

# WORLD FOOTWEAR

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THE MAGAZINE FOR THE GLOBAL SHOE INDUSTRY



**Shoes for senior citizens**

**Buy better footwear to help the planet**

**Desma introduces integrated PU**

**Why consumers buy ill-fitting footwear**





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## Head office

36 Crosby Road North, Liverpool L22 4QQ, UK  
 Telephone: +44 151-928 9288  
 Facsimile: +44 151-928 4190  
 E-mail: [wlt@worldtrades.co.uk](mailto:wlt@worldtrades.co.uk)

## Editor

Deputy editor  
 Consultant editor  
 Technical editor  
 Contributors

## Stephen Tierney

Clare Grainger

David Buirski

Philip Lattaway

Penny Leese

Sergio Dulio

Steve Lee

Shari Shallard

Tim Button

Vicky Owens

Sue Cassidy

Pauline Kelly

Hilary Melville

Simon Yarwood

## Design team

Accounts

Administration

Subscriptions Manager

Publisher & CEO

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 Image: WL Gore

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## World Trades Publishing 2014.

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# News

**SPAIN** The inaugural Co-Shoes International in Elche on October 22 welcomed 50 footwear manufacturers and 300 international buyers. Footwear manufacturers' association FICE organised the event to attract brands looking for new outsource manufacturing partners. Between January and August this year, shoe exports from the province jumped in value by 23.3% year on year to €864.4 million.

**GERMANY** The German Shoe and Leather Industry association (HDS/L) has helped European Commission representatives gain a better understanding of the industry's challenges at a meeting hosted by the International Shoe Competence Centre in Pirmasens. Alberto Bichi, director of government affairs for HDS/L, said: "We are happy the EC is investing the time to better understand the challenges of the shoe manufacturing process. This will help increase consistency between theory and practice."

**ITALY** President of Italian footwear manufacturers association Assocalzaturifici president, Cleto Sagripanti, has called on the government to cut regional production taxes and asked for funding for research and projects. Italy exported 18% fewer shoes in the first six months of 2014 at 3.5 million pairs. Value fell 22% to €900 million. "We are asking the government not to abandon us," said Mr Sagripanti.

**RUSSIA** Adidas Group earnings took a €100 million hit in Russia in the first nine months, its CEO, Herbert Hainer, has admitted. "Due to the rapid depreciation of the Russian rouble, which hit a record low, and the considerable risk of further deterioration in consumer spending, the short-term fundamentals of the business have changed materially," he said. The group has closed 27 stores in the region since July.

**ETHIOPIA** A delegation from Addis Ababa has toured Italy's footwear manufacturers as part of a 'study tour' organised by UNIDO, the United Nations Industrial Development Organization. As well as visiting Vigevano's footwear and machinery industry, the group visited the leathers goods zone of Florence and the tanning and machinery zone in Santa Croce sull'Arno. Italy exported €2.5 million worth of tannery and footwear machinery to Ethiopia last year.

**ICELAND** Icelandic fish tannery Atlantic Leather exhibited at ANPIC, the Mexico-based leather and footwear show, for the first time in anticipation of growing demand for its specialist products. It joined 870 exhibitors from 26 countries at the start of November in Leon. Atlantic is launching its leathers to the South American after a chance encounter with local company OA Trading at the APLF exhibition in Hong Kong in April.

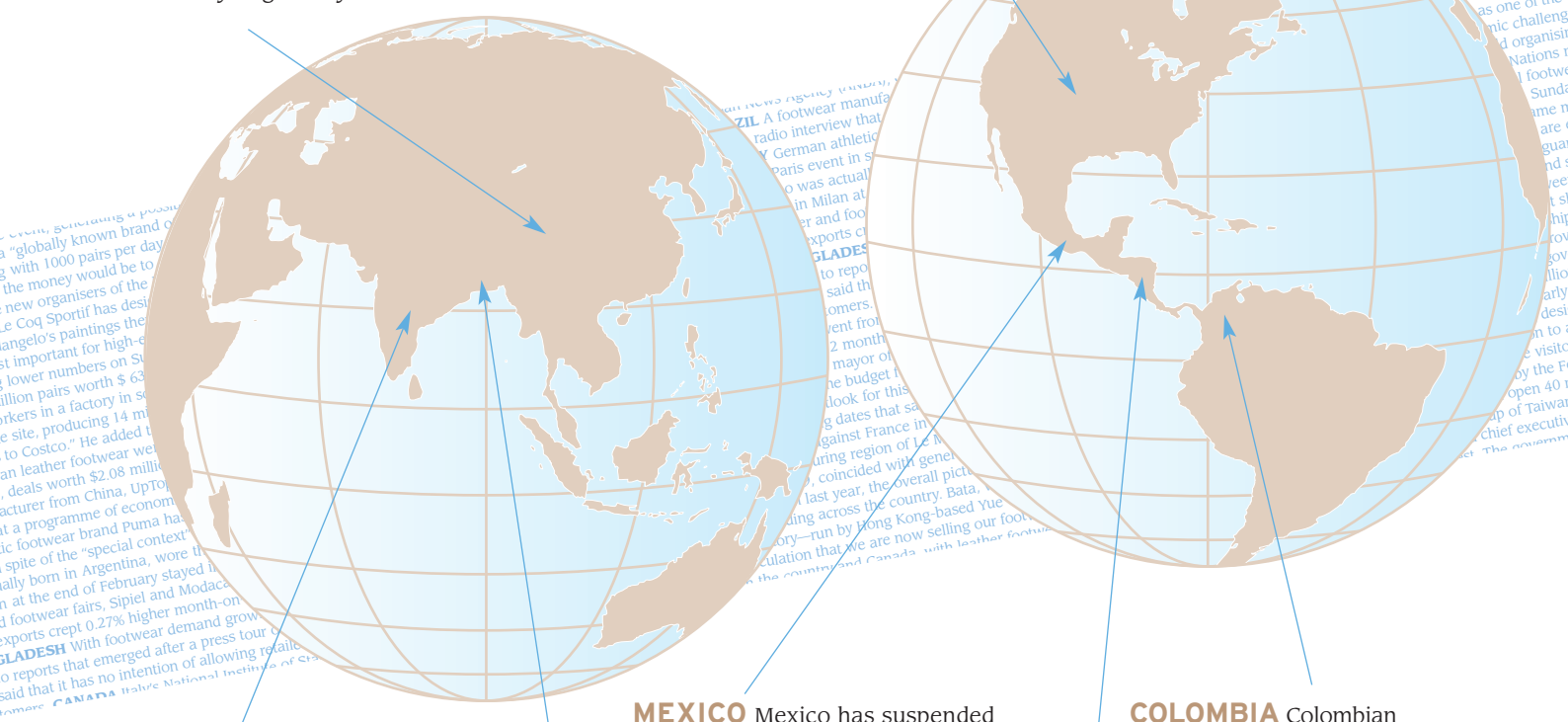
**KENYA** The minister for industrialisation has petitioned for the country's military boots to be made domestically in a bid to boost the country's leather sector. Adan Mohamed said his ministry will analyse the specifications from the Kenya Defence Forces and the National Police Service and give them to local manufacturers. The military imports 30,000 pairs of leather boots every year.

● After downgrading the leather on its 737-700 aircraft to a synthetic alternative, US carrier Southwest Airlines is upcycling the 43 acres of leather into shoes, bags and balls. In Nairobi, the project's pilot location, SOS Children's Villages Kenya along with Alive & Kicking, Masaai Treads and Life Beads Kenya, will use the leather to produce goods for local community groups.

**CHINA** Footwear manufacturers produced almost 3.3 billion pairs of shoes and boots with leather uppers in the first nine months of 2014, according to the China Leather Industry Association, an increase of 2.8%. With the exception of a dip in July and almost flat figures in September, the monthly figures have been positive.

● Retailer and manufacturer Belle has reported an increase in sales and profits for the first half of the year, despite a sluggish climate. Revenues rose to 18.56 billion yuan (\$3 billion) from 16.74 billion yuan while profit climbed to 2.08 billion yuan (\$340 million) from 1.93 billion yuan. However, its CEO, Sheng Baijiao, warned: "Due to rapid growth of shopping malls and e-commerce, foot traffic is drifting away from the department stores. This issue is unlikely to go away in the near future."

**UNITED STATES** In response to growing concerns that negotiations between the Pacific Maritime Association and International Longshore & Warehouse Union are contributing to serious delays at ports, the Footwear Distributors and Retailers of America, the American Apparel and Footwear Association and the Outdoor Industry Association have joined over 100 others in urging both sides to reach a deal. "The financial and economic situation for thousands of importers and exporters who rely on the West Coast ports, and their millions of employees and business partners, rest on the timely conclusion of a new port labour contract," they said.



**INDIA** Indian tanneries could provide extra leather to Vietnam to support its growing footwear industry, said Vietnamese Prime Minister Nguyen Tan Dung during a trade visit. The two countries have agreed to increase their trade from \$5.2 billion in 2013 to \$7 billion in 2015 and \$15 billion by 2020.

● Indian conglomerate Tata has announced plans to triple the size of its footwear factory, based near its largest tannery in Dewas. The factory is being expanded to produce 2.5 million pairs of shoes per year from the current 700,000, and will create 4,000 jobs.

**MEXICO** Mexico has suspended tariff-free access for imported shoes, reduced the number of entry points through which imported shoes can come into Mexico and established an approved list of footwear importers. Footwear exports into Mexico increased by 30% in the first eight months of this year to 71 million pairs, with 90% coming from China, Vietnam and Indonesia.

**BANGLADESH** The country's leather footwear exports for the first two months of the current financial year, July and August 2014, increased in value by 30% to reach \$95.5 million.

**COLOMBIA** Colombian leather industry association Acicam has reported that production of leather and finished products in the South American country increased by 7.2% in the first eight months of 2014 while sales of leather, footwear and leathergoods increased by 5.1% year on year. "It's been many years since we had such a good environment for growth in the leather, footwear and leathergoods industry," said its president, Luis Gustavo Flórez.

**NICARAGUA** Footwear producers in Nicaragua have asked the government to provide funding for a sole leather tannery. The president of industry association Cancunic, Alejandro Delgado, said the cost "would not be so high", he estimated \$500,000, and that the benefits would greatly outweigh this. Small producers of soles can make enough for 400,000 pairs per year, but in 2013, Nicaragua produced three million pairs of shoes and had to import soles from Honduras, Guatemala and Mexico.

# **Footprints**

## SPANISH FOOTWEAR INDUSTRY LEADER DIES

Former president of the European Footwear Confederation (CEC) and of the Spanish footwear industry federation (FICE) **Rafael Calvo** has died. He was two weeks away from his seventieth birthday.

A lawyer by training, Rafael Calvo's first contact with the footwear industry was in 1978 when FICE hired him as an advisor. He became the organisation's executive secretary in 1984 before becoming its president in 1992. He ran the organisation for the next 20 years and contributed extensively to the development of the industry in his home country, in Europe and globally.

Mr Calvo retired at the end of 2012, saying that he had wanted to leave his post for some time but that, owing to the challenges in the Spanish economy, had not found the right time to walk away.

*La Verdad* newspaper reported: "He was a tireless fighter for the Spanish footwear industry. He was decisive and had a powerful personality. He was a tough negotiator but was flexible, too, capable of striking agreement in even the most difficult situations and he used this to achieve unity in the industry and to bring prestige and recognition to the Spanish shoe sector."

## SAUNDERS STEPS UP TO LEAD BFA

The British Footwear Association's marketing director, **John Saunders**, has been promoted to chief executive following the retirement of Richard Kottler.

Mr Saunders joined the BFA in April 2013, and will retain responsibility for sales and marketing supported by new starter, **Jenna Aarons**, as events manager.

**Michael Kelly**, chairman of the BFA, said: "We are delighted John has accepted the challenge of taking the BFA forward. He has proven skills and strengths that we have seen in action during his time with the organisation."

Under Mr Kottler, the BFA tripled its membership and extended support for exporting members (70% of the total)



CREDIT: SMALL STEPS PROJECT

## CELEBRITIES HEAR PLEA FOR SHOES

Ricky Gervais, Kevin Spacey, Kenny Rogers and Elizabeth Hurley are among 120 celebrities who have donated shoes to the Small Steps Project Celebrity Shoe Auction, which will take place online through the course of November.

Launched in 2010, the auction raised £53,000 last year to provide emergency aid, shoes and food to children and communities living on municipal rubbish dumps around the world.

Organisers said: "When we visited our first dump in Cambodia, back in 2009, we asked the families living on the dump what they needed most. Shoes was the overwhelming answer. The conditions that the families work in meant that, without appropriate shoes, they were constantly suffering from severe injuries on their feet."

An exhibition of some of the shoes – including those belonging to Beyoncé, One Direction, Tom Hiddleston (pictured), Benedict Cumberbatch, Usain Bolt, Natalie Portman, Jack Nicholson and Christian Bale – took place in Shoreditch, London, at the beginning of November.

and introduced training and mentoring programmes to raise skill levels in the industry.

He said: "It has been a privilege to lead the BFA over the past six years and I am proud of what we have achieved during that time, despite the toughest of economic climates."

## DEICHMANN RETAIL GROUP FOUNDER DIES

Footwear retail group Deichmann has announced the death of its founder, **Dr Heinz-Horst Deichmann**. He died at the start of October at the age of 88.

Born in Essen in 1926, Dr Deichmann studied both theology and medicine, but took over the running of the small footwear manufacturing business his parents founded after the Second World War. He converted it from a small local cobbler's business into an international retail chain focusing on affordable fashion footwear.

The Deichmann group opened its one hundredth store in 1975 and, by 2013, its network had grown to 3,500 stores in 23 European countries as well as the US. Today it employs 35,000 people and sells 167 million pairs of shoes per year.

## ALDO CAPTURES VF'S HEAD OF OUTDOOR

Just a few days after VF Corporation praised the performance of its outdoor brands, which include The North Face and Timberland, for a successful third quarter, the group will have to say goodbye to **Patrik Frisk**, according to reports.

Mr Frisk, who led Timberland's absorption into VF Corporation following its acquisition of the footwear brand in 2011, is to become the new chief executive of Canadian footwear group Aldo.

Patrik Frisk said Timberland is "squarely positioned" to become the largest and most sustainable outdoor lifestyle brand in the world.

## NEW CHIEF EXECUTIVE FOR DR MARTENS

Deckers Corporation's president for Europe, **Steve Murray**, has been

named as the new chief executive of the Dr Martens footwear brand. He will take over in October from **David Suddens**, who will become the brand's chairman.

Mr Murray joined Deckers in 2011 and drove the development of the business in European markets of brands including UGG, Teva, Tsubo and Simple Shoes.

## ANOTHER SPANISH SHOE INDUSTRY FIGURE DIES

**Jaime Mascaró**, founder of the high-end footwear firm that bears his name, died on October 15. He was 74 years old.

Based in the traditional footwear-producing region of the Balearic Islands, Mr Mascaró transformed his family's small, artisanal shop, Zapatillas Ferrerías, in Menorca into a modern footwear production firm. He expanded the company's ranges and began to ship shoes overseas and changed the company's name to Jaime Mascaró in 1980.

Today, Mascaró has four brands of its own, with flats specialist Pretty Ballerinas probably the best known internationally. The others are Loafers, Jaime Mascaró and Úrsula Mascaró (Mr Mascaró's daughters Úrsula and Lina are both involved in the running of the company, as creative director and commercial director respectively).

## MANAGEMENT RESHUFFLE AT CROCS

Footwear brand Crocs has announced several key management changes, including the appointment of **Bob Munroe** to general manager of Crocs Americas region; **Greg Sullivan** to the new role of senior vice president of global business transformation; **Scott Yuan** to general manager of Greater China; and **Michelle Poole** to senior vice president of global product creation and merchandising.

Bob Munroe spent 10 years with Reebok, most recently as president following the brand's acquisition by adidas, and previously as senior vice president and general manager for North America.

Former GM of the Americas Greg Sullivan is assuming the new role of senior vice president of global business

transformation. In this role, he will help to drive the creation of a merchant-led enterprise and more nimble global and regional organisations.

In Asia, Mr Yuan has been serving as assistant general manager of the company's China business. He will be based in Shanghai and replaces Ted Lee, who will leave the company later this year.

## FORMER WOLVERINE CEO IN LINE FOR LIFE AWARD

As part of Two Ten Footwear Foundation's 75th anniversary, **Tim O'Donovan**, retired chairman and CEO of footwear group Wolverine Worldwide, will be presented with a lifetime achievement award for his philanthropic endeavours.

Mr O'Donovan served on the charity's board for 23 years and is currently the tri-chair of its honorary board.

In 2004, alongside his wife and sons, he founded the O'Donovan Family Foundation to raise money for children's access to education, outdoor activities, the arts and medical care.

The five-yearly Bob Campbell Lifetime Achievement Award will be presented on December 2 at Two Ten's annual gala dinner in New York.

## HR PROMOTION AT ADIDAS

German sportswear group adidas has promoted its head global supply chain to human resources manager as part of a change in top management which has seen 13 senior appointments in the past year.

**Karen Parkin**, who joined the company in 1997, will report to CEO Herbert Hainer.

**Jan Brecht** will take over the supply chain function in addition to his current role as chief information officer.

## DECKERS TAPS GOOGLE FOR BOARD APPOINTMENT

Footwear group Deckers has appointed Google's vice-president of partner business solutions to its board to advise on interactive marketing and brand development, as well as financial and operational management.

**Bonita Stewart** is responsible for Google's monetisation strategies for advertisers and publishers.

"Deckers has evolved into a dynamic and innovative organisation, growing from its roots in outdoor footwear into a global multi-channel, lifestyle brand company," said Ms Stewart. "This is a very exciting time for Deckers and I look forward to playing a role in helping the company further strengthen its ability to deliver seamless shopping experiences and build on its direct connection with consumers."

## WOLVERINE APPOINTS NEW SPERRY PRESIDENT

Footwear group Wolverine Worldwide has announced two important organisational changes. Effective immediately, **Rick Blackshaw** has been promoted to president of the yachting and aquatic sports shoe brand Sperry Top-Sider, and **Chris Lindner** has been promoted to replace Mr Blackshaw as president of Keds.

CEO **Blake Krueger** said: "Rick Blackshaw is a dynamic, strategic leader with an unrivalled passion for brands and consumers. What Rick and team have been able to do with the Keds brand is nothing short of remarkable, and the company is pleased to have such a proven and energised executive leading our second largest brand, Sperry Top-Sider."

Prior to his appointment, Mr Lindner served as chief marketing officer and senior vice-president for business development at Sperry Top-Sider. Prior to that, he carried out a similar role at the company's Saucony brand. Before joining Wolverine Worldwide, he spent nearly 10 years at Nike in a variety of senior marketing roles.

## FOOT LOCKER ANNOUNCES NEW CHIEF EXECUTIVE

New York-based athletic footwear retail group Foot Locker has announced that chief executive, **Ken Hicks**, intends to retire on December 1, 2014. He will continue as executive chairman of the board until the company's annual general meeting in May 2015 but will then step down from the board.

Mr Hicks will be succeeded as chief executive by **Dick Johnson**, who has been with Foot Locker for 17 years, serving as chief operating officer since May 2012. 📍



# Products & Services

## HUNTSMAN TO SPREAD ANTI-SLIP KNOWLEDGE

In a drive to reduce the number of injuries caused by slips and trips in the workplace, polyether and polyester-based solutions manufacturer Huntsman Polyurethanes has joined forces with footwear manufacturer Heinrich Klumpen Sohne.

The companies have conducted an analysis of slip-resistance technologies, focusing specifically on footwear soles and have created guidelines for the design and development of safety footwear soles to meet international standards.

According to the UK Health & Safety Executive (HSE) slip and trip injuries were the most commonly reported incident during the 2012-13 financial year, accounting for three in every ten accident reports. "Often slips can be caused by footwear that has insufficient grip, exposing employees to risk and employers to costs and legal consequences," said Huntsman.

Many people believe softer soles improve slip resistance. However, in some conditions, they can actually increase risk.

Separately, the company is expanding production of methylene diphenyl diisocyanate (MDI) by investment in a new plant at its Geismar, Louisiana site, expected to be on stream by 2018.

MDI-based polyurethanes are used in many markets, including footwear, and demand is growing at 8% annually.

## DESMA'S NEW CONCEPT COULD DRAMATICALLY REDUCE LABOUR NEEDS

The 2014 'House Fair' of footwear machinery supplier Desma in northern Germany was its largest such event, with an extended marquee and a broader range of products.

One of the highlights was the Quadwrap athletic shoe - a concept that uses four layers of polyurethane, made on a new version of its Amir machinery that can make a pair in just three minutes.

The development offers the possibility of dramatically reducing labour needs - by approximately 90%, according to the company - as only one or two operatives are needed. Instead of a typical shift of 200 workers that can produce 1,200 athletic shoes in an eight hour shift, 1,200 Quadwrap shoes could be made in 24 hours but with a bare minimum of workers.

The development, which the company worked on for a year with chemical company Bayer, can offer a solution to rising labour costs in Asia and enable reshoring of manufacturing, said Karsten Stobener, Desma technology manager. The concept could be developed to suit a number of types of shoe.

## STRATÉGIES HOPES TO EXPAND 3D SHOE DESIGN IN INDIA

French leather industry software developer Stratégies travelled to India to present its software portfolio at the AFMEC Agra exhibition.

The company said it provided the Indian public with the opportunity to see live demonstrations of 3D shoe creation using its Romans CAD software. It said it aimed to help expand the use of 3D technologies among "innovative companies" in the Indian footwear industry.

## BASF PROMISES "EXCITING" NEW TPUS

BASF has taken part in a \$3 million investment exercise in Massachusetts-based smart materials developer SLIPS Technologies. Swiss entrepreneur and private investor Hansjorg Wyss has also participated in the financing.

SLIPS Technologies develops customised, highly-repellent slippery surfaces for a large variety of applications. Its materials are biomimetic, taking their main inspiration from insect-consuming tropical pitcher plants, which produce fluid containing viscoelastic biopolymers that prevent prey from escaping.

Alongside the investment, BASF has signed a joint development agreement with the Cambridge-based company to develop SLIPS-coated thermoplastics with primary focus on thermoplastic polyurethanes (TPUs). "By collaborating with SLIPS Technologies, we will develop and commercialise TPUs with new and exciting properties," said Steve Fischer, director of new markets and products for the performance materials division of BASF.

## DELCAM OFFERS TRIP TO MILAN IN DESIGN COMPETITION

Footwear software maker Delcam CRISPIN is holding a global footwear design competition with the first prize of a trip to Milan for the SIMAC exhibition next February.

The winning design and two runners-up will be produced as 3D models by 3D printing and displayed on the Delcam stand at SIMAC.

Competition entrants do not have to be existing users of Delcam's software.

Entries, which will be judged by a panel of shoe designers, fashion experts and specialists in 3D design and printing, need to be uploaded on the Delcam website by December 31.

## CLARIANT CLAIMS PU FOAMS BREAKTHROUGH

Specialty chemicals company Clariant has announced a breakthrough for its Exolit OP 560 flame retardant product.

A report by the US Environmental Protection Agency (EPA) on flame retardants in flexible foam has identified Exolit OP 560 as "a safer alternative" to traditional products such as pentabromo diphenylether (pentaBDE).

Clariant explained on making the announcement that Exolit OP 560 works better because it is a reactive flame retardant that eliminates unwanted emissions since it becomes chemically bonded within the polymeric polyurethane foam

structure. As a result, the Exolit OP 560 cannot leave the foam during use and therefore cannot bioaccumulate in humans. Exolit OP is also halogen-free, and has a more favourable toxicological and environmental profile, the company said.

"Exolit OP 560 is not only halogen-free but becomes an integral part of the PU foam, creating possibilities to produce flexible foams with locked-in fire protection without the environmental and health concerns of traditional flame retardants," said Adrian Beard, head of marketing for flame retardants at Clariant. "The US-EPA report is a step forward in easing the identification of safer alternatives by PU foam producers and end-users."

Clariant also said it is looking to expand capacity to meet increasing demand in the move toward more environmentally friendly and sustainable PU foams.

### NEW ALLIANCE BETWEEN BAYER MATERIALSCIENCE AND BLUESIGN

Bayer MaterialScience and bluesign technologies have announced a new strategic alliance with the aim of advancing sustainability in the textile and footwear industry. The two companies will work together to promote safe production processes and working conditions along the entire value chain.

"Bayer MaterialScience has been supporting its customers for a long time now in achieving goals of both innovation and sustainability," said Nicholas Smith, the global head, of the company's textile coating business. As an example, he pointed to Insqin, a recently launched water-borne, solvent-free polyurethane package, which he said can help customers, including footwear manufacturers, cut energy consumption by 50% and water consumption by as much as 95%.

For his part, bluesign chief executive, Peter Waeber, said he welcomed the alliance because he believes Bayer MaterialScience is increasing the range of certified substances that customers can use "to achieve production operations that are compatible with both people and the environment".

He also welcomed support from Bayer in establishing the bluesign system, which defines criteria for chemical use in production, as "a global standard for a sustainable industry".

### 3D-PRINTED INSOLES HELP RECORD HOLDER RETURN FROM INJURY

Belgian 3D printing services provider Materialise announced that the current women's world marathon record holder, Paula Radcliffe, had used 3D-printed insoles made by its joint-venture company, RS Print, to run in a 10-kilometre race in Worcester, UK, in late September.

This event was Paula Radcliffe's first race in more than two years since a foot injury ruled her out of the London 2012 Olympics.

Newly founded RS Print created insoles that are customised to support the runner's unique running style.

### DOW ELASTOMERS SAYS IT CAN CHALLENGE EVA

Chemical company Dow's elastomers division is introducing its Infuse Olefin Block Copolymers (OBCs) for use in athletic shoe midsoles.

Infuse OBCs help improve rebound, compression set, comfort and dimensional stability while providing a lightweight material option, Dow Elastomers stated, helping brands and manufacturers increase the performance, safety and comfort of a shoe.

"Midsoles dictate the life of a shoe," the company said. "They protect the runner's foot, absorbing shock from jumping and running during a workout, lessening the impact and stress on the body. The midsole also serves as the centre of stability for an athlete, preventing the foot from rolling inward or outward, which can lead to pain and injury."

Global strategic marketing manager for Dow Elastomers, Michael Shoemaker, said the company was seeing growing demand for athletic shoes with higher-performance midsoles. He added: "New technology applications, like blending Infuse OBCs with ethylene vinyl acetate for the shoe midsole, are helping meet

increased consumer demands for improved performance, comfort and durability in a market where midsole foams have traditionally provided a minimum level of benefits in midsole comfort."

### UTECH EUROPE RETURNS TO MAASTRICHT IN 2015

Polyurethanes industry conference and exhibition UTECH Europe will next take place in Maastricht, April 14-16, 2015 and the organisers have said the event will be the industry's biggest ever.

Materials specialists from a variety of application areas will have the opportunity to see global advancements in polyurethane technology, with industry leaders such as Bayer MaterialScience, BASF, Dow Europe, Evonik Industries, Huntsman, Momentive, Shell International and Wanhua BorsodChem among more than 80 exhibitors that have already confirmed their participation.

A comprehensive three-day conference programme will cover all areas of the polyurethanes industry including markets, renewable resources, the latest developments in polyurethane science, innovation, flexible foams, PU composites and energy-efficient rigid foams. Tony Hankins, president of Huntsman Polyurethanes, will deliver the keynote address.

### TFL PUBLISHES LEATHER COLOUR TRENDS FOR SPRING-SUMMER 2016

TFL has published its leather colour trends catalogue for spring-summer 2016 in which it predicts the metallised finish is here to stay.

The "wearing" colours - apparel, footwear and accessories - vary from brilliant blue, turquoise, orange, red and pink to pastel rose and violet.

The chemicals company also introduces its SELLA range of dyes - anionic powder dyes used in the drum dyeing of shoe upper leather. The SELLA DERM M2 range of liquid salt-free metal complex dyes are miscible in water and organic solvents. They are recommended for shade intensifying, correcting and levelling of dyed leather. 



# 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.

## 05/11/2014

Mexico's footwear import controls may have come just in time

Ex-Bocconi students insist shoes were the best idea for a start-up

Luxury business leaders on speaker list at New York Times conference

## 04/11/2014

Brand relaunch for LA Gear

## 03/11/2014

Components fair fills void left by Lineapelle

## 31/10/2014

VF's new chemical management tool outlined in first sustainability report

## 29/10/2014

Nike targets \$2bn extra in women's business by 2017

Under Armour sprints ahead with 50% rise in footwear sales

Warm weather does Rocky Brands no favours

## 28/10/2014

'Innovation' drives 24% sales rise at Deckers

FT identifies Colombian footwear firm as 'stealth superbrand'

## 24/10/2014

'Underestimated' Turkish favour Italian shoes

FICE focus on fashion and quality appears to be paying off

## 23/10/2014

AAFA questions Mexico's footwear import policy

## 22/10/2014

Óscar de la Renta dies

Nicaraguan leather producer launches own shops to supply local artisans

Delcam offers trip to Milan in footwear design competition

Fashion Access reveals award winners

## 21/10/2014

Adidas adds Crazylight features to Predator boot

Adidas awaits Reebok offer

## 17/10/2014

Fly London lands in New York

## 16/10/2014

"Tepid" US retail market slows Wolverine growth

## 15/10/2014

Fire causes major damage at Chinese shoe components factory

Assocal to highlight Christian Louboutin at software conference

New Sendra collection puts the accent on shoes

US shoe associations lobby in Washington for "sales tax fairness"

Daicel-Evonik material offers sprinters "explosiveness"

## 14/10/2014

Wolverine makes board appointment

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"The biggest trade fair in the world" seemed almost an understatement when Penny Leese visited the bi-annual Canton Fair in Guangzhou, China, in early November 2014.

# All under one roof

Since it covers all types of goods from boots to boats, the famous China Import and Export Fair, popularly known as the Canton Fair, is divided into three phases, each five days long. "It's massive," comments UK-based buyer Antony Nathan, of fashion footwear distributor and manufacturer 33 Joins.

The statistics are impressive. It covers 1,125,000 square-metres, with 56,915 standard booths, and the organisers value the business transactions that take place under their roof each time at more than \$30 billion. They expect 188,000 overseas buyers when the fair next takes place, in April 2015. It is on several levels, with a good infrastructure, walkways and golf carts to transport visitors around.

All major services such as freight forwarders and shippers are on the major walkways. There are food halls and coffee shops offering everything from Starbucks to Chinese noodles in the

middle floor. Major hotels, such as the high-end, Hong Kong-based Langham Place are within walking distance. Entry for overseas visitors is relatively simple, with an entry card with photo ID costing around \$15 lasting 10 years (don't lose it as a replacement costs double). Local Chinese visitors need to re-register every fair, and must be accompanied by an overseas buyer. This means that the visitors are all serious buyers, and there are no "tourists". It is definitely a hard-working fair, with much sourcing, buying and meetings going on.

The footwear phase is the third and final stage, held at the same time as garment and textiles, luggage and bags, office supplies, medicines, and food. There are five large footwear halls. As at GDS, many of the footwear stands are sponsored by local governments, such as Xiamen or Jinjiang. Since the major footwear areas in China specialise in certain types of footwear, this makes finding products easier as they tend to be

China Import and Export Fair Complex in Guangzhou, considered world's largest convention and exhibition centre.

CREDIT: GUOZHONGHUA / SHUTTERSTOCK.COM



grouped together. For example, you can find good quality injection factories in Xiamen, and sporty shoes in the Jinjiang area, with more inexpensive fashion synthetic shoes coming from Wenzhou.

Many of the smaller sponsored booths are set up by factories selling directly, whereas the more elaborate stands will often be trading companies representing several different factories. These days, most of the people working at the fair have at least one good English-speaking person to provide information, and to take sample or production orders. The larger trading companies often have staff who either live, or have lived, in Europe so that they have a good understanding of the different markets' needs and of size conversions and so on. Also, more and more Chinese factories today are working to meet EU REACH requirements, and advertise this on their stands.

European shoe agents visit the fair, to sample and photograph shoes from suppliers they know are reliable (which means they deliver on time and can meet specifications and quality) and to meet new ones. Then they go home and present relevant photographs or actual samples to the buyers of major retail chains, and then redesign or re-specify them to each customer's requirements. One danger for inexperienced buyers at the fair is that they can buy a shoe, and then find that exactly the same shoe that has been sold to someone else, or that it is a copy of a shoe already being sold in their home market.

Few of the Chinese factories have western designers and for this reason they often show their own customers' shoes on their stands, or copies they have made of shoes they have bought or seen on the internet. After walking around the fair for a while, you see the same or similar shoes several times. The western agents cover a lot of work for the shoe buyers of major retail groups as they (the agents) know what sort of minimum quantities are needed for placing orders, know what the duty rates are for the different materials and handle the technical side, such as organising fit tests or materials testing. For example, agents know a UK retail group or distributor will be happy to buy direct-injected shoes with PVC outsoles, as they are economically priced, whereas the German market needs to have thermoplastic rubber soles instead, as most major customers there will not accept PVC.

There are European buyers who have visited the fair for several years now, and you can usually hear several Australian accents at the fair, although fewer from North America. Now that Russia is a more open market, Russians were seen looking at warm lined, thermal snow boots, while some buyers from the Middle East were looking for stock. Talking to the Chinese factory owners, they say that Europe is now a stable market, and very price-competitive. Their main interest now lies in growth markets such as the Middle East, particularly the United Arab Emirates (a country mentioned by several people) and Russia.

The Canton Fair is primarily a working fair, a good place to meet existing or new Chinese suppliers. Price comparisons are not always accurate as the prices often seem to magically increase after the initial samples have been ordered. It is not the place to go to see the newest designs, although an increasing number of companies now show own-label shoes with own designs. You need to know what you are looking for, have a fair idea of the price you want to pay, and how many pairs you will estimate to buy before you go. But it is definitely worth a visit, even if only to be impressed by the size. 📌

Some of the footwear featured in November's show.

CREDIT: WTP



Adidas is hoping to make its manufacturing processes faster and more flexible. CREDIT: ADIDAS



'The Future of Manufacturing', adidas' Speedfactory project, is using the specialist know-how of German robotics and textile engineers to produce a novel framework for making shoes.

## The robots are coming

Customised athletic shoes are not a new idea but, with an average lead time of between four and six weeks, not particularly convenient either. Adidas is looking to change that through the Speedfactory project – a collaboration with four German companies, partly funded by the German government, to “strike out on a new path” in terms of how products are made. The aim is to create new production technologies and efficiencies while looking into consumer needs, speed, flexibility and sustainability.

“It is important to us to be at the forefront of innovation and technology across all categories, to continue to provide our consumers with disruptive products and features in a sustainable manner,” a spokesperson for adidas tells us.

Adidas' focus will start with footwear, while its partners bring varied know-how and ambitions. Automotive supplier Johnson Controls is looking at textiles for car seats; KSL Keilmann Sondermaschinen, a specialist in 3D robotic stitching, hopes to create machines that can stitch faster and more intelligently; Fortiss, part of the TUM Technical University Munich, is researching robotics and embedded systems; while ITA RWTH Aachen, Aachen University's textile institute, is focusing on textile handling systems.

“The future of manufacturing might be about different materials or product features and functions which we have not considered yet,” says Gerd Manz, senior innovation director at adidas. “It could also be about new production technologies and new ways of engaging with our consumers and their needs. We are asking ourselves lots of questions, such as: How can we be faster and more flexible, and what environmental footprint can we possibly leave?”

The adidas-initiated project began last October and will continue until September 2016, during which time representatives will “interact constantly” to share findings, and meet every quarter to chart progress.

### Process innovation

“Process innovations for Johnson Controls is as important as product innovation,” says Dr Andreas Eppinger, vice-president of technology in the group's automotive seating division. “Sewing covers for vehicle seats is largely by hand. Increased automation is very complex. Nevertheless, we are convinced it is feasible.”

Disruptive products by their nature have the ability to change the prevailing structure of an industry. Speedfactory aims to

combine the capabilities of humans and machines to not only optimise the cutting and sewing, but also the entire handling of textiles. Fabrics will be laid out in a new way, positioned next to each other and then joined together in a quicker manner.

"At the project's conclusion, the prototype of a system should be in place, in which humans and robots work together to produce textile products," says Ulrich Andree, director of global communications at Johnson Controls. "Our ultimate goal is to increase automation."

Johnson Controls and adidas say they are hoping to develop products with 'intelligent' technologies and which can be made in a 'flexible manner'. "This will enable both companies to produce closer to our customers and to fulfil their demand for customised products quickly," adds Mr Andree.

The ability to customise is a big driver for adidas, which sees this as something consumers will increasingly desire. Increased automation also raises the possibility of near-shoring. As cost savings made by locating manufacturing in Asia diminish due to rising wages, companies are looking to offset them by bringing factories closer to home. If fewer workers are needed, labour costs become less relevant, and reducing transport costs and carbon footprint might become more important stipulations.

### Government support

This is one reason why the German government is backing the project. Its High Tech Strategy, launched in 2006, comprises climate and energy, health and nutrition, mobility, security and communication. The Autonomic for Industry 4.0 programme is focused on combining state-of-the-art information and communication technologies (ICT) with industrial production, innovative products and skill-intensive electronic services with the aim of securing wealth and jobs. "The objective is to push the development of autonomic systems to establish Germany as a leading industrial base for new and forward-looking internet-based technologies," according to the companies.

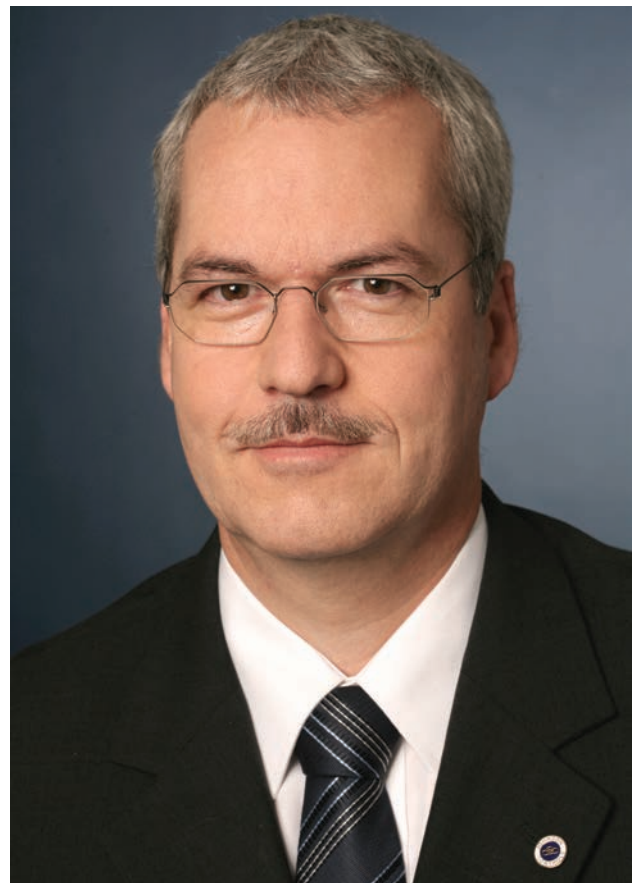
Johnson Controls believes advances in ICT will revolutionise industrial production over the coming decades. "It is crucial to set the course early on," says Mr Andree. "The High-Tech Strategy 2020, with Speedfactory feeding into this, will strengthen the competitiveness of the German industry and its job market."

Expected outcomes include a reduction in the amount of energy needed, more environmentally-friendly processes and greater efficiency in relation to material wear.

### Machine interaction

Munich-based Fortiss is focusing on two research areas: process modelling and human-machine interaction. In terms of cognitive process modelling, the institute is developing concepts for modularising production processes. Production is divided into steps that can be executed by machines or humans. "The goal is to quickly get from the design to the final product," says a spokesperson for the group. "In terms of human-machine interaction, Fortiss is focusing on the development of concepts to support human operations. The interaction has to be intuitive, safe, and at the same time ergonomic and adaptive to human needs. The goal is to reduce the workload on the human and to keep it as low as possible.

"Within Speedfactory, existing approaches will be evaluated regarding their suitability for the textile and sporting goods industry," she adds. "New concepts will be developed, as well."



Dr Andreas Eppinger, vice-president of technology in Johnson's seating division. CREDIT: JOHNSON CONTROLS AUTOMOTIVE EXPERIENCE

ITA will look at the automatic production and handling of fabrics by robots and develop new handling systems. This includes the chain from the production area and joining processes.

### Future thinking

"In the sporting goods industry, the way products are manufactured has changed significantly over the past decades: from small and family-run businesses – operating locally and manually – to global players with (partly) automated production lines and a global consumer base," says Jan Hill, a senior development engineer at adidas.

"For a long time, the company has realised that innovation will decide future success and that only innovation will ensure the group's competitiveness. This is why the group invests in initiatives like DryDye or the Manufacturing Excellence Programme and now into Speedfactory."

When Nike and adidas launched knitted running shoes in summer 2012, it was clear the companies were looking at cost savings associated with reduced labour; in fact, Nike has spoken recently of "engineering labour out of the product" and its own "manufacturing revolution" being undertaken by its supplier factories.

The big brands are moving towards increased efficiencies to reduce labour, waste and impact – and ultimately, to drive profit. "New technologies always unlock new opportunities," concludes the adidas spokesperson. "We are convinced that new ways of manufacturing will offer additional solutions and strengthen the production portfolio of the adidas group to generate competitive advantage." 🌐



*The main social challenges in the footwear supply chain are working hours and wages.*

CREDIT: SHUTTERSTOCK

Varying audit standards and codes of conduct can lead to confusion at factory level, according to umbrella groups, who say collating best practice will lead to harmonisation across the industry.

## Common cause

It has become a familiar tale. Brands are not keen to be thrust into the limelight when it becomes public that suppliers' standards are below expectations and put pressure on factories to conform. At the same time, they expect the cheapest price and the shortest lead times which pressurises factories to set up longer shifts, pay lower wages or scrimp on training or safety aspects. The Rana Plaza disaster in Bangladesh in April 2013, where more than 1,100 workers were killed when the complex collapsed, highlighted both the poor physical working conditions and the fact that some suppliers had been sub-contracting work to meet tough targets, unbeknownst to their customers. Setting forth conditions that need to be met by suppliers can offer some kind of reassurance that standards are being met – although the sheer complexity of some large brands' supply chains means that vetting and regulating these is difficult and costly.

When Timberland reported the results of factory audits earlier this year, it found 80% of inspected factories (48) did not meet the standards it had set out and were "accepted to be upgraded" (on minor issues). Nine were "accepted" immediately (15%) and three were rejected (5%).

Instigated by owner VF Corp, which bought Timberland in 2012, the new audits in 2013 found 43% of suppliers had unsatisfactory working hours (exceeding 60 hours per week, 12 hours per day or more than six consecutive days) while 8% were paying below minimum wage and 1.3% were using prison or debt-bonded labour.

In 2013, adidas issued 66 warning letters to suppliers across 14 countries, and terminated nine agreements because of concerns about social and environmental non-compliance. It interviewed 1,800 workers in the Philippines, Vietnam, Mexico, China and Thailand. "Many were encouraging. Suppliers paid

wages on time, complied with legal minimum wage rates, and the wage structure consisted of many non-monetary benefits," it said. "Other findings were less positive. There were instances of under-payment of overtime, workers not being well informed of the current legal minimum wage, the piece-rate system being the overly dominant method of calculating wages, and the lack of a direct link between the wages paid and the factory's economic performance."

The groups said mitigating the root causes of this would be a "main focus" for 2014, adding that it would look at suppliers' wage-setting mechanisms and integrate Fair Wage components into its monitoring tools.

While these findings sound worrying, they are echoed by other companies. It is also worth noting that a large number of companies either do not undertake these kinds of inspections or keep their findings private.

### **FDRA's new standard**

However useful a code of conduct is, if manufacturers have to sign up or adhere to more than one it can be confusing, says Matt Priest, president of the Footwear Distributors and Retailers of America (FDRA), which counts Nike, Puma and Wolverine among its 300 members. He cites the example of one customer insisting a fire extinguisher is placed in a certain position on the wall versus a competitor who expects the opposite, meaning the factory is forced to keep moving it. There are bigger issues at stake, and a standard adopted across the industry would promote "synchronicity and drive uniformity", he says – particularly for the footwear industry which has a "unique dynamic".

In July the year, the association launched its own code of conduct. FDRA's factory compliance and enhancement committee, chaired by Mike Jefferson, president of global operations at Wolverine Worldwide, analysed dozens of existing codes and collated what it deemed as best practice into one document, which has been offered to brands and factories on a take-it-or-leave-it basis: "You can adopt the whole thing as your own or take pieces out of it, or you can ignore it for the time being; people can use as they see fit," says Mr Priest.

"We've had companies that didn't have one and are now using ours; some that are supplementing what they currently have and a couple are considering replacing their own so they can help us drive this forward as an industry standard."

The code covers management systems, conditions, structural safety and transparency. The challenges, he says, are "what they've always been": the working hours and wages. "There are obviously zero-tolerance issues – child labour and enforced labour and those kind of things, but there are other issues that are driven by the seasonality and the demands of the industry."

"We hope there will be continuous improvement. Factories that adhere to the code understand it's a work in progress, and transparency is key for it to be successful. Beyond that it's about moving in the right direction and enhancing the way in which factories pay their people and how many hours are worked."

Monitoring whether there is in fact 'continuous improvement' is another challenge. The FDRA hopes that if the code can be adopted on a large scale, it will be able to draw up an audit process to vet against. To aid this, it is launching a factory recognition programme where brands and retailers can nominate factories that they feel adhere to the model. "We have a sub-committee that will review submissions and

nominations as well as recent third-party audits to see whether or not the factories meet, or are trying to meet, the code," Mr Priest continues. Launching new audits will be a difficult task, he admits. "One thing we all know is that there's audit fatigue."

The code has been translated into Chinese and was introduced to partner factories during the summer of 2014, with more workshops planned for the coming months. FDRA will carry out its own testing and is scheduled to reveal the results as a blind case study before the end of the year. The document will also be translated into Vietnamese and rolled out there towards the end of the year.

### **ZDHC's work in progress**

The Zero Discharge of Hazardous Chemicals (ZDHC) group – whose members include adidas, New Balance and the European Outdoor Group – also has its sights on a new audit standard, with an emphasis on chemicals management. Factories have been taking part in pilot audits to evaluate how well the draft protocol works.

The feedback has flagged up what ZDHC refers to as "many opportunities for improving". The audit, which included 300 questions, was thought too comprehensive by some. Factories said they would have to allocate more time than they had envisaged and said it seemed designed for large facilities rather than small- to medium-sized operations, and some questions needed clarifying. Auditors admitted they would need additional training to use the tool effectively.

Version 2.0, to be published towards the end of this year and whose details will be made public, will include a standalone, chemicals-specific audit that facilities can use as a self-assessment if desired.

"Long term, the intention is to have multiple stakeholders adopt this tool as industry standard for use as their generic environmental audit or self-assessment tool," said the group. "It is our hope that this tool will be included in the suite of tools used by the Sustainable Apparel Coalition, Outdoor Industry Association, Global Social Compliance Programme, Leather Working Group, Better Work, Fair Labor Association and more, towards scaled adoption and a new approach in the apparel and footwear industry for chemical and environmental management."

These groups join organisations such as Worldwide Responsible Accredited Production and AsiaInspection that already have well-established processes in place. Some brands will continue to carry out their own audits until they are convinced, or due to the complexity of their chains; others might gravitate towards more generic tools. Great progress is being reported in some regards: Timberland has met its greenhouse gas targets two years ahead of schedule and wage rises and extra benefits are being secured [Nike supplier Yue Yuen in August agreed to extra benefits to the tune of \$53 million]. "There's notable traction taking hold in supply chains worldwide: corporations putting their money where their mouths are and governments moving forward on legislation," said Sebastien Breteau, CEO of AsiaInspection.

A growing number of new standards will need agreement across sectors, however, so as to simplify and not increase the burden on factories, ultimately aiming to make them safer and more comfortable places to work in and reduce their impact on the land. "There's onus on all of us in this process, whether you're on the customer side, the trade association side or the factory side to help drive this along together," says Mr Priest. 



# Integrated polyurethane footwear

KARSTEN STÖBENER AND BJÖRN DORMANN, Klockner DESMA Schuhmaschinen GmbH

The main aim when designing footwear is to make the final product as attractive as possible to prospective purchasers. While vital, this is of course only part of the overall equation. In addition, a wealth of technical considerations have to be considered including grip, abrasion resistance, shock absorption, cushioning and ankle joint support, etc. In traditional shoe designs many visual and technical functions are performed by individual components such as for example a mid-sole made from blown polyurethane that combines low density with high shock absorption.

Similarly, various pre-cut and pre-fabricated parts help to complete all the other functions of the shoe. In most instances, these are assembled manually using processes involving either stitching or cementing in order to produce the finished shoe. Such traditionally designed shoes may contain as many as 65 distinct parts requiring up to 360 mainly manual processing steps for assembly. Producing footwear this way also has some distinct drawbacks.

## CURRENT DRAWBACKS

Mass-producing footwear in this way requires numerous workers per production line with each processing step performed at a specifically equipped workplace. To achieve the required output, a number of identical workplaces for each processing step is often needed. As a result, production costs are mainly driven by increasingly rising

labour costs in shoe producing regions. In addition, manual assembly by cementing is becoming more and more restricted in terms of volatile organic compounds (VOCs) calling for new adhesives and processing procedures. And,

Figure 1 – A new approach to shoe design.

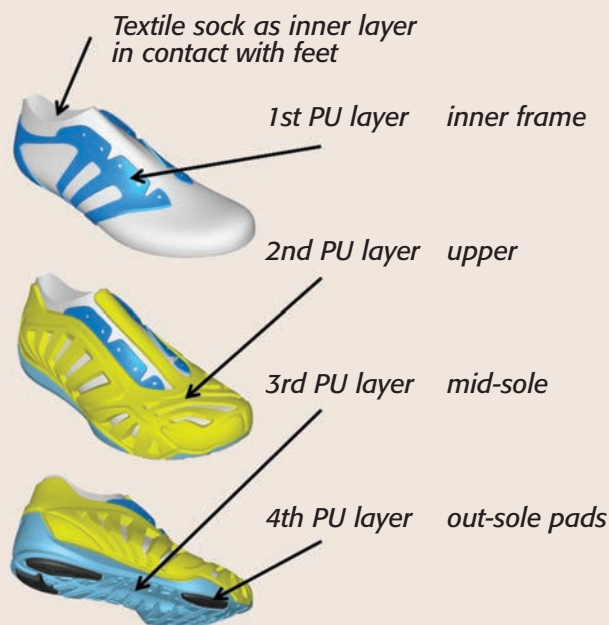


Figure 2: Inner frame on textile fabric in mould 1 (left) and out-sole pads in mould 2 (right).

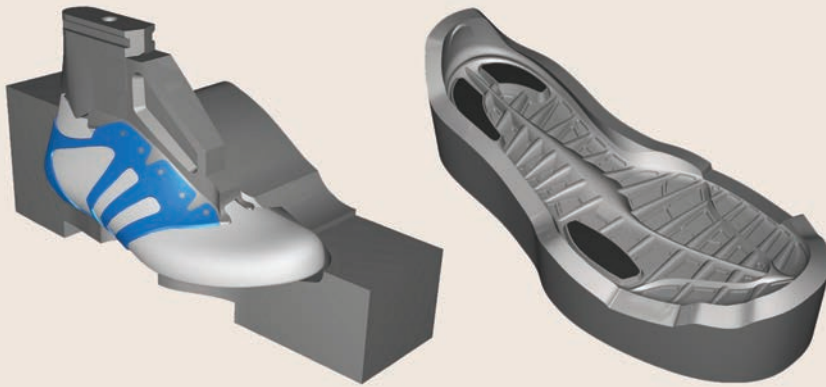
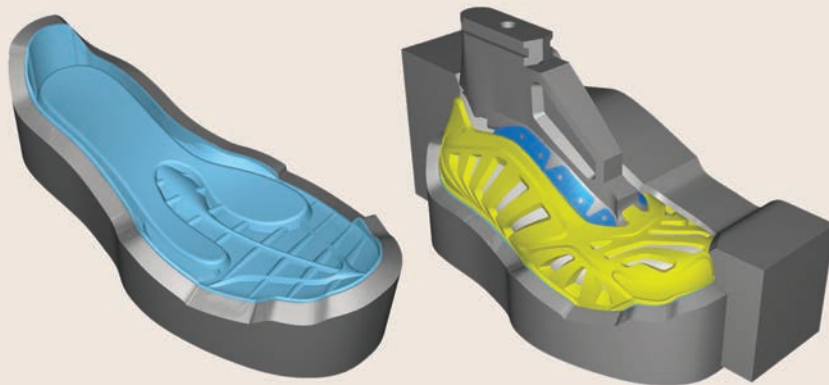


Figure 3: Mid-sole (left) and complete shoe with upper in mould 2 (right).



finally, after-life recycling is in most cases not economically feasible since cemented shoes made from a variety of different materials are complex to separate.

Even though shoe assembly is predominantly manual, handling and processing of the individual shoe materials and components also requires machines and tools involving significant investment costs for shoe producers and their suppliers. For each new model, production and assembly lines may have to be specially configured prior to starting production.

In addition, short term changes in production schedules are often uneconomical. It can also take approximately eight weeks from order to delivery (standard shipping by sea container) for consumer markets in the US or Europe. Producers and retailers are therefore forced to estimate market demand at date of order and are unable to alter volumes and colours in response to changing demand.

## FRESH APPROACH

Integrated design using polyurethanes could greatly simplify footwear production. Analysis of existing casual

footwear suggested that the required visual and technical functions can all be achieved using just four layers of polyurethane (Figure 1).

The shoe is broken down into four parts: inner frame, upper, mid-sole and out-sole. The inner frame is designed to bear high mechanical loads, stabilise the shoe and carry the lacing. The upper provides the desired visual design in terms of symmetry, colour and surface texture. In addition, it also needs to be flexible, geometrically stable and of low density. The mid-sole's function is mainly energy absorption and cushioning at low weight. Finally, the out-sole must be slip and abrasion resistant and, together with the mid-sole, also a visual element of the overall design. In the example shown, the out-sole has been reduced to simple pads placed in highly stressed regions of the sole.

## THE PROCESS

All that is needed to produce such a shoe is one low pressure rotary table injection moulding machine and two mould sets per size for left and right feet. In the first stage, the shoe's inner frame is directly moulded onto a

carrier fabric pulled over a last (Figure 2 left). At the same time, the out-sole pads are produced in the second mould (Figure 2 right) and then the mid-sole directly onto it in the same mould (Figure 3 left).

The last with inner frame on its carrier fabric is then transferred into this second mold (soles remain in mould two). The upper layer is finally injected into the cavity between frame, carrier fabric and sole (Figure 3 right). This joins all four layers together without any cementing. The process is simply completed by de-moulding, flash trimming, inserting an insole and threading the laces.

An example of a finished shoe (Desma Quadwrap Trainer) is shown in the title image. It was produced using only three PU systems all developed and provided by Bayer MaterialScience.

|                        |                                                                                       |
|------------------------|---------------------------------------------------------------------------------------|
| INNER FRAME:           | <b>BAYTEC 89-430</b><br>(ADJUSTABLE SHORE<br>HARDNESS A 65 TO A 90,<br>HIGH STRENGTH) |
| UPPER AND<br>MID-SOLE: | <b>BAYFLEX 98-100</b><br>(ABRASION RESISTANT,<br>GOOD FLOW,<br>UV STABILISED)         |
| SOLE-PADS:             | <b>BAYTEC CC 85-103</b><br>(EXCELLENT SLIP AND<br>ABRASION RESISTANCE)                |

For each layer, properties such as shore hardness, colour or density can be adjusted in-process through variation of the component mixing ratio as well as the addition of colours or agents. These additives are dosed into the liquid polyurethane directly in the mixing head of the injection machine. The integrated additive dosing system can handle up to six additives or agents and, as a result of the self-cleaning function of the system, colour changes from shot to shot are also possible.

Using the same technology, a blowing agent can also be added with polyol, isocyanate, colour and blowing agent all homogeneously blended in the mixing head and injected into the mould cavity. Since mixing and injection takes only a few seconds, foam expansion practically starts in the mould. The expanding foam fills the cavity but keeps a closed skin at its outer surface. In the example shoe

shown, the addition of less than 7% blowing agent reduced upper/mid-sole density to approximately 220 grams/litre.

## PRODUCTION

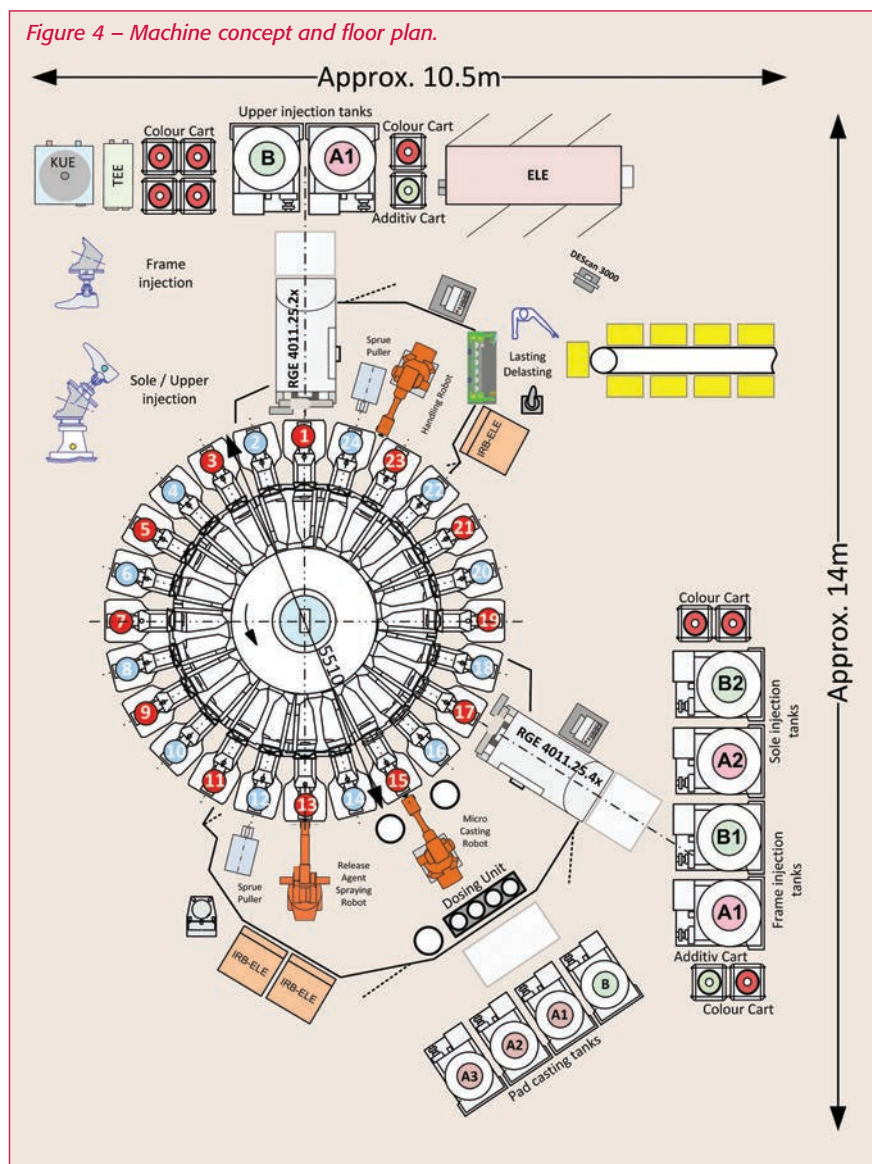
Production basically requires just one Desma D522 machine system (Figure 4). At the centre is the rotary table equipped with 24 or 36 mould stations moving counter clockwise. Two moulds per shoe adds up to four stations per pair and size resulting in six or nine pairs to be produced at a time on one machine. The four polyurethane layers are produced using two low pressure injectors and one micro casting head mounted to a six-axis robot. In addition, one robot sprays release agent into the open moulds while a second moves lasts between moulds one and two plus the manually operated lasting/de-lasting station. The entire machine can be operated by a single employee who also lasts the carrier fabric and de-lasts the moulded shoes.

The cycle starts with manual force-lasting of the carrier fabric over a last and placing it in a transfer station. There, a handling robot inserts it into mould 1, the mould closes and the first polyurethane layer (inner frame) is injected. In parallel with this, the out-sole pads are cast into the bottom part of open mould 2. A dummy, replicating the lasted upper is moved in, the mould closed and the mid-sole injected.

After curing, sprue pulling and mould opening, the last—complete with inner frame etc.—is transferred from mould 1 to mould 2 by the handling robot. Mould 2 is closed and the fourth layer injected to complete the shoe. When this has cured, the mould opens and the handling robot moves the last with the finished shoe back into the transfer station for manual de-lasting. Two complete turns of the table are required to produce a shoe but, by parallel processing in both moulds, cycle times of well below 20 seconds are achieved.

## ECONOMICS

A traditional manual shoe assembly line can employ up to 200 operators for an output of 1,200 pairs per eight hour shift. Manpower expenditure is therefore approximately 80 person minutes per pair.



While material handling and, in particular, positioning of sub-components prior to assembly are predominantly performed manually, a significant number of production machines are needed for die-cutting and stitching uppers, lasting, injection moulding of sole units, cementing and then sole attaching. As a result, traditional production methods can create considerable investment costs particularly keeping in mind the fact that a significant proportion of the 200 operators involved will need specific machinery and tools.

As already explained, integrated footwear design and its automated production requires only one machine operated by one or two employees. Output from such a machine is estimated at between 330 pairs per eight hour shift with a 24 station machine and 560 pairs on a 36 station one. While this is considerably less

than achieved from a traditional assembly line, manpower expenditure per pair is reduced to approximately just three minutes, a more than 90% reduction compared to traditional processing.

Due to the high degree of process integration and automation plus the complex moulds involved, the investment cost for one direct moulding machine is likely to be higher than for a conventional production line. However, this will be more than compensated for by the greatly reduced manpower expenditure per pair that will be achieved.

## POTENTIAL

Desma believes that this fully integrated system is capable of producing attractive and fully functional casual footwear. Due to polyurethane's great versatility, key properties such as high strength, low

density, slip and abrasion resistance are included, plus the ability to achieve almost any colour combination. In addition, both polyol and isocyanate system properties can be customised in-process by adjusting component mixing ratios and adding colours, blowing agents or other additives. Indeed, the addition of a blowing agent can reduce density anywhere down to < 225 gram/litre as required.

With this integrated design approach, shoe production can be simplified to polyurethane injection moulding and casting. All four layers are merged in-process by moulding mid-sole and upper directly onto a previously produced inner frame and out-sole. Cementing and, therefore, volatile organic compounds from adhesives are avoided. Making the shoe from just one material family is also a vital step towards cost-effective recycling.

On the business front, investment is simplified to just one injection moulding machine and there is total process control from raw materials to finished product. Footwear can be produced with a minimum of labour,

energy consumption and resources. It also offers a totally practical option for those seeking to move footwear manufacturing back in-shore to high

labour cost countries and bring mass production closer to consumer markets with all the other advantages that brings. 

## EFFICIENT PU

Polyurethane is an extremely versatile material and the Quadwrap Trainer demonstrates its potential for producing everyday footwear such as casual and athletic shoes. In footwear featuring midsoles, replacing traditionally used EVA for that component can also cut costs as well as simplify the overall manufacturing process.

In addition, PU offers superior material properties compared with EVA. Its high mechanical strength for example, makes shoes robust and durable. Not only are the Bayer PU systems used to produce the shoe particularly resistant to abrasion, tearing and tearing propagation, at 5–15% they have significantly lower compression sets than EVA (20–35%). In addition, thanks to their high flowability, they also offer greater design freedom than EVA in terms of fine detail and definition.

Because the individual PU systems also feature very low densities between 220 and 230 g/l, their potential for use in the production of lightweight sports shoes is comparable to that of EVA enabling manufacturers to produce a lightweight shoe at a competitive price.



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WHEN YOU NEED TO BE SURE

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# Shoes for senior citizens

**T**he increasing number of people over 50 years of age in western countries is the result of a falling birth rate and the fact that people are living longer. In France, the proportion of people aged 60 or more increased from 18% in 1970 to almost 24% by 2012, totalling more 15 million. It is estimated that by 2050 no less than one in three will be over 60. This steady increase in the number of senior citizens offers the potential of a new market for footwear, one which a group of French manufacturers has already recognised. The problem however is just what the ideal criteria are for suitable products.

Three years ago, they joined with CTC, the French technical centre for the footwear industry, and with support from the French government, to determine the needs of older people, collate the results and develop new footwear products to meet them. Referred to as ADOCS (improved footwear for seniors), the project set out to pursue four lines of enquiry: anthropometric measurements, ergonomic analyses, analysis of locomotion, and style and trends.

Although much work has been done in the past on children's shoes, there has been little if any regarding people at the other end of life. Little information has been available let alone any suggestion of a general data base. ADOCS looks set to change all this and the work CTC has carried out so far has already shown just how much feet change as we grow older. It has also dramatically demonstrated how this also changes the way we walk (locomotion) and suggests older people really would benefit from specifically designed footwear in the same way that children do already.

To fully understand these changes in locomotion, it is necessary to also examine the general physiological changes that occur over time. Our general physiological capacities obviously decrease with age but, exactly why for example, do we become out of breath more quickly during physical activities such as walking or climbing the stairs? A large part of the answer is due to overall changes that take place in the body during the ageing process.

## PHYSIOLOGICAL CHANGES

Many physiological changes appear with advancing years. For instance, muscle strength is reduced by 1% to 1.5% every year from the age of 40 and muscle mass decreases (sarcopenia) by the same degree to be replaced by fat mass. Speed of movement also deteriorates, caused by a decrease in muscle power which accelerates over the final years. A reduction of 1% per year between 50 and 60 years of age increases to 2.4% between 70 and 80.

Cardiac function changes and output slows down due to a linear decrease in heart rate while the speed of blood flow also becomes lower. Even during less intensely physical activities, such as walking, the blood flows more slowly to the active muscles and is therefore less effective. This cardiac degradation happens whatever the level of physical activity people undertake.

