

WORLD FOOTWEAR

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THE MAGAZINE FOR THE GLOBAL SHOE INDUSTRY



UK brands enjoy a resurgence
Overhaul for safety shoes rules
Italians ready for China push
Fresh solutions to age-old problems

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Crockett & Jones brogue derby boots are manufactured at the same Northamptonshire factory the company has been based in since 1890.

Image: Crockett & Jones

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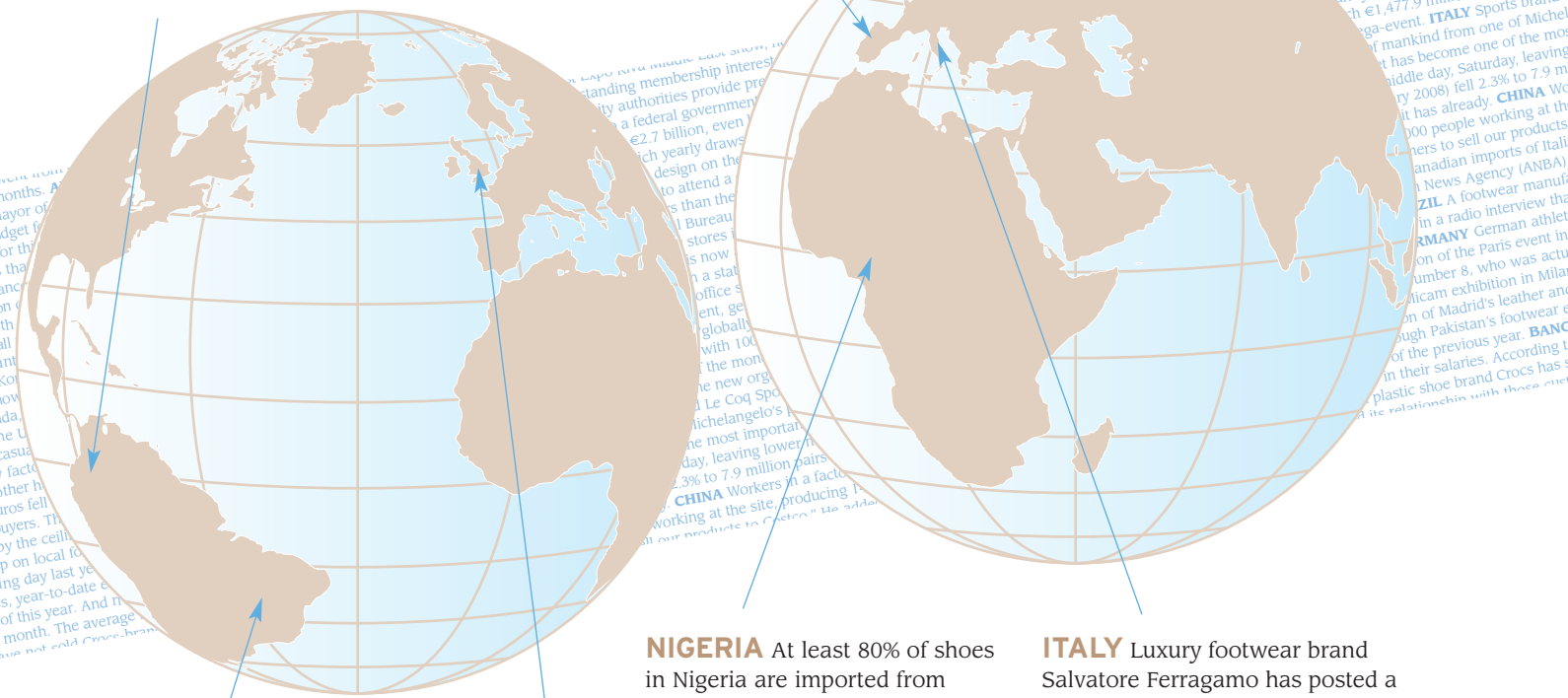
News

SPAIN Manufacturers in Elda, a footwear-producing town in the Spanish province of Alicante, have experienced a 20% growth in orders from high-end fashion brands in the last four year. Spanish Footwear Industry Federation president José Sanchis said big brands including, Prada, Gucci, Jimmy Choo and Louboutin, have been ordering more shoes from Elda. He said that the town currently produces 20 million pairs a year and that one million of these are high-end.

COLOMBIA Colombia's footwear, leather and leathergoods manufacturers can create 125,000 new jobs in the next 10 years and increase their share of manufacturing from 3.3% to 5.6%, according to a consultant advising the government in Bogotá on economic growth. Commerce minister Sergio Díaz-Granados said he believes footwear and leather can increase their output in Colombia by around 8% per year.

BELGIUM The European Commission has notified the World Trade Organization of a draft commission regulation amending REACH regarding chromium VI, which prohibits any leather articles that come into contact with skin which contain 3 or more mg/kg (0.0003%) of chromium VI. The proposed date of application is the first quarter of 2015. [Chromium VI compounds are toxic and can be formed in leather in the tanning process, the conditions that cause this to occur are well known and understood, and can be easily avoided the use of certain chemicals in the manufacturing process.]

BELARUS A leather and footwear holding company has been set up in Belarus to support the government's plan of relying less on footwear imports, which it hopes to reduce from 64% in 2012 to 31% by 2018. Upgrades at a newly established leatherworking and fur enterprise are in the pipeline, with a targeted output including 300,000 sheepskins per year. By 2019 the company is expected to produce at least five million pairs of shoes per year and create 1,000 jobs.



UK The authorities in Northampton have approved a plan for high-end footwear brand Church & Co to expand its manufacturing facilities there. The project will involve redeveloping a disused bus depot in the city and could create as many as 150 new jobs. The site is close to a new enterprise zone that Northampton is developing.

BRAZIL Brazilian footwear exports remained stable from January to July compared with the same period last year, according to the Brazilian Footwear Industry, Abicalçados. Revenues from international sales totalled \$628 million. The volume shipped rose 10.7% to 69.5 million pairs.

NIGERIA At least 80% of shoes in Nigeria are imported from China with only 10% made in the country, according to the director of the Department of Livestock and Disease Control, Dr Joseph Nyager, with the rest coming from Europe and Morocco. He said the country's finished leathergoods industry was underdeveloped but the ministry is embarking on initiatives to strengthen the leather commodity value chains.

ITALY Luxury footwear brand Salvatore Ferragamo has posted a 26% rise in operating profit and an 81% increase in net profit for the first half of the year, driven by sales in China. The company said its 11% rise in revenues to €625 million is "even more relevant considering that in the same period of 2012, revenues had already increased by 23%". Sales of footwear and leathergoods – which represent more than three quarters of sales – grew 11% and 15% respectively.

UNITED STATES The elimination of footwear duties will have no impact on employment in the US footwear industry, according to the Footwear Distributors and Retailers of America (FDRA). Since 99% of athletic footwear sold in the US is made overseas, it is taxed at "exorbitant" tariff rates that can reach as high as 67.5%. FDRA said eliminating these duties through a TPP would decrease costs and increase the ability to create new jobs. "This study strips away all the political claims surrounding athletic footwear in the TPP negotiations," said Matt Priest, president at the FDRA.

● Imports of footwear increased by \$1.2 billion (5%) to \$23.7 billion in 2012, while exports fell 1% to \$824 million, according to the US International Trade Commission. Imports supplied more than 95% of domestic demand in 2012 with China accounting for 72%. Exports to Canada, the largest export market accounting for 14%, increased 24% to \$116 million while those to Korea – the second largest market taking 12% – grew 7% to \$101 million.

HAITI Toms has made a five-year commitment to produce millions of Toms Giving Shoes in Haiti. The US company has given more than 10 million pairs of new shoes to children in need globally through its initiative that sees a pair donated for every one bought. It will create 100 new jobs and training in Haiti and provide services for employees, their families and the broader community across a range of areas such as education, health and childhood support.

INDIA Profits at Liberty Shoes, one of India's largest footwear companies, rose 20% in the first financial quarter (ending June 30) to \$420,000 as the company strives to expand across the country and internationally. Sales rose 36% to \$17.4 million at the company, which has opened 25 stores this year and which produces 50,000 shoes a day at six manufacturing bases.

● A report from India-based Transparency Market Research predicts the global footwear market will be worth more than \$200 billion a year in 2018. It gives the 2011 value as \$185 billion, which gives annual growth of 1.9%. Growth will be higher in Asia at 2.1% per year. By 2018, the athletic footwear market will be worth just under \$85 billion a year, growing at 1.8% per year over the period covered by the report. The predicted growth rate for children's shoes is 3.7% per year.

INDONESIA Footwear industry association Aprisindo has said its members have laid off a total of 44,000 workers this year. Increases in the minimum wage, along with higher energy bills, have pushed up production costs. Aprisindo said it would like wages to rise in line with inflation with employers able to add an additional 5% or 10% at their own discretion.

RUSSIA Russian demand for Italian shoes has surged this year as the average price of a pair of imported leather shoes passed the €80 mark. In the first half of 2013, 4.3 million pairs of Italian shoes were imported by Russia – 18% more than in the same period last year. Their value increased 14% to €320 million. Around 3.7 million pairs were made from leather – a 20% increase in volume and a 13% increase in value.

MEXICO An adviser to the Mexican footwear manufacturing industry, Alberto Lerin, has said shoemakers in the states of Jalisco and Guanajuato are preparing a formal request for the types of footwear they produce not to be included in the Trans-Pacific Partnership (TPP). It would mean they would have no free access to other TPP markets, but what interests them is that their TPP trading partners, particularly Vietnam, would have no free trade access to Mexico.

● The European Confederation of the Footwear Industry (CEC) has named the Mexican city of Leon as the venue for the fifth World Footwear Congress, following Brazil's Rio de Janeiro which hosted the conference in 2011. Around 600 participants – including footwear associations, manufacturers, suppliers, retailers, journalists and policymakers – are expected at the event at the end of November 2014.

Footprints

EUROPEANS LEND SUPPORT TO UITIC'S FOOTWEAR CONGRESS

Jean-Pierre Renaudin, the recently elected chairman of the European Confederation of the Footwear Industry (CEC) and chairman of the French Footwear Federation, will be attending the 18th International Union of Shoe Industry Technicians (UITIC) congress, which is being held from November 13 to 16 in Guangzhou, China.

The theme is 'social responsibility: a challenge for the footwear industry' and its aim will be to demonstrate that social responsibility can be a source of innovation and opportunity for the footwear industry.

"The participation of CEC is only natural considering the programme. European footwear companies have long understood the significance of corporate social responsibility (CSR), which will be the central focus of this major event," said Mr Renaudin. "To my knowledge, this is the first time that such an international event will address these issues for our industries. And the fact that China is the host is a strong signal that the whole global industry of footwear and more broadly of fashion needs to hear it."

China is the world's leading producer of footwear, with 10.5 billion pairs of a total of 18.4 billion produced in 2011.

The UITIC Congress is being organised by China Leather Industry Association. Nearly 400 participants are expected to attend to hear presentations by 30 international footwear and CSR experts.

TALL ORDER FOR NEW MERRELL BOSS

Wolverine Worldwide has appointed a former Under Armour executive as president of the Merrell brand.

Gene McCarthy has more than 30 years of experience in the sportswear and outdoor wear markets, and has held positions including senior vice-president of footwear at Under Armour and Reebok, co-president at Timberland and a variety of leadership roles at Nike.

"Gene McCarthy is a visionary leader with a passion for brands and



CREDIT: ANGLIA RUSKIN UNIVERSITY

HI-TEC FOUNDER GIVEN HONORARY DOCTORATE

Founder and chairman of sports footwear brand Hi-Tec Sports, Frank Van Wezel, has been awarded an honorary doctorate in business administration by Anglia Ruskin University.

Mr Van Wezel was given the award for his dedication, passion and commitment to the UK and global sports industry during a graduation ceremony at the university's Chelmsford campus.

Born in Vlissingen in the Netherlands, he set up Hi-Tec Sports in Essex in 1974, primarily as a company that produced squash shoes. Based in Southend-on-Sea, it now has approximately 400 employees and generates global sales of more than \$250 million each year.

Mr Van Wezel has been a long-term director of Southend United FC and is a member of the fundraising organisation for the university he attended, the Nyenrode Business University.

Professor Michael Thorne, Anglia Ruskin's vice-chancellor, said: "Frank Van Wezel has shown tremendous talent and dedication to grow Hi-Tec Sports into one of the world's most successful sports shoe companies in less than 40 years.

"His determination and vision make him a wonderful inspiration to the students from Anglia Ruskin's Lord Ashcroft International Business School, who have graduated alongside him."

consumers," said Blake Krueger, CEO of Wolverine Worldwide. "Merrell has been and continues to be a leader in the outdoor space and a jewel within the Wolverine portfolio – I am thrilled to have Gene join the Merrell team as it continues its drive to be the first billion-dollar-brand in our company's history."

Mr McCarthy added: "I have long admired Merrell's strong growth and broad global appeal. I am excited to join this talented team to pursue the significant opportunities that lie ahead as we capitalise on the brand's compelling point of view and remarkable products."

STUART WEITZMAN APPOINTS CEO

US footwear brand Stuart Weitzman has appointed Wayne Kulkin, former vice-chairman, as CEO to lead a major store expansion over the next three years.

The company says it is expecting considerable wholesale and e-commerce growth, licensing opportunities and brand extensions,

including handbags and accessories.

"Wayne has been a true partner over the last 23 years. His passion, creativity and business acumen have been essential in driving our growth across diverse channels, and I am confident that Wayne will be equally instrumental in his new role as CEO," said the company's chairman, Stuart Weitzman.

As part of the company's expansion, Roberta Lee has joined in the newly created role of vice-president of marketing for Asia-Pacific. She most recently worked as head of fashion marketing for Chanel, with responsibility for the strategic business planning and marketing for Hong Kong and Macau.

Stuart Weitzman has 100 freestanding stores, three e-commerce sites and 80 countries of distribution.

DECKERS EYES OUTDOOR MARKET WITH TEVA HIRE

Deckers Outdoor Corporation has appointed a former Reebok and Umbro executive to help grow its Teva brand from its sandal heritage into a more

outdoor footwear-focused company.

Jeffrey Bua replaces Joel Heath as president at the 25-year old company, and will report to chairman Angel Martinez.

Prior to joining Deckers in 2011 as Mozo brand president, Mr Bua worked for footwear companies including RG Barry Corporation, Hi-Tec Sports, Umbro and Reebok.

During his nine-year tenure with Reebok he helped achieve number one positions in tennis, basketball and fitness, according to Deckers.

Mr Martinez said: "Jeff has demonstrated the ability to take brands to the next level during his 30-plus year career in the footwear industry. Over the past several years we've made good progress repositioning the Teva brand to attract a younger, more active consumer.

"Jeff's broad range of experience will be incredibly valuable as we look to leverage the brand's sandal heritage to create new growth vehicles within the outdoor space."

PLIMSOLLS ARE BETTER THAN TRAINERS, SAY SCIENTISTS

Old-fashioned plimsoll shoes are better for children's feet than modern trainers, according to scientists, because they teach them to run in a more natural manner on the front part of the foot.

Dr Mick Wilkinson, a sports scientist at Northumbria University, told an audience at the British Science Festival in Newcastle: "If I was to advise someone on what to give their child I would say don't go and buy them expensive big-cushioned jobs, just get them a pair of flexible, flat shoes. There is a lot of evidence that the human foot is structured to cope with the forces of running by landing on the mid-foot," he said.

Once children become accustomed to running in trainers they find it difficult to learn to run more naturally, he added.

CROCS POACHES WALMART EXEC

Crocs has appointed a former Walmart executive as general manager of the Americas, the clog brand's largest region.

Greg Sullivan will be responsible for

managing the area's day-to-day operations, including overseeing sales, marketing, finance and human resources functions, as well as the wholesale, internet and direct-to-consumer channels.

"Greg's deep retail and operations experience, combined with his proven track record of driving sustained, profitable growth, make him the ideal candidate to lead our Americas team," said John McCarvel, CEO of Crocs.

Prior to joining Crocs, Sullivan spent 20 years at Walmart, most recently as senior vice-president of the southeast division, where he oversaw 345 stores and 110,000 staff.

"Crocs is a strong brand with loyal consumers and exciting growth

potential," said Mr Sullivan. "I look forward to helping the brand continue to expand its already extensive footprint in the Americas, while providing consumers with comfortable, colourful, fun and innovative footwear." 

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FOOTWEAR
INDUSTRY NEWS**



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Products & Services

DESMA TAKES AUTOMATION FURTHER WITH UPPER PROCESSING TECHNOLOGY

Footwear machinery and technology provider Desma has extended its automation concept beyond direct soling by developing upper processing cell and upper processing line solutions.

"Each year between 18 and 20 billion pairs of shoes are produced worldwide; 90% of these are still manufactured using a high level of manual labour," Desma said on announcing the new development. "The sole is glued to the upper by hand, which is a time-consuming process."

The German company believes footwear producers around the world are searching for alternative solutions to manual work because "only through a high level of automation are manufacturers able to consistently deliver high-quality shoes". In addition, the company points out that labour costs in Asia, and in China in particular, are growing "exponentially" year by year.

Desma's automation solutions for the cementing process go under the brand name Amir, for automated material flow with integrated robots, and AmirC refers specifically to cementing. Within this, a sole processing cell has been on the market for some time. The upper processing cell and upper processing line add to this.

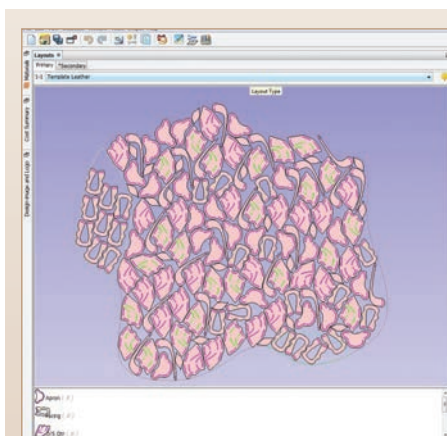
The upper processing cell consists of a handling robot, which delivers the soles, with the upper attached, to the various work process steps. It can be operated as an individual unit, or as part of a larger production line.

INVISTA CREATES RECYCLED POLYOLS FOR SOLES

Polymers and fibre producer Invista has developed a new polyol offering, containing 50% recycled content, after two years of research and development.

Due to their low viscosity as a liquid at room temperature, the Invista Terrin family of polyols can minimise or eliminate the need to add solvents, which may lower the volatile organic compound content of certain formulations.

Specialty materials president Bob



DELCAM CRISPIN LAUNCHES NEW VERSION OF SHOECOST SOFTWARE

Delcam Crispin has launched a new version of its ShoeCost software for the prediction and management of the cost of footwear manufacture.

The 2014 version offers a more intuitive interface and integrates more closely with Delcam CAD/CAM packages to streamline

the design and manufacturing process, giving manufacturers better control over costs and profitability.

Costs can be included for cut pattern pieces and components, as well as for labour and overheads. This makes it easy for footwear professionals to stay within their target cost and to produce accurate costing reports quickly, states the company.

Francois said: "As a company committed to growth and sustainability, we are excited about the growth of this versatile polyol series."

The company plans to carry out additional commercial trials at its Wilmington site and eventually at another site in Texas.

Polyether polyols are widely used in the manufacture of synthetic fibres and elastomeric shoe soles.

LUBRIZOL OFFERS NEW FOOTWEAR COATINGS

Specialty chemicals company Lubrizol showcased its latest footwear coatings at the US-based Northwest Apparel and Footwear Materials Show, which included Estane, Pearlbond, Isoplast, Pearlthane and Pearlthane ECO.

"Our innovation springs from working closely with our customers to understand their needs, which in turn allows us to develop engineered polymer solutions for them. At this year's show we are paying special attention to our pioneering bio-based, microcellular foam, hot melt adhesive and breathable film technologies," said Gert-Jan Nijhuis, global sports and recreation business leader at the US group.

Lubrizol employs 7,000 in 17 countries, and had \$6.1 billion in revenues in 2012.

HUNTSMAN EXPANDS FOOTWEAR MATERIALS CAPACITY IN BELGIUM

Footwear industry-focused materials manufacturer Huntsman Polyurethanes has invested in a new polyurethane injection moulding machine, the very latest model in the RGE 4000 series from DESMA, for its European research and development centre in Belgium.

Huntsman Polyurethanes is a leading producer of materials for the footwear industry, including TPUs, TPU compounds, and polyether- and polyester-based technologies.

The company said it believed the new technology would enhance its material development capabilities. Used in conjunction with existing assets, the four-station roundtable and thermoplastic polyurethanes (TPU) casting and injection unit has enabled it to intensify its footwear-specific product development programme, it explained.

Replicating "real world manufacturing conditions in-house", the purchase has boosted the number of samples that the company can create for manufacturers that want to test soling materials prior to full-scale production.

Alfons Tremml, commercial manager for footwear at Huntsman Polyurethanes, said: "Having a brand new injection moulding machine at our

disposal in Europe, where the market is picking up again, gives us additional capacity, exactly where we and our customers need it."

NIKE DEBUTS COLOUR-CHANGING FOOTWEAR MATERIAL

US sportswear group Nike has launched an iridescent customisation option for its KD VI basketball shoes in a new material that changes colour in varying lights.

Chroma is available in seven colours for the upper with 16 accent colours on the logos, laces, lining, midsole and outsole. Glow-in-the-dark materials will be available on the laces, airbag, midsole, outsole and personalisation options.

Chroma was two years in development and was inspired by the iridescent paint used on cars. It will be available on Nike Basketball signature shoes.

AMERICAN & EFIRD CELEBRATES SUCCESS IN SUSTAINABILITY

Technical textiles and thread manufacturer American & Efird has

published its sustainability report for 2012-2013. The report highlights successes in the company's efforts to take responsible corporate actions, implement environmentally responsible practices and make meaningful contributions to the communities in which it operates.

At the time of the report's publication, vice-president for the environment, sustainability and health and safety, John Eapen, said: "We remain especially proud of our zero liquid discharge plant in Perundari, India, the first in the thread industry, and of our 50% recycle-reuse facility in Dongguan, China. The water conserved by our facilities in India and China is equivalent to the daily water usage of nearly seven million people in these countries."

Analysis A&E carried out in compiling the report included a detailed study to measure its global carbon footprint, water conservation, energy consumption, recycling and waste reduction. This work is ongoing and since 2006 it has achieved a 20% reduction in greenhouse gas emissions, and a 20% improvement in water

conservation. In addition, it has saved 95 million kilowatt hours of electricity, equivalent to the amount 20,000 families in Europe would use in a year.

Other successes have come in a "zero waste to landfill" initiative, with the company reaching 100% in Sri Lanka and 98% in the US.

LANXESS SUBSIDIARY TO BOOST SOLING MATERIAL PRODUCTION

Bond-Laminates, a subsidiary of specialty chemicals company Lanxess, is to expand production capacity for its Tepex lightweight plastics, which are used for the soles of football boots.

The company's Brilon site in Germany will be enlarged by 1,300m², or approximately 75%, by summer 2014.

"Lanxess' outstanding ties to different industries and markets have given us access to new segments," says Jochen Bauder, co-managing director of Bond-Laminates. "With this expansion we can meet the demand of our customers for innovative, lightweight materials even better and cater even more effectively to their needs." 



Genuine Rawhide Lace™
"Not an accessory or an afterthought, but rather a value-added component to the shoe design."
 - Lisa Howlett, President

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Backtrack

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 those you have missed.

25.10.13

Full programme for UITIC footwear congress announced

Dr Martens sold for £300m

24.10.13

Hotter doubles turnover in four years

Changes afoot at adidas

23.10.13

Sales rise again at Vans and Timberland

Vietnam's shoe and leathers goods exports jump in September

Germans still favour Italian footwear

Leather body celebrates as EC accepts pilot scheme

22.10.13

NBA player to wear Anta Sports gear

Permira emerges as Dr Martens suitor

21.10.13

Taiwanese initiative promotes coffee-based yarn

18.10.13

TPP could challenge Vietnam's footwear industry

Sales rise again at Berlutti owner LVMH

17.10.13

Louboutin wins case against Flemish far right

Symposium to share findings of footwear research project

16.10.13

Healthy rise for Bangladeshi footwear exports in July

14.10.13

APLF footwear winners announced

Nike 'designed to win', claims CEO

11.10.13

€500,000 of leather stolen from Belgian tannery

10.10.13

Steve Madden supports DSW's rapid expansion

UK: Online sales drive September's footwear figures

Athletic footwear and apparel event to launch in Annecy

08.10.13

Success for Indian leather exporters at US footwear fair

07.10.13

WRAP to support Indonesian AAFA conference

03.10.13

G-III to buy GH Bass from PVH

NEW PU-MATERIAL FROM ALSA

Developed for formsoles on polyurethane basis

SUMMERLIGHT

WINTERGRIP



SUMMERLIGHT

- Very low density of 0.35-0.40 g/cm³ possible
- Sole weight can be reduced by approximately 25%
- Good hydrolysis resistance
- Best fatigue bending characteristics
- Good damping characteristics and wearing comfort
- No restrictions in the design compared to other PU soles
- Surfaces can be well finished as required

WINTERGRIP

- Good anti-slip properties and very good cold flexibility
- Good hydrolysis resistance and fatigue bending characteristics
- Density of the soles lighter than rubber or TR with 0.65-0.70 g/cm³
- Very good abrasion characteristics
- Highly suitable for winter boots
- No additional pre-treatment necessary through halogenation compared to rubber or TR



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UK-based footwear production has declined over recent decades but traditional, Goodyear-welted men's brands have bucked the trend and are reporting increased orders and growing overseas demand.

History in the making



Cheaney shoes are still cut out and 'closed' in Desborough, Northamptonshire, as they have been since 1886.

CREDIT: CHEANEY SHOES LIMITED



"When people come into the factory it leads to increased orders because they see all the hand work that goes into the shoes," says Loake's Mark Hadden.

CREDIT: LOAKE

It's vital to have sturdy footwear when you're chasing terrorists through the streets of Istanbul, Shanghai and London. When you're James Bond, one slip could risk global security. Lucky then for Daniel Craig in 2012's *Skyfall* that he was shod by Crockett & Jones, the historic British shoemaker that has been based in the UK's footwear manufacturing hub, Northamptonshire, since 1879. Like a number of its peers, the family owned company is bucking the trend of declining UK manufacture and witnessing growth and a surge in popularity.

The footwear manufacturing industry continues to be a substantial part of the UK economy, with £6 billion of shoes sold annually in the UK, plus exports in excess of £500 million, according to the British Footwear Association (BFA). "UK manufacturing is focused around Northampton men's footwear – which is definitely not in decline," says Jonathan Saunders, sales and marketing manager for the BFA. "This sector shows good year-on-year growth with strong and increasing international demand for quality men's footwear."

The majority of these companies specialise in the sturdy, Goodyear-welted variety that takes weeks to construct, with about 200 processes and countless man hours going into each pair. "It's a very different look to the Italian shoes; the Italians have a huge market but the Made in England look is particularly strong at the moment," says Jonathan Church of the Church's footwear dynasty, who now co-owns Joseph Cheaney & Sons with his cousin.

While many of the companies that were established in the area in the late 1800s fell victim to the decline of the traditional footwear industry in the UK, there are still a good number going strong: Crockett & Jones, Loake, Grenson, Tricker's and John Lobb among them. Originally established due to the proximity to raw material, know-how and tanneries, the central England location is well connected to London and these firms built their businesses serving a growing base of quintessential English gentlemen or hardworking blue-collar workers.

Being faithful to tradition is their hallmark, but they also need to stay fresh to appeal to new generations. This might be in terms of embracing new business models, adopting marketing strategies that speak to different kinds of customer or conveying their message through different media.

Some brands achieve this through collaborations: John Lobb with designer Paul Smith, Tricker's with retailer End Hunting Co and Jeffery West with Norton Motorcycles to name a few. In September, Loake launched a collection with retailer Topshop and through this, for the first time, women's shoes. Was this a strategic move to target a new audience? Not necessarily, says international sales manager Mark Hadden. "Over the years we've had one or two collaborations but we're moving away from that now. We're so busy with supplying Loake shoes to our customers that if anybody asks us for different labels we're reluctant, because if you can't supply retailers with your own brand, then it doesn't make a lot of sense."

Evolving strategy

Loake is headquartered in the Northamptonshire town of Kettering, where a staff of 130 turn out around 4,000 pairs per week and where the company has been based since 1894. Business is more than healthy, and a new focus on retail is paying off, with a number of own-brand stores or specialist Loake departments springing up in the past year, including in London, Prague, Seoul, Japan and Chile.

"It's taken about 100 years to decide retail's a good option!" says Mr Hadden. "In terms of growth, rather than having a dissipated brand look – having a few shoes in several shops – if we have the Loake story represented, then the consumers can see it and they react well to it."

Exports have trebled in five years and now 40% of production finds its way to 65 countries, with particular interest coming from Asia. "The essential thing for Loake is that we are a mass-produced Goodyear-welted brand, we're not a bespoke shoemaker, we are volume based."

On top of the 4,000 pairs a week from Kettering, the company produces another 2,000 from Portugal and India. The sheer volume means there are cost savings realised by outsourcing. "You can't make all constructions in the same factory, it's not practical. We need a whole wardrobe of shoes because certain shops rely on us for nearly all their men's requirements. We need to have a wide spread of product," adds Mr Hadden.

Concerning reports last year that Loake was sourcing new suppliers in the Mexican footwear-producing city of Leon, he says, "We're always looking at options, including Mexico and anywhere else, but there would have to be a significant benefit to do that. At the moment we're very happy with the production we have – it's reliable, we're getting shoes on time, which is what it's about. If you go to a new source it's fraught with risk: if you don't deliver for a season you really are putting the business in jeopardy so we wouldn't do that without a lot of consideration."

He is also quick to point out that the design and quality is always monitored from Kettering. "Suppliers have to conform to our standards, otherwise we wouldn't fulfil the brand promise."

As well as being designed in-house, all the leather is checked in the UK before going to the factories abroad. Like other footwear manufacturers, the rocketing cost of the raw material in the past year has meant prices have had to rise to compensate. "We'll pay for the increase rather than downgrade the materials – we'd much rather buy the proper leather and explain to our retailers that they have to pay us more, rather than offer them an inferior product with cheaper leather; we don't think that's the way forward." Being able to buy large quantities of leather also gives the company bargaining power.

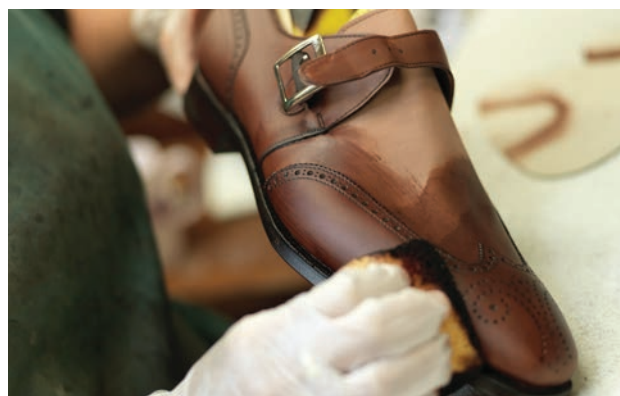
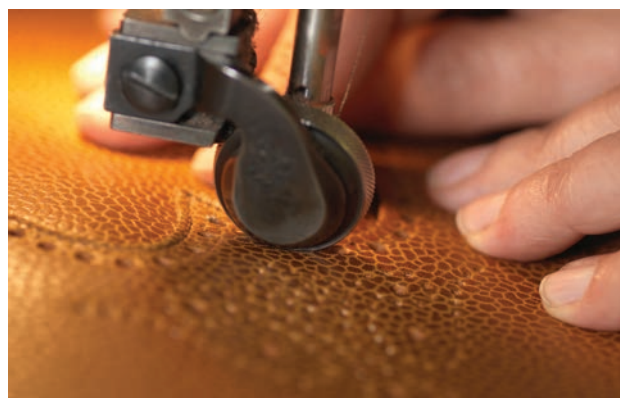
The volume gives it another advantage: more than 100,000 pairs are housed in a warehouse in Kettering, which means retailers don't have to commit to huge quantities of stock. "People do appreciate that, particularly in the UK, they can sell a shoe on a Saturday and it can be back in the shop by Tuesday. It obviously takes a bit longer than that abroad but the service level is one of our main selling points."

Another selling point, and one which Asian and US customers in particular appreciate, is the Royal Warrant. Issued to the company in 2007, it means the footmen at Buckingham Palace wear Loake and offers a perceived guarantee of quality. The warrant is in managing director Andrew Loake's name and comes with its own set of regulations surrounding its usage. "It's an interesting addition to Loake that other people don't have so it gives us a bit of an edge," suggests Mr Hadden.

Andrew Loake is the fourth generation of the Loake family to have worked in the company, following in the footsteps of his forefathers. "It's great to have a boss with the same name as the brand, not many companies can say that, it's quite an advantage," says Mr Hadden. "When I introduce him to Japanese or Russians, they think 'This is a passionate company, it has had the same ownership since 1880', and it's a nice situation to be in."

Export strength

Another company in that situation is Crockett & Jones: the fourth generation, Jonathan Jones, is now at the helm, joined by his brother Nicholas as production director. Jonathan's daughter Philippa joined in 2006 and son-in-law James Fox



Crockett & Jones staff spend years perfecting the craftsmanship: stitching, soling and polishing, with the Hand Grade collection taking 12 weeks to make.

CREDIT: CROCKETT & JONES

looks after marketing. C&J is more export-focused than some of its peers – 70% of production goes overseas, "which is fantastic, it's great news that the UK's manufacturing industry is still growing", says Mr Fox. The company also operates 11 retail shops including in London, Paris, New York and Brussels.

Unusually for a large company, all the designs are done by Jonathan Jones, who oversees product development. While styles don't change radically from year to year, the company does offer a made-to-order service for its wholesalers, who then build their own 'core classics'. "Customers will change the interlacing colour, or they'll have a contrast stitch, so they'll specify the shoe to their own quirks," explains Mr Fox. "They'll want to build a range that's different from the department store over the road, which works quite well for us, too."

Retail customers are also offered a bespoke option, where they can specify the pattern, the last and all the details, although it does disrupt production. "We charge a premium for

it because ideally we don't really need to offer it, it's just nice to offer customers."

Like many of the other brands, longevity of the work force is key, as the skills take years to perfect. Fifty of the 250 staff have been with the company for more than 35 years. "We've invested more time and money into getting the next generation into the factory. The younger guys are no longer doing the more menial jobs, they're now being trained up to do things like toe lasting and sole stitching. We know that they're the future of the company," says Mr Fox.

Rather than working to official apprenticeship qualifications, which are no longer applicable for shoemaking, C&J operates a buddy scheme, where young workers will pair up with someone experienced for up to two years. "Our toe laster, after a year of training, is now toe lasting himself and doing a fantastic job."

The company produces around 3,000 pairs per month, with each pair taking between eight and 12 weeks to make. However, with the factory based in the town centre with no room to expand, it is in the unusual situation of being unable to grow. It has already taken over the previously empty top floor of the building and expanded into the factory shop. Despite this, Mr Fox says the company is against moving locations. "We feel that you can tell in the actual shoe that it has been made in the type of factory we have. You can tell it's not a clinical process, it's part of the essence of the shoe and a lot feedback we get supports that."

Reaching out

The essence of the shoe is something Cheaney also wants to promote, particularly to its exports markets. In 2009, Jonathan and William Church conducted a management buyout of the company from Church & Co, also the parent group of Church's shoes, which had recently been purchased by Prada. "We've grown the company by going to trade shows Micam and Pitti, travelling, promoting the brand and working with people like the UK Trade & Investment department," says Jonathan Church. "It's very important to get out to the market; you can't expect it to always come to you."

In 2009, exports accounted for about 10% of revenue – now it's 35%.

Again, it is the history that resonates with consumers. Based in the Northamptonshire town of Desborough, Cheaney was established in the late 1800s by Joseph Cheaney who was later joined by his sons. The company flourished making shoes for the war effort during the early part of the 20th Century, turning out 2,500 pairs per week. By the second half of the century it was manufacturing for major department stores in the US and UK but it was not until the early 1970s that the decision was taken to make shoes under its own name.

Growth overseas has been supplemented by ecommerce – the online site launched two years ago and has made a "big difference" – as well as retail. Cheaney now operates three standalone stores in the City of London, and is on the look-out for new locations. However, "We don't want to upset wholesale so we need to be adding something new [with a new store] – you don't want to take away from your offering," explains Mr Church.

The company employs 130 people in Desborough, and it takes between six and

eight weeks to produce each pair, with 1,700 completed each week. Mr Church says one of the obstacles to growth could be price resistance, but "people looking for welts understand the pricing structure".

"Leather has gone up a lot and it is affecting next year's prices, but it's not as though we're on our own. At the same time, in the Far East labour rates have been going up so people who have been using very cheap labour are now having to increase their prices too."

The company stays fresh by introducing new styles and designs, and has recently collaborated with retailer All Saints, menswear brand Barbour and fashion brand Superdry. "We're always adding new things. Our customers expect classic, which we do, and they also expect a little bit on the edge, which we do. Even though we might have a quite high-fashion shoe, it is still weltsed and constructed on a classic last, so it has a twist but is still made in the same way as everything else."

They must be doing something right: staff numbers have grown 30% and turnover has doubled in four years. These numbers earned Cheaney the title of Men's Footwear Brand of 2013 at a recent awards ceremony organised by fashion publisher Drapers.

Valued heritage

The three companies agree that taking part in trade events such as the twice-yearly Micam, held in Milan, as well as Florence-based menswear show Pitti Uomo, are vital. The BFA's Saunders says attendance is "massively important" as the retail scene gets concentrated into fewer, bigger multiple businesses at home. "British manufacture and design is appreciated overseas," he says. "At Micam in September, Northampton men's brands were reporting expectations that business would be up 20% year on year – and last year was a record year, Micam alone booked more than £2 million, so things are looking good for this year too."

The kudos that comes with longevity, the experience gained over decades of refining processes and the unique qualities that come from creating by hand are qualities that customers do not tire of. There appears to be no danger of these brands being relegated to the annals of history – indeed, a new chapter has just begun. 



Cheaney's Beaulieu 'bronze', featuring oak bark stitched in channel leather soles and handpainted fiddle waists.

CREDIT: CHEANEY SHOES LIMITED

Italian companies hope their China strategy will significantly boost sales

CREDIT: MICAM



Chasing spoils from the East

The Italians are making a concerted push into China, with the launch of footwear show Micam Shanghai in April, followed by a second edition in mid-October. As a market for Italian footwear exports, it is by no means the largest – between January and May 2013 it was ranked 12th in terms of value, standing at €70 million from a total €3.3 billion, and fairly small when compared with Italy's largest market for exports by value, France, which took €531 million. It was even lower down the rankings in volume terms.

