far-reaching business review to establish profitability.

Vibram FiveFingers

Sole technology provider Vibram turned heads all over the world when it launched its FiveFingers minimalist glove-toed running shoe in 2007. It won a design award for the product in Milan the following year and, within three years, had been forced to close down more than 100 websites selling counterfeit imitations. Enormously popular during the barefoot running craze, FiveFingers later faced criticism because of injuries that some wearers suffered and Vibram agreed in 2014 to pay compensation of up to \$95 per person affected. But it made no apology and has continued to develop the idea, introducing a washable version for mud runners in 2015.

OrthoLite Impressions

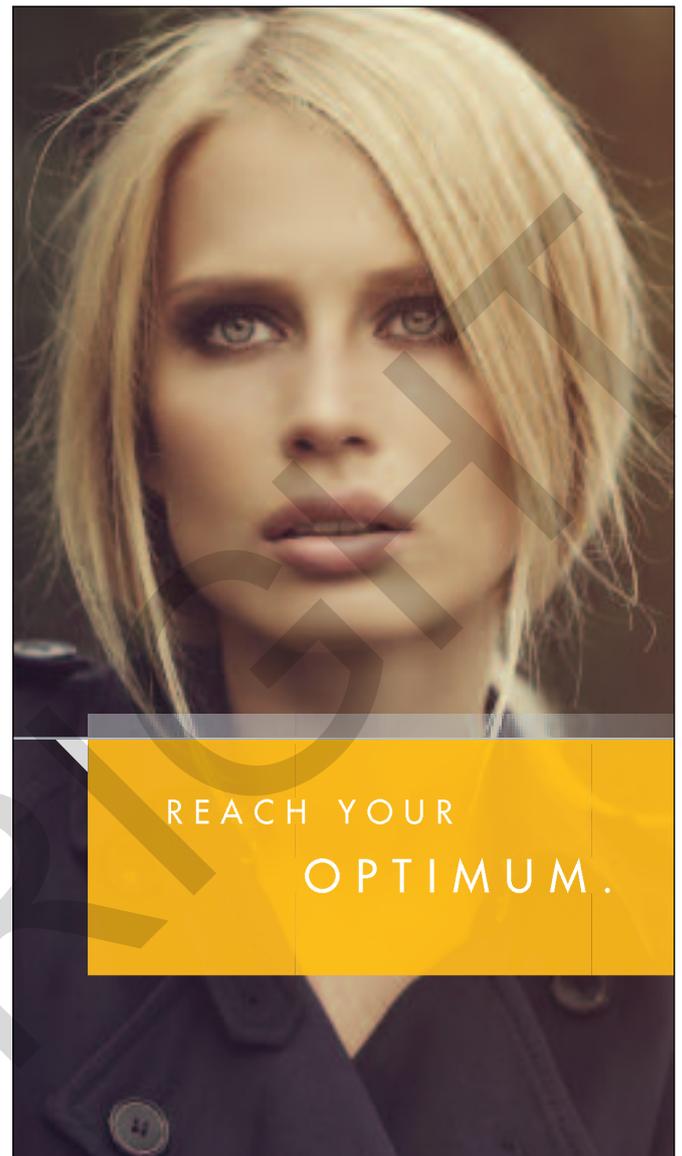
Performance insoles brand OrthoLite seemed to anticipate demand for footwear components sourced from bio-based raw material when, in 2011, it announced a customisable, moulded insole and lining foam called Impressions. The open-cell foam incorporates nearly 50% bio-oil in its formula and moulds to the shape of the foot to create a customised fit system inside the shoe. Castor oil is the source of the bio-oil that makes up 50% of the material mix in the foam. OrthoLite has pointed out that castor oil is a non-food plant source that shows "significant ecological advantages in terms of energy and resource consumption".

Cambrelle

Footwear lining manufacturer Camtex was quick to recognise the potential of silver-based antimicrobial fibres in footwear. It launched a new product in its Cambrelle range, Cambrelle with X-Static, in 2006, saying it was aiming to combine the abrasion resistance and wicking properties of Cambrelle with the anti-odour and antimicrobial functionality of Noble Biomaterials' silver-based X-Static.

UGG

Footwear group Deckers Corporation, when looking for ways to expand the appeal of the UGG Australia sheepskin boot at the end of the last decade, correctly identified the men's market as an untapped area. Who better to make the face of the 'UGG for men' campaign than one of the most famous quarterbacks in the history of American football, Tom Brady? Most men thought UGG was a women's brand, apart from the occasional pair of sheepskin slippers, probably purchased by a woman anyway, Deckers said in 2014. Tom Brady changed that. His enthusiastic endorsement of UGG, including participating in product design, allowed it to become more masculine and boosted sales by 70% in those first four years. 



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