The muscular changes also cause a reduction in VO<sub>2</sub> (maximal oxygen uptake by the lungs) so that the body is not able to absorb as much oxygen as before when exercising. This is why no one of 60 years of age will ever achieve a world record time for a marathon even though a surprising number now regularly take part in them.

Finally, there are changes to the nervous system whereby the alpha motor neurones that transmit instructions from the spinal cord to the muscles (the way out of the central nervous system) diminish after 60. In people in their nineties, one can even see decreases in the order of 30%. Although these changes vary from person to person depending on sex, age, physical activity, lifestyle, etc., they can nevertheless be found in a majority of cases. Analysing the way an older person



CREDIT: SHUTTERSTOCK / T-DESIGN

walks therefore entails a consideration of all the general changes that occur within the body but, at the same time, it must be principally focussed on those taking place in the foot itself.

### CHANGES TO THE FOOT

The skin of the foot weakens with age, increasing the risk of blisters or wounds. Its three layers (epidermis, dermis and hypodermis) all become thinner so that it takes longer to heal. It also loses its elasticity due to the destruction of collagen and becomes drier. After 70 years, there can be up to 70% less active sweat and sebum (an oily wax) producing glands that help preserve hydration of the skin as, little by little, they begin to disappear. Nails also become thick and dull, and are the cause of 55% of chiropody consultations.

One of the major problems of the older foot is atrophy of the plantar capito. These comprise fatty lobules at the heel and under the metatarsal heads that act as natural buffers. The two areas thus become more painful and the skin becomes fine and rough, conducive to the development of corns, calluses, etc. Thinning of the plantar capito can in fact be found in more than 25% of the over 50s.

Sensory perception of touch, vibration and overall sensitivity decreases with age, while achilles reflex (reflex action to pulling the toes up) also becomes less efficient. How to explain these changes? During ageing, the number of receptors decreases as the skin becomes thinner. Messages sent via the nerves are less numerous and the reactions they generate become slower and less accurate. Achilles reflex is absent in 30% of people of 70 or more. This loss of sensitivity alters the interface between the foot and the ground surface as well as our sense of balance. This is why older people's reaction to uneven surfaces is slower and less precise than that of a younger person.

Beyond the age of 80, the foot becomes more flexible and the arch much weaker. Joint mobility is impaired and osteoarthritis, which can develop from the age of 40, is also commonplace in elderly subjects. Cartilage becomes thinner and may even disappear, leaving space for the formation of osteophytes (bone spurs)



*With age, the skin becomes drier and more fragile.* CREDIT: SHUTTERSTOCK / ALICE DAY

around the joints. Joint angles are also reduced and the joints themselves become painful.

In addition, tendons lose their elasticity. Indeed, from as early as 50, we produce one-third less collagen than at age 20. The number of tenocytes (cells that form tendons) falls making tendons more rigid, causing an increase in musculo-tendinous stiffness and reduced tendon strength. For example, while the rupture level of a tendon in a person of 20 to 30 is about 8 kg/mm<sup>2</sup>, for one of 70 it is around 4.8 kg/mm<sup>2</sup>. This change explains why sports less prone to joint traumas such as

swimming and cycling are recommended for older people rather than ones such as running, where joints take the full body weight.

### PATHOLOGICAL PROBLEMS

In addition to these 'normal' developments, there are also various ailments that can amplify them such as hallux valgus, a distortion and swelling at the base of the big toe (bunions). This is the most common foot deformity and is present to some extent in half of all people over 50 in a proportion of seven to one in favour of women. Major causes are shoes that are too tight and a higher than normal instep. The consequences are numerous and damaging. Indeed, a pronounced bunion increases instability when walking and therefore the risk of a fall. Pain is also more frequent and more intense. The prevalence of this condition is therefore a major factor when producing shoes for older people.

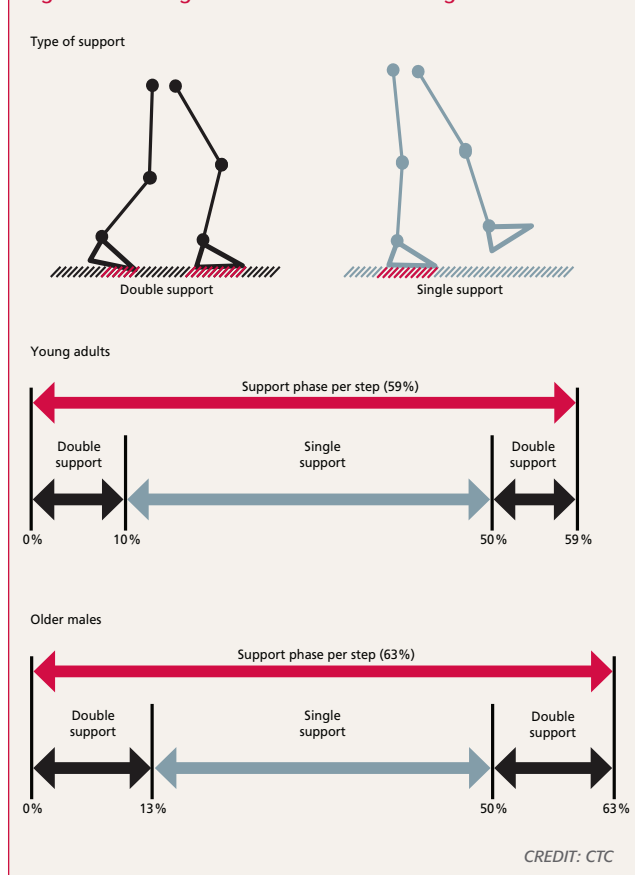
Claw toe is a contraction or bending of one or two (fairly rare) joints of the second, third, fourth or fifth toe. This abnormal flexion can create pressure on the foot when wearing shoes and also make foot entry more difficult. Symptoms include pain or irritation when wearing shoes and corns or callouses on the affected toes or under the foot caused by constant rubbing against the shoe. This condition is again common in the elderly with more than 30% of over 70s affected. It can be the result of muscle or tendon imbalance, badly fitting shoes or, in some instances, simply be inherited.



*Hallux valgus is a common problem in older people.*

CREDIT: SHUTTERSTOCK / ALEXANDER BARK

**Figure 1 – Changes in foot contact with the ground.**



Arch collapse can be found in a quarter of all elderly people. The fascia or plantar fascia, the fibrous membrane forming the arch is degraded due to the decrease in collagen. The older foot tends to flatten out, one of the causes of the increase in foot width in old age. In cases where the sole of the foot touches the ground completely, the person concerned is referred to as being 'flat footed'.

In 2005, approximately three million French people suffered from diabetes. By 2025 that figure is expected to double and one in six diabetics can expect to have at least one foot ulcer during their lives. These infections, if not treated properly, can lead to a partial or full foot amputation. The glycemia (blood sugar) level associated with this disease degrades the body's immune system so that wounds to the foot that older people are more prone to experience take longer to heal and the risk of infection becomes more serious.

Rheumatoid arthritis affects more than 300,000 people in France with women between 40 and 60 most at risk (two to three times more than men). This disease causes an inflammation of several joints at a time, including those of the foot. It thus leads to a weakening of the support structures of the foot (joint capsule, ligaments, tendons and muscles), especially in the metatarsal region. Over time it can destroy ligaments and tendons to such an extent that articulation of the foot is lost. It also increases the risk of hallux valgus, flat foot, instability when walking and a risk of falling in the elderly. All these physiological and pathological conditions that arise in old age inevitably also lead to a gradual decrease in a person's independence.

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## NON-LOCOMOTORY CHANGES

As we age, we become less inclined to take risks and so the way we walk tends to become more cautious. The foot spends more time in contact with the ground than when younger so that less and less time is spent resting on a single leg which helps older people to cope better with uneven surfaces, etc. The downside is a reduction in walking speed as they now take shorter steps (*Figure 1*). This is more pronounced in women than in men. The width of the step is also increased and the foot itself is not raised so far when it is lifted off the ground. As a result, it tends to be carried forward closer to the ground surface, so increasing the risk of tripping.

Finally, other aspects of general physical deterioration can accentuate these changes. Decreased vision, degradation of the cognitive apparatus and the inner ear all serve to adversely affect balance in older people, increasing the likelihood of a fall. 30-50% of people over 65 experience at least one fall per year and over 50% for those over 85. It is also known that in 40% of cases, the future autonomy of the person concerned is compromised. One of the main objectives of the ADOCS project is to limit the risks imposed by all these various conditions and ailments by creating a set of parameters for footwear aimed specifically at older people.

## CHALLENGES TO BE MET

What we can see from all this information that CTC has gathered so far, is just how much feet can change with age and how complex that change can become. Of course, not

everyone is affected in the same way and, in some, the ageing process will be slower and the negative impacts either less apparent or delayed. Regular physical activity can be a major influence in this regard. Nevertheless, it is abundantly clear that if manufacturers want to tap into this potentially lucrative and expanding market, there are many physical factors they must take into account.

One key area is likely to be last design where it might prove necessary to make each shoe style available on more than one last so as to cope with the various conditions and age groups. Alternatively, more shoes may need to be marketed with a variety of optional footbeds offering varying degrees of support and cushioning. Correct styling will also count as people's perceptions and preferences also change the older they become. Overall comfort will be important in terms of soft and low friction lining materials while safety will call for non-slip impact absorbing soles. Finally, shoes should be correctly fitted by retail staff with sufficient knowledge of the pathological conditions that affect older people.

So far, CTC has been able to establish a short list of the types of footwear to avoid for older people. Not all parameters have yet been tested, however, so the results remain uncertain. The project is very much an ongoing exercise and still has some way to go. However, CTC hopes that it will soon be able to design a prototype based on the data being collected that will enable manufacturers to either modify their existing products or create new ones reflecting the real needs of the older generation. 

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**IN A SURVEY, 62% OF PEOPLE WERE UNAWARE THAT SHOES WERE AVAILABLE IN DIFFERENT WIDTH FITTINGS.**

## Who's to blame?

**A**ccording to the UK College of Podiatry, British feet have become substantially larger since 1970 as the population has become both taller and heavier. It also says that both men and women admit to wearing shoes that are too small and too narrow. And we wonder why the incidence of foot problems in later life is also on the increase! The College believes this may be due to a combination of things including a lack of understanding of shoe sizes and width fittings and not having shoes professionally fitted. Even more disturbing is that many people knowingly buy the wrong size because of fashion or if the price has been reduced in a sale.

The research, which was commissioned to mark foot health awareness campaign Feet for Life month earlier this year, showed that the average shoe size in the UK has increased by around two sizes since the 1970s. The average man in the UK now wears a size ten (EU45) compared to a size eight shoe (EU42) 40 years ago and the average woman a size six (EU39) as against a size four (EU37).

Of those surveyed, 26% of men and 41% of women said their feet had changed in size as an adult, with 48% of men saying they had become bigger and 61% saying they were wider; 35% of women reported an increase in size with 68% saying they were wider. Both sexes attributed this to putting on weight (41%) and getting older (55%). Nevertheless, 34% of men and 46% of women admitted to buying shoes that did not fit, with 44% likely to buy shoes that were too small as against 24% that were too large, or nearly double.

### BUYING THE WRONG SIZE

When asked why they had bought shoes that didn't fit properly, the main reasons given were as follows: 35% said they thought they were the right size but then found them uncomfortable in wear, 27% liked them but the shop did not have them in their size, 26% bought them online and didn't realise they would not fit, 19% as they were in a sale and 15% because they did not have time to try them on in

the shop. When asked what problems they faced when buying footwear, 20% said they had difficulty in finding shoes big enough and 51% found it difficult to find comfortable ones they thought fashionable.

The survey also suggested that people may not even know what size shoe they should be wearing, with 17% admitting to never having had their feet measured even as a child and the majority of others since their early teens. Astonishingly, a further 62% were not even aware that in addition to standard length sizes, it was also possible to buy shoes in different width fittings. With so many wearing shoes that do not fit, it is hardly surprising that nearly 29% of women and 18% of men also said they regularly suffered from sore and aching feet. Furthermore, nearly a third of both sexes admitted to keeping and wearing shoes even though they did not fit.

## WHY DO THIS?

It is hard to believe that, despite all the information that is readily available in the UK concerning foot health, so many people appear to be either totally ignorant of how to choose a pair of shoes that fit, or does know and yet chooses to ignore it. Even worse, so many knowingly continue to wear badly fitting shoes despite having to endure constant discomfort. Are all consumers like this or is the UK an exception? One can only hope that it is.

One reason for this phenomenon may be human psychology. Is it a case of self denial of having bigger feet in the case of women in the same way that they will often do their utmost to squeeze into clothes that are too small – vanity? That would not seem a plausible excuse for men, however, who on the whole prefer to be big rather than small. So is it just laziness in their case? Whatever the reason these people are knowingly causing themselves severe discomfort now and potential future long term harm. Another example of the illogical nature of the human psyche?

## AVAILABILITY

Manufacturers have been aware of a steady increase in foot size for many years and have adjusted their

size ranges accordingly. Many now also include more extreme sizes while on higher price point products a range of fittings is usually available. So, from that point of view, manufacturers would appear to be doing their best to cater for this increase in foot size; it is in their own commercial interest to do so.

If the shoes are available from manufacturers, there is no reason for retailers not to stock them; if the demand is there—which it apparently is—it is again clearly in their own interest to do so. It is possible that some discount retail outlets and supermarkets might hold more restricted size ranges as their business model is one of volume sales at low margins which implies the most commonly worn sizes. At this type of outlet there is often little or no advice available on shoe sizes and customers are left to their own devices.