However, China is all about potential. With a rapidly expanding population estimated at 1.35 billion in 2012, and an increasing amount of disposable income, the country's need for shoes is unmatched. Research firm Euromonitor says footwear sales will grow at an annual rate of more than 7.5% from 2013 to 2017.

"We have decided to focus on China as a market for growth," says Cleto Sangripanti, president of the Italian footwear manufacturers association, Assocalzaturifici. "It represents a real business opportunity for today and the future."

Taking China and Hong Kong together, the average price of an Italian shoe in 2013 reached €106.80 (import value, not

Italian footwear companies, under the guidance of manufacturers' association Assocalzaturifici, are making a concerted effort to crack China. But as one of the most complex markets, a multitude of barriers stand in their way.

retail), an increase of 10% compared with 2012 and an indication of demand for high-end leather shoes. It is this sector the Italians wish to focus on.

Step change

At Micam in Milan in September, the award for best international buyer went to a Chinese buyer for the first time. William Wong runs Italian Fashion Gallery in Chengdu, stocking high-end Italian shoes and which has grown to four stores in the city since it opened in 2010. It is planning to open outlets in Shanghai, Beijing, Shenzhen and Shenyang in 2014.

The award going to a Chinese buyer is a "a major break from tradition", says Mr Sangripanti, "particularly if we consider the ideological stance we've had against China in the past."

He is referring to Italy's anti-dumping campaign; it has rigorously fought against Asia's cheap imports over the past few years. Anti-dumping duties on shoes with leather uppers from China and Vietnam were in place in the European Union between 2006 and March 2011. "This brought about some results but also slowed investment from China [to Italy] and vice versa. But now the mistrust that existed has changed towards a growing interest. We're now open to competition and there is clear evidence that there's an open-minded approach to China."

Micam Shanghai's organisers – including Fiera Milano and Hannover Milano Fairs Shanghai – are keen to stress that it is not an Italian footwear event, it merely follows an Italian format. "We have established talks with associations from Spain, Portugal, France, Brazil, Turkey, Japan and the UK, because without their support, nothing would be possible," explains Mr Sangripanti.

Two-thirds of the 260 exhibitors in Shanghai in October were Italian with the rest coming from elsewhere in Europe and footwear-producing countries such as Brazil. The British Footwear Association had 10 companies represented for the first time; FICE, Apiccaps and Abicalçados represented the Spanish, Portuguese and Brazilian footwear industries, and there was also a French contingent. In terms of buyers, 92% were Chinese and 8% from elsewhere in Asia, including Thailand, South Korea, Singapore and Japan. The April edition attracted 5,880 visitors from 14 countries and the October event was thought to have welcomed a similar number.

During the summer, a marketing campaign was launched, including a road show that stopped in Beijing, Shanghai, Chengdu and Hong Kong, supported by ICE, the Italian trade promotion agency. VIP buyer dinners and evenings were organised, with the aim of promoting the exclusivity of Italian products, on the back of the kudos the April edition gained from being an official partner of Shanghai Fashion Week.

"We are very pleased with the outcome of the second edition in terms of quality of the buyers, the internationality of the exhibitors and the level of the outfitting," said Mr Sangripanti after the event.

Hurdles

Despite these inroads, there are several reasons why China will be a tough nut to crack – not least because the market is so vast and operates in a different way.

"The distance is an obstacle," admits Mr Sangripanti. "China is far away and for SMEs (small- to medium-sized enterprises), when the entrepreneur is often doing everything in the company, staying away for seven or eight days can be too much; it's a time consuming experience."

"The second difficulty is size. China is huge and requires big investment. We cannot start off with a multibrand approach, you need to invest in the retail segment, in communications, and for 80% of Italian companies there's a need to have a local partner to do so."

There are different forms of cooperation between foreign brands and Chinese operators: agency and distribution agreements (regional or national), the opening of standalone stores or more complex joint venture agreements.



Chinese buyers at the October edition of Micam Shanghai

CREDIT: MICAM

"Partners and investors are able to advise on new strategies because we need to tackle the market in a different way to Russia or Europe," says Mr Sangripanti. "However, identifying the right partner takes a good deal of patience and the right instruments."

He sees the multibrand strategy as a route in. "We strongly believe that the multibrand industry will develop significantly in the next few years and Micam Shanghai is going to present a major showcase for SMEs."

The third barrier is culture and taste. China has its own rules for style, range size and shoe shape, and this constrains collections.

How will European companies get over these hurdles? Continued promotion and education, says Sangripanti. "Information is key. For Chinese buyers and investors it is not easy to grasp what a small company located in the Marche region is doing and it's also not easy to understand how imports work. That's why we organise seminars to explain how to buy and how to import. The role played by the Italian Trade Commission in Shanghai is critical to help buyers find the most appropriate solutions."

Another reason behind the new China push is the decline in demand for Italian shoes from Europe, where seven out of 10 pairs are sold. In the first five months of the year, exports declined 0.3% in value and 1.2% in volume, hard hit by the recession, which has led to a change in spending habits. In the domestic market, sales fell 7.2% in the first quarter and volumes declined 0.3% in the first five months with discounted sales accounting for 55% of sales in volume and 53% in value.

Comparatively, China's €70 million in the first five months was a 30% rise on the same five months last year and the 700,000 pairs was 26% more in terms of volume. This follows large increases in preceding years: in 2012, 1.4 billion pairs worth €145 million were imported; in 2011 it was 1.3 billion worth €108 million and in 2010, 790 million worth €57 million.

The market has vast potential for those companies that can devise a successful strategy, but it is no easy task, concludes Mr Sangripanti. "That is why we're inviting companies to go to China not only with their products but also with ideas." 



Choosing the right shoe

SERGIO DULIO

When consumers enter a shoe shop, they are faced with three dilemmas. The first is choice—which model really satisfies their tastes, aesthetic needs, matches a particular outfit or simply responds to their desire to look elegant and in some way feel unique? This is perhaps the most difficult of the choices because the product offering is so vast and fast changing with seasons and fashion trends. The buyer can be overwhelmed by the richness of the choice and the large number of different models, including variations of the same theme, that are on show. Yet this is undoubtedly the first and most important step of the purchase process

as it relates directly to the original reason for buying: the necessity or irresistible temptation that drove them to the shop initially.

Then immediately comes the second major dilemma, that of size. It sounds like a simple question. We are all supposed to know what our foot size is as buying shoes ought to be a normal activity for most consumers. Statistics say that, depending on the country involved, the average number of yearly purchases can range from 2.5 to 5 or more pairs per year. This implies that on average, consumers are supposed to go through this experience at least two or three times a year. It is in fact probably more, considering all the visits paid to shoe shops that do not

result in actual purchases.

All this would therefore lead us to think that choosing the right size should be a straightforward exercise. Facts contradict that however. To begin with foot length or size is not necessarily the same as shoe length or size. Depending on the shoe involved, as in say a very pointed cowboy boot or a highly fashionable high heeled ladies court shoe, the actual shoe length—and hence size—can be very different from that of the foot.

In addition to that, we have the size 'Babel'. As in the mythical tower in which thousands different languages were spoken and no one could understand what anyone else was saying, in the shoe world there is no

unique, reliable way to correlate the dimensions of the foot with those of the corresponding shoes. French or European versus UK sizes, to name just the two most common, have numbering systems that sound and look different. Furthermore, many shoe manufacturers seldom have the same notions of 'size'. To make things even more complicated, actual 'fit' can vary between different shoes marked with the same size. This is frequently found in ladies fashion shoes where a 'slimmer' last is often used in order to produce a more elegant looking shoe.

It comes as little surprise therefore that our poor consumer must perform a delicate trial and error exercise, trying on different shoes of different sizes until the right one is found. This is fine provided they can go to an actual shoe shop. It is not the case if, for instance, the shoes are bought through the Internet. When this happens, is the size of the shoes which are eventually chosen of any importance at all? The answer is for most of the time negative, due to the fact that while a particular size of a given style will fit a customer today, the same size in a similar style purchased next year or next season

may very well not. The 'right' size is therefore not fixed but is a dynamic and ever changing notion.

A QUESTION OF COMFORT

This brings us to the third, profound dilemma. We would all like our new pair of shoes to have the desired style and beautiful appearance that made us choose them in the first place and, at the same time, be able to wear them comfortably so that even after hours of standing or walking our feet do not ache and we feel no pain. This dilemma is therefore one of comfort in that it deals with the consideration that even in the happy event that we know what the right size is, that specific style in the colour we want may not be available either in the shop or the manufacturer's inventory. We then have to accept a compromise by giving up either on the aesthetic side of the deal by buying the right size but of a different style to our preferred choice or on the comfort side by buying the one we really like but at the risk of some discomfort. The customer's dilemma is therefore which style of shoe to choose that satisfies taste and in which size in order to wear them comfortably.

Modern technology can help solve these dilemmas. It would, however, require a revision of traditional purchasing processes and a profound rethinking of the manufacturing model that has been used so far. What is needed is to go back to basics, i.e. to knowledge of the feet and, in particular, their most relevant dimensions. If a technology existed that would allow us to precisely and rapidly measure consumers' feet, we would have a very valuable set of data that could be used to compare the typical dimensions of the foot with the inner volumes of the various shoes on sale until a satisfactory match was found. The answer to this lies in foot scanners and last/shoe/foot matching algorithms.

POTENTIAL OF FOOT SCANNERS

Foot scanners of various kinds have been around for quite a long time and their technology has certainly improved in recent years. Laser scanners and photogrammetric devices can now capture the 3D geometry of the foot both rapidly and extremely accurately to provide a complete measurement of all its relevant dimensions and



The iFootGauge App enables an iPhone to be used for foot scans. CREDIT: MINDSKATE LIMITED

sections. Moreover, their prices have also been reduced substantially from the early models to less than US\$16,000 for the latest ones. Although this has certainly improved the situation by making the investment needed to procure one of these digital versions of the old Brannock device much more affordable, the cost is still not low enough to encourage widespread use of these machines in a high enough number of shoe shops.

Furthermore, the scanner is only one part of the solution. Once the 3D model of the foot is available, its relevant dimensions must be compared with similar ones of all the different models of shoes on sale, produced by different manufacturers in a multitude of different countries. So multi-model, powerful and versatile matching software engines are needed that can compare any foot with the inner volume of any shoe to suggest the perfect match. This would provide the ultimate solution to the size dilemma. It would no longer be a guess and try-on process but one involving precise foot measurement, a vast database of shoe inner shapes (something similar but not identical to the last on which the shoe was built) and powerful matching software applications to guide the customer in the selection process and suggest the perfect match.

Although some interesting ideas have appeared recently, a real solution, both technical and organisational, has still not been found. At the end of 2012, Swiss company UTD launched its RightShoes service primarily aimed at online purchasers. This allows them to go to any one of an unfortunately still limited number of already operational scanning points to perform a foot scan and obtain a personal ID that can later be used to enable the online service to compare their foot data with that of the vendor whose shoes the client wants to buy and is already stored in the RightShoes database. The service then suggests the best size in which the shoes should be ordered.

More recently, the HUMANIC footwear chain launched a similar service called AVATAR that works in more or less the same way. The foot scan taken in the shop is used to suggest the best size the customer should buy when they return for a new purchase or alternatively order online.

These are both interesting developments that highlight an encouraging technological trend. We are nevertheless still a long way from seeing a widespread use of this improved method of selling shoes. To achieve this, two major technological drawbacks need to be eliminated.

ELIMINATING DRAWBACKS

First, in order for this approach to show its full potential it should be extremely easy and involve no cost or additional effort for the customer, to find scanning points to go to for a measurement of their feet and attribution of the scan ID. Even with the relatively low costs of the current generation of foot scanners this is not easy. Their cost possibly needs to be reduced to a half or a third of present prices in order to trigger the kind of large scale usage that would become necessary for such a service. In addition, modern and innovative business formulae should also be sought to induce shop owners to place such machines in their businesses.

What might well really kick-start such a service would be the availability of a new breakthrough technology that transforms a commodity such as the smart phones that millions of consumers all over the world carry in their pockets or bags, into low cost, ubiquitous foot scanners. The first prototypes are in fact already available and can be tested. While this might sound like science fiction, there are at present at least two or three serious research groups actively working on it.

The second problem to be resolved is how to obtain the information from the shoe side, i.e. the inner volume to be compared with the customer's foot data. Working from the lasts might seem easier but would also involve manufacturers, who normally guard their last data jealously from competitors, making it available to a third party or shop to feed to the matching engine. If lasts are not available, the only other choice is to work directly on the shoes themselves by measuring their inner shape with appropriate devices such as the system developed for this purpose by UCS a Slovenian company.

Unfortunately, this piece of technology is neither cheap nor easy to use and its adoption has been limited to

companies with large budgets such as HUMANIC. Despite these apparent stumbling blocks, technological developments are nevertheless proceeding and it is more than likely that in a relatively short time we will witness some major steps forward.

