

WORLD FOOTWEAR

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THE MAGAZINE FOR THE GLOBAL SHOE INDUSTRY



Athletic aesthetic

Science and sizing

Bio-based 3D printing

New leadership at Foot Locker



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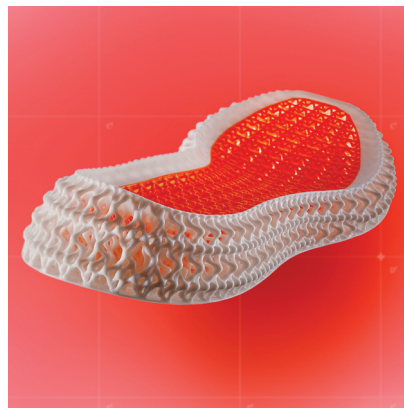
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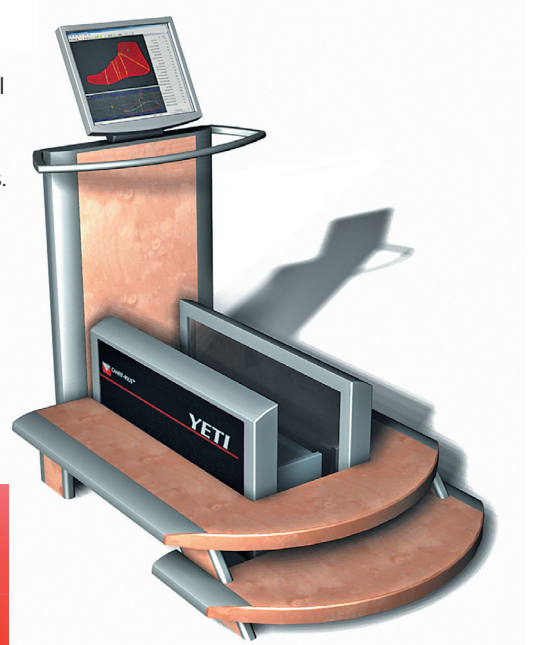
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All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means mechanical, electronic, recording, photocopying or otherwise, without the written permission of the publisher.



Global news

UK During a small industry gathering at the Institute for Creative Leather Technologies (ICLT) at the University of Northampton, newly appointed vice-chancellor, Professor Anne-Marie Kilday, officiated at the unveiling ceremony for the newly refurbished on-site physical testing laboratory. Through the support of research and testing organisation SATRA, the new testing laboratory has been fully refurbished with a range of state-of-the-art leather testing equipment.

France Luxury goods group LVMH has once again held an event called Les Journées Particulières, a series of open-house sessions enabling the public to visit its workshops for leathers, shoes, apparel, perfume and wine. It welcomed visitors to sites in Italy, Japan, the US, Canada and Argentina, as well as in France, over three days in October. This was the fifth time LVMH had held its Les Journées Particulières event.

Portugal The Portuguese footwear industry has reported export revenues of €957 million for the first half of 2022 and shipments of 40 million pairs. These figures represent an increase of 27% in value and of 22% in volume year on year and a new record. Portugal's previous best first six months for footwear exports was in 2017. President of industry body APICCAPS, Luis Onofre, said Portuguese brands had done detailed homework during the covid-19 pandemic and were now winning customers all over the world.

Spain In October the Futurmoda exhibition took place again in Elche, with 300 exhibitors showcasing leather and other materials and components. Elche, in the province of Alicante, has Spain's biggest concentrations of footwear manufacturers, many of them in the towns of Petrer and Elda, 35 kilometres from the exhibition arena. Futurmoda's main organiser is Spain's main industry association for footwear components and machinery, AEC, which has its headquarters in Elche.

Italy Organiser of the Simac-Tanning Tech exhibition in Milan, Assomac, has said the 2022 edition attracted 280 exhibiting companies. These exhibitors put the latest technology for making footwear and leather on display over an exhibition area of 13,000 square-metres. Across the three days of Simac-Tanning Tech, September 20-22, around 4,000 visitors came through the turnstiles. Assomac said this represented an increase of 57% on the 2021 edition, which was more severely affected by covid-19 than this year's.

Turkey European footwear industry body CEC has announced that the seventh World Footwear Congress will take place in Istanbul from May 9-11, 2023. Local organisers will be the Footwear Industry Association of Turkey (TASD), who will run the event jointly with CEC. CEC introduced the World Footwear Congress in 2003 and said on making the Istanbul announcement that the congress is now an event with worldwide recognition. "It has the aim of increasing international collaboration to support industry competitiveness and growth," it explained.

Kenya A senior figure in the Kenyan government, Saitoti Torome, has calculated that the country's leather industry has the capacity to create 50,000 jobs and put more than \$800 million per year in the country's economy. Mr Torome said in recent comments that the sector was suffering from a lack of raw materials and a shortage of skills, but he said a new leather manufacturing cluster in Machakos in the south of the country could help give a much needed boost. As many as 200 footwear and leathers goods factories could be located there.

Venezuela The president of the Venezuelan Chamber of Footwear and Components (CAVECAL), Tony Di Benedetto, has said in recent comments that the sector is currently covering around 25% of national demand. "We have the capacity to cover up to 60% or 70% of national demand, but owing to production and productivity issues in our companies, we have not yet reached the required levels," he said. Mr Di Benedetto asserted that 25% of national demand represents a number of between 15 and 18 million pairs of shoes. Total national demand is around 60 million pairs of shoes per year.

Mexico More than 400 footwear and leathersgoods manufacturers, designers and buyers attended a showroom event, Tendencia Cero, in Mexico City in September to see the materials suppliers are preparing for the autumn-winter 2023-24 season. In all, 22 suppliers of leather and other materials took part. There was also a Tendencia Cero conference at the event presenting trends predictions for the season.

Canada After adding overshoes brand Neos to its performance footwear portfolio as part of a larger \$230 million acquisition last year, US shoe group Rocky Brands has offloaded the company to Vancouver-based safety and equipment specialist SureWerx. Neos' range includes options for integrated ice cleats as well as non-spiked versions, helping protect wearers' footwear from adverse weather conditions.



Pakistan The country's footwear industry, which employs more than a million workers, got off to a flying start for the 2022-23 fiscal year. In the first two months of the financial year, July and August 2022, shoe manufacturers in Pakistan exported more than 1.8 million pairs of leather shoes with a value of \$28 million. These figures represent an increase of 40% in volume and of 22% in value compared to the same period in 2021.

Thailand Around 200 exhibitors took part in APLF's special ASEAN edition in Bangkok in October. Seven national pavilions, from Brazil, France, India, Pakistan, Thailand and the US were among the exhibitors. This is only the second trade fair in APLF history to be held outside of its home base of Hong Kong; organisers said they were expecting good levels of business to be done and new contacts to be made over the three-day event.

Japan Athletic footwear brand ASICS has said a new sneaker, the Gel-Lyte III CM 1.95, has a lower carbon footprint than any other sports shoe on the market. It has measured the environmental impact of the product at 1.95 kilos of CO₂-equivalent (CO₂e), insisting this is significantly lower than the lowest levels available in the market at the moment. It has based this assertion on available industry data up to September 2022.

Argentina US sports footwear firm New Balance has announced that it will begin production in the Puerto Tirol industrial park in the province of Chaco. It will start producing shoes there in February 2023. At the start of the project, two production lines will be incorporated into a 4,000 square-metre plant. The company plans to hire a total of 250 employees.

Brazil Data prepared by Brazilian national footwear industry body Abicalçados indicates that between January and August the footwear industry generated 40,000 jobs domestically. According to the same source, in August alone, more than 5,000 jobs were created. The footwear sector ended August with more than 306,000 people directly employed throughout the country, which according to Abicalçados, is the highest figure for the sector since October 2015.

South Korea Seoul-based athletic leisure brand Andar has branched out into footwear, with the launch of its Triple Air Knit 1.0 running shoe. Limited to five sizes, but available in three neutral colourways, the lightweight sneakers are to be sold via Andar's official channels, as well as in major department stores nationwide, from Seoul to Busan.



Footprints



Work-life balance

Vaude chief executive, **Antje von Dewitz**, has spoken of her gratitude to her team and for the “strong culture of trust” that she says exists at the German outdoor footwear and apparel brand. Ms von Dewitz took three months off recently to celebrate a milestone birthday by walking the Grande Traversata delle Alpi (GTA) a long-distance hiking trail.

She started off in Switzerland and walked across Piemonte’s Lepontine, Graian and Cottian Alps, through the Maritime Alps and finally reached the Ligurian Sea. On the route, which runs through numerous transverse

valleys and lonely, challenging terrain, she covered a total of 1,100 kilometres and chalked up 66,000 metres in climbs. On some sections, Antje von Dewitz was accompanied by her family and friends, but she also chose to travel alone for long stretches. She has said the experience had allowed her to “fall in love with the mountains all over again”.

She added that she had no hesitation in taking time away from work. “If I always felt like everything was going to fall apart without me, that would be very stressful,” she explained. “I believe it’s important to make sure that you have a good balance at work and that you don’t end up in dire need of time off in the first place. This includes the ability to take yourself out of the picture, even as a CEO.” ■

Reebok veteran made CEO

Reebok veteran **Todd Krinsky**, whose tenure is thirty years strong after first joining the Boston-based sportswear brand as an intern, has been named chief executive following **Matt O’Toole’s** move over to company owner Authentic Brands Group (ABG).

The executive’s most recent role prior to this latest appointment was that of senior vice-president for Reebok Design Group (RDG), the firm’s global product design, development and innovation hub. ■

Half a century

Celebrations of the fiftieth anniversary of the Manolo Blahnik brand were accompanied by record sales results and a return to profit in 2021, recently released figures reveal. Pre-tax profits rose to €6.5 million euros compared to a €4.7 million loss in 2020. Sales increased by 65% to €69.9 million from the €42.3 million achieved in 2020.

The company recorded these results despite store closures during lockdowns in the early part of the year and because of the performance of e-commerce purchases that grew by triple digits. During 2021, Manolo Blahnik expanded its presence in the US opening a head office and new flagship boutique on Madison Avenue in New York, as well as a second store in East Hampton.

CEO, **Kristina Blahnik**, noted that sales were progressing well in 2022 and she also mentioned the company’s victory in a long-running trademark case in China in June this year, which will allow it to advance in its development plans in the Chinese market. ■

Severance package

Former executive chairman **Peter Cowgill** has reached a severance agreement with sports retail business JD Sports. He stepped down from the role in May and JD announced a successor, **Andrew Higginson** in July. Mr Cowgill will receive several million pounds in salary and other benefits. He has agreed to act as a consultant to the group for the next two years. ■

Tactical move

Tennessee-based tactical footwear manufacturer Original Footwear Company (OFC) has announced the appointment of **Mark Cavanaugh** to the role of chief executive, replacing founder **Kevin Cole**.

Owned by private equity firm Brand Velocity Group, OFC is the US Department of Defense’s largest contractual supplier of its kind when it comes to US-made equipment. Its brand portfolio encompasses Altama combat boots, Original SWAT tactical boots and Capps uniform shoes. ■

Accolades for Anta

Sports group Anta won seven accolades at the 2022 Hong Kong Investor Relations Awards in mid-September, including best investor relations and a listing in the top 100 most valuable Chinese brands. Its chief executive, **Ding Shizhong**, won a personal award for best investor relations by a company leader. ■

Supply strength

The Association of Industrial Supplier Companies of Mexico (APIMEX), which works to strengthen and promote companies in the supply sector, has announced **Fernando Padilla** as its new president. Mr Padilla founded Mexi Comercial, a company associated with the leather and footwear business in León, Guanajuato, in 2008. In addition, he has been the representative of the APLF group of trade fairs in Mexico since 2005. ■

Twenty years of LeBron

Sports brand Nike has introduced a new shoe in its range honouring basketball star **LeBron James**. It describes the shoe, the LeBron XX, as the first in the range to debut as a low-top.

It has a carbon fibre midfoot shank to provide energy return and torsional rigidity, and uses the company's proprietary Air Zoom technology for cushioning and impact protection.

Senior footwear designer for men's basketball at Nike, **Jason Petrie**, said the shoe aims to celebrate LeBron James's professional career, which will have spanned 20 years next year (the XX in the shoe's name is the number 20 in Roman numerals), but also with the next generation of basketball players in mind. ■

Fresh vision for Toms with dual appointment

Casual footwear brand Toms, which operates a buy-one-give-one social entrepreneurship business model, has hired **Dorothy Sadd** as joint chief operating and chief financial officer.

Ms Sadd previously held senior leadership positions at firms including VF Corporation and Kurt Salmon. Most recently, she served as chief operating and chief financial officer at retro-inspired fashion label Unique Vintage.

Chief executive, **Magnus Wedhammar**, described the appointment as "an easy decision", citing Ms Sadd's experience in footwear and retail across finance, logistics and management. "She is coming in at a pivotal time to continue to grow Toms as a mission-driven brand," he added.

Mr Wedhammar himself joined Toms back in January 2020, around a month after private equity investor Bain Capital and founder Blake Mycoskie announced plans to cede control of the company to creditors ahead of a \$300 million debt restructuring exercise. ■

Alliance appointment

Industry alliance Sustainable Chemistry for the Textile Industry (SCTI) has appointed **Dr Isabella Tonaco** as its executive director as of November 1. SCTI said Dr Tonaco would "drive transformational change" in the textile and leather industries. She will be based in Germany.

Launched two years ago by seven chemical companies, the alliance aims to enable brands, retailers and manufacturers to apply new chemistry solutions that will "enhance the wellbeing of factory workers, local communities, consumers and the planet". ■

New post at Rocky Brands

US shoe group Rocky Brands has promoted internal candidate **Tom Robertson** to the newly created role of chief operating officer, following more than five-and-a-half years as chief financial officer and treasurer at the company.

In related news, president of manufacturing and sourcing operations, **David Dixon**, has left his position with immediate effect. Mr Dixon had spent 29 years with the business. ■

Chinese market ambassador for On

Zurich-based performance footwear brand On has signed its first Chinese athlete since entering the market four years ago, triathlete **Miao Hao**.

