

WORLD FOOTWEAR

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THE MAGAZINE FOR THE GLOBAL SHOE INDUSTRY



Boots to fit working women

The footwear industry's year in review

UITIC Congress: the main takeaways



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The award-winning steel-toed Meti II women's boots from stylish safety footwear brand Juno Jones, worn by model Abi Elliott.

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Global news

France International organisation the Council of Europe has published the conclusions of its study of women's participation in sport. The Strasbourg-based body has called on member states of the European Union to take steps to ensure that "everyone has equal access to, and can fully participate in, sports at all levels without gender-based discrimination". One of the measures it has called for is that women and girls participating in sports should have access to "the appropriate equipment and attire to ensure their safe participation".

Italy Footwear brand Golden Goose has confirmed that it is investing heavily in racket sport padel. In the course of 2024 the brand will launch a new collection called Star, comprising shoes and equipment for padel players. It will also open a dedicated padel pavilion in Milan. The facility will have indoor and outdoor padel courts, plus a lounge area and a Golden Goose store. Based on tennis, padel originated in Latin America but is becoming increasingly popular in Europe and other parts of the world.

Sweden Hong Kong-based private equity firm LionRock Capital has acquired Swedish outdoor brand Haglöfs. The brand, founded in Sweden in 1914, has been a wholly owned subsidiary of Japanese sports group ASICS since 2010. LionRock completed the deal on December 18 and said it viewed Haglöfs as a good fit with its existing portfolio and with its strategy of acquiring "well understood heritage brands with best-in-class products". The group has a minority stake in football club Inter Milan and a majority stake in footwear group Clarks.

Yemen Major logistics service providers began suspending shipping journeys through the Red Sea in December after a series of missile attacks. Rebel groups in Yemen confirmed that they had fired missiles at container ships in the region. Commentators have said diversions around the Cape of Good Hope can add 33% to journey times, resulting in additional costs. Container ships pass through the Red Sea with great frequency, going to and from the Suez Canal.



Colombia Bogotá's chamber of commerce invited producers of footwear, leather and leathers goods to take part in a special fair to celebrate the work of local artisans in mid-December. The event took place in the Restrepo district in the south of the Colombian capital. The chamber of commerce said its aim was to bring buyers from the region around Bogotá and beyond to Restrepo to learn more about its artisan footwear traditions. It pointed out that the district is home to a large number of footwear and leather workshops and businesses.

Brazil New figures put together by Brazil's national footwear industry association, Abicalçados, said shipments from Vietnam, Indonesia and China accounted for almost 83% of the volume of Brazil's total footwear imports in the first 11 months of 2023 and for 79% of the value. The organisation's executive-president, Haroldo Ferreira, said: "We are not against imports, but we are against unfair competition. Shoes are coming into Brazil from Asia through illegal practices such as dumping. This is harming the Brazilian footwear industry."



Ethiopia The Ministry of Industry in Ethiopia has emphasised the need for a footwear and leather development strategy as part of a wider manufacturing initiative called 'Let Ethiopia Produce'. During a recent workshop, industry minister, Melaku Alebel, highlighted that a communication gap has been hindering the initiative's effectiveness. To address the challenges faced by the sector, government officials, stakeholders, and manufacturers must work together, from local chiefs to federal officials, he said.

Japan A winter phenomenon in Japan, ekiden, has inspired sports group Nike to bring to market a special pack of running shoes and apparel. Ekiden describes long-distance running events that take place every winter, with relay teams covering hundreds of kilometres in races that can last several days and nights. For runners this season, Nike has put together a special Ekiden Pack, featuring its Alphafly 2, Vaporfly 3, Zoom Fly 5, Pegasus 40 and Rival Fly 3 running shoes, plus a range of T-shirts and a packable Windrunner jacket.

US Footwear group Wolverine Worldwide has announced the sale of ownership of the business in China of two of its brands, Saucony and Merrell. The buyer is China-based sports footwear brand Xtep. It first formed a joint venture with Xtep in 2019 to launch the Merrell and Saucony brands in China. Now, Xtep has bought Wolverine's share of that Chinese joint-venture business, paying Wolverine around \$60 million for its share.

Pakistan Pakistan's Bureau of Statistics has reported export revenues of \$358.7 million for the footwear and leather sectors in the first five months of the current financial year, the period from July to November. This represents a fall of 13% year on year. Exports of footwear brought in \$62.6 million, down 16.6%, although there are reports of volumes increasing.

India Footwear brand Christian Louboutin has entered into a new partnership with Indian group Aditya Birla Fashion and Retail Limited (ABFRL). The two companies have said they envisage transferring Louboutin's current business in India into a new ABFRL subsidiary, in which both partners will hold an equal stake. ABFRL said it was thrilled to announce its new strategic alliance with the Paris-based footwear brand, describing its new partner as "a true icon in luxury footwear".

China High-end footwear brand Manolo Blahnik is preparing to open own-brand stores in China this year. The move comes two years after the company won a long-running legal battle over use of its trademark in China. Manolo Blahnik has never sold its shoes in China, but chief executive Kristina Blahnik, the founder's niece, has told the *Financial Times*: "It will be a huge market for us. It's very exciting."

Philippines Catalan footwear brand Toni Pons is planning seven new stores in the Philippines, plus one each in Ecuador and South Africa. These new openings will take to 45 the number of stores the brand, which specialises in jute, alpargata-style sandals, runs around the world. The company launched in Girona in the 1940s and it was the 1990s before it began to sell its shoes overseas. Now, overseas sales account for around 75% of total revenues.

Australia Australian merino wool promotions body The Woolmark Company has worked with long-term partner Shandong Nanshan Textile Apparel Company to develop new yarns. They have developed fibre-stretching technology that pre-stretches merino wool fibres before spinning. This has allowed them to develop yarns that are particularly suitable for weaving wind- and water-resistant fabrics without any chemical treatments. The resulting fabrics can be applied to footwear and other products, The Woolmark Company stated.



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Footprints



CREDIT: CEC

CEC has a new president

The European footwear industry confederation (CEC), has a new president; **Rosana Perán** took up the role in December, succeeding Portugal's **Luís Onofre**.

Ms Perán, who is vice-president of Spanish footwear group Pikolinos, became the president of Spain's national footwear industry body, FICE, in 2022.

On taking up the presidency of CEC, Rosana Perán said she wanted to push shoe producers in Europe forward towards what she called a new industrial revolution. In explaining what she meant by this, she summed up her thoughts on what businesses will need to focus on by using three terms from Japanese business management philosophy: 'henko', which is meaningful and lasting change, 'kaizen', which has come to mean continuous improvement, and 'ikigai', which refers the feeling of accomplishment and fulfillment that workers have when they are free to pursue their passions.

Senior hire in bid to boost international business

Footwear group Caleres has appointed **Erica Mackoul** as the new senior vice-president of its international business.

It described the role Ms Mackoul will take on as "driving strategic growth initiatives globally", with a specific focus on four of the group's brands: Sam Edelman, Allen Edmonds, Naturalizer and Vionic.

Erica Mackoul was previously vice-president of global merchandising at footwear brand Cole Haan. There, she was responsible for product assortment in 500 stores in 92 countries.

Special shoes raise thousands

An anonymous donor recently placed a special pair of shoes in the donation chute at a homeless charity's headquarters in Portland, Oregon, just before Christmas. Staff at the charity, the Portland Rescue Mission, noticed the shoes, gold-coloured Nike Air Jordan 3s, right away, but thought at first they must be illegal replicas of the real thing.

No less a person than Nike's vice-president of design and creative concepts, **Tinker Hatfield**, the lead designer of the Air Jordans, went to the charity to look at the shoes and confirmed that they were genuine. He explained that this was a pair that he had custom-designed in 2019 for film director **Spike Lee**. Mr Hatfield donated a replacement box for the shoes and autographed the box for good measure. The shoes went on sale at auction house Sotheby's on December 18 and sold for more than \$50,000. ■

Chloé chooses

Swiss luxury group Richemont has named **Laurent Malecaze** chief executive of Chloé in place of **Riccardo Bellini**, who has elected not to renew his contract after four years. Mr Malecaze moves over from Richemont-owned Dunhill, where he was chief executive for two years. Dunhill will announce a new leader in due course, its parent company stated.

Material shift

New chief executive **Tuomas Oijala** took the helm at Finnish fibre developer Spinnova on December 11, following his appointment last August. Mr Oijala replaces **Kim Poulsen**, who announced his departure last April. Chief financial officer **Ben Selby** was responsible for steering the biomaterials company during the interim.

Return to Puma

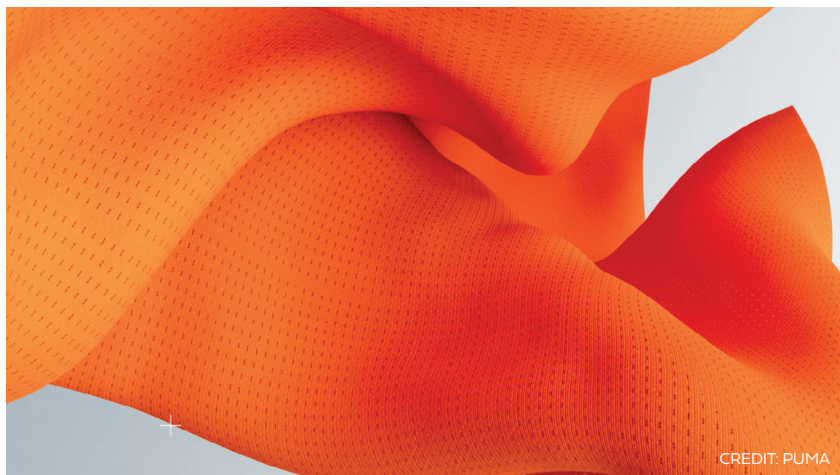
Sports group Puma has appointed **Ryokusai Inoue** as its new general manager for Japan with immediate effect. Ryokusai Inoue joined Puma Japan in 2015 as director of retail. The company has said the work he carried out in this role "laid the groundwork for solid growth" in the Japanese market. He left in 2022 to become country manager for Japan for automotive company Tesla but has decided to return to Puma, where he will replace **Kohei Hagio**.

Shaq back on the attack

Sports brand Reebok has appointed **Shaquille O'Neal** as president of its basketball division. His appointment to this newly created position comes on the heels of Reebok's announcement that it plans to refocus on team sports and basketball. Reebok first worked with Shaquille O'Neal ahead of his rookie season in 1992, introducing its first signature shoe, the Shaq Attaq. The former athlete is a shareholder in Reebok's new parent group, Authentic Brands. ■



Industry & Innovation



CREDIT: PUMA

Brainwave about waste

Sports group Puma has announced the scaling up of its textile recycling programme, Re:Fibre.

There are four steps in the Re:Fibre process. The first is to collect and sort textile waste, followed by shredding and mixing the collected materials. Then, the material is dissolved, filtered and polymerised, removing dyes through a chemical recycling process. Lastly, the newly produced polymers can be spun and made into Re:Fibre fabric.

Further down the line, products made from Re:Fibre will be able to go back through the same process and be recycled again and again.

"The technology looks to diversify the fashion industry's source of recycled polyester, becoming less reliant on clear plastic bottles," Puma said. Its chief sourcing officer, Anne-Laure Descours, said the group's aim was to source 100% of the polyester it uses in its products from textile waste.

Stanbee adds Flex, Vulc and Sport to Nitro components mix

Shoe components developer Stanbee has followed up on the earlier launch of Nitro Force with heel counters and toe boxes branded Nitro Flex, Nitro Vulc and Nitro Sport.

Chief executive, Michael Berkson, highlighted each new product's key differentiator. Stanbee Nitro Flex heel counters offer "unparalleled flexibility", he said, while Nitro Vulc delivers "exceptional fit and comfort in vulcanised footwear". Nitro Sport rounds out the line-up with "high-performance toe boxes that are lighter, softer and more resilient", alongside increased recycled content.

"All of our Nitro products are injected with a foaming system that displaces raw virgin materials, thereby reducing weight and improving performance," Mr Berkson continued. "It is our mission to produce the lightest, thinnest, strongest, most resilient structural footwear materials in the industry."

The company underscored how all Nitro-branded products are eligible for its Zero Waste programme, which works to reintroduce cutting scraps during production. It plans to open a facility in Indonesia this year. New Jersey-headquartered Stanbee already has a presence in Vietnam and Thailand.

"We have made significant investments in elevating our product line through innovation," added global sales leader, Leo Provencher. "We see tremendous growth in the coming years and are positioned to support our customers' business, with manufacturing, cutting and delivery of net parts." ■

Eco-design rules

The European Parliament has agreed on an update to the so-called "ecodesign" regulation that aims to improve various aspects of products throughout their lifecycle to make them more durable and reliable, easier to reuse, upgrade, repair and recycle, use less resources, energy and water. Footwear will be among priority product groups that need to adopt rules no later than nine months after the new legislation comes into force.

Recycling breakthrough

Fibres group Toray has announced a recycling breakthrough for its carbon fibre products. It said it had successfully used a pyrolysis recycling process to take material from the wings of Boeing 787 aircraft to use as recycled carbon fibre in other products. Initially, it has worked with consumer electronics company Lenovo to put the recycled carbon fibre in laptop computers.

Compliance questions

Helsinki-based body the European Chemicals Agency (ECHA) has said tests run by enforcement authorities in 26 European Union countries found 400-plus products out of a total 2,400 to be in breach of EU chemical regulations. Lead and phthalates were among the hazardous chemicals detected to be present in "excessive levels". Around 15% of footwear, clothing, handbags, jewellery and other accessories were deemed non-compliant.

AI partnership

Footwear brand Reebok has partnered with artificial intelligence and metaverse technology provider Futureverse to "broaden the ways consumers can interact with its products". In 2024, they will debut Reebok Impact, a "digital shoe experience" that will allow consumers to access AI and digital wearables. ■

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Backtrack

03.01.24

Job losses on the cards as Nike focuses on profits

20.12.23

Leadership changes ahead as warm winter impacts Designer Brands

OMA aims to boost outdoor footwear sales

18.12.23

Vasque's updated team tasked with forging new path

15.12.23

FDRA releases 2023 Shoe Sustainability Progress Report

13.12.23

Foot scans help skiers avoid uncomfortable boots

12.12.23

Lower-emission solution to scorching in PU foam

South Korean fashion industry seeks ESG roadmap

11.12.23

Better grip and flexibility on offer with new ASICS shoe

08.12.23

Adidas revamps Supernova with Dreamstrike+ 'super-foam'

07.12.23

Kering completes acquisition of 30% of Valentino

Wenling plays host to second Children's Shoes Festival

06.12.23

Record third quarter for Schuh but US retail stalls

05.12.23

Adidas resurrects original features as Predator turns 30

04.12.23

Puma celebrates Re:Suede success

01.12.23

Fall of around 5% is Caleres' full-year expectation

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.

29.11.23

Valentino releases its first sustainability report

Dismay as Brazil vetoes footwear tax relief

IPO preparations put Golden Goose value above €3 billion

27.11.23

Bangladesh – footwear exports to US down

24.11.23

Anta launches rural revitalisation scheme in Fujian

23.11.23

Polygiene announces metal-free, 100% bio-based active

22.11.23

Roger Vivier stages first-ever Chinese exhibition

Trade union expresses concerns for shoe workers' rights in Portugal

21.11.23

Columbia Sportswear hosting AAFA supply chain meet-up
Footwear puts a spring in Mizuno's step

20.11.23

Crocs pairs up with Coca-Cola
Innovation and performance produce growth for On

17.11.23

China's return hurts Brazilian footwear exports

16.11.23

Brands must keep retro focus on leather

Belle International puts on a show. in Shenzhen

15.11.23

VF's regenerative rubber project proves a highlight

Growth at Coach lifts Tapestry Q1 results

Sales of Yue Yuen athletic shoes down by almost 20%

Job losses and sell-offs as Wolverine cuts costs

14.11.23

Retirement scheme dents Bata's profits
Jimmy Choo stumbles on weaker US demand

13.11.23

Current performance 'not good enough', adidas says

Saucony president joins PrimaLoft in 'strategic move'

10.11.23

New adidas Spezials on heels of Newcastle Originals show

Profit is the primary focus for Under Armour

09.11.23

Seventh World Footwear Congress takes place

Louis Vuitton lands at Sanya

08.11.23

Nike to build Chinese sports research lab in 2024

Two new shoe styles from Altra

Turkey hosts World Footwear Congress

Nike debuts ZoomX foam in basketball

07.11.23

New environmental label for Caleres shoes

Calvin Klein trainer knit from Tencel-blended Piñayarn



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China's exports to the USA fell dramatically in 2022.

CREDIT: SHUTTERSTOCK/ALEXANDER GAFARRO

A rise comes before a fall

Stuart Cleaver

After a promising 2022 the shoe industry had some expectations that 2023 would not be as buoyant. This is proving to be true. Global predictions had to take into account that inflation was a wide-ranging problem, the Ukraine-Russia war saw little possibility of a quick solution, energy supplies were consequently affected and so on. What was not predicted was the situation with Gaza and Israel causing further uncertainty towards the end of the year. Companies that had struggled through the pandemic had to make the most of the 2022 rebound. Not all could, however, with supply problems and consumer purchasing power restricted by cost-of-living increases. Clarks in the UK was one company in particular that was bedevilled by supply problems..

The two main axes for the shoe industry remain the USA, as the most important consumer market, and China, as the most important producer. China, for so long showing strong growth each year, suddenly started to see lower levels of growth which would also have 'knock-on' effects for other countries. In 2022 it barely amounted to 3%. The predictions for 2023 were around 5.1%. In the 'good old days' it would have been around 9%.

Loss of volume

The US domestic market is also a pivotal factor in the global shoe sector. Prospects (at the time of writing) were not auspicious. In the period January to

September (nine months) footwear imports into the US market were down 40.5% which equates to a loss of 576.1 million pairs. This loss in volume terms can be clearly seen in the results of the two leading volume shoe exporters to the USA: China and Vietnam. China delivered 831.4 million pairs which, when set against the corresponding period in 2022, was a loss of 305.3 million pairs or 26.8%. Vietnam also had poor results, seeing its exports to the USA down by 29% or 146.1 million pairs.

These two together saw their exports down by 451.4 million out of the total US fall of 576.1 million pairs (over 78% of the total loss). Of course, both supplier countries have experienced problems in the last two years with covid closures. This, added to reduced US domestic demand for footwear, has set the agenda for the global situation. This rather gloomy picture can also be seen reflected in the performance of some of the leading players such as Nike, adidas and Pou Chen.

Problems for brands

Nike's interim results in 2023/2024 were causing some concerns, particularly with profits falling and reduced demand on the retail site Stock X with a premium of less than \$10 (over \$100 at one time) and the latest Air Jordans possibly losing steam. Nike is often viewed as a 'bellwether' for the US economy and there was some concern that US consumers were cutting back. Adidas also had a rocky road to circumnavigate in 2023 due to

a parting of the ways with Yeezee (Ye), the rap singer formerly known as Kanye West. Ties were cut in October 2022 after his antisemitic remarks and other issues. Stock to the value of \$1.3 billion of unsold Yeezy's sneakers presented a bottom line problem but the company donated stocks to groups fighting the issue. An operating loss of \$494 million was quoted.

Advancing technologies

Talking of adidas and Nike also leads to the question of 'shaving seconds or even minutes off race events' with ever advancing technological developments in the sport shoe industry. The official World Athletics wording 'Shoes must not be constituted so as to give athletes any unfair assistance or advantage' is now under pressure similar to VAR in soccer. Marathon races (excluding the later-in-the-year New York Marathon) were dominated by Nike, in particular, followed by adidas with other shoes by On, Xtep, Asics and Anta, having to take more of a back seat by and large, although still contributing to Marathon results.

The Nike Alphafly, Vaporfly and the adidas Adios Pro 3 and Adizero have revolutionised running performances. Perhaps a more apt comparison is with Formula One car technology. How far should performance be reliant on technology (if at all)? As far as the footwear industry is concerned, comparisons with space flight may be permitted, in that advances in technology (especially by Nasa) assist with raising, for example, the performance of all footwear in terms of comfort, lightness, durability, fit, safety, resistance to slip and other factors.

Self sufficiency

Other emerging trends in 2023 may include a settling down after covid, a rethink about self-sufficiency of nations following concerns about deliveries of energy, food and shoes, supply chain integration, take-overs, climate change, sustainability and a move to slow down the seemingly relentless slide to online from bricks and mortar retailing. Covid (albeit it may still be with us) in fact brought in some new factors. These included working at home which may well have affected the use of footwear. Slippers or indoor footwear up – outdoor use of footwear down. Although running parallel (pun intended) was the rise in outdoor sport activities to keep fit. Whilst there are no meaningful statistics to quantify this, there is, undoubtedly, more working at home overall.

Self sufficiency for nations has not really affected the shoe industry in general. Attempts to bring back some production has not worked in the UK. Clarks and Airwear attempted some relatively small-scale local production but results have been modest or negative. Similarly, with adidas and its attempts at automated factory production in Germany and the US. Supply chain integration and takeovers have seen fairly isolated instances although the buying up of brand names without the physical assets has seemingly been more widespread. The company Next in the UK is one example of this.

The question of online or 'bricks and mortar' retailing has been more interesting. Covid saw sharp rises in on-



Conflict between the Ukraine and Russia will have caused major disruption to the footwear industries of both countries.

CREDIT: SHUTTERSTOCK/YANOSH NEMESH

line purchases. Moves to digitalise transactions and cut out the human element have, however, met with some resistance. This may be temporary as the present older generation was not brought up with IT and is probably the last generation where that will apply. However, at present, moves to reduce or remove completely human assistants in supermarkets or at railway stations have met stiff resistance. Some retailers have even spoken about opening more stores, as for example White Stuff in the UK and Germany.

Military conflicts

The World Shoe Review by the author has attempted to indicate the levels of online shoe sales (as well as other channels) for each country and it will be interesting to see how those levels progress in the next few years. Another factor in 2023, of course, has been the war situations in the Ukraine and, more recently, Israel/Gaza. What have been the effects of these scenes of conflict for the shoe industry?

Firstly, the shoe production in the Ukraine will have been affected. Sales of footwear and materials/components to Russia (and vice versa) will have fallen. Military and safety footwear (locally but more so from allies) will have increased. Fashion footwear demand will have fallen and sanctions on Russia will have reduced exports to it and reduced consumer demand. As far as Israel and the area in general are concerned, both have footwear industries. Again, destruction of factories is likely but information is scarce at the time of writing.

So, 2023 has been a year of retraction, becoming more so as the year progressed. The saving grace for footwear has been the ubiquitous sneaker/athleisure trend but that appears to be showing a slight slowdown as is streetwear. What might replace them? ■



Attendees at the conference.
ALL CREDITS: UIRIC

21st UITIC International Technical Footwear Congress

Sergio Dulio

UITIC, the international association of footwear technicians, celebrated its 21st Congress last September (19th–22nd) in Milan and Vigevano, marking the comeback of this important event after a five-year break (the 20th Congress was held in Porto, Portugal in 2018 and, due to the pandemic that disrupted everything, the 21st was put back). It was a very successful gathering both in terms of content as well as in the number of registered participants in particular if we consider how much travel habits and the willingness to attend events in person have changed in the meantime.

But there were indeed other reasons to celebrate. The association, established originally in France in 1972, did in fact accomplish 50 years of history in 2022, though the celebration was postponed until 2023 to have it at the same time as the Congress. UITIC, a non-profit organisation, was conceived and launched by a French footwear entrepreneur, Georgy Bidegain, with the aim of promoting innovation in the footwear industry. We must bear in mind that in 1972 less than 30 years had passed since the end of WWII and mankind had just managed to stamp its footprint

on the surface of the moon. Article 1 of the Association's statute states that its aim is to 'disseminate technical knowledge in the footwear industry, in particular through the periodic organisation of international congresses and taking every initiative to promote the exchange of information between its members, all principally regarding the technical aspects of shoe design and manufacturing'.

The UITIC label has in fact been typically associated with the International Congress that has been organised every two–three years to disseminate the technological culture of footwear and to spread innovation among the footwear companies of the world. The first Congress was launched in Evian, France in the same year as the foundation of the association and with the title of 'New materials, new processes'. For a long while European locations were selected for the venues: Alicante in Spain, Mainz in Germany (in 1977 when words such as computers and automation made their first appearance) and then Bristol, Belgrade and Milan in Italy for the first time in 1983, where the key topic was: automation of processes to enhance productivity, quite a far-fetched vision at the time.

In 1989 in Nantes, we spoke about Just in Time. In 1996 the Congress landed for the first time in Portugal (Porto) to then cross the Mediterranean to reach Tunis and moving out of European borders. In 2010 it became 'intercontinental', celebrating its 17th edition in Leon, Mexico. It was then time to look at the Far East where a growing and powerful shoe manufacturing industry had developed, so in 2013 footwear technicians from all over the world gathered in Guangzhou and Dongguan in China to debate 'Social responsibility as a challenge for the footwear industry', well before all the hype on sustainability and ESG.

The Congress then moved on to Chennai, India in 2016, Porto again in 2018 and eventually Milan and Vigevano in 2023. All these were occasions in which the most recent technological advancements developed by research centres, academic institutions and technology providers, were presented. They have attracted an international audience (as an average, delegates from no less than 20 different countries attended the various sessions of the Congress) of businessmen, practitioners, students and in general all those who have an interest in shoe making. Today the members of UITIC are shoe trade organisations, research centres, public institutions as well as private individuals supporting the association. There are currently more than 60 members coming from 21 countries and the number is growing.

Innovation and sustainability

Coming back to the present day, the 21st edition had a very captivating title 'Innovation and Sustainability: moving towards sustainability through Innovation' and two distinct locations. These were Milan Assago at the NH Congress Centre where the technical sessions took place and Vigevano, site of the Gala Dinner that was held in its beautiful renaissance castle. More importantly, Vigevano is where ASSOMAC, the international association of footwear, leather goods and tanning machinery producers, has its headquarters. ASSOMAC was the main



Speakers at one of the sessions with their certificates.

organisational and strategic sponsor of this edition, playing a major role in all the operational aspects as well as in the promotion of the event.

This year, for the first time the Congress followed a slightly different pattern. Its typical three-day format was split into one congress day (the first) that was actually spent at Simac – TanningTech in Rho Fiera, considered the most important international exhibition on design and manufacturing technologies for the footwear sector. The last two days were dedicated to technical sessions, ending on Friday midday, instead of Saturday as it used to be in most of the previous editions, in order to follow the preferences of conference attendees. The visit to Simac was in fact a kind of preview of many of the innovations and topics that would be the subjects of the presentations in the sessions on the two following days.

Factory visits

As is customary for the UITIC Congress, the technical programme is normally complemented and preceded by factory tours, a very valuable occasion for the participants to visit local companies and be exposed to the specifics of the footwear sector in the host country. It was also the case for this congress, in fact, three parallel programmes the attendees could choose from which were all very quickly sold out. The first was focused on footwear companies and two were included: Calzaturificio Roveda and SeyMeChamLou, both in the Parabiago shoe district. Both produce high quality womens shoes

with a unique combination of craftsmanship and modern technologies (including robotics), companies that are not normally easy to visit, so the opportunity was much appreciated by all the participants in this tour.

The second programme looked at the shoe supply chain, with an intensive tour of Industrie Chimiche Forestali, a supplier of footwear materials and components as well as of high-performance adhesives. It was followed by Tacchificio Villa Cortese, a component supplier (heels) and TFL, an experimental and high technology tanning facility. The programme was completed by a visit to CIMAC, the research and testing laboratory of the Italian association of footwear manufacturers (Assocalzaturifici).

The third and final programme was quite unique in the long tradition of the Congress. Participants had the opportunity to visit two important institutions in the domain of research and innovation. One was Kilometro Rosso in Bergamo, an innovation park hosting many high-tech activities and modern start-ups and MADE Competence Centre in Milan, active in technology transfer from academia to different industrial sectors and with a focus on technologies related to the Industry 4.0 framework. This last programme, appropriately called 'inspirational', was aimed at inspiring delegates with case histories and best practices adopted in other sectors and with a potential positive impact on the footwear world. More than a hundred delegates participated all together in the three programmes during the event.



The panel on innovation

Speakers contributions

On the following days, the Congress returned to the NH Centre where, through the contributions of the many speakers present, its main theme was developed: how innovation and sustainability are closely linked and interconnected. There cannot be true innovation if it does not incorporate elements of sustainability and, in order to be sustainable, one must innovate. A few numbers will give an idea of the richness of the programme and the span of topics covered. There were two keynote speakers (one for each of the two leading themes), four sessions, twenty presentations and twenty speakers, plus two panels very professionally moderated by a journalist with seven panellists in each.

From the keynote speakers we learnt how sustainability is no longer a communication argument but rather an industrial, technological and organisational precondition and how companies cannot become really green if they do not transform digitally at the same time. This will push companies, both from the technology supply side and technology users, to deal less with hardware and more with Data, AI and software, to consider innovative business models such as servitisation, to choose co-engineering instead of pure customisation and to include sustainability in all aspects of the design of their products. So sustainable products from their inception and sustainable supply chains resulting from a new product create a process culture that requires innovation at all levels, from circularity to safe and responsible factories, from low impact materials to waste optimisation and reduction, and from low impact processes to transparency and traceability. All topics were extensively covered in the conference sessions.

Congress takeaways

We could perhaps summarise the outcomes of the congress by commenting on the main messages or takeaways at the end of the two intense days of work. The first is to create responsibly by choosing materials appropriately, selecting in particular those with a low environmental impact and a high degree of recyclability. We must also consider right from the early stages of the

product's conception, its end of life, how to deal with it and extend it as much as we can. Digital technologies provide a means here to trace materials and the supply chain, calculate the environmental impact and connect to digital experiences and contents, as in the proposed introduction of a 'digital product passport' that is in fact a way to render these 'create responsibly' efforts more visible and certifiable.

When we move on to manufacturing, the key takeaway is to produce intelligently, using the full power of modern, leading-edge technologies such as AI (for example, to identify undesired left overs in the finished shoe using advanced vision system) or harvesting the power of big data to instil intelligence in the design of the last, the true starting point of every shoe design. And again, transforming machines into 'smart and IOT connected' devices that continuously generate data on their operations to monitor the insurgence of potentially dangerous situations and with the final goal of never stopping, much to the satisfaction of their users and of their manufacturers as well. Then there are the omnipresent robots (could they have been absent?) in their new 'collaborative' flavour, with applications increasingly aimed at assisting human workers and alleviating their fatigue.

A third takeaway is to transform workers and work places. We have had barely the time to assimilate Industry 4.0 as the new industrial paradigm and now Industry 5.0 is here. This calls for a revision of the manufacturing processes in a more human oriented way. If technology was at the heart of 4.0, human beings regain the stage in 5.0. But this requires that workers are properly educated and trained on a new skill set that can be profoundly different from what it used be in the past and that calls for a realignment of the training curricula and an upgrade of educational approaches and contents.

Finally, to turn sustainability projects into real success stories, we need to measure and recycle. In other words, measuring the environmental footprint of a product or the efficacy of a sustainability policy with objective tools that allow a quantitative assessment of the actions undertaken and to address certification bodies using

adequate tools to officially confirm the results. Recycling is, last but not least, the way to go forward using robots. This time to disassemble the shoe rather than assembling it, separating its various components and materials, and eventually recycling them appropriately, material by material.

Conclusions

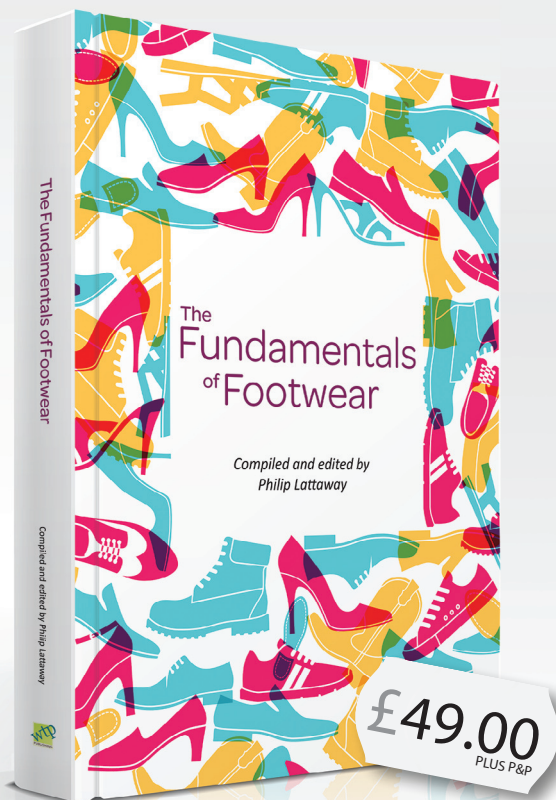
Be innovative from the ground up, as was debated in one of the two panels where it was presented. How the intuition of an innovative shoe concept drives innovation through the entire supply chain; suppliers of the materials used in the 3D printing process, providers of the high-performance adhesives used to bond the shoe parts together, developers of the automation and robotic machinery to produce them, down to the minute automation components these machineries incorporate. Something that we could possibly define as a new 'holistic' shoe design process that involves an entire innovation ecosystem. Furthermore, practise suitability actively at all levels and use the power of communication to make these efforts evident to the widest possible audience.

As another comment on the 21st UITIC Congress, it is worth mentioning the new section called Innovation Showcase, a dedicated exhibition area where 17 companies and institutions could present their work and achievements. Before concluding these notes, we must also report about the changeover of the leadership of



Three generations of UITIC presidents – Orgiles, Morin and Dulio.

UITIC. Yves Morin, after having served as President for more than 12 years, stepped down during the congress and now holds the position of Vice President. His place has been taken by Sergio Dulio, a member of the executive board and former Vice President, who will lead UITIC in the years to come. And finally, we look forward to the 22nd UITIC Congress to be held in 2025 in Shanghai, China. ■



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THE MUST-HAVE ESSENTIAL BOOK FOR THE FOOTWEAR DESIGNER



Footwear recycling plant in Elda, Alicante, Spain.

ALL CREDITS: INESCOP

Innovative footwear recycling

Borja Mateu, Ana Belén Muñoz and Elena Orgilés
INESCOP Footwear Technology Centre

Global footwear production has increased significantly to reach approximately 22.5 billion pairs, an increase of 8.6% over 2020. It is expected to grow steadily in the coming years, potentially reaching 25 billion pairs in 2025 and 27 billion by 2030. However, the current recycling rate is barely 5%, with the majority ending up in landfill or being incinerated once they have reached the end of their useful life. One possible way to address this problem is through donation to charities, so as to maximise reuse and extend product life through second-hand markets, but the rise of fast fashion characterised by low quality products and high manufacturing rates, has led to the export of large quantities of donated clothing to third world countries generating significant environmental, social and economic impacts.

At a European level, the solution to this problem is framed within legislative initiatives that seek to prevent the generation of waste and to establish the responsibility of producers. INESCOP, a leader in sustainable solutions applied to footwear, addressed this challenge through the development of technologies and processes for the footwear industry, as in the case of the design, implementation and validation of a mechanical recycling plant for footwear. This solution is in line with the European Union's (EU) vision of a the circular economy and uses clean and innovative technologies to obtain separated residuals with the potential for reuse in various applications and industrial sectors.

To this end, collaboration with companies has been essential, through which a circular economy in the footwear value chain is sought to be democratised. In this sense, the use of technologies such as artificial vision and eco-design are proposed in order to improve the separation of materials and increase their recyclability. This innovative approach, focused on mechanical recycling, contributes towards meeting EU targets for waste management and promoting the circular economy in the footwear industry, thus reducing its carbon footprint and promoting the circularity of materials.

A new Europe based on circular economy

Faced with this loss of resources with a high potential for recovery, Europe is seeking to make sustainable products the norm and to implement a circular economy model. This is illustrated by the increase in legislative proposals and publications such as Directive (EU) 2020/998 on the prevention of waste generation and on waste management. This aims to reduce the generation of household waste by 55% by 2035. Directive (EU) 2019/904 on textile waste aims to collect at least 50% of textile and footwear waste by 2025 and 65% by 2030. Directive (EU) 2019/904 on extended producer responsibility lays down that footwear producers/manufacturers are still responsible for the management of shoes once they reach the end of their useful life.

Legislation is a key part of the EU's strategy to promote the circular economy in order to help minimise waste generation, increase recycling and recovery of waste, and prevent pollution. Commitment to the environment remains a major challenge for the whole world, but especially for Europe, where the European Green Deal sets out how to become the first climate-neutral continent by 2050 by boosting the economy, improving citizens' health and quality of life and applying the principles of a circular economy, which is only possible through the eco-design of products and the implementation of innovative clean recycling technologies.

Innovative solutions to major challenges

INESCOP has been working for more than 50 years providing solutions to the challenges faced by the footwear industry. Currently, among its main research lines is mechanical, chemical and biological recycling. The footwear industry is characterised by the variety and variability of materials and components used, as well as the customisation and ephemeral designs that the industry develops to meet consumer demands. All this is combined with a need to create quality footwear that ensures the durability and comfort of the product by means of durable bonding between the components. This is one of the factors that makes it difficult to recycle footwear at the end of its useful life.

Among the various recycling routes currently available, the European Union highlights mechanical recycling as one of the best technologies as it preserves existing materials without decomposing them, maintaining performance and durability standards in recycled products, and widening the range of reuse possibilities. These technologies are characterised by lower energy consumption than other thermal means and the fact that they do not release direct emissions into the atmosphere.

Recycling as a tool to achieve footwear circularity

The recyclability of footwear implies adapting solutions to the current production system, focusing on implementing a circular economy, all at a low cost through scalable and globally replicable systems. As a result of INESCOP's experience, together with research into new technologies and the development of advanced materials and technologies, the development of the first pilot plant for the recycling of footwear was launched in 2019 in the framework of the Circular Industry - CV project. The plant was officially inaugurated in 2022.

The plant is a continuous automated system capable of processing up to 500kg/h of whole footwear without the need for prior sorting. It is designed to process all types of footwear, such as that collected in bins on the street, unsold stock, defective production and selective waste collected by brands. The recycling line itself is made up of machinery from different manufacturers and sectors, including glass recycling, mining and plastic recycling machinery, which have been integrated and adapted to the characteristics of different types of footwear, such as occupational footwear, safety footwear, sneakers and high-heeled shoes, among many others. This versatility allows the processing of all types of footwear and



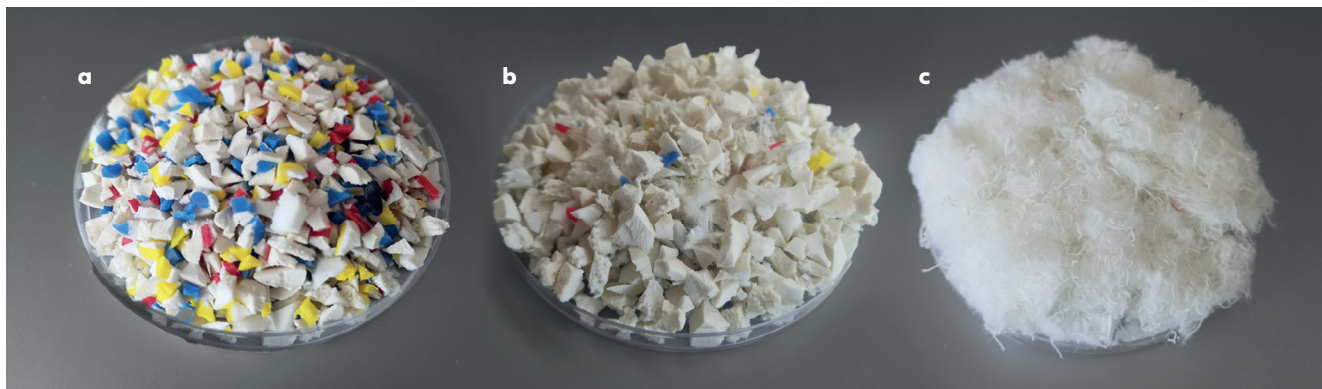
Densiometric sorting.

futhurmore, it is replicable and scalable.

This innovative process is based on physical principles applied according to the nature of the materials involved. It starts with a pretreatment where the material is torn in order to homogenise it and free the internal parts that make up the footwear and that cannot be seen with the naked eye, such as steel shanks and toecaps. All the metal parts are classified by means of magnetised separators. These metals have a high purity with a value set by the market price and for which there are already established ways of recovery in the metallurgic industry.

The rest of the metal-free footwear materials continue along the recycling line where they are reprocessed down to a specific particle size, ensuring separation between the different components, such as the separation of the upper from the sole or the outer leather from an inner laminate. This mixture of released materials is classified by means of an optimal granulometric process for subsequent densiometric sorting to obtain differentiated residues based on different parameters such as: the inclination of the table, size of the grid, blowing and suction flow rate or frequency and cadence of vibration. Other affecting parameters are opening of the air inlets and exit height of trays. The system is supported by inductive currents for the separation of non-ferrous metals.

All these parameters influence the quality of the materials obtained and their subsequent applications. By means of a programmable logic controller (PLC) and the recipes developed for the different types of footwear, the equipment is adjusted to obtain the best performance. Finally, separate residuals of textile fibres, heavy polymers, foams and leather are obtained, which have the potential to be reused in different applications already validated by the technology centre and the collaborating companies.



Maximising the use of waste

Waste recovery consists of adding value, maximising its use and reducing the associated environmental impacts. Using the materials obtained, INESCOP has successfully validated different recovery routes for the various materials which are already being replicated by collaborating companies. Among subsequent reuses, surfacing for playgrounds, athletics tracks, bicycle lanes, gym floors and road pavements stand out. This material replaces virgin raw materials, while improving the properties of the final product, with better technical performance in terms of cushioning, water drainage and noise reduction for road traffic. Some residuals obtained from the recycling process can be utilised in the building sector through the creation of insulation panels or the manufacture of furniture, both of which are proving successful.

Applications have also been validated to close the loop in the same value chain by creating footwear components from footwear waste and verifying compliance with technical requirements for footwear in the technology centre's laboratories. Other recovery options come from the symbiosis with other industrial sectors such as the utilisation of textile fibres in packaging paddings or in the stuffing of soft toys.

To boost the positive impact of the recycling plant, INESCOP works directly in collaboration with companies to democratise the implementation of a circular economy in the entire footwear value chain. Noteworthy among the research lines is the use of artificial vision equipment to enhance the sorting of raw materials by nature and by colour, and the eco-design of products to increase recyclability as well as the study of the compatibility of materials for their recovery. These research lines are supplemented by the research centre's work on leather recycling, EVA de-crosslinking, pyrolysis, glycolysis, detachable adhesives, biodegradation and composting, among others.

Shoe wedge made from leather and cork waste.



Materials obtained from the plant. (a) High density PU (b) Low density PU (c) Polyester.

Circularity potential

European environmental policies have laid down regulations and targets for waste management and the promotion of the circular economy. Mechanical recycling is in line with these initiatives and contributes to meeting regulatory requirements, being one of the priority technologies after reuse. Mechanical recycling can better preserve the quality of materials, which facilitates their incorporation in new products or their preparation for other recovery processes. This is essential in order to maintain the high quality and durability requirements for recycled products.

This technology, together with the eco-design of footwear, has enormous circularity potential for the industry, where it has been possible to demonstrate the implementation of circular economy principles, thereby minimising the generation of waste. Footwear recycling through this process has proved successful. It also causes no water consumption, separation in liquid media, direct emissions into the atmosphere and no damage to soil and water resources. Furthermore, it can be powered by 100% renewable energy with a neutral carbon footprint. Through Life Cycle Assessment calculations using Simapro software and the Ecoinvent database, it has been estimated that around 1kg of CO₂e per pair of shoes could be saved with this technology compared to the possibility of such shoes ending up in landfill. In addition, it contributes to reducing the demand for new resources and the extraction of raw materials.

It has proved to be a successful project and numerous footwear companies are interested in the results. Some have started recyclability studies and have tested the process with real samples, scaling and developing several products from ground waste to be employed in the production of different components. With this clean solution, a real circular economy is possible. This serves to improve competitiveness in industry by creating ecosystems in which the waste of some becomes raw materials for others, thus reducing dependence on external markets. ■

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Coats Footwear offers Soft-Flowing thermoplastic materials for specialist insoles and orthotics.

ALL CREDITS: COATS GROUP



Soft-flowing materials for insoles

Insoles and insocks are extremely versatile footwear components made in a variety of materials and designs. They can possess a wide range of attributes and offer a variety of benefits to the wearer, including enhanced comfort and support to the foot. The underfoot environment is, however, very demanding, so quality and durability are essential. But first it might be best to clarify what is meant by the different terms 'insole' and 'insock'. Many people use these two terms synonymously which can be confusing. Technically, an insole is the rigid or semi-rigid backbone of a shoe which is not removable. An insock, on the other hand, generally lies on the surface of the insole and may or may not be removable. Moulded insocks are often also referred to as footbeds. In the medical field, 'insole' is the more common, so we will use it in this article to describe moulded medical footbeds.

These insoles are produced in a wide variety of constructions and can be a thin sheet socking material covering whole or part of the inside of a shoe, a full-length sheet foam layer with a top-covering material or moulded polymeric components. Replacement insoles are also frequently marketed as replacements

for worn-out components or to customise the footwear to meet a customer's particular needs. This may be to improve cushioning or change the fitting properties of the shoe, generally the two most important factors for both short- and long-term comfort. Insoles play a key role in influencing customer choice and in maintaining comfort levels throughout the day as well as after long periods of wear.

Insoles also play an important role in orthopaedic footwear. Here, there can be a major problem from the outset, as no two customers will be alike. It is often not simply a case of different sizes between the right foot and the left, as one may be normal and the other not. Alternatively, one foot may be a totally different shape from the other. This clearly leads to all manner of manufacturing problems and it is for this reason that orthopaedic footwear is frequently so complex and expensive. Many simpler foot conditions can, however, often be treated by making oversize shoes with insoles specially formed to match the wearer's feet, saving both time and money. Where cork was once the only material that was used, modern materials science has resulted in materials that offer the orthopaedic shoe producer far greater flexibility.

Soft-Flowing materials

For instance, Coats Footwear, part of Coats Group, has recently extended its range of reinforcement materials for orthopaedic and medical footwear with the introduction of seven innovative Soft-Flowing insole materials. Addressing market demand for increased flexibility in the design and production of specialist insoles and orthotics, these Rhenoflex and Texon materials offer a range of firmness options and are available in a variety of colours and thicknesses to meet customers' individual needs. Made from soft flowing thermoplastics, the materials have been designed to create insoles with extremely soft edges for extra comfort but, at the same time, are also said to be highly resistant to breakage and to offer excellent shape retention properties. The materials are supplied in sheet form ready for the insole producer to create the final product using thermoforming, deepdraw or vacuum forming techniques.

Coats states that the seven Soft-Flowing products are all quick and easy to process, with no skiving or grinding required. Heat-activated, the materials feature an adhesive inside the polymer mass that delivers strong bonding. During thermoforming the edges of the material turn slightly fluid, creating a smooth finish that seamlessly fuses to different substrates after being pushed into place. This is referred to as 'outflow' and as can be seen in the following product list can vary from material to material depending on their individual compositions. Made with fabrics that enable more stable handling when soft, each material is designed to create a strong reinforcement. The range contains colour and thickness options giving customers a wide choice:

Proform – a semi-firm thermoplastic material that is available in white and achieves a good outflow.

Ultrafit – a soft to semi-firm thermoplastic material that comes in beige and achieves a strong outflow.

Rx 31.8 / Rx 32.8 – a firm to very firm thermoplastic material that achieves a good outflow and is available in many colours including black, green, magenta, red, sand and gold plus eight different thicknesses.

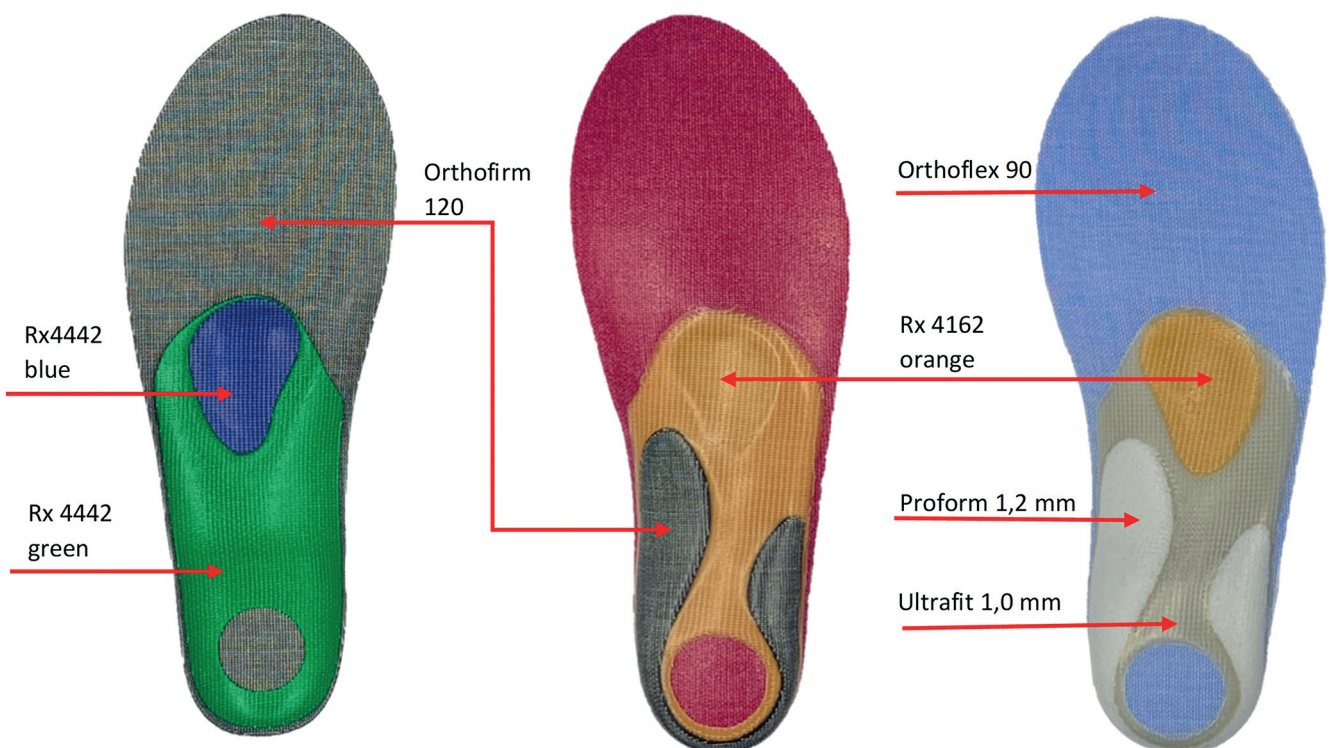
Orthofirm – a semi-firm thermoplastic material available in anthracite and which achieves a strong outflow.

Rx 41.2 – a soft to semi-firm thermoplastic material that is available in blue, orange and red and achieves an extremely high outflow.

Rx 44.2 – a soft thermoplastic material that achieves a strong outflow and is available in 1.10 – 1.20 mm in green and blue.

Orthoflex – a soft and flexible thermoplastic material which has an extremely high resistance to cracking and repeated heavy bending. It is available in blue at thicknesses ranging from 0.85 – 0.95 mm. It also achieves a good outflow.

Robert Grueneberg, Director Transformation & Procurement at Coats Footwear, says that, "With the acquisitions of Texon and Rhenoflex in 2022, Coats has become a global market leader in the footwear industry for pioneering reinforcement solutions that can improve the production, integration and performance of structural components into all kinds of shoes and medical applications. These seven Soft-Flowing materials show us continuing to drive innovation and broadening the range of reinforcement options available for medical and orthopaedic footwear manufacturers." ■



Soft-Flowing materials with various degrees of firmness, different colours and thicknesses are available to cater for diverse needs.



The sports shoe that forms part of the new official equipment for Team Sonnenwagen provided by Huafeng using their new HAPTIC textile coating system. Fabrics for the shoe are based on Cyclone recycled polyethylene terephthalate (rPET) yarns derived from post-consumer plastic bottles.

CREDIT: HAUFENG



HAPTIC textile coating for footwear

Much like the mobility industry, according to the Ellen MacArthur Foundation and Circular Fibres Initiative, the textile industry is a major greenhouse gas emitter and environmental polluter. The good news is that it is now embarking on a sustainability revolution. Creating more environmentally friendly apparel is, however, particularly challenging for manufacturers of footwear, which is often made from polyethylene terephthalate (PET) and printed with polyurethane (PU) coatings to achieve the right performance, appearance and durability. In fact, there are two parallel challenges that need to be overcome.

Untangling the issues

First, in light of the growing pressure from regulators and consumers to make the fashion industry more sustainable, footwear producers urgently need PU coating resins with a less harmful environmental impact. More manufacturers are switching from solvent-borne to water-borne coatings in order to cut down dimethylformamide (DMF) emissions, which can harm both workers and the environment. Even in water-borne PU materials, however, sustainability

credentials can vary from one solution to the next, making it all the more important to choose responsibly.

Second, as the trend for customised printed shoes takes hold in the fashion footwear market, manufacturers are seeking coating technologies that enable a high-quality appearance and long-lasting performance. Current technologies often fall short on both counts, but ensuring durability and aesthetic appeal while also delivering the important sustainability improvements the planet needs is no easy task. Finding a solution can only be achieved by combining innovative material technology with cutting-edge coating technology. The needs of Team Sonnenwagen provided the perfect opportunity for two textile companies to do exactly that.

Driving sustainability

Team Sonnenwagen, a group of around 50 dedicated students from RWTH Aachen University and Aachen University of Applied Sciences in Germany, is on a mission to accelerate sustainable mobility by designing and building super-efficient solar-powered cars. The team recently took part in the Bridgestone

World Solar Challenge, a 3,000 km race through the Australian Outback, with the fourth generation of its Sonnenwagen: the Covestro Adelie, partially named after its long-term sponsor.

As a leading provider of premium polymers, Covestro believes that high performance plastics have a key role to play in future climate-neutral mobility. Its material solutions for Team Sonnenwagen's solar cars are just one way in which it supports the team's ambitions. When it came to developing 2023's branded footwear for these sustainability-minded students, the company's aim was to bring together fashionable design concepts with more sustainable PU coatings.

The textile coatings in question were Covestro's water-borne INSQIN family of PU resins, with a CO₂ footprint up to 45% lower than solvent-borne options. Not only had these materials already been used in Team Sonnenwagen's vehicles, but they had also been a key part of a previous sustainable footwear project which succeeded in increasing circularity and reducing CO₂ emissions in athletic footwear. Nevertheless, the company was determined to go even further, targeting an even more sustainable coating system for the team's sports shoes.

The perfect pair

As any good team knows, collaboration is a fundamental pillar of progress and innovation, which is why Covestro's first step was to find the right partner. That's where Huafeng, a textile technology company specialising in polyurethane printing for footwear came in. The two companies had cooperated successfully in the past and, once again, they made a good combination.

The German company contributed its partly bio-based Impranil CQ DLS/1 PU dispersion (part of the INSQIN range). Huafeng's added its new, fully water-borne Haptic Art textile coating system. 50% of the renewable content in the resulting coating came from the Impranil CQ solution. Improved sustainability was, however, not the only benefit of this coating collaboration.



Team Sonnenwagen with their current solar race car at Covestro's headquarters in Leverkusen, Germany. The team is wearing the sports shoes provided by Chinese textile-printing technology company Huafeng.

CREDIT: COVESTRO

Award-winning innovation

With its high solids content and thixotropic properties, the new system enables very high coating thicknesses to be achieved, making it ideal for producing striking 3D effects and detailed images on fabrics. These capabilities were put to good use by the selection of local artists with whom Huafeng worked to create some eye-catching painted designs for Team Sonnenwagen's shoes.

Importantly, the coated images are said to have proved more than a match for standard tests on flexibility, adhesion, resistance to hydrolysis, washing and abrasion, all crucial properties for sports footwear, especially products headed to the Outback. The Haptic Art ink system went on to win the ISPO Best Product Award in 2023.

Not only did the shoes provided by Huafeng use Covestro's more sustainable PU dispersion coating, the shoes themselves were also made from more sustainable materials. The shoe uppers consist of 100% recycled PET (rPET) yarns made from post-consumer waste plastic bottles by the recycling specialist Cyclone. Covestro says that

using rPET results in a significantly reduced environmental impact in addition to the benefits of the new Haptic Art coating system used to print the finishing touches.

High-fashion with a lower carbon footprint

With the close collaboration and materials expertise of these industry partners, Team Sonnenwagen's shoes are a perfect fit with its vision of a more sustainable mobility future. According to internal calculations, the partly bio-based Impranil CQ materials accounted for approximately 80g of the overall 260g fewer CO₂e emissions generated per pair, compared to shoes made from conventional waterborne PU and virgin PET.

By enabling shoes with a lower environmental impact and no compromise on performance or appearance, the new waterborne Haptic textile coating system developed by Huafeng using the INSQIN PU dispersions looks to be an innovative solution for a complex challenge. One small step for Team Sonnenwagen could turn out to be a giant leap for more sustainable footwear. ■



Weighing up the gains

German sportswear brand adidas grabbed the headlines it hoped for when Ethiopian long-distance runner Tigist Assefa smashed the women's marathon world record in Berlin in September wearing its latest elite product, the Adizero Adios Pro Evo 1. Coming in at 2:11:53 – two minutes faster than the previous record – Ms Assefa said running in them was an “incredible experience, like nothing I’ve felt before”.

Weighing just 138g, the road-racer is 40% lighter than any other racing ‘supershoe’ adidas has created. It is inspired by the same technology as the Adizero Adios Pro 3, but with tweaks to substantially reduce the weight. “The Adizero Adios Pro Evo 1 is our own ‘impossible is nothing’ story,” says Patrick Nava, vice-president of product, running and credibility sports at adidas. “We set ourselves the goal to create a racing shoe that is packed with the technology ambitious runners have come to love in the Adizero franchise, but at a weight we’ve never seen before at adidas. To do this, we explored every element of a racing shoe, balancing what we could remove or change to reduce the weight.”

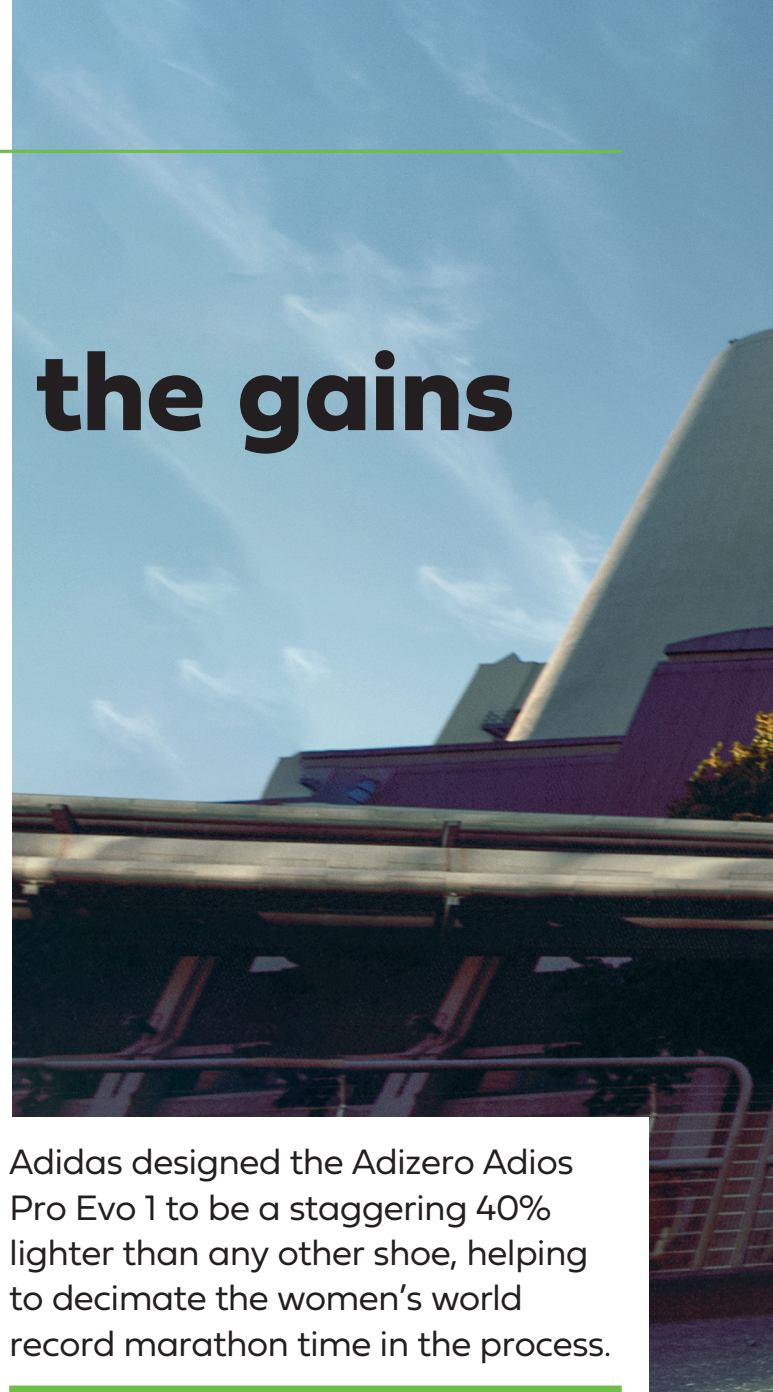
This shoe includes a new version of the Lightstrike Pro foam, which is made in a non-compression molding process (although more details on this have not been published), and the sockliner and carbon plate have been removed. A new feature is a forefoot rocker, placed at 60% of the length of the shoe, aiming to trigger “forward momentum”. The outsole is also new and there is a new lightweight mesh upper. The shoe, minimalist in design, features translucent and see-through materials, acting as a metaphor for its lightness.

Throughout the development process, insights were gathered from elite athletes during in-camp training and testing in Kenya and in the company's labs at the headquarters in Herzogenaurach, Germany. These included Olympic champion Peres Jepchirchir and two-time marathon winner Benson Kipruto, German national champion Amanal Petros and Tigist Assefa.

Elite testing

What the team came up with was an astounding advance in terms of weight. However, it does not come without some caveats. The first is price: retailing at £450, it is significantly more expensive than its predecessors. It is also double the price of Nike's pro running shoe range, the Alphafly, which averages around £275.

The second caveat is exclusivity: only 500 pairs were released in the first wave in September. Adidas is tailoring the shoe to experienced and professional runners, even stipulating the wearers should be running a marathon in less than 3 hours 30 minutes.



Adidas designed the Adizero Adios Pro Evo 1 to be a staggering 40% lighter than any other shoe, helping to decimate the women's world record marathon time in the process.

The third is durability. With a lot of the support stripped away to reduce weight, the shoes are only good for one race and a “familiarisation period”. This goes against the brand's claims of trying to reduce waste, as the shoes will effectively have to be thrown away. Its target of making 90% of its articles “sustainable” by 2025, where sustainable is defined as showing environmental benefits compared with standard materials, seems to have been overlooked.

There have been mixed reactions from the running community – mainly because of the caveats mentioned – but there have also been rave reviews from others who have run their best races. Kenya's Peres Jepchichir won her third world half-marathon title and Spain's Carlos Mayo broke the Spanish half marathon record. The New York marathon men's record was taken by Ethiopian Tamirat Tola, becoming the first to run it in under two hours five minutes. Although not breaking a record, fellow Ethiopian Sisay Lemma won the Valencia Marathon in December, and two others made the podium there in the men's and women's races.



Brand rivalry

A sign of its novelty, the Adizero Adios Pro Evo 1 featured in the US magazine *Time* list of best inventions for 2023. Also making an entrance was Nike, with its vented Aerogami jacket. The US rival's Vaporfly and Alphafly franchises have dominated the long-distance podiums in the past few years, but adidas has proved it is back in the race. Another drop of Adizero Adios Pro Evo 1 in December quickly sold out, with consumers needing to be part of a ballot via its app to be even in the running.

Part of the thinking for producing such limited quantities could be for fear of criticism for the short shelf life, or simply the desire to keep the exclusivity and headlines. The cost, which could discourage average runners, is unlikely to be a deterrent for professional athletes, who already spend money on coaches, travel and training. For this set, the possibility of shaving seconds or even minutes off their personal best would mean the financial and environmental costs are worth it – the only question is whether they are fast enough to secure a pair. ■

The Adizero Adios Pro Evo 1 has been pared down to the bare minimum components.

ALL CREDITS: ADIDAS





OrthoLite says its innovations are always focused on helping footwear brands improve comfort, performance and sustainability.

ALL CREDITS: ORTHOLITE



Answers in Almansa

With little fanfare, the result of covid-19, global insole supplier OrthoLite recently quadrupled its production capacity in the European Union (EU) by moving its operations there to a new facility in Almansa, in the Castilla-La Mancha region Spain.

OrthoLite was already making materials for the European market in Almansa, a footwear manufacturing town in the province of Albacete. But it has now completed a move from the 750 square-metre site it previously ran there to a new facility covering 3,000 square-metres, where it now employs 40 people. The company has said this will help it provide more, and more specialised, insole products to European partners.

"Our factory in Spain is a crucial European hub for our EU-based partners," says chief sales officer, CB Tuite. "As production demand continues to grow in Europe, we can maintain exceptional levels of customer service, making advances in our technologies and our responsiveness."

Comfort, performance, sustainability

The company says its innovations are always focused on helping footwear brands improve comfort, performance and sustainability. Beyond moulded and die-cut insoles, the factory in Almansa also offers heel-cups and wedges. Specialist products it makes also include OrthoLite O-Therm aerogel-infused open-cell foam insole technology that creates a thermal barrier

Footwear materials solutions innovator OrthoLite has completed an expansion project at its European production site in Almansa. It is tapping into the Spanish town's long footwear past, but is also helping secure the industry's future there.

underfoot, blocking cold and heat to deliver comfort in all weather conditions. According to OrthoLite, third-party testing has shown its O-Therm product to be more than 50% more effective than other thermal insoles at blocking cold.

In addition, the company makes its OrthoLite ESD Shield mechanically-bonded electrostatic discharge protection insole technology to deliver full heel-to-toe protection from electrostatic discharge. It presents this technology as being ideal for work and safety footwear. It uses patented proprietary technology called Fiber-Fusion, which uses conductive copper fibres mechanically bonded (without glue) to its X35 foam for a high level of comfort as well as performance.

“Our factory in Spain is a crucial European hub for our EU-based partners.”

CB TUIITE, ORTHOLITE

Foam technology developer OrthoLite meets the needs of footwear brands across Europe from its new production facility in Almansa.



An example of its work on sustainability perhaps comes from its HybridPlus-Recycled insoles, which contain 43% recycled PU foam and 7% recycled rubber, taking the total recycled content of the product to 50%. Also on offer are artisan leather insoles for high-end footwear brands, some of which are among its neighbours in the Spanish town.

Interesting neighbours

Sendra, one of the brands based there, is a very close neighbour; the two factories are on the same street. It is now 110 years since Andrés Serna returned to La Mancha after a trip to the US and decided to produce the cowboy boots he had seen and admired on his travels. Handmade, western-style boots are still the brand's signature product, but its range also includes Oxford and Derby style shoes and low-cut Chelsea boots, loafers, double-monks and desert-style boots.

Another high-end Almansa-based brand, Michel Shoes, is not quite as old, having been founded in 1925. It is a specialist in Goodyear-welted and Blake-stitched shoes for men.

Footwear heritage

Having its European base in Almansa gives OrthoLite the ability to tap into all these decades of footwear know-how and more. The company considers it is now part of a heritage that has already lasted all of 400 years. The town is old; the imposing castle that overlooks it today was built in the fourteenth century and is not the first such structure to stand there. There were certainly artisan footwear producers in Almansa before the nineteenth century, even if it is from that time that the first important details of its footwear history date. As in other shoe-producing places, the arrival of industrialisation brought an increase in employment, in revenues, in exports and, in parallel, in documentation.

The economy in this part of Spain was predominantly agrarian, but some small footwear producers acquired their neighbours' operations and gradually built up enough

capital to industrialise their operations. This coincided with the arrival in the 1850s of the railway (a benefit of being on important routes linking Valencia and Alicante to Madrid). By the end of the century, Almansa was home to four modern footwear manufacturing companies.

These firms invested in technology that, for the time, was highly advanced; records show imported products from the United Shoe Machinery Company first arriving in Almansa in 1907. This machinery developer only launched in the US in 1899. Machines helped producers in Almansa increase production from a documented total of 87,000 pairs in 1904 to well over one million pairs per year by the end of the first decade of the twentieth century.

Export markets began to open up to Almansa manufacturers in the decades that followed and, by 1928, there were 14 footwear factories operating in the town, collectively employing more than 1,500 people, around one-tenth of the total population at the time.

Tougher times followed in the 1950s, but even then Almansa made an important contribution to the development of the footwear industry when local people took their skills and experience to the footwear factories that were expanding production in Elda and Petrer, about 60 kilometres to the south.

Future-proof

An eighties revival saw the number of companies linked to Almansa's footwear industry increase to 225 and, although many of these operators were small, their combined workforce rose to 3,400 people. Economic crises and the arrival on the global footwear market of cheaper shoes from China, Vietnam, India, Bangladesh and Brazil have reduced this to a figure of around 60 companies with 2,200 employees.

This is still close to one-tenth of the town's population, but local politicians have spoken in the recent past about their desire to future-proof footwear jobs and skills. An important expansion project such as the one OrthoLite has now completed is a noteworthy contribution to this wider Almansa ambition. ■



Boots for the working woman

In 2023, the US government's Occupational Safety and Health Administration (OSHA) regulatory agency launched a new proposal. It wants to revise the current standard for personal protective equipment (PPE) to make it a requirement that products, including safety footwear, in use in the construction industry in the US "must fit properly".

Improperly fitting PPE may discourage employees from using the equipment in the workplace, might fail to provide adequate protection and even present additional hazards, OSHA says.

Existing rules mean employers have to make sure construction workers have suitable PPE. Even if employees come onto a construction site with their own equipment, it is the employer's responsibility to make sure that what their workers wear is suitable and in reliable condition. There are rules specifying that clothes, footwear and other PPE must fit properly in maritime work environments and in general industry, but this is not part of the regulation for the construction industry at the moment. It is for this reason that OSHA is requesting a revision of the standard.

Because it concerns footwear and affects women, this call for change quickly came to the attention of Emily Soloby, founder and chief executive of Juno Jones, the "by women for women" safety footwear company she launched in her home city, Philadelphia, in 2020. Such is her love of boots, Ms Soloby has devoted time to learning the craft of shoemaking during spells with artisans in Mexico and New York. However, before launching her own footwear company, she first worked as a legal aid lawyer representing women and children in court pro bono. Then, with her husband, Ryan, who is now the chief finance officer of Juno Jones, she ran a small truck and heavy equipment safety training firm for ten years.

A gap to fill

This work made her aware of how difficult it has been, typically, for women to be able to find safety footwear that functions well, looks good and fits properly. She decided to try to fill the gap and came up with her plan for Juno Jones. Her earlier experience in Mexico helped her build a strong relationship with a manufacturing partner in León, Guanajuato.

The company's first product was the Meti safety boot. Steel-toed and stylish, the boot is ASTM F-2413-18 certified for impact and compression. It is also electrical hazard certified, has a puncture-resistant midsole, non-

Safety footwear entrepreneur Emily Soloby is adding her voice to the call for employers to make sure shoes and boots for women fit properly.



Juno Jones founder and chief executive, Emily Soloby.

ALL CREDITS: JUNO JONES

slip lug tread, oil and gas resistant outsole, waterproofed leather upper (with the leather sourced from tanneries with a gold rating from the Leather Working Group) and water-resistant construction. Inside, the Meti has a removable memory foam insole with antimicrobial, anti-fatigue and arch support properties.

A recent version in a new colour called Cherry Bomb, to go with the Espresso, Medusa and Raven Black, has proved popular. This has been followed by the Serpentine, which has a longer shaft, eight inches compared to six inches for the Meti.

All Juno Jones boots are made on lasts that Emily Soloby describes as being anthropometrically correct for women's feet. This is a subject close to her heart as

“The ‘pink it and shrink it’ method of using smaller male lasts to create women’s shoes is no longer acceptable.”

EMILY SOLOBY





well as to her feet and it is for this reason she has added her voice to the OSHA campaign for change. "Studies show that women's feet are anthropometrically different from men's feet," she tells *World Footwear*. "The 'pink it and shrink it' method of using smaller male lasts to create women's shoes is no longer acceptable."

Positive reaction

She explains that it is not yet clear when the proposed change will come into effect but she is delighted by the "positive buzz" the 2023 announcement has created. A comment she made on this subject on LinkedIn, showing a simple graphic and the wording 'PPE must fit: one size does not fit all' generated 20,000 impressions. Previously, her most popular posts on the business social networking site were generating around 4,000. She says this was a reflection of an increase in discussion around this topic in the construction community following the OSHA announcement.

Last September, her efforts to bring about change, through Juno Jones, received even greater recognition when non-profit safety organisation the National Safety Council presented the brand with a 'best in show' award at the 2023 Safety Congress and Expo in New Orleans. "The fact that a small, woman-owned company, making safety boots for women's feet, was able to take home one of the top prizes shows that public opinion backs women's PPE, and that inclusion in the workplace is gaining momentum," Ms Soloby says.

The OSHA announcement makes it clear that adding a 'fits properly' provision to its PPE standard for general industry happened precisely because "standard-sized PPE does not fit all employees, particularly women". Specific to construction, it says that, because women make up a relatively small percentage of the construction workforce, many manufacturers of

The Philadelphia-based brand's Meti boots offer a puncture-resistant midsole as well as protection against impact, compression, electrical hazards, slippage and moisture.

protective equipment have been "reluctant to invest in research and development to produce correctly sized and proportioned products for women". Luckily for the women who do work in construction, Juno Jones has turned this reluctance on its head and enthusiastically embraced the challenge.

Niche market

In terms of market size, OSHA estimates that women made up 14% of the workforce in construction in the US in 2022. Its latest figures suggest this means there are just over 1 million women working in the sector. And even though not all employees need to wear protective footwear and clothing, its calculation is that at least 800,000 women do. Of course, there are plenty of other areas of industry in which women employees can also benefit from wearing Juno Jones boots.

"As a company, we are seeing more and more interest in safety footwear designed for women's feet," the brand's founder says, "and our distributor relationships are growing in number. We are seeing distributors as well as employers becoming more proactive about making sure they have the correct PPE to keep their female employees safe."

She adds that it is important that employees continue to ask for the proper PPE. It is equally important that companies' human resources departments and safety departments take steps to set up good vendor relationships with brands making women's PPE. She thinks small, specialist manufacturers of women's safety footwear should be part of this and can play an important role in improving things. ■



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A special version of Sebago's Classic Dan loafer, produced from traceable Scandinavian leather.

ALL CREDITS: SEBAGO



Loafers with radical transparency

Copenhagen-based footwear brand NN.07 has used traceable Scandinavian leather in a joint project with Sebago, a limited-edition, hand-sewn version of the US brand's Classic Dan loafer. In keeping with NN.07's brand name, the shoes went on sale at selected retailers on November 7.

The partners teamed up with supplier of semi-processed, traceable hides Spoor for the project. Spoor's systems provide documented traceability data for each hide, covering the journey from, in this case, the farms in Sweden that raised the cattle to the tanneries in Denmark and Germany that made semi-finished and then finished leather from the material. Both of the tanneries involved have gold-level certification from multi-stakeholder body the Leather Working Group.

Responsibly sourced

Sebago and NN.07 have called the resulting shoe collection "a radically transparent and uncompromising loafer [with] the ability to trace each piece of leather back to its origin". Head of special

Footwear brands Sebago and NN.07 have teamed up with Spoor to make a special, traceable version of the Classic Dan loafer.

projects at NN.07, Mikkel Hammershøj, says the brands' aim was to create a shoe that could serve "as a testament to the exceptional quality of traceable leather and bring attention to the technology behind responsibly sourced materials".

He adds: "Quality isn't just about durability and the tactile experience; it also extends to how the material is sourced and produced, about the responsible and ethical journey of how it is made."

Spoor's business development director, Birgitte Holgaard, explains that the Swedish provenance of the hides provided the two shoe companies with guarantees of high quality and high levels of animal

Sebago's partner for the project, Danish shoe brand NN.07, says the message they wanted to share with customers was about high levels of traceability and quality.



and environmental care. She adds that Spoor was “very pleased to be part of the very first loafers in the world made from traceable Scandi leather”.

Clear narrative

Production of the capsule collection took place in Mexico, at a factory that is an established component of the Sebago manufacturing set-up. This factory already produces the Classic Dan loafer for Sebago’s mainstream collections and, therefore, had all the necessary tooling in place for this initiative. For this special project, though, only 300 pairs of the shoes went on sale and, with the addition of just three extra pairs for promotional campaigns, this was the extent of the production run.

Asked if the traceability system makes it possible to determine the specific origin of the leather in each individual pair of loafers, Mikkel Hammershøj tells *World Footwear* that this was not the focus of the project. What the partners wanted, he explains, was to have a clear narrative about the traceability and the high quality of the leather, and to communicate a clear message about this for the whole capsule collection. To source leather for 303 pairs of loafers, 19 hides were enough. To be able to affirm that all 19 of those hides came from animals raised in Sweden on farms with high standards of care and welfare and were then carefully processed in high-quality tanneries was enough for Sebago and NN.07 to communicate the message they wanted to share.

“Quality isn’t just about durability and the tactile experience, it also extends to how the material is sourced and produced.”

MIKKEL HAMMERSHØJ, NN.07

Added value

Its work on this project has convinced NN.07 that traceability to the level of an individual pair of its shoes will be possible in future. All it would require would be what Mr Hammershøj calls some extra detail at the shoe factory. This would mean taking the data available from the Spoor traceability system that identifies each hide and putting the relevant information, in the form of a QR code, for example, into each shoe containing pieces of leather processed from each of the hides.

“We also need to figure out if a direct link from the shoe to a specific animal provides more added value for the customer than, say the documentation and communication we used this time,” the head of special projects says. He adds that this launch and NN.07’s work with Sebago and traceable Scandinavian leather, has fuelled the Danish brand’s motivation for working on other leather projects in future. ■



The project has employed around 50 people, putting money back into the charity and helping to support families.

ALL CREDITS: MADE IN MONGOLIA/ VIVOBAREFOOT

Mongolian makers gain global platform

For a mother to leave her child tied to a bed with a rope while she goes out to work demonstrates the sheer desperation poverty and hunger can cause. Tibetan Buddhist leader the Venerable Panchen Ötrul Rinpoche, hearing this child's cries in a Mongolian shanty town during a visit in 2001, was so horrified at the circumstances he set up the charity Asral to help these communities. In Mongolia, often the poorest households consist of females with their children; many cannot find work or afford clothes or food, making survival in sub-zero winters difficult.

Mongolia's economy collapsed after the fall of the Soviet Union in 1991, causing overwhelming levels of poverty. Combined with animal famines, thousands converged on the capital Ulaanbaatar and three decades later, almost a third of the population is living in poverty, according to the World Bank. Asral supports children with a hot meals programme, supplies books and funds education, buys medical supplies and provides aid. Part of this is the Made In Mongolia (MIM) project, a slipper-making business that trains workers

A slipper-making project creates much-needed income for families living below the poverty line. The scheme has been backed by Vivobarefoot and is part of its wider remit to support communities through indigenous shoemaking.

to produce comfortable traditional shoes using local wool, providing income, education and purpose.

MIM came to the attention of footwear brand Vivobarefoot, which has worked with indigenous communities for several years, first as a way of learning about biomechanics and foot health, but latterly investing in projects in Namibia, Canada and Norway. Launched in 2012 by Galahad and Asher Clark - cousins

“In collaboration with indigenous communities, we’re preserving the traditional craftsmanship while making modern interpretations of technical products.”

DULMA CLARK, VIVOBAREFOOT

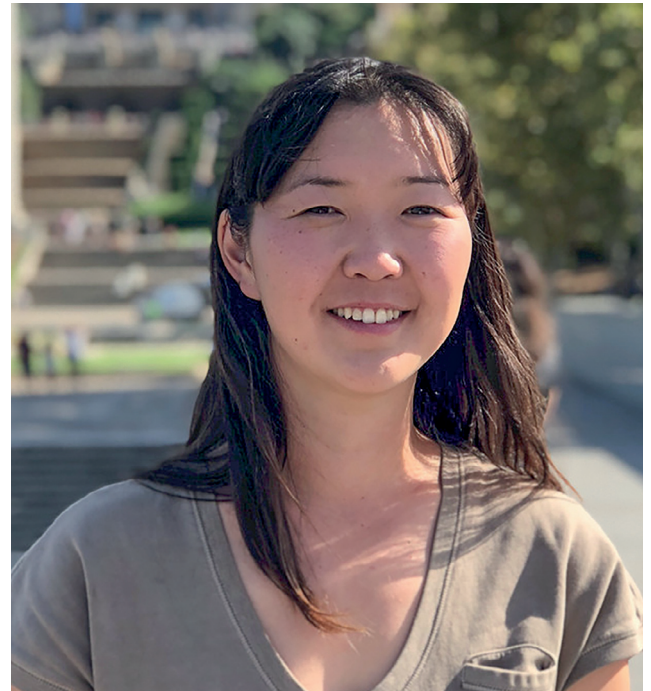
and members of the UK’s Clarks shoes family - Vivobarefoot’s philosophy is based on creating as close to a barefoot experience as possible, allowing the foot to flex naturally and feel in contact with the earth. Learning shoemaking from different cultures feeds into its own designs, knowledge and desire to help people work their way out of poverty.

Back to nature

“When we started, we had to learn about foot health and what it means to move naturally,” Dulma Clark, impact investment and storytelling lead at Vivobarefoot, tells *World Footwear*. “This led us to indigenous communities who still move that way and still make footwear in a traditional way, usually using local materials and natural dyes.”

The team travelled to the Kalahari Desert in Namibia to work with the San Bushmen, a “lifechanging trip”, but discovered the footwear-making skills were dying out as younger generations chose non-traditional work and wore donated Western trainers. Vivo set up workshops to help preserve the knowledge and pass the skills on, eventually producing sandals that had the consistency of quality to be sold through the brand. “It’s not the normal way of manufacturing with professional managers, it does take a lot of time to make sure products look and feel the same, quality-wise, and the sizing is correct,” says Ms Clark. “If we take the Namibia project, it started in 2016 and only now are we finally getting the cadence right.”

She used the experience in Namibia to launch Livebarefoot Fund, which finances innovation and advocacy, and expanded the research into other communities - to Northern Scandinavia, India and



As well as her work at Vivo, Dulma Clark serves as an Impact Investment Trustee at JA Clark Charitable Trust and holds several advisory roles in the development sector. She is a London School of Economics graduate in human rights, champion of Russia in archery and mother of two.

Canada. “In collaboration with indigenous communities, we’re preserving the traditional craftsmanship, at the same time we’re making modern interpretations, performance wise, of technical products that can sustain us in extreme environments – jungle, desert, Arctic tundra and forests. We’re also exploring remaking original bison boxing boots in America.”

Orphan support

Ms Clark was born in Siberia as part of the Buryat indigenous community. As a child, she wore similar wool slippers as outdoor shoes, as the climate there was cold but dry. A pre-pandemic visit to Ulaanbaatar to see the shoemaking workshops ignited the desire to add wool slippers to the range – albeit in a slightly Westernised design – and after an initial order of 2,000 pairs, Vivo has now ordered an extra 6,000. As well as supporting



The wool shapes around the foot and, with no insole and only a supple leather outsole for grip, the slippers convey a barefoot feeling.

the workers, schools and healthcare provisions, funds raised will support 100 children in three state-run orphanages; Vivo is forgoing profits so the money feeds back into Asral.

Dulma and the team will be heading back to Mongolia this summer to check on progress and learn more. The next idea is to boost these projects by setting up “mini expeditions”, inviting stakeholders and journalists, or perhaps the wider public, to visit the workshops and learn more about traditional footwear making. They are currently recruiting “knowledge holders” and potential expedition leaders in each of the communities they work with, who can educate on a wide range of local skills and traditions. “The idea is to connect all these locations not just from a craftsmanship perspective but offering 360-degree nature reconnection experiences.”

Dulma has ambitious plans to grow these areas of the business, with a strong focus on indigenous support. In 2022, Vivo set up a fundraising initiative with campaign group One Earth to support Rainbow Fiber Co-operative, a wool group that preserves Navajo methods; the Agroecology Fund, which is reviving indigenous farming practices in Ethiopia; and Amazon Frontlines and the Ceibo Alliance, supporting indigenous-led conservation in the Upper Amazon. It has invested in multiple partnerships, and also set up the Sole of Africa shoe manufacturing project, in partnership with tannery Pittards, in Ethiopia.

In 2022, Vivobarefoot sales increased 20% over 2021 to 750,000 pairs of shoes, bringing in revenues of around £50 million, demonstrating its social conscious and philosophies are striking a chord with consumers.

Next, Dulma wants to create a dedicated section on the Vivo website through which all the indigenous collections will be sold. It will become a space for consumers to learn about the projects, hear the stories of the workers and understand how the profits support families and nurture the skills. “I would like to increase the orders and make it more stable throughout the year, so we can support more people,” says Dulma. “That’s the idea.” ■



Customised, recycled and compostable

Looking to recreate the age-old principles of footwear being custom-made, another Vivo project that will launch commercially in 2024 is Vivobiome – a foot-scanning and 3D printing initiative that aims to tackle the vast amount of waste generated by the footwear industry by providing perfectly fitting shoes that can be sent back and replaced. The company is trialling the fit and function with 200 “pioneers” in the UK, who had their feet scanned in a London Vivo store using technology from Swedish company Volumental. Those scans are sent to the manufacturers in Ireland, with the outsole 3D printed and the upper knitted, in theory providing a customised and perfectly fitting product. “We are investing a lot of our human resources and finances into this project,” says Dulma Clark. “Essentially, it all goes back again to the way footwear used to be made: foot by foot, person by person, for your own body, for your own size, for your specific use.”

The company has studied 1.5 million foot scans over four years, trying to come up with the perfect way to size and create the shoes, working out a programme for automation. The footwear can be bought as a one-off – a working price point is £250 – or pay an annual subscription and the shoes will be replaced at intervals. In the future, customers could scan their feet with an app on their phone, and shoes will be made in the country they are ordered in. “The idea is to keep it circular, localised, self-sufficient – the materials, the warehouse, the manufacture. That’s the principle we’re trying to deliver.”

The company is also working with US-based textile-to-textile recycling company Circ, which has pioneered a way to break down polycotton blends into raw materials, as part of a take-back scheme. Vivo plans to incorporate Circ’s material into the upper of the Primus style, its best-selling design, by early 2025.

A third project, which will be announced this January, is a partnership to use a biobased material for 3D printing. Prototypes have been developed and shoes containing the compostable material should reach shelves by the end of the year. “The elephant in the room is all 3D printing filaments are plastic materials,” says Ms Clark. “We knew we needed to proactively look for some other options, which we have been doing for a few years, and this one is extremely promising.”

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Massaro-made boots designed in partnership with Mexican artist Claudio Nájera, inspired by Tecuán masks.

CREDIT: JEAN-ÉTIENNE PRACH, MASSARO

A personal touch

Le 19M officially opened its doors in January 2022. Use of the number 19 not only refers to Aubervilliers, the Parisian district to which the complex belongs, but also the birthday of Chanel's founder, Gabrielle "Coco" Chanel, born in western France on August 19, 1883. Ever an important house design code, the last flap bag designed under the firm's long-time creative chief Karl Lagerfeld was similarly christened the Chanel 19 in a nod to its birth year. Mr Lagerfeld had steered the company for 36 years by the time of his death on February 19, 2019. The handbag's proportions are deliberately evocative of the now-iconic Chanel 2.55 classic flap bag, so named after its February 1955 creation date by Coco Chanel herself. It was co-designed by the brand's current artistic director, Virginie Viard. Moving on, the "m" to Le 19M likewise symbolises métiers d'arts, mode and the artisanal hand or *main* behind the maisons that call the 25,500-square-metre space, led by Chanel's president of fashion, Bruno Pavlovsky, home.

Home to around 675 artisans highly skilled in their particular craft specialism or *métiers d'art*, Paris-based Le 19M is shining an even brighter light on handicrafts both local and global this autumn.

Common heritage

This year marked Le 19M's inaugural participation in European Heritage Days, held every September since the event first took place in France in 1984. Jointly overseen by the Council of Europe and the European Commission, the programme welcomes participation from members of all fifty European Cultural Convention signatory states. Embracing the continent's "living heritage" was this September's

“Massaro is committed to upholding the highest standards of craftsmanship and traditional techniques.”

JEAN-ÉTIENNE PRACH, MASSARO

theme. Working in close collaboration with resident bespoke bootmaker Massaro and couture embroidery and tweed-making atelier Lesage, both founded in Paris during the nineteenth century, Le 19M played host to several public-facing talks and workshops geared towards promoting the art of craftsmanship over its own Heritage Days weekend. Head of communications, Camille Hutin, who also leads on Galerie du 19M activities, shared with *World Footwear* how the multidisciplinary venue counted 5,000 visitors in total.

Massaro, the maison responsible for creating Chanel's two-tone sandal back in 1957, first put down roots in the French capital in 1894. The company's role in Le 19M's Heritage Days proceedings for this edition ranged from presenting the different steps involved in constructing a pair of shoes; displaying its beech and hornbeam wood-carved lasts, each of which can take up to six hours to sculpt; showcasing the different leathers and fabrics favoured by the atelier; and exhibiting historical Massaro silhouettes, including those made for Chanel, as a testament to its rich shoe-making heritage. The maison was happy to contribute its artisans' time and expertise, managing director Jean-Étienne Prach tells us, as part of its wider aims to educate the public and inspire future generations of bootmakers. "As the last women's bespoke shoemaker," he continues, "[we are] committed to upholding the highest standards of craftsmanship and traditional techniques."

Slow luxury

Typically, it takes a Massaro shoemaker, each of whom works from its Le 19M workshop, at least thirty hours to construct a pair of pumps, rising to almost fifty hours for men's shoes. Prices range from roughly \$5,800 (€5,500) for a pair of women's boots and at least \$7,600 or €7,200 for the male equivalent. The time commitment involved, post-consultation, is between one and three months from manufacture to delivery. All shoemaking takes place on-site at Le 19M and the team maintains five apprentices at any given time, Mr Prach explains. Its hiring strategies include looking to graduates of France's ancient craft guild Les Compagnons du Devoir when filling assembler positions and recruiting clickers from industry. When it comes to would-be apprentices, Massaro actively seeks candidates that possess "a passion for shoemaking and a willingness to learn". The company works with clients by appointment only, whether from Chanel's 19 rue Cambon boutique in Paris or at Le 19M itself.

Massaro's relationship with Chanel, owner of the maison via its Paraffection subsidiary since 2002, runs



Massaro's workshop is typically responsible for delivering training to five apprentices at any given time.

CREDIT: MARTIN BRUNO

deep. Accordingly, the house often sources its leathers from Chanel-owned tanneries, but it is always free to source independently. It is just usually more efficient to do so as a team, Mr Prach says. Internal tie-ups with Le 19M peers, such as couturier Paloma, Lesage, embroidery atelier Montex, goldsmith Goossens and feather and flower maker Lemarié, have additionally resulted in variously embroidered, feathered, and bejewelled Massaro footwear designs in the past. Massaro artisans notably made five pairs of bespoke shoes for Galerie du 19M's Carla Fernández: The Future is Handmade exhibition, which opened on the first day of Le 19M's European Heritage Days weekend in September.

Knowledge exchange

Mexico-born Ms Fernández's eponymous brand works with over 180 weavers, embroiderers, leatherworkers, wood carvers, lacquerers, textile artists and more from across her home country. Based in Mexico City, the ethically minded label prioritises the documentation and preservation of indigenous communities' textile know-how. With the Galerie du 19M show, the intention is to spotlight the creatives and local craft techniques Carla



Serafina Ruiz Arias, one of Carla Fernández's partner weavers, at work.
CREDIT: ANA HOP

Fernández has aligned itself with for a quarter of a century through artisan-led visual storytelling, accompanied by a series of hands-on workshops, talks and other learning opportunities. Mexican artists like mask painter Felipe Horta, paper-cutter and embroiderer Arisbeth González and lacquerware specialist Obdulia Almazán are all already on board as part of the complementary cultural programme, as are Parisian artist JR and Le 19M's Montex.

Ahead of its installation at Le 19M, the Florence Müller-curated show was first staged in Denver, before travelling to Mexico's capital. Presented anew in Paris on September 16, Mexican Independence Day, the exhibition in its current form features previously unseen works, as well as collaborative pieces produced alongside Massaro, Goossens and milliner Maison Michel, another Le 19M resident, over a period of several months. The Massaro-made boots on display were created with input from Mexican artist Claudio Nájera, who drew inspiration from folkloric Tecuán masks, according to Ms Fernández. On working with the bootmaker, she describes how the co-creation process "was much more design-oriented than with other houses", from in-person meetings in Paris to communicating via text messages as needed. "The process was extremely fluid and professional, since they had a clear idea of what to do next," the designer elaborates. Goossens, meanwhile, ultimately decided upon several milagritos, a kind of handicraft or charm, as she puts it, originally inspired by Catholic motifs. Maison Michel made a Charro baseball cap and tortilla-shaped hat "informed by Mexican visual icons", intended to establish a dialogue with the Carla Fernández clothing.

Paraphrasing the words of Mexican poet and diplomat Octavio Paz (1914-1998), Ms Fernández emphasises how the handmade can serve as a window into the communities, surroundings, and very "soul" of

each individual maker. This, in turn, creates a kind of heart-led connection with handicraft, she continues, calling the "implied labour of love and respect" her fundamental jumping-off point and central ethos behind what she hopes The Future is Handmade will convey to visitors about its ongoing, always deeply personal, relevance in contemporary culture. ■



Head of Galerie du 19M, Camille Hutin, explains that its curatorial team was keen to thread together the works on display in a manner that celebrates the ties between ancestral and contemporary craft techniques.

CREDIT: ELEA JEANNE SCHMITTER

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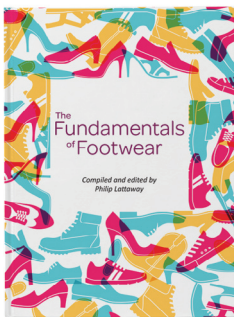


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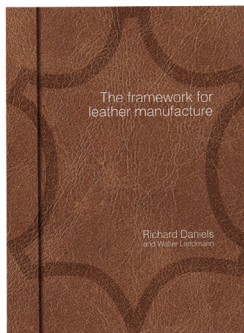
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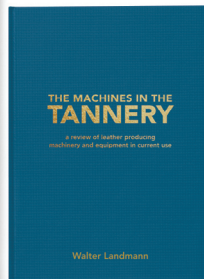
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