RESOLVING THE COMFORT QUESTION

That would just leave us with finding a way to improve the third and most important dilemma: comfort. This would mean that, after we made our perfect size choice, we could rely on the fact that the shoe we want is certainly available in the model, colour and size required. Some large retail chains and major brands such as GEOX are already offering customers advanced services such as store locators. If a given model in the required size and colour is not available in a specific shop, the virtual, networked shop inventory can be requested to locate the closest location in which it can be found. This certainly improves the chances of completing a sale and reduces the risk of losing the customer.

If the shoe is not available anywhere, there is not much that can be done unless the whole manufacturing chain was flexible and reactive enough to receive the specific customer unit order and then produce and deliver it to the shop in say two to three days. This is the typical time an increasing number of internet buyers are prepared to wait before receiving a product. In other words, it is producing shoes on demand. It would present an enormous challenge that would involve gathering a large number of different orders, entering them immediately into production and producing them at no additional cost to the customer.

It is also a challenge that would have a number of massive benefits. There would be less waste as only what is ordered is actually produced, lower inventories, smaller shops as less retail space would be required and there would be reduced sale risks.

Such positive benefits would have the potential to completely transform the manufacturing/retail model, something that the modern and flexible manufacturing technologies now available would make worthy of serious investigation. 🌀

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Safety footwear developments

SIMON COURTNEY, SATRA TECHNOLOGY CENTRE

Well engineered safety footwear offers protection from a variety of dangers in a range of working environments. As awareness of the importance of using safety footwear grows, countries that previously had no standards are now adopting published standards as a means of demonstrating that footwear used within their borders offers the necessary level of protection from hazards such as accidental impacts and crushing. These standards contain comprehensive laboratory testing and

performance requirements. Recently, changes were made to a number of safety footwear standards.

INTERNATIONAL STANDARDS

Currently, there is no single safety footwear standard accepted across the world. Three main series of standards exist which, between them, are accepted by a majority of countries. The EN ISO 20344 series of standards produced by the Comité Européen de Normalisation/International Organisation for Standardisation

(CEN/ISO) are probably the most widely accepted. These harmonised standards are recognised by the European Commission as possessing the presumption of conformity to the Personal Protective Equipment (PPE) 89/686/EEC Directive and are the most commonly used method of demonstrating a product's compliance with this directive.

These standards have either been wholly adopted or used by countries as a basis from which to develop their own standards. Australia and New Zealand are examples of the latter. The

AS/NZS 2210 series are almost entirely based upon EN ISO but with a number of small additions detailed in the ZZ annex to the standard. These additional tests include breaking strength for threads, rot-resistance for threads containing natural fibres and requirements for print legibility of labelling.

Countries adopting EN ISO but, being outside the jurisdiction of the European Commission, may be able to demonstrate that their footwear meets the same standards as those supplied within the EU. They would not however be able to obtain a CE mark which forms a part of the certification process against the PPE Directive. Other countries may have their own certification process, such as Australia's and New Zealand's five tick or 'tick tower' which is awarded by SAI Global on demonstration that a product meets all the necessary standards.

America and Canada have their own standards. The American Society for Testing and Materials (ASTM) and Canadian Standards Association (CSA) have both produced safety footwear standards which, while not quite the same, do share similarities. These standards take a less comprehensive approach than EN ISO which contains assessments of key safety features as well as performance requirements for the complete shoe and its components.

ASTM and CSA standards focus only on key safety features such as requirements for the effectiveness provided by toe caps, penetration-resistant inserts and metatarsal protection. The tests described in the three standards check similar properties although the actual test method, equipment and requirements differ. Hence, it is not possible to make a simple direct comparison between EN ISO and ASTM/CSA standards for the same tests. South and Central America often look to ASTM for influence for their standards and ASTM standards may appear in countries from these regions.

LATEST EN ISO STANDARDS

Recent work by (CEN/ISO) working groups has resulted in the publication of the latest versions of three industrial footwear standards as part of a planned five-yearly review process.

They are:

BS EN ISO 20344:2011

Personal protective equipment (footwear test methods).

BS EN ISO 20345:2011

Personal protective equipment (safety footwear).

BS EN ISO 20345:2012

Personal protective equipment (occupational footwear).

These replace previous versions published in 2004. EN ISO 20344 contains details of relevant test methods for assessing footwear which are either contained within the document or by reference to further published standards. EN ISO 20345 contains performance requirements for safety footwear with a protective cap capable of withstanding impacts of up to 200J (joule) and compressions of up to 15kN (kilo newtons). EN ISO 20347 contains requirements for occupational footwear which does not incorporate a protective toe cap, but does have other protective features.

The latest version of a fourth standard, EN ISO 20346:2004 Personal protective equipment (protective footwear) is in the process of being finalised and is expected to be published in 2014. This contains performance requirements for footwear with a protective toe cap capable of withstanding impacts of up to 100J and compressions up to 10kN.

The standards cover two classes of footwear: Class I (footwear made from leather and other materials) and Class II (all-rubber or all-polymeric footwear). All three contain a core of mandatory tests plus additional optional testing. This allows manufacturers to make further performance claims by using marking categories which demonstrate that products meet the requirements associated with these selected additional properties. Footwear meeting only the mandatory requirements is labelled 'SB' for safety footwear, 'PB' for protective footwear and 'OB' for occupational footwear.

For ease of marking, the most widely used combinations of basic and additional requirements have been put together in group categories. Individual codes also exist and are often used in conjunction with these. For example, footwear labelled as code 'SB P'

indicates the item meets the mandatory requirements and provides penetration resistance in addition. Optional coding also includes anti-static footwear, water resistance and footwear containing ankle protection.

The changes to these standards from the 2004 versions are mainly editorial in nature or provide additional clarification to existing procedures. However, there are a number of changes to test methods and requirements. The most significant concerns non-metallic nail-penetration-resistant inserts, which will be discussed later. The 2011 version also has a higher-level requirement for abrasion resistance for counter linings.

FIREFIGHTERS' FOOTWEAR

A further standard, BS EN 15090:2012 Footwear for firefighters, has also been published and now replaces the previous 2006 version. This test method is applicable to firefighters' footwear and contains performance requirements for flammability-related properties and design requirements. For all other properties, the standard refers to the 2011 version of EN ISO 20345.

The 2006 version contained requirements for three different tests for electrical properties and footwear needed to comply with one of these options—electrically insulating footwear, antistatic footwear and high electrical-resistant outsoles. The 2012 version only contains requirements for electrically insulating footwear and antistatic footwear, those for high electrical resistant outsoles having been removed.

IMPLICATIONS OF THE CHANGES

On 1st July 2013, the presumption of conformity with the Personal Protective Equipment (PPE) 89/686/EEC Directive transferred to the latest versions of these standards. This means that footwear covered by EC Type-examination certificates to the superseded version of EN ISO 20345 can only continue to be placed on the European market if the certificate has been reviewed.

A Notified Body must check, with reference to the new version of the standard, whether or not the footwear can still be considered to comply with the health and safety requirements of the PPE Directive. This may or may not



Impact resistance test on a steel toecap.

CREDIT: SATRA

IMPACT AND COMPRESSION RESISTANCE TESTING

All toe cap protection works on the 'defended space' principle, where the cap provides a shell in which the toes are protected from damage. It is a requirement of EN ISO 20345 and 20346 that toe caps also meet the requirements for their dimensions and corrosion resistance contained within EN 12568 Foot and leg protectors (requirements and test methods for toe caps and penetration-resistant inserts).

Although toe caps may be tested alone, it is important that the whole shoe is assessed as the effectiveness of a cap will greatly depend on satisfactory positioning and the degree of support provided by the sole. Protective toe caps require sufficient support and poor soling materials, pattern design and/or shoemaking can greatly reduce the effectiveness of even the strongest cap.

EN ISO, ASTM and CSA standards all contain methods and requirements for impact resistance of footwear incorporating toe cap protection which may be produced from either metallic or non-metallic materials. The principle of these tests is the same, with a toe section test sample of the complete shoe being assessed for its resistance to impact by a falling mass. EN ISO and the ASTM standards contain test methods to assess the compression resistance of footwear containing toe caps against accidental compression damage; the CSA standard does not. In this instance, a section of the shoe comprising the whole toe region is cut away just behind the cap and compressed between two flat horizontal plates until a pre-set load is reached.

SLIP RESISTANCE

Slip resistance is a complex property involving many factors. Well-designed footwear can however help to reduce the risk of slipping accidents and injury. On a clean and dry surface, a tread pattern is not always necessary. A contaminated surface where, for example, lubricants are present calls for an effective tread pattern that will sweep any liquid aside in the same way that the tread pattern on a car tyre acts, to return the sole to almost dry conditions. The elements of good tread pattern design include soft flexible

involve further product testing. Following this review the certificate must either be updated or withdrawn as appropriate.

For holders of the EC Type-examination certificates, only products reviewed against the 2011 standard should be placed on the market after this date. Any products certified to the previous standards, however, can continue to be sold if they are already further down the supply chain at this time and have left the possession of the certificate holder.

AMERICAN AND CANADIAN STANDARDS

The ASTM standards, which have also seen recent new publications in 2011, comprise two parts, again separating the test methods from the performance requirements. These are ASTM F2412-11 Standard test methods for foot protection and F2413-11 Standard specification for performance for protection (safety) toe cap footwear.

The previous 2005 versions included requirements for footwear containing toe caps. There were two levels of protection, referred to as 'Class 50' and 'Class 75' and covering both men's and

women's footwear. Class 75 footwear contained a toe cap intended to withstand impacts of 75ft-lbf (101.7J) and compressive forces of at least 2,500lbf (11.1kN). Class 50 footwear contained a toe cap which was intended to withstand impacts of 50ft-lbf (67.8N) and compressive forces of at least 1,750lbf (7.7kN).

ASTM standards usually refer to all test requirements and properties in imperial units. They also contain slightly different requirements for men's and women's footwear and are based on US size 9D for the former and US size 8B for the latter. These two levels of protection are broadly similar to the safety and protective EN ISO standards referred to earlier. In the 2011 version, the lower Class 50 footwear option is removed and the standard now only covers Class 75 footwear.

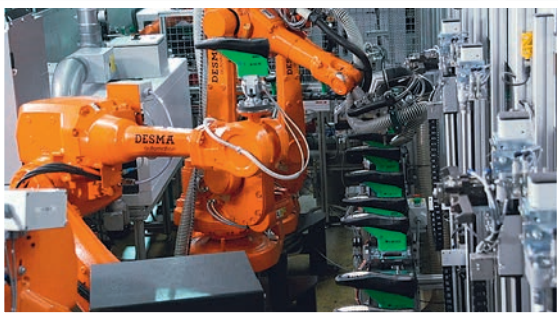
Canadian standard CSA Z195:09, contains test methods and performance requirements in a single document. It again contains requirements for two levels of protection for impact resistance. Footwear with protective caps meeting grade 1 should withstand impacts of up to 125J and that meeting grade 2, up to 90J.

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constructions which maximise floor contact and smooth flat wearing surfaces and leading edges on the tread in all directions.

Both EN ISO and CSA standards use slip resistance test methods contained within the EN ISO 13287 standard. In this test, the whole shoe is assessed against sections of test surfaces wetted with an appropriate lubricant. The CSA standard also contains a dry test. The test mimics the first contact with the flooring and a speed of movement is chosen to represent the early stages of the interaction between it and the footwear under test. If the friction is high, slip is unlikely to occur, the opposite if friction is low. The footwear may be tested with the sole in flat contact or with the heel angled at 7° to the test surface.

The EN ISO standard contains a choice of test surfaces and lubricants, which allows the use of different coding on the final footwear that passes these tests. The lubricants and surfaces used simulate possible working conditions the footwear is likely to encounter during normal use. The sodium lauryl sulphate used is a mild detergent solution and simulates a freshly cleaned floor with a degree of slippery soap solution remaining on the flooring. Glycerol is used to simulate an oily contaminant.

The CSA standard has provision for test surfaces and slipping agents other than the primary test conditions, with clay quarry tiles and stainless steel surfaces being used under dry and wet conditions in order to meet user demands. Other slipping agents suggested include oils, greases and detergents.

ASTM standards do not include a slip resistance test. However, following the publication of ASTM F2913-11 Test method for measuring the coefficient of friction for evaluation of slip performance of footwear and test surfaces/flooring using a whole shoe tester, slip resistance testing is available to manufacturers. This test is derived from SATRA's TM144 slip resistance tests and differs from the EN ISO requirements in a number of ways, in that, for example, the mode of testing is carried out with forepart contact rather than flat contact.

EN ISO standards contain performance requirements for each test

condition. By contrast, the Canadian standard only requires that the test data be supplied to the end-user of the footwear. This is usually provided on a printed sheet included in the shoe box.

NAIL PENETRATION RESISTANCE

Additional components may be incorporated into footwear to produce nail penetration- or puncture-resistant soles. This is achieved by the inclusion of a metallic or textile insert, usually placed between the outsole and the insole. Metallic inserts have been widely used traditionally but, more recently, tightly woven multiple layered textiles have become more common. Good quality non-metallic inserts can offer a similar level of protection to metallic ones and also allow the use of a wider range of constructions such as Strobel where they are actually stitched in. As they cover the complete bottom of the shoe, there is less risk of any area without protection where an insert might not have been seated correctly or had moved during manufacture. They also have the added benefit of being lighter and more flexible than metallic ones.

The EN ISO standard requires the whole sole unit containing the penetration resistant insert to be assessed for puncture resistance. ASTM

and CSA standards require that the penetration-resistant device be tested prior to insertion into the footwear. Both tests are similar, however, with a truncated steel nail being forced through the sole and insert from the underside through to the foot side, simulating a wearer accidentally standing on a nail. For metallic inserts, the test is stopped once the nail has penetrated and the load needed to cause penetration has been measured.

The 2011 version of EN ISO has a different end-point for the test on non-metallic inserts. In this instance, a load is applied to the nail and the sample visually assessed for penetration. This is different to the 2004 version which was the same as that for metallic inserts. These subtle changes in the testing process have meant that manufacturers using non-metallic inserts in footwear that was assessed to the previous version of the standard have had to re-test in accordance with the new method in order to satisfy the requirements of the PPE Directive.

At the end of the day, the most appropriate series of standards for a manufacturer to test against and be in accordance with will depend on where in the world the footwear is intended to be sold. The range of requirements it needs to meet will depend on the claims being made about it. 📌



Nail penetration test on safety footwear.

CREDIT: SATRA



CREDIT: COLUMBIA SPORTSWEAR

Shoes in a spin

One of life's major discomforts is cold and wet feet. Up until comparatively recently and, depending on where in the world they lived, this was however often the lot of anyone involved in outdoor activities for much of the year. The invention of vulcanised rubber 'Wellington' boots in the late 1800s was a major step forward but, although they resisted water from the outside, they did the same from the inside causing the feet to sweat, making the boots uncomfortable to wear for long periods. They also offered poor thermal insulation in cold weather.

The development of polyurethane-based breathable membrane technology some thirty years ago changed all that as it combined resistance to water from the outside and also allowed moisture vapour to escape from the inside. The result has been a huge variety of footwear and clothing that will keep feet and bodies dry and comfortable in almost any

adverse conditions. As far as footwear is concerned, the past few years have also witnessed an on-going debate over which is the most effective way to incorporate membrane technology into boots and shoes.

One is to use a separate internal 'bootee' made from cut, seamed and sealed sections of membrane. This leaves a cavity between it and the outer shell of the upper. Another is for the membrane to be laminated three-dimensionally to the reverse side of the upper as in the Italian OutDry system. This effectively makes it an integral part of the upper shell. The third, Ion-Mask developed in the UK by P2i, involves the application of a nano-coating of water repellent fluorinated acrylate monomer to the whole shoe. This allows the upper to be made in the same way as any conventional type of footwear.

While the last two are designed to keep water out of the outer upper shell, the aim of the first is to merely keep it

outside the membrane bootee. Although it does this admirably, it does not prevent it from penetrating the upper and accumulating in the cavity between the two, and this has an important bearing on foot comfort.

A QUESTION OF COMFORT

As this accumulation increases, so the boots or shoes concerned will weigh more and, the longer they are worn in wet conditions, the worse the position will become. A more scientific term for this is 'mass gain'. They will also take longer to dry out so, on a week's hiking holiday for instance and, if it was unfortunately wet all the time, they would become gradually heavier as the week progressed and therefore more tiring for the wearer.

There is a further consideration. Tests have shown that a wet boot offers less thermal insulation than when it is dry. It is much the same as asking how much energy the wearer would expend in keeping thermal

SATRA'S LATEST FLEX TEST

A demonstration of the new TM444 test at SATRA's UK laboratory showed an outdoor boot with a bootee membrane to have a mass of 504.61 g before becoming wet. An OutDry boot used for comparison had a mass of 492.53 g. After submersion in 70 millilitres of water at just over the level of the vamp, both boots went into a centrifuge for ten minutes. At the end of the test, the one with the bootee membrane was shown to have gained 100 g, while the one using OutDry was only 9 g heavier.

SATRA has correlated the new test to the more familiar TM230 flex test and says the ten-minute spin in the centrifuge equates to 30,000 TM230 flexes, which could take three days. The idea is not to replace TM230 as the flex test is an accurate and proven way of imitating the effect of a moving foot on a shoe, but the research and testing body suggests that TM444 could prove to be a quick and easy test to carry out first.



THE NEW STM 640 TEST RIG. CREDIT: SATRA

comfort as high as possible in cold and wet conditions. Retained moisture between the inner bootee and the outer upper shell can leave the latter feeling damp for a lengthy period of time. Without a change in ambient temperature, the boot will feel cold and wet and, as a result, less comfortable. The thought of putting on cold damp boots at the start of a potentially long day is not very appealing.

A QUESTION OF TESTING

Simple tests that check for water penetration in footwear based on the centrifuge principle have been around for some time. One example is the machine developed by US Centrifuge some six or seven years ago for use on military boots. All involve filling the test shoe or boot with a measured quantity of water and then spinning it for a given length of time after which any leak will become apparent. While this type of test is very effective in showing whether the foot will remain dry or not, it does not indicate the amount of water that is penetrating the shell of upper itself.

A new test method developed by SATRA looks set to change the way

footwear is tested for water resistance in future. The organisation says the new TM444 test method and STM 640 machine can evaluate resistance to non-flex induced water penetration in all footwear products in just over ten minutes, and without causing damage to either materials or product. While still based on the centrifuge principle, there is a fundamental departure from previous practice.

The shoe or boot to be evaluated is weighed and securely placed in a container which is then filled with water to a known depth. The container is attached to a vertical shaft within the centrifuge and spun rapidly so that the water exerts pressure on the outside of the footwear. At the end of the test, the footwear is inspected and re-weighed to determine the level of water penetration. So, the degree of water resistance is measured from the outside rather than the inside with the obvious implication on the comfort factors mentioned earlier.

PLAIN FACTS

One brand already using the new test is Columbia Sportswear. Columbia uses OutDry membrane technology

and is a great believer in the 'less weight equals greater comfort' equation. It intends to use TM444 to differentiate itself further from bootee-method membrane technologies because it believes that demonstrating a substantial difference in weight between shoes equipped with OutDry and those with bootee technology will strike a positive chord with purchasers of sports and outdoor footwear.

According to results that have emerged from development work that Columbia has done with SATRA, TM444 tests on a shoe with OutDry showed a weight gain of less than 10%. A spokesman for OutDry put the figure at typically 6% or 7% whereas with a bootee construction, it could be as high as 30% and take a long time to dry out. Furthermore, a pair of shoes or boots of this type left for a whole day after getting wet could still weigh as much as 24% more than when dry. So, not only does the OutDry approach appear to be extremely effective in keeping wet out and weight down, but the new TM444 test would seem to be a quick and cost effective method of proving whether footwear is water resistant or not. 



Desma Sole Processing Cell.

CREDIT: DESMA

New solutions to old problems

Klöckner Desma has long been regarded as an industry leader when it comes to PU injection moulding machines. It has now reached a similar position with regard to automation and robotics. Ever an innovator, the company has now taken a further step in its automated soling 'concept' by developing a robotic upper processing cell to run alongside its existing sole processing cell and so provide footwear manufacturers with the ultimate in automated soling solutions.

According to Desma, between 18 and 20 billion pairs of shoes are now produced globally each year with a substantial proportion made using the cemented or stuck-on process where a high level of manual labour is still involved. This includes sole and upper preparation and cementing as well as the actual attaching process itself. This is both time consuming and expensive. However, the construction remains extremely popular due to its flexibility as to the types of footwear and soling materials that can be accommodated.

As a result, manufacturers are asking for alternative solutions to these manually performed operations.

ADVANTAGES IN AUTOMATION

Automation in other areas of shoe manufacture has been shown to result in consistently high quality shoes at lower cost. As labour rates in Asia, and particularly in China, are growing exponentially year by year, there has been increasing pressure to find a way around the problem. Automation would



The Upper Processing Cell can be configured to either take the tools to the lasted upper (left) or the lasted upper to the tools (right).

CREDIT: DESMA

therefore again seem to be a logical solution to this on-going problem with stuck-on footwear. However, as in so many other aspects of shoemaking, applying it to this complex and vitally important area has not been easy, and Desma has been working on the problem for many years.

The company offers automation solutions for applying sole attaching adhesives to both sole units and lasted uppers under the brand name amir C, where amir stands for 'automated material flow with integrated robots'. The key elements involved are the sole processing cell, the upper processing cell and the upper processing line. These have been in limited use for some time now during which they have been refined to the point where they can be used on just about any type of boot or shoe employing the stuck-on process.

All shoe manufacturers dread an inadequate adhesion between upper and sole. Perfect adhesion is not only dependent on how well the adhesive is applied to the sole but also how thoroughly both the upper and sole have been prepared beforehand. Without properly treated surfaces, the adhesive will not be able to 'key' to them properly and the final bond less strong. As mentioned earlier, automation in other aspects of the shoemaking process has shown great improvements in quality and the two amir cells have now made it possible to drastically reduce the number of

such complaints received by offering far higher consistency in sole bonding that can be achieved manually.

UPPER PROCESSING CELL

World Footwear reported in detail on the Sole Processing Cell when it first appeared in the *January/February 2011* issue. Although it has since been refined, its basic operation remains the same in that a sole is fed in at one end and emerges at the other fully treated and ready for attaching. Not only is it fast, it is also extremely frugal and applies only the exact amount of adhesive required, no more and no less. As a result, considerable cost savings can also be made in terms of adhesive usage. The more recent upper processing cell operates in a similar manner whereby the operator need only introduce the lasted upper into the cell via a delivery station. All necessary manufacturing steps are then performed by a robot operating within the cell.

Most sole units are made with a slight side wall so that they are bonded to the upper in two dimensions. This provides a far stronger bond than if only the bottom surface of the lasted upper is treated. To achieve the necessary accuracy, the unit's side contour is normally drawn onto the lasted upper for the roughing and cementing to follow. Total consistency is extremely difficult to achieve manually. The robot, on the other

hand, is programmed to automatically rough both the bottom of the upper and the side contours, remove any residual dust and apply the adhesive with total accuracy every time.

The cell is available in a number of varieties, which are differentiated by the fact that either the lasted uppers are transported to the tools or the tools to the uppers. As with the sole processing cell, the upper processing cell can be operated either as an individual unit or as part of a larger production line. In addition, it is also possible to combine both cells. This is a huge rationalisation of a normally complex and demanding sequence of



TapePeel system is a clever approach to an old problem. CREDIT: TAPEPEEL

operations. If Desma's laser roughing system is also taken into account (*World Footwear May/June 2012*), this marks a further step in the remarkable revolution the footwear industry is experiencing in the 21st century as it strives to meet the global demand for more and ever better quality footwear at the lowest cost possible.

PROBLEMS WITH INSOLES

Where Desma has been solving shoemaking problems for almost 70 years, TapePeel Shoemachinery GmbH is a brand new company with a brand new product aimed at solving an age old problem.

From the earliest days of shoemaking, insoles have been attached to the last bottom prior to lasting with tacks or nails. It was fast, cheap and convenient; it also had downsides, as they had to be removed before the sole was attached. This left small holes in the insole that were visible inside the shoe, damaged last bottoms and often led to tacks being dropped on the floor from where they had a habit of transferring themselves to places where they were not wanted. Worst of all, one could be left in the finished shoe to the physical distress of the wearer and financial discomfort of the manufacturer.

There was no practical alternative until the advent of advanced adhesive products such as hot melt and double-sided tapes in the second half of the last century. Various ideas have been tried since then and, while they did work, there were still drawbacks. Hot melt could damage the surface of the insole and was difficult to remove from the last bottom. The pressure sensitive adhesive used on double-sided tapes could build 'in' bond strength during the shoemaking process and tear when the last was removed, again leaving residue on both last and insole. Nevertheless, a number of countries banned the use of tacks and staples, so manufacturers had to make the best of what was available. TapePeel may now have found a way round these problems.

A CLEVER IDEA

The system is again a form of double-sided tape but, this time, with a major difference. Unlike conventional double-sided which is applied flat, it is folded. The insole is still held flat to the

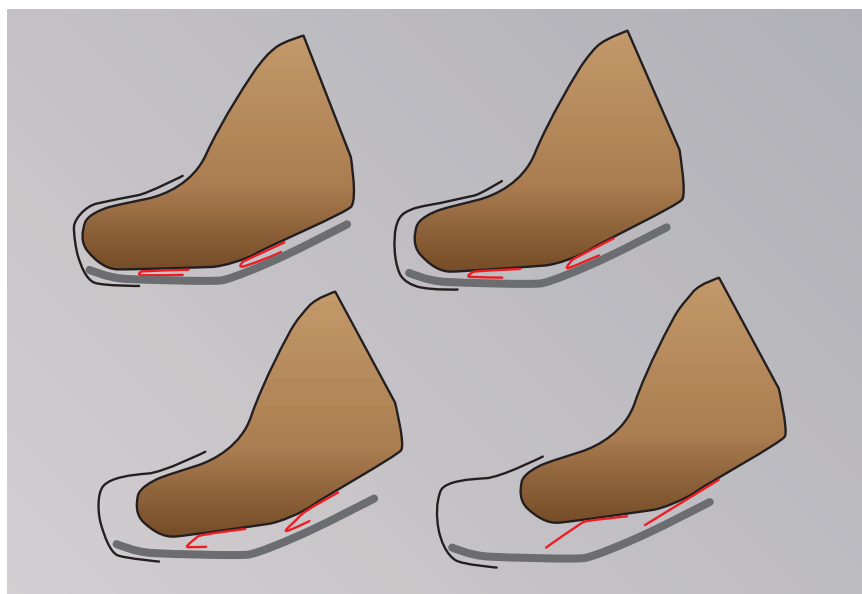


Figure 1 – The tape is folded and is peeled from the insole as the last is removed.

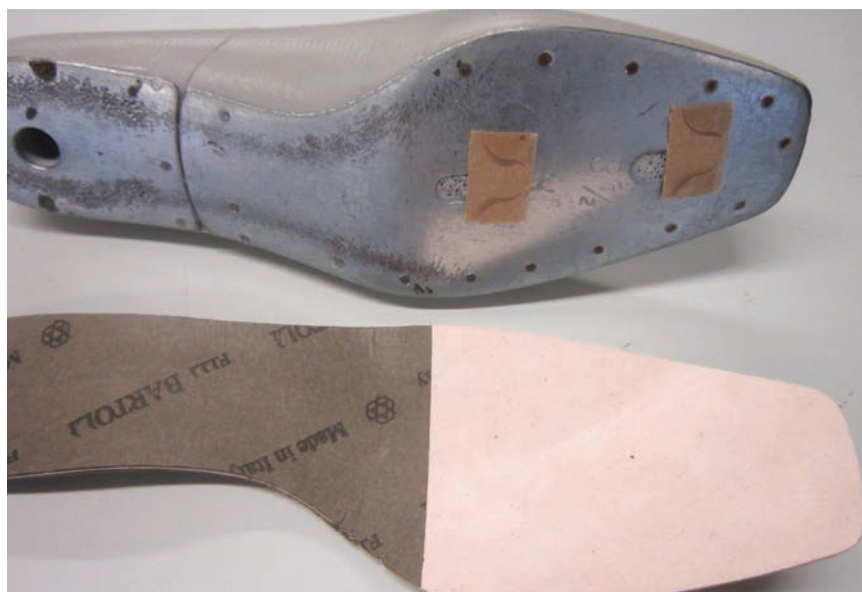


Figure 2 – Only two small areas of adhesive are in contact with the insole.

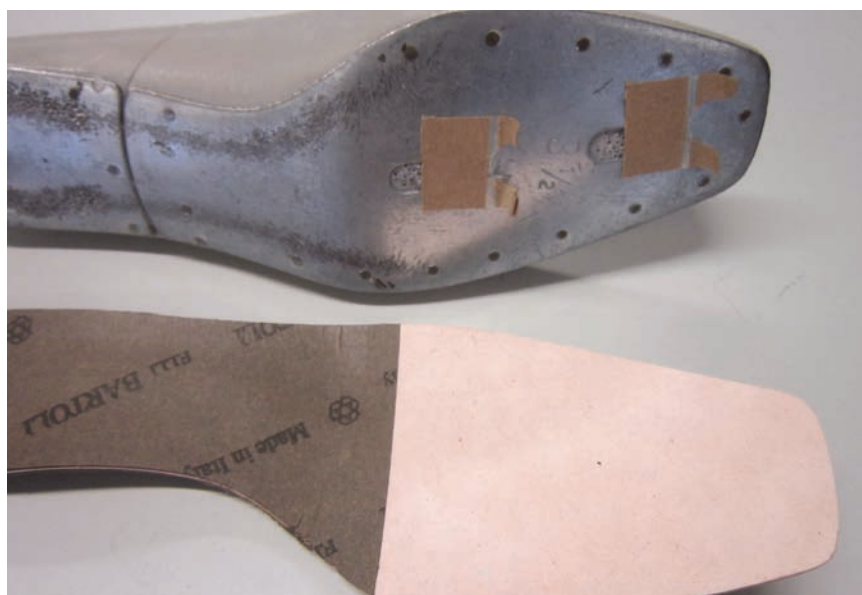


Figure 3 – The peeling action as the last is removed leaves the tape stuck to the last bottom from which it is easy to remove. CREDITS: TAPEPEEL

last bottom but when the last is removed from the shoe, instead of causing a sideways shearing action, it peels the tape away from the insole (Figure 1) after which it can be easily peeled off the last. There is claimed to be no damage to the surface of the insole and no residue left on the last. The adhesive used has been specially formulated for the purpose and is patent pending.

TapePeel is manufactured so that the side in contact with the insole has only two small areas of adhesive compared to a single large area on the one in contact with the last (Figure 2). This makes it easier to peel from the insole than from the last and ensures it is left on the latter rather than in the shoe (Figure 3). It also results in much less damage to the surface of the insole than is the case with hotmelt or conventional double-sided products. The company says that tests have shown the tape can be peeled from certain kinds of leather leaving it completely residue-free and without any other visible damage. This allows covered or pre-socked insoles to be used which would not be possible with existing insole attaching systems.

The application machine is controlled by an electronic eye which ensures that the tape is applied in the right place and that the fold faces the toe of the last. It then remains folded and flat on the last bottom while the insole is correctly positioned after which it will be held flat to the last bottom (Figure 4). For the best results, two pieces of tape should be used as this will hold the insole straight as well as making it secure. The adhesive system used is compatible with all types of lasts both with and without metal bottom plates. Each roll of tape contains 2,000 pieces.

This is a well thought out solution to an old problem and, while it appears to be simple one, the technology behind it is more complex. The key part is the dual peeling action: first from the insole and then from the last. This is made possible by the use of two areas of adhesion of unequal size and this, in turn, calls for some complex tape technology and manufacture to make it work. If it can live up to its promise, it will mean that there is one more problem shoe manufacturers will not have to worry about. 🌀



Figure 4 – Two pieces of tape hold the insole straight and flat to the last bottom.

CREDIT: TAPEPEEL



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"Help me make space more often and more quickly," Brazilian striker Neymar said to Nike's designers.

CREDIT: CELSO PUPO/SHUTTERSTOCK



July 2014's World Cup in Brazil will be a lucrative opportunity for all sports brands, and Nike and adidas have thrown down the gauntlet with their latest football boots.

The battle for the beautiful game

Every sportswear company in the world is firmly focused on South America, whether the Olympics starting in August 2016 or the soccer World Cup in June 2014 – Brazil will be lucrative business. Research and development has already cranked up several notches, with the promise of innovations in every category that will drive revenues through their purchase or boost the companies by creating column inches and brand visibility.

Nike and adidas launched their latest football boots within two weeks of each other – not unlike the unveiling of their knitted running shoes, the Flyknit and Primeknit, last summer. The pair dominate the market for soccer kit – replica shirts, balls and boots are estimated to be worth about €5 billion annually. "It is a battle between us and Nike, not only in Brazil but the whole football world," adidas CEO Herbert Hainer said recently.

For Nike's Hypervenom, the team incorporated feedback from professional footballers including Brazilian Neymar, England's Wayne Rooney and Sweden's Zlatan Ibrahimovic, who had asked that the boot feel as close to barefoot as possible. This was so critical that teams in five countries worked simultaneously on the boot, according to Nike brand president Mark Parker. It has been adapted to take into account that the game is getting faster. The design team, led by design director Denis Dekovic, began by looking at the attacking forces.

"The game is changing. It used to be that speed was the focus of the attacking side of the game, but now everybody has pace," says Mr Dekovic. "Players want to be quicker, not just in a foot race, but quicker with the ball at their feet in small spaces. They want to create chances from nothing. These faster, more agile defenders need to be combatted."

"Traditionally a new boot will focus on an evolution of the fit, the upper material or the sole plate and stud configuration, but the Hypervenom features new solutions for all of these areas," adds Phil McCarthy, vice-president of Nike Footwear. "When we talk to players, what we hear consistently is a need to deliver great fit, touch and traction."

The upper is created using the new 'Nikeskin' system, which features a supple mesh bound with a thin polyurethane film. It is finished with Nike All Conditions Control – a coating that is engineered into the upper during the production process which Nike says gives the boot the same level of control in both wet and dry conditions. "When the boot is wet, friction is reduced by about 50%; with the ACC technology this loss in grip is negated," it says.

The Hypervenom was also built around a new foot last –



The Nitrocharge upper combines leather and synthetic materials, and will be available in Kevlar in early 2014.

CREDIT: ADIDAS

described by Nike as its most anatomical to date and one which places the foot closer to the ground. A Nike spokesperson comments: "With the design of the last we started from scratch, testing hundreds of athletes through a combination of step in trials and foot scans. The new last is anatomical, giving the right volume in the right places and with the Nikeskin technology, which has adaptive stretch, the Hypervenom provides a sock-like fit."

On the subject of whether the last would be used for other designs, she adds: "The Nike Premier is built on the same last but because of the use of natural leather in the upper it provides a completely different fit to the Hypervenom."

The team worked with podiatrists to create a decoupled outsole that increases the players' ability to make





The Energypulse on the Nitrocharge sole acts like a spring, using a high-elasticity material to increase flexibility.

CREDIT: ADIDAS

the first step away from the defender by adding a groove in the forefoot that reportedly helps to activate the first metatarsal, the bone that defines reaction time of the foot's first movement. The chassis of the outsole features compressed nylon which delivers strength while remaining light. The stud configuration and length is designed to allow for faster penetration of the surface.

"A clean strike is important for the attacking players because it enables them to have a clean surface that adapts to different positions, movements, different opportunities; we solved that by moving the eye stay up on the side and keeping a consistent surface all over the boot," adds Mr Dekovic.

Boosting energy

Adidas's offering, the Nitrocharge, has been "designed to become the next iconic football boot of our industry", according to Mr Hainer. It has been designed with the "engine" player in mind – "first on the team sheet; always running, tackling and powering his team". The German company worked on the concept for two years and collaborated with football statisticians Opta, which developed an algorithm to determine which suits 'the engine' role.

The boot features a protection mesh layer around the foot and protection pads around the most sensitive tackle zones such as the Achilles tendon. Michael Meinhold, Nitrocharge product manager, says of its

new features, "The Energysling is a technology that supports and secures the foot when the player makes sharp turning movements such as sidecuts. This essentially helps to prevent the loss of energy normally experienced when making these movements."

The Energypulse, a feature on the sole plate, "is inspired by the geometry of a spring and helps the player by providing maximum energy in the toe-off phase when accelerating. This is one of a number of features on the boot which also provides protection to the foot as well as a soft touch to the ball," he adds.

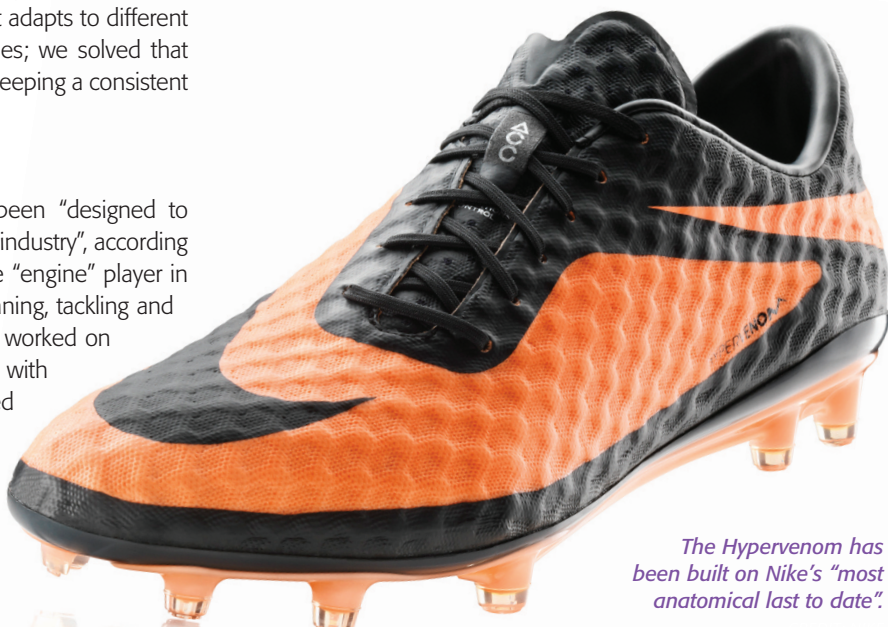
Players signed up to wear the Nitrocharge include Spain's Javi Martinez and Xabi Alonso, Brazil's Dani Alves and Italy's Daniele De Rossi. "As with all technology it is not just about what we can do to improve technique," an adidas spokesman told us. "Adidas realises the competitive edge on the field can make the difference, getting there one second earlier or having that split second of extra pace really does make the difference."

Group stages

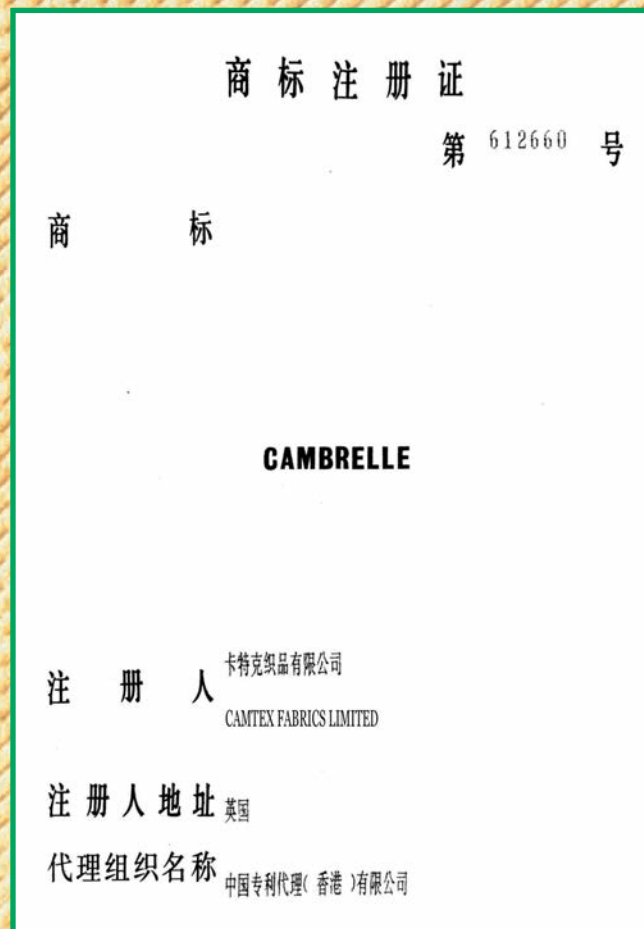
Mr Hainer forecast his football division would earn a record €2 billion in 2014 due to the World Cup effect. Last year the unit posted earnings of €1.7 billion. As the official sponsor, adidas will supply the match balls, referees' kit and clothing for volunteers at venues. "In the second half of the year we will start to build up our football business when we introduce our new jerseys, official match ball, new football boots, etc," he says.

The new jerseys are expected in November – even the new ball has been described as a "completely new concept" – with the kit being worn by World Cup holders Spain as well as Germany and Argentina, which will add to brand penetration. "We have new boots set to land in the build-up to the World Cup across spring 2014 that will truly demonstrate that we are at the cutting edge of football," adds the spokesman.

On the opposing side, Nike sponsors Brazil, five-times world champions, and has recently agreed contracts with France and England. Mr Denson counters: "The real story isn't what we did in FY '13. It's what's coming for the World Cup. It's absolutely incredible and that's all I am going to say for now." 🌀



The Hypervenom has been built on Nike's "most anatomical last to date".



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Footwear fair GDS took place in Düsseldorf in September and has something for the entire family, or family retailer. It covers high-end Italian footwear from brands such as Fratelli Rosetti, trendy young styles from Nat-2, mainstream sneakers from KangaROOS, comfort shoes from Clarks and children's shoes from companies such as Primigi.

A fair for the family

Although the US might be the world's largest market for city comfort footwear, the European brands arguably still lead in innovation at the upper end of the market. Högl and Ara from Austria with their women's shoes, clogs by Softclogs, nature form footwear from FitWear (the German name for FitFlops) and Birkenstock, and wide-fitting comfort leather shoes for the mature market from Solidus are all popular well beyond their home markets.

At GDS, there is an entire hall dedicated to comfort and wellness and it is an excellent place to study the big (and smaller) players. Many of the shoes are 'brown shoes', rather than sneakers, although sneaker and athletic technology is often used, and the younger brands like to go for a hybrid sneaker look—such as suede uppers on rubber or blown PU soles on day shoes for smart work wear.

Inside the shoes

With so many brands competing, each needs a point of difference or unique selling point. Marketing and point of sale can be just as important as the look of the product. But what goes inside the footwear is even more important. With increasing use of orthotics, a soft insock alone is often not enough, so comfort shoes now regularly have lasts that allow for the insock to be replaced with a custom orthotic.

Dromedaris, which makes its own-brand comfort shoes in Portugal, sold mainly in the US and Canada, has patented a triple layer insock with Carbosan cushioning at both the heel,



S Oliver shoes feature a new ANTishock heel system.

CREDIT: GDS

where it is thicker, and at the forepart where it is slimmer. There is additional latex sponge cushioning and a leather top cover. These insoles provide excellent comfort because each one is moulded to follow the shape of the last. They have an instant comfort feel when the customer tries on the shoes.

Air keeps feet cool in summer, and acts as a cushion too. Mephisto's soft air midsole ventilates and cushions and claims to make tired feet a thing of the past.

In comfort shoes, cushioning and air are key words. Since many of these shoes are aimed at the older market segment, there is less talk of "barefoot technology" and more of cushioning not just the feet, but reducing shocks all the way up the legs and the spine.

TredFlex from the UK debuted at GDS with its "24-seven" comfort system for men. It uses leather uppers and lining, an active charcoal insock with padded arch support, airflow for extra ventilation, an additional foam layer for comfort, a flex control insole board with cuts in the forepart for additional flex and a rubber outer sole with air pockets.

Comfort doesn't just mean flat shoes either. High heels are cushioned too. The Wortmann group, which includes big brands such as S Oliver, Caprice and Tamaris, has successfully marketed its Europe-wide patented ANTishock heel system with air chambers and stabilisers inside which are claimed to "cushion the step by over 50%". The Tamaris collection also has "Touch It", a soft insole that moulds to the individual's foot.

In the same Wellness and Comfort hall, Gore-Tex promoted Surround Technology with 360-degree breathability. The upper is highly breathable but uses a waterproof membrane, while the sole has holes covered with Gore-Tex and a layer of metal mesh to protect the membrane, so that the foot can breathe underneath as well as via the upper. Tore Stromfors, Gore's Scandinavia representative, explained that a lot of research has been done with brands such as Legero, Primigi and Viking, and the company is working hard to make the new technology understandable to both retailers and consumers.

New at GDS was SeeSawShoes from South Korea, with a newly invented and patented forefoot rocker system. The soles are designed to reduce energy consumption and allow the wearer to go further. The extended metatarsal bar raises the joint on the inside of the foot only, with a cushion pad above built into the midsole. This creates a forefoot rocker system to improve plantar pressure distribution.

The designer and inventor, with many footwear papers and patents under his belt, believes that his system is suitable for children as well as adults – especially for women, who tend to have more forepart discomfort than men. Samples were made on sports-inspired soles, but the system is just as suitable for leather dress shoes, where it can be very discreet.

Natural materials

Sustainability is also a key word, especially in the German market which is very precise at following EU environmental guidelines on many matters, from not using azo dyes to recycling shoe boxes. Softclox clogs have a rubber section in the forepart to make them flexible. The clogs are made of high-quality alder or poplar and come from a sustainably managed forest in Europe.

Pure boiled and felted wool has long been popular in



SeeSawShoes



TredFlex



Nat-2



FitWear

CREDITS: PENNY LEESE/TREDFLEX



Heel Bopps for placing on stilettos, which reportedly add comfort and stability. CREDIT: PENNY LEESE



The Glow Brand glows in the dark, designed for nightclubs. CREDIT: PENNY LEESE

Austria for clothes and indoor shoes. Giesswein and Living Kitzbühel are able to compete in the market as nobody else has yet mastered the process to make their felted slippers. They are made from long-staple-fibre wool which is boiled and felted, often with a rib-knit collar and the flexible shoes are then dipped in non-marking latex rubber to make the soles. Bright colours and constantly changing designs help, of course. Pure wool's qualities are well understood by consumers.

Even kids shoes get comfortable – and ethical. Kavaf of Sweden has the Swedish ecological (organic) certification with full vegetable-tanned leather uppers and linings, with the shoes built on foot-friendly Scandinavian lasts.

Wild fashion

In contrast to all this comfort, there was some crazy fashion at GDS. Brands such as Nat-2 showed iridescent, lenticular and reflective sneakers made for the P1 Munich night club, a co-branding – all naturally PVC free, of course.

The Glow Brand – also designed for night clubs – had neon high-heeled moulded platform court shoes which glow in the dark. Eco credentials are not forgotten though – the shoes are recyclable and 10% goes to charity – a different charity for each colour.

There is room for the wild and creative in the beach-themed area with small booths. Anne Vaandrager showed handmade latex shoes that are plainly works of art, rather than shoes to wear.

To end, wild and comfort get combined with function, clunky pyramid-shaped Heel Bopps are placed on stiletto heels to add more comfort and stability – and they are made a feature of in their bright colours and glitzy decorations.

Next year, GDS will be held earlier than usual, from March 12-14 March, in Düsseldorf, Germany. 📍

Softclox wooden sole with rubber flex part.

CREDIT: SOFTCLOX





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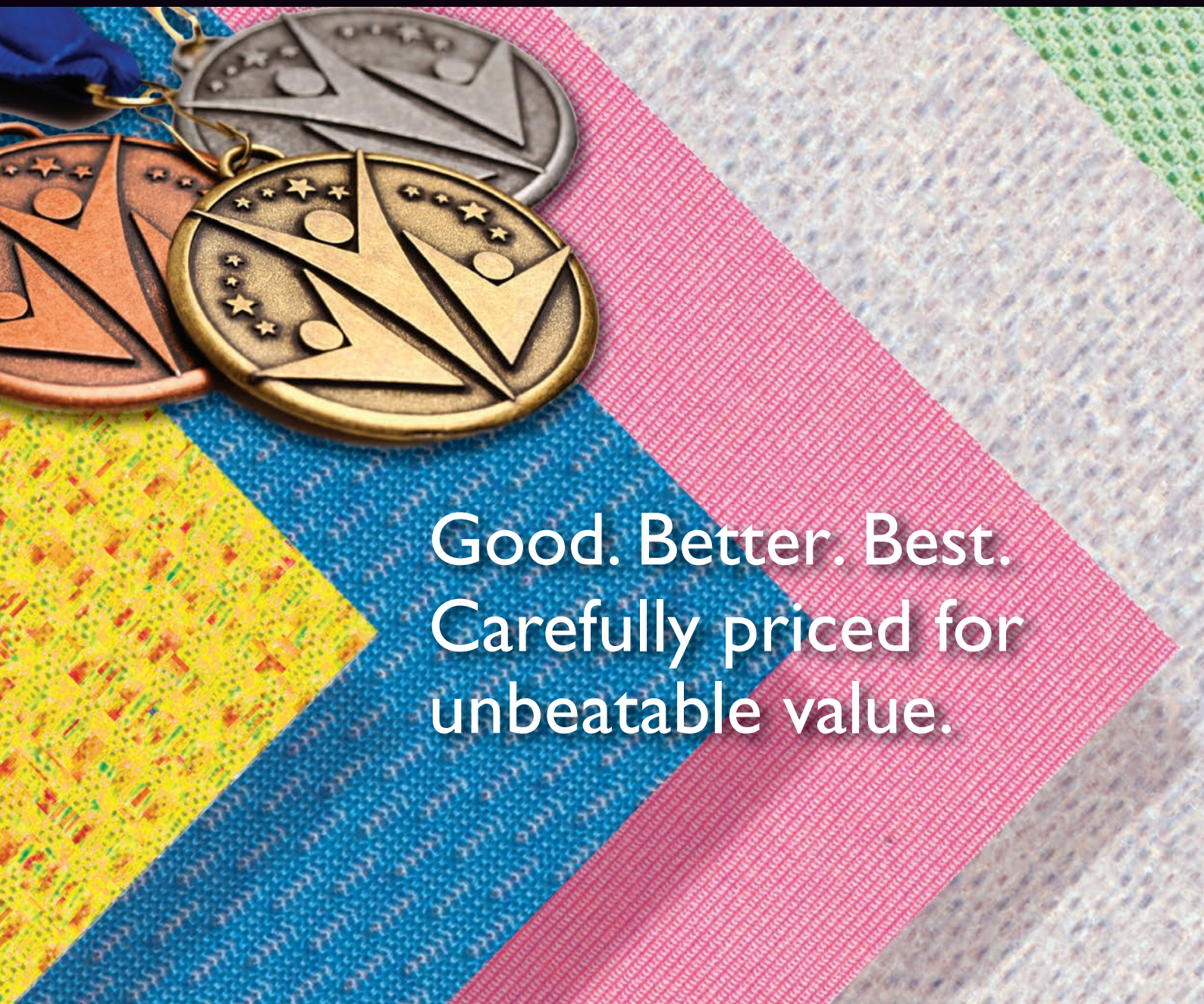
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