There are however plenty of specialist footwear retailers who can offer this advice. Clearly their shoes are more expensive and possibly here lies the rub. In the writer's long experience of the footwear industry, the general public sees footwear as a low priority purchase. Indeed, it probably always has as witnessed by universal references over the centuries to 'poor shoemakers'. So, if you want shoes that fit and are not certain what was involved, one would have thought it made sense to go to a retailer who did.

## SHOE SIZING

There is one thing missing, however, and that, is the fact that the footwear industry despite having been a global one in every sense of the word for a quarter of a century still lacks a single unified system for shoe sizing. Indeed, in an age where CAD/CAM integrated design and manufacturing is in common use, shoes are still produced on lasts that are not only produced using various size grades but also vary from one manufacturer to another within the same system. There are in fact at least 11 possibilities including British, European, Russian, American, Mexican, Australian, Japanese, Korean, Centimetres, Inches and, not least, Mondopoint.

While many of these systems are

now rarely used, the situation nevertheless remains highly unsatisfactory from a consumer standpoint. A universal system, while causing short term disruption to manufacturers if introduced, would surely offer considerable long term advantages not least of which would be simplifying the global supply chain and making it easier for consumers to buy the right size. Granted there would have to be certain variations in cone height in order to cope with physiological variations such as Japanese high arches and African broad feet. A given length size wherever you were in the world would, however, always be the same.

## TIME FOR A CHANGE?

There was an attempt to do this some years ago based on the Mondopoint sizing system. This was originally developed for ski boot shells where the high tooling costs called for a sizing system that would be as accurate as possible while using the minimum number of sizes. It is based on a combination of average foot length and width measured in millimeters and is therefore far more accurate than other systems, and is why it was adopted by NATO and other military forces.

The idea originally stalled mainly due to a reluctance to change on the part of certain countries that still clung to Imperial measurements rather than change to metric. Now that most of the world has gone metric, it might be time to try again. The footwear industry has been hugely innovative during the past 25 years in so many ways and, as a result, has become technically advanced and highly sophisticated. Nevertheless, it still stubbornly clings to a confusing range of sizing systems that is no longer fit for purpose.

If there was just one sizing system, consumers would only need to establish their correct size once and then be able to buy shoes from any outlet in the confidence they would fit sufficiently well to prevent discomfort and avoid permanent damage. Perhaps the blame for badly fitting shoes does after all partly lie with the industry as well as consumers. Should we perhaps take another look at this? 🌀

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# 'Greener' PUCFs

**L**eather is becoming ever more expensive, driven for the most part by increasing demand from the world's automotive industry where leather upholstery has become a 'must have' feature for an increasing number of new car owners. Although it also continues to be the preferred material for shoe uppers, it has become too expensive for many consumers who cannot afford to pay the price of a pair of leather shoes. As a result, more and more shoes are being made using synthetic upper materials, particularly PU-coated fabrics (PUCFs) where China is by far the largest producer.

Figures suggest that some seven billion pairs per year are now being made using this type of material, at least one billion of which are sports shoes of one sort or another. While PUCF uppers might not be as comfortable to wear as those made from leather, they are not harmful to the wearer. They are, however, considered to be so to people employed in the manufacture of the material itself and to the environment in general. Why is this?

## PUCF

PUCFs are made by applying a very thin PU surface layer to either a woven or non-woven substrate with the latter providing a superior feel in the finished material. By carefully controlling the properties of the fibres used, a substrate can be made to bond precisely with its coating. They are made either by dry transfer coating using an embossed casting paper to impart the grain finish or, for better quality products, by wet coagulation which results in a smoother feel and better breathability.

In the coagulation process, the substrate is immersed in a solution of 25% PU and 75% DMF (dimethylformamide) that permeates and coats it. The substrate passes through further successively weaker immersions to a final one consisting purely of water. Coagulation occurs as the DMF leaches out

of the PU into the successive baths. It is this DMF that is potentially harmful to workers and, although this has long been recognised, developing an effective solvent-free system that was also cost effective has not proved easy.

A new production process called Insqin from Bayer MaterialScience may finally offer makers of PUCFs and their customers a chance to make their processes and supply chains solvent-free. The new range is said to offer an integrated package of pure waterborne PU technology, material co-development and certified manufacturer/partner programmes for PUCFs. The company is clearly confident in the impact its new process will have as it claims that it will help companies produce a new generation of PUCFs that will revolutionise the market. Bayer has a proven track record as a serious player in developing new PU polymers and one would not expect them to make such statements lightly.

## SUSTAINABILITY AND COST

Nicholas Smith, global head of textile coating at the company, says that Insqin offers a practical solution that addresses the ongoing battle between sustainability and scalability. All kinds of coated fabric can be produced in an innovative and sustainable way that is entirely free of solvents. What Bayer seems to have managed to do is to replace all solvents with water in both the polymer resin used as the raw material for coating and, more importantly the company says, in the actual production process in which additional process solvent is often required. In other words, Insqin enables the production of PUCFs without the use of solvents, thereby eliminating the risk to workers' health and of environmental contamination.

He says that at present it is difficult to say how much Insqin might add to production costs for fabric manufacturers who choose to make the change. "There is an



enormous range in production costs for PUCFs made with solvent-based processes, depending on the application concerned and requirements for effect, feel and performance. However, what can be said is that there are a number of factors that will play together to bring production costs down over time."

Economies of scale are important in determining production costs and, as the demand for these materials increases, he insists that production costs will inevitably come down. He is also confident that the demand is there as PUCFs have become indispensable to the footwear industry. A second factor to be considered is what he refers to as 'the economy of experience' whereby as producers become increasingly experienced in making the new materials, so their costs will reduce. "Finally, we expect the resource costs to play an ever increasing role in overall material production costs," he says. "As the cost of energy and water rises sharply in China, the lower energy and water consumption of the new processes will start to bring their own economic contribution."

### COLLECTIVE COMMITMENTS

While Bayer would appear to have a good system here, selling it to producers may prove tough going as PU coating is very much a price driven process. The company says it has foreseen this and has in place arguments designed to convince

companies to invest in Insqin. "Leading companies in the footwear industry have made collective commitments to improve the sustainability of their supply chains," says Mr Smith. "Insqin, by addressing not one but multiple sustainability impacts, is a response to a clear need from the market."

He does however acknowledge that, since the industry is so big and fragmented, it is important for large numbers of industry players to make a commitment to sustainability and to back that commitment with investment. Only if they invest in the necessary innovation can economies of scale and experience be reached; prices will then come down. "One or two companies alone will not bring about real improvement but, if the industry acts together, a major step-change will have been realised."

User organisations can either sign up for the complete integrated package or buy the technology and use it themselves; they will be free to avail themselves of as much or as little support as they need from Bayer. "PU-coated fabric manufacturers and their customers, the brand owners, tell us they benefit a lot from working with us," Mr Smith insists.

Bayer MaterialScience does indeed have considerable experience in developing waterborne polyurethanes and their formulation and application in making PU-coated materials. It says this has proved to be of great value to its business partners over the years as it encourages the development of better

materials, more suited to product needs, more quickly. A particular plus lies in the fact that it runs pilot coating lines at its own facilities, which allow it to show manufacturers how to scale the production of the materials to meet commercial demands.

### BETTER OFF WITHOUT SOLVENTS

Returning to the sustainability question, he says the standard process for making PUCFs for shoes, clothes and accessories has, throughout its history, carried a risk of solvent emission (as described earlier) that sometimes involved worker exposure. In theory, at least, he believes manufacturers ought to have been able to contain the risk, but concedes that in practice it seems to have been difficult to achieve. One suspects that added cost would have had something to do with it.

Having said that, he believes things are now changing and that current thinking in the industry favours ceasing the use of substances of potential concern. Unfortunately, the use of any solvents, even if the process is carefully controlled, requires high volumes of water and energy for rinsing. Insqin therefore represents a game-changer for the manufacture of this type of material. He is doubtless right but, at the same time, such a fundamental change is a big undertaking for PUCF producers and one that will also need a major commitment from retail brands. 🌱



CREDIT: SHUTTERSTOCK/MOONBLACK

The focus of footwear and apparel group VF Corporation is still broad, but in 2014 its senior management team has consistently said sports and outdoor are where all the momentum is.

# Outdoor and action all the way

**V**F Corporation, the group that owns outdoor brands The North Face and Timberland, has made it clear that its Outdoor and Action Sports division is the one generating most excitement at the moment. It has 25 brands in total and its denim division (which includes Wrangler, Lee, Rustler and others) is also strong. But, in recent comments, chief executive Eric Wiseman has said Outdoor and Action Sports, which also includes the Vans footwear brand (with its focus more on skate culture than outdoor), is where "all the momentum" is. "The strength of our business is in Outdoor and Action Sports," he says. "And The North Face, Vans and Timberland are the big three."

In its 2014 second-quarter results, VF reported 16% growth in revenues overall, reaching almost \$1.3 billion for the three-month period. Revenues at The North Face went up by 11% compared with the same quarter last year, while those at Vans were up by 21% and at Timberland by 19%. In celebrating all this double-digit growth, Mr Wiseman pointed out that the second quarter of the year is, traditionally, the weakest for sports and outdoor activity because, in the northern hemisphere, where VF has most of its business at the moment, the season for skiing and other winter sports comes to an end and warmer-weather activities such as camping and hiking have not yet reached their peak.

## Head to toe

Organic growth at Timberland owes something to a relaunch of its apparel collections, exclusively in the US, in the last year. Timberland has launched clothing collections a number of times throughout its 40-year history, but the focus since it became a subsidiary of VF has been on boots and other footwear. The recent "strategic, limited launch" of clothing has delivered very good results, the group says, and strong orders for the seasons ahead. VF says Timberland is "on track with what we believe this brand can do", which is to give outdoor consumers everything they need to wear, from head to toe.



*VF Corporation chief executive, Eric Wiseman, says sports and outdoor are the strength of the business.*

CREDIT: VF Corporation

It's only three years since VF Corporation acquired Timberland (for \$2 billion) with the express intention of expanding its outdoor business and it's clear from the figures, and from Mr Wiseman's reaction to them, that VF regards the move as a success (see panel). So much so that he says other acquisitions are a possibility. "We are a much bigger company now," he says. "We are a \$12 billion company and we need to be looking at larger acquisitions

to move the needle. Given our current size and cash flow, we could do bigger deals. We are pretty big players in the footwear space now and that, plus our experience with Timberland, gives us confidence we could do another footwear acquisition. I'm not going to say it's a top priority, but we could do it." VF's senior vice-president for the Americas, Steve Rendle, says: "We could not be more pleased with the progress this powerful brand is making, with great results across every category."

### ***March around the world***

With Vans the focus is still firmly on footwear and the challenges with this brand, the one in the top three with the biggest growth in the second quarter, are arguably more straightforward. "Most of the conversations we have about the Vans brand are about how under-developed it is geographically," Eric Wiseman explains. "And that doesn't mean just internationally, although we are under-developed

in Europe and we just launched in Korea two years ago. But even in the US, Vans is under-developed on the east coast, in the Mid-West and in the south-east. So most of our discussions are around the pace at which we continue our march around the world with this brand. We see a lot of runway."

A recent example of how the group is cementing the popularity of the brand is the new House of Vans that it opened in London in August. Following in the footsteps of the original House of Vans in Brooklyn, the new 3,000 square-metre venue provides a space that is



*The introduction of running, hiking and training lines is helping The North Face transform itself into a four-season brand.*  
CREDIT: TIM KEMPLE/THE NORTH FACE

## TIMBERLAND'S MISSION: TO BE THE WORLD'S LARGEST AND MOST SUSTAINABLE OUTDOOR LIFESTYLE BRAND

The management team in charge of Timberland has said it believes the brand can achieve growth of 13% per year to achieve revenues of \$3.1 billion by the end of 2019. VF Corporation, which acquired Timberland in 2011, held an investor meeting at the brand's headquarters in Stratham, New Hampshire, on September 17.

Afterwards, VF chief executive, Eric Wiseman, said this year will mark the most successful year in Timberland's history. He said the brand's success was because it is able to "connect deeply with consumers" while preserving "a unique DNA and culture".

Brand president, Patrik Frisk, said Timberland is "squarely positioned" to become the largest and most sustainable outdoor lifestyle brand in the world.

It expects substantial growth in the Americas, Europe and in Asia Pacific, driven by "industry-leading innovation" and product diversification. In addition, VF said there would be "a significant amplification" in how Timberland communicates with consumers and connects them to the brand.

Another part of the plan is to expand Timberland's global retail store presence by adding 130 stores to its current base of approximately 230.



*A classic Timberland waterproof boot.*  
CREDIT: TIMBERLAND

free to use as a music venue, gallery, artists' labs, café, cinema, bars and skatepark beneath London's Waterloo Station. Meanwhile, growth in Asia is running at more than 40% for Vans, with China particularly strong. The group has said the brand's finish to the first half of 2014 was especially strong and it believes Vans is "on track to become our second \$2 billion brand [after The North Face]."

### *Four seasons*

Equipping consumers to "get outdoors and push the boundaries of their own personal journey" is also the strategy for The North Face, which in the past couple of years has been trying to turn itself into a four-season brand, VF says, bringing outerwear into people's shopping baskets and wardrobes all year round. Karl Heinz Salzburger the group's vice-president for international business, says The North Face has made great progress on this. "We had a strong increase in sales for The North Face in Europe for the second quarter, which makes us optimistic about the third quarter, which is usually the strongest in Europe, but the introduction of running, training and hiking lines has helped make The North Face a four-season brand," he adds.

Mr Salzburger also sees Asia, and in particular China, as areas in which The North Face is growing well. "We expect good growth in the second half of this year in China," he explains. "We have a great opportunity there, although China is a marathon, not a sprint. Everyone has an appetite to succeed there and there are hundreds of outdoor brands, local, regional and global ones, trying to win a share of the market."

Across the Outdoor and Action Sports division, VF is "winning where and how we said we would", Mr Wiseman insists. He adds: "It's about the ability to create and build sustainable momentum. Momentum is not random; it's earned. How people decide to shop in the months ahead and what the weather will be like are the two unknowns, but we have momentum in abundance at the moment."🔗



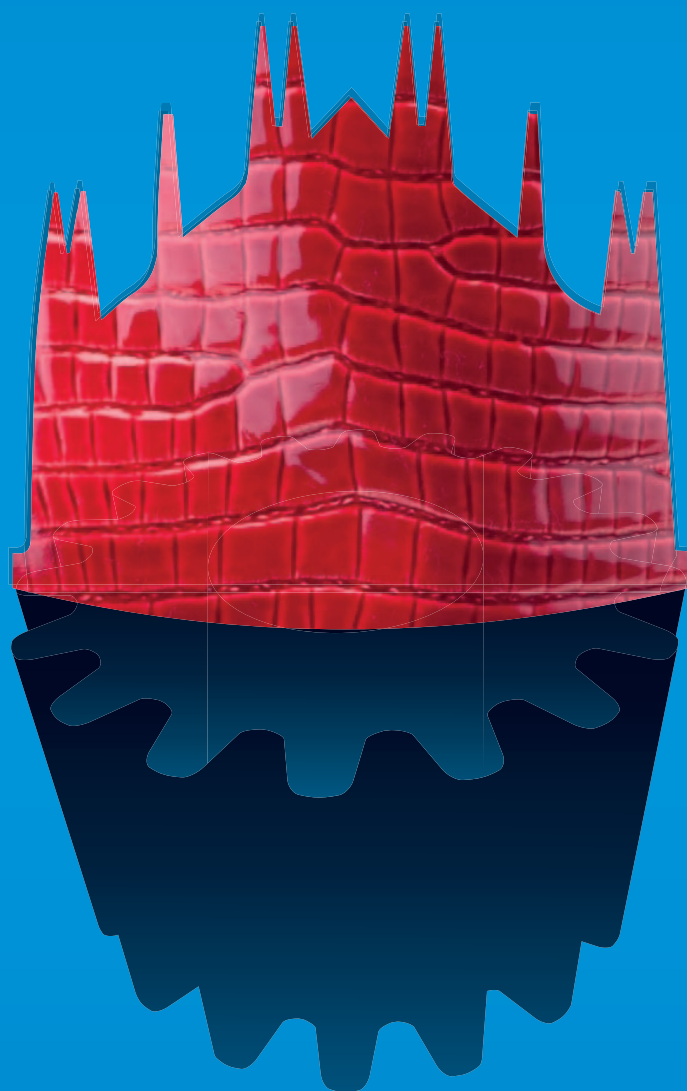
*To help address the brand's "under-development" in Europe, VF opened a House of Vans in London in August.*

CREDIT: VANS

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A group founded in Brazil in 1972 believes it has a great opportunity to make an impression on the US market thanks to its value proposition. There is fierce competition at the high end and at the very low end of the market, but in the middle, Arezzo is convinced its high quality, affordable collections of shoes with leather uppers and leather linings will prove popular.

# *Arezzo means business in the mid-market*

It's hard for a footwear company to be all things to all people. Brazilian group Arezzo is a good example of a producer with a diverse enough strategy to appeal to different groups, in this case different groups of women, but it hopes the value proposition it has put together for women in Brazil will prove popular in North America too.

Arezzo runs four brands, one of which bears the Arezzo name, launched at the time of the group's foundation in 1972. It produces around seven million pairs a year, which sell for between \$70 and \$90 in retail outlets across Brazil; it has own-brand stores in Rio de Janeiro, São Paulo and Rio Grande do Sul (its home state), a network of Arezzo stores run by franchise-holders in practically every state in the country and a significant presence in popular multibrand stores.

It added Schutz in the mid-1990s, with "freedom of expression" the key to the new brand's identity, alongside quality and fashion. "Schutz calls women to dare, to seek the unique, to challenge the consensus," the group says. Its current collection, for the southern hemisphere summer of 2014-2015, includes the Meia Pata Trip Camel sandal, which has a 13-centimetre heel, and the High Lovely platform in suede of bubble-gum pink. Schutz makes three million pairs a year and has sales points in multibrand stores in all states in Brazil, as well as in a few places internationally (more on which later), and own-brand stores in São Paulo and Rio de Janeiro.

Anacapri is the group's third brand. Launched in 2008, Anacapri declares its mission to be to offer "a pop public a casual concept of colours, comfort and affordable fashion", all through the medium of flat shoes, of which it makes 1.5 million pairs a year. It has around 45 own-brand stores now, mostly in the São Paulo region, but with quite a number in Rio de Janeiro, too, as well as a sprinkling in Minas Gerais.

The most recent addition to the Arezzo group portfolio is the Alexandre Birman brand, named after the son of Arezzo founder Anderson Birman. This brand launched in 2009 after Mr Birman junior had begun to make a name for himself as a shoe designer. These shoes are high-end, often in snakeskin or other exotic materials, with production limited to just 150 pairs per day, and they are on sale in places such as Printemps in Paris and Saks Fifth Avenue in New York.



*The new Schutz store on Madison Avenue in New York City. Arezzo believes its offer of medium-priced shoes with high levels of design, leather uppers and leather linings can compete well in North America.* CREDIT: LENI WAGERS / BRASILLIANDOLLBLOGGER.COM

### *When a domestic focus was an advantage*

Group production director, Cisso Klaus, puts Arezzo's output at 11.5 million pairs per year across all four brands. "We make everything in Brazil," he explains. "We develop the products here and have one factory of our own, which produces around one million pairs per year with the rest coming from partner manufacturers." Most of these partners are located close to corporate headquarters, which have been in Campo Bom in Rio Grande do Sul for the whole of this century (the Birman family is from Minas Gerais, but moved production south in 1999 to what Cisso Klaus insists was the biggest shoe cluster in the world at the time). In recent years, an important proportion of Brazil's footwear manufacturing capacity has relocated to states such as Ceará in the north-east, mostly for cost reasons. So some Arezzo shoes are being made there too.

Mr Klaus is a native of Rio Grande do Sul and spent more than 30 years at a major footwear company there. "We were focused on export markets," he says of his previous company, "and I recall that around the year 2000 we started to have problems because of the exchange rate of the real compared to the dollar. A lot of footwear production volume left Brazil at that time and it won't come back. But this opened the door to domestic-focused companies, which Arezzo had always been. Plus it had its brands, two then and two more to come. Any company that had no position in the domestic market and no brands that were known in the domestic market had to move overseas."

### *Everything close to hand*

After a lifetime in the footwear industry in the south of Brazil, Cisso Klaus sees an important advantage in keeping production there, specifically. "We have everything to hand in Rio Grande do Sul, the leather and components we need, and today everything is about lead time," he explains. "Around 90% of our production is in this region." He argues that the access to the right materials in the right volumes and the connections between the commercial teams that interpret consumer demand, the design and production teams all make Arezzo's current set-up strong. "There is so much variation in shoes. There are always new ideas, new concepts," he insists. "We focus on the stores, and there is



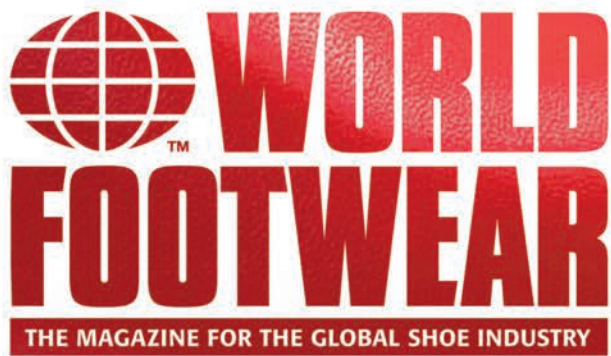
*Seen here with Waleska Santos at Couromoda, footwear designer Alexandre Birman, whose father launched Arezzo in 1972, put his own name to the group's newest brand in 2009.*

CREDIT: JEFFERSON BERNARDES / AGÊNCIA PREVIEW

something new going in every three or four weeks. We have eight collections a year, three for winter and five for summer, so the lead times are very short. This set-up means we can react fast."

### *New York opening*

He does expect international growth, especially in the US. Schutz recently opened an own-brand store on Madison Avenue in New York and has a presence in some multibrand footwear shops in the US, as does Alexandre Birman, whose shoes Mr Klaus describes as "jewellery for the feet". He believes growth will come for the group's other brands in North America too. "There's lots of competition at the low and mid and lots at the high end," he continues, "but there's not so much competition for shoes at around \$150 per pair with leather uppers, leather linings and leather soles, which is what we can offer; that's our value proposition." 



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**Published three times a year March, June & September**



As consumers become increasingly keen on knowing the environmental profile of all the products they buy, WL Gore has calculated the extent to which high quality hiking boots can help people keep their carbon footprint as low as possible.

# Better boots have a lower carbon footprint

Developer of Gore-Tex membrane solutions for clothing and shoes, WL Gore, has announced the findings of a new lifecycle assessment (LCA) exercise it has carried out for outdoor footwear (following a similar announcement in 2013 on a jacket). On presenting the findings this November, its fabrics division described LCA as "the global standard for assessing the total environmental impact of a finished product", taking into account all aspects of a product's ecological footprint, including resource and energy consumption, emissions to air, water and land, as well as health, ecosystems, and more.

The company says it has been using LCA to monitor its own environmental impact since 1992; it says it likes the way this method analyses the various aspects of a product's impact on the environment and translates these into specific indicators, providing a "holistic, cradle-to-grave view" that it says helps it identify ways in which to minimise impact.

## Three-and-a-half years of use

Its aim in this latest analysis was to evaluate the environmental impact of a hiking boot containing Gore-Tex for waterproof and breathable functionality over three-and-a-half years of use. The study was carried out with input from third-party experts, including the Öko-Institut Freiburg and the Institute for Environmental Research in the state of Washington in the US.

Results show that the use of the boots for 42 months emits carbon emissions of 27.1 kilos of CO<sub>2</sub>-equivalent, comparable to the environmental impact of driving 100 kilometres in a mid-sized car consuming 7.5 litres of fuel. "To put that into perspective," according to the company, "buying two less durable pairs of hiking boots over this time would result in carbon emissions of 52.4 kilos. This would cause an environmental impact equivalent to driving 190 kilometres instead of 100."

## Critical stages

The raw materials have the greatest impact, at 77.2% the share of overall global warming potential of the processes that occur at the beginning of the boots' lifecycle; production and distribution are, therefore, "the most critical stages". Disposal of the boots at the end of their useful life contributes less than 2% of this total. "This means that the less often a pair of boots needs to be produced, the smaller the impact on the environment," Gore points out. It believes there is a good chance that a consumer opting for cheaper boots will not get three-and-a-half years' wear out of them, meaning a second



CREDIT: WL GORE

pair will have to be produced, with all the up-front global warming potential, to replace the ones that didn't last well. If a million consumers chose to buy a durable pair of hiking boots half as often, opting for longevity and quality over price, the company concludes, the same car used for illustrative purposes could drive all the way around the world 2.3 times.

## Quality not quantity

WL Gore says these results show parallels with the earlier LCA analysis it carried out on a Gore-Tex jacket. The leader of its fabrics division, Bernhard Kiehl, says this has led him to conclude that the best way to minimise the environmental footprint of outerwear products is to enhance their durability. "Quality, durability and performance are the three cornerstones," he says. Its appeal to consumers is that they switch to buying products that last a long time, and buy fewer of them.

Observers of the footwear industry believe this is in keeping with a new mood among some consumers, typically slightly older people with relatively high levels of income. In contrast to very young buyers, for whom price and look are the most important factors in choosing most of their shoes and boots, a large group is now making no secret of its desire to have products that last instead. Paying a bit more for these products presents no problem at all. 📌

*WL Gore wants consumers to choose hiking boots with a low environmental footprint, which means high quality boots that will last a long time*

*CREDIT: ECCO*





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# WORLD FOOTWEAR

## Head Office

36 Crosby Road North, Liverpool L22 4QQ, UK  
Telephone: +44 151-928 9288 Facsimile: +44 151-928 4190  
E-mail: wl@worldtrades.co.uk

|                       |                                                                                        |
|-----------------------|----------------------------------------------------------------------------------------|
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| Deputy Editor         | <b>Clare Grainger</b>                                                                  |
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**Iran: Roobik Khodabakhshian** World Future Trade Co. Ltd,  
No. 41 (Ex. 85) Karimkhan Zand Ave., Tehran 15858 Iran P.O. Box 15855-189  
Tel: +98-21-88835389/88839860 Fax: +98-21-88827892  
E-mail: wftco@yahoo.com  
Iran Mobile: +98-912 1011834 Italy Mobile: +39 333 6854685

## Korea: Jo Jong-kook

Korea Leather Industry Information Centre, PO Box Yoido 968, Seoul, Korea  
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