Miao Hao became China's first professional triathlete in 2019 and is currently the Asian record holder for the Ironman Triathlon, as well as the Chinese record holder for the Ironman 70.3 or Half Ironman race. In May, he placed third at Ironman Mallorca.

On was co-founded by former Swiss Ironman champion **Olivier Bernhard** in 2012, who previously competed in triathlon and duathlon events. ■

Restart in 2023

Footwear brand adidas has announced that its current chief executive, **Kasper Rørsted**, is to step down next year after reaching an agreement with the company's supervisory board. Mr Rørsted, who has been at the helm since 2016, will remain in place until the appointment of his successor. Chairman of the supervisory board, **Thomas Rabe**, suggested it was now time to "pave the way for a restart" at the brand in the context of covid-19, its ongoing economic consequences and the effects of geopolitical tensions around the world. ■

Circular future

France-based group Eram, which comprises 10 clothing and footwear brands, has been running its own sustainability programme, Change for Good, since 2018. Speaking at the Sustainable Leather Forum in Paris in September, Eram's sustainable development director, **Isabelle Desfontaines**, said the group's aim in running the programme is to show that "mass-market fashion" can be responsible as well as profitable. "Fashion will be circular or it will not exist," Ms Desfontaines said. ■

Legacy to build on

Industry representative body the British Footwear Association (BFA) has named **Jane Wilson**, formerly a non-executive director, to the position of chair of its board of directors. Ms Wilson replaces **Robert Perkins**, who held the position for over four years. She described the chance to build on Mr Perkins' legacy as an honour. ■

Next level

Finnish micro-fibrillated cellulose-based fibre developer Spinnova has made another senior appointment. **Teemu Lindberg** has joined the company as executive vice-president for scaling up production. Until now, Mr Lindberg was director of a biofuels growth programme at industrial group UPM. He said he looked forward to bringing his experience and skills to Spinnova, adding that it was time to take "the sustainable textiles revolution" to the next level. ■



Industry & Innovation



CREDIT: UMBRO

Jacquard exclusive

Sports brand Umbro has brought its all-new Velocita Alchemist football boots to market, as part of a deal with footwear materials developer Texon. Until 2023, Umbro will have exclusive use of Texon's ProWeave jacquard technology in this category. The technology delivers multi-directional and zonal stretch by weaving together various yarn thicknesses, weights and colours. It unites recycled polyester and thermoplastic polyurethane (TPU) yarns in a bee wing-like structure for added support. ■

Technology providers merge to form Avantium

Footwear manufacturing technology providers Atom and Cerim have merged to form a new company, Avantium. They are equal partners in the new venture.

They said that establishing a new company in which the technology offerings from both Italian machinery providers will join together would allow them to have a stronger presence in the international market and optimise customer service, while keeping the workforce of both constituent companies in place.

Cerim and Atom have invested jointly in the new operation without resorting to external finance, and have agreed a plan for the future. They said they were uniting to grow. ■

Local supply of ocean plastic

UK-based shoe components manufacturer Milspeed has revealed it has been working to reprocess discarded nylon fishing nets into recycled plastic pellets for toe puffs, heel counters, logos and more alongside environmental charity Keep Britain Tidy since March 2020.

The company has been creating waste-consuming components for footwear for around four years in total, according to Milspeed's business development manager, James Milhinch. One example is its Milguard Ocean toe puff and counter range, produced using end-of-life fishing nets from suppliers in the UK and Spain. However, this most recent net-reprocessing scheme, called the Ocean Recovery Project, allows the firm to harness its 20-plus years of technological expertise to make high-performing pellets from plastics littering local coastlines.

To date, more than 40 tonnes of trawl nets have been repurposed, roughly 30 tonnes of which was collected by Tor Bay Harbour Authority in Devon. These nets travelled only 154 miles to Milspeed's recycling facility, an improvement on the carbon footprint more typically generated when nets leave British shores to be recycled in Europe, for instance, or sent to landfill. ■

Responsibility requirement

Leather manufacturing group ISA TanTec has said it is gradually integrating into its supply chain a new responsible hide sourcing policy that it has drawn up with campaign group World Wildlife Fund. Focusing on hides from the US and Brazil, the new sourcing policy reflects a commitment to animal welfare and to "developing a deforestation-free and conversion-free cattlehide supply chain".

For leather ISA TanTec sources from Brazil, it will be mandatory for suppliers to commit to policies and procedures "that establish timebound deforestation-free and conversion-free production supply chains". ■

Membrane makes it to market

Further to technical textiles developer Gore-Tex's debut of its ePE by Gore material platform last autumn, the first shoes to incorporate the membrane, formed by combining expanded polyethylene (ePE) with polyurethane, have started to appear on the market.

Brands such as K2, Eider, Kolon Sport and BlackYak have all unveiled designs which feature the technology as part of their current autumn-winter collections, including the latter's 343 D Eco GTX hiking shoe. ■

Factory progress

Footwear group Birkenstock has laid the foundation stone for a new factory in Pasewalk in north-east Germany. It said it hopes to complete the building project and to begin production there before the end of 2023, employing an initial 500 people. In time, Birkenstock has said it hopes to employ 1,000 people at the factory. Its annual production is around 30 million pairs at the moment; when the Pasewalk site is fully operational, it has said this could increase to 50 million pairs per year. ■

Plant-based is not enough

Polymer developer Covation Biomaterials showcased a variety of new applications of its Sorona and Susterra products at the Sustainable Fashion Expo in Tokyo in mid-October. It had samples of apparel, footwear and performance gear from partners in Japan, Korea, China, and Taiwan on display at the event and also presented a new Sorona fabric collection, made exclusively for the Sustainable Fashion Expo.

At the event, global marketing director, Partick Van Waes, said it was not enough to make propanediol from plant-based feedstock. He added that the feedstock needs to be grown responsibly. Mr Van Waes explained that Covation's commitment to this was demonstrated in its recent enrolment in a farmer-driven regenerative agricultural programme called Truterra. ■

New horizons for recycled nylon

Invista brand Cordura's re/cor RN66 collection, a line of recycled nylon 66 fabrics made from 100% pre-consumer material collected in-house, has been added to materials library and consultancy Material ConneXion's 'Material Insights' platform.

The fabric was most recently introduced to the footwear market via two new styles produced in partnership with Taiwan-based supplier Tiong Liong. The footwear-appropriate styles come in both non-stretch and four-way stretch versions. The two selected for inclusion by Material ConneXion were CFINT001 100% RN66 (75 warp x 60 weft), plus CFLNT001 85% RN66 and 15% spandex (95 warp x 79 weft). ■

Trace technology

French leather and footwear research and testing body CTC has presented a new system called ALIS to help maintain the traceability of hides during the tanning process. This technology identifies the origin and reconstructs the route taken by the raw material throughout the tanning process, from hide to finished leather.

One component, ALIS Marking, uses a high power CO₂ laser system to make a mark with a unique identification code inside the raw hide. It has been designed and patented to withstand the leather transformation process. A second element, the ALIS Reading device, is based on a camera acquisition system and artificial intelligence algorithms. Information related to the quality and origin of each hide is automatically retained and stored in a database, allowing information to be shared across different sectors.

According to CTC, there are already nine French companies in the sector (slaughterhouses and tanners) that are using the ALIS traceability system. ■

Plastic partners

Materials developer Eastman has announced Interzero, a specialist in plastics sorting, as a partner for the molecular recycling facility it is developing in France.

Eastman announced the new facility in January. It will be located in Normandy and will aim to process approximately 160,000 tonnes of hard-to-recycle polyester waste annually. The company has said it hopes to begin operations at the plant in 2025.

Under this new partnership agreement, Intermezo, a Germany-based plastics recycler with the largest sorting capacity in Europe, will provide Eastman with up to 20,000 tonnes of hard-to-recycle polyester household packaging waste that would otherwise go for incineration.

Typically, this material will be coloured and opaque PET waste; this cannot be recycled mechanically but Eastman will use it to create, via its polyester renewal technology, transparent rPET. ■

Zipper is born again

Zip fastening specialist YKK has developed what it is calling an environmentally friendly, water-repellent version of its AquaGuard zipper. This version, Natulon, will gradually replace its conventional AquaGuard zipper in products. YKK said this process will take a year to complete.

AquaGuard Natulon has a tape made of recycled PET plastic, which the manufacturer is introducing as a more sustainable alternative to its polyurethane laminated conventional AquaGuard, which it has been delivering to customers for 20 years. ■

Brazil boost

Assintecal, Brazil's national association for manufacturers of footwear components, reported export revenues of \$253 million for the first seven months of this year. This figure marks an increase of 20% compared to the same period in 2021. International marketing manager, Luiz Ribas Junior, said an increase in freight costs and the difficulties in securing materials from Asia has led companies to buy more from Brazil. ■

Upstream information

Chemicals group BASF has said it will give customers product carbon footprint information for several of its antioxidants and light stabilisers. It said it wanted to improve transparency in the value chain and to support customers' efforts to reach their targets for reducing greenhouse gas emissions. The first products for which the information is available include Irganox, which is used to make synthetic fibres and elastomers. BASF said further products will follow. ■

On song

Outdoor footwear brand Keen has launched a new women-specific hiking shoe, the Terradora Flex. A key component Keen has pointed to is "accordion-like bellows flex technology" it has built into the flex point of the forefoot. The brand has said this will enable hikers to move with less effort and comfortably cover greater distances on the trail. ■



Backtrack

19.10.22

US footwear prices still increasing
Export award for Gucci and U-Power

14.10.22

Online shoe shopping still buoyant
in Brazil
A 'love letter to nature' from Mizuno

13.10.22

SAC 'doubling down' on data collection

12.10.22

China's first Nike Style concept store
recycles shoes
Partnership marks World Mental
Health Day for adidas

10.10.22

France: invitation to leather
entrepreneurs

06.10.22

Nike and the problem of excess
inventory

05.10.22

Growth for Le Coq Sportif

04.10.22

Growth elsewhere 'partially offsets'
China fall for Nike

03.10.22

Carbon fibre LCA calculations
complete for Teijin

29.09.22

Boom in luxury footwear for men

27.09.22

New Christie's department for
collectible sneakers
A robust first-half performance for
JD Sports

26.09.22

Advanced materials conference to go
ahead in Romania

23.09.22

Micam visitor numbers up by 20%
Texon reveals 100% recycled
Strobel solution

22.09.22

Ferrari "design cues" show up in new
Puma shoe

World Footwear's publishing cycle and limitations on space make it impossible for us to run more than a carefully selected sample of news from across the industry. However, we publish hundreds more stories on **www.footwearbiz.com**. The site is updated every day with news from every continent and every part of the industry, making footwearbiz.com one of the most comprehensive archives of news anywhere on the web for the global footwear industry.

We list below just a few of the headlines that have appeared on the site in recent weeks — **www.footwearbiz.com** allows you to read the news items you may have missed.

21.09.22

Footwear prices on the rise in the US

20.09.22

BCG publishes top 50 innovative
companies for 2022

19.09.22

Uneven recovery for Italian footwear

16.09.22

Argentina: manufacturing recovery
prompts optimism

15.09.22

Tod's puts the pandemic behind it
Moncler expands into
outdoor footwear

14.09.22

First Hong Kong flagship for Li-Ning
Onward into resale for On
Sustainable Leather Forum takes
place in Paris
Mexican footwear exports to grow by
50% this year

13.09.22

Capsule collection adds to adidas
Made With Nature programme
Peruvian government to commission
school shoes

12.09.22

H1 result outstrips whole of last year's
for Spinnova
UK industry expresses sorrow at the
death of Queen Elizabeth II

09.09.22

Growth elsewhere makes up for
China challenges at Ferragamo

08.09.22

Lockdowns reimposed across China

07.09.22

Skateboard shoe is September
addition from New Balance
European outdoor groups join forces
for change
Packed programme in Milan
overshadowed by uncertainty

06.09.22

Bangladesh leather fair announced
for June 2023
New Balance goes Gore-Tex with
996s in Japan

05.09.22

Nike sponsors South Korean national
breaking team

02.09.22

A response from Puma to ongoing
outdoor enthusiasm

01.09.22

Colour splash for Allen
Edmonds Oxfords
Manufacturing output climbs
in Argentina

31.08.22

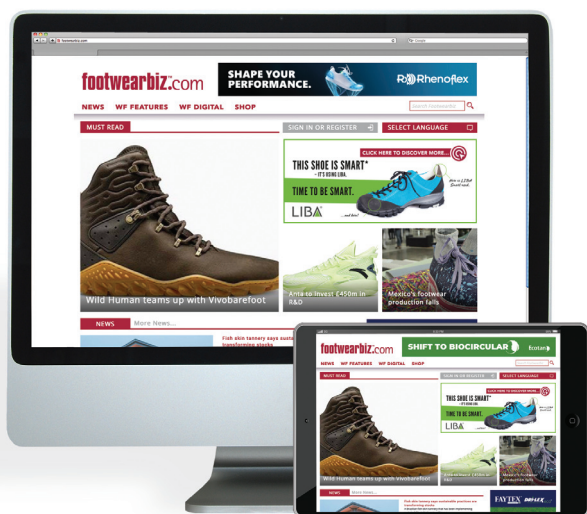
Shoe Zone continues to outpace
expectations
London-based company to make
shoe collection for French Connection
Double-digit growth for shoe and
leathergoods exports from Vietnam
Spain's footwear exports show
growth in value compared to 2019
Sneakers take lion's share of shoe
purchases for children in France

30.08.22

Lagos hosts first flagship store for
Nike in West Africa
Sales of luxury goods in China
are falling



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CREDIT: SHUTTERSTOCK / NOLIE LOURENS

The ongoing problem of sizing

It has been reported that a recent study in South Africa found that school shoes currently available at retail were not suitable for the habitually barefoot population studied. It recommended that footwear manufacturers should take into account the width of school shoes for children and adolescents in such populations to avoid the long-term negative effect that ill-fitting shoes have on their feet. This does not come as much of a surprise as ill-fitting shoes remains a problem world wide and is not just restricted to countries where there is a prevalence for young children going barefoot.

It is in fact a situation for which, to a large extent, we can thank the globalisation of the footwear industry whereby major brands have evolved to supply a global market. As there are almost as many variations in foot shape as there are nationalities around the world, a compromise has to be made whereby footwear has to be produced on lasts that cover the widest number of

individuals possible. Add to this the fact that so much footwear is now purchased either on-line or from retail stores that do not offer any expert fitting advice and you can see why this situation exists.

Children's feet

The potential harm being done to growing children's feet through wearing ill-fitting shoes is a serious and ongoing issue. A child's foot differs proportionally from that of an adult primarily in that it is wider which must be taken into account. Furthermore, the bones are not fully ossified and its cushioning function is different. The main distinction, however, rests in the fact that it is growing. In other words, children's footwear may be worn only for a limited length of time and, if worn longer, may lead to deformity. Unfortunately, parents in many developing countries may often not replace their children's shoes when they should simply because they cannot afford to do so.

“The potential harm being done to growing children's feet through wearing ill-fitting shoes is a serious and ongoing issue.”

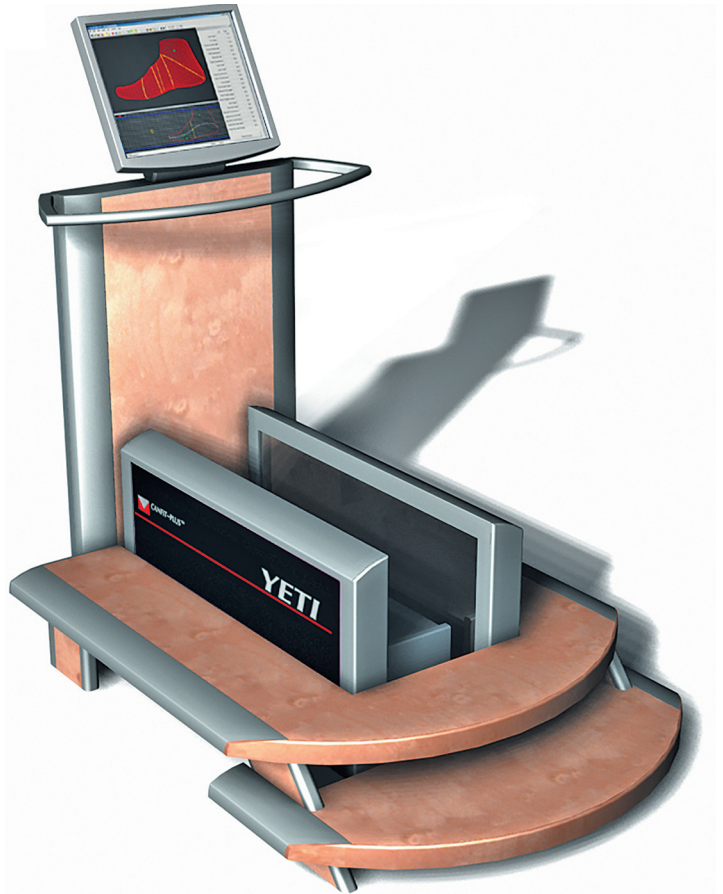
If recommendations exist for establishing the safe length of wear of newly purchased children's footwear, they originate from a time when domestically produced footwear predominated and local manufacturers tended to work from measurements of feet in the local child population. It has often been argued that precisely because local manufacturers used local data in order to produce designs that satisfied the ethnic characteristics of the local population, this was a guarantee of healthy footwear. Furthermore, the fact that it was purchased from specialist shoe retailers ensured that children's shoes were properly fitted.

Formerly closed markets also limited the import of children's shoes and thus their shape and quality could be controlled at a national level. In the 1990s, footwear production shifted rapidly from industrially advanced countries to those across Asia. Relatively effective national activities concentrating on educating parents in the purchase of children's shoes immediately began to lose effect. Any attempts at unifying opinions and proposals for a common approach largely failed in practice with the result that the shape and dimensional proportionality for children's shoes has been left up to global manufacturers to decide for themselves. Globalisation has in fact led to a deterioration of the conditions necessary for healthy children's feet.

Accurate measurement

Foot scanners have revolutionised foot measurement and overcome all the earlier vagaries in taking truly accurate dimensions of the foot. They are able to capture the shape of opaque objects in 3D space by providing x, y, z coordinates of the scanned object surface and use devices such as cameras and laser equipment to derive digital and mathematical models from 3D images of the foot. One might think that this, coupled with CAD design software, would have solved all the problems of translating the undulating surfaces and shapes of the foot into perfectly fitting shoes. Well, not quite. Major differences still remain between the foot as accurately captured by modern scanning technology and the shoemaking last, to say nothing of pattern variations and materials used in the final product.

Foot and last surfaces are quite different; the foot is irregular and last smooth. The outline of the foot has no regular outline, whereas a last has a regular and continuous bottom outline or feather edge to assist lasting and give a clearly defined shape to the finished shoe. There are in fact up to 16 such differences between foot and last. However, today's scanning equipment is



Foot scanners such as the Vorum Yeti solve the problem of truly accurate foot measurement but are not available to the majority of footwear consumers.

CREDITS: VORUM

globally accepted by both manufacturing and retail sections of the shoe industry, for the creation of highly accurate 3D virtual models of the foot.

While this is to be welcomed, it only affects a relatively small proportion of consumers, both children and adults, whose footwear is purchased from quality retail outlets. The vast majority of consumers globally do not have access to sophisticated retail outlets as they either do not exist where they live or they cannot afford the footwear being sold. For them, such advanced technology is of no help in improving the fit of their shoes. Furthermore, it does not solve the ongoing problem of size labelling.

Confused labelling

Footwear is marked in different sizes but that may only be an indication of its length or, more accurately, that of the foot that should feel comfortable in it. Width fitting is often not mentioned at all, the assumption being that it should fit the average foot. Unfortunately, perception of 'average width' varies between brands and global markets. Furthermore, there is a lack of accord between them on shoe size dimensions and labelling. Even when using a single sizing system there are variations in both the foot length and joint girth corresponding with the labelled size.

This is further complicated by there being multiple shoe sizing systems. When producing footwear, the lasts and tooling used will have been developed in accordance with a particular shoe sizing system. If a manufacturer wants to supply the international market, it must of necessity use conversions between the different sizing systems. This again only covers the length of the shoe but not the width. To try to bring some sense of order and provide an independent reference point, ISO/TS19407 was published in 2015, showing the relationship between different sizing systems and how they relate to foot length.

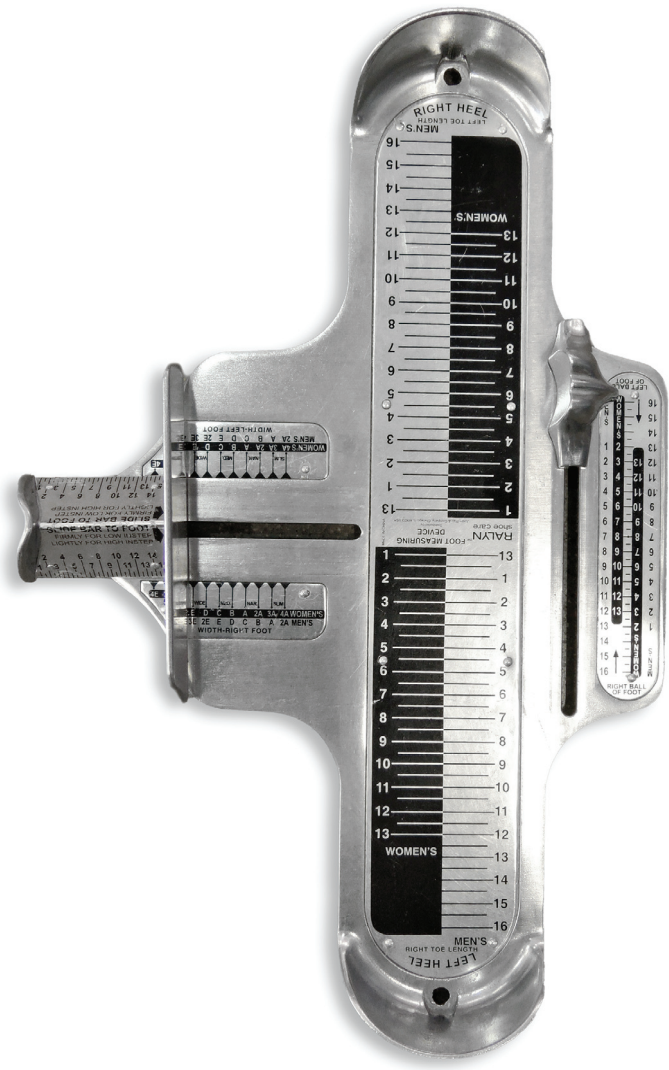
Unfortunately, interpretations of standard fitting for joint girth can differ widely between brands. Some deliberately grade wider shoes than their competitors to gain an alternative slice of the available market. This results in two shoes of the same style and size having drastically different fitting characteristics. In fact, size labeling has become so chaotic that it is now a total mess and this has made it all but impossible for parents to select and purchase footwear dimensionally and proportionally suitable for their children.

There are in fact at least 11 possibilities as regards shoe sizing systems including British, European, Russian, American, Mexican, Australian, Japanese, Korean, Centimetres, Inches and, not least, Mondopoint. While many of these are now rarely used, the situation nevertheless remains highly unsatisfactory from a consumer standpoint. A universal system, while causing short term disruption to manufacturers if introduced, would put a stop to all this and offer considerable long term advantages, not least of which would be simplifying the global supply chain and making it easier for consumers to buy the right size and width.

Is there a solution?

A solution for all this confusion already exists and has done so for 50 years. Mondopoint was developed in the 1970s by the International Organisation for Standardisation (ISO) to create a universal footwear sizing system. It is a labelling system that removes the ambiguity of other sizing systems by stating the length of foot for which the shoe is designed. Thus, a Mondopoint size 270 indicates that the shoe should fit a foot length of 270mm. In this way, a UK 9 would be labelled as 271 and would be immediately apparent to a customer whether it was suitable to try on. Similarly, an EU 43 would be marked 273 and would be an obvious approximation of the UK 9 or US men's 10.

The Mondopoint system has a further and important advantage in that the labelling should also include an indication of the width of the foot for which the footwear is designed by stating its joint breadth. In this way, a UK size 9 D fitting might be labelled 271/103. A customer can therefore very quickly identify a suitable size and width fitting by taking two foot measurements; foot length and joint breadth—both of which are explained in ISO 9407—and make choosing a size and width of footwear as easy as measuring a footprint and just as easy to remember.



Accurate measuring of feet only became possible with the introduction of Charles Brannock's foot measuring device in the 1920s.

CREDITS: SHUTTERSTOCK / JIM LAMBERT

The idea originally stalled mainly due to a reluctance to change on the part of certain countries that still clung to Imperial measurements rather than change to metric. Unfortunately, a universal sizing system like Mondopoint would probably be too expensive and disruptive to implement. The footwear supply chain has enough problems as it is and, without overwhelming pressure from consumers, nothing in regard to footwear sizing systems and labelling is likely to change in the foreseeable future.

The footwear industry has made incredible technical advances during recent decades except in this one fundamental area, size measurement and size labelling. It had a golden opportunity 50 years ago at the outset of globalisation when it might have stood a chance of succeeding. Instead, conservative thinking held sway and now, instead of a global sizing and labelling system which would have simplified things and saved money, we have confusion and increasing foot health problems due to ill-fitting footwear. Not a very good legacy. ■

Create + Sustain

At Texon we know that what we create with you today, must help sustain tomorrow. For 75 years we've been collaborating with our customers, developing innovative, high-performance materials for footwear, accessories and functional apparel that are better for people and the planet.

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75
Years
of Sustainable
Innovation



Stanbee's factory in Thailand is due to add an additional 6,100 square metres of production space.
ALL CREDITS: STANBEE

A mission of sustainability

Stanbee, a global manufacturer of box toes and heel counters was founded by Manny Berkson and his son Stan in Roseland, New Jersey in 1948. They were joined later by Manny's other son Howard who took over the running of the company. Today, it is led by Howard's son, Michael Berkson, with operations in Thailand and Vietnam, as well as their headquarters in the United States. "My family opened Stanbee with the goal of building an industry leader," Berkson says, "and the company wound up being just that. And now, we're moving even further ahead with our sustainability initiatives."

The company has proved its ongoing commitment to innovation by releasing its most sustainable, high-performing component material yet. Called Nitro Force*, the company says it is a breakthrough product that is made from a minimum of 85% recycled plastic (PET) bottles and is fully recyclable. Berkson goes on to say, "With Nitro Force, we are offering our customers the industry's most sustainable product while fulfilling two prongs of its ecological mission by reducing its use of virgin raw materials and increasing its reuse of an underutilised global waste stream. Our Nitro products are our most sustainable ones yet. They literally serve as a conduit for the global waste stream. I have no doubt my grandfather and father would be proud if they were here to see the Stanbee vision come to life."

Sustainability is in the DNA

The company's director of sales, Leo Provencher, agrees. "Sustainability is in our DNA. We've never taken our eye off it and are always looking for new ways to innovate and reduce our impact on the environment." When speaking of sustainability, Berkson is particularly proud of the company's zero-waste net-part programme. "With Nitro Force, we employ a true closed-loop process. If you send us a DXF file, we'll cut your parts for you and then recycle the waste to make even more Nitro Force products. It's a most effective way to reduce the global waste stream."

The company is already well known for its environmentally friendly Verge, Vantage and SporToe products. The success of these components was the inspiration behind the new product line, which brings each of these products to a higher level of sustainability and performance. Nitro Force is in fact a lighter version of Verge, which has proved popular ever since it was introduced in 2010, so it is a case of building on earlier success. As mentioned, it is said to be fully recyclable in the same way as Verge while also increasing the use of recyclable materials from 50% to nearly 85%. The company will also shortly be announcing three additional products, Nitro Flex an upgrade of the Vantage range, Nitro Sport an upgrade for SporToe and Nitro Vulc an all-new range for vulcanised footwear.

New school thinking

Independent studies would appear to support the company's claim that Nitro Force outperforms other components in virtually all functionality tests. It was found to be extremely light, very strong and highly durable with optimal testing values. In addition, it had excellent shape retention and resilience. Stanbee says that the main reason why it scores so well despite its extremely light weight, is the addition of nitrogen gas during the manufacturing process. This innovative technology causes bubbles to form throughout the core material which, in turn, make counters and box toes cut from it lighter than their predecessors without sacrificing stiffness, strength or durability. Furthermore, by displacing some of the core matter, the process reduces the amount of raw material used. "This is new-school thinking," says Provencher. "we're constantly upgrading products with new approaches and new techniques."

Asian expansion

Initial feedback from customers suggests that the demand for these patent-pending products will be at an all-time high. This is one reason why the company is expanding its facilities in Asia. In Thailand, it is adding 2,200 square meters to its state-of-the-art plant, giving it more than 6,100 square meters of manufacturing, warehousing and administrative space. This location already serves as a major production hub for the company and has three extruding lines and full cutting and shipping capabilities. Furthermore, it is located within the Amata Nakorn Free Zone, allowing it to import machinery and materials duty-free.

In Vietnam, the company is adding another 6,000 square meters of space plus the first of three planned extrusion lines to its manufacturing facility just east of Ho Chi Minh City. As a result, it will now have its own supply chain in its Vietnam factory, extruding sheets in the same place it has been cutting net parts. Today, Stanbee is able to produce more than 33 million pairs of components per month. When the expansions are complete, it estimates

that number will jump to 43 million pairs. "Our manufacturing capabilities in Asia are being expanded and streamlined at the same time," says Provencher. "Our entire work-chain is being rebuilt. Now, in Vietnam, we'll be able to extrude product right where we cut net parts. And we'll continue delivering the components to your factory door. We're eliminating a range of logistical issues and cutting lead-times significantly."

Asked about the future, he sees one of continued innovation. "We will do what we've always done. We'll expand our capabilities as our customers' needs dictate. We're committed to bringing our customers sustainable, high-performing products in the most convenient, cost-effective way possible." Michael Berkson agrees. As he puts it, innovation and sustainability are at the core of Stanbee's ongoing philosophy. "The unwritten code is to innovate in ways never thought possible," he says. "That's what tests us. That's what drives us. If you told my grandfather, nearly 75 years ago, that his company would be a global leader in innovation, he'd be proud. That was his vision from day one." ■

Nitro Force Product Characteristics

Thickness:	Nitro Force 0.8mm – 0.76mm to 0.84mm. Nitro Force 1.0mm – 0.95mm to 1.05mm.
Cutting:	Multi-directional for optimum yield.
Activation:	80°C to 90°C.
Cold Moulding:	0°C to -5°C with sufficient dwell time to secure minimum bond-line temperature of 30°C or less.
Sheet size:	101.6cm x 152.4cm (40in x 60in).
Area:	1.548 M ² (1.852 sq yd).
Packing:	500 sheets per pallet.
Recommended shelf life two years from date of manufacture.	

*Nitro Force® is a registered trademark.



Nitro Force materials can be cut in any direction for maximum yield.



The adidas 4DFWD shoe features a 3D printed lattice midsole in EPU 44 resin from Carbon Inc.
ALL CREDITS: ADIDAS



Bio-based 3D printing

3D printing is beginning to make more of an impact on the footwear industry as new ideas and materials continue to come to market. The most recent, launched in June, comes from American company Carbon Inc, based in Redwood City, California.

Called EPU 44, it is a 40% bio-based production-grade elastomeric 3D printing resin that has been developed to be especially well-suited for lattice structures where high resilience is called for. It is said to have superior latticing performance, to print faster, use less material and have a higher green strength than previous resins and offers greater protection for delicate designs. Carbon says that this proves it is possible to have highly-sustainable materials without sacrificing performance.

The new product is a sustainable, bio-based material developed by the company for its Digital Light Synthesis (DLS) technology. This is a resin-based 3D printing process that uses digital light projection, oxygen-permeable optics and dual-cure liquid resins to manufacture products and component parts with exceptional mechanical properties, resolution and surface finish. The process allows engineers and designers to iterate faster and radically rethink products by making it possible to consolidate parts and create structures that are beyond the capabilities of moulding technologies.

Dual-cure materials combine UV curable resins that react with and solidify with UV light, and thermally curable resins which react in the same manner as

two-component resin adhesives. These two separate chemistries can be blended and then mixed prior to loading into a 3D printer. The printer then solidifies the part being printed by using UV chemistry. In this way, an initial network is formed by the UV printing process entrapping the thermal chemistry into that part or product that has been formed. This is then removed from the printer, cleaned and put into an oven where the thermally curable chemistry embedded within it is activated. This sounds like very clever technology and, indeed, it is.

Bio content

The company used a polymer derived from plants instead of petroleum by-products to create the necessary building blocks for EPU 44 to achieve a reduced carbon footprint and make it a more sustainable option. One of these materials, known as PO3G, forms the backbone of the long polyurethane chain involved. The monomer for this material is Susterra produced from corn sugars by DuPont Tate & Lyle Bio Products. Carbon says that this results in a much lower carbon footprint as it is essentially a case of taking CO₂ from the air and sunshine to make plants and then, in turn, using them to make the building blocks of the final polymer. This 40% bio-content has also resulted in a lower viscosity resin that prints faster.

Lattice structures made using EPU 44 have a non-linear material response with a high resistance to

failure and are said to offer gains in regard to quality, cost and performance, all of which are so important in high-volume production where industrial-class dispensing, cleaning and baking is present. The company says that its new resin is particularly well-suited for the production of elastomeric lattice geometries and offers more advantages compared to traditional foam materials. This is because its tear strength, energy return and elongation rates offer superior cushioning, impact absorption and comfort. Combined with its lattice generation software tool Design Engine, the company says components can be created that exceed the capabilities of those produced using foam.

Working with adidas

To give an example of the possibilities EPU 44 and Carbon's technology can achieve, the company partnered with adidas to manufacture high-performance midsoles for running shoes, including the 4DFWD line of products. Combining athletes' data, EPU 44 and Carbon DLS technology, adidas 4D footwear offers the possibility to fine tune midsoles to specific patterns of movement so that athletes can experience precision performance with every step.

Specifically, the new printing resin enables a unique 'bow-tie' lattice, designed by adidas, to be produced which is able to convert vertical force into horizontal motion to improve the wearer's running performance. The 4DFWD is recognised as being the first performance shoe where the midsole has been designed and produced entirely with the aid of 3D printing. It has been claimed that by using EPU 44 combined with Carbon's spin cleaning technology, the generation of an average of 203 metric tons of Isopropyl alcohol (IPA) waste and 74 metric tons of resin waste was prevented. This only goes to show what can be achieved through the adoption of modern technologies of this kind.

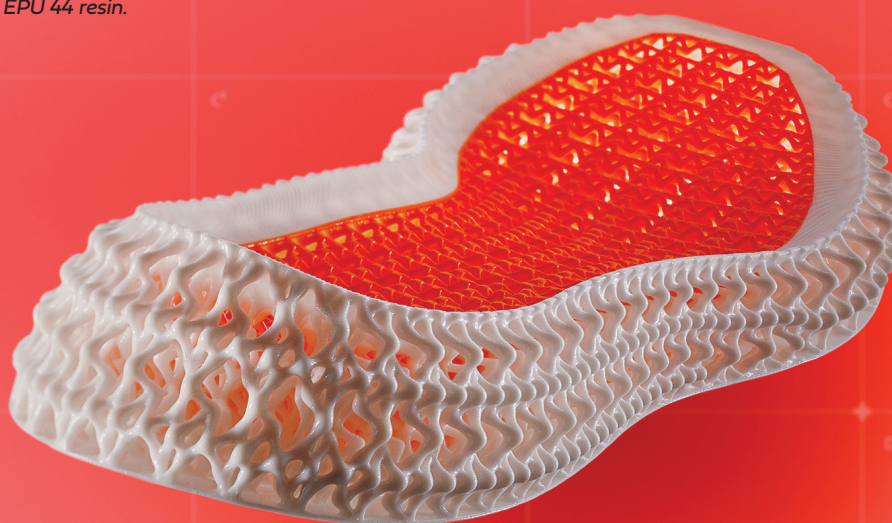
New directions

As product teams look for fresh applications of elastomeric lattices they will need to innovate in new directions that call for characteristics that were previously unattainable. However, many materials currently on the market constrain design geometries which, in turn, constrain performance. Soft elastomeric photopolymers can restrict the design space for strut-based lattices due to how delicate the structures are while printing. These photopolymers also take a long time to print and can pose significant challenges in managing supply and quality. Additionally, the vast majority of photopolymers on the market do not meet the requisite durability requirements needed for high performance footwear products such as running shoes.

There are many opportunities for growth and development when it comes to sustainability by the use of additive manufacturing. Parts can be made on-site or at a time when they are needed, thus reducing transportation costs and the environmental impact of shipping. Companies can also benefit from a lower inventory or cloud-based inventory as an alternative to warehouses filled with polymeric parts that require humidity and temperature regulation, and are often discarded after their expiration dates. Companies can now manufacture these products locally and on-demand. Another major benefit of additive manufacturing is the ability to reduce material content and weight by using lattices and other types of geometric design that are not possible with traditional manufacturing processes.

Widespread adoption of additive manufacturing is nevertheless still in its early stages, but the role it can play in making manufacturing more sustainable and innovative is immense. Materials such as EPU 44 can help the footwear industry reimagine what is possible using bio-based materials that do not sacrifice durability, aesthetics and cost. ■

The complex lattice structure of the 4DFWD midsole is made possible by the unique properties of the EPU 44 resin.





Stay a step ahead with innovative footwear solutions

With the rise of gym culture and fitness classes becoming the norm for the average consumer, the 'athleisure' trend has taken hold of fashion across the globe. For the footwear industry, this translates into growing demand for shoes that combine the design of a casual shoe with the performance of a sporting one. It is light and multipurpose, taking the wearer from a high intensity interval training class straight to the office and right through to drinks after work.

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While the concept seems simple enough, design and development have not been as straightforward for manufacturers and brand owners. The challenge comes down to the limited material options currently available to the market. Of the existing soling materials, none seem to deliver the combination of qualities necessary for a high-quality athleisure shoe.

ADVERTORIAL

High-performance sustainable solutions from Dow promise immense potential for manufacturers and brand owners who want to gain a foothold in the growing athleisure segment.

On top of the long list of consumer-facing comfort and performance properties, there are several regulatory requirements that manufacturers and brand owners need to comply with to sell products in the European Union. Regulations such as REACH, the F-gas regulation and the European Green Deal are pushing the industry towards the use of materials that are bio-based or recycled, with zero ozone depletion potential (ODP) and low global warming potential (GWP).

Regulators aren't the only ones demanding better environmental and health outcomes. Brand owners are also driving demand for safer chemistries, with their

own specifications concerning sustainable, non-toxic, environmentally compatible shoes, shoe materials, and leather goods. This trend extends to consumers who are increasingly aware of the materials that go into developing the products they buy and wear. There is growing demand for sustainable and ethical materials with a low carbon footprint, and which are safe for both the environment and human health.

While manufacturers and brands have faced this sourcing obstacle, it has been equally if not more challenging for materials science companies to innovate market-competitive solutions to keep up. Adding to the complexity is the fact that from a formulation perspective, some of the desired material properties are in direct competition with each other – increase the viability of one property and another deteriorates.

The Dow research and development (R&D) team has been busy in the lab exploring different solutions to meet the demand from active consumers for high performance, safe and sustainable athleisure footwear. The result is two breakthrough innovations, **VORALAST™ LYTE** and **ENERLYTE™ 2.0**.

The composition and morphology of ENERLYTE™ elastomers was specifically developed to enhance the performance of midsoles in casual, trekking and athletic footwear with improved processability. Meanwhile, VORALAST™ LYTE holds immense potential for manufacturers and brand owners who want to seize the growth opportunities presented by the athleisure trend. The polyurethane technology pairs dynamic cushioning and rebound properties that are critical for athletic performance, with superior aesthetics. Manufacturers and brand owners can use it to produce a lightweight and durable soling system for a midsole in sporting shoes and as both a midsole and outsole in casual or athleisure shoes.

For all purposes, it offers excellent mechanical properties. High hydrolysis and abrasion resistance ensure long-term durability, the soft and bouncy feel delivers comfort, even in cold conditions, and the low compression set ensures that the sole maintains its performance and remains resilient over time despite frequent use. Crucially, it is produced using water-blown technology which has low global warming potential and is therefore friendlier to the environment.

As consumers become more active in their daily lives,



light, comfortable and durable footwear is increasingly becoming the norm. To help the global footwear industry meet these demands, Dow continues to innovate and advance material quality and performance while keeping to our sustainability promise. Throughout the polyurethane footwear life cycle, we are innovating safer and more sustainable materials to help our customers and partners gain a competitive advantage, all while meeting increasingly complex sustainability challenges. ■





Texon's facility in Vietnam.
CREDIT: TEXON

Texon – 75 years of innovation

The pace of change in the footwear industry is relentless, so to survive 75 years and continue to grow requires real stamina. Nevertheless, in a sector that is continually evolving, Texon has remained a constant. Unwavering in its commitment to its customers, the company has built a reputation as a leading supplier, working with many of the biggest brands in the business. It has also created a name for itself as a sustainable innovator, one that is prepared to push boundaries in order to support the industry's environmental and creative ambitions.

Innovation might not be the first thing that springs to mind when you think about heel counters, insoles and toe puffs, the structural components the company is best known for. In fact, you might think there is little scope for change in this part of the footwear supply chain. However, you would be wrong. Over the last eight decades, it has repeatedly demonstrated that it is possible to shift the dial and adapt even the simplest structural components to deliver far-reaching benefits for footwear manufacturers and consumers alike.

How it all began

The company was founded in 1947 in the United States, emerging through a buyout from the DuPont company. Initially employing just 24 people, the

business focused on combining neoprene elastomers with cellulose fibre structures to create a variety of products, including the first cellulose insole board for footwear. From these relatively humble origins, the business grew quickly. As post-war rationing that had limited footwear to just three pairs per person per year lifted, demand for footwear increased and orders for the insole board grew exponentially. By the end of the 1950s, the company was selling it in more than 30 countries worldwide and had expanded its workforce to nearly 300 people, spread across two manufacturing sites and a converting plant in Massachusetts.

