

WORLD LEATHER

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Leather Leaders: Dr Luis Zugno

Nothing To Hide update

Answers to demands for sustainable leather

Boda Skins: too cool for fast fashion

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The World Leather team has been publishing a new series of original, dynamic podcasts regularly since November 2019. The whole series is available on Anchor, Spotify, Apple Podcasts, Google Podcasts, Pocket Casts, Overcast and other podcasting platforms. Just search for the World Leather Podcast on the platform you prefer.



Cover image: Shearling aviator jacket from Manchester-based brand Boda Skins. The company is setting up its own programme for repairing and reselling already-worn jackets, and for reusing the material from any jacket that can no longer be worn. CREDIT: BODA SKINS



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IRELAND A retail operation dedicated to selling pre-owned and pre-loved high-end leather handbags has partnered with one of Ireland's most famous department stores, Arnotts in Dublin, to provide the stock for a new initiative, The Circular Room. Since 2012, Designer Exchange has run an operation to buy and sell second-hand handbags.

FRANCE Leathergoods group Tolomei has confirmed that it is preparing to open a new workshop in Haute-Corrèze in central France. It has told local media that the new facility will open its doors in the village of Monestier-Merlines in early 2021 with the workforce at the site growing steadily to around 60 people. Tolomei is the majority shareholder of leathergoods brand Le Tanneur, acquiring its stake from the Qatar Luxury Group in 2017.

UK Private equity group Permira is preparing to float shares of boot brand Dr Martens on the London Stock Exchange. Permira took over the running of the brand in 2013 and owns a stake of 75%. It has said it could float up to 25% of the equity. Chief executive, Kenny Wilson, recently told the *FT*: "The brand has always been much bigger than the business."

ITALY Italian biotech company ILSA has revealed the initial results of a carbon-offset initiative, which it hopes will help it become a zero-impact company. In 2019, the Arzignano-based company funded the planting of 3,000 fruit trees in Colombia, Guatemala and Thailand. It worked with 176 small-scale farmers on this initiative. Together, these trees will absorb more than 1.75 million kilos of carbon dioxide per year, it said.

TURKEY Leather industry commentators in Turkey have said the prices tanners are able to secure for finished leather in the current market are substantially lower than 18 months ago. In June 2019, its tanners were able to secure between \$2 and \$2.50 per square-foot for the top grades of finished sheepskin garment leather, and between \$2 and \$3 per square-foot for finished bovine shoe upper leather. By the end of 2020, the price of these articles had fallen by 50% for garment leather and by 40% for shoe upper leather.

PAKISTAN Pakistan's leather sector reported export revenues of \$277 million for the first four months of the current financial year, July-October 2020. This represents a fall of 6.8% compared to the same months a year earlier. Exports of finished leather declined by 47.6% in volume and by 38.4% in value, with tanners shipping 3.2 million square-metres of finished leather in the course of the four months, bringing in export revenues of \$43.6 million.

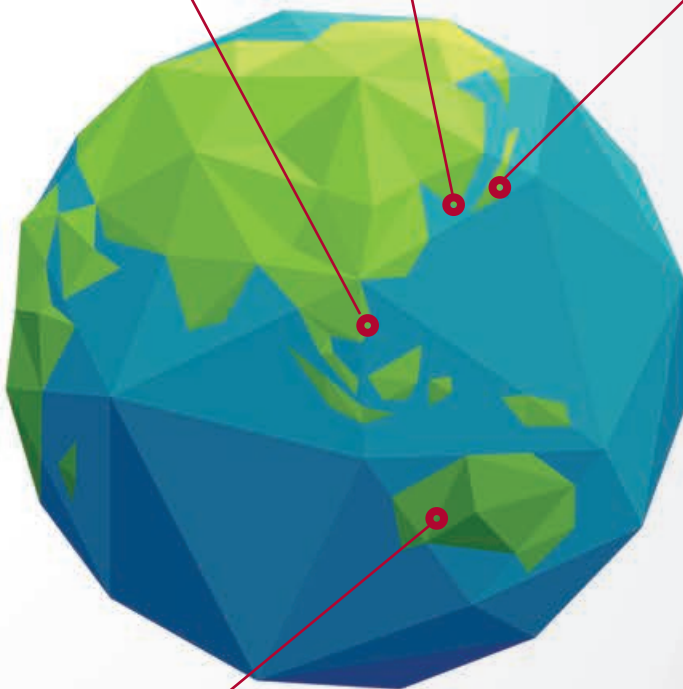
CHINA Leather and Hide Council of America (LHCA) is one of the signatories of a letter that 160 agriculture and business organisations sent to President Joe Biden about the US's ongoing trade dispute with China. The signatories said that, as a result of the trade war with China, which began at the start of 2018, US businesses had paid more than \$68 billion in tariffs.

VIETNAM Leather and footwear companies in Vietnam must improve design capabilities and supply chain links if they are to take advantage of favourable new trade deals, according to a USAID consultant at a conference in Ho Chi Minh City. Phan Th Thanh Xuân told delegates there is a demand for longer-lasting products, which leather can serve.

SOUTH KOREA Leathergoods brand Hoze is set to release its popular Brett style of handbag in two new colours for Spring/Summer 21. Made from soft cowhide, the Brett will meet the spring season in both a warm cream and a soft caramel colour. The brand is known for its minimalistic designs and handmade products; Hoze controls its own production lines.

JAPAN The government of Japan has awarded the former CEO of the US Meat Export Federation (USMEF) with The Order of the Rising Sun, which is given to people who have excelled in areas such as international relations and promotion of Japanese culture. Japan's Ministry of Foreign Affairs recommended Philip Seng for his contributions to "strengthening Japan-US economic relations".

US Marine engineering firm Triton Submarines has delivered the first of its 3300/6 leisure-focused submersibles. The craft is designed to give up to six people the experience of diving to a depth of up to 1,000 metres. To make the excursion comfortable, the company has incorporated "plush seating replete with fine leathers and hand-finished upholstery" into the interior. Buyers can expect to pay \$5.5 million for the 3300/6.



AUSTRALIA Australian cattle prices are now the highest in the world, remaining above US prices since June due to a number of factors, according to industry association Meat and Livestock Australia. It suggested that, as well as supply and demand, global prices have been affected by covid-19's impact on meat companies in the US, and dry weather in South America has led to a fall in supply there.

PARAGUAY In the face of ongoing challenges from covid-19, trade tensions with China and from growing competition, promotional body Meat and Livestock Australia (MLA) has taken some consolation from Taiwan. However, it said Paraguay has emerged as a competitor in the Taiwanese market. Taiwanese imports of beef from Paraguay almost doubled in the first nine months of 2020, reaching 17,000 tonnes. "This is not far behind Australia's share of the market," MLA said.

ARGENTINA The government in Argentina has launched a new investigation into alleged antidumping practices among companies involved in exporting shoes from China to the South American country. While the new investigation takes place, existing measures will remain in place. These have the effect of forcing up the price of any shoes shipped from China to Argentina to a minimum of \$13.38 per pair, freight on board.



BRAZIL Packers from Brazil exported 1.85 million tonnes of beef in the first 11 months of 2020, bringing in revenues of \$7.7 billion. These figures indicate an increase of 9% in volume and of 14% in value compared to the same period last year. Analysis of the figures show that 57.9% of all Brazilian beef exports between January and November this year went to China. Over the same months in 2019, China's share was 43.2%.

URUGUAY Luxury group Richemont has appointed Gabriela Perezutti Hearst as the new director of its Chloé brand, replacing Natacha Ramsay-Levi in the role. Ms Hearst is originally from Uruguay, where she still owns a sheep farm of almost 7,000 hectares. In recent interviews she has defended leather and criticised synthetic alternatives deriving from fossil fuels.



Smit & Zoon's Codyeco eliminates PFCs

Codyeco, a subsidiary of Netherlands-based leather chemicals manufacturer Smit & Zoon, has taken the decision to eliminate all perfluorocarbons (PFCs) from its product portfolio, in line with Smit & Zoon's sustainability policy.

Instead, after "many months of intensive research", Codyeco has launched Aguastop W 200, a PFC-free, water-based product, which protects against water and is anti-soiling. The company described it as a "truly innovative" combination of material science technology and "special functional polysiloxanes".

"All application trials conducted in our laboratories demonstrated that Aguastop W 200 gives high-performance water repellence results, in line with the current PFC technology, but with one very important difference: Aguastop W 200 has no negative impact on the environment," Codyeco said.

Anti-microbial technology permanently tanned in

Leather and leather products manufacturing group Pittards has a new anti-bacterial performance leather called Tri Protex.

This leather has three different anti-microbial technologies incorporated into it. Pittards has explained that this combination will be enough to eliminate 99.9% of bacteria throughout the structure of the leather.

Its figure of 99.9% is in conformance with the AATC100 test, which uses an incubation of *Staphylococcus Aureus* and *Klebsiella Pneumoniae*, counting the microbial concentrations after 24 hours. Because the anti-microbial functionality is "permanently tanned in", Pittards has said the benefits will last the lifetime of any product made from Tri Protex leather.

Technology tie-up

Tanning industry process control technology specialist Hüni has set up a formal partnership with software provider Team Duemila. Santa Croce-based Team Duemila has been providing tanning industry-specific software applications since 1990. Its products include a dedicated enterprise resource planning (ERP) application called XTannery, which is currently running in almost 100 leather manufacturing plants.

As part of this new partnership, Hüni will market the ERP software to the global tanning industry. It said on making the announcement that another aspect of the partnership will be that the two



Extra leather adds value for Emirates

Emirates took delivery of an Airbus A380 aircraft with its first premium economy cabin at the end of December. It will add a further five A380s with premium economy (as well as first, business and economy class seating) to its fleet in the course of 2021 and 2022.

Seats in premium economy have a pitch of 40 inches (more than 100 centimetres), which is more than double the pitch of economy-class seats. The 56 premium-economy seats are covered in cream-coloured, anti-stain leather with stitching details to make a diamond-shaped quilted effect.

Leather supplier Boxmark welcomed the Emirates announcement and quoted Bonn-based aviation industry consultancy Bauer Aviation Advisory as saying that, while premium economy seats cost 1.6 times the price of economy seats, they generate 2.3 times the revenue.

companies will put their combined Industry 4.0 experience at the disposal of leather manufacturers around the world.

In keeping with this, Hüni will distribute the ERP software under the name DataTAN4.0, which it said would "integrate seamlessly" with an existing in-house software application, Microtan M6. It said the combined software would collect data from all parts of the operation and help tanners make the most of their investment in up-to-date tanning machinery.

Extra leather standard tests for chrome-free and metal-free

Independent textile research and testing organisation the Oeko-Tex Association has announced a series of new regulations for its leather standard. These will come into effect on April 1 after a three-month transition period.

Among the changes is one that means an additional lab test will now be required for companies wishing to present their leather as chrome-free or metal-free.

Oeko-Tex has said that if applicants want to have the terms "chrome-free tanned leather" mentioned in the scope of their Leather Standard certificates, they will need to show lab test results that confirm total content of chromium equal to or less than 0.1% of the dry weight.

To have "metal-free tanned leather" on the certificate will require lab tests showing total content of all tanning metals (chromium, aluminium, titanium, zirconium and iron) equal to or less than 0.1% of the dry weight.

There will also be changes in the limit values of PFOA (perfluorooctanoic acid) and salts from perfluorinated and polyfluorinated alkyl compounds, as well as PFOA-related substances.

Stahl to embrace blockchain

Leather chemicals manufacturing group Stahl is to use blockchain technology to help customers verify the sustainability credentials of its products. It will use a blockchain solution called Marco, from technology provider Finboot, to make detailed information about its products available in digital form. Stahl said this would help tanners offer the high levels of transparency and traceability that brands are demanding of all their supply chain partners.

It added that using blockchain to track information about its products would help it in its own quest to increase its use of renewable raw materials. Eventually, brands will be able to achieve end-to-end visibility of the entire manufacturing process and supply chain behind the creation of their goods, Stahl stated.

Updated social and environmental report

European Union leather industry representative body COTANCE and trade union organisation industriAll Europe have updated a leather industry social and environmental report (SER) that they first produced in 2012.

The updated report included information from 79 companies from 11 European countries, representing 43% of total EU leather production in volume.

Socially, the industry is seen as a stable and reliable employer. More than 50% of people working in the industry in Europe now have been working in the sector for more than 10 years.

In terms of the environmental impact of the industry, COTANCE and industriAll concluded that tanners in Europe have reduced their use of chemicals to 2.15 kilos per square-metre of finished leather. Average water consumption in Europe is now 0.121 cubic-metres per square-metre of finished leather, a reduction of 7% compared to the 2012 report.

The partners said leather manufacturing in Europe is not energy-intensive. Over the last three years, to make 1,000 square-metres of leather, European tanners consumed, on average, 1.76 tonnes of oil equivalent. The figure in 2012 was 2 tonnes. Water treatment plants are now able to eliminate close to 100% of pollutants such as suspended solids, trivalent chromium, Total Kjeldahl Nitrogen (the total concentration of organic nitrogen and ammonia) and sulfides.

Print idea can revolutionise upholstery leather

Specialist London-based interior designer Bill Amberg has completed a project to develop a new collection of digitally printed hides for Moore & Giles.

Moore & Giles designs and develops collections of leather for upholstery, residential, hospitality, aviation and automotive applications. The Virginia-based company said it had paid close attention to work Mr Amberg has carried out in the past few years to "perfect the art of digital printing on leather", going as far as establishing a dedicated division of his business, Bill Amberg Print. This involves using specialist digital printing technology to make sure the natural character and grain of leather remain intact.

Speaking about the Moore & Giles project, Bill Amberg commented: "Leather has always moved and has always changed; they reckon the first tannery was 30,000 years ago and here we are doing stuff that's never been done with leather before."

He said understanding the techniques and the material well was key to getting the best out of this idea. His work led him to develop a method for preparing a whole hide to "carry pattern successfully, with the same characteristics and durability as a beautiful piece of upholstery hide". He describes this as being "most unusual" and something that will create interesting opportunities in the hands of experts.

Typical hides in the collection include full-grain bovine hides from Europe, wet-white processed and aniline finished at a partner tannery in Spain, measuring between 45 and 55 square-feet.

Mr Amberg said his partnership with Moore & Giles was just the beginning and that their achievements so far can "revolutionise upholstery in leather dramatically".

TFL products and plants achieve level-three ZDHC certification

Leather chemicals manufacturer TFL has achieved level-three certification from the Zero Discharge of Hazardous Chemicals (ZDHC) programme for all of its products and factories.

This level of certification, the company explained, validates TFL's processes "in all major aspects of sustainable chemicals manufacture". This includes raw materials selection and assessment, and the communication of safety-relevant information to customers and brands.

It said it was proud that its major manufacturing plants in France, Italy, Brazil and India had successfully passed all audits at the first time of asking.

TFL said it believes leather production can have "a great future" if companies along the whole of the supply chain continue to work towards achieving the common goal of sustainable manufacturing.

Low figure for water consumption

UNIC's sustainability report for 2020 gives a low figure for water consumption to produce one square-metre of finished leather in Italy. The report has said leather manufacturers in Italy are consuming, on average, 0.1095 cubic-metres (or 109.5 litres) for every square-metre of leather they produce.

Compared to figures UNIC compiled in 2003, this is an 18% improvement.

At the start of December, COTANCE, the leather industry's representative body in the European Union, and trade union organisation industriAll Europe published a new social and environmental report on the leather sector. Information included in that report is a figure for the average consumption of water in European tanneries of 0.121 cubic-metres per

square-metre of finished leather. This represents an improvement of 7% compared to a similar report these organisations published in 2012.

Following the publication of the UNIC report, COTANCE explained that the number of tanneries working from wet blue in its report had an important bearing on the water consumption figures. It said that, while Italian tanners are "excellent" in their water management and deserve credit for this, a direct comparison of the UNIC and COTANCE figures is unhelpful.

"But it is helpful for our industry to start understanding the figures because they are part of the business culture of the future," COTANCE continued.

All tanning methods are equally valid, COTANCE insists

The secretary general of COTANCE, Gustavo González-Quijano, has said chrome tanning is just as sustainable and environmentally responsible as other tanning techniques.

Speaking at an event called Safety Footwear Revolution Week Mr González-Quijano said: "There is no tanning technique that is better than another. We have chrome or mineral tanning, vegetable tanning with tara or chestnut or other vegetable materials and we have synthetic tanning. All of them have their merits and they are more or less equivalent."

He gave this answer in response to a question about using alternatives to chrome-tanning and the supposed contribution these alternatives can make to achieving greater sustainability in the leather industry.

Late date for Tanning Tech

Machinery manufacturers' association Assomac has said that the 2021 edition of its annual Simac-Tanning Tech will not take place in the first quarter of the year, but will be rescheduled for the second half. It said covid-19 looked likely to have an effect on visitors in the early part of 2021, especially those travelling to host city, Milan, from outside the European Union.

LITE touch-up

Leather manufacturing group ISA TanTec has expanded its LITE concept. The idea, which the group introduced 16 years ago to celebrate the low impact on the environment of its products and manufacturing processes, will now cover its sourcing of cattle hides too. It has developed a sourcing protocol called Greener Pastures to make sure the hides it sources for its tanneries are traceable. 🌱

TFL names Peter Amann's successor

Leather chemicals manufacturer TFL's chief executive, **Dr Peter Amann**, stepped down from the role at the end of 2020 and TFL has named his successor.

Dr Amann said the timing for this change was right, for him personally and for the business. He commented: "TFL is well positioned in the market and, with the integration of the organic leather chemicals business from Lanxess, my successor and executive colleagues will build the strongest player in the global leather chemicals market."

The new chief executive will be **Dr Wolfgang Schütt**; he will join the group in March. Dr Schütt is currently chief executive of a global chemical company called Eckart, which operates mainly in the automotive, industrial coatings, printing and cosmetics industries.

Asset management firm Black Diamond acquired TFL in 2013. Its managing director for private equity, **James Hogarth**, said on behalf of the TFL group supervisory board: "We are excited to welcome Dr Schütt as chief executive, and are confident he will successfully oversee the integration of the Lanxess leather chemicals business and maintain TFL's strong growth trajectory."

New owner wants to rekindle tannery's dynamism

The new figurehead of one of Argentina's biggest and best known tanneries is new to leather manufacturing, but far from new to the leather industry. At the start of 2021, leather manufacturing group Curtiembres Fonseca announced that **Raúl Zylbersztein** had taken over as its new owner and company president.

The tanning group, which has been in operation for more than 65 years, has its base in Lanús in Buenos Aires. It has the capacity to process 5,500 hides per day and makes finished and semi-finished leather, principally for the automotive market, but also for footwear, accessories and furniture upholstery. Around 95% of the group's leather goes to export markets. In 2010, it won the award for the Americas in the first *Tannery of the Year* programme.

Taking over a major tanning group represents a departure for **Raúl Zylbersztein**, but he has a strong connection to the leather industry. Until 2018, he ran his family's leathergoods manufacturing company, Zylbersztein Hermanos, taking over from his father in the 1980s. He combined his work in the family business with a series of high-profile roles in industry associations.



Assocalzaturifici "very concerned" about the months to come

Italy's main national footwear industry body, Assocalzaturifici, has said its member companies experienced an average fall in sales of 33% in the first three quarters of 2020.

President of the organisation, **Siro Badon**, said: "The figures for the first nine months of the year reveal a sector that has been sorely tried by the covid emergency."

To illustrate this, he pointed out that 101 Italian footwear producers ceased operating in the course of the first nine months of 2020 and that the industry shed 2,600 jobs. Mr Badon pointed out that, taking component manufacturers into account, these figures increase to 231 companies closing their doors and 3,453 jobs being lost.

He said that there had been "timid signals of a return to normality" in the last of the months for which figures are available, September 2020. Exports and domestic sales for the month were on a par with the same month in 2019. However, he said that there was a real danger of a second wave of covid-19 wiping this out immediately, with "severe repercussions" for the Italian footwear industry's ability to hold out.

In export markets, Italian footwear manufacturers sold 127.1 million pairs of shoes in the first nine months of 2020, a decline of about 20% in volume. "We are very concerned about the months to come," Mr Badon said.

Between 2004 and 2012, Mr Zylbersztein was an outspoken president of Argentina's national leathergoods association, CIMA. He went on to take leadership roles in two wider business organisations, the General Confederation of Argentinean Business (CGERA) and the Economics Federation of Buenos Aires.

He has said his aim is to help Curtiembres Fonseca recover some of the dynamism he fears it has lost in recent years and to guide it into new markets.

Michael Duck to move on from leather events

Director of Informa Markets **Michael Duck**, who has overseen the group's involvement in leather industry events in Asia since the 1990s, is to leave his current position to become Informa's executive vice-president for commercial development across its global business.

In this newly created role, Mr Duck will work across the business, acting as the main point of contact for building relationships and growth activity in Asia, Europe, the Middle East and beyond. He will seek to do this through mergers and acquisitions and the internationalisation of products and brands.

Informa Markets chief executive, **Charlie McCurdy**, said at the time of the announcement: "Michael has been instrumental in building up the company's presence across the globe and he holds important relationships with industry partners, government bodies and venue partners. I have every confidence that he is uniquely positioned to act as our global point of contact for commercial development."

LHCA celebrates first-year success

A year after its formation, the Leather and Hide Council of America (LHCA) has successfully merged and unified "two strong, established industry trade associations with diverse membership and interests".

This was one of the highlights in a message that LHCA president, **Stephen Sothmann**, sent to members at the start of 2021.

LHCA launched at the start of 2020, as the result of a merger between the US Hide, Skin and Leather Association (USHSLA) and the Leather Industries of America (LIA). Mr Sothmann said LHCA had been successful in combining the strengths of the two previous industry organisations and in establishing "one cohesive voice, advocating on behalf of the leather and hide industry as a whole".

Areas in which he said LHCA had been active in defending the industry's interests in its inaugural year included its efforts to convince the Sustainable Apparel Coalition to improve its treatment of leather in the Higg Index and its wider Choose Real Leather promotional campaign.

He pointed out that this had all happened "during a global pandemic that has upended our day-to-day lives".

Kering's Stendhal syndrome

Luxury group Kering has announced that it will make a contribution to a restoration project at one of Florence's most famous buildings, the Palazzo Vecchio. Specifically, Kering will contribute to the renovation of the lighting system in the Michelozzo courtyard of the palace. The project will begin in the months ahead and continue throughout 2021.

Chief executive, **François-Henri Pinault**, said Kering's desire was "to help the city during a particularly difficult time". He said that Florence and the wider region of Tuscany were the first places to come to mind on thinking about the best parts of the world for investing in the craftsmanship and managerial skills that Kering relies on to make its products. "It has always offered us the highest quality," he said.

LVMH completes Tiffany deal and shakes up senior team

Luxury group LVMH announced on January 7 that its bid to acquire US brand Tiffany had been completed.

Chief executive, **Bernard Arnault**, said he was pleased to welcome Tiffany and its "talented employees" to the group. However, he immediately announced a complete overhaul of Tiffany's senior management team.

The brand's chief executive, **Alessandro Bogliolo**, its chief artistic director, **Reed Krakoff**, and its chief brand officer, **Daniella Vitale**, will all leave "after a short transition of responsibilities".

LVMH has announced that **Anthony Ledru**, previously executive vice-president for global commercial activities at Louis Vuitton and formerly senior vice-president in North America for Tiffany, has taken over as Tiffany chief executive, effective immediately.

The brand's new executive vice-president for product and communications is **Alexandre Arnault**, Bernard Arnault's son and previously chief executive of luggage brand Rimowa, which is also part of the LVMH group. Louis Vuitton chief executive, **Michael Burke**, will become chairman of Tiffany's board of directors.

Actor becomes Louboutin's first China ambassador

Chinese singer and actor **Karry Wang** (also known as **Wang Junkai**) has been named **Christian Louboutin's** first China ambassador.

Mr Wang has often been dressed in the Parisian shoes and leathergoods brand's wares for significant moments in his career, including on the cover of several

magazines, his first solo concert performance and at major awards ceremonies.

Commenting on the appointment, brand founder and designer Mr Louboutin said: "Being fun, curious, ambitious and committed to social responsibilities, Karry with his fresh energy undoubtedly personifies what I'd like Christian Louboutin to be for the upcoming years."

Longchamp loses Philippe Cassegrain

The president of luxury leathergoods brand Longchamp, **Philippe Cassegrain**, has died. He was 83. The company said he had died from complications, following testing positive for covid-19. Philippe Cassegrain was instrumental in expanding Longchamp's product offering into handbags and was also responsible for setting up its range of own-brand boutiques.

UNIC's new president

Italy's national tanning industry association, UNIC, has elected **Fabrizio Nuti** as its new president. He takes over from **Gianni Russo**. Mr Nuti runs the Nuti Ivo group of tanneries, which is based in Santa Croce.

Extended role at Louis Vuitton

Darren Spaziani of Louis Vuitton's women's leathergoods division has been promoted to the creative helm of men's leathergoods, on top of his existing responsibilities. **Delphine Arnault**, executive vice president of Louis Vuitton, commented: "Darren has brought his creative vision for women's leathergoods and knows how to perfectly infuse modernity while relying on the craftsmanship and talented teams of the house. It was very natural to extend his role to the men's universe."

CEO change for Bata

Footwear group Bata has announced that the head of its business in India, **Sandeep Kataria**, is to take over as chief executive of the company with immediate effect. He replaces **Alexis Nasard**, who has left the organisation. Chairman of the board, **Graham Allan**, said he was confident Mr Kataria, who has led Bata India since 2017, would lead the global company well "at such a critical time".

Sustainability move for Chanel

Luxury brand Chanel has appointed **Kate L'Wylie** as its new head of sustainability. She will take up the role with the Paris-based company in April. Ms Wylie has

worked for the last ten years at confectionery company Mars, first as its global sustainability director and, from 2017, as its global vice-president for sustainability.

Artist in residence

LVMH has chosen Franco-Danish painter **Eva Nielsen** as its Métiers d'Art 2021 artist in residence. Ms Nielsen will work with artisans at LVMH-owned Tanneries Roux during her six-month residency crafting "major" works of art combining leather and silk.

US push

Specialist tannery waste processor SICIT has appointed a new country manager for the US market, with **Ryan Keller** taking up the role. An agronomist by training, Mr Keller worked for Dow AgroSciences for six years before joining plant nutrient developer Compass Minerals. SICIT uses residues from the leather manufacturing sector to make amino acid- and peptide-based fertilisers.

Olcina mourns director

Tanning drum technology developer Olcina Group has announced the death of one of its directors, **Alfonso Olcina García**. Mr Olcina had worked in the family business from a young age, alongside his brother **Ángel**. In a statement, it described Alfonso Olcina as "the face of our brand" and as a person who, for many years, worked to build a presence for the company in markets all over the world.

UNIC offers proof

The director general of national Italian tanning industry association, UNIC, **Fulvia Bacchi**, has told *Vogue Italia* that leather is a successful example of the circular economy. She said recovering a by-product that is 100% natural and that would, otherwise, go to waste represented "mathematical proof" that the leather industry has a sustainable future.

Made for life

Heritage leathergoods brand Tanner Krolle has named **Tabitha Simmons** as its new creative director. Under new ownership since last year, when London-based One Luxury Group took over, the brand will now have the creative leadership of someone best known for her footwear designs. "I love the idea of products being made for life," Ms Simmons said in comments to the *Financial Times*. 🌱

World Leather'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 leatherbiz.com. The site is updated every day with news from every continent and every part of the industry, making leatherbiz.com one of the most comprehensive archives of news anywhere on the web for the global leather industry.

We list below just a few of the headlines that have appeared on the site in recent weeks and can still be accessed.

21/01/2021

Italy's leather sector announces new pay agreement
Multi-year programme will assess economic toll of animal disease

20/01/2021

Accessories struggle, but Richemont notes overall improvement at the end of 2020
Full-price focus means Burberry ready to 'accelerate'
Hainan's offshore duty-free sales up 127% in 2020

19/01/2021

Chinese students show design prowess
Handcrafted in England: Xor Titanium

18/01/2021

Louis Vuitton unveils new men's leathergoods line
Italy: no Black Friday relief for struggling leather and shoe sales
Full-year growth for China's economy, in spite of covid-19

14/01/2021

Cautious optimism from Stella following 2020 decline
A 'natural' choice: Loewe x Studio Ghibli

13/01/2021

China finds sofa leather in short supply
Second-half record for Lamborghini

12/01/2021

Potocnik: Opportunity to implement circular economy at scale

11/01/2021

Vogue signals renewable fashion's moment is now
SLTC to make 2021 conference a virtual event
Triple-digit growth for US beef exports to China

08/01/2021

Brexit bicycle accident bamboozles Brooks
Christie's to auction Zizi Jeanmaire's leathergoods
America's desire for luxury cars propels Porsche

07/01/2021

Leather prominent in Burberry's New Year collections

06/01/2021

Bentley defies odds to achieve record sales
16th national leather festival held in China

05/01/2021

Shoe sector must seize post-pandemic chance
Europe's automotive suppliers cautiously welcome China deal
China-Italy fashion road meets in Shenzhen

04/01/2021

CLIA, leather footwear and the CPC's 14th five-year plan
LVMH says Tiffany deal will close on January 7

18/12/2020

Pre-covid results positive for Manolo Blahnik

17/12/2020

Logistics remain barrier for Vietnamese footwear companies

16/12/2020

US: Support for prioritising vaccines for meat factory workers
Rolls-Royce's new pursuit seat accessory

15/12/2020

Online only for February's Première Vision Paris
UK leather workers encouraged to apply for funding
Christian Dior wins environmental progression award

14/12/2020

Savills: luxury brands' concrete pivot to Asia

11/12/2020

Exor invests in Shang Xia, becoming Hermès partner
UK cattle farms assessed for carbon footprint

10/12/2020

The bag that costs €6 million

Hermès unveils new addresses in Daegu and Hong Kong
Fashion groups renew focus on SDGs
Brazil beef exports on the up

09/12/2020

Bridge of Weir provides modern comfort for classic Bentley
Climate Week at LVMH

08/12/2020

China's leather shoe industry has 'bottomed out'
China's hide imports fell in October

07/12/2020

Hermès brand opens in Chengdu

04/12/2020

Pakistan: finished leather exports fall by almost 50%
'Long route of evolution' for leathergoods fair

03/12/2020

No place for greenwashing in leather industry report
Kering opens new North American operations centre
Online AICC convention to take place on December 4

02/12/2020

Guangzhou building 'customisation city'

30/11/2020

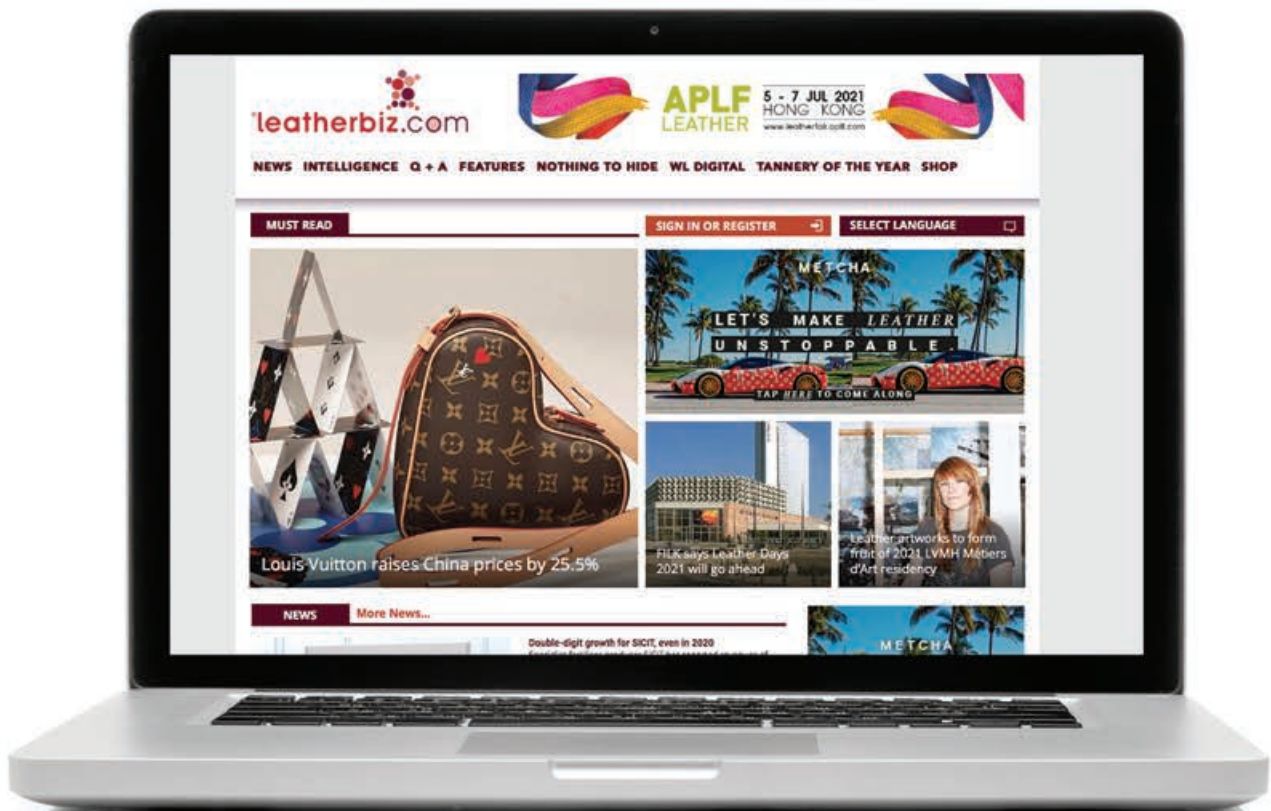
Obuv Rossii treads new path

26/11/2020

Assomac names new president
Wrong to play one material against another, COTANCE says
Leather& to take 'unique' handcrafted message to CTF Seoul
Lineapelle will be #strongertogether again in March

25/11/2020

CSCB to hold 2020 Sustainability Forum in December
CLIA moves ahead of next five-year plan period
APIC trends offer an ode to joy and optimism
Leather footwear volumes steady in Vietnam



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Dr Luis Zugno has been in the leather industry for more than 45 years. He started working in tanneries in his native Brazil in 1974. He is one of a select group of people active in the industry to have earned, from the University of Cincinnati from 1984 to 1986 in his case, a PhD specifically in leather technology. He spent a decade helping to educate a new generation of leather technologists in Brazil before returning to industry, and to the US. He worked as technical director at major tanneries including Pfister & Vogel and Prime Tanning before joining, in 2002, leather chemicals manufacturer Buckman. He is now global innovation manager there. He became president the International Union of Leather Technologists and Chemists Societies (IULTCS) at the start of 2020 and will hold the presidency for two years. He is also a member of the management board of the Leather Naturally campaign.

The return of beauty

You said at the start of 2020, when you took up the presidency of IULTCS, that there was a need for the industry to use scientific facts to combat what you called “misleading information” about leather. What is the value of facts in today’s world?

Throughout this pandemic we have experienced a lot of misleading information. Every day we hear so many lies, and lies travel faster than the truth. People just absorb the lies without processing them. In my opinion, the problem is not the liars, because liars are always going to exist. The problem is people who believe the lies. Only through education we can minimise this. People have to understand that what they see on the internet is not necessarily the truth. The information has to have something behind it: science.

Does this apply to leather too?

On the leather side, we have big challenges. We have organisations such as Leather Naturally that are bringing proper information about leather. What is strange about what is happening now is that hides have such a ‘load’ from their source, their origin. One of the problems is branding. I cannot understand why, in the twenty-first century, we still use branding on animals. Sometimes it’s not only one brand; we have found hides with 17 branding marks. Animal cruelty is not what happens in the tannery; it’s not leather people who are creating this. Why, then, must the leather industry defend animal welfare? The proper industry [the livestock, meat and dairy sector] should take this responsibility, but they won’t; they don’t care. Today, another of the biggest challenges, and I know there is a group working on this, is to prove scientifically that domestic animals are not raised for their hides and skins. When we see interviews with people about leather, they associate leather with animal cruelty and we have to take this out. We underestimate the power of this lie. We also need to properly define the allocation of hides and skins in the chain. It’s still not clear. Should it be zero? Should it be 0.42? Which is the correct number. We don’t know yet.

When will we know?

I think it’s not going to be a single number. I think the numbers must be based on different conditions, and different countries may have different types of numbers. On allocation, our biggest challenge may be to get out of the leather circle. If you go on LinkedIn, you see leather people patting each other on the back and this doesn’t bring us anything. We need to reach people outside our comfort zone, and those are the brands, consumers, bloggers and

Dr Luis Zugno, president of the International Union of Leather Technologists and Chemists Societies.

CREDIT: BUCKMAN





social media. I don't know how to get there. I don't think the leather industry knows how to get there. We have lived on maxims such as 'we will tan every hide and skin' and 'nothing will ever go to waste' and 'we don't have enough hides so prices are going to go up because we cannot produce more hides'. This has seen a disruption and it's not true any more and I don't think we thought this was going to happen and it's caught us by surprise.

Is there an obvious example you can think of for improving the way we present leather to people outside the industry?

I think we need help with Wikipedia. When you go to Wikipedia you see tanneries in Morocco. We are trying to change this and it's a big challenge. We've tried to edit the pages for leather but, a few hours later, somebody goes in and removes all the edits. Many people have tried. I don't think we know how to do it, but we will learn. I am working with a team at IULTCS and Leather Naturally that is trying to do this, but we need more people. I am looking for a person who knows how Wikipedia works and can help us. Let's put a call out there and see if people can help us.

Echoing the point about scientific proof, another prominent Brazilian person in the industry, Fernando Bellese, made an interesting comment about this in connection with sustainability last year. He said we in the industry are always saying that leather is sustainable, but that claiming this isn't enough. He said we need to generate and present more science-based information to show this is true. Do you agree? If so, what concrete contribution can IULTCS make to this effort?

Well, we should start with the basics. Sustainability comes from the Latin. It means to maintain from below, to provide, to support, to keep in place. In the UN sustainability has three levels: economic, social and environmental. That

After covid-19, people who were locked down are going to appreciate beauty, art and culture again. Leather can be a part of this, Luis Zugno believes. People will renew their appreciation of this natural, luxurious, beautiful and durable material.

CREDIT: PHILEMON D'ANDURAIN

means you have to have a balance on three levels to maintain life. If we wanted a clean planet, the first thing we should do is to eliminate mankind. It's simple. We need a balance, but most of the focus in the talk about sustainability is environmental. People associate sustainability with the environmental aspect. Sustainability is broader. If you removed livestock to eliminate their greenhouse gas emissions, it would have a great economic and social impact on 1.3 billion people, according to the (UN) Food and Agriculture Organisation. This is a very complex issue and I agree with Fernando Bellese. We don't have enough data to quantify these three levels of sustainability, and not only for leather, but for other materials also. Comparing other materials with leather [based] only on environmental indices does not work. When we have the data we can compare materials in a more efficient and transparent way. Without data, we have opinions, incorrect, old and misleading information. Most of the work I have seen on sustainability is not based on science and the people who participate in the debates have no idea about sustainability. IULTCS is a voluntary organisation and we don't have a funding mechanism. Alone, we cannot provide all the data needed for sustainability. People say we should do all these studies, but we have no ways and means to do them. What we can do is, through the Global Leather Co-ordinating Committee (GLCC), to make a contribution to the strategic plan for the leather industry and to be a contributor to the task-forces. We have a lot of talent, but we cannot work alone.



What is the state of play with the GLCC, the body that IULTCS makes up with the International Council of Tanners (ICT) and the International Council of Hides, Skins and Leather Traders Association (ICHSLTA)?

I said at the start of 2020 to Steve Sothmann, chairman of ICHSLTA, and Kerry Senior, secretary of the ICT, that either we had to make GLCC work or we should disband it. So we said we were going to have a plan and, in March, we were going to decide, 'go' or 'no-go'. For GLCC to have two meetings per year is not enough. I want to get people together. I always talk about inspiration and perspiration. A lot of people have inspiration, but now I want to see who is going to step up and work on this.

There has been consolidation in the leather chemicals sector, particularly in Europe. And yet, IULTCS still receives hundreds of abstracts from chemists and technologists from all over the world in the build-up to its biennial congresses. What does this tell us about the geographical balance of the sector in the 2020s?

Leather science work halted last year. It has affected all areas, including the Young Leather Scientists grants that we promote every year. Most of the institutes are closed [because of covid-19]. Contributions to IULTCS come from leather research institutes, government agencies, schools, independent scientists, consultants and chemical and machinery suppliers. Consolidation in Europe is going to reduce the number of projects and new technologies. This will have repercussions for the future of the IULTCS Congress. I remember the days when we had giants such as BASF and Bayer that had whole buildings dedicated only to leather from top to bottom. This does not exist any more. We have a big chunk of research groups in China and India, and Italy is becoming much more active in research, applied technology and education. Italy is still the main manufacturer of machinery and this goes together with the progress we have to make; it's not only about chemistry, but also machinery. The two other countries that I think have big potential are Brazil and Turkey but, for some reason, we still don't get enough material from these countries.

Do you think it's a generational question and that there may be younger people coming through who would have more familiarity with the idea of presenting at international conferences?

There are two issues. One is funding for the young students. The second is that some institutions don't want to do more research. A lot of leather institutions are focused on testing because they know they can make a huge amount of money on testing. It's a problem.

You also talked at the start of your tenure about IULTCS having a role in providing tanners with motivation and "uplift". Clearly, 2020 presented challenges we weren't expecting and it may be even more important to provide this motivation in 2021. What are your hopes for the new year?

I'm optimistic. We have to have a choice between being a victim of the situation and doing something about it. We have to do something about it. I think we have to work together even more than I was expecting we would have to.



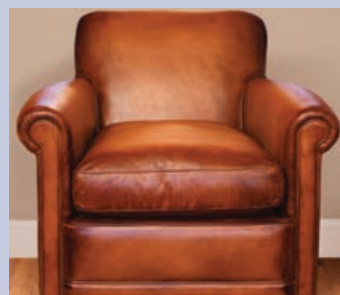
Lanxess is one of a number of major chemicals groups to have decided not to continue their development of leather chemicals. Consolidation is going to reduce the number of projects and new technologies for driving the leather industry forward.

CREDIT: LANXESS

Organisations have to work together because, alone, we won't be able to survive. At IULTCS we have a lot of projects, but most importantly, we have a great attitude. We don't want to be a victim of the situation that we have today. There are ways out and we should work on them, working together. We have a relationship of collaboration with Leather Naturally. We have very good contact with the member societies and they have been very motivated, holding a lot of activities virtually, webinars and conventions. We saw a lot of progress and this is very rewarding. We have the XXXVI IULTCS Congress this year in Addis Ababa, then we have two in 2022, the European Congress in Italy and the Asian Congress in New Zealand. These are just ahead of us now, so let's get ready. Throughout the years the IULTCS congresses have been the pinnacle for scientific, technological and practical work on leather. We do not anticipate any change in the future. I'm optimistic about the future; I really believe that we are going to have a



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kind of Renaissance. People who were locked down are going to look hard at their values and their relationships, and they are also going to look at beauty: art, culture, music, wellbeing. Leather can be a part of this; we can come back to the natural, luxury, beautiful and durable material. People are going to say: "Enough of plastic, let's get something more natural". We can talk about the old dream of Arcadia; we have to have hope and dreams as well.

When you look as an experienced scientist at the processes leather manufacturers use, which are the innovations that have made the biggest impression on you?

In my career I have seen a few innovations that have made a great impact and I am going to name them. One is Lubritan, the retanning fatliquor polymer [developed by Rohm and Haas Corporation and launched in 1990]. I was lucky because I was working at Rohm and Haas in Brazil when the first batch of this product was made. This was a big revolution in technology. We have also rollercoaters, which existed already, but they have evolved so much they have made spraying machines, in many cases, obsolete. Then there are water-based topcoats. When I started in the leather industry, if you wanted automotive leather, you had to spray vinyl with very nasty solvents. That was the only thing available in the old days. Also, the Cangilones drums [from Olcina] that allow you to use less water, less energy and produce good-quality leather, were an evolution. Stucco changed the way for Brazilian leather, which was full of holes and other damage; people took stucco, pasted it into the holes and made good leather. And, finally, Kind Leather [from JBS Couros]. I think this idea is brilliant and has a huge potential to be explored.

Which are the areas in which you see still the greatest challenges and what would you like to see happen in the coming years to address them?

One of the biggest challenges we have is the removal of sulfide. Sulfide is very economical and is 100% effective. You can work in any part of the planet and achieve 100% hair removal. We have to redesign the way we do unhairing, the way we prepare hides for tanning. For example, lime has been used since the beginning of the leather age. Can we remove lime so that we don't [later] have to do deliming? This is a challenge that I pose. Hides and skins have one of the most complex protein structures, collagens; there's not only one type of collagen. Mother Nature made collagen so unreactive for a biological purpose. When we look at the periodic table, there are only a few chemicals that can react with collagen. Our challenge for the future is to tan collagen just enough to make a useable product, one that is biodegradable and non-toxic. I would question if, today, we maybe overdo the tanning and make leather that is too good when it doesn't need to be so good. We have to redesign the process chemically and mechanically to use less water and chemicals and reduce waste. Today, we still have a lot of syntans and this is technology of the 1940s. We make wet blue that is just good enough, but then we put in a lot of chemicals in the retanning, dyeing and fatliquoring process. We should find a better way of doing it so that we don't have to put so many chemicals into leather.

"People are going to say: 'Enough of plastic, let's get something more natural'."

Do you see signs of these developments happening?

Not yet. People put in more chemicals instead of removing chemicals. The solution is not always to put in more; sometimes you have to use less. This comes back to the people we have available to do research. This is the biggest challenge. How can we make a better retanning, dyeing and fatliquoring process? How can we streamline it to make it very simple? And in finishing, I mentioned that we make very good water-based topcoats, but they are not biodegradable. The leather will disintegrate, but the topcoat is not going to disintegrate. So we need to work to make biodegradable coatings. Chamois is a kind of perfect leather. You put in oil, but no retanning, no fatliquor, no dye and you have a piece of leather that is going to last for ever and, once you put it into the soil, is going to be biodegradable. What can we learn from the chamois? People don't like to change things but when you look at innovations, they involve people making changes. I remember with the Cangilones drums, at first people said they didn't work, but then they learned how to use them. For the last 20 years, I have been following all developments with nanotechnologies, all the papers and publications. Practically nothing has come of nanotechnology; there is also a big regulatory concern with nanotechnology. Sometimes we put research time and effort into the wrong things and nanotechnology is one of them, in my opinion. I might be wrong, but I don't believe it is going to be applied efficiently to leather. The regulatory issue is that, with nanotechnology, you have to put nano-particles into the leather. And what happens if the particles start to come onto your skin? We still don't know. We think sometimes it's only about chemistry, but it's not. The future of leather technology is going to be chemical and mechanical processes. For example, drying. If you don't dry leather properly, you won't have a good product. To dry it slow or fast will give completely different types of leather. There are a lot of things that we used to know but that, today, we have lost. We need to do something different. That's the reason we are where we are today. We thought that we were never going to waste a hide, but things can change very fast. Think about a hide: there is no other natural material that has integrity. Wool, you have to spin it, you have to do something; the same with cotton and with silk. With all these other natural materials, you have to do something to create an article. The hide is the only material that is soft, pliable and that has integrity. We must keep tanning. 🌱

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Leather industry hits back

Seven years after launching the Nothing To Hide essays explaining why people make and use leather and how the industry works, World Leather is now updating the series.

In 2014, *World Leather* launched a series of essays under the title Nothing to Hide. It ran for several years, with the material appearing in the magazine and then becoming available free of charge on a dedicated website.

The essays, 15 in total, are still available under an open-source agreement, for journalists, universities, companies and consumers all over the world to use. Starting in early 2021, *World Leather* will begin updating the essays.

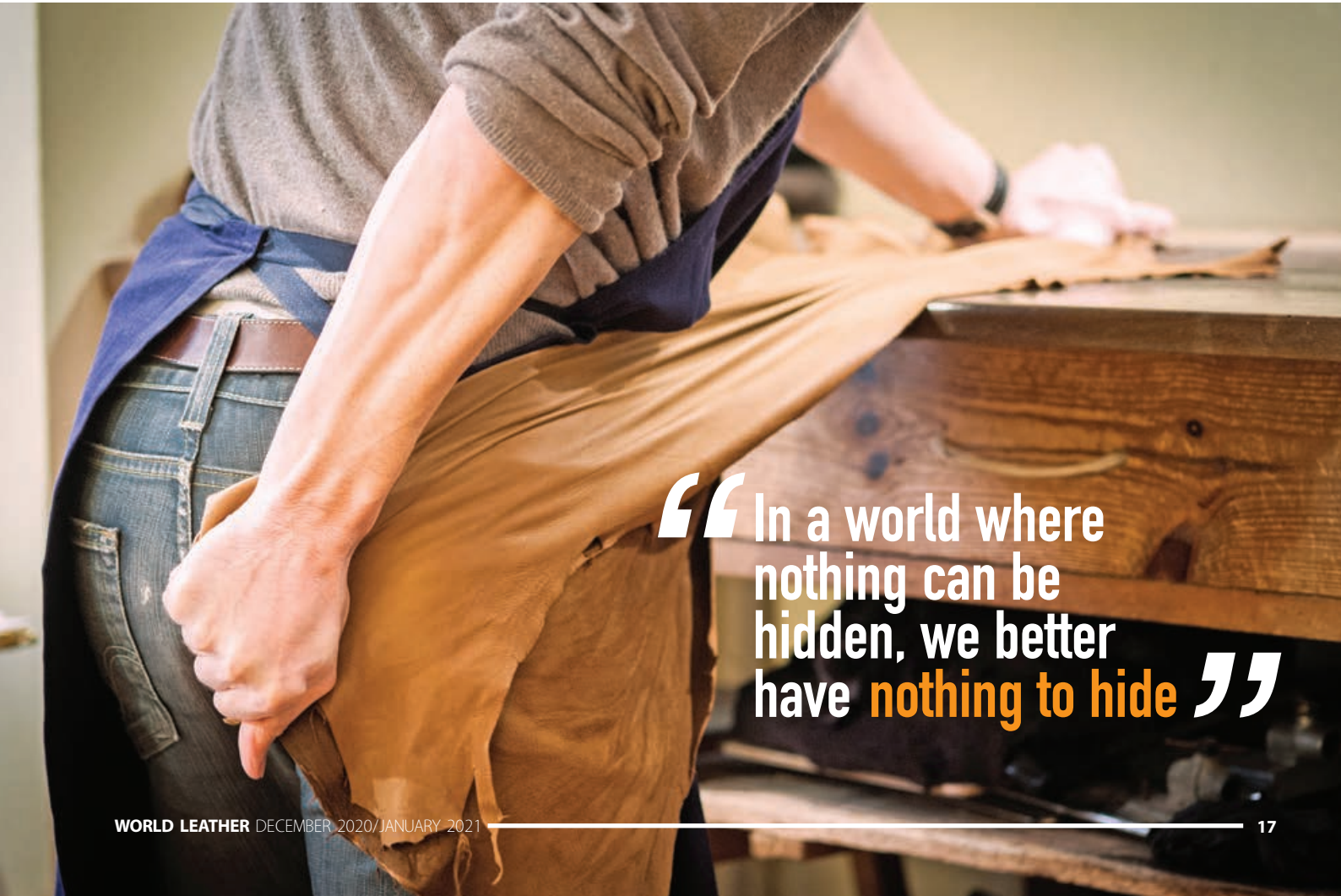
Nothing to Hide essays explain the science, technology and ecology that underpin the modern leather industry. All contributors are respected authorities in industry and academia. Since the launch of the series, industry bodies and research institutions across the globe have cited the Nothing To Hide essays frequently in their work.

This is a world in which nothing can be hidden, so organisations that want to prosper have to make sure they have nothing to hide. The phrase comes from Greg Page, the retired chief executive of Cargill, in

a speech about the company's main area of business, producing and marketing food. It can just as easily apply to the leather industry.

Incorrect and obsolete information about the leather industry continues to be broadcast on television and radio, and published in newspapers, magazines and reports. Campaign groups, often with anti-leather agendas, have used this negative material to further damage perceptions of the leather industry. The Nothing to Hide collection is designed to combat this head-on by sharing accurate, up-to-date, easy-to-access information and explanations of how and why tanners and their upstream suppliers work the way they do. The best in the industry have nothing to hide; they have much to be proud of, as this series proves.

Nothing to Hide will continue to serve as a reservoir of facts and knowledge that the entire global leather industry will be able to draw on when the need arises to respond objectively to criticism and to increase consumers' awareness of the beauty, renewability, value and circularity of leather. 🌱



“In a world where nothing can be hidden, we better have **nothing to hide”**

Nothing to Hide: Hide and skin production around the world

Resources need to be used and then reused continuously so that they don't end up in landfills.

CREDIT: CONSEIL NATIONAL DU CUIR, FRANCE

Executive summary

The volume of hides and skins coming as a by-product from the global meat industry is enormous. Figures for 2019 from the Food and Agriculture Organization of the United Nations (FAO) suggest the meat industry generates 340 million cattle hides a year, along with 730 million sheepskins and 650 million goatskins. The leather industry buys up a large proportion, though not all, of this by-product and transforms it into one of the most versatile and attractive materials on earth. Unfortunately, millions of hides and skins go to waste.

The weight of the hides and skins the meat industry generates each year is almost 13.1 million tonnes. Dumping this material as waste would cause severe problems for all cities and countries where animal slaughter and meat processing take place, exacerbating an already serious municipal solid waste situation.

According to the World Bank, the mass of municipal solid waste reached a global level of more than 2 billion tonnes in 2016. It warns that, without urgent action, this will increase to 3.4 billion tonnes per year by 2050. In the developing world, the problem is even more acute because 90% of waste in these countries is "mismanaged".

In parallel, the meat industry needs to consider how much money it will have to spend if it manages hides and skins in the same way as other solid waste. The UK, for example, imposes a landfill tax that reached a rate of £94.15 per tonne of waste from April 2020. Putting all of the meat sector's hides and skins into landfill as waste would cost meat companies more than £1.25 billion (about \$1.7 billion) per year at these rates. This cost would, in all likelihood, be passed on to consumers, making meat more expensive and less accessible.

The tanning industry has also shown that processing the hides and skins to make leather generates far fewer greenhouse gas emissions than letting the material go to waste.

This essay argues that the leather industry does the meat industry and society at large a great service by taking unwanted material and converting it into leather for shoes, accessories, clothing and upholstery. Tanners and finished leather product brands should remind customers of this in the face of questions about sustainability. 🌱

About this essay

The information in this Nothing to Hide essay has come from three principal sources.

The Leather and Hide Council of America (LHCA) is an international body that works to promote US-sourced hides, skins and leather. It seeks also to establish and promote best practice in leather production, to set new international standards in sustainability and traceability, and to promote those values to stakeholders around the world: www.usleather.org

The Food and Agriculture Organization of the United Nations (FAO) is a specialised agency of the United Nations that leads international efforts to defeat hunger. Its goal is to achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives. It works in more than 130 countries worldwide: www.fao.org

The World Bank, an international organisation that provides funding for projects in developing countries with the aim of ending extreme poverty and building shared prosperity: www.worldbank.org



Rural Uganda, 2020. The meat and livestock sectors are important and lucrative parts of the global economy because meat and milk mean money. CREDIT: FAO/SUMY SADURNI

Nothing to Hide: Hide and skin production around the world

Tanners are entirely dependent on a reliable supply of raw material, but this updated first essay in the Nothing to Hide series shows that, without the leather industry, farmers, meat companies and society (including some of the most vulnerable societies on earth) would face serious and expensive challenges over what to do with the hides and skins that consumers' desire for meat and milk generates. Letting this by-product go to waste would be a bad choice for financial, social and environmental reasons.

The size of the world's cattle, sheep and goat herds is greater than many consumers imagine. Demand for meat and milk around the world remains high and is growing, especially in developing economies. The meat and livestock sectors are important and lucrative parts of the global economy (because meat and milk mean money). An inevitable consequence is the high volume of hides and skins that abattoirs have to find a home for. Turning material the meat industry cannot use into leather, (a protective, versatile, durable, breathable, circular and beautiful material), is, in the eyes of most of humanity, the best way of dealing with it. This adds value to the animal, creates jobs and wealth and enhances the lives of people everywhere.

In any case, few alternatives exist. Landfill sites fill up quickly

these days and are becoming increasingly expensive. Many governments want to impose steep rises in landfill tax and some, Germany's federal government, for example, have banned the dumping of most forms of solid waste in landfill. In the UK, standard landfill tax standard rates went up to £94.15 per tonne of material dumped¹ in April 2020, an increase of 47% in eight years. The authorities have said specifically that they want to encourage new uses for old material; as people have known since the earliest times, there is no better example of this than using discarded hides and skins to make leather. The aim of this Nothing to Hide essay is to show that the volume of raw material arising from the global meat sector is so great, any other method of disposing of hides and skins could pose serious challenges to the meat industry and to society.

Herd sizes in 2019

Considering only cattle, sheep and goats (the animals from which most of our meat and, in turn, leather comes), this paper will go on to present the most up-to-date statistics available for herd sizes and slaughter levels, along with an analysis of the figures.

Across all breeds of cattle, from Alentejana to Xinjiang Brown, the global herd size in 2019, according to the Food and Agriculture Organization (FAO) of the United Nations, was 1.57 billion head². It identifies the countries with the largest cattle populations as: Brazil with 214.6 million head, India with 193.4 million, the US with 94.8 million, the 27 European Union states with a combined total of 76.3 million, China with 63.5 million and Ethiopia with 63.3 million (see Panel 1).

Sticking with FAO figures, the organisation gives the size of the global goat flock in 2019 as 1.23 billion head, while the figure for sheep is 1.4 billion head.

Of interest to us now is to know how many hides and skins farmers and meat companies produce each year when they send animals from their herds and flocks to slaughter, which they do to satisfy demand for meat and to manage livestock populations. For cattle hides, the 2019 total was 341.1 million. The figure for goatskins was 648.2 million and, for sheepskins, it was 730 million. FAO also gives the weight of this material. Its figures are 9.1 million tonnes for cattle hides, 1.7 million tonnes for goatskins and 2.3 million tonnes for sheepskins, giving a combined total for the by-products that tanners could, potentially, turn into leather of 13.1 million tonnes².

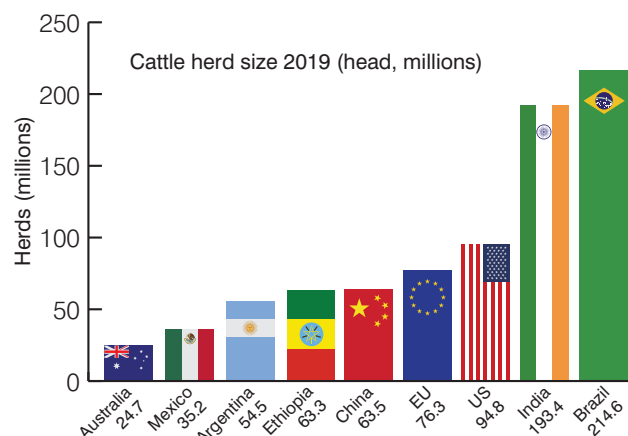
We know that not all of this material does make its way from abattoirs to tanneries. Industry body the Leather and Hide Council of America (LHCA) has calculated that, in 2019, 5.5 million hides generated by the US livestock industry failed to reach the leather value chain³. This figure represents around 16% of the total number of hides the meat and livestock industry generated in the US that year. LHCA put the number of wasted hides at 5.5 million based on public data from the US Department of Agriculture (USDA) and the US Census Bureau. The slaughter numbers (around 33 million head of cattle in 2019) are regularly published by the USDA and widely circulated (www.leatherbiz.com publishes these figures every Friday).

Next, LHCA compared this data with its own figures for the exports of wet-salted and wet blue hides, information it publishes every month using data from two primary public sources: US Customs and USDA. The total figure for 2019 was 23.6 million hides. It then estimated the number of hides that are consumed domestically in the US, based on an average of previous years' data, and came to the conclusion that the total number of US hides that went into leather production, domestically and internationally, was 27.5 million, leaving 5.5 million hides unaccounted for.

At the end of 2020, LHCA considered what the global picture might be when it wanted to figure out if hides that go to waste may generate higher greenhouse gas emissions than tanneries emit in processing the material to make leather. It estimated that 55% of the world's total supply of cattle hides are going into the leather value chain and that 45% are going to waste, but said these figures were illustrative.

Going with these illustrative figures and applying them to the statistics from the FAO, it suggests 187.5 million hides were made

Panel 1: Cattle herd size 2019



available to tanners in 2019 and that more than 150 million were not. Again, for illustrative purposes, we can calculate that the cost of putting these wasted hides into landfill if all countries were to charge the same rate of landfill tax as the UK, £94.15 per tonne, disposing in this way of all the wasted hides, would cost £385 million. If all the hides that the livestock and meat industry generate were to go into landfill in places with this rate of tax, the levy would be £1.23 billion. In this scenario, without factoring in transportation costs and other expenses, it would cost the meat industry the equivalent of \$1.7 billion per year just to dump the hides it generates into landfill sites. It is worth pointing out that the UK landfill tax is particularly expensive, but is a stark reminder that the cost of dumping municipal waste is only going in one direction, and that is upwards.

As matters stand, of course, rather than being a \$1.7 billion cost, the raw hides can earn the meat industry revenue as a result of tanners' willingness to buy the material and transport it to leather-making facilities around the world for processing. No one denies that it is in tanners' interest to have access to this raw material, but it is equally clear that the meat sector gains, too, by earning money from this by-product and by avoiding the need to take care of disposing of it as waste.

LHCA's work in 2020 also suggests an environmental benefit. Using figures that it has said are in the public domain and speak for themselves, LHCA calculated that hides weighing, on average, 25 kilos could each be expected to generate emissions of around 22.25 kilos of CO₂-equivalent if left to go to waste⁴. From other statistics that are also in the public domain, having been published in sustainability reports from leather manufacturers and tanning industry associations, it is possible to calculate that the emissions that a high-performing tanner would generate by transforming the same material into finished leather instead of wasting it would be 4.55 kilos of CO₂-equivalent per hide⁵.

Municipal waste volume

According to a World Bank study, communities around the world generated a total of 2.01 billion tonnes of municipal solid waste in 2016. It points out that growing populations and rapidly increasing urbanisation suggest this figure will go up. The World Bank predicts that, by 2050, the total will be 3.4 billion tonnes per year⁶. Governments and



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for leather, for you

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good corporate citizens everywhere need to take action to lower the impact of municipal solid waste, the report urges.

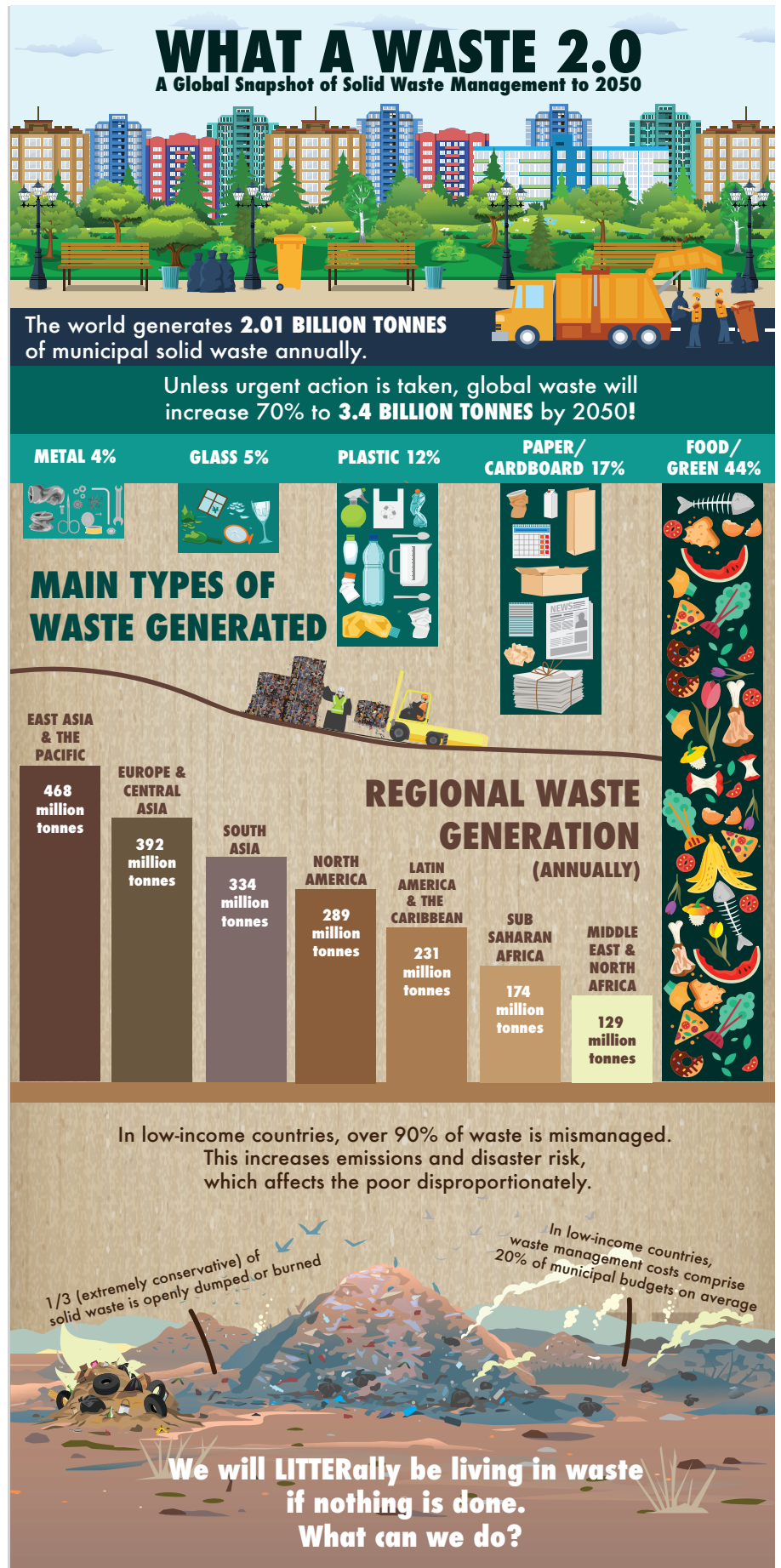
High-income countries generated a combined share of 34% of the world's waste in 2016, it continues, despite having only 16% of the global population. By 2050, its projection is that waste-generation in Sub-Saharan Africa will more than triple from current levels, while South Asia will more than double its waste stream. "Mismanagement of waste is harming human health and local environments, while adding to the climate challenge," Laura Tuck, vice-president for sustainable development at the World Bank, has said. "Unfortunately, it is often the poorest in society who are adversely impacted by inadequate waste management. Our resources need to be used and then reused continuously so that they don't end up in landfills.⁷"

Conclusion

The leather industry is providing the world with a major service, by taking the hides and skins the meat industry generates and saving them from going to waste. Yes, without this raw material, the leather industry would be unable to continue, but without the leather industry, the world would have to find a new way to cope with the expense and the social and environmental problem of getting rid of the material, while losing out completely on its potential value.

Either we use the material, or we lose it. If we choose not to use it while farmers keep raising cattle, sheep and goats and meat suppliers keep sending the animals to slaughter, there will be a steep price to pay. ☹

1. www.gov.uk/government/publications/rates-and-allowances-landfill-tax/landfill-tax-rates-from-1-april-2013
2. www.fao.org/faostat/en/#data
3. leatherbiz.com/News/154046
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Release paper finishing and roller coating thermo adhesives on both full grain and corrected grain leathers can minimise the negative environmental impacts, with a reduction in energy waste and the elimination of emissions to atmosphere. CREDIT: GEMATA

Gemata add new variants to Greenfinish system

It has been more than two years since Gemata first introduced their Ecofinish release paper finishing lines with infrared drying ovens. At Simac Tanning Tech exhibition in 2019 they officially launched their new Greenfinish system (as reported in World Leather December 2019/January 2020). In October of 2020, Gemata introduced two new Greenfinish variants – The Greenfinish Short and the Greenfinish Lab.

To satisfy certain markets, such as Santa Croce sull'Arno where space is limited and the production lots are increasingly smaller, the Greenfinish Short line offers both a reduced cost and a reduced footprint. Compared to the larger system, the Short line measures only 20 metres in length, roughly half the length of the original. The compact system runs at a speed of 6-7 m/min, ideal for small production lots. The main difference with this system is the exclusion of the pneumatic accumulator, used to house and feed the release paper during roll changeover. Gemata's deputy general manager Mauro Pellizzari told *World Leather* "The Greenfinish Short line has been designed without an accumulator. This makes the process discontinuous because the line must be stopped when the release paper roll ends. On the other hand, it has the undoubted advantage of making the line more compact and cheaper. Above all for those tanneries that do not have lots so long as to work 8 or 12 hours continuously without changing the article".

The Greenfinish short will be installed at the company headquarter in Santa Croce sull'Arno and will be available for customer trials, allowing them to investigate release paper finishing.

In addition to the Greenfinish short, the company designed its Greenfinish lab, an even shorter version. At just 11 metres in length, it is suited to labs and chemical product companies. This setup can finish leather with the same production process as the commercial size machines but at a slower rate with a maximum speed of 2 metres per minute. The release paper for the new machines is 500mm wide and 1000 metres in length and requires downtime of 10-15 minutes to change the roll after every 3 hours of work. In comparison, the continuous release paper of the larger, original Greenfinish is 1800mm wide.

"Customers are very interested in this new way of coating, because it is also a way to investigate new markets in this complicated market situation," said Mr Pellizzari. 🌐



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The purpose of this document is to assist in understanding the leather production landscape, outlining processes necessary to convert hides and skins into leather.
CREDIT: WTP

Work under way on traceability standard

A United Nations Economic Commission for Europe (UNECE) project aims to establish new traceability standards to help tackle the problem of clothing and footwear adding to the broader burden of waste. One of the standards will focus specifically on leather traceability.

Each year, it is estimated that more than 1.7 million tonnes of CO₂ emissions are attributed to the garment and footwear industry, with an accumulation of more than 90 million tonnes of waste. At the same time, only 13% of apparel is recycled. Many stakeholders now recognise the importance of transparency when sourcing material and making finished products, and an increasing number of global fashion brands now declare their tier-one suppliers, at least.

The objective of this project is to strengthen sustainable consumption and production patterns, through the development and implementation of an international framework initiative and a transparency and traceability tool. The outputs will help governments and industry partners to take risk-informed decisions and operate along a set of internationally agreed practices, thereby increasing transparency to the final consumer.

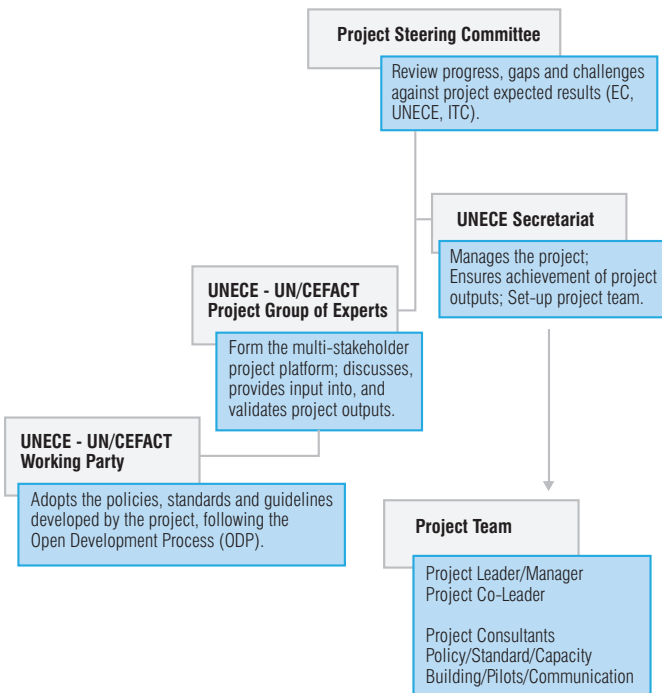
Work began in 2019 with multi-stakeholder dialogue. Early in 2020 a core project team was set up and development of

the scope, policy documents and foundation reports are now well under way. By the middle of 2020, the project had been joined by more than 160 multi-stakeholder experts (in four sub-groups of work) from major brands, trade associations, NGOs, academia, think-tanks, standard and certification bodies and policy-makers, who have provided extensive input and views on the project via virtual meetings and physical project meetings (Paris Blockchain Policy Forum, London UN/CEFACT Forum, OECD Due Diligence Forum). One of the sub-groups is devoted to examine a leather traceability standard.

The project focus is on textile and leather within the garment and footwear sector, with the leather scope relative to livestock and exotic leathers. Work is developing well within the leather value chain and it is anticipated that a draft standard for traceability will be ready soon. Piloting, including a potential block chain pilot for the leather value chain, will take place in 2021 with capacity building and adoption continuing into 2022.



The project governance structure:



The key outputs for this project are:

Output 1

A multi-stakeholder policy dialogue platform and policy recommendations towards enhanced transparency and traceability for sustainable value chains in the garment and footwear sector.

Output 2

Traceability standards for textile and leather, and implementation guidelines.

Output 3

A transparency and traceability tool, for customised, open self-assessment and data-sharing solutions for value chain stakeholders.

Output 4

Piloting of the policy recommendations, standards and transparency and traceability tool.

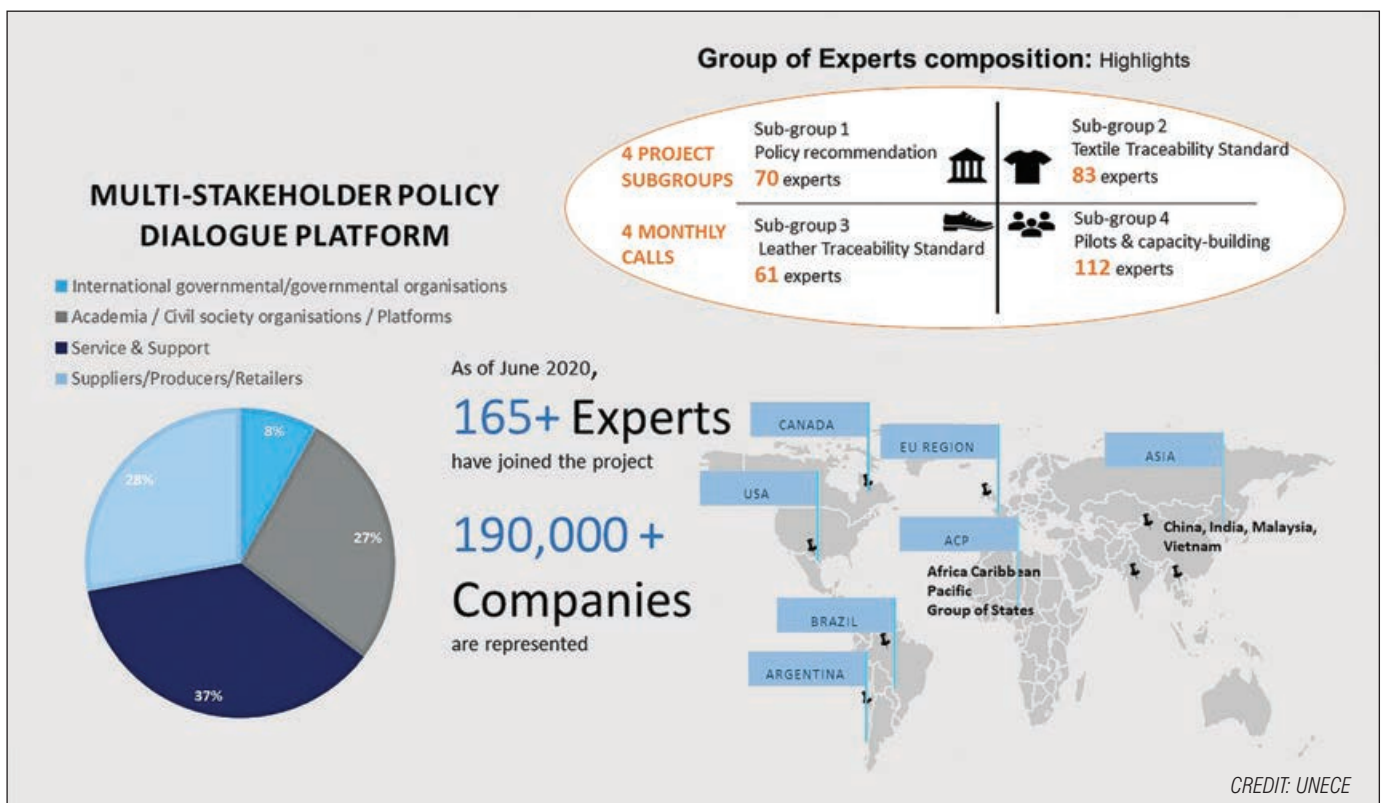
Output 5

Training and continuous improvement programme in collaboration with strategic partners.

Deborah Taylor, former manager of the Leather Working Group, is the leather value chain expert consultant for the project and she is working closely with leather industry stakeholders on the development of the traceability standard. She has expressed hope that this project will lead to greater harmonisation of practices globally to demonstrate sustainable sourcing and manufacturing. "Colleagues have talked for many years about the need for better cohesion

within the industry when dealing with traceability and we hope that this standard, which will be available to all, will serve to further that aim," she says.

The standard will not be prescriptive in terms of the technology adopted by individual organisations, but it will create a framework and a set of parameters to adopt in terms of what information and records should be maintained to provide traceability of material as it moves through the value chain. 🌐





Flay cuts, caused by knife assisted flaying of hides. For fuller substance leathers, these must be avoided.
ALL CREDITS: WTP

Over-complication

In the first in a series of articles that draw on his long, personal experience as a tanner, technical editor, Matthew Abbott, argues that the processes involved in making leather are difficult enough already. To add more complexity is to invite trouble.

Making a piece of leather isn't easy. Tanning is one of very few industries (perhaps the only one) that start with a raw material whose quality is a complete unknown and invisible to the human eye. Hair on one side, fat and flesh on the other, a putrescible material bought by weight that we hope to turn into a product to sell, in most cases, by area. In the past I have made leather to sell by the piece, by weight and even by the pair. So, what would be the most important factors in making the best possible product? Leather has so many different end uses and of course there are many different tannages that have their own areas of speciality, but, fundamentally, all leathers are made in the same way.

Cut to the chase

Getting to know your raw material is absolutely key. Intimately understanding what you are using, how it should perform, even down to what it looks and smells like will be imperative in producing and reproducing a consistent product. Without this understanding and without the ability to convey this to your hide or skin supplier, things will be a little more difficult in the long term. Forging a partnership with your suppliers and securing their buy-in to your success will save you time, money, and effort.

What may not seem to be an issue to your suppliers, based on their understanding, may be disastrous for you. I spent

many hours visiting abattoirs and examining freshly flayed hides looking for flay cuts and damage prior to salting; the cuts would have been critically damaging to the majority of leathers we produced. Over time, through working closely with the abattoirs they dealt with, the suppliers were able to provide hides that were virtually free of flay cuts. This not only led to improvement in leather quality but also allowed for a quicker sorting operation in both the limed and wet blue stages.

Keep it simple

Don't over-complicate things. The leather making process is not easy, so there's little reason to make it any harder than it need be. Over-engineering processes just add more elements that could go wrong and, at some point, probably will go wrong. All leather technologists want to see exciting-looking processes but the 'keep it simple' adage should always be adhered to. Sometimes removing steps from a process will yield better results than continually trying to add to it. That's not to say that advancements in wet processing technology shouldn't be taken advantage of and trialled but adjustments should be made in equal measure.

It will also mean the stockholding of chemicals can be kept at a sensible level. This leads to the idea of product rationalisation. Understanding that there are many different products available to the tanner does not necessarily mean having to use them all.



Leather can be forgiving

If something does go wrong, it will certainly have the potential to have a negative impact on the product. The first thing is not to panic; depending on where in the process the wheels fell off, leather can be quite forgiving. If it is deemed that the process is somehow at fault, the first and simplest check should always be the process pack weights. Improper weighing or the input of incorrect weighing figures for process calculations will immediately highlight the issue. Having an understating of what the average pack weights should be at each stage should help. I've seen many situations in which drain valves have been left open or water valves not turned off. In processes such as pickling, a check on float and cross-sectional pH plus specific gravity (Baumé or even Barkometer) will give you some basic understanding. In this situation, acidic swelling could well be the most dangerous outcome and, unlike the controlled swelling undertaken at the liming stage, acidic swelling can be very damaging to the pelt. It's not easy to forget what a "blown" hide looks like and it's not something you would like to encounter regularly.

Early stages of this problem can be counteracted with salt (sodium chloride) additions and slow, intermittent running allowing the swelling to reduce. If caught in time, the damage can be negated but further checks on the pelt and the resultant leather should be meticulous to ensure the physical properties haven't been compromised. In some instances, some controlled acid swell can even be used to advantage,

particularly in vegetable-tanned leather. Lowering the specific gravity of the pickle liquor to around 4° Baumé (28° Barkometer) will allow a controlled amount of acid swelling at around pH 4.5. For a pit-tanning system this can be beneficial for a number of reasons, such as increasing the grain thickness and giving a fuller leather, but also reducing the salt carry-over. 🌐



Matthew Abbott became the technical editor of *World Leather* in 2018. He completed a degree in leather technology at the University of Northampton in 1997 and then worked for two decades in senior technical and commercial roles at leather manufacturing group Joseph Clayton & Sons. He is currently president of the SLTC, the Society of Leather Technologists and chemists.

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Chestnut forest in Serra Pamparato,
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ALL CREDITS: SILVATEAM

Biocircular leather

Metal-free tanning has been used since the first hide was tanned. Modern advances in technology have improved the performance of the leathers but, in doing so, have limited the disposal routes of the leather and the end products. Silvateam believes it has now developed a tanning system, Ecotan, that allows for a “truly sustainable” and circular product that can be recycled into fertiliser and returned to the lifecycle of leather.

Metal-free tannages are becoming more and more prevalent in a move towards what some brands and consumers perceive as being more sustainable tanning systems. For millennia, tanning using vegetable tannins was the norm. In the modern arena, where high performance leathers are required to go above and beyond what these traditional tannages can offer, combination tannages are often used. By combining tannages, the characteristics of the leather can be adapted to give the best results, drawing on properties from the individual tanning agents. In many cases, the combination of tannages includes the use of chrome (III). While scientific studies, including REACH regulations, prove that the use of the trivalent form of chromium, when used in properly managed tanning systems, presents no danger to the manufacturer or the end user, there has been growing demand for chrome-free alternatives.

In reacting to this demand, wet white leathers made using glutaraldehyde have become popular. For almost 30 years, the use of glutaraldehyde as a pre-tanning system has been used to good effect with subsequent wet-end work undertaken to impart the physical and chemical characteristics of the final leather. There are certain difficulties in using glutaraldehyde, for example with manual handling or wastewater treatment. Again, a modern well managed tannery will be equipped to handle these aspects. In most cases, whether the leather is wet blue (made using chrome) or wet white, it is the public perception that is mostly the driving force for change. To this point, Silvateam developed Ecotan PAP, a metal-free, aldehyde-free tanning product using a modified hybrid, extracted from gallnuts,

chestnut and tara.

Being members of the hydrolysable group of tannins, these naturally dispersed ellagic/gallic pyrogallols tend to exhibit good light-fastness properties with a pale colour – essential for high-performance leathers.

In creating this hybrid, the highly anionic nature of the tannage, one that exhibits an abundance of negative charges on the collagen polypeptide chains, was found to be improved by the use of a cationic ester, Keusol SP EQ, during the tanning stage. This enabled the leather to exhibit more amphoteric properties leading to high levels of dye and fatliquor exhaustion, and low COD in the final effluent. (see panel 1)

The Silvateam metal- and aldehyde-free tanning product launched in 2017 but it was the first covid-19 pandemic lockdown of 2020 that ignited a more involved project looking at ways in which this new system could be better implemented. Introducing synthetic polymers to the range for the other retanning additives, these non-toxic compounds are so safe that they need no REACH registration. Leathers made with this system are said to not only be fully functional but also beneficial to health, as published in *World Leather June-July 2020: Antibacterial properties of leathers, natural tannins, and their interactions with shoe bacteria*.

The final piece of the puzzle came through the company's partnership with Biofin, part of Gruppo Biokimica. Biofin, a partner of Silvateam's for more than 10 years, has an intimate knowledge of the metal-free range offered by the company and also has a close link to the fashion world, where sustainability is a driving force for new business.



Why metal-free?

Any metal in the finishes, be it with the dyes or pigments, would give rise to issues with the breakdown products in the waste treatment of the leather. In leather colouring, pre-metallised dyes, also known as metal-complex dyes, are commonly used. The metal of the dye complex often consists of copper, cobalt, nickel or chromium. Providing metal-free alternatives enabled a strategic breakthrough in the ability to create a complete metal-free offering with sustainability and circularity at its core.

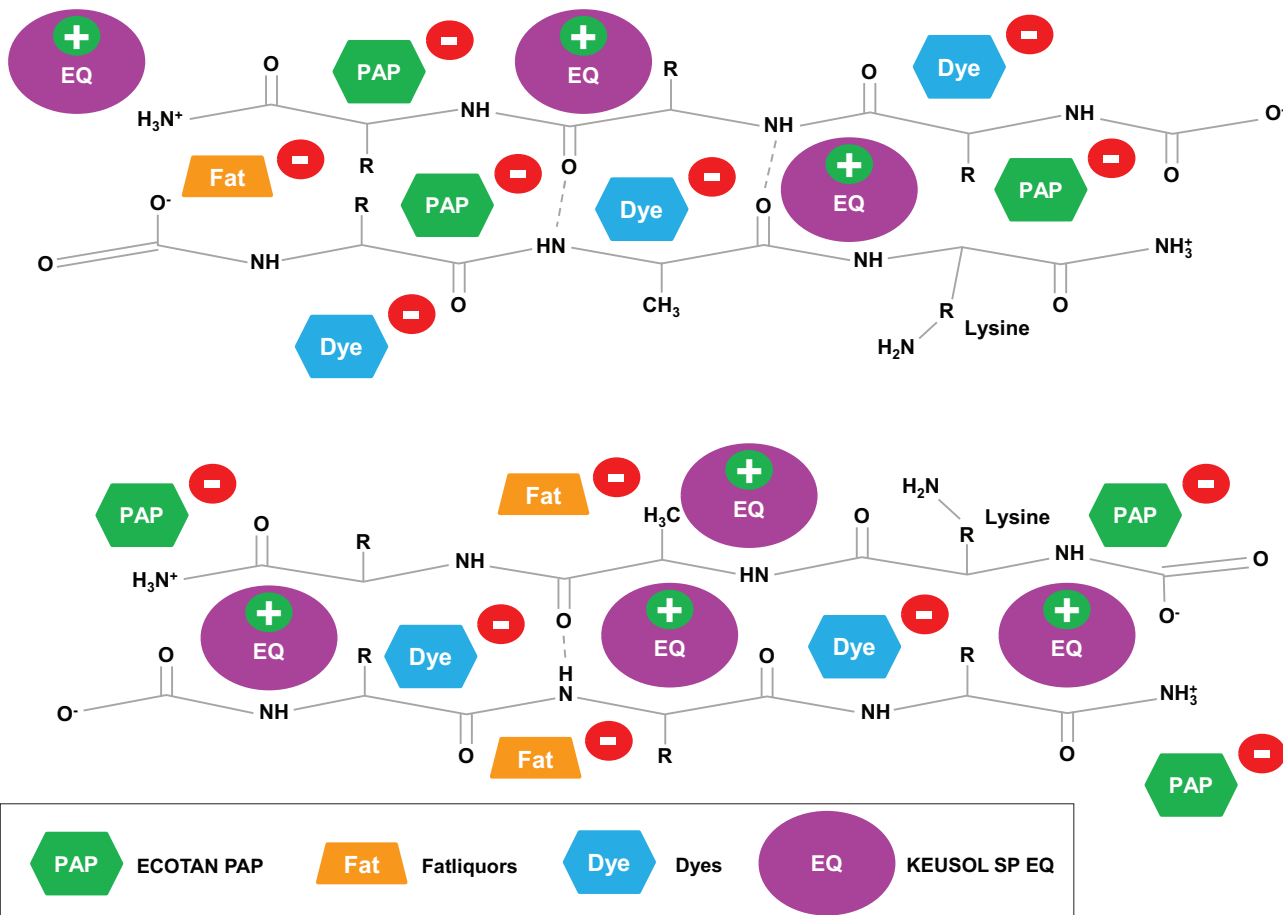
Tanners can now sign up to use the Ecotan system but, on doing so, they must comply with several aspects that will ultimately lead to their trimming and shaving waste being converted into fertiliser. In theory, recycling the leather will also be an option for the end consumer at the end of the product lifecycle. The facility for this to take place is currently unavailable but the technology allows the chain to be put in place in the future. Silvateam is keen to point out that this is not a biodegradability system but a recycling system in which the biocircular element can then be used in a cycle in which farmers can use the fertiliser on the grasses that feed the animals that will ultimately become meat and provide the hide.

In conjunction with Fertilizzanti Certaldo, a fertiliser manufacturing company established in 1931, the leather waste is assigned a regulatory waste code, having been subjected to analysis and RSL substance assessments.

Following this acceptance, the leather undergoes a process of acid hydrolysis, using sulfuric acid. The hydrolysis, a breaking down of the protein chains, whereby the peptide bonds are broken, results in an organic matrix that is more receptive to the subsequent addition of nutritive elements. Additions of micronised natural phosphate leads to the solubilisation of phosphorous by the free acidity in the system and, depending on the final product, other components to enrich the fertiliser can be blended with, and bound to, the organic matter. This allows for the effective adjustment of availability and constitutes an effective regulation for nutrient transfer, granting a slower release, which best synchronises with the absorption by plants. Speaking to *World Leather*, Fertilizzanti Certaldo technical manager, Luigi Petralli, has explained that as a raw material, vegetable-tanned leather has numerous advantages for production. Aside from the absence of chrome, coming from an industrial cycle it is much more stable and reliable than other organic substances of natural and non-natural origin. It has the constant and significant presence of organic nitrogen and it performs well in the hydrolysis process.

Current EU regulations stipulate that contaminants in an organic fertiliser must not exceed 2mg/kg for chrome VI, with a total chrome limit of 2000mg/kg, 50mg/kg for nickel and 300mg/kg for copper, all based on dry matter. The European Commission foresees a replacement of regulation (EC) number 2003/2003, expanding its scope to secondary raw

Panel 1: Chrome free tanned leather — peptide chains





material-based, that is recovered and bio-based fertilising products. The new EU Fertilising Products Regulation (EU) 2019/1009 was approved by the European Parliament and the Council of the European Union on 5 June 2019 and is expected to come into force in July 2022.

Further sustainability is assured with Programme for the Endorsement of Forest Certification (PEFC) registration. This certification of the tannins tracks forest-based products from source to the final product, demonstrating that each step of the supply chain is closely monitored through independent auditing to ensure that unsustainable sources are excluded. For example, the coppicing of the chestnut woods that are the source of some of the tannins means the trees renew themselves naturally after cutting, and there is no need to plant more – as published in *World Leather* April-May 2019.

Speaking on behalf of one of the tannery partners to have signed up now to use Ecotan system, JBS Couros, sustainability manager, Kim Sena, says: “The sourcing of the vegetable tannins such as chestnut or quebracho is PEFC-certified and recognised for its sustainable approach, which guarantees that the biosphere is being respected and the environmental impact is minimal.” Another early adopter, Maurizio Casini, chief executive of Tuscan tannery Conceria La Scarpa, says: “In our 57 years’ experience in vegetable tanning, our company’s philosophy has always revolved around respecting the environment and future generations. This is why we decided to join the Ecotan project, dedicating ourselves fully to the mission of creating recyclable leather articles.”

For his part, the sales manager at Conceria Volpi, Giuseppe Volpi, has said: “With this process it has been possible to obtain leathers with specific and improved characteristics in terms of hand feel and softness for a vegetable leather. Adding these to the minimal content of metals and eco-friendly approach of this procedure, we think it is going to become a new benchmark for our section of the leather industry.”

While applicable to almost all leather types, shoe leather is ideally suited to the biocircular system, as shoes have a relatively short lifespan. Collectively, the tannery partners that have signed up to Ecotan have already used it to make all leather types, some to fully finished leathers but in the case of automotive upholstery, to crust (finishing is still challenging here). Turkish tanning company Sepici Grubu has over 30 years’ experience working with Silvateam to produce vegetable-tanned leathers for shoes, garments, belting and sole, and have added the biocircular line to their developments, with products now coming through scale-up operations. “We were excited to add the biocircular concept to work that we had already begun in the beamhouse,” says one of the group’s owners, Mehmet Sepici. “Combined with our knowledge and formulations using reduced salt and water, the Ecotan system adds further credentials in terms of traceability and sustainability.”

In more general terms, although Ecotan PAP is seen as the major player in high-performance leather manufacture, any pure form of vegetable tanning can also be assigned the Ecotan brand. “Sole leather and harness leather can be labelled Ecotan, full vegetable-tanned leather is already Ecotan,” Silvateam sales director, Eric Poles, tells *World Leather*. “What we have done with the new range is to work on modernising the traditional vegetable tannage to make formulations that perform well.”

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The interior of the Audi A7, with its 10 square-metres of leather. The automotive company has admitted that the carbon emissions from the leather are lower than the figure its official lifecycle assessment for this model suggests.

CREDIT: AUDI AG

Carbon figures show why hides must not go to waste



Towards the end of 2020, the Leather and Hide Council of America (LHCA) began looking into an aspect of leather's sustainability story that has commanded surprisingly little attention until now. It began asking what the environmental impact is, in terms of greenhouse gas emissions, of cattle hides that go to waste and decompose.

According to the European Commission, waste is the fourth-biggest source of emissions. The situation, in the European Union (EU) at least, has improved immensely in the last three decades and, with a share of 3%, emissions from waste lag far behind those arising from fuel combustion (77%), agriculture (10%) and industrial processes (8%)¹. In 2018, total greenhouse gas emissions in the EU equalled 3.9 billion tonnes of CO₂-equivalent. A 3% share of that total is 117 million tonnes of CO₂-equivalent. Emissions from waste have fallen by 33% over the 28 years for which the EU has greenhouse gas inventories² but the trading bloc wants member states, municipalities, companies and citizens to lower the figure further. Disposing of material into landfill has an environmental impact and decreasing that impact would be a good thing.

Food for thought

This applies to cattle hides as it does to all other materials, but the amount of greenhouse gas emitted varies according to the nature of the material we throw away. In carrying out its analysis of this question, LHCA worked with the Leather Research Laboratory at the University of Cincinnati. While no specific study verifying the greenhouse gas arising from the decomposition of untreated hides came to light, the team in Cincinnati suggested that evaluating hides as a food waste

In diverting hides from landfill or incineration, leather production does more than create jobs, generate value and promote circular practice. It brings an environmental benefit by preventing the greenhouse gas emissions that decomposing hides emit.

was a reasonable basis on which to move forward. LHCA found an online tool set up by the local authorities in Oakland, California, to allow residents to calculate the emissions-savings they were able to make by generating less waste, including food waste. This tool suggested that food waste produces a CO₂-equivalent of 88% of its mass³.

After speaking to organisations including multi-stakeholder body the Leather Working Group, LHCA later said it thought 88% was "probably conservative", which is to say the emissions from organic waste of this kind are probably higher. Certainly, a research team at RMIT university in Melbourne seems to think so. Its online tool calculates that one tonne of food waste would generate 1.9 tonnes of CO₂-equivalent in emissions, more than double the Oakland figure⁴. For the purposes of this analysis, we can be kinder to the people who dump hides than they, perhaps, deserve and go with Oakland's 88%.

Weight of waste

The next question is to try to estimate how many hides abattoir operators around the world are dumping and, from that, the extent of the problem of greenhouse gas emissions from discarded cattle hides.

LHCA says it knows that hides are being dumped in many places these days, not least in the US, where, by its own analysis, 5.5 million hides went to waste in 2019. However, it is confident that most of the hides that the meat and dairy sectors generate in places such as western Europe, Australia, New Zealand, North America, China, Argentina and Brazil make their way into the leather value chain. In other parts of the world, it seems that cattle hides are far more likely to go to landfill than to a tannery. The Leather and Hide Council of America has decided, for this exercise that, if it assumes 100% of hides in the first group of countries are made into leather and that 100% of hides in the second group go to waste, the exceptions will even themselves out.

This is an illustration. It calculates that there are around 1 billion head in the global cattle herd, of which about 300 million will go to slaughter each year. From these, 55% of the hides will be turned into leather and 45% will go to waste. This would mean 135 million hides per year going to landfill. LHCA attributes an assumed average weight to these hides of 25 kilos, which gives a total mass of this waste of almost 3.4 million tonnes. Using the Oakland formula, this would lead to emissions of 3 million tonnes of CO₂-equivalent per year. If we used the Australian figure, this total would be 6.4 million tonnes. In sticking to Oakland's 88%, LHCA's figure is 3 million tonnes.

Tannery-specific emissions

Our next task will be to work out the greenhouse gas emissions that accrue from tanning hides rather than letting them go to waste. In taking this up, we must address briefly, if not for the first time, the question of upstream carbon footprint. The industry calculates that leather's share of the upstream carbon footprint is 0.4% of all of the environmental impact associated with rearing the animal. There is nowhere in the world where more work has gone into producing an answer to this question than in Europe. The leather industry's representative body in the European Union, COTANCE, spent years preparing a submission to the European Commission to gain official recognition of leather as a "green product". In working out product environmental footprint category rules for leather, 0.4% was the figure the submission included for upstream carbon footprint. COTANCE's efforts were successful and the European Commission has accepted that 0.4% is leather's share⁵. For the purposes of this discussion, this is an academic question anyway because the same upstream carbon footprint share would apply whether we use the hide or throw it away, but the point is frequently misunderstood and seems worth repeating.

This takes us as far as the abattoir. From there until finished leather goes for shipment to the makers of footwear, furniture, leathersgoods, sporting goods, automotive seating or a wide variety of other finished products, transportation and all the processing in the tannery contribute the bulk of leather's environmental impact. The emissions that this work generates are, clearly, avoided if the hides are tossed into the trash. What interests us in this article is to see how these tannery-specific emissions

compare with the emissions from decomposition of the material. The tricky thing is to show what those tannery emissions are.

Audi's audacity

Much depends on the nature of the raw material and the particular processes tanners put it through. This, in turn, will depend on where they operate, where they source hides from and which market they are serving. A 2017 paper from the United Nations Industrial Development Organisation outlines a number of different scenarios⁶. A separate example, from automotive company Audi, shows how confusing the exercise can be.

Audi carried out a lifecycle assessment of the 2015 model of its A7 car, in keeping with ISO standard 14040. The car uses 10 square-metres of leather in its interior. At the end of the study, the company attributed 500 kilos of CO₂-equivalent to the leather, or 50 kilos per square-metre. However, Audi itself has acknowledged that this figure is unfair. It accepts that only 25% of the footprint it assigns to leather is attributable to the production of the material itself; the other 75% comes from the agricultural activities and livestock farming in the upstream supply chain. "Of course this is not fair," an Audi spokesperson has said, "because it assumes cattle are slaughtered to make leather, when the hide is simply a by-product of the food industry."

A better example

An example that we shall use here instead comes from Scottish Leather Group (SLG). By sourcing hides close to home and starting a pioneering environmental strategy as early as 2003, with ambitious measures for energy efficiency, recovery of energy from waste and the creation of oil for use in heat and power generation, SLG brought the footprint of its leather production down to 1.4 kilos per square-metre of finished leather in 2019. Pioneers lead the way: we quote this figure because SLG has shown what is achievable in the leather industry of today⁷. We know it can be done.

Industry professionals calculate that a hide weighing 25 kilos, to stick with LHCA's average, would yield 3.25 square-metres of finished leather. This would give a figure for emissions of 4.55 kilos of CO₂-equivalent for each hide. This is nearly five times better than the level of emissions that would arise from letting the hides go to waste. At the same time as generating this lower level of emissions in the manufacturing process, tanners also create wealth, generate jobs and produce material that is long-lasting, high-performance, natural, renewable, noble, affordable, safe, reusable and beautiful. To let it go to waste makes no sense whatsoever. ☺

Notes

1. *Greenhouse gas emissions from waste, Eurostat (official statistics office of the European Union), January 2020.*
2. *Climate change - driving forces, Eurostat, August 2020.*
3. *Greenhouse Gas Reductions Calculator, www.stopwaste.org.*
4. *Watch My Waste, RMIT, Australia.*
5. *Nothing To Hide, Essay 12, www.nothing-to-hide.org*
6. *Leather Carbon Footprint Review of the European Standard EN 16887:2017.*
7. *www.scottishleathergroup.com/Sustainability/Carbon-Footprint.aspx*



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Ecotan leathers will work particularly well in shoes because they will promote foot health. If they are later recycled into fertiliser, which the Biocircular concept makes possible, they can also help alleviate the environmental challenge of millions of pairs of shoes going into landfill every year.

ALL CREDITS: SILVATEAM

Tired of just talking about sustainability



RENEWABLE



SUSTAINABLE



GREEN TAX

Towards the end of 2020, Italian leather chemicals manufacturer Silvateam presented a new project called Ecotan. The director of the group's leather business unit, Antonio Battaglia, has made it clear that the idea is one that Silvateam finalised during the lockdown imposed by covid-19. By December, there were 20 tanneries around the world already using the technology [see separate article in the Technology section of this issue of *World Leather*].

"We worked on this new project in response to demand from tanners and brands for fashion leather that is completely sustainable," Mr Battaglia says. He explains that Ecotan uses natural products and harmless manmade additives. Leathers made using the new concept will work in harmony with people's skin when they wear the material in shoes and other finished goods. At the end of a product's useful life, he adds, specialist partners will take the material back and use it to make fertiliser. It is this that will make leather made using the Ecotan technology truly "biocircular", Mr Battaglia insists. He says: "The leather will go into fertiliser, the fertiliser will help plants grow, the plants will feed cattle and, when the cattle go to slaughter, tanners will use the hides, a by-product of the food industry, to make more leather."

A stimulating discussion with an insightful sustainable footwear expert and the extra time to think during months of lockdown were the catalysts that helped Silvateam put in place all the pieces required for making leather "completely sustainable".

Matching results

Mr Battaglia points out that Silvateam has always worked at being "a sustainable provider of leather technologies", presenting its vegetable extract-based solutions as a sustainable method for tanning leather. In the last ten years, he says the group has worked hard to develop more of these solutions and improve them. Its aim, he explains, has been to offer plant-based products that will allow tanners to achieve the same results as they could using non-chrome minerals such as aluminium or glutaraldehyde, and even, in some cases, results that match those of chrome tanning.



The company's efforts over the last decade have also focused on making sure its own processes are sustainable. It has, for example, partnered with universities, research institutions and consultancies to determine what volumes of its products deriving from chestnut, tara, quebracho and others it can supply sustainably. "As a result, we know that, just working in the same regions where we work today, we can supply ten times as much of these vegetable extracts as we do at the moment," he says, "and we can do this in a sustainable way."

Studies examining the health benefits of leather containing these vegetable tannins have followed. These have shown the tannins to have a strong antibacterial effect. "This effect is preserved in the finished leather," Mr Battaglia continues. "It's not about killing bacteria but, in the example of a shoe made from this leather, preserving the natural flora of the foot and not letting the bacteria that develop inside the shoe proliferate."

More than biodegradable

Questions have followed about the biodegradability of leather and about the possibility of making it into compost at the end of the finished product's lifecycle. The director of the Silvateam leather business unit says that tanning is about stopping hides from being biodegradable. "A raw hide is the most biodegradable thing you could find," he says, "but the treatment it undergoes makes it non-biodegradable. We wanted a solution, to make leather truly sustainable, because I think it's a shame that a shoe or a bag cannot be recycled and have to be thrown away with the general garbage."

He says this is more urgent for shoes than for bags. Leather bags, usually, last a long time, but you only have to ask any parent of small children how many pairs of shoes they have to buy and, when a child, quickly grows out of them, throw away. He also points out that Silvateam was far from alone in wondering about this; many of the big fashion houses had begun asking about the possibility of adding this aspect to leather's sustainability story.

High in nutrients

Silvateam has worked with a partner, Tuscany-based fertiliser producer Fertilizzanti Certaldo, to find a solution, one that goes beyond biodegradability to turn leather into compost. Fertilizzanti Certaldo is already taking regular delivery of shavings and scraps from vegetable-tanning leather producers in the local district and processing them into a slow-release fertiliser that is high in nutrients. "It's a beautiful product," Antonio Battaglia comments. "It's certified for organic farming and can compete with the most expensive, most concentrated fertilisers in the market."

He says Silvateam was in no doubt that semi-processed material as well as raw scraps would allow Fertilizzanti Certaldo to continue to make the fertiliser and keep its organic certification. "It's not a composting of the material," he explains. "It undergoes chemical processing, in which all pollutants are extracted and disposed of safely." But an interesting discussion soon developed over the possibilities for including finished leather in the material mix of the ingredients of the fertiliser. "We are all aware that about 50% of leather is scrapped," Mr Battaglia continues, "with all the cutting for leathers and shoes."

This led to work with another partner, Biofin, part of Gruppo Biokimica. To complement Silvateam's plant-based products, its long-term partner Biofin is supplying a range of leather



Brands have said they no longer want just to talk just about sustainability, but to take action. The Biocircular idea can bring them closer to totally sustainable leather.

finishing chemicals and dyes for tanners who have signed up for the Biocircular concept to use. These products do nothing to compromise Fertilizzanti Certaldo's work with the material that is left after leather manufacturing and cutting: the left over leather works as raw material for the fertiliser.

A product that cannot be attacked

Mr Battaglia's view is that these developments will allow tanners adopting Ecotan to make a powerful statement about the leather they produce. Many of these companies had already been putting out "strong messages" about the sustainability of their leather, he says, but the biocircular approach adds a new dimension. Part of the push came from discussions in the early part of 2020 with Pete Lankford, who set up as an independent sustainable design consultant in 2019 after more than 20 years with Timberland. Mr Lankford liked the thinking behind the Ecotan range that Silvateam had but urged the company to come up with a solution for fully sustainable footwear.

Immediately after this encounter, the participants in the conversation found themselves with extra thinking time during three months of lockdown, with travel cancelled and factories closed. "It was quite stimulating," Mr Battaglia says. "The tanning world was like a desert, but we were able to work every day on taking elements that we had already and combining them with new technologies, as well as, with certified guarantees for consumers. Biocircular leather is the result. Bio because all of the tannage is made either with vegetable tannins that are certified by the Programme for the Endorsement of Forest Certification (PEFC) or with synthetic polymers made from molecules that are deemed completely safe. And it is circular because all of the leathers produced are recyclable. It is meant for the shoe industry, leathers and automotive."

Silvateam set up a series of presentations on Ecotan at the

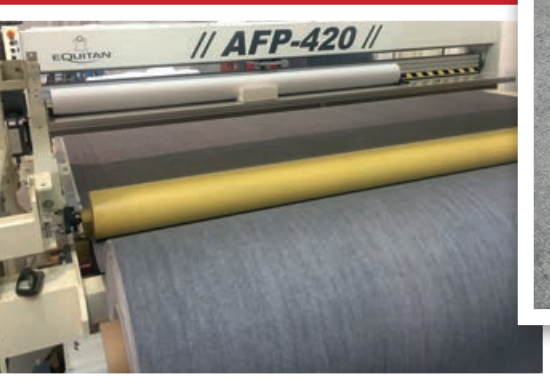
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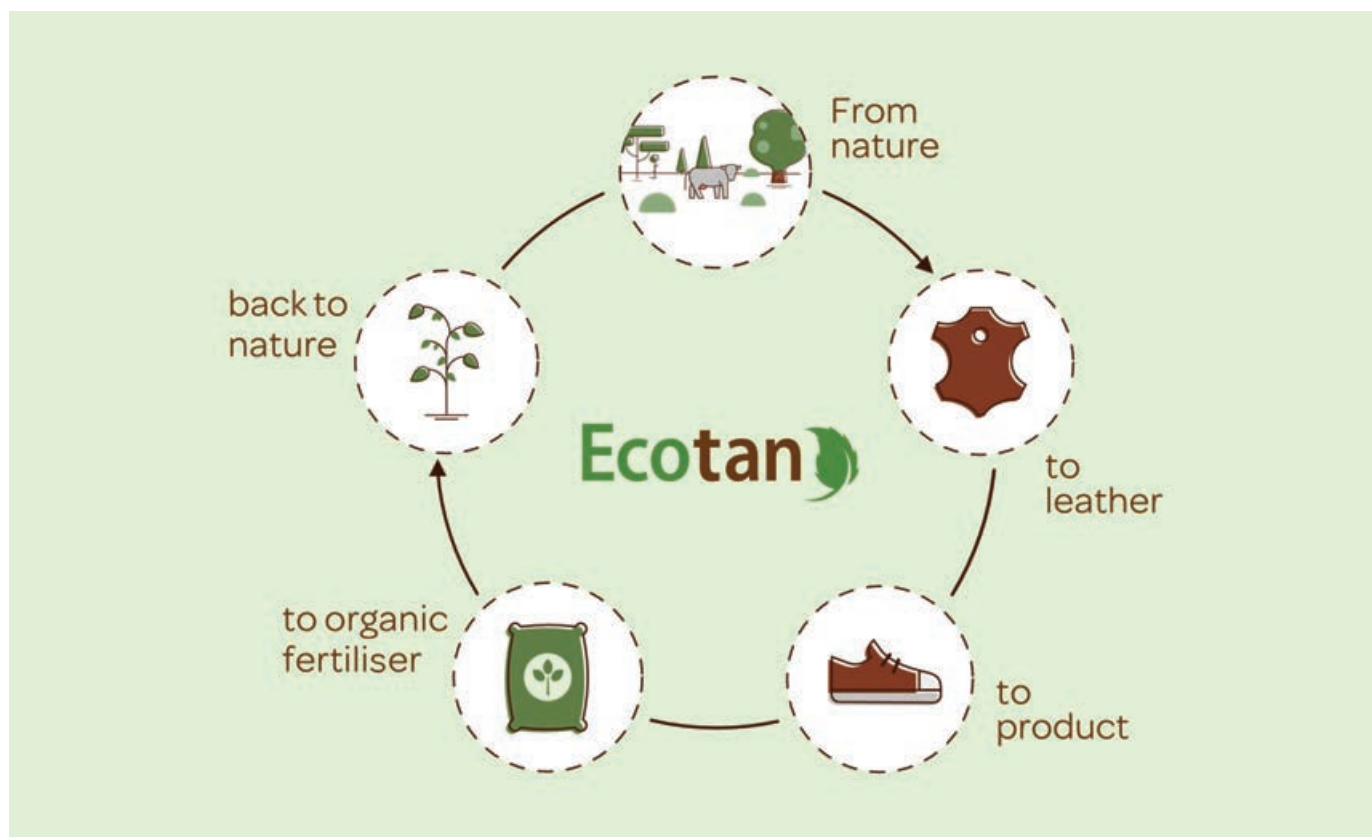
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September edition of Lineapelle in Milan. The show was much quieter than usual for reasons everyone is familiar with, but Mr Battaglia says his company's booth was busy and that the level of interest in biocircular leather was high. The new system for recovering, dismantling and re-engineering leather for recycling into a value-added product that will help farmers produce olives, fruit, vegetables and other crops attracted a great deal of attention from tanners, designers and fashion brands. "It was exciting," he says.

The tanneries that are the early adopters of Biocircular are already selling leather that can, one day, be recycled in this way. "The bricks are in place for us to build the future recyclability of leather," Mr Battaglia says. "And I think it's very important. If plastic were to be seen as a sustainable alternative to leather, this would be a disaster for the image of leather and the work we have all been doing for decades. Leather should be clearly conceived as a sustainable product. With Ecotan, we wanted to create a product that cannot be attacked."

Sell the idea to the consumer

Antonio Battaglia goes on to point out that there is, as yet, no international agreement on what does or does not constitute sustainable leather. But there are strong opinions among people in the fashion industry about this. He adds: "This is relevant because these are the people who have to sell the idea to the consumer. In all the conversations that we have had with them, it's been clear that, first of all, they want products for which they cannot be attacked. They want products that comply with Zero Discharge of Hazardous Chemicals certification. They want metal-free. But the real need that they have is this idea of making leather that cannot be attacked for containing anything toxic."

This is the clear feedback that Silvateam says it has

received and the company's view is that using natural solutions is the best way of making leather that goes back to the industry's roots.

"But it's not only that," he concludes. "When I talk about biocircular leather that is totally sustainable, it's really that we want a product that is good at its birth, during its life and in its after-life when the consumer is done with it. We have to be grateful to Pete Lankford for coming up with this definition of sustainability."

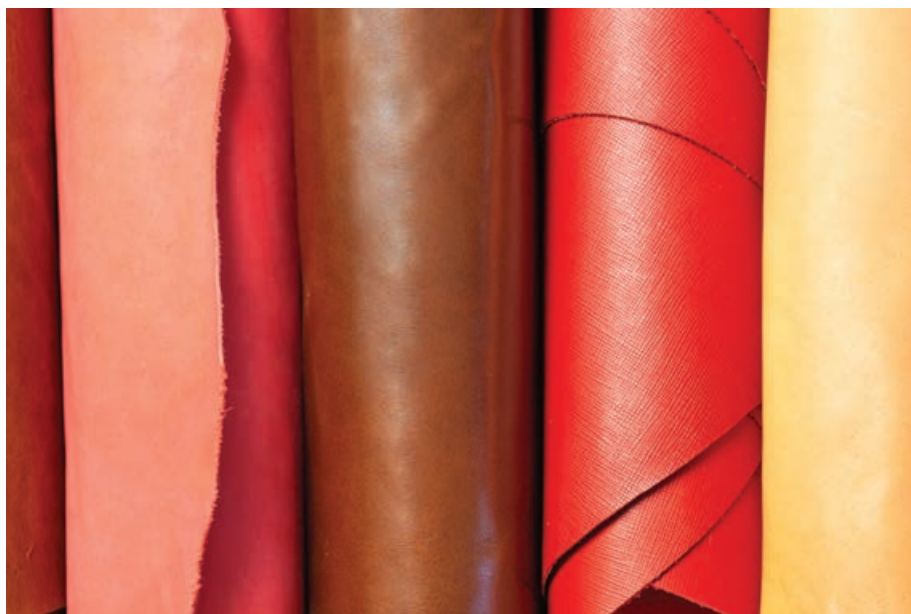
Fashion house consensus

This has coincided with a consensus that has emerged from discussions with major fashion houses. They are tired of talking about sustainability and they want to take action. According to the company, Ecotan offers tanners the chance to do this, to move beyond talking and to take action, with data, documentation and certification to back up every step, with proof that what they are saying is true.

Tanners have been involved from the start because Silvateam knew the brands would want to see and try out biocircular leather for themselves. Therefore, it chose a group of leather manufacturers from among its "best customers", taking into account geography and the types of leather each one makes, and invited them to adopt their own Ecotan leather ranges. By the end of 2020, leather manufacturers in Italy, France, Brazil, Mexico, Argentina, Turkey, Taiwan and China were involved. Some specialise in small skins, others in automotive, others in making leather for fashion brands. Together, these tanneries will be able to supply biocircular leathers made from bovine hides or from lamb and goatskins. Some of the partner tanneries and leather suppliers Silvateam has named so far are La Scarpa, Volpi and Conceria Valdarno from Italy; Mégisserie Richard, Tanneries Haas, Rial and André Hiriart from France; Wyny,

Curfimex and Panamericana del Bajío from Mexico; JBS Couros from Brazil; Sadesa from Argentina, and Sepiciler from Turkey.

These companies are already making Ecotan leathers, although it is still a little too soon for them to have received a meaningful reaction from the market, Mr Battaglia says. He pays tribute to the work Silvateam's technicians have done to put together all the pieces of the puzzle necessary to make the Ecotan picture complete. He underlines two important catalysts. The first was the exchanges with former Timberland executive Pete Lankford. He says leather chemicals manufacturers can sometimes feel "far removed from fashion houses and their needs", but that the conversation about this with Mr Lankford was "exciting and extremely interesting". The second catalyst was the lockdown in the first half of 2020, which gave everyone involved "time to think" that they would not otherwise have had, leading to their decision to try something new, to turn the crisis into an opportunity.



Carefully selected tanners have been involved in the Ecotan project from the outset.

Some major brands have spoken openly and publicly about their desire to have this leather that Silvateam has described as completely sustainable.

"Biocircularity is an answer," Mr Battaglia concludes. "Our main partners in the tanning world will be able to meet these requests." 

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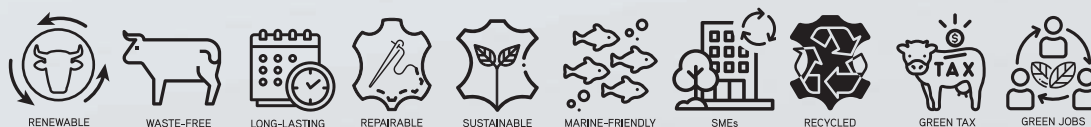


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The price of leather is at its most affordable for years and footwear producers shopping in the lower-quality range of the upper materials market have the option to bring a beautiful, renewable, high-performing material back into their collections. And because millions of hides are now going to waste, to save them from that fate and use them would also offer shoe companies a huge boost to their sustainability credentials.

No contest



During the first ten months of 2020, US wet-salted hides cost importers around the world an average of \$31.40 per piece. In the same period a year earlier, the average price was \$38.95, more than \$7.50 more. A year before that, the price was \$49.78 and in 2017, for the same months, the average export price for US wet-salted hides was \$61.69 per piece. The price has fallen by almost 50% in three years. Hide prices may go up again in 2021, but in 2020, they were cheap..

Every other Tuesday, we publish an exclusive market intelligence report in our *Leatherbiz Weekly* online newsletter. Consistently, these reports have made it clear that some tanners and their customers in certain finished-product segments have moved to take advantage of the situation. Upholstery leather manufacturers, particularly in China, and furniture producers, again in China, have made the most of this opportunity. Side leather tanners and footwear manufacturers seem to have been more reluctant to seize the day.

Five billion pairs vanish

There are many layers in the explanation of this. At an obvious level, people have had to spend more time at home this year than they were expecting, because of covid-19. Some will have decided to invest in new furniture to make the environment as pleasant as possible. The corollary is that fewer trips outside to the office, to restaurants, to meet clients, to attend events and so on have meant a diminished need for new footwear. Why buy new shoes if no one is going to see you wearing them and if a lack of use has made your

old ones last longer? On top of that, shops spent weeks on end with their doors closed to customers owing to restrictions imposed by governments that were working to combat the pandemic (this affected most other product categories, too, of course).

Certainly, according to the calculations of the chief executive of a leading footwear technology provider, the global shoe market shrank by 5 billion pairs in 2020. Soling machinery developer Desma has installed and maintains its technology in shoe factories all over the world. Its chief executive, Christian Decker, puts the size of the market for 2019 at 22.75 billion pairs, but he says the market fell by 22% in 2020 to 17.75 billion pairs of shoes, boots, sandals and so on, taking footwear back 10 or even 15 years in terms of market size.

The end of the affair

It is not just covid-19, though. Look more deeply and it is easy to see that the mainstream footwear industry's millennia-old love affair with leather has been going through a problematic patch for some time. Knitted uppers made using synthetic yarn, bio-based alternative materials and, of course, plastic are all playing a part in displacing leather as the material of choice for a number of footwear brands and for consumers. It is easy to find examples of manufacturers of these materials claiming that what they offer is more sustainable than leather. It is still second-nature for leather industry people to shout these alternative materials down and point out the flaws in the arguments that their manufacturers put forward against leather. This is not a difficult task.

Mexican entrepreneurs Adrián López Velarde and Marte Cázares are friendly and responsive and appear to be attracting a high level of interest in their cactus-based material, Desserto. In July, it won a finalist's prize in the 2020 LVMH Innovation Award. On making the announcement, LVMH said: "The fashion industry is looking for high-quality vegan alternatives to leathers that can be produced in large capacity." In October, Desserto won gold in Australia's Good Design Award Fashion Impact competition. Footwear companies are among those who have taken note of these achievements and have made enquiries about testing and sourcing the material.

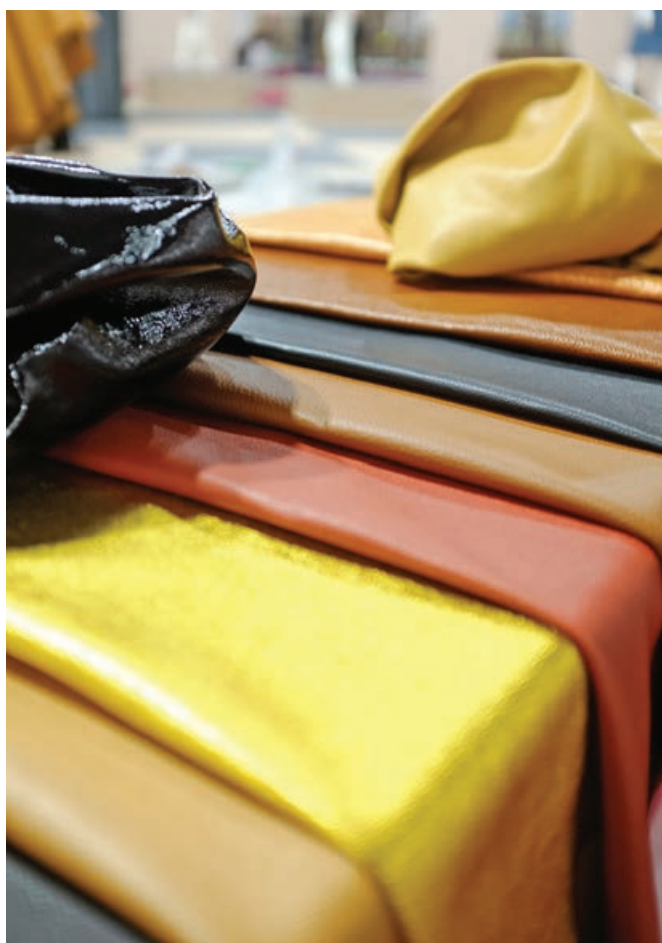
Unslain myths

What the entrepreneurs say, though, is a repeat of many of the myths that leather industry commentators probably believed they had slain long before now. Leather is bad, the Desserto founders suggest, because the fashion industry in general creates a high volume of waste and leather is a staple of the fashion industry. Leather is bad because it comes from cows and cows drink water [the connection between saving water and deciding to send the hide of a slaughtered cow to landfill rather than turn it into leather remains a mystery]. Leather is also bad because "it's treated with toxic chemicals that hurt the environment" [cue images of the pit-dyeing of skins in Morocco as part of the promotional video that Desserto showed at a footwear event in November]. They went on to say that finding a replacement for leather would mean "less harm to cows" [this suggests that if brands use cactus instead of cattle hides abattoirs will become less busy; those who want fewer head of cattle in

Fine, sustainable material is available to footwear companies at a favourable price. And if they choose leather made from lower-quality hides, they can save the material from going to waste, the way 5.5 million pieces did in the US in 2019.

CREDIT: DEICHMANN





The long relationship between leather and footwear must continue.

CREDIT: LINEAPELLE

fields and fewer animals at abattoirs need to talk to the meat and dairy sectors]. They also criticised alternative materials that are already on the market for being made from plastic, which, they pointed out “doesn’t breathe, contains toxic chemicals and is bad for the environment”.

They searched for plant-based materials to use instead and worked out a patented process that uses the fibres from nopal cactus leaves to produce the dyeable, cuttable material that has caught the eye of LVMH and others. They say this material will last for “up to ten years”. When we asked Adrián López exactly what the finished article consists of, he kindly pointed us to a briefing document that the company has made public. This makes it clear that Desserto contains a maximum of 55% nopal fibres. The rest is polyurethane, although the company points out that the polyurethane is “partially made from biological compounds”.

Meritocracy

In the face of arguments like these, there seems to be have been a shift in the mood among some in the leather industry. Confrontation has not worked. Politely pointing out that a refusal to use the hide of a cow to make leather does nothing to lower the animal’s consumption of water during its life is another option, but this has not worked either. Getting to know one another a little and engaging in dialogue may be a better way.

Speaking at the same November footwear conference as Desserto, the secretary general of COTANCE, the leather industry’s representative body in the European Union, Gustavo González-Quijano, said he thought it was wrong to play one material against another. He believes manufacturers of all materials must do their best to deliver their products as sustainably as possible and promote each one truthfully and accurately. “Every material has its merits and we have to make the best materials we can and promote each one on its own merits,” he says.

He has a warning for the makers of alternative materials who use sustainability as a basis for trying to persuade leather buyers to change tack. He insists that tanners can be proud because leather “is the oldest circular-economy product you could find”. To set out to entice brands and consumers away from leather is to put these sustainability-conscious start-ups in danger of making the problem of waste worse, even if indirectly. “People eat meat,” he points out, “and hides are produced, and we can either use those hides or waste them. If we waste them, we have to manage that waste.”

Plastic is the problem

Many of the new materials, including those made from fibres from pineapple, mycelium and apple, as well as cactus of course, are still constrained by a series of issues, ranging from proof of concept to scale of production. Perhaps they have a prosperous future ahead of them, and perhaps not. Today, most of the competition that leather faces is not from them, but from rolls of plastic. If you let your imagination run wild, this plastic can sometimes look a tiny bit like leather. Manufacturers take advantage of this to try to win business from tanners. The China Leather Industry Association said recently that, taking into account only products that were made in China as substitutes for leather, manufacturers there produced 34 billion square-metres of these materials in 2019. That’s 15 times more than total annual leather production across the globe.

ISA TanTec has made it clear that it wants to increase its challenge to these plastic substitutes. It wants a new division called Creation of Sustainable Materials to compete, not with its own main product, leather, but with plastic. “We are not saying that this is an alternative to leather,” founder, Tom Schneider, has told *World Leather*. “No. Absolutely not. I don’t want to have an alternative to leather. I want to have an alternative to the vegan materials, to the polyurethane stuff.”

If some footwear manufacturers seek materials that do not derive from animals, Mr Schneider has decided to try to supply it to them. He does not believe that this decision undermines his commitment to producing responsibly made leather. He will continue to make leather, and in much larger volumes, often for the same footwear companies. He is convinced that, if he can persuade them to use less polyurethane and polyvinyl chloride in the niche collections to which they want to attach a vegan label, it will be a good for the sustainability credentials of those shoe producers. To avoid leather and use plastic in its place would do the opposite.

No contest

Someone who is convinced that, at the moment, shoe companies could find no more sustainable material than leather is Veronica Bates Kassatly, a London-based consultant and an ex-World Bank financial analyst and



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economist. Her specialism is carrying out independent analysis of the sustainability claims of brands and of bodies such as the Sustainable Apparel Coalition (SAC), the organisation behind the Higg Materials Sustainability Index (MSI). She has been one of a number of commentators who have criticised the MSI loudly in recent months after an update to the index showed increased favouritism towards fossil-fuel based synthetics over natural materials, including leather. If she detects greenwashing, Ms Bates Kassatly calls it out without fear or favour.

In her recent writing, she has provided sharp critiques of the cotton, silk and polyester value chains. She has flagged up a lack of clarity over organisations' use of lifecycle analysis (LCA) studies. There is more than one type of LCA, she points out, and unless LCA studies have been produced with the same boundaries and methodologies, using them to compare different products, different companies, different materials makes no sense. Some of her main complaints about the Higg Index are that nobody is allowed to see the data or methodologies; it was not developed by the scientific community and has never been subject to peer review.

When she found out that the leather industry had joined counterparts from other sectors, including silk and alpaca wool, in expressing dismay at their treatment from the SAC, she made enquiries. After a discussion with the Leather and Hide Council of America, she concluded that the Higg Index score for leather is "completely wrong out of the starting gate".

The score is based on hides having a value of 3.6% of the total economic worth of the cow at a time when the real share of US hides has been hovering below 1%. And it was when she found out that 5.5 million US hides went to waste in 2019 that she concluded that there is no more sustainable material that shoe companies could choose than leather. Specifically, what she said was: "The most sustainable shoe fibre at present is leather from low-quality hides. No contest."

She specifies low-quality hides because these are the ones that have gone to landfill or incineration; higher-quality ones have continued to find buyers. Some in the leather industry are convinced packers only have themselves to blame for hides going to

waste. Had they lent their weight and money to recent campaigns to promote leather, a higher number of mainstream footwear brands may have resisted the temptation to put plastic in their shoe uppers instead. The meat companies chose not to do this and have watched as hide prices fell (see the figures above) as a result of demand for leather diminishing, to the extent now that all these millions of hides have gone to waste. And the hides keep coming because cattle slaughter rates in the US remain at more than 650,000 head every week.

Veronica Bates Kassatly sees it clearly: footwear brands that really are serious about sustainability should choose to use leather made from the lower-quality range of these hides in their forthcoming collections. The material is cheap, long-lasting, versatile, beautiful, natural, renewable, available, tried and tested, sustainable and circular. To choose it would be to save huge volumes of useful raw material from going to waste. To use it would mean there would be less need to use environmentally inimical synthetic substitutes deriving from fossil fuels. She's right: there is no contest. 



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Sustainable Composites says its material can be used for accessories, shoes, homeware and seating.

ALL CREDITS: SUSTAINABLE COMPOSITES



New possibility for recycling leather scraps



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RECYCLED

Leather scraps have often been used to manufacture new leather products. A newcomer to the sector, however, believes it has found a way to create a new material entirely from the fibres in the leather offcuts. The leather industry is right to be wary when a company launches a product that seems to claim the same properties of leather, but which is not made from whole hides. But Sustainable Composites, a US company that creates new material from leather waste, insists it does not want to compete with leather, but rather be part of the chain, partnering tanneries and leathergoods manufacturers to turn their waste into a value-added product.

Its founders, Tom Tymon and Frank Fox, had previously worked in an engineering company that dealt with composites and waste and an opportunity arose to research uses for leather's leftovers. "We had technology and manufacturing capability that seemed to be relevant and we worked on that project for a number of years, we never made a product that was viable commercially," says Mr Tymon of the initial research period. But they believed there could be

A US company has coined a way of turning tanneries' waste into a new material without bonding with polymers; interested parties include Timberland, which is using it for a footwear collection.

interest in a product if they could find a way to boost its properties, so the pair left their former business and set up a small lab to work on prototypes. Once these had progressed, they scaled up to their current premises, spending "millions of dollars" on R&D in the process. "We have five patents, so it took a lot of invention, not only with the chemistry but how to develop the material and the mechanics. It was an intense and long process to get us where we are now."

He says the material, called Enspire Leather, contains about the same leather fibre content as traditional leather, and the only fibre is the leather fibre that's derived from the waste material, although processing materials and performance-enhancing materials are added. Compared with bonded leather, where the leather-derived component is ground to a fine size and bonded with a polymer, here mechanical and chemical processes have been developed to extract the leather fibres to preserve the microstructure. "Our material is not exactly the same as traditional hide leather, it has some differences," he admits. "We are continuing to work on the technology and look at advanced materials that will expand the market options."

Timberland tie-up

The Timberland connection was formed when a partner introduced the material to VF's outdoor division, who were 'intrigued'. "They saw something that was unique and they thought it had potential," says Frank. At the time, however, was not deemed to have sufficient properties. Timberland gave the desired specifications and asked them to match it, and the companies have now been working together for around three years.

Timberland's creative director, Christopher Raeburn, is known for choosing recycled materials in his collections, and he discussed the recycled leather project with *World Leather* when we caught up with him in summer 2019. He told us that one of the reasons for looking at this was to reduce waste, as with recycled leather on a roll the yield is 97%. And unlike the Flyleather bonded product that Nike has used, it will not be backed with, or glued together with, plastics: "That would be counterintuitive, I need to be quite clear on that," he told us.

The material has initially been used for a men's casual footwear collection but there is scope for expanding it to other collections, and has been touted as helping the group to meet its circularity targets. At the end of 2019, VF Corp published targets for materials as part of its sustainability report, Made for Change. By said by 2030, all its top nine materials (90% of materials-related carbon emissions) will originate from regenerative, responsibly sourced renewable or recycled sources.

Timberland's target is to have a "net-positive impact on nature" by 2030, and a large part of its strategy will be to source all natural materials from regenerative agriculture. Products will also be designed for circularity (recyclable), and be made using materials that would have otherwise gone to waste, such as plastic bottles, scrap wool and – where Enspire comes in – scrap leather.

Football off-cuts

For Sustainable Composites, its major source of leather waste is the Wilson Football Factory in Ohio, as well as some tanneries and other leathergoods manufacturers. While the focus is currently the US, the plan is to scale up, and it is in discussion with some European leathergoods companies about supplying the material to them – at which point a European processing facility might be necessary. Footwear companies are seen as its major clientele, making up around half of the potential market; furniture manufacturers could make up about 12%, it suggests, with trials at two US companies under way, while leathergoods prototypes are under construction in other facilities.

But what about tanners who might say the marketing of

Founders Frank Fox and Tom Tymon have transferred their technical know-how.



Enspire Leather could be seen as painting real leather as wasteful, or that it wants to take their market share? Mr Tymon says they have a good relationship with some tanners in the US; it collects their dry waste, paying for the freight. "There's a strong belief within the tanning community that leather has durability and luxury attributes that haven't been reproduced by any faux leather or leather alternatives, and that while the market might not be as strong as it had been, there's a belief that when marketed properly, it can return to the levels it used to. We believe our product is part of that, we fit into tanneries' stories because we take their waste that would go to landfill or incineration and we convert it into a value-added product."

The product does have some other limitations at the moment, such as colour. "There are limits on what we can do depending on the original material, but we can put it through a process and dye it to another colour," he says, with darks colours working better. A paint finish can be added but "that's not going to be applicable to all markets". Using the word leather could cause problems in places like Italy and Brazil where the word can only be associated with real leather, but the company hasn't addressed this matter yet.

As the company moves from R&D into commercial sphere, Mr Tymon believes the future is bright. "There are huge quantities of leather waste that's created," he adds, "and we believe we'll be able to have a significant impact on converting that into a product that's going to be desirable." 🌱



The H₂O-heavy calculation in a new fashion footprint tool from e-commerce platform Farfetch is comparatively unfair to leather.

Farfetch tool too far-fetched



LONG-LASTING



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GREEN TAX

In June 2020, online luxury fashion retail platform Farfetch released Understanding the environmental savings of buying pre-owned fashion, the fruit of “initial” investigative research into the environmental benefits of buying previously owned clothing and accessories. Commissioned by Farfetch in partnership with QSA Partners, Icaro and London Waste and Recycling Board (LWARB), the report considers displacement rates (“Does the purchase of a pre-owned fashion item replace the purchase of a new item?”) and environmental impacts (“What are the average environmental impacts [carbon, water, waste] for fashion items and what would the environmental savings be if a consumer purchases a pre-owned item?”).

An online fashion footprint tool launched on Farfetch’s website at the same time, was intended to complement the report’s findings and help users “see how they can help the planet” when making purchases of second-hand leather bags and five other product types. The tool is designed to draw from a combination of the report’s displacement and environmental impact figures to calculate a number for carbon (measured in terms of “flight[s] from London to Paris”), water (or “six-person hot tub[s]”) and waste (“average sized pineapple[s]”), for each product category. According to the tool, one pre-owned leather bag saves five kilograms of carbon (zero flights from London to Paris), four cubic-metres of water (the equivalent of three six-person hot tubs) and zero kilograms of waste (or nil average sized pineapples, according to Farfetch’s fashion-forward metrics).

Data diplomacy

Farfetch’s analysis, writ fashionably large by the tool, renders new leather particularly thirsty (three six-person hot tubs per bag!), by anybody’s calculation, but especially when contrasted with the other five product categories. Leather comes last, preceded even by notoriously H₂O-heavy denim (two six-person hot tubs per garment). However, when *World Leather* spoke to the global director of sustainable business at Farfetch, Thomas Berry, he was keen to stress that the retailer had not made a “judgement call” on leather (or any other material, for that matter), but rather “independent experts” (QSA Partners, Icaro and LWARB) had consulted the “best publicly available information, comparable across different data types” before drawing their conclusions. Mr Berry did not want to “go down the rabbit hole of a particular industry” (ie, the leather industry) during our interview.

A closer look at the Farfetch report’s data sources, though, suggests something has gone awry. The report lists four data sources for its leather figures, one of which is the United Nations Industrial Development Organization (UNIDO)’s

2017 report, Leather carbon footprint: review of the European standard EN 16887:2017, which itself cites an earlier piece of research by leather industry consultant Jutta Knoedler, commissioned by *World Leather*’s initiative Nothing to Hide and published in the August-September 2015 issue of the magazine. Plainly, the UNIDO report focuses on the carbon element to leather’s environmental brew. Yet, Ms Knoedler did not discuss carbon in the essay referenced by UNIDO (and the link in the report’s references section to Ms Knoedler’s original findings is no longer live).

Instead, Jutta Knoedler discussed “how far the leather industry [had then] come in terms of water reduction” and suggested that water consumption for the production of leather from bovine hides had decreased to around 38 cubic metres per tonne, 38,000 litres per 1,000 kilograms of hide. Therefore, the volume for one kilogram (the retailer’s chosen weight) is 38,000 divided by 1,000, which amounts to 38 litres. In the ‘Material impacts’ section of the webpage devoted to its fashion footprint tool, however, Farfetch writes that a single kilogram of (bovine) leather “can” impact the environment by consuming 17,093 litres of water during its ‘life’, which it uses as justification for subsequently recommending that shoppers “look out for responsibly sourced and plant-based” materials instead, in order to reduce their ecological footprint.

How did Farfetch arrive at a global average of 17,093 litres of water per kilogram in 2020, after Ms Knoedler came to 38 litres in 2015? The answer, though data-driven, relies on a relatively old 2010 report by Arjen Hoekstra and Mesfin Mekonnen, quoted by Water Footