

# WORLD FOOTWEAR

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THE MAGAZINE FOR THE GLOBAL SHOE INDUSTRY

**EU's unexpected turn on  
antidumping**

**Global shoe production  
update**

**The future of footwear  
manufacturing**

**D'Wayne Edwards on  
design schools**

**wtp**  
PUBLISHING

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US singer Ashley Roberts modelling her own first footwear range, which is called Allyn (her middle name).

Image: Ash Smith

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# News

**SPAIN** Spanish footwear industry organisation FICE held a seminar in November to encourage member companies to make more of Spain's standing in the US shoe market. The US represents the sixth-largest export market for the shoe industry, and is the biggest outside the European Union.

**PARAGUAY** The authorities in the southern town of Paraguari have set up a special training course to create new generations of footwear technicians. A tradition of using leather to make sports equipment puts Paraguari in a good position to shift to leather shoe production now, the country's industry minister, Gustavo Leite, has said. Brazilian footwear brand Aquelino Masiero has said it intends to open a factory in the town to make shoes and will recruit 120 local people.

**ITALY** High-end footwear and leathers goods brand Salvatore Ferragamo has reported revenues of just over €1 billion for the first nine months of 2016, which represents a small downturn, 0.7%, compared to the same period in 2015. With a figure of €216 million, the company's gross profit for the nine-month period also registered a decline of 0.7%. Salvatore Ferragamo attributed a year-on-year decline of 5% in sales revenues in Europe partly to "lower tourist flows, negatively impacted by dramatic events".

**TURKEY** Sources in the country claim the 2016 Eksposhoes Istanbul footwear exhibition was a success. The event, held in the Turkish city in November attracted 36,000 visitors and had 1,500 footwear manufacturers as exhibitors. Overseas buyers from France, Germany, UK, Romania and Bulgaria attended. However, the most important overseas contingent came from Russia with buyers placing orders for 2017 that, according to Suleyman Gursoy, president of the Turkish Footwear Industry Association, will exceed \$500 million in value.

**ARGENTINA** The president of Argentina's main footwear industry association, CIC, Alberto Sellaro, has described as "terrible" the situation that the industry is enduring at the moment. Speaking at an event in Buenos Aires towards the end of last year, Mr Sellaro said shoe consumption in Argentina was down by 30%. He said shoe production across the country had fallen, too, with a year-on-year downturn of more than 10 million in 2016.

**UK** The chief executive of sportswear brand New Balance says the company has no plans to stop manufacturing in the UK, despite the country's decision to leave the European Union. Rod DeMartini has said the future of New Balance's factory in Flimby, Cumbria, which produces sports shoes and employs more than 240 people, is secure. Its European headquarters are in Warrington in north-west England and provide jobs to a further 160 people.

**ETHIOPIA** Government agency Industrial Parks Development Corporation (IPDC) has said two new industrial parks, at Kombolcha and Mekele, will be open for business this February. The two facilities, which are the result of \$250 million of investment, will create more than 50,000 new jobs, deputy chief executive of IPDC, Amare Asgedom, said in recent comments. A further eight industrial parks are planned.

**TAIWAN** Outsource footwear manufacturing group Yue Yuen reported flat revenues for the first nine months of 2016 of \$6.3 billion compared to the same period in 2015. Athletic shoes accounted for just over \$3 billion of the total and this segment recorded an increase in value of 2.2% compared to the first nine months of 2015. In parallel, though, the revenues from casual and outdoor shoes fell by more than 10%, reaching \$917.3 million. In terms of volume, Yue Yuen made 236.1 million pairs of shoes between January and September 2016, a year-on-year decline of 2.1%.

**SOUTH KOREA** US footwear brand Skechers has formed a joint venture with Luen Thai Enterprises to manage its distribution network in South Korea. The company says the venture, which will take on the named Skechers Korea, will enable it to "use its proven sales and marketing strategies to further expand the brand in one of our key international markets". LS Networks was previously responsible for the distribution of Skechers products in the country, having carried out the function since 2009.

**ECUADOR** Forty representatives of Ecuador's national footwear association travelled to Mexico last November to take part in technical training exercises at the specialist Ciatec centre in León. President of the Ecuadorian association, Lilia Villavicencio, said: "We have a lot to learn from Mexico. The industry in Mexico is improving all the time and reaching markets all around the world."

**CAMBODIA** The Prime Minister of Cambodia, Hun Sen, has called on those working in the country's footwear industry to remain in their jobs rather than searching for employment in neighbouring countries. He said workers remaining in Cambodia would deter manufacturers from moving their factories to countries like Myanmar or Bangladesh, where labour costs are lower. He also emphasised that the key to increasing productivity and product quality in Cambodia is to improve skills.

**NEW ZEALAND** In spite of widespread reports that the Trans Pacific Partnership (TPP) trade deal is dead in the water, New Zealand's parliament passed an act on its implementation in November. This followed an announcement in the US immediately following the election victory of Donald Trump that the trade deal will not receive approval from the US Congress in the weeks that remain of Barack Obama's presidency.

**CHINA** Research and testing body SATRA has announced that its laboratory in Dongguan now has accreditation to approve safety footwear and safety gloves under EN ISO 20344: 2011 and EN ISO 20345, and EN 388: 2003 and EN420 standards, respectively. General manager of the Dongguan facility, Liam Donnelly, said that there has been a significant increase in demand from China for safety footwear and glove testing.

**BRAZIL** Brazil exported 10.2 million pairs of shoes in October, a 1.2% increase year-on-year, according to data compiled by Brazilian footwear association Abicalçados. The value of the exports was 18.2% higher at \$84.3 million. This means the average price of each pair was \$8.25, significantly up on October 2015, when it was \$7. Heitor Klein, executive president of Abicalçados, was cautious about expectations for the end of the year. He said fluctuating exchange rates made for an unpredictable end to 2016.

● Brazilian manufacturers of materials and components for the leather and footwear industry reported a major increase in export earnings in 2016. Overall, members of the Assintecal trade association brought in \$223.7 million in export revenues in the first ten months of 2016. This figure represents an increase of 35% compared with the same period in 2015.



# Footprints

## ABICALÇADOS HIGHLIGHTS ROLE OF SHOE SECTOR

Representatives from Brazilian footwear association Abicalçados, including executive president, **Heitor Klein**, met with **President Michel Temer** in November to discuss Brazil's footwear industry.

They expressed to President Temer the importance of the footwear industry to the national economy, as well as presenting him with shoes as presents for his wife and son. Mr Klein said the meeting was productive. Those present emphasised that there are nearly 8,000 footwear companies in Brazil, generating more than 300,000 jobs. Revenue from the footwear industry could aid the recovery of the economy.

Abicalçados said President Temer pledged to put the conditions in place for a rapid recovery of the footwear industry, as well as industry in the country overall.

## ZANOTTI OPENS NEW BOUTIQUE IN MOSCOW

Italian footwear exports to Russia have declined recently, owing to currency and political issues rather than a lack of popularity among wealthy consumers there. Nevertheless, one of Italy's most iconic shoe brands, Giuseppe Zanotti, opened a new boutique in Moscow in November.

Situated in the plush shopping district of Stolesnikov Lane, the new Zanotti boutique proved popular with much of Moscow's gliteratti on the opening night, the footwear brand claimed.

Last month, the president of Italian footwear association Assocalzaturifici, **Annarita Pilotti**, says orders at the Moscow-based Obuv' Mir Koži show had seen a "significant drop" and she called for the event to be rescheduled.

Ms Pilotti said there had been a drop of between 30% and 50% in orders, with high-end Italian products hit especially hard. She added that the decrease came as a shock to Assocal, but said the drop in value of the rouble and continuing economic uncertainty meant it would have to wait longer before the footwear market in Russia improves.



## DESMA MANAGING DIRECTOR ADDRESSES WFSGI FORUM

The World Federation of the Sporting Goods Industry (WFSGI) has said the fourth edition of its Manufacturers' Forum event, held in Taichung, Taiwan, in November, was a sell-out.

More than 200 delegates, a record-breaking number, from 20 countries met over the two days to discuss issues such as digitalisation, innovation and robotics.

**Christian Decker**, joint-managing director of Desma the automated footwear manufacturing equipment developer, explained that the industry has been shifting toward smaller lot sizes, declining warehouse inventories, growing product variation and a sharp rise in consumer influence. He said: "I am convinced that in the near future new production modules will allow companies to establish shoe production in urban locations and consumers could have 'freshly baked shoes' of their choice made for them while they have a cup of coffee."

## LEGERO LOSES ITS MD TO KEEN

Pioneering Austrian shoe brand Legero has lost its managing director, **Jens Christian Meier**, to US outdoor footwear company Keen. Mr Meier moved to Portland to take up the role of executive vice-president at Keen at the end of last year.

Graz-based Legero, which specialises in lightweight, sporty styles, came to

prominence in 2015 when it became the first footwear brand to use Tencel, using Lenzing's cellulosic fibre to make the laces in its Vios shoes compostable.

At Keen, Mr Meier will concentrate on running the company's global supply chain, seeking to bring in what the Portland-based brand referred to as "industry-leading best practices", spanning raw materials to the delivery of finished products, including owned manufacturing, third-party sourcing, planning, distribution, and logistics.

## RONALDO LAUNCHES NEW SHOE COLLECTION

Real Madrid and Portuguese national team footballer **Cristiano Ronaldo** has launched a new footwear collection under his CR7 shoe brand.

Based in Lisbon, CR7 works exclusively with Portuguese footwear manufacturers to put together its collections.

The collection for autumn-winter 2016-17 comprises 17 styles of men's shoes and boots, ranging in price from the Fontainhas Blake Chelsea boot at just under €400 per pair to the Aviz desert boot at €140.

Launching the collection on social media, the footballer said: "Our collection uses only the finest locally sourced materials with designs that are hand-crafted in Portugal by a team of really talented craftsmen. It was amazing to see the level of detail and dedication that goes into each and every pair and to be part of the entire process, from our first ideas to the final product."

## SOLID START FOR NEW ADIDAS CEO

Sportswear manufacturer adidas reported a 17% increase in sales during the third quarter of 2016, in the first financial report since a new CEO, **Kasper Rorsted**, took charge.

Revenue for the quarter was \$5.4 billion, on which adidas achieved a net profit of €387 million, a 15% rise year-on-year. For the first nine months of the year, sales of footwear were up 27%, while apparel sales rose by 13%.

The company saw revenue growth

across all regions, including a 15% increase in sales in Western Europe and respective growth of 20% and 25% in North America and Greater China.

"The great momentum across all major markets shows the strength of our strategy," said Mr Rorsted, who took over from **Herbert Hainer** as chief executive of adidas in October.

## STORY OF ADIDAS AND PUMA TO HIT BIG SCREEN

A film about the **Dassler** brothers, **Adolf** and **Rudolf**, and how a dispute between them led to the creation of rival sportswear giants adidas and Puma, is currently in development.

The film is being financed by Fortitude International and will be co-produced by Hollywood actor Andrew Garfield. Talks are currently taking place to find a director and production is scheduled to begin this year.

It will depict the true story of the sibling rivalry between the Dassler brothers, which led to them going their separate ways during the 1940s.

## FDRA MAKES MATT PRIEST CHIEF EXECUTIVE

The Footwear Distributors & Retailers of America (FDRA) has announced that its president, **Matt Priest**, is take up the role of chief executive. He joined the Washington DC-based organisation in 2009.

Mr Priest's reaction was to say he looks forward to "the hard work ahead" in continuing to make sure the footwear industry has "an effective trade association" in the US.

## JM WESTON HOSTS LEATHER INDUSTRY EVENT

Most of the senior figures in the French leather industry travelled to Limoges on November 25 to take part in an event hosted by high-end footwear manufacturer JM Weston.

The brand's chief executive, **Thierry Oriez**, offered all participants a guided tour of the footwear factory at the start of the day.

Afterwards, **Frank Boehly**, president of the principal industry association, the Conseil National du Cuir, **Claude-Eric Paquin**, president of the French Footwear Association, **Arnaud Haefelin**, president of national leathersgoods federation the Fédération

Française de la Maroquinerie, **Sophie Hivert**, from the tanning industry federation and **Yves Morin**, chief executive of research and testing body CTC, took part in a roundtable discussion.

This roundtable event examined questions on the skills that the leather and footwear industries require today, how these skills can be preserved and handed on to new generations of artisans, and on how the sector can continue to innovate.

Going some way towards answering these questions before the event, Frank Boehly said: "The success of the leather sector in France is down to preserving and passing on savoir-faire at the same time as bringing in constant innovation, and JM Weston is a perfect example of this."

## NEW CHAIRMAN FOR PFMA

**Javed Iqbal Siddiqui** of Stylo Shoes has been elected chairman of the Pakistan Footwear Manufacturers Association (PFMA) for 2016-2017, with **Mansoor Ehsan Sheikh** of Ahsan Elahi and **Hamza Hafeez** of Shafi Life Style elected as senior vice-chairman and vice-chairman, respectively.

Upon his election, the new chairman said that his main aim will be to foster the growth of the footwear industry. For example, he said he will seek to help member companies grow by encouraging them to invest in workforce training.

## ROGERS' 'MR PORON' RETIRES

Protective materials manufacturer Rogers Corporation has announced the retirement of its long-standing customer service manager, **Fred Seidel**.

The company said Mr Seidel's knowledge of all of Rogers' elastomeric products is "deep and extensive", so much so in the case of the Poron range of polyurethane materials that he earned the nickname 'Mr Poron'.

## NOVATECH CEO TO REMAIN AS FESI PRESIDENT

Members of the Federation of the European Sporting Goods Industry (FESI), the Brussels-based body that lobbies on behalf of sports equipment manufacturers and brands, came together for their 2016 general

assembly in Rome in November.