In the fashion-conscious 1960s, Texon grew further. As designers became more adventurous and consumers flexed their newly-found spending power, it opened factories in Taiwan, France and Germany, receiving a special award for exports and international growth from President Nixon. In parallel, the company was innovating. In 1966, it launched the first anti-static cellulose insole, T411. This was followed five years later by T90, the world's first needle-punched non-woven insole.

The 1970s saw further growth with the formation of Texon Pacific in Taiwan and new factories opening in Italy and Brazil. During this decade, sales and profits more than tripled, so it came as no surprise when Emhart Corporation purchased the business in 1981: it

Texon insole board was used for many footwear constructions. T437 was developed for use in Goodyear welted footwear.
CREDIT: WTP



was a natural commercial fit. Emhart already owned United Shoe Machinery (USM), as well as a specialist shoe material manufacturing site in Skelton, England, which was formerly part of ICI and well known for making insoles, heel counters and toe puffs. Under the new ownership there was further innovation. With consumers clamouring for era-defining sneakers such as Nike Air Jordans, Converse All Stars and Reebok Freestyles, the 1980s saw the development of the company's first non-woven anti-static insoles, the T49 and T50.

The decade culminated with a further change in ownership. In 1989, Black & Decker Corporation acquired the company when it purchased the Emhart Corporation. A year later, Black & Decker sold it to United Machinery Group (UMG), which had spun out of USM in 1987. Rebranded USM Texon, the business went from strength to strength, releasing more innovative products throughout the early 1990s. These included Ecosole, the world's first environmentally friendly insole material to incorporate recycled fibres. Made from cellulose fibres and using zero dyes, the resulting insoles were lightweight, economical and ecological. Other products followed in quick succession including T79, a water resistant non-woven insole material, T70 a water resistant insole material specified by the military and Hypersorb for use in the hygiene and medical industry. By 1994, the company had become the largest shoemaking machinery and materials supplier in the world.

Stepping up sustainability

In 1997, it split into two, the worldwide machinery arm became USM Group while the global materials division transformed into Texon International, the business we know today. Operating as a stand-alone entity, a further flurry of sustainable innovations followed beginning with Reform, the world's first 100% recyclable, fully closed-loop, non-woven heel counter.

Bryan Whitfield, Group Sales Director, referring to the significance of these early eco-innovations says, "Sustainability was always a key part of our DNA and by the 1990s we'd built relationships with many of the world's leading brands. A global business, with a local way of working, our passion for delivering exceptional solutions and doing the right thing for the planet really resonated with the market. Ecosole and Reform took our reputation to the next level. Developing innovative

products, with such strong eco credentials long before our competitors, created a real stand out, making us the primary company that footwear manufacturers wanted to talk to about structural components."

To underpin its portfolio of eco-friendly products, the company worked hard throughout the 1990s, ramping up sustainability across all its operations and establishing lean manufacturing processes. It also set up a recycling infrastructure at its facilities in the Asia Pacific region and began taking back offcuts from its customers and repurposing this scrap into new material, an initiative that has prevented thousands of tonnes of material from going to landfill.

In the years that followed, Texon continued to accelerate its innovation programme, introducing more recycled content into its products. Year on year the business assembled a portfolio of materials designed specifically with sustainability in mind. Key among these were Kabru, a cushioned strobil insole material, completely free from polluting foam, with 100% recyclability and up to 83% recycled content. Also important was Halo, a heel counter supplied net, meaning zero waste, and containing a minimum of 50% recycled content from post-consumer waste.



Heel counters have always been an important product for Texon.

CREDIT: TEXON

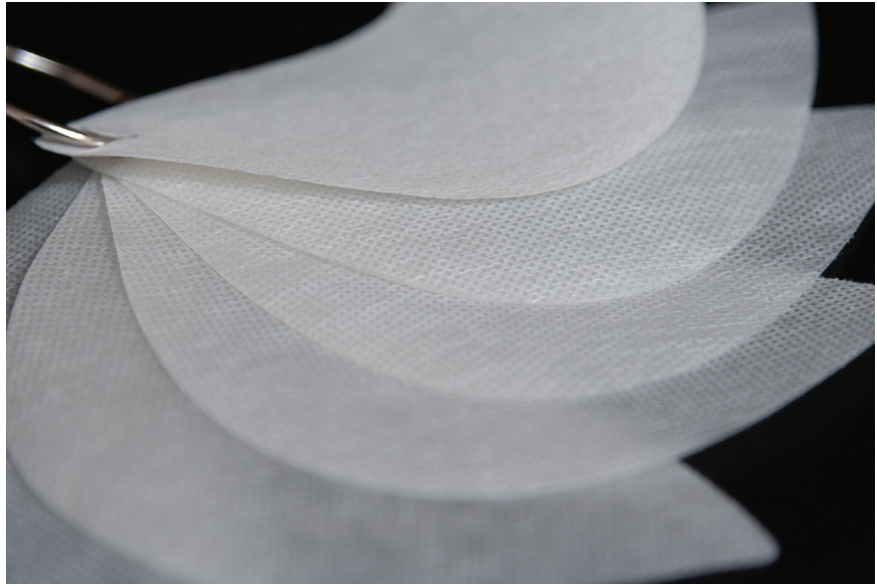
Unlocking the power of plants

In 2019, the company took another step forward in its sustainability efforts when it developed Bioform, its first bio-based heel counter and a natural choice for smart shoe design with 39% bio-based plastic. Explaining its background, Paul Mallory, Sustainability Project Manager, says, "When it comes to biopolymers, we threw ourselves in at the deep end with Bioform, demonstrating we could unlock the power of plants and create a pioneering new material that was structurally sound but also better for the environment.

"Originally developed for one of the world's best-known sports brands, Bioform is different to other plant-based materials which can often be limited by their low temperature resistance and low tensile strength. In contrast, Bioform is incredibly strong yet flexible. It also has excellent heat resistance and moulding properties and can be processed on conventional cast film systems. The other major plus is that it's made from plant scraps. Based on a unique blend of cutting-edge, bio-based polymers, sourced from non-GMO agricultural waste, Bioform uses corn stover, the leaves, stalks and cobs of maize, which are typically left in the field after harvesting."

More recently, the company added another bio-based product to its armoury, Texon Verde. Tailor-made for use in the manufacture of sustainable, luxury, fashion and homeware accessories, it contains up to 90% bio-based content and is biodegradable. Made from sustainably sourced FSC (Forest Stewardship Council) cellulose wood pulp, plant-based binders and natural pigments, the material is said to be the perfect choice for designers and brands looking to reduce the impact of their products on the planet.

Commenting further, Liam Collins, Group NPDI Senior Project Manager & Process Lead says, "Bioform and Verde are exciting additions to our portfolio of sustainable, high-performance materials and structural components. Containing high levels of bio content, these products tick all the right boxes for our customers in



Texon's toepuff materials have advanced over the years and its Sportflex range features a large proportion of sustainably sourced material.

CREDIT: TEXON

terms of environmental stewardship. Crucially, they also mean we are actively reducing our use of virgin materials."

Shouting about sustainability

Cutting the consumption of virgin materials is one of four core goals that form part of the company's zero footprint sustainability strategy. In 2020 it published its first sustainability report, setting out a clear objective and an ambitious deadline: zero waste by 2025. To achieve this, it declared its intention to reduce its carbon footprint by 50%, reduce its use of virgin materials by the same amount, ensure 90% of its waste can be recycled or reusable and reduce water use and water waste by 20%.

Boyd Mulder, Group NPDI, Sustainability and Marketing Director, says, "In 2020, the time was right to start shouting about the breadth of our sustainability work and everything we were doing for people and planet. Sustainability has always been central to our work but, historically, we'd been modest about our achievements. Publishing an annual sustainability report drew a line in the sand. It showed our customers and the world just how carefully we consider our impact on a global scale. Whether we're developing new processes at our sites

to reduce our energy use and emissions or collaborating more closely with our customers to bring novel sustainable solutions to the market, we're working hard to protect the planet and our sustainability report gives us a regular platform where we can celebrate that."

In the two years since launching its inaugural sustainability report, Texon has made great progress against its four goals. In April, the business announced it was on track to meet the targets it has set itself. Benchmarking progress against 2015 data, when it started measuring its environmental footprint, it has reported a 27% reduction in yearly greenhouse gas (GHG) emissions intensity, increased its use of recycled materials by 20%, made 46% of its waste recyclable or reusable and realised an 8% reduction in water use and waste.

Looking ahead, the company is not resting on its laurels. Boyd Mulder says, "Doing things right has always guided what we do, what we produce and how we think. Our passion for delivering exceptional results for our customers and getting things right for our planet has seen our products used in some of the best, most well-known footwear in the world. But our job isn't finished yet and we need to do more. The future of footwear

depends on advancements in sustainable materials. From the sole up, every component needs to be reimagined with environmental performance at the forefront. At Texon, that's our focus, re-engineering many of our heritage products to contain more recycled or bio-based content and developing new low-carbon impact solutions. In other words, creating today in a way that will help sustain tomorrow."

Rethinking hero products

True to its word the company has started to reformulate some of its best-known products. It recently created two new versions of its Sportflex toe puff range. Sportflex Bio is made from a minimum of 69% sustainably sourced material including sugar cane. By locking in carbon as the sugar cane grows, Sportflex Bio toe puffs are completely carbon neutral. A range of Sportflex Eco toe puffs made from at least 63% sustainably sourced material has also been created using industrial waste.

Last year, the company also unveiled Reform 2.0, a new and improved version of its original trailblazing heel counter. Now containing up to 66% of sustainably sourced content whilst offering the same physical traits as its predecessor, it says that Reform 2.0 proves footwear manufacturers do not need to choose between high performance and sustainability when specifying structural components to incorporate into athletic, casual, dress, outdoor or safety shoes.

Looking to the future

What's next for the company now it was been bought by Coats this year? According to the team it is very much business as usual. Elaborating, Mr Mulder says, "It's an exciting time at Texon and there is more going on than ever. With inspiring progress made in 2021 and a clear roadmap towards our 2025 ambition, we are focused on delivering our zero footprint goals. As well as re-engineering products from our vast archive and creating new materials with even better sustainability credentials, we're working hard at our sites to ensure every process is



The advanced weaving technology of ProWeave is a good example of Texo's forward thinking.
CREDIT: TEXON

“Although our journey began 75 years ago, it's clear we're continuing to innovate sustainably, leading the way for our customers, our business and the wider industry.”

PAUL MALLORY, TEXON

optimised and every part of our supply chain is working in the most eco-friendly way possible."

Substantiating its efforts, the company is currently developing Life Cycle Assessments for its products. Working with Ecochain, a Dutch environmental consultancy, the aim is to better understand the impact of its materials and processes, and present the results in a recognised format for customers. Using science-based metrics, the LCA tool will enable it to establish future carbon reduction goals. Long-term, the LCA tool will also help it to improve sustainability throughout its value chain, tailoring new developments in line with its core zero footprint goals and evaluate raw material impacts in the design phase.

It is also branching out, adding new technologies to its portfolio that can support and protect every aspect of the foot. ProWeave is one such example. Recently launched, this patented, jacquard weaving technology makes it possible to seamlessly integrate functional and design weaving into a single sheet of material. Reimagining fabrics for the

footwear, apparel, fashion, and luxury goods industries, ProWeave opens infinite new design possibilities, enabling the production of continuous woven substrates with the zonal features product designers want, exactly where they want them. Ground-breaking in its approach, the company says that ProWeave is already turning heads in the sportswear sector with Umbro announcing its use in a new range of football boots.

Paul Mallory says, "Although our journey began 75 years ago, it's clear we're continuing to innovate sustainably, leading the way for our customers, our business and the wider industry. As part of the Coats Group that work will progress. Conscious that what we do today impacts tomorrow, we'll keep developing sustainable solutions that bring the footwear industry's ideas to life. Our customers inspire us to succeed every single day and we're proud of what we've achieved so far. Together, our plan is to continue pioneering ground-breaking, sustainable innovations for the next 75 years and beyond." ■



A robotic hand is central to the bagging process.
ALL CREDITS: INESCOP

Robotic bagging of insoles

Jesús Arregui, M. Dolores Fabregat, José Francisco Gómez and Eduardo Calabuig, INESCOP, Spain

The European APRIL project (multi-purpose robotics for mAniPulation of defoRmable materials in manufacturing process) aims to develop a new generation of robotic cells to innovate the handling of flexible and deformable materials for the manufacture of different products by European industry, in sectors as diverse as meat, small household appliances or the manufacture of viscoelastic elements. Its aim is to create prototypes of autonomous, dexterous and market-oriented robots that provide new ways of automating, assembling or processing different soft materials that are widely involved in most industrial processes but which, until now, have been a major handicap for their robotic treatment on the production line.

INESCOP is specifically working within the footwear sector to resolve the challenge of robotic bagging of insoles. It is tackling the problem with a twofold objective. On the one hand, the aim is to free the operator from repetitive and tedious tasks which, without requiring much strength, can cause injuries due to muscle fatigue. On the other hand, it is intended to achieve an improvement in the technological level of the workplace, moving from a low-profile operator to an operator supervising a robotic system.

Creating a robotic cell

In order to achieve this double objective, it has been necessary to first analyse the elements to be handled and the restrictions imposed on the process itself. Here, we are faced with insoles that not only have different sizes and colours but which, depending on their intended use, are made of different materials or combinations of them. These include pieces of rubber or gel, which implies a great variability in thickness or even the way in which their weight is distributed over their surface. All these conditions make them difficult to grip and handle. Furthermore, the bags in which they are packed are also a major challenge due to their tight dimensions and very light substance, plus the fact that they are made of acetate and are mostly transparent.

Based on these assumptions, the INESCOP team has developed and implemented the components that make up the robotic cell. These include an insole conveyor, a bag dispenser that fixes and opens the bags and, finally, a sealing machine to carry out the final process of closing the bags with the insoles inside them.

From this point on, INESCOP is working closely with the other project partners to ensure that a robotic hand, developed by Prensilia, is able to correctly grasp the insoles, a task led by Scuola Superiore Santa Anna (SSSA). The robot performs the precise movements



Bagging insoles presents problems that INESCOP is working to resolve.

necessary to insert a pair of insoles into a bag which has been previously placed and opened. It then grasps the bag and transfers it for its final heat sealing. For these procedures INESCOP has been assisted by Deutsches Forschungszentrum für Künstliche Intelligenz (DFKI) and Polands Przemysłowy Instytut Automatyki i Pomiarów (PIAP), which has supplied the sensorisation needed to operate the different parts of the robotic cell.

Finally, all of this is supervised by an intelligent artificial vision system, developed by TREELogic of Italy that does not only identify and locate the different elements involved in the process, but also monitors the environment and identifies possible interference by human operators with the support of Istituto Italiano di Tecnologia (IIT). Whether accidental or as part of the process itself, it can even identify gestures that anticipate actions related to the safety of a collaborative human-robot environment, for which we are supported by KONTOR46.

A holistic solution

The essence of the APRIL project, coordinated by Universidad Politécnica de Madrid (UPM), is that the system that has been developed is intended to be a holistic solution that can be feasible for six different usage cases. These are ASINCAR for the meat sector, OSAI for electronic components, PEMU for viscoelastic pillows, SILVERLINE for small household appliances, INCM for passports and INESCOP for the

footwear sector. All are industrial sectors where complex handling of flexible and deformable elements is coupled with a necessary collaboration with human operators.

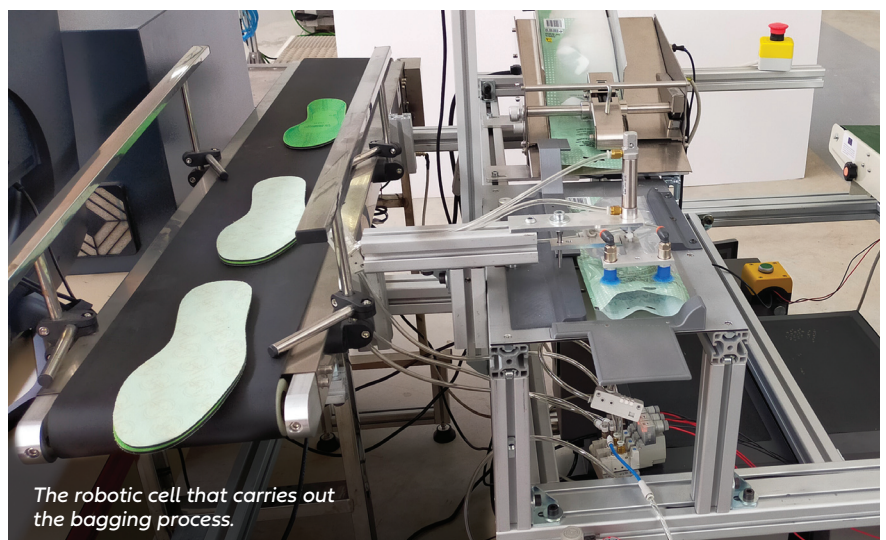
The project on which INESCOP is working, the bagging of insoles as described, is intended to be only one example of possible applications in the footwear sector and expectations for the project are much more ambitious. The creation of an 'APRIL System', capable of adapting to different robotic cells where special dexterity is required in the manipulation of flexible elements, opens the door to the robotisation of industrial processes that have been vetoed until now.

The possibility of having a suitable sensorisation protocol, with a configurable artificial vision system, in charge of supervising the process and monitoring the environment, including interaction with human operators, would be a highly valuable tool for the incorporation of robotics in manufacturing sectors where the participation of the operator is particularly relevant. The aim is to free operators in these industries from tedious or potentially harmful tasks that do not provide any value, while maintaining their dedication to specific jobs and incorporating training and monitoring functions of the robotic system.

In short, the APRIL project represents an ambitious challenge for automation in industries that, like the footwear industry, play an important part in Europe's industrial fabric, but which must make use of new technologies to improve their competitiveness using solutions adapted to their special characteristics and at an affordable cost. These autonomous robots must be capable of working with different materials which are generally flexible and deformable and which must not suffer any damage. Robots need to interact with the industrial environment and, above all, guarantee safety in their collaboration with human operators, recognising their intentions and even foreseeing their movements to improve the conditions of the working environment. ■



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 870142



The robotic cell that carries out the bagging process.



A new day is dawning

Recent messages from prominent brands about establishing circular footwear programmes are encouraging, even if the forward steps they have been able to take so far seem tentative. It probably makes sense for them to allow plenty of time to bring circular practices into their complex footwear production programmes and value chains.

In late September, Under Armour published a new sustainability and impact report, reflecting on its recent performance in sustainability and outlining targets for future progress. It said it would build sustainability and circular design principles into at least half of its products by 2027 but is giving itself until 2030 to develop chemistry and processes that can enable a circular footwear programme. By 2030, though, its intention is to bring circular footwear to market, at scale.

A few days earlier, adidas hosted a discussion at a design event in London to talk about its “progress in circularity”. A starting point for the brand was its Futurecraft footwear ideas, which it introduced in 2016 to demonstrate that shoes could be “made to be

Brands are giving themselves plenty of time to bring circular footwear programmes to market, but, for innovative companies in the shoe supply chain, work to develop the materials those programmes will need is already under way.

remade”. There have been further announcements, although these have focused more on apparel than on shoes.

Nevertheless, at the recent London event, its senior director for sustainability concepts in footwear and apparel, Paul Smith, said the brand remained committed to innovating and developing “product creation with circularity in mind, for apparel and footwear”. When he talked about



Shoes remain important to Under Armour, accounting for 25% of revenues. But it will be 2030 before the brand brings a circular footwear programme to market at scale.

CREDIT: UNDER ARMOUR

ever EVA plastics-free, compostable foam solution that can either be made into nutrient-rich soil or depolymerised back into virgin chemistry. This provides an additional layer of flexibility for brands, helping them choose a path that fits their material objectives.

It has set up a whole new Cirql division of the business in the footwear manufacturing hub of Ho Chi Minh City in Vietnam, under the leadership of company vice-president Matt Smith. Here, OrthoLite will make the product using a zero-waste process. At the time of the launch, OrthoLite founder and chief executive, Glenn Barrett, said: "Worldwide footwear production has increased by over 20% since 2010 with no sign of slowing down. As an industry, the onus is on us to help mitigate our environmental impact. It's going to take commitment and a concerted team effort. Cirql is a major step in that positive direction."

For his part, Matt Smith says the Cirql set-up in Vietnam represents an opportunity for footwear brands and their manufacturing partners "to move away from more hazardous materials and processes and into a new day in footwear manufacturing".

In recent comments, OrthoLite has said that at the moment "even the most sincere sustainable efforts are often only treating the symptoms", most typically through initiatives such as offsetting. In contrast, a truly circular approach addresses the root of the problem. It has repeated its conviction that Cirql can help the footwear industry "move in the right direction".

taking innovation from idea to reality, he said the company wants to develop its own capabilities, but that it completely accepts that it needs to do this alongside partner organisations.

Material developers and other suppliers are working hard already to help footwear brands in all parts of the world bring to life the visions they have for shoes that will last a long time and, at the end of their useful life, can be re-engineered into new products and, finally, return to the earth to nourish rather than pollute the soil. If programmes are to come to market at scale by the end of the decade, work needs to take place now to ensure there are materials and components that will allow the brands to deliver what they have promised. These things take time.

On the road

Open cell foam technology developer OrthoLite has said that an initiative it has called Cirql is already helping to put the athletic footwear industry on the road to a circular, sustainable future. The company introduced Cirql in March, describing the technology as a new approach to sustainability in footwear, in materials and process. Powered by plants, Cirql can replace conventional foams with what the company calls "a true soil-to-soil solution". It says Cirql is the first-

Ingredients that never go away

To illustrate how much work goes into an initiative like Cirql, OrthoLite's chief brand officer, Kristin Burrows, explains that the idea had been in development in-house since 2017. The company, which supplies materials to more than 400 global footwear brands and leading factories, was on a quest to help drive the global footwear industry to a more sustainable future through circular material innovation.

With over 25 years' experience developing comfort and performance foam insoles that can be found in more than 500 million pairs of shoes a year, the OrthoLite and Cirql teams acknowledge the industry must work together to build a more sustainable direction in footwear. "The task has been to solve for a healthier process and then solve for a healthier product," Ms Burrows says. It has what it calls a local-for-local sourcing strategy, producing its materials close to where footwear manufacturers have their factories. This has led it to establish production facilities in China, Indonesia and Brazil as well as Vietnam, while also working closely with innovators in the US.



Chief brand officer, Kristin Burrows
CREDIT: ORTHOLITE

This, in turn, has given it a network of experienced chemists, engineers and people with in-depth knowledge of the processes involved in turning 200-plus components into a comfortable, high-performance shoe. As more than four years of development of the idea before launch suggest, this does not mean that launching Cirql was easy. "Nothing worthwhile ever is," Kristin Burrows says (attributing the maxim to her mother).

At the time of the launch, OrthoLite presented Cirql as a midsole foam, but it says the material has the adaptability to go into other shoe materials, too, including the insole components the company is perhaps best known for, as well as upper materials. In the first six months since the launch of Cirql, the company has focused on building awareness of the new foam technology, on introducing it to the trade and the industry, on giving brands time "to figure out how this will fit into their long-term material strategies," the chief brand officer continues, "and into their marketing stories and brand positioning." What will flow from this will be further close cooperation with these brands and with their tier-one factory partners "to ramp it up together" when the time is right.

Ms Burrows continues: "Brands

“The amount of forward thinking, innovation and problem solving in this area is really exciting.”

KRISTIN BURROWS, ORTHOLITE

are looking for solutions like this and it's always our goal to answer the needs of our brand partners and work with them on delivering footwear solutions that help them reach their climate goals. We can't bring Cirql to market fast enough." This is in spite of having seen no market data that indicates willingness on consumers' part to pay more to have recyclable, biodegradable and compostable material in their shoes. Consumers want a sustainability story, she says, but do not want to compromise on price any more than they want to compromise on look or on performance. "Price is always an issue that we have to solve for," she adds, "but the focus with our brand partners has been on building the circular product and processes that are better for the environment, and that part has been embraced."

A good end of life

To tell Cirql's circular story in the round, OrthoLite is convinced that it is also important to consider the recycling of shoes and footwear components. Part of this is designing into products a capacity for a good end-of-life solution. The good news is that the infrastructure already exists and is developing to manage consumer take-backs in the recycling and compostable space. Brands are participating in this new eco-system and anticipate forward momentum.

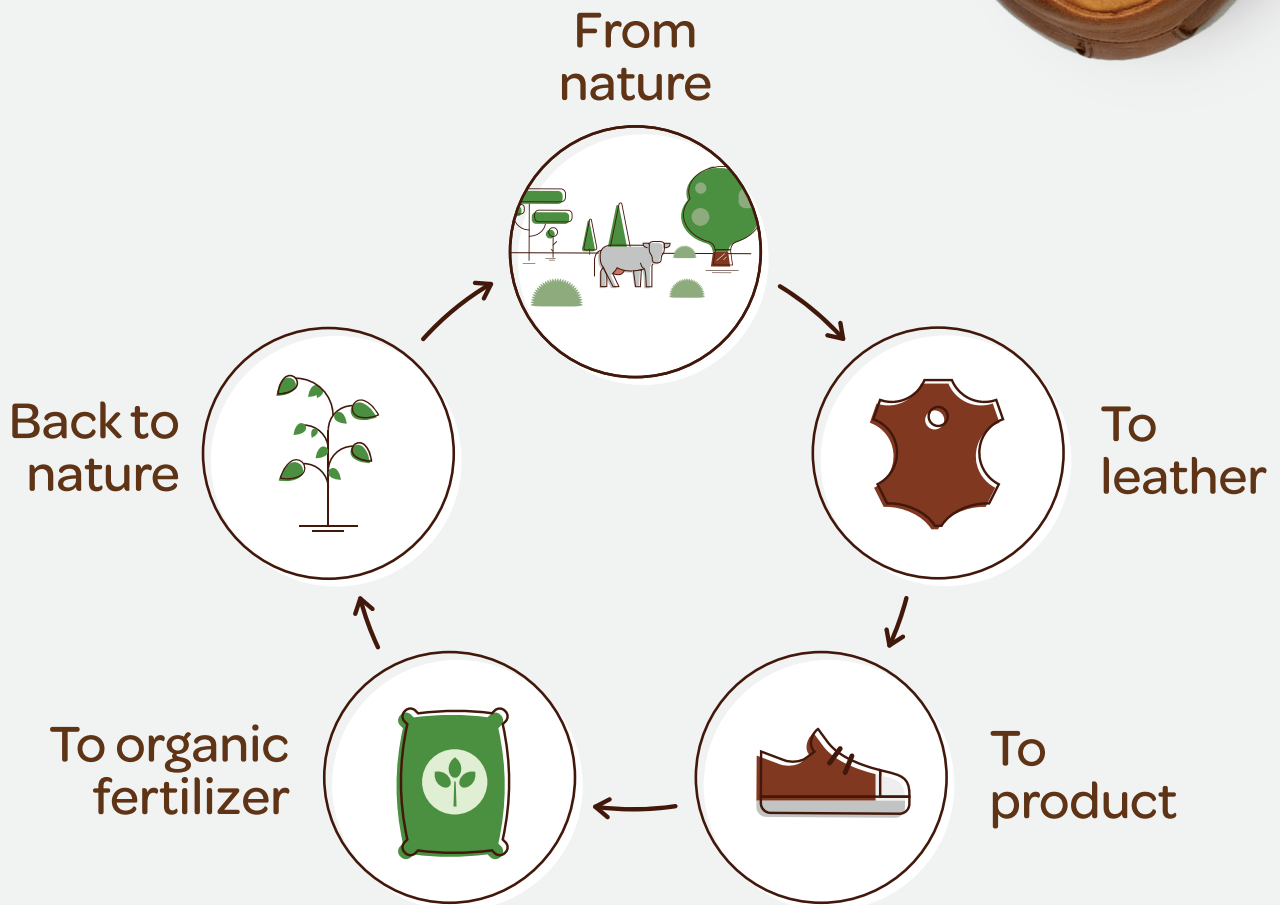
OrthoLite Cirql is an interesting contribution to the drive for circularity in the footwear industry. "We're proactively exploring additional solutions for our brand partners that actively support the consumer take-back, disassembly and recycling process," Ms Burrows says. "Our goal is to provide a 360-degree solution, from cradle to grave." ■



(Top:) The new Cirql division that OrthoLite has set up in Ho Chi Minh City in Vietnam.
(Bottom:) A machine for making Cirql foam materials for midsoles and other footwear components. CREDIT: ORTHOLITE



The first truly
bio-circular leather
with a proven path
back to nature



Ecotan leather is free from metals, glutaraldehyde and other hazardous substances. **At the end of its life, it can be recycled into a fertilizer for organic agriculture.**

This tanning technology uses patent pending tannin based products and has been developed thanks to a partnership between Silvateam, Biofin, Fertilizzanti Certaldo and some of the world's best tanneries.



New leadership at Foot Locker

In her time as chief executive officer (CEO) of Ulta Beauty, Mary Dillon transformed the US chain of beauty stores into a hugely successful omnichannel retailer. Now she is now CEO of Foot Locker. She has taken over the role from Richard Johnson, who is retiring after nearly three decades with the company. Mr Johnson will stay on as executive chairman and as senior advisor to Ms Dillon until April next year.

The August day on which news of this leadership change was announced was a good one for Foot Locker: shares went up by as much as 25%, the biggest intraday jump the company has experienced in five years. This was in part because of news that its second quarter figures were not as bad as anticipated, but what seemed to take the numbers to that peak was enthusiasm over the appointment of Ms Dillon.

For a company that has suffered from a range of challenges over the last few years (the pandemic, an ongoing decrease in mall traffic, and most recently some rattling of Foot Locker's relationship with Nike) analysts and investors are placing high hopes on the fresh perspective and new energy Ms Dillon will bring.

Johnson's legacy

Though Ms Dillon has more than a few "opportunities" awaiting her, Mr Johnson enters retirement at the end of what has been roundly considered an effective and

With Richard Johnson retiring, new Foot Locker CEO, Mary Dillon, might be exactly what the sportswear and apparel retailer needs.

highly regarded career with Foot Locker. His first job with the company was as vice-president of merchandising for Eastbay, which was bought by Foot Locker in 1997. From there, he moved through a number of leadership roles before becoming chief operating officer in 2012 and CEO in 2014. According to the company, Mr Johnson oversaw sales growth from approximately \$7 billion in 2014 to \$9 billion in 2021.

He also built up the company's focus on diversity, equity and inclusion (DE&I) and environmental, social, and governance (ESG) initiatives. Under his watch, for example, in June 2020 the company launched the Leading Education & Economic Development (LEED) Initiative with a \$200 million commitment to the Black community. As of the end of fiscal year 2021, Foot Locker had funded nearly \$54 million in related investments and partnerships, with Mr Johnson saying the company's commitment "goes beyond words and is part of how we do business".

Niggles with Nike

But this year has also found the company in the news for less optimistic reasons. In February, Foot Locker predicted Nike would comprise just 60% of total purchases for 2022, compared with 70% the previous year, because the brand was upping its focus on direct-to-consumer business.

This made such a stir (Foot Locker shares dropped as much as 35% when the forecast was first announced) that Nike CEO, John Donahoe, soon had to issue a statement reaffirming its faith in the retailer. He said: "To be crystal clear, Foot Locker always has been and always will be a large and important partner of Nike's. They'll have a very distinct role in our marketplace strategy as a wholesaler, with a particular focus on the culture of basketball, on the sneaker culture and on kids, which is a really big and important opportunity for us."

Nevertheless in August, when Ms Dillon's appointment was announced, concerns about Nike were still a big part of the conversation, with one analyst saying, "The big question for Foot Locker is: how they go on without Nike?"

If Mr Johnson were to answer that, he would probably point to several other key deals, acquisitions and investments that Foot Locker has put in place to compensate for any void left by Nike's reduced inventory. Last year, the retail group spent \$1.1 billion on buying athletic footwear and apparel retailer WSS and Japanese streetwear brand Atmos. Then, in May this year, adidas and Foot Locker announced a deal in which, among other plans, the retailer becomes a lead partner in the brand's basketball category; adidas said in 2022 it expects to generate incremental revenues of up to €100 million as a result of the new partnership.

Most recently, Foot Locker and Fanatics, a global digital sports platform, announced they were partnering to connect their ecommerce inventories, which allows Foot Locker to fulfil online orders through the Fanatics digital sports platform and give shoppers access to a larger selection of licensed merchandise.

It is fair to say that although second quarter results showed sales were down 9.2% year over year and same stores sales were down about 10%, Richard Johnson has left Mary Dillon plenty to work with.

Dillon's next steps

As for what the next era of Foot Locker will look like, Mary Dillon has shared little publicly about her plans. Some analysts have said Ms Dillon's marketing background (her impressive résumé also includes serving as global chief marketing officer for McDonald's) is exactly what is needed for a company that has suffered from the double blow of covid lockdowns and the diminishing popularity in the US of shopping malls. Stores that once stood out for their employees wearing those iconic black-and-white striped referee tops, are now, as Garrett Sheridan of Axiom described recently in Bloomberg, "kind of racks and stacks of shoes".



Mary Dillon, new CEO of Foot Locker.
CREDIT: FOOT LOCKER

A look at Ms Dillon's time at Ulta might provide the most relevant hints of what is to come. She famously transformed the in-store experience for Ulta's consumers, so that what had been a busy place that bargain-hunting consumers braved in search of good prices on a big selection of drugstore beauty products became a chic, desirable destination for consumers seeking everything from affordable to high-range cosmetics, fragrances, beauty tools and more. Aesthetic changes to the stores helped, but key was the new inclusion of salon services such as haircuts and facials, playful decisions such as allowing customers to use hair dryers for practice, and more liberally offering samples throughout the store for products at all price points.

Tailored approach

Ms Dillon also took steps to continuously improve upon all aspects of the organisation itself, as described in a 2017 *Fast Company* article about her early steps with Ulta. Among these efforts was having members of her team go on 'shop-alongs' with customers, discussing impressions and experiences. She made the decision to switch to offering discounts and benefits tailored to individual consumers based on data pulled from Ulta's loyalty program, rather than mass-mailing out generic coupons. She also prioritised company culture, seeking to ensure that associates felt engaged and supported by issuing regular quantitative surveys to all staff. Perhaps most importantly, she (as of 2017) took nearly two dozen trips per year to stores around the country to talk with associates and gain insights into details that are easy for a chief exec to miss.

The results of Ms Dillon's efforts at Ulta? In addition to becoming a much beloved place for consumers and employees alike, the beauty retailer experienced compound annual growth rate of 16% and its market capitalisation tripled.

All of this was accomplished by a woman who was raised, along with her five siblings, by a steelworker and a homemaker in a house with one bathroom, according to a profile by the *Wall Street Journal*. Now, she is one of only 32 women holding CEO positions at S&P 500 companies.

Transferrable ideas

It's easy to imagine how her Ulta initiatives could also benefit Foot Locker at all levels, from the in-store shopping experience to its C-suite efficacy. The company gave a nod to Ms Dillon's nuanced and interpersonal approach when they announced her appointment, saying: "Mary's experience of leading consumer-driven businesses and building robust brand portfolios, along with her commitment to culture, is deeply aligned with Foot Locker's priorities and strategy."

At the time of her new appointment, Evercore ISI analyst Warren Cheng was quoted as saying: "If you're a retailer looking for a new CEO, she's almost the best announcement that you could make." ■



New owner of the brand, IBG, studied popular athletic shoe styles before designing the relaunched Totectors brand's inaugural collection.

ALL CREDITS: IBG

A brand reborn

It is a little over a year since Netherlands-based International Brands Group (IBG) announced its intention to relaunch safety footwear brand Totectors in the UK. In that time, the brand has established a new base close to Totectors' roots in Rushden, Northamptonshire, and launched an initial collection.

It has built strong relationships in the construction industry, set up a distribution arrangement for general tradespeople and is preparing to roll out its offering to electrical contractors, too. It was also the winner in the 'best innovation in footwear' category of the 2022 Professional Clothing Industry Association Worldwide (PCIAW) awards. It has, therefore, been a busy 12 months for IBG and for Totectors general manager, Rhys Elavia, but he says he has enjoyed every minute.

In the extra thinking time that most companies had during the covid-19 lockdowns, IBG reflected on its

A safety footwear brand that pioneered the widespread use of steel-toe boots in the 1940s has been relaunched and is reclaiming its Northamptonshire roots.

presence in the UK market and decided that increasing its offering in the safety footwear sector would be a good step for it to take. IBG is run by Ed Van Wezel, whose father, Frank, founded footwear brand Hi-Tec in 1974. The Van Wezels ran Hi-Tec and spin-off safety shoe brand Magnum in the UK until 2010, when they relocated the company's headquarters to Amsterdam.

Family ties

It was after selling the Hi-Tec business in 2018 that Ed Van Wezel set up IBG. Rhys Elavia came on board in 2021, with a background in sales in footwear and workwear, including a spell at Hi-Tec, making him ideal for the role. Interestingly, though, his ties to Totectors go back substantially further. His grandfather worked on the factory floor of the original Totectors in Rushden for 35 years. His parents had jobs there as well, his father in sales and his mother in the office, and met at work.

Totectors was the idea of a well known Northamptonshire family, the Dentons. George Henry Denton was the fourth-generation managing director of the family footwear firm during World War II. He had taken a keen interest in early samples of steel-toe boots that had arrived in Europe from the US in 1938 and advised the government in London that it should adopt this innovation to support the war effort. Inexperienced workers had been recruited to keep coal-mines running after many miners joined the armed forces. Foot injuries were common in the mines and left many unfit for work; Mr Denton argued that protective toe-caps could solve the problem.

He was sent to the US to ask patent-owner Arthur Williams to share the secrets of the steel-toe boot and managed to win the confidence of the inventor not through impassioned speeches but by quietly playing cards with him one weekend. The Totector name launched and production of the special footwear began in Rushden in 1944. By the 1970s, Totectors was the banner under which the Denton-family had combined a number of its footwear businesses. The group continued to push for innovation in protective shoes and boots but in the early years of this century it found it was unable to continue in business. For the relaunch almost 20 years on, IBG secured the Totectors name from investors and has wasted no time in building the brand back up.

Image-conscious

It was of interest to Rhys Elavia and IBG that the Dentons had focused on fitting the protective toe-caps into styles that workers were already used to wearing and wanted to keep wearing. Inspired by the same principle, they examined closely the shapes and styles of the best-selling trainers in the UK market and it is these styles that have inspired the inaugural collection that the relaunched Totectors has brought to market.

"Everyone wants to be comfortable," Mr Elavia says, "including at work. But this is also aimed at the next generation, who are very image-conscious." His



The toe-caps are aluminium now instead of steel, but Totectors has been synonymous since the 1940s with protective footwear that workers were happy to wear every day.

“Everyone wants to be comfortable, including at work, but this is also aimed at the next generation, who are very image-conscious.”

RHYS ELAVIA, INTERNATIONAL BRANDS GROUP

experience of the workwear scene suggests to him that, while there are clothing and footwear brands in the UK with excellent technical products, the protective shoe and apparel market is behind in terms of style, fashion and marketing.

Toe-caps now are made from aluminium to provide high levels of protection with lower-weight materials. The products also have leather uppers for durability and breathability, a rubber outsole for lasting slip-protection, an anti-penetration plate in a composite material for flexibility, an external heel cradle and a medial arch support. There are four products in the inaugural range, each with Denton in the name in homage to Totectors' progenitors.

Selling-points

The rejuvenated brand struck an early distribution deal with Travis Perkins (TP), a builders' merchant and home improvement retail group. TP even hosted a formal launch event for Totectors in Northampton in August. Since then, another retail group specialising in the sale of tools and building materials, Toolstation, has begun to distribute Totector footwear, with promising early results. And in the weeks ahead, IBG is confident of finalising a similar deal with a third major distribution partner, a prominent distributor of electrical, heating, lighting and plumbing equipment. All of which suggests to Rhys Elavia that 2023 promises to be just as busy for Totectors as its first year back in market has been. ■



Back to business

Footwear business leader Roberto Argenta had enjoyed an exciting and successful three-and-half decades in the industry in Brazil before deciding to change tack and run for office as governor of his home state, Rio Grande do Sul, in the 2022 elections. He had been involved in local politics for some time, but state governor – a position of great prestige and importance, bringing with it executive power for a four-year term, a cabinet of ministers to set up and run, an electoral programme to implement, an official residence and a long list of formal events to attend – would have been a big step up.

In the end, though, Mr Argenta came fifth out of ten candidates in the first round of voting on October 2 and did not progress to the second round. He can, therefore, turn his attentions once again to businesses,

Founder of Brazilian footwear group Beira Rio, Roberto Argenta, ran for election as governor of the state of Rio Grande do Sul in October. His bid to hold high office fell short, meaning he can turn his attention once again to business.

including the footwear group he set up in 1975, Calçados Beira Rio.

He established Beira Rio in the city of Igrejinha, just to the north of Novo Hamburgo, with a staff of 18 and

Colour palette. Calçados Beira Rio says its aim is to provide "beauty for feet".

CREDIT: BEIRA RIO CONFORTO



“Consumers like seeing the ‘Sustainable Origin’ label on shoes; it makes them want to find out more about the programme and about brands that have engaged with it.”

MICHELE PONATH, CALÇADOS BEIRA RIO



Roberto Argenta in his trademark white hat.

CREDIT: PARTIDO SOCIAL CRISTÃO, BRAZIL

a production capacity of 150 pairs of shoes per day. The group now employs 10,000 people directly in its factories, supports a further 15,000 jobs indirectly and says it is on course for reaching the milestone figure of a turnover of more than R\$5 billion this year, equivalent at current exchange rates to more than \$950 million.

It estimates that it will produce close to 120 million pairs in 2022 and ships its shoes under eight different brand names to almost 100 countries around the world. Its brands are Beira Rio Conforto, Moleca, Vizzano, Molekinha, Molekinho, Modare Ultraconforto, Activitta e BR Sport.

Affordable beauty

The group declares its mission to be to offer “beauty for feet through quality products with a high level of design”. According to export manager Michele Ponath, another strand to this strategy is that Beira Rio shoes should also be affordable for most consumers and she gives this as a reason for its preference for using synthetic materials and textiles rather than leather in its collections.

She explains that the processes the group has put in place at the 11 production facilities it now has (all of them in Rio Grande do Sul) are intended “to respect the principles of nature”. Its commitments range from engineering plentiful natural light into its buildings, to finding ways to use and reuse leftover materials and collecting and using rainwater. In 2021, it achieved certification at ‘diamond level’ for its footwear products under a programme called ‘Sustainable Origin’. This is an initiative that national footwear industry bodies Abicalçados and Assintecal launched in 2013, based on work that researchers at the University of São Paulo had carried out. Diamond is the highest level companies can achieve. “Consumers like this,” Ms

Ponath explains. “They like seeing the ‘Sustainable Origin’ label on shoes; it makes them want to find out more about the programme and about brands that have engaged with it.”

She goes on to say that the group has urged its suppliers to take part in the programme and points out that three, so far, have achieved ‘Sustainable Origin’ certification while a further 37 companies are preparing to embark on the same path.

People power

People development is another aspect of the business that she talks about with pride. She points out that she herself arrived at Beira Rio as a student seeking work experience and has worked her way up to a senior position. Its people are also involved personally in taking forward the group’s sustainability commitments. “We have a sustainability committee that meets every month,” the export manager continues, “to discuss new ideas and ways of putting them into practice. An example of what has come out of that is that we no longer have plastic cups on site. Everyone has their own washable cup or mug to drink out of.”

She attributes to founder, Roberto Argenta, an internal improvement programme called, no less, ‘Moving Towards Perfection’. “We talk about this every day,” she explains. “It is a method that involves thinking each day that today I performed better than I did yesterday, and tomorrow I will perform better than I did today. We strive to do better and try to put in place what we need to improve.”

There are monthly meetings to work on all of this too, involving forthright feedback sessions on what has gone well and what still needs work. The emphasis is on moving forward. ■



ALL CREDITS: UPM

From forests to footwear midsoles

Finnish industrial group UPM, best known for its forestry and paper manufacturing activities, now has a range of business areas across which it seeks to “innovate for a future beyond fossils”. One of these is UPM Biochemicals.

The group made its move into the biochemicals business at the start of 2020 and announced a plan to build a biorefinery at Leuna, near Leipzig, in an investment it values at €750 million. This is a group project and a number of business units will benefit from it. The factory will produce a range of 100% wood-based biochemicals to help brands and manufacturers of finished products, including shoes and clothes, switch from fossil raw materials to sustainable alternatives.

For more than a decade, biorefineries producing chemicals have been part of the UPM plan. It has long wanted to find new markets for its in-depth knowledge of wood and forests and biorefineries offer opportunities for making use of the wide range of chemicals based on a lignin cellulosic sugar platform that trees can provide. There are a number of reasons for its desire to diversify, but one of the most powerful is that the popularity of printed newspapers has been in stark decline since the 1990s. Washington DC-based think-tank The Pew Research Center reports that, in the US alone, total daily newspaper circulation has fallen from 62.3 million copies per day in 1990 to 24.3 million copies in 2020. A corollary of this is that, although the paper and pulp business remains attractive to UPM, it sees clearly the importance of broadening its portfolio.

It only became a player in the \$30 billion global market for MEG (mono-ethylene glycol) recently, but UPM Biochemicals is determined to drive change immediately by using bio-based raw materials to make this key ingredient of polyurethane and polyester. It is building strong relationships with important suppliers in the footwear industry, including Dongsung Chemical.

The Leuna investment will open up “totally new markets” with large potential for growth, the group believes. “The long-term business opportunities for the project are excellent,” says group chief executive, Jussi Pesonen. “There is keen interest in wood-based biochemicals.”

Renewable polyurethane

To prove the point, and with the Leuna biorefinery still under construction, UPM Biochemicals recently announced a partnership with Korean group Dongsung

Chemical. The companies have said they will work together to accelerate the introduction of renewable, sustainable forest-sourced materials to reduce fossil resource consumption.

Operations at Leuna are on track to begin before the end of 2023 and one of the products the factory will make is bio-based mono-ethylene glycol (MEG), which Dongsung Chemical intends to develop into renewable polyurethane (PU) for use, initially, in footwear. Its chief executive, ManWoo Lee, says this is part of a wider strategy of "focusing on carbon-reduction projects".

A world beyond fossils

The sales director for glycols at UPM Biochemicals, Marvin Strüfing, says he is certain products such as the bio-based MEG that Dongsung will incorporate into its supply chain will work well. He also believes this to be a good use of the European group's years of knowledge of how to produce and use wood as a renewable resource. UPM launched under its present name in 1995, but its roots go back to the 1870s. "Bioglycols are one of the best ideas to come from our commitment to stick to forests, but move ahead towards a world beyond fossils," he insists. The biorefinery at Leuna will work with beech from well stocked, well maintained forest resources in this part of Germany, all with certification from the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC).

These forests, of course, are an important tool in the battle against climate change because each tree captures carbon throughout its life. But there is a complication. Beech is not available in the Nordic countries where UPM sources large volumes of wood. It is a hardwood, the type required for the biorefinery's processes, that grows well in Germany. It has long been in demand in the furniture sector and, because furniture producers only want the trunks, the branches tend to be burned. For a long time, this has looked to the market like waste but UPM is enthusiastic about using the branches; they also have what Mr



The new UPM Biochemicals plant at Leuna in Germany this summer. It will be operational before the end of 2023.

Strüfing refers to as good sugar composition and, therefore, are part of the resource that could go into products such as bio-based MEG.

Burning question

"At the moment, around 70% of the molecules from those trees are burned," he explains, "This is a pity because the trees capture carbon while growing, then burning the wood releases a lot of that carbon back. What we have realised is that it is better to keep the carbon in and use it as a chemical building block. We can take that part of the wood that is being burned and create, from the sugars, products for the footwear industry and other sectors."

He points out that the global glycols market is big, with a value of around \$30 billion. It is not that producing a bio-based mono-ethylene glycol would have been impossible before now, but his assessment is that many of the older hands in this market were happy with the status quo. "They are making good money," Mr Strüfing points out, "and probably don't want

to change to a bio-based set-up. If they have talked about changing, they have mentioned 2050 as a target." Until 2050, it seems they are mainly happy to keep making cash in the time-honoured way, whereas UPM Biochemicals, which is much



Sales director for glycols at UPM Biochemicals, Marvin Strüfing

newer to this segment, wants to drive change now.

"I come from the fossil industry myself," the Hamburg-based sales director continues, "so I know the mentality. But I am a keen runner and I have always had inside my head what I call a 'green desire', a vision of a green, healthy life."

Shoes in view

Footwear was an obvious market for the group's biochemicals business to look into. Athletic shoes and other types of footwear often use PU, and PU requires glycol. It identified Dongsung as a serious, experienced player in the footwear materials sector, making mostly materials for midsoles, and decided to make contact with its new South Korean partner. The two companies have built up their relationship from there.

Mr Strüfing describes Dongsung as being strong in research and development, respectful of intellectual property, and as having a chief executive, ManWoo Lee, who is passionate about sustainability. It has good ties to many major footwear brands and a broad manufacturing footprint across South Korea. It also has factories in two other key south-east Asian shoe-producing countries, Indonesia and Vietnam. These facilities will have no difficulty in switching to bio-based MEG, he insists, calling the product that UPM Biochemicals will supply "a drop-in solution that is easy to integrate".

When it comes, though, the change will allow Dongsung to make PU that is only partially bio-based, because MEG is only one of the ingredients that go into making the polymer, working as a chain prolonger. The new UPM product will allow Dongsung to make polyurethane that is around 25% bio-based, Mr Strüfing suggests, but he immediately adds that this percentage could go up in the future; work is already going on to support suppliers of other ingredients for PU in their efforts to have greener products, too.

He has wider footwear ambitions for the product. If a brand wants an upper made from polyester fibres, bio-based MEG could make up 33% of the polyester. "We can help

UPM will make bio-based MEG, a key ingredient in the production of polyurethane and polyester.



polyester become more sustainable," he says, "and this can help make shoe uppers and also clothing, including running apparel, more holistic and more circular."

Plain and easy

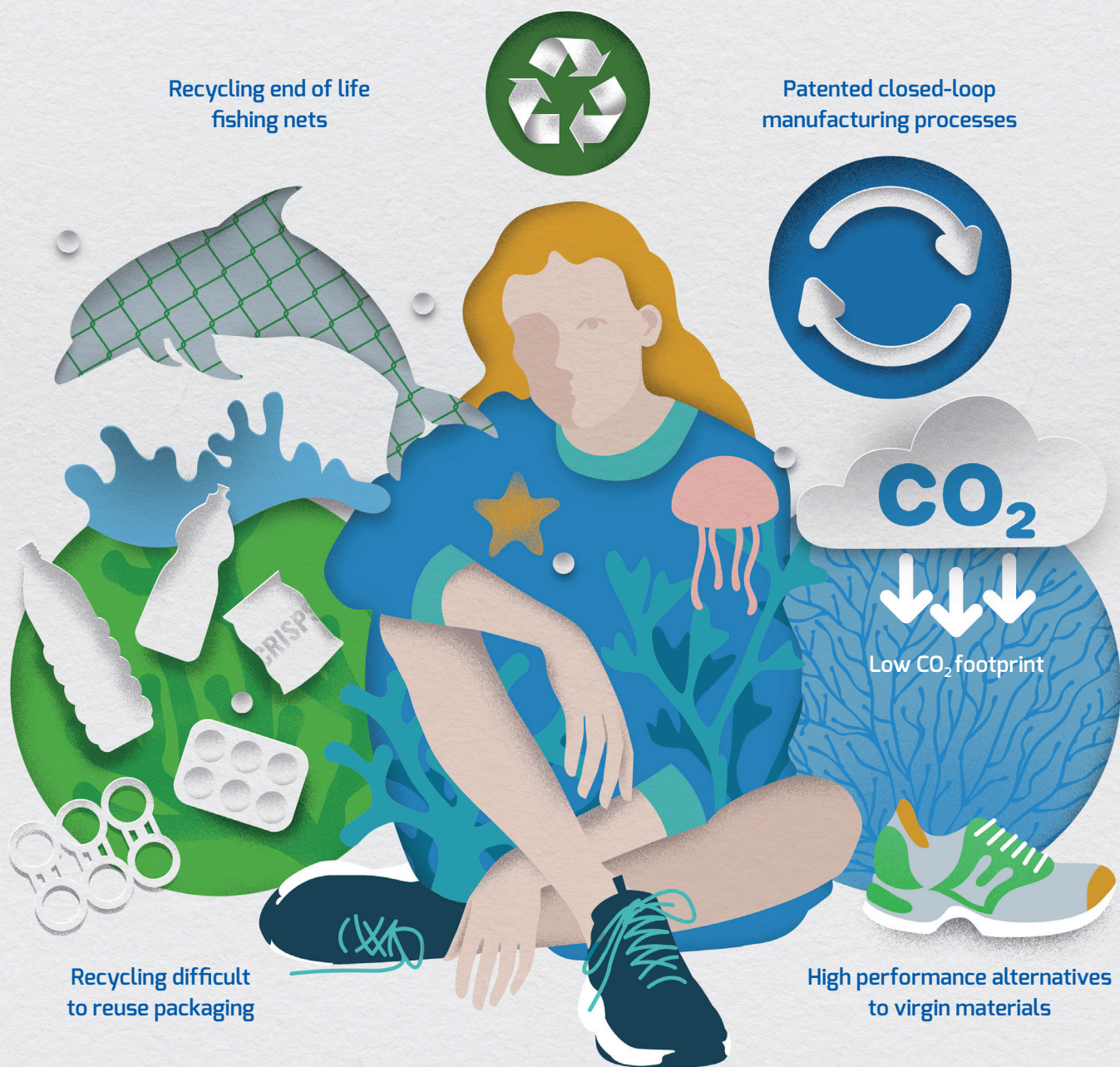
On the key question, in these days of pushing back against greenwashing, of how footwear brands should go about explaining to consumers accurately and fairly what is different about materials that use bio-based MEG, he says clarity is the key. He explains: "We need to make the message plain and easy to understand: these materials will come, at least in part, from sustainable forests. Consumers are right to ask questions; interaction with consumers is much better than thinking you can hand all the

information to the consumer on a silver platter."

He adds that there is much that UPM Biochemicals and its partners can tell the public to help people form a clearer understanding of the things they are buying and of the materials that have gone into making those products. "In my opinion," he says, "an interesting starting point would be to talk about food conflict. If bio-based materials come from sugar cane, consumers are going to want to know if the same raw material could have helped feed people who are hungry. Part of our explanation can be to make it clear that we are not going in that direction. Our products cause no food conflict, need no fertiliser, no pesticide and no irrigation. For us, it's not just talk." ■



With partners such as midsoles manufacturer Dongsung Chemical, athletic footwear will be an attractive market for UPM Biochemicals to move into.



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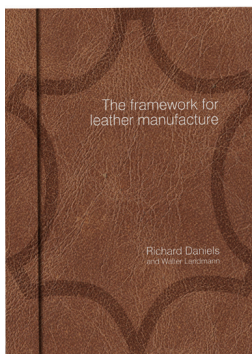


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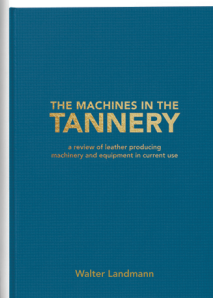
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