At the meeting, the chief executive of Italian ski boot and cycling footwear and equipment manufacturer Novation, **Luca Businaro**, was re-elected as FESI president.

In comments at the meeting, Mr Businaro said his focus for his second term of office (2016-2019) will be to help FESI be "the leading voice of the European Sporting Goods Industry, reaching the highest political recognition, driving the promotion of physical activity and fuelling growth for our membership". He said that developing "the innovation dimension" in sport will help the industry win greater political attention.

## NEW DIRECTOR FOR MOMAD SHOES EVENT

Trade show organiser IFEMA has announced the appointment of **Rocío Gámez** as the new director of its Momad Shoes event.

Earlier in November, it was confirmed that Momad Metropolis and Momad Shoes would return to being separate events in 2017.

The next Momad Shoes exhibition will take place from March 4-6 in Madrid. IFEMA says 70% of the available booths have already been reserved, with the organiser's expecting a total of more than 500 footwear brands to be present.

## DSW CONCLUDES SEARCH FOR NEW CFO

US footwear retailer DSW has appointed **Jared Poff** as its chief financial officer.

Mr Poff was named interim CFO in June 2016 following the resignation of **Mary Meixelsperger**. He joined DSW in January 2015 as vice-president of finance, business development and treasurer, where his role included responsibilities in financial reporting and accounting operations.

**Roger Rawlins**, chief executive officer of DSW, said: "We are very excited to name Jared as chief financial officer. He has extensive experience in the retail sector and has been an invaluable contributor since joining DSW. Jared's financial acumen and ability to lead will be instrumental to DSW's continued growth and future success." 🔄

# Products & Services

## LIGHTHOUSE ABOUT MORE THAN 'MADE IN THE US'

Athletic brand Under Armour stands to gain if a much-trumpeted (during the 2016 presidential election campaign) new emphasis on making products in the US comes to pass. The company has said it does intend to increase the volume of product it makes in the US, but only as part of a strategy aimed at producing locally for local consumers in all parts of the world.

To make this possible, the Baltimore-based company opened a new fast-prototyping and design centre called The Lighthouse in its home city last June, equipping it with advanced knitting, cutting, 3D printing and footwear construction technology.

Using this facility to test new design ideas and to make and refine product prototypes almost immediately has allowed the company to save costs and to shorten the time required to take a new footwear or apparel product from concept to store shelf, Lighthouse director, Adam Bayer, has told *World Footwear*.

He said the company's vision for the future is to use The Lighthouse to perfect the design, material choices and production flow for new products and then to send detailed information to outsource manufacturing partners around the world. However, Mr Bayer made it clear that it wants these manufacturing partners to operate in the various markets where Under Armour sells its clothes and shoes. "We call this approach 'Local for Local'," he explained. "And it's not just about making product in the US. We want to do that, but we also want to make product in Brazil for Brazil, in Europe for Europe, and so on."

## ADIDAS UNVEILS SHOE WITH 'SILK-LIKE' UPPER

Munich-based industrial supplier of synthetic silk biopolymers AMSilk has supplied its Biosteel fibre, which it describes as "replicating" natural silk, to adidas for use in the sports brand's Futurecraft Biofabric prototype shoe.

The new shoe features an upper



## NIKE CHALLENGES DESIGNERS TO "REINVENT FOOTWEAR"

Sportswear manufacturer Nike has launched a challenge which encourages designers to create footwear that can be used by athletes of all abilities.

The Nike Ease Challenge is designed to attract innovators able to provide new solutions for footwear that can be more easily put on, secured and taken off without the use of the hands.

"Nike is driven by a competitive spirit that drives us to do the seemingly impossible for our athletes," said Mark Parker, Nike CEO. "Today, we are working with others who share our passion for removing barriers through breakthrough innovation. I can't wait to see what powerful ideas come out of this challenge."

It aims to build on the success of the advancements already made in this area by Nike, including the Nike HyperAdapt 1.0, Nike FlyEase, Nike Air Rift and Nike Sock Dart.

In a separate development, the company announced that its HyperAdapt 1.0 self-lacing sneaker would be on sale to customers from the end of 2016. The sneakers have a motorised lacing system made from nylon bands. Located on the sides of the shoe, they can be tightened or loosened by pushing a button.

Nike says it is working on an updated version that adapts to the foot automatically, eliminating the need for the buttons.

made from 100% Biosteel. Adidas said that the material offers "a unique combination of properties". It is 15% lighter in weight than conventional synthetic fibres, but also "has the potential" to be "the strongest fully natural material available".

Biosteel is 100% biodegradable "in a fully natural process", it added.

## CHEANEY UNVEILS CUSTOMISATION OPTION

Men's shoe brand Cheaney has launched a new initiative at its Jermyn Street store in London, offering customers the chance to customise a

pair of handmade shoes.

With the shoe style, leather type, the colour of the upper, sole, laces and lining and even the style of the eyelets to be decided, Cheaney has calculated that 1.2 million permutations are possible in the programme, which it has called '1 of 1'.

Five styles of shoe are available and once customers have had their feet measured in the Jermyn Street store and picked all of their preferred colour options, the information goes to the Cheaney factory in Desborough, near Northampton.

Construction will take between six

and eight weeks and will involve more than 200 different hand operations. The finished shoes will be available for collection from Jermyn Street.

Cheaney has also made available special '1 of 1' gift vouchers to enable people to give a pair of the shoes as a gift, while still allowing the person who will wear the shoes to make all the choices. The price is £695 per pair.

### **AUTOMATION CAN HELP ELIMINATE DEFECTS IN PERFORMANCE FOOTWEAR**

Phil Smith, who works on footwear research and development for WL Gore, has said he believes the rise of automation in footwear manufacturing could help performance shoe brands eliminate defects in their products.

At an event to celebrate the fortieth anniversary of the company's fabric division, he explained that the high number of steps involved in making shoes at the moment and the large number of hands each product can pass through increase the possibility for error.

He said that, in his opinion, increasing use of automation can help reduce these errors and, therefore, reduce the number of defects in shoes that consumers buy for their waterproof, breathable functionality.

"This is still quite a traditional industry," Mr Smith explained. "Typically, a shoe with Gore-Tex goes through 138 different steps in production. This makes mistakes and even damage to the membrane material possible. But automation is making more and more inroads, as we have seen in recent developments at Reebok, Nike, adidas, Under Armour and so on. It's my view that if the automated process is set up correctly it should make it easier for problems of this kind to be eliminated."

### **INDUSTRY PROFESSIONAL LAUNCHES ONLINE SOURCING TOOL**

A former product manager in Indonesia at Dutch footwear brand Van Gastel Shoes, Hilde ter Steege, has left the company and moved back to Europe to launch a new online resource tool for shoe and accessories manufacturers, describing it as an industry-specific version of homestay network Airbnb.

Total Shoe Concept, the name of the new facility, will launch before the end of 2016 and will offer leathers and footwear producers access to suppliers of leather and all the components they need. The website will contain a database of companies spanning the entire supply chain who will pay an annual fee of \$99 to advertise their materials, machinery, chemicals and services on the site.

Now based in the UK, Ms ter Steege says buyers will be attracted by the idea that they can find a whole network of possible suppliers under one URL and that this will be enough to attract traffic to the site. "It's purely a question of allowing them to get in touch with people," she says. "It will give all the necessary information about product quality and will have high-quality photographs. I realise there are other tools online, but it seems to me that you can see the names of thousands of companies on those and never be sure who any of the companies are."

Because Total Shoe Concept will allow buyers to source based on location, Hilde ter Steege believes sourcing professionals will be able to use it like Airbnb and find suppliers of the different components and materials they need all in the same part of the world. "It will be good for logistics reasons," she explains. "You can set up your buying trip and find everything you need in the location you are visiting."

### **BASF PLEDGES BIG INVESTMENT IN PLASTIC ADDITIVES**

Within the next five years, BASF has said it plans to invest more than €200 million in its plastic additives business.

Half of this amount will go into projects in Asia, focusing on what the company has called "capacity expansions and operational excellence".

### **'ALL SHOES WILL HAVE THEIR OWN IP ADDRESS'**

An academic with expertise in information technology and cyber security has claimed that the Internet of Things will be all-pervasive in the near future.

Speaking in a discussion on BBC radio towards the end of 2016, Richard Aldrich, professor of information

security at the university of Warwick, said: "In ten years' time, everything will be connected. It will be impossible to buy a pair of shoes that doesn't have an internet protocol (IP) address."

He said viewing this coming together of what we wear and how we access and share information is simply "a recognition of the nature of our future".

### **A&E ANNOUNCES NEW PHILIPPINES PARTNER**

Specialist producer of industrial sewing thread American & Efird (A&E) has named Manila Bay Thread Corporation as a licensee. Manila Bay will now represent the company in the Philippines.

Founded in 1956, Manila Bay Thread Corporation supplies thread to a wide variety of customers in apparel, leathers and other categories. The new arrangement means those customers will now have access to A&E products, which are sold in more than 100 countries around the world, through this local partner.

### **INTERTEK EXPANDS SERVICES AVAILABLE AT ISTANBUL LAB**

Testing services provider Intertek has expanded the services offered by its softlines testing laboratory in Istanbul, Turkey, which serves the country's footwear industry.

The new testing capabilities include the addition of a range of chemical tests to help manufacturers identify and manage restricted substances.

Neslihan Sözer Güllü, Intertek Turkey's softlines business line leader, commented: "We've added new capabilities for test methods like the American Association of Textile Chemists and Colorists (AATCC) moisture management, National Fire Protection Association (NFPA) flammability, cotton linen fibre analysis, China's voluntary FZ fibre analysis standards and antibacterial/antimicrobial testing to meet market demand."

She added that Turkey is among the top ten countries in the world for footwear manufacturing and that Intertek had expanded "both chemical and physical footwear testing capabilities". This includes abrasion resistance of outsoles, upper sole adhesion and heel attachment. 



# 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.

## 09.12.16

First shoe from Gore-Tex to be available in 2017

\$10 price per pair a bright spot amid Pakistan's export gloom

## 07.12.16

Initiative "reflects heritage" of Cheaney  
Asics replaces adidas as sponsor of IAAF

Union leader says Argentina's shoe sector is becoming "an industrial cemetery"

## 06.12.16

Timberland employees continue to give back

## 05.12.16

Ugg issues advice on spotting counterfeit products

Spain's national footwear museum secures Butragueño's football boots

## 02.12.16

Nike partners with US leathergoods company

## 01.12.16

Mizuno USA adds to performance footwear team

## 30.11.16

Jordan brand touches down in Europe  
Footwear factories benefit by opening their doors to UAE buyers  
Researchers create fibres that can flex like muscles

## 28.11.16

Jimmy Choo expecting "record year"

## 25.11.16

LVMH opens its doors to students

## 24.11.16

Caleres Inc. is benefiting from strategy

## 23.11.16

Garment returns to Canada  
China could be the winner after TPP demise  
Performance shoes were the prime target at Thanksgiving

## 18.11.16

Pakistan's footwear exports hold steady

Chanel chooses shoe focus for Hawaii store

## 16.11.16

Momad events to separate again in 2017

## 15.11.16

Fast fashion "a challenge" for footwear industry

## 11.11.16

Inescop to work with Italian design school

## 10.11.16

Guanajuato maintains its prominence in footwear exports from Mexico

## 08.11.16

Adidas ocean waste project extends to performance products  
Asics to continue global expansion despite sales downturn

## 07.11.16

Wolverine offers customisation option on 1000 Mile Boot

## 02.11.16

No TPP ratification for Vietnam this year

Slight dip in sales at Steve Madden  
Argentina to limit footwear imports

## 01.11.2016

Nike challenges designers to "reinvent footwear"  
Shoe consumption in Argentina is down by 30%, CIC says

## 31.10.2016

Slight fall in sales at Deckers

## 28.10.16

Tod's puts emphasis on digital after sales dip

## 26.10.16

Footwear project from Design na Pele

## 20.10.16

Covestro aims to "make the world a brighter place"

## 19.10.16

Stella International to tap into 'athleisure' trend

## 18.10.16

Peter Mangione addresses Mexican shoe industry  
Kenyan athletic footwear brand attracts venture capitalist offer

## 17.10.16

September dip, but growth goes on for Pou Chen  
Louboutin drops into Nordstrom store

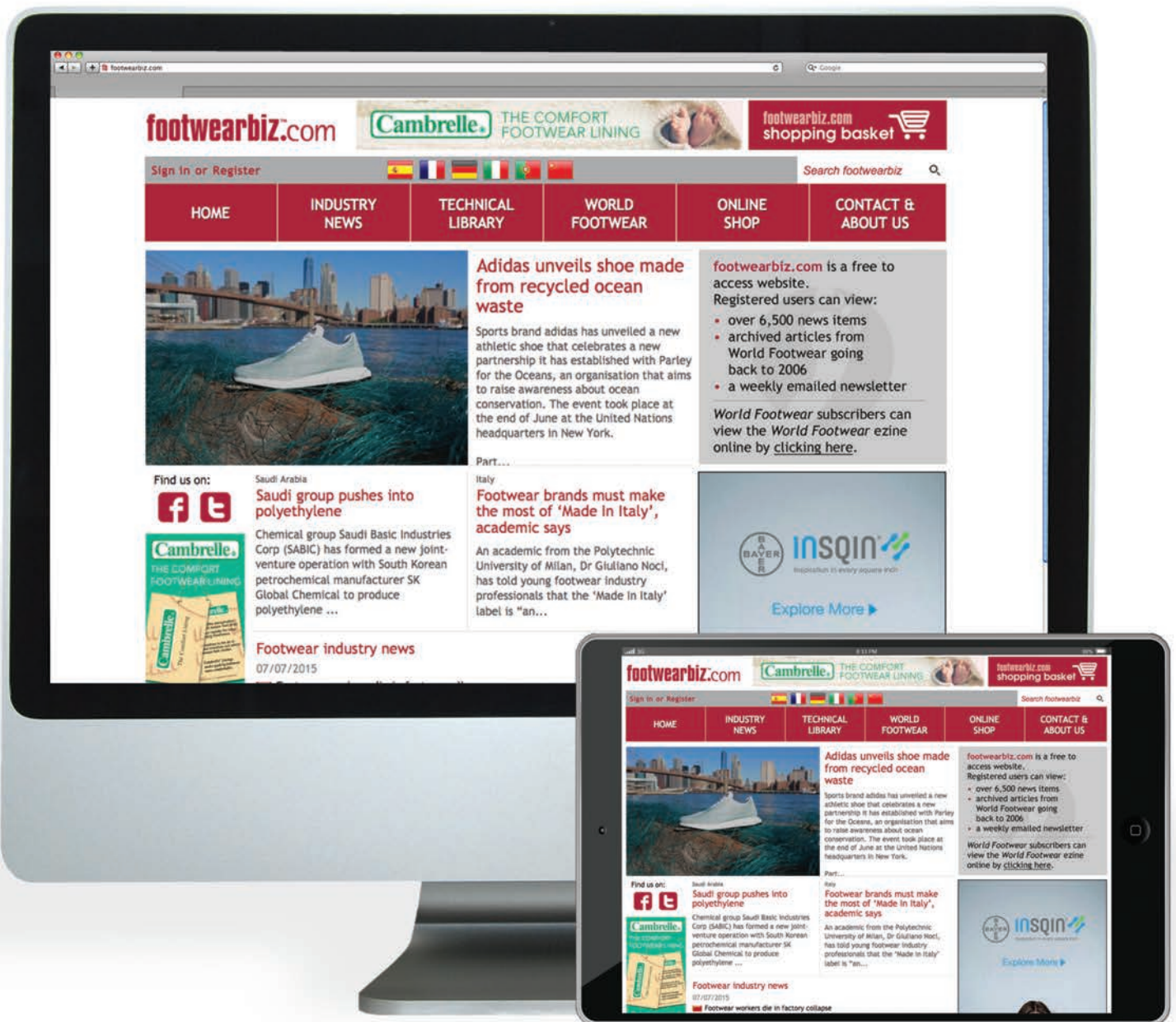
## 14.10.16

Wolverine starts expansion project at Michigan factory

## 12.10.16

Brazil launches new programme to help increase productivity

# Stay a step ahead



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Many in the European footwear manufacturing industry supported antidumping measures on imports of shoes from China and Vietnam when the European Union (EU) applied them between 2006 and 2011. It was an open secret that the European Commission took the measures reluctantly and made manufacturers' organisations, particularly Italy's, work extremely hard to secure the protective measures. For this reason, many were surprised by announcements in 2016 that the EU was reimposing antidumping measures on footwear exporters from Asia. This article explains the reasons behind this latest twist in the decade-long saga.



*The European Court of Justice in Luxembourg, whose February 2016 decision that Chinese and Vietnamese shoe suppliers had a right to apply for market economy status sparked a new-found enthusiasm at the European Commission for antidumping measures.*

CREDIT: EUROPEAN COURT OF JUSTICE

# *The EU's untold antidumping story*

**A**ntidumping duties on imports into Europe of shoes with leather uppers from China and Vietnam have been the subject of debate in the global industry for more than ten years. Urged to do so by influential shoe manufacturers' associations in Spain, Portugal and particularly Italy, the European Commission (the executive arm of the European Union) agreed to impose duties of 10% on imports of the shoes in question coming to Europe from Vietnam and of 16.5% on shoes from China. The measures came into effect provisionally in April 2006 and became definitive (for two years) in October the same year.

## *Defence against disloyal trade*

Antidumping measures are a trade defence mechanism, which national governments and trading blocs can seek to use if they can prove that exporters are being unfaithful to trade agreements or World Trade Organization (WTO) rules. Such behaviour frequently brings accusations of 'disloyal trade', the first sign of which is usually that the price exporters are charging for a product seems unfeasibly low.

Manufacturers in some territories are suspected of being encouraged to keep prices down to win market share while receiving revenue to compensate them for their trouble



*Clarks is one of three prominent brands still to be embroiled, with some of their outsource manufacturing partners in Vietnam and China, in an antidumping dispute with the European Commission.*

CREDIT: MESSE DÜSSELDORF/CONSTANCE TILLMANN

through unmerited subsidies or tax rebates. This unlevelling of the playing field naturally provokes a reaction in domestic companies who feel they are being unfairly prevented from competing against overseas rivals; the antidumping duties are one way of evening things up again.

### Concrete proof

For that to happen, of course, these domestic competitors have to provide detailed, concrete proof that disloyal trade is afoot, which involves a great deal of hard work, such as collating the sales price of particular products in the exporters' home markets and comparing these to the prices their products sell for overseas. Again, if the price at home is more expensive than the export price, it's an indication that something may be amiss. In the case of European footwear, Italy's Assocalzaturifici (then called ANCI) carried out the lion's share of that work and its president at the time, Vito Artioli, quickly became an expert on the subject and, with his colleagues, devoted long hours to gathering data and completing all the paperwork that the European Commission demanded before taking action. He was equally generous in sharing information and explaining what was going on to industry colleagues.

He frequently said that the future of shoe production in Europe was at stake and warned that centuries-old artisan traditions and thousands of jobs could perish. He argued that this would be bad news for consumers in Europe. "Far from being damaged by the dreaded price increases caused by customs duties, which are tiny percentages of very low average import prices, in the long run, consumers could lose their

ability to choose," he said in 2009. What he meant was that, if most of their shoes were imported from Asia, consumers would still be asked to pay high retail prices, but that most of their money would go on "the profits and the enormous margins" that brands and retailers can make on shoes made in lower-cost economies (it's why they have their shoes made there in the first place), rather than on the high-quality materials and workmanship many European shoemakers prefer to use. If there were no longer any companies making these high-quality shoes in Europe, consumers' shoe choices would be left in the hands of what he called "Asian monopolies"; the public would end up getting far less 'shoe' for its money. Instead, consumers would fund the marketing budgets and profits of enormous Wall Street-facing retail organisations and brands and, in the case of sports shoes, donate to the millions of dollars that athletes pocket for endorsement contracts.

### Labours of lobbying

Not everyone agreed with ANCI and its counterparts in Spain and Portugal. Sports brands used their lobbying power to try to change the minds of the powerful in Brussels and complained publicly about the unfairness of the antidumping measures. Perhaps because of this, or perhaps because of deep-seated desires to make trade genuinely open and free and to let the market decide which shoes reached shop shelves, the footwear industry bodies were left in no doubt that influential people in Brussels wanted to end antidumping as quickly as possible.

Definitive measures came into effect in October 2006, with an obligatory review after two years as part of the deal. When this review began, outgoing European Union trade commissioner, Peter Mandelson, complained to the *Financial Times* that the review had gone ahead because he had no choice (it was already programmed in), with the clear suggestion that he would have preferred to remove the antidumping duties then and there. There was also a clear indication that the Commission would seek to carry out its review and, perhaps, remove the tariffs as quickly as possible. It took until December 2009 for the Commission to confirm



*Puma argued that if some of its suppliers were entitled to market economy status and protection from antidumping policies, it paid too much duty between 2006 and 2011.*

CREDIT: PUMA



*Former European Trade Commissioner, Peter Mandelson, made little secret of his antipathy towards antidumping measures against footwear imports when the European Commission first put them in place.*

CREDIT: EUROPEAN COMMISSION

what would happen next: the EU was keeping antidumping duties in place and was, in fact, extending them to imports of shoes from Macao to put an end to the practice of triangulation (manufacturers in mainland China were accused of using Macao as a route to export markets to get round the tariffs). This was a blow to the plans of Mr Mandelson and a victory for the footwear manufacturers.

### ***Holiday plans on hold***

All of this was well documented at the time. What was less widely known was that, according to Vito Artioli, the authorities in Brussels went silent for months at the start of 2009 before suddenly issuing demands during August that year for detailed documentation about discrepancies between the domestic sales price and export price of Vietnamese and Chinese shoes. This required those arguing for the retention of antidumping duties to give up much of their summer holiday plans to put the necessary paperwork together. They succeeded because, Mr Artioli said at the time, the Commission was "forced to acknowledge our case, given that China and Vietnam are still today embracing trade policies that obviously cause great harm to the European footwear industry. Antidumping is a necessary act against those countries that adopt unfair initiatives, marketing products below cost to undermine their competitors."

The Commission had to wait until the end of the extension period in December 2010 to give formal notice that the antidumping measures were ending and, despite a formal request from ANCI for continuing to retain the measures, in March 2011 the payment of tariffs on imports from Vietnam and China ceased.

In comments at the time, Vito Artioli made it clear he had fought as hard as possible but was being forced to accept the new situation, albeit with the promise that the measures would come back if dumping continued and the European footwear industry was able to provide new proof. He said at the start of 2011: "We believe that the anti-dumping duties imposed on Chinese and Vietnamese leather footwear imports were fair, legal and strictly necessary to restore competitive trade conditions. However, today, in a political climate not



*Former president of the Italian footwear manufacturers' association, Vito Artioli, became an expert on antidumping and was tireless in gathering the information the European Commission said it required, even at very short notice in (August) 2009.*

CREDIT: PUMA

favourable to manufacturers, the commitment of the European Commission in favour of fair and competitive trade should be supported." And that appeared to be the end of that.

### ***Change of heart***

At this time, the organisation least likely to call for a return of antidumping duties on footwear imports was the European Commission. That's why it was something of a surprise when, in 2016, the Commission announced it was re-imposing antidumping duties on a small group of footwear manufacturers from China and Vietnam. This move on the part of the Commission was hard to understand. There was some initial excitement in industry press, but that quickly died down because this is not a return to 2006 and most shoe imports coming into the European Union from Vietnam and China face no new tariffs.

Three prominent footwear brands are implicated, however, a trio comprising Clarks, Timberland and Puma. Timberland has offered no reaction. Clarks told *World Footwear*: "We are aware of the decision and continue to consider its implications for our business, and our options in light of it." Puma gave us a hint of the reason for all this reluctance to talk. It said: "We cannot comment on this as it is an ongoing legal procedure."

### ***Legal history***

In July 2005, the Commission gave notice of what was to come and most manufacturers in Asia carried on as though they had not noticed; perhaps they hadn't (or perhaps they expected their European customers to pick up the tab). A small group, though, came up with an interesting response. Anticipating by 11 years what would become another heated subject in 2016, they submitted a formal request to be granted 'market economy status' (MES) by the European Union. The concept at stake is that developed economies adhere to market economy principles: the market decides costs and pricing. If regional or national governments interfere in an attempt to alter the market's price or cost levels, they exclude themselves from market economy status.

In 2016, China expected to be granted MES automatically

## EU FOOTWEAR ANTIDUMPING TIMELINE

**July 2005:** The European Union initiates the process of bringing in antidumping measures against imports of leather shoes from Vietnam and China

**April 2006:** Provision measures begin

**October 2006:** Definitive measures begin

**October 2008:** Review begins

**December 2009:** EU keeps antidumping measures in place and extends them to include Macao to counteract the practice of 'triangulating' exports of shoes from China and Vietnam

**December 2010:** EU gives notice that the measures are about to expire

**March 2011:** Expiry confirmed; all goes quiet (or so we thought)

**February 2016:** The European Court of Justice rules that a small group of manufacturers supplying Clarks, Timberland and Puma had the right to ask for special consideration under rules governing market economy status (exempting them from antidumping or entitling them to a lower rate) and that the European Commission was wrong to impose antidumping duties without considering their request

**August 2016:** The EU says it has now given these claims due consideration and found that none of the manufacturers met the criteria for 'market economy status'

**September 2016:** In an effort to stave off wider claims for reimbursement of the antidumping duties paid, the EU reimposes definitive antidumping duties on the small group of manufacturers and brands that triggered the Court of Justice decision; its aim is to emphasise that the measures were always legal and correct.

because last year marked the fifteenth anniversary of its joining the WTO; countries that are still on the path towards fully embracing market principles are allowed to join the WTO, but the assumption is that they will continue along that path and, after 15 years, will surely have reached their MES destination. Europe says China was promised a review in 2016; China says it was promised a move to MES automatically. Lively discussions are ongoing as this issue of *World Footwear* goes to press, but it's fair to say the European Commission has resisted the change.

This is important in the context of this discussion because one of the consequences of China's being granted MES would be that manufacturing industries in Europe would no longer be able to ask the EU to impose antidumping measures on their Chinese competitors, even if they could show that imported products were still being brought in from China at falsely cheap prices; MES would free Chinese exporters, including exporters of shoes, from facing antidumping measures in future.

To return to 2005, the far-sighted footwear manufacturers (from Vietnam as well as from China) who sought to cloak

themselves pre-emptively in the MES protective blanket were not making the claim on behalf of all of Vietnam or all of China; exporters who believe they can show that their individual companies' export prices are in keeping with market rates are entitled to apply for individual treatment and to have a lower duty to pay, if any. It was this individual treatment that the 2005 group asked for. Their plea fell on deaf ears in Brussels.

### Fast forward to 2016

Without much publicity at the time, it transpires that Clarks, Puma and Timberland all raised legal objections in 2009 to having the anti-dumping duties imposed on them for imports of shoes made by these specific Asian companies without any consideration from the European Union of their manufacturing partners' individual treatment requests. These legal arguments eventually made their way to the European Court of Justice, which decided that the Commission ought to have given consideration to the claims.

Matters came to a head last February when the Court of Justice suggested that the three brands and their outsource manufacturing partners had a right to a response. They also had a major vested interest because traders who did successfully negotiate individual treatment (we know of at least one, a Chinese firm) still had to pay a tariff, but paid 9.7% instead of the stipulated 16.5%. Having imported millions of pairs of shoes since 2006, and having paid millions of euros in antidumping duties on many of them, the appellants found the idea of reimbursement of up to 6.8% of the duties paid very attractive.

### The 'R' word

Reimbursement is a frightening word in Brussels and the Commission has gone to considerable lengths to contest these claims. Despite that, there are commentators who insist that the 2016 Court of Justice decision means the whole campaign of antidumping duties on shoe imports was illegal and that all importers may well have a right to ask for their money back. Faithful to the Court of Justice findings, the Commission set about checking, *a posteriori*, the MES and individual treatment claims of the Vietnamese and Chinese manufacturers concerned, carrying out the work between February and August 2016. It decided the claims were invalid, highlighting a number of objections, including what it said was a lack of freedom on the part of these footwear manufacturers to decide for themselves the volumes of shoes they ship overseas and the export price they charge.

The European Commission has not belatedly discovered any deep-seated sympathy for the arguments that Vito Artioli and his colleagues began putting forward a decade ago. Its support of antidumping now is much more pragmatic. It has focused on the small group of companies that made the original MES claims. It has re-imposed antidumping duties on them, and on them alone, because, commentators say, its retrospective analysis of these cases allows it to insist the steps it imposed on them and on all similar exporters ten years ago were legal. These particular manufacturers triggered the 2016 panic; they are the ones being made to pay now in the form of reinstated antidumping tariffs that other shoe exporters from the two Asian countries are free from. But their example will serve as a warning to everyone else. If any brand or manufacturer should dare to say the 'R' word out loud in Brussels, they know what's coming. 🌀

*Adidas added Horween's vegetable-tanned Essex leather to its classic Stan Smith design.*

*CREDIT: ADIDAS*



Family-run business Horween Leather Company has been tanning leather for over 100 years. It has developed strong relationships with several footwear brands which use its leather to add a touch of luxury to their products.

## Keep it in the family

Nick Horween became the fifth generation of his family to work at the Horween Leather Company when he took on the role of vice president in 2008 after a spell working as a professional chef. His father, Arnold "Skip" Horween, has been president of the business since 2003 and together they run one of the oldest tanneries still operating in the US. It was founded in 1905 by Isadore Horween, who emigrated to the US from his native Ukraine in 1893. After spending the intervening years working at various tanneries in the Chicago area, he decided to go it alone and established what is now the city's last remaining tannery.

It has survived a period in which there has been a staggering decrease in the number of tanneries in the US. From more than 250 operating in 1978, there are now less than a dozen. Horween is one of an even smaller number that process hides all the way from the raw state through to finished leather. It primarily processes bovine hide (which makes up 85% of its total production) and horsehide, as well as small quantities of bison and calf hide.

Whether it be because of its commitment to hands-on manufacturing or its refusal to cut corners when it comes to the raw materials and compounds it uses, Horween is a trusted source of leather for a number of brands. It has total faith that its staff (some of whom have been with the company for much of their working lives) can maintain the standards that have been upheld for over a century. Although its leathers are still finished by hand using traditional techniques passed down through the generations, it has adopted modern machinery and technology to keep pace with changes in the industry. Horween also has a fully-functioning effluent treatment plant on site, which is compliant with the standards set by the US Environmental Protection Agency.

### Footwear favourite

Footwear is proving to be an increasingly important market for the company, with several athletic shoe brands choosing Horween leather when seeking to add a luxurious element to their designs. Among those to have done so in recent years are New Balance, Reebok and adidas.

Nick Horween tells *World Footwear* that the company has been working with New Balance for around five years, during which time the US brand has offered a leather option on a variety of its sneaker designs. He says New Balance uses a variety of Horween's leathers, depending on the colour and design of the shoe in question. It is made-to-order, allowing the brand to give details of the characteristics it requires from the material. Horween can then use its know-how to suggest "beneficial adjustments".

New Balance announced in August last year that its 1300



*Horween trusts its staff to uphold the standards that have guided the company for over a century. CREDIT: HORWEEN*

and 998 models will both be available in Horween leather. The 1300 features an upper in neutral shades of brown while the brand is offering its 998 in black leather. Both designs have embossed branding on the tongue and heel. Horween has also provided the leather for the lining of both models.

Mr Horween says he appreciates "the time and effort New Balance has taken" to offer the designs. He believes that consumers view these products as having "high quality and thoughtful design".

Although unable to give *World Footwear* exact details of the leather used due to its agreement with New Balance, he



*The quality control stage is key to ensuring Horween's finished leather is ready to be shipped to its customers.*

CREDIT: HORWEEN

confirmed that the brand hasn't used the Cordovan leather for which Horween is best known.

There are only a few tanneries left in the world that still produce genuine Shell Cordovan, named after the Spanish region of Córdoba. Speaking to *World Footwear* at a recent Lineapelle exhibition, the president of Argentinean tanner Rocinante, Norberto Lorenzo, said his was one of the last three or four in the world. As well as Horween, UK tannery Clayton and Shinki-Hikaku in Japan continue to produce it. It is made from the area covering the rump of a horse; each horse provides two 'shells', roughly enough to make one pair of shoes. The oval-shaped shells are tanned, stuffed, shaved and polished during a process that takes roughly six months. The result is a very durable leather.

### **Better with age**

Discussing what leather can bring to an athletic shoe design, Nick Horween says it offers "aesthetic and durability improvements". He adds that, unlike some athletic footwear, a sneaker made with leather "looks better the more you wear it".

Reebok recently announced it would use Horween leather in its Classic Leather Lux range. The designs are available with an upper in black or brown oiled leather with brogue detailing. It has a worn-in look and features embossed Reebok branding, a leather lining and tonal laces. Reebok has previously collaborated with the tannery for its Classic Leather 'Brogue' collection, which was available in a variety of colours including navy and burgundy.

Reebok's parent company, adidas, added Horween leather to its classic Stan Smith silhouette last year. It featured a single piece upper, which the brand said would develop a patina with age, echoing Mr Horween's comments. The upgrade of the Stan Smith design featured Horween's vegetable-tanned Essex leather, which the tannery says "ages beautifully over time".

When outdoor footwear group Wolverine World Wide launched a customisation service allowing its customers to design their own



*Timberland used Horween's Football leather, which is also used in the balls for the US National Football League (NFL), in a limited-edition version of its six-inch boot to celebrate the 50th Super Bowl (the most important game of the NFL season).*

CREDIT: TIMBERLAND

1000 mile boot, a product with heritage dating back more than a century, it offered them the option of using Horween leather for the upper.

Horween's Chromexcel leather, developed by the tannery more than 100 years ago, is another of its materials often used in footwear. Its natural creases give it a more rugged look and it can be heavily shined to give a high gloss or left for a subtler finish. During production it undergoes nearly 90 separate processes over 28 days. It is first chrome tanned before being subjected to heavy vegetable retanning using a mix of bark extracts and natural agents. This dual tanning process results in soft but tough leather that retains its natural colour. Horween believes the added step of vegetable retanning gives Chromexcel its edge. It is very supple; the ease in moulding it makes it ideal for use in footwear.

Nick Horween describes footwear as an "important part" of Horween's business. The variety of leathers it produces makes it an attractive proposition for brands as it can offer them multiple options. Beyond its own ambitions, Horween now finds itself flying the flag for the small number of tanners that remain in the US. Mr Horween says the company is "always trying to improve and explore new opportunities", suggesting there could be further collaborations with footwear brands in the future. 🔥



*Reebok has turned to Horween for various designs, including the Freestyle Hi.* CREDIT: REEBOK

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# Global manufacturing update

STUART CLEAVER

**2**015 was a year which may well be remembered for not all of the right reasons, as it witnessed several potential or real threats to the world order. The scourge of ISIS, the situation in Syria and consequent escalation of refugees into Europe and elsewhere, has had a disruptive effect; the European Union through the UK's Brexit decision and worries regarding the surprise outcome of the US Presidential election are other concerns.

It ought perhaps to have been a year when people relaxed more after seemingly coming out of several long years of recession. Instead there were alarms that austerity was still the name of the game for some, though not all. We were barely getting back to pre-recession levels of GDP and there was a feeling that belts were still being

tightened perhaps for political purposes. So how did all this impinge on the global shoe sector?

## A CHANGE OF MOOD

No survey of the global shoe sector can be complete without a sharp focus on China, as that country has so dominated the shoe landscape for the last few years. Within the country itself there was a change of mood in so far that, with a slowing down of economic growth as measured by GDP—and indeed the population itself as enforced by the one child per family ruling—a new approach was needed.

This did not necessarily mean that China would suddenly cease exporting or that, in volume terms, even the likes of its nearest rival in the export market Vietnam, would eat too much into

China's lead. However, there were some signs at least that alternatives were available. Adidas for example was by 2014, sourcing 39% of its footwear from Vietnam as against 31% from China. Furthermore, the total shoe production and total shoe exports of China both fell in volume terms in 2015.

Production of footwear fell in 2015 by over 3% in the country. This was partly due not only to fewer sales on international markets but also a fall in domestic sales as well. The volume of exports in 2015 fell by almost 440 million pairs or around 5%. Sales to the country's major market, the United States, actually continued a downward trend which has been evident for the last five years with a 4.4% decrease to 1,760 million pairs. Not all markets were showing downward trends

however and the UK, for example, witnessed an apparent rise of 12.7% to 450 million pairs, although this may have been partly attributable to re-exports.

Vietnam has been the rising star in footwear production in recent years and has seen its exports to the United States more than double since 2010 such that they were approaching 300 million pairs in 2015. Total shoe exports actually increased by 8.4% in volume in 2015 and by a slightly higher amount in production. There were also continuing signs of growth in shoe exports in 2016 which will also be boosted by the progress of trade agreements such as the Trans Pacific Partnership and the Free Trade Agreement with the European Union. Although most things seem to be in the favour of Vietnam at the moment, there is still some considerable way to go to reach the level of China.

## REGIONAL SHARES

The importance of the Far East in global shoe production can be seen by reference to the table which indicates the share of total world footwear production by regional output. The Far East, which includes the four 'powerhouses' of China, India, Vietnam and Indonesia, has been responsible for around 82% of global output for virtually the past 10 years. The major losers have been Eastern and Western Europe with their higher costs (Western Europe) or their shake out from previous state run or supported industries (Eastern Europe). Not too much should be read into Africa as since 2011 basic footwear has been included.

With China experiencing slower growth, albeit at rates which most countries would willingly take on, the

question arises in regard to a potential gap in the global market and, if that is indeed the case, which countries would fill it. With the exception of Vietnam, as already discussed, other contenders have included old favourites Indonesia and the newer 'kids on the block' namely Cambodia, Bangladesh, Ethiopia and Nicaragua.

Indonesia is the 'other' established low cost producer on a large scale, but even so it lags behind Vietnam which appears to be pulling away and probably has greater prospects with the free trade agreements which are opening up. The other countries mentioned cannot yet be called contenders. Even when all are grouped together, they still export less footwear than Brazil.

Cambodia and Bangladesh have achieved the most so far, with both exceeding 50 million pairs of exports each and both have attracted some overseas investment and the presence of influential Chinese, Taiwanese, Korean and other companies such as Young One, Pou Chen and Tata in Bangladesh and Huey Chuen, Kingmaker and Maruchen in Cambodia. The future will no doubt see an expansion in these two countries driven by companies such as these.

Nicaragua has the proximity of the giant US market and Brazil as a stimulus. However, attempts by Brazilian companies to start up shoe production in the country have so far achieved mixed results. Ethiopia was seen as a possibility to tap into a continent with great sources of low cost labour and undeveloped markets. As yet, the shoe industry there is a work in progress but overseas assistance is seeping through and the potential does exist for the future.

## A SLEEPING GIANT

Perhaps the greatest long term competition for China on the global markets is not a new kid on the block after all, but one that has been around for many years but has not fulfilled its export potential. That country is India. As the second largest shoe producer and the second largest consumer of footwear, India has not been mentioned too often as an exporter. This is because it has not exported in large quantities and even now barely exports 200 million pairs which is around the same level as Italy. With a production of over 2.5 billion pairs, this means less than 10% is exported.

The reasons for the relative lack of exports have been highlighted many times before and include the bureaucratic nightmares, caste system, restrictions on the use of leather and so forth. It is also a fact that the 'organised sector' accounts for only 30-35% of total output (albeit still a substantial volume) and that just ten companies are responsible for a significant part of it. However, it is a fact that things are improving and exports have increased. The 2015 cut in duty from 12% to 6% on leather shoes valued at over R1000 was welcomed particularly in places such as Kanpur, which claims to produce 60% of leather exports and is home to over 600 shoe manufacturers.

The domestic Indian market is also becoming a challenger for the position of the largest shoe market in the world in volume terms. In 2016 it exceeded 2.5 billion pairs and Liberty, a leading shoe company in India, indicated that if per capita consumption of shoes rose from its present 1.1 pairs (it probably excludes the ubiquitous chappals) to around three to four pairs which is the

| REGIONAL SHARE (%)      | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Far East                | 83.1% | 83.1% | 83.2% | 81.9% | 81.7% | 82.1% | 82.2% | 82.0% |
| Middle East             | 1.5%  | 1.4%  | 1.4%  | 1.4%  | 1.4%  | 1.3%  | 1.3%  | 1.3%  |
| Eastern Europe          | 2.9%  | 3.0%  | 2.8%  | 2.8%  | 2.7%  | 2.6%  | 2.5%  | 2.5%  |
| Western Europe          | 2.8%  | 2.6%  | 2.4%  | 2.3%  | 2.2%  | 2.1%  | 2.1%  | 2.1%  |
| South America           | 6.2%  | 6.4%  | 6.8%  | 6.2%  | 6.3%  | 6.3%  | 6.2%  | 6.4%  |
| North & Central America | 1.7%  | 1.9%  | 1.7%  | 1.7%  | 1.9%  | 1.8%  | 1.7%  | 1.8%  |
| Africa                  | 1.7%  | 1.6%  | 1.6%  | 3.6%  | 3.7%  | 3.8%  | 3.8%  | 3.9%  |
| Oceania                 | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |



*India has huge potential in the future.* CREDIT: SHUTTERSTOCK/INDIA PICTURE

norm in many other countries, a target of five billion pairs could be achievable. The population at 1.25 billion is growing at 1.2% per annum to add impetus to development. Forecasts of the huge potential of India are not new but there are signs that more rapid (or less slow) growth is at last happening and developments such as the expansion of third and fourth tier cities can only help to further the growth of the Indian shoe sector.

## GROWTH OF FREE TRADE AREAS

The seemingly constant introduction of more and more Free Trade areas has been a feature of global trading over the past few years. The one that concerns the Pacific Rim countries is the Trans Pacific Partnership (TPP) which, with Japan having joined in 2013, covers 12 countries with a total population of 792 million and a combined GDP representing 40% of the world economy.

An important step was taken on the 5th October 2015 when an agreement was reached after five years of working towards a goal of lower trade barriers such as tariffs, enhanced trade and investment, the promotion of innovation, economic growth and development, and the creation and retention of jobs.

The countries covered are the United States, Canada, Australia, Mexico, Malaysia, Singapore, Chile, Peru, New

Zealand, Vietnam, Brunei and Japan. At present China is an obvious omission but the Chinese have stated that they are interested in joining if issues such as intellectual property rights and standards on trade and investment can be resolved. Other countries to have registered an interest include Colombia, the Philippines, Thailand, Indonesia, Taiwan and South Korea. It was finally ratified on February 2016 in Auckland, New Zealand.

It is viewed by some as a companion agreement to the Transatlantic Trade and Investment Partnership (TTIP) between the United States and the European Union. It is an expansion of the Trans Pacific Strategic Economic Partnership Agreement of 2005. There is substantial resistance to TTIP, however, with fears that, for example, multinationals could sue governments and become over dominant. Opposition has come for example from global health professionals, internet freedom activists, environmental organisations, organised labour, advocacy groups and elected officials.

At present, the TPP countries—with the exception of Vietnam—therefore do not include the leading five shoe producing nations. Furthermore, Vietnam is the only significant shoe exporter in this group. However, Nike has indicated that the TTP would help them to 'develop advanced manufacturing methods' and 'to

support US-based manufacturing'. Moreover, it estimated that it would allow them to create 10,000 jobs in the US over the next 10 years.

## ATHLEISURE PHENOMENON

One of the major trends in the 2015 to 2016 period has been that of athleisure which both embraces the current awareness of the need to keep fit on health and appearance grounds, and the more casual approach to work clothes. One benefit of wearing such clothing is not having to change much between the gym and the office. A smart casual appearance at work and indeed for pleasure, can now be viewed as being acceptable and also includes trainers or sneakers. Luxury sneakers have also come on to the market from designers such as Jimmy Choo, Tommy Hilfiger and Lanvin. Previously such products would not have been deemed to be luxury items.

The rise of athleisure footwear is now responsible for over 25% of the sports footwear market and has become a global phenomenon. The likelihood is that the trend will continue and certainly for the next two or three years, with a compound annual growth rate (CAGR) of over 1.5%. Whilst the trend probably began to take off in Western Europe and North America, it has also been embraced in other countries such as China. One study estimates the total athleisure market, including footwear at \$270 billion, with a further 30% increase by 2020. This may be a little high however.

At the time of writing, quite what the future holds for 2017 to 2020 may well have to be reconsidered in the light of the Brexit and Trump results in 2016. The EU may be weakened, the UK looking for non-EU trade deals and Trump batten down the hatches with moves towards more protectionism if his campaign rhetoric is to be believed. Before these events occurred, forecasts had generally indicated that footwear would continue to grow at CAGR averages of around 1.5% to 3%. There may now have to be a rethink.

*This article is based on extracts from the author's 2016 'World Shoe Review', 'World Safety Footwear Review' and 'World Sports Footwear Review'.* 

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# Assessing resistance to waterborne abrasants

DAVID SMITH, SATRA TECHNOLOGY CENTRE

One of the most desirable properties for occupational, safety and many other types of footwear is water resistance.

Footwear is often expected to not only keep out water, but also maintain its appearance after wear in and around wet and dirty conditions. Over the years, SATRA has developed a variety of realistic tests for water resistance covering materials, components and complete footwear, designed to subject them to conditions similar to those likely to be encountered in use. A recent development has been SATRA test method TM446:2015 'resistance to waterborne abrasive materials'.

TM446 is a derivative of one of the most widely used and industry-preferred water-resistance test methods, SATRA TM230: 2014. This places the footwear on to a foot form, which is then lowered into a tank of water. The depth of water can be

adjusted according to the style of footwear and its intended application, from just above the level of the sole to just under the collar. The foot form is then flexed by means of a pneumatic mechanism which supplies a constant force to the moving elements of the foot at a realistic walking rate of sixty flexes a minute.

The test can be set to operate for hundreds of thousands of flexes, representing a lengthy walk in extreme conditions, during which the footwear is inspected periodically for evidence of leaks. It provides a realistic and lifelike assessment of the footwear's water resistance properties and very quickly highlights any weaknesses in a product's design or manufacture without recourse to field trials. The latter can be lengthy, difficult to co-ordinate due to the need for suitable subjects and more subjective than mechanised tests.

Manufacturers of high quality footwear including outdoor, occupational and military applications are interested in better understanding how durable their products are when subjected to more extreme but realistic environmental conditions. These could be construction sites and quarries, farmyards and the countryside where footwear is likely to be worn in wet, dusty, dirty and gritty conditions. Footwear that will be worn in and out of water or in the surf-zone during sporting activities will also be subject to similar stresses, as will footwear worn by service personnel in equivalent circumstances. Likewise, the rise in the popularity of cross-country and 'extreme' running events has led to a corresponding rise in demand for durable sports footwear that can tolerate long periods of flexing wear as well as immersion in dirty water and mud.

SATRA has a history of developing

new test methods in response to industry needs in order to help drive continuous improvement in the quality of footwear. A number of manufacturers have been faced with returned product that, in the customer's opinion, has underperformed in some of the arduous conditions outlined above. This prompted an investigation into the potential for raising the bar in water resistance testing to more accurately simulate some of the real world conditions responsible for these returns. As a result, TM446—a far more aggressive test variant of TM 230—has been developed to assess products under these conditions.

### DIRTY WATER

When assessing footwear for water resistance, conventional laboratory tests are usually carried out only in clean water. Specifying the use of de-ionised or distilled water for water resistance testing generally ensures control, repeatability and conformity between different laboratories. However, the use of this type of water is not really representative of some of the harsh and unpleasant conditions likely to be encountered by outdoor and occupational footwear on construction sites and elsewhere. TM446 introduces a key element, waterborne abrasive grit in the form of aluminium oxide powder.

This powder is commonly used in industry as an abrasive and also in some SATRA, British Standard and European Standards test methods for assessing a material's resistance to abrasion. Aluminium oxide grit is an extremely hard, fine powder that provides considerable abrasive power as well as

a tendency to permeate into small gaps in materials or products. With a Mohs' Hardness of 9, aluminium oxide has a similar hardness to that of diamond and so remains sharp after other materials have been ground into a rounded form. Aluminium oxide powder has a rating of 240 on the grit scale, making it comparable in effect to very fine sandpaper.

Rather than simply settling to the bottom during testing, the grit is kept in circulation by a vigorous bubbling action generated through a supply of compressed air, diffused through a set of specially designed and patented baffles at the base of the water tank. These baffles capture settled grit in equally spaced cavities and then redistribute it by means of a focused stream of compressed air which is introduced through small holes at the base of each cavity. This creates a vigorously bubbling body of water which keeps the grit moving and causes it to abrade against the outer surface of the footwear immersed in it. The whole test creates the effect of walking through running water or surf in which sediment is kept in motion by the movement of the water.

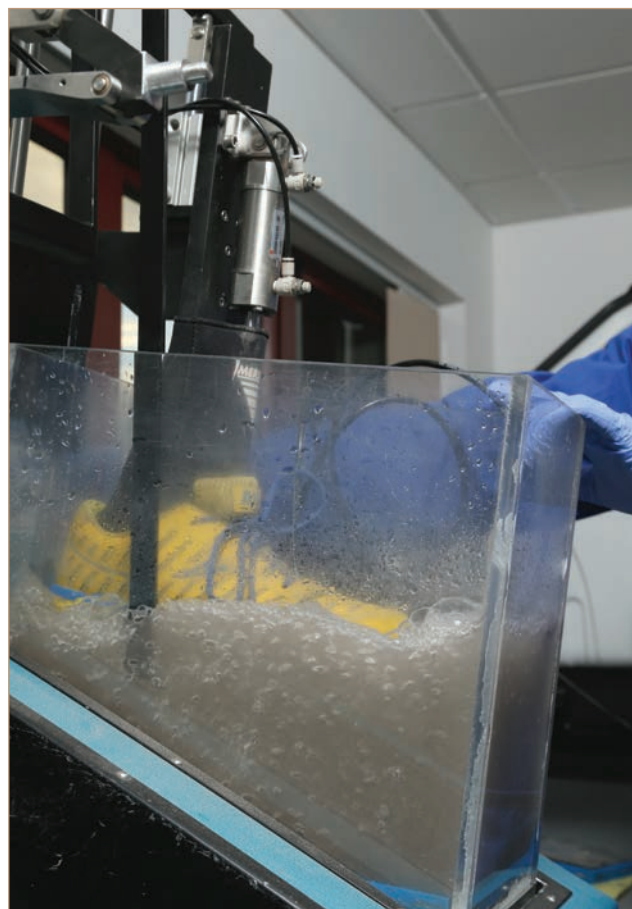
The presence of the abrasive powder in the water greatly accelerates any wear and tear related to flexing of the footwear. The aluminium oxide grit rapidly works its way into the test sample and then becomes trapped between layers of material or components that are being rubbed together, causing an effect similar to introducing sandpaper between two moving surfaces. The aluminium grit can also become lodged between the lining of the boot and the foot-form inside it, where it may accumulate if the boot is ill-fitting.

In order to accommodate the air diffusion equipment and



*Aluminium oxide grit is kept in circulation by compressed air diffused through baffles in the bottom of the tank.*

CREDIT: SATRA



*The deep tank allows the test item to be lowered to any depth so that the grit can reach every part, and be tested and analysed.*

CREDIT: SATRA

maintain a sufficient depth of water to circulate the abrasive aluminium oxide grit to all parts of the footwear, water tanks that are deeper than those in other water resistance tests are used. This not only ensures that gritty water reaches most areas of the footwear during the test but also creates a far more challenging environment for water resistance testing.

Unlike some other water resistance tests, where the purpose of the test is to determine if and when the footwear will leak, what is assessed here is the degrading effect of exposure to flexing in dirty water. It is certainly not a leak-resistance test. Most footwear will in fact leak as soon as it is lowered into the tanks as water will quickly be splashed into the top of the shoe or over the top of a bellows tongue due to the agitation of the water. This subjection to deep immersion represents some of the harsh environments liable to be encountered by many types of safety, occupational, hiking or military footwear, far better than some conventional tests where the water

level is often set at only a few millimetres above the sole or featherline of the shoe.

The key performance criteria assessed by means of this test are the footwear's continued fitness for purpose (does it and its components still function correctly after immersion and flexing in contaminated water) and whether it retains a presentable appearance after simulated severe use. Photographs taken before and after testing show the damage caused by the abrasive flexing and are compared to images of an untested item. The clogging of fastening systems, fraying of fabric areas of the upper, discoloration and wearing of mesh panels can all be identified through this before-and-after analysis, which may highlight potential weaknesses in materials or construction.

For example, conventional laces have been replaced in some modern footwear by a variety of other, more novel mechanisms such as ratchet straps, plastic buckles and rotary-tensioned wire or cable closures. Each of these mechanisms may have their

own weaknesses and could be adversely affected by long-term exposure to grit and dust borne by water. Laces may be abraded to the point of fraying through a combination of foot flexing and subjection to agitated waters containing grit, while mechanisms that feature small plastic or metallic components may become jammed or clogged with trapped grit. The new test presents an excellent opportunity to assess the durability of any closure mechanism and of ensuring that it remains operable after being subjected to tough environments.

## FIT ESSENTIAL FOR COMFORT

The fit of safety footwear is important not only for the long-term comfort of the wearer, but also for forming a good seal between the foot and the inside of the shoe, specifically the collar, to protect against ingress of sand, dust and other contaminants. The effectiveness of footwear at keeping out foreign matter can be assessed by recording the footwear's mass before

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and after immersed flex testing (and after cleaning by rinsing if desired) to establish how much of the waterborne grit has found its way into the boot. After testing, the footwear can be cut open in the laboratory to track the ingress of grit into the sample and identify any shortcomings in construction that are likely to permit grit to easily work its way into the footwear.

SATRA also uses a sophisticated X-ray scanner to examine the footwear before and after testing. Tested footwear is bagged (to prevent the spread of abrasive grit) and passed through the scanner in a matter of seconds. Grit that has penetrated into the footwear during testing appears as dark areas having higher density than the surrounding fabric, allowing designers and manufacturers to see deep within the footwear and to look for any weakness in the design or construction. This will highlight not only grit that has entered through the opening/collar area of the footwear, but also grit that has penetrated the material of the footwear or become

trapped between layers of material.

Most of us are familiar with the phenomenon of having grit or a stone in our shoe and how uncomfortable it can be. When working for example on a construction site with sharp sand, cement dust or other similar materials, or when encountering loose material underfoot during leisure activities, the presence of even small amounts of debris inside the shoe can be the source of major discomfort and possible adverse health effects if left untended. Cement dust, for example, is both an irritant and corrosive—especially when wet—and causes skin burns. Therefore, the ability of footwear to seal out irritant material of this nature is most desirable.

In addition to mass gain measurements and a visual assessment (with photographs) the test results can be accompanied by an assessment of how easily the footwear can be cleaned after soiling by means of this test. This can be particularly important for footwear worn in the food preparation industry where wearers may need to

clean their footwear before and after a shift or where potentially hazardous materials must be washed off footwear before moving to another area of a site.

An annex written into the TM446 test method allows for the footwear to be weighed and assessed before and immediately after testing, as well as after cleaning by rinsing with running water at the end of the test period. The ease of cleaning can be inferred from any change in visual appearance as well as a difference in mass gain figures after cleaning, due to accumulated silt being washed out of the footwear. This is perhaps best illustrated by the example of simple PVC footwear such as jelly shoes or slip-on plastic clogs; if subjected to this waterborne abrasion test, these may trap some grit. This grit, however, could be easily rinsed away after the test in contrast perhaps to a safety boot incorporating absorbent linings, multiple materials and stitched seams. Mass-gain measurements would reflect this behaviour; increasing after testing and then decreasing after cleaning. 



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# Industry 4.0

SERGIO DULIO

**F**irst there were humans, then machines and, some time later, electronics and information technologies that transformed them into mechatronic equipment and paved the way for the dominance of digital data. Today we live in a digital universe where barriers between atoms and bits tend to blur, machines talk to each other and to their human counterparts, and big data are the fundamentals of manufacturing intelligence. Welcome to the age of the fourth industrial revolution: Industry 4.0.

The way we now produce has evolved from a situation where craftsmen were in direct contact with their customers, to one dominated by advanced forms of work organisation

and mechanisation. The first industrial revolution dates from the end of the 18th Century following the introduction of water and steam powered mechanical manufacturing facilities. Machines alleviated the burden of human labour allowing higher throughput and better efficiency. This source of power, however, could not be transported or distributed easily which posed severe limitations on the locations of factories and their internal organisation.

At the turn of the 20th Century, electricity fostered the second industrial revolution based on mass production and the division of labour as typified by Henry Ford's production line for the Model T automobile. Electrical power is

easily distributed and can be delivered to each machine individually thus allowing a much higher level of flexibility in defining the best manufacturing layout for efficient organisation and production. The Modicon 084 programmable logic controller (PLC), released in 1969, ushered in the third industrial revolution in the form of the first examples of automation.

Now, in the first decades of the 21st Century, we are witnessing the dawn of the fourth industrial revolution: Industry 4.0. This goes hand in hand with the digital transformation of manufacturing and relies on a new breed of assets called Cyber Physical Systems (integrations of computation, net-



CREDIT: PRATHAN CHORRUANGSAK / SHUTTERSTOCK.COM

working and physical processes). Here, embedded computers and networks monitor and control the physical processes, with feedback loops where the latter affect computations and vice versa. As can be seen, it is all about digital data, their gathering, transmission and interpretation.

## DISRUPTIVE POWER OF DIGITISATION

Digitisation can have a disruptive power on business as, for example, with taxis. In the past when you needed one you either dialled the number of a taxi company or walked to the nearest stand. We all know how frustrating this can be with long waits at the phone, no cars at the stand and expensive fares. Then Uber came along. Wherever its service is available, it is enough to open the app on your smartphone to call the nearest driver, monitor where he is, how long it will take him to arrive and how much the trip will cost. What is going to become the largest taxi company in the world owns no cars and employs no drivers, hence it can offer a better service at very competitive prices. Its success comes from harnessing the potential of the sharing economy and the power of the digital transformation of processes and business.

The risk for companies is therefore one of waking up one morning and having been 'uberred' by other companies from completely different industries. It is a fact that the possibilities opened up by digital media will bring dramatic change to companies, their strategies, processes, structures, products and also their cultures. In the future, people, machines and resources will communicate with each other directly and in real time. Rigid value chains will become dynamic value-added networks, because value will no longer be added sequentially and subject to time lags, but within a network of units that constantly communicate and respond flexibly to each other, and largely organise themselves. The enablers of the digital transformation of industry include the Internet of Things, high-quality broadband networks and the increasing automation and autonomy of production. All these technologies and propositions prepare the ground for disruptive developments and make them more likely to happen.



*Cooperative robots can fully integrate with humans in performing a wide range of tasks.*

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## LOGIC OF DIGITISATION

In effect, digitisation is accelerating the process of evolution towards Industry 4.0. To be able to assess the risk of being 'uberred', companies must first understand the logic of digitisation. In a special report issued in Germany by Roland Berger two years ago we can see that digital transformation takes effect via four levers.

**Digital data** – capturing, processing and analysing digital data allows better predictions and decisions to be made.

**Automation** – combining traditional technologies with artificial intelligence is increasingly giving rise to systems that work autonomously and organise themselves. This reduces error rates, adds speed and cuts operating costs.

**Connectivity** – interconnecting the entire value chain via mobile or fixed-line high-bandwidth telecom networks, synchronises supply chains and shortens both production lead times and innovation cycles.

**Digital customer access** – the (mobile) Internet gives new intermediaries direct access to customers to whom they can offer full transparency and new kinds of services.

The availability of digital data, automation of production processes, interconnection of value chains and creation of digital customer interfaces is transforming business models and reorganising entire industries. Just how

far-reaching this will be is exemplified by pioneering industries such as media, music, retail and tourism. Signs of similarly disruptive changes are already appearing in the automotive and logistics sectors, too.

## ENABLING TECHNOLOGIES

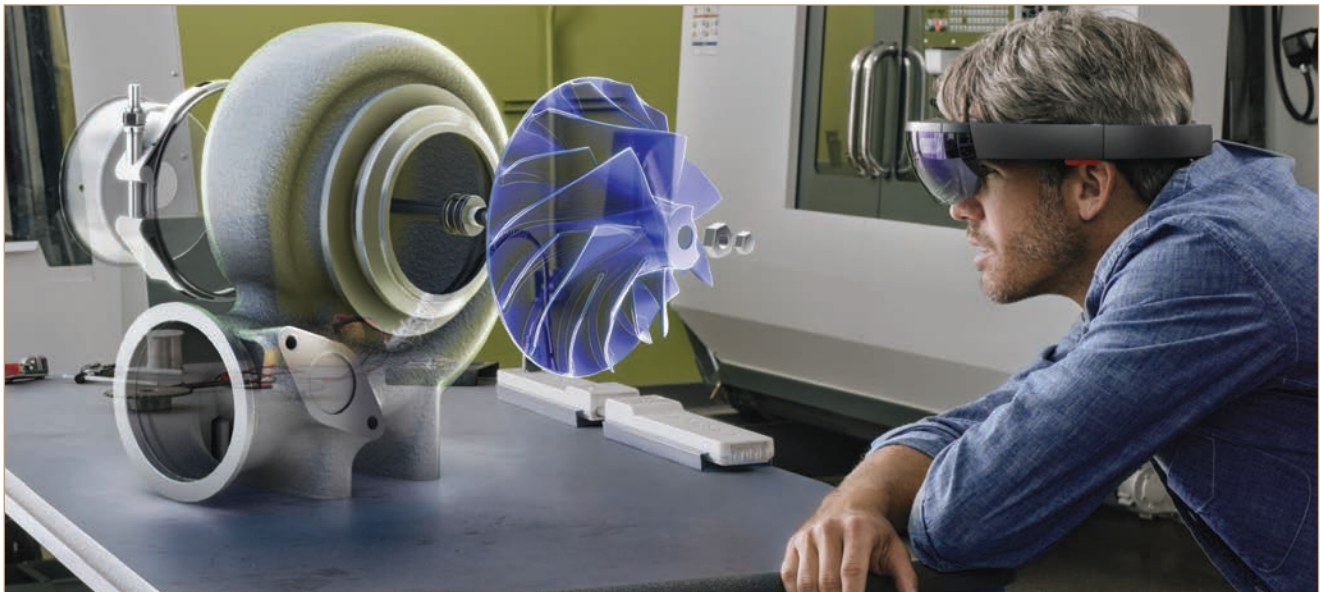
Industry 4.0 is built on a set of enabling technologies that make up the recipe for migration towards digital manufacturing. In a study published in 2013 by the McKinsey Institute, some of them were described and were considered to have a disruptive impact on manufacturing and our lives in general.

**Internet of Things** – networks of sensors and actuators for data collection, monitoring and decision making that together can be used for process optimisation. When applied to the manufacturing environment it becomes the Internet of Machines.

**Advanced Robotics** – increasingly capable robots with enhanced senses, dexterity and intelligence used to automate tasks and augment the activities of humans.

**Augmented Reality** – where digital information is superimposed on to a real world view to augment the capabilities of workers and enhance their skills.

**3D Printing** – additive manufacturing to create objects by depositing layers of materials based on digital models.



If these are the main components of Industry 4.0, other technologies such as simulation, horizontal and vertical system integration, cyber security, the cloud, big data and analytics are just as important and contribute to the full implementation of the concept and the digital transformation of modern industries. A new world is appearing, made of smarter machines, interconnected, capable of communicating their status and their needs for a more proactive and efficient handling of manufacturing processes.

### OPTIMISING MANUFACTURING EFFICIENCY

Industry 4.0 does not simply look at fixing machine problems when they appear, but conceives the equipment so that it can proactively monitor its own status and anticipate possible failures. In addition, by regularly recording operating conditions, working parameters and machine behaviour, these data can be used to provide machine users with a performance optimising service to improve overall manufacturing efficiency. No more 'just maintenance' but performance optimisation is sold as a service to the footwear companies of the future.

There is a caveat, however, in that while connected machines and sensors provide an enormous wealth of data, they are at the same time both a value and a problem if we cannot put order in the chaos. Data generate knowledge and knowledge is the basis of intelligence as long as we have the methods and the tools to master them. These are other key ingredients of the Internet 4.0 recipe: big data and analytics.

### ROBOT ASSISTED MANUFACTURING

2015 was a record year for the sale of robots worldwide with a number of units sold that broke all previous records—and with China the leading buyer. Data for 2016 are not available yet but it is very likely that the growth rate in terms of installation will be maintained. We are at the dawn of the age of robots or, perhaps more accurately, advanced robots with all the positive and negative implications that brings. These robots are, however, not quite the same as those we see in factories today.

In the past we have been used to so called 'industrial robots', confined to work in secluded areas where human

*Wearable augmented reality (AR) devices allow the operator to view additional information while remaining focussed on the assigned task.*

CREDIT: MICROSOFT

operators were not allowed to enter for safety reasons. They were big intimidating machines that required great skill to be programmed and used, inhabitants of so called 'dark factories' that, some time ago, many thought would be the future of manufacturing. Instead, in the future we will see more and more collaborative robots, designed to work side by side with their human colleagues. They will be the protagonists of 'smart factories'.

The challenge is to allow new generation robots and workers to live together in a friendly and safe way for the latter, a challenge that calls for machines designed in a totally different way. The key point is how to make human workers and robots interact safely. In the past, there were no interactions at all; robots and workers were placed in different workplaces with no contact either possible or desired. Then workplaces became shared in a limited way called 'exclusive motion' where either the robot or the worker was moving. Contact was possible but only with a stationary robot as in the case of industrial robots acting as handling assistants.

Ascending the level of scale of Human Robot Cooperation (HRC), we find solutions in which there are no more physical safety fences but only virtual ones, such as laser barriers where contact with the robot is still not desired and very unlikely. The generation of so called 'cooperative robots' assumes that in the shared workspace contact is possible yet not desired or, at the highest level of cooperation, is fully desired with simultaneous motion of the worker and the robot as is the case with manual guidance. A totally new paradigm in the automation of the fabrication process for which we can introduce a yet unused acronym, RAM or Robot Assisted Manufacturing.

Shoe factories will then become attractive for workers, healthy and safe environments where humans perform rewarding jobs while repetitive ones are left to machines and robots. Yet the widespread diffusion of robots does not come without a price. Many recent studies analyse the short

and long-term impact that robots, artificial intelligence and automation in general will have on the future of labour. Almost all analysts agree that in the long term the impact will be positive in terms of job creation and quality of work. Some, however, believe that in the short term, we will see a more negative and destructive phase in which jobs will disappear or be transformed, a scenario worth careful consideration by planners and policy makers in the near future.

### AUGMENTED REALITY

The dictionary defines augmented reality or AR as being a technology that superimposes a computer-generated image on to a user's view of the real world, thus providing a composite view. Commercial models of AR devices, ranging from simple glasses to elaborate goggles and helmets, are already available and one can think of applications of the technology in fields such as remote machine maintenance, process control and field operations. Wearable devices such as the HoloLens from Microsoft could replace displays and other equipment, presenting the operator with the necessary information with a context sensitive approach and allowing them to stay focused on the assigned task. It is quite likely that we will see them in the shoe factories of the future. An application of AR and wearable technologies aimed at replacing projection systems normally used in the current generation of cutting machines is now under study at ATOMLab, the Research and Innovation laboratory of Atom Group.

### 3D PRINTING

Additive manufacturing is another pillar of the digital transformation that we have already dealt with on previous occasions in *World Footwear*. What we want to restate here is that this technology has an inherent potential to disrupt the mere notion of products, the way they are fabricated and the relationship between consumers and the products they buy. It is vital that companies understand this potential before they are swept away by the digital tide. Hybrid shoes with more and more 3D printed parts are making their appearance in the market, with major brands such as Nike,

adidas, Reebok and others introducing their own interpretation of the concept. This will shift the balance of shoe making from high touch to high tech.

The original shoemakers worked directly with their customers solely through the high touch of their skill and manual ability. Since the coming of industrialisation, shoe manufacture has become increasingly less touch and more tech. Additive manufacturing is ushering a new high tech revolution based on the combination of an all 3D printing manufacturing approach and customisation. This is going to change dramatically the entire footwear value chain, especially if we think that the true potential of additive

manufacturing is in making possible what is totally impossible with other technologies.

The digital transformation of manufacturing and, indeed, our very lives is already happening and is there to be seen in every single one of our daily activities. In this respect Industry 4.0 may be considered a 'meta revolution' meaning that it factorises and multiplies all the most relevant aspects of work organisation, mechanisation, automation and IT, raising them to an unprecedented level of effectiveness through the power of digital data. In the future, we should therefore expect to see more and more smart shoes, in smart factories produced by smart workers. 🧠

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# What's the future for manufacturing?

**F**ootwear manufacture has changed and developed enormously over the years, moving from what was essentially a craft occupation to mass manufacture during the 19th Century, though still employing traditional constructions albeit in a mechanised form. The 20th Century saw new constructions and materials appear, especially in regard to soling, with the introduction of the cemented, direct vulcanised and injection moulding processes using rubber- or polymer-based materials. The shoe upper, nevertheless, still required cutting and stitching, although advanced technology in the form of computer design and control helped to reduce the high operator skill levels previously called for.

The other and, perhaps most revolutionary change, however, involved a fundamental shift in where footwear

was produced. In the space of only some 25 years, footwear manufacture on a large scale that had previously been the preserve of advanced Western industrial nations, moved to Asia where labour costs were a fraction of those in the West. This was driven by sports shoe brands typified by Nike who were marketers as opposed to manufacturers and, having no ties to any existing manufacturing base, enjoyed a degree of flexibility that enabled them to have their shoes produced wherever in the world was cheapest.

Margins on the other hand were higher and soon many other categories of footwear followed suit. It was not without its problems however. Quality management initially proved difficult, extended manufacturing lead times meant large inventories and stock write downs on slow moving lines that all ate into those margins. By the turn of the 21st Century, another problem arose.

China, by now the great global hub of footwear production, began to experience an escalation in labour costs and an increasing reluctance for people to seek work in shoe factories when jobs were available in more glamorous industries such as electronics where wages were higher.

## INNOVATIONS IN TECHNOLOGY

The past few years have also seen some exciting new technologies appear which have the ability to totally revolutionise footwear manufacture in terms of both how and, indeed, where it can be produced. 3D printing is one that is increasingly being seen as a solution to many industrial processing problems and the key to future manufacturing in general. Reebok, for example, is developing the Liquid Factory where software and robotics draw three dimensional shoes and then create the

final article by 3D printing using a proprietary liquid material from BASF. The company says this technique creates totally unique footwear quickly and without using traditional moulds.

Adidas unveiled its Futurecraft MFG (Made for Germany) sneaker last year, the first shoe produced at its Speedfactory production facility in Ansbach. This is almost entirely operated by robots and large-scale production is planned to begin this year, followed by a second unit in Atlanta, US. The Futurecraft MFG uses adidas Boost technology for increased energy return when running and was designed using the company's advanced Aramis motion capture technology. This makes it possible to examine exactly how the foot functions when running and apply that data to produce a shoe that has the optimum performance possible.

What do these two projects have in common? They are both very 'high tech' and are both taking place on home soil. One factor behind this growing trend to on-shoring is that some of the low cost producers are no longer as low cost as they once were, especially China. The other and, possibly more significant, factor is that the advanced technology employed is making it an increasingly economic proposition to bring manufacture back to Western countries. Lead times are extremely short, the supply chain is effectively eliminated and inventories are minimised. Although the capital investment is high, this is offset by the cost savings that can be made from the ultra efficiency of the whole operation; humans are prone to make mistakes whereas correctly programmed robots do not.

### LOCAL-FOR-LOCAL

Under Armour CEO Kevin Plank is taking his sports shoe brand in a similar direction with the 'Lighthouse' in Baltimore. This is a 35,000-square-foot building filled with 3D printers and other high tech systems where new ideas can be brought to fruition in a fraction of the time and cost it would normally take. Plank says the Lighthouse is the 'tip of the spear' of innovation in an industry that needs to catch up and believes Under Armour can reduce manufacturing costs and save time and money, while ensuring higher quality by reducing chances for error by having fewer component parts.



*Under Armour says its Lighthouse project is the 'tip of the spear' of innovation for the footwear industry. CREDIT: UNDER ARMOUR*

He wants to create tens of thousands of new manufacturing jobs in the United States but says that new innovations in manufacturing and systems are needed for it to be a fully competitive reality. He also wants to take this idea a step further with his local-for-local vision whereby the Lighthouse will design products that will then be made in local markets around the world. He believes that, as in the US, every market around the world would prefer to have its product made locally if possible rather than imported with all that implies. By having innovative manufacturing hubs such as this operating in each region, local manufacturing could become a practical possibility for most countries.

### DIGITISATION

In his article on Industry 4.0 elsewhere in this issue of *World Footwear*, Sergio Dulio outlines the tremendous technological gains and benefits that will accrue from digitisation as it is increasingly applied to manufacturing systems and processes. He also discusses the disruption it can cause as in the case of Uber and the impact it has had on the traditional taxi business model. By owning no cars and employing no drivers, it is able to offer a faster service at a very competitive price as it is using other peoples' assets rather than its own as in a conventional business model. It has succeeded by harnessing the potential of the sharing economy and the power of the digital transformation

of processes and business.

Unlike the complex footwear industry, the taxi industry is relatively simple and at its lowest common denominator requires just a driver, a car and the fuel to power it. The smallest shoe factory, on the other hand, is merely a link in a long supply chain from raw material to finished product and consumer. What digitisation can do for the footwear industry is to simplify the way it makes shoes such that they can be produced almost anywhere in the world with a minimal labour force trained in computer rather than shoemaking skills. No tradition of shoemaking is called for and the necessary investment can come from any quarter. This fits perfectly into the Under Armour format.

This could of course also be said to be disruptive in the sense that it is a radically new way of looking at things and this is essentially what Kevin Plank is saying the industry needs. He does not have a shoemaking background and therefore no preconceptions as to how shoes should be made. In 1996, he was a talented college athlete frustrated by constantly sweaty T-shirts. Deciding to do something about it, he set out to find fabrics that would breathe and dissipate body heat and then turned them into a revolutionary T-shirt that formed the basis for the Under Armour brand. Such shirts are easier to make than shoes you may say but, with the increasing use of Industry 4.0 technology, shoemaking will become increasingly simplified too.



*The relatively simple format of Athleisure type footwear makes it ideal for advanced production technologies.* CREDIT: MESSE DÜSSELDORF, CONSTANZE TILLMANN

## ANTI-GLOBALISATION

There is also the protectionist stance of many politicians to consider, resulting one suspects to an increasingly anti-globalisation attitude that is being taken by many voters in Western countries who feel that rather than benefit from it, they have been exploited by it in terms of jobs lost to the expanding economies of Asia. President-elect Trump has said he wants to see jobs brought back on shore and, as the US is still the world's largest economy with huge consumer spending power, footwear brands operating there will have to seriously examine how they would cope with a scenario that might include expensive import duties on foreign sourced goods.

The United States is not alone and other countries where voters want to 'get their jobs back' may well choose to follow, particularly in Western Europe. Italy's Referendum in December would seem to support this. Many voters may not however realise the full implications. Rather than create more jobs, a reduction in free trade has the potential to slow the global economy and increase prices. Globalisation has in fact delivered a steady incremental increase in consumer buying power in recent years; this positive trend could be halted or even reversed, living standards might fall and current low interest rates rise, leaving consumers with less spending power.

Another major change in where footwear is produced is therefore a

distinct possibility. Whether it will follow the local-for-local pattern suggested by Kevin Plank or some other perhaps similar format only time will tell. What is certain, however, is that leading brands such as Adidas and Reebok have seen the signs and are exploring high tech solutions that would enable them simplify and transfer production by using new constructions and materials, extensive 3D printing and increased use of Human Robotic Cooperation. Clearly this would not affect high fashion or top quality traditional footwear but, as so many people now wear athleisure type products, the impact would still be enormous.

## CRYSTAL BALL GAZING

A truly futuristic scenario for the way footwear is produced could possibly be one where instead of there being shoe factories, there are drop-in centres along the lines of Internet Cafes where you could scan your feet for size and shape, choose a design online, enter your data and download a software program which is transferred to a 3D printer. You then go about your business while the printer produces a pair of custom made shoes. You pay electronically and walk out in them leaving the old ones behind to be totally recycled.

A far fetched notion? Certainly for the foreseeable future because a radical scenario would create total upheaval, with most parts of the industry as we

know it becoming redundant with all the repercussions that would involve. For instance, what would we do with all the millions of hides that would no longer be required for the production of leather? However, from a purely technical viewpoint we only need two things to make it all possible.

The first is the right polymers to produce a 3D printed shoe that behaves like a conventional one in terms of physical performance. Chemical companies such as BASF and DOW Chemical have huge financial resources and are investing heavily in this field. As a result, new 3D printing materials are advancing at a frightening speed and, as with all new technologies, the costs will fall dramatically as the process is further developed. The second is the ability to combine more than one type of polymer in the shoe.

There are in fact already 3D printers, such as the Connex family from Stratasys, that can print materials with different degrees of rigidity at the same time and in the same build. In theory, this could make it possible to print all the rigid and soft parts of a shoe in one go, without any need of assembling them later. Although nothing commercial is yet available, it cannot be long before it is. In the meantime, other companies such as Feetz, are choosing a different route and are printing rigid and soft materials separately and then assembling the various parts together in a manner similar to the traditional cemented process. We are still at the beginning of the 3D printing revolution and there is much yet to come.

As of now when we are surrounded by so many global uncertainties, it is very difficult to predict what might happen in the next few years, let alone longer term. One thing we can be sure of, however, is that the footwear industry will continue to embrace new technologies as it has always done and use them to provide consumers with ever better quality products. Where they will be made is still open to question as these new technologies will continue to simplify the shoemaking process and create a more level playing field in terms of costs such that, in the future, they could have the potential to be made anywhere and everywhere. 📍

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# End of an era

Stuart Weitzman is to step down as creative director of his eponymous brand as Coach begins to stamp its mark on the brand it purchased in 2015.

When US leathergoods company Coach purchased Stuart Weitzman for \$574 million in January 2015, it said the “continuity” of the luxury shoe brand’s management team would allow a “seamless transition to Coach ownership”. It is now seeking to move the brand in a new direction and has announced that Stuart Weitzman is to leave his role as creative director.

His replacement is Giovanni Morelli, a design veteran with an impressive CV of past employers. He will join Stuart Weitzman in May this year from Spanish brand Loewe, where he has been leathergoods design director since March 2015. His 25-year design career includes stints at Prada, Burberry and Marc Jacobs.

*Coach is hoping the experience of the Stuart Weitzman brand will help it make an impact on the footwear market.*

CREDIT: RENE TILLMANN/MESSE DUESSELDORF

Announcing the appointment of Mr Morelli last August, Victor Luis, CEO of Coach, said Mr Morelli's "extensive luxury brand" experience makes him "ideally suited" to his new role. He added the shoe brand's new creative director "has garnered worldwide recognition designing iconic accessories for several European and American fashion brands".

Mr Weitzman, who had a hand in finding his successor, believes Mr Morelli ensures "the unique DNA of the brand will be preserved", while his creative vision will help move the brand forward. He paid tribute to his "attention to detail and respect for quality and craftsmanship", praising his "modern sensibility", which Mr Weitzman says allows him to continually push design boundaries.

Coach had previously named a new CEO for the footwear business following Wayne Kulkin's departure from the role after three years. In his place came Wendy Kahn, who arrived from Italian brand Valentino. She brought with her considerable experience garnered during time at LVMH, Marc Jacobs and Céline.

"Wendy's success in developing global luxury brands and extensive general management experience make her the ideal candidate to lead Stuart Weitzman, building on the brand's strong foundation," Mr Luis said.

Mr Weitzman echoed the sentiments of Coach's CEO, saying Ms Khan's understanding of luxury brands, leadership skills and management experience will be crucial to future success.

### Shift in strategy

Coach beat off strong competition when it acquired the brand from private equity firm Sycamore Partners. The purchase coincided with a difficult period for Coach, as floundering leathergoods sales (especially in North America) impacted its financial results. In October 2014 it outlined a plan to turn the business around, which included closing some stores and renovating others. It also bore the scars from a previous unsuccessful foray into the footwear market. Absorbing Stuart Weitzman seemed like the perfect solution as it gave Coach the opportunity to tap into the brand's ready-made customer base and footwear industry know-how.

"We look forward to benefiting from the Stuart Weitzman team's expertise in footwear development where they're proven leaders in fashion and fit," Mr Luis said at the time of the takeover. It has already started to do so, recruiting Wayne Kulkin as a consultant for its new collection of women's shoes. Mr Luis described footwear as the "life-blood" of Mr Kulkin's 25-year association with Stuart Weitzman. He paid tribute to his in-depth knowledge of the footwear market, especially the women's segment. Coach is hoping to take advantage of his experience in marketing, supply chains and customer understanding, although it will retain full control over sourcing, design and marketing for the range, which is due to launch during this year.

Stuart Weitzman has established strong relationships with the Spanish factories responsible for manufacturing its shoes, ensuring more efficient and reliable production. Mr Weitzman can take much of the credit; he has put decades of time and effort into building these relationships and his frequent visits to the factories have helped keep them alive.

It has achieved consistently strong sales over the past decade, helped by celebrity endorsements and appearances on the red carpets of some of the biggest events in the



*Stuart Weitzman has maintained a hands-on role at the company that he founded 30 years ago.*

CREDIT: RENE TILLMANN/MESSE DUESSELDORF

entertainment world. This saw it grow from a mid-market brand to a world-renowned name, all the while remaining accessible to a broad market. Coach hopes that the brand's strong reputation will bolster its own fashion credibility and improve consumer perception.

During the first full financial year after Coach purchased the company its sales rebounded significantly. For the twelve-month period to July 2 2016, Coach's net sales increased 9% in currency-neutral terms to almost \$4.5 billion. This compared to respective declines in sales of 13% and 5% in the previous two financial years. The shoe brand was responsible for \$345 million of this revenue.

Mr Luis said the fourth quarter figures "capped a year where we returned the Coach brand to growth while elevating brand perception". He added that the company was delighted with the contribution of the footwear brand, which "outpaced our original expectations".

### Moving forward

When his time as creative director ends later this year, Mr Weitzman will take on the role of chairman of the brand he founded 30 years ago. This mostly ceremonial position will be a stark change for a man who has been the lead designer for every pair of shoes produced by his company. He will also have to get used to a hands-off role; he currently oversees all aspects of the business, from selecting materials to dictating brand message. His personal transition could prove much more difficult than that of the brand carrying his name.

For Coach, the aim is to maintain the momentum it has built up over the past 18 months; it continues to pursue a strategy to improve its status with customers. This includes withdrawing its handbags and leathergoods from approximately 250 department stores in North America to prevent discounting from damaging its reputation.

During the presentation of its latest financial results last August, Mr Luis stated that Coach would also look to gain "an increasing share of the attractive and growing global footwear category". It is targeting annual growth of 7% in the sector over the next few years. The Stuart Weitzman brand will play a huge part in this endeavour, even if its founder does not. 



*Founder D'Wayne Edwards works closely with all the students that come through the academy.*

ALL CREDITS: MARCUS YAM/PENSOLE

# Pensole sketches a path to success

D'Wayne Edwards, founder of the Pensole Footwear Design Academy, describes the route he took into the footwear industry as "unconventional". He drew his first shoe at the age of 11 and at 17 he won a Reebok design competition. As a self-professed "sneaker head", someone with a strong passion for sneakers, his ideal destination after graduating from high school was the Otis-Parson Design School in Los Angeles, where he could have studied footwear design. Growing up in a single-parent family with five siblings meant money was tight and so instead he attended evening school to study business marketing, advertising and management. He combined his studies with a job as a files clerk in the accounts department of shoe company LA Gear. His aspirations were much broader than this, with the ultimate ambition of becoming a sneaker designer.

In an age before social media, he says it was hard to get noticed: this forced him to think creatively. His only means of reaching out was a suggestion box in the office. "I'd put sketches in the box with the suggestion that they hire me as a footwear designer," he tells *World Footwear*. Six months and 180 original sketches later Robert Greenberg, owner of LA Gear, took notice and hired him as an entry-level designer. At just 19, it made him one of the youngest designers in the footwear industry. What's

**The Pensole Footwear Design Academy gives aspiring young designers, regardless of background, the tools they need to have a successful career in the footwear industry.**

more, he was one of the first African-American professional footwear designers. He believes he was hired purely because of "the ambition of submitting every day". When Mr Greenberg left LA Gear four years later to establish Skechers, Mr Edwards followed, spending a further six years honing his skills there. In 2000, he achieved a lifelong dream by joining Nike as a senior footwear designer. He progressed quickly and was appointed design director of the Jordan brand in under a year. In 2007, he joined an exclusive list of people to have designed an Air Jordan sneaker. He has gone on to hold more than 30 patents and has created over 500 sneaker styles for athletes including Derek Jeter, Carmelo Anthony and Michael Jordan. His designs have grossed more than \$1 billion worldwide.

## Difference maker

Having already achieved his dream of working for Nike, and then surpassing it by designing an Air Jordan, Mr Edwards felt he could do even more. "I wanted to leave the industry better than when I entered it," he says, adding that his desire was to "make a bigger impact than just the shoes I designed". This inspired him to establish the Pensole Academy. Located in Portland, Oregon, it is named in honour of the No. 2 pencil, the tool with which he drew his first shoe (as well as each one since). The academy held its first class in 2010 and has collaborated with many of the leading footwear brands to deliver training programmes.

He had experienced first-hand how difficult it was for a young designer to break into the industry. "During my time at Jordan I would take the time to mentor kids, through email and phone conversations with the idea of them becoming my interns because there was no straight path," he explains. One of the reasons for this was the absence in this part of the world of a design school dedicated exclusively to footwear. Pensole aims to fill this void and give young, talented design students an opportunity, regardless of their socio-economic background. Its programmes are funded through private donations, school scholarships and corporate sponsorships. Students come from all walks of life, giving the classes an eclectic feel. "We always have a mix of students from all over the globe and in terms of sex and race," he says. This creates an environment that accurately reflects what it is like to work at an international company. Discussing the programmes at the academy, Mr Edwards says they "give the students more knowledge of how the industry works before getting a job". It gives them a head start when they take their first steps in the industry, rather than them having to "learn everything on the job".

The footwear companies also benefit from the academy, as it provides them with the next generation of "raw, young talent". The programmes are immersive, giving Mr Edwards the opportunity to learn about each student on a deeper level. This means he is able to tell potential employers "hidden things that you may not see in a traditional interview process". He builds up a better understanding of them on a personal level, leaving



*Pensole's programmes are tailored to the needs of partner brands, many of which are industry heavyweights.*

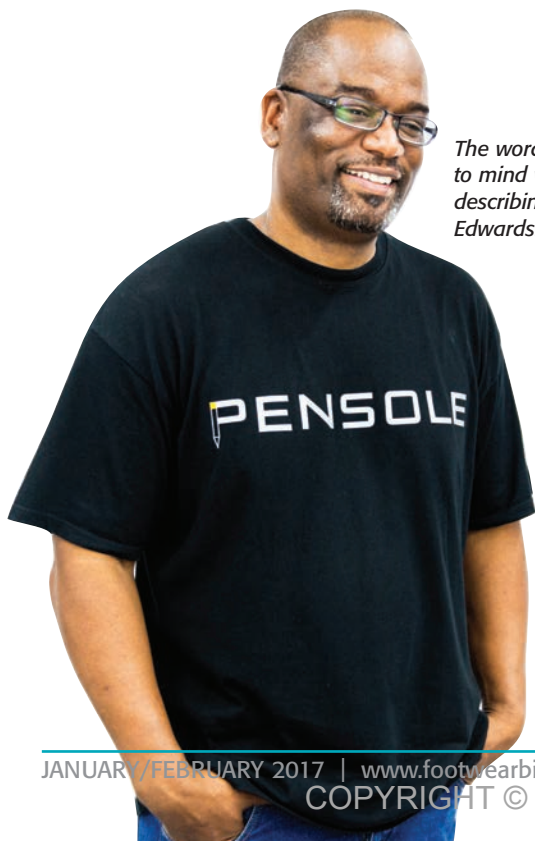
him in a better position to judge their personality or work ethic. "I'm able to give companies a bit more insight into who these people are, not just as a creative but as a person."

## Challenging programmes

Pensole teaches the entire footwear design process via a "learn by doing" curriculum. From generating ideas through to branding, as well as the steps in between, such as concept development, material selection and prototyping, the programmes are intended to mirror the real world. "The academy is not designed like a normal college or university; it is designed like a company," Mr Edwards explains. Programmes last from two to four weeks, with students in the classroom for up to 14 hours each day. It is an intensive footwear design boot camp, which gives them the same number of credits as they would receive for a full 16-week college semester. He accepts the programmes are tough, but their aim is to give students a realistic taste of what it is like to work in the industry. He believes time ceases to be an obstacle if you are passionate about what you do, and it is this quality he most values in his students, besides the raw talent they must possess.

The classes teach more than practical skills; they also work on personal development, something which Mr Edwards feels is the "missing piece from major universities and colleges". He stresses to the students that they must take personal ownership of the products they design, as well as explaining to them the importance of business etiquette, good time management, strong communication and working effectively with other people.

The footwear companies with which Pensole works have a strong influence on the academy's programmes. "They come to us with their proposals and then we design a class based on that," he says. Recent collaborations have been with New Balance and adidas, which was the very first brand to host a class at the academy. The programmes are extremely competitive, with up to 1,000 applicants competing for an average of 18 spots. It is further preparation for when the students enter the job market. It also teaches them to avoid complacency. "We push them to understand that there is more to it than talent; talent alone doesn't guarantee that you'll get a



*The word that comes to mind when describing D'Wayne Edwards: persistent.*



*Classes at Pensole cover a wide range of topics, from technical skills to product branding.*



*Students learn about the whole design process, including material selection and prototyping.*

job," Mr Edwards says.

Pensole is able to tap into the close relationships it has built with more than 100 global design schools to find the best candidates for its classes. Mr Edwards compiles a shortlist of between 30 and 50 students, from which the partner company selects a preferred intake. "These kids have more visibility than they would have in an internship; it becomes an extended job interview," he says. As part of a recent programme with New Balance, students who excelled were considered for a one-year apprenticeship with the New Balance Design foundry programme.

### **Time for change**

Mr Edwards feels there is a need for significant change in the footwear industry over the next ten years. "We've been making shoes the same way for over 100 years," he explains. He is excited by the new methods being developed to create shoes. "It's not about making a silhouette look different, it's about creating a new way of making things." He wants to see an increased use of materials that adapt to the human body and its natural movements. "As we move forward, I hope that we not only focus on making product, but making it better, easier and more innovative," he adds.

He also expects to see a shortening in the time between a design being conceived and the public having access to the final product. "There are new shoes being released every week, but that isn't genuine speed because it took one-to-two years to make that product," he points out. He says the speeding up of footwear development is in "direct response" to the increase in the pace of consumer lifestyles. Consumers will become more connected to the development process; companies will need to seek out input from their target market and respond to it when designing their products.

### **Industry impact**

Pensole is now targeting an expansion into high schools; it hopes to identify bright design talents at a younger age and guide them towards a college place and a successful career beyond. It is also developing a global online programme "to tap

into more international markets". This move is inspired by the interest in its World Sneaker Championship event, which has received entries from more than 75 countries. Mr Edwards says the competition "shows the size of interest in designing sneakers across the globe". The online programme will have a strong focus on international schools and students.

Pensole also plans to build on the success of a project with Asics, which saw the resulting co-branded products sell out in under an hour. Similar collaborations in the future will not have the ultimate goal of generating revenue, rather the academy wants to give students the opportunity to see the products they have designed on the shelves of major footwear retailers. Mr Edwards tells *World Footwear* that the first time he saw one of his designs in a branch of US retailer Foot Locker remains the most important moment of his career.

Pensole has built its reputation on the success of the graduates from its programmes. "I invested all of my own money to prove that the idea could work," he says, adding that companies were understandably sceptical about the concept because it had never been attempted before. Once they saw the quality of designer it was producing, they were quick to embrace it. Mr Edwards says he still gets a buzz from hearing the news that one of his former students has secured an interview or job. "We have over 180 students working professionally in the industry now in a little over five years," he enthuses. Many of these are making "major contributions" at leading companies; Pensole graduates have gone on to work at the likes of Wolverine, Timberland, Converse, Under Armour and Nike.

He insists it is much easier for young designers to break into the industry now than it was when he started in the late 1980s, primarily due to the growth of the internet and social media, which allow them to demonstrate their ability to a much wider audience. "They don't have an excuse; their biggest obstacle is themselves," he stresses. Pensole offers them a place to hone their skills and improve their chances of being noticed. If they show the same passion and dedication to designing shoes as the academy's founder did nearly 30 years ago, they will already be a step closer to achieving their dreams. 🌐



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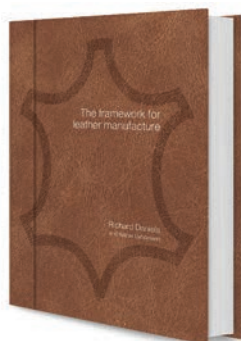
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Highlights in this issue of leatherbiz weekly include:

- Crafting questions over whether the sector can materialise from leather being strong on leather demand for the coming season, with support for leather.
- Le Car & Pate confirmed have important the heavy sector for leather for leather with all the big brand producing growth.
- Car manufacturers are optimistic about also demand for automotive leather.
- Light prices continue to rise, they have been one of the first choices of shoes and accessories companies looking to achieve sales.
- Accurate winter leather demand will become clearer after the industry season in Bologna for the Languette fair next week.

THE LEATHER INDUSTRY MARKET INTELLIGENCE - 01.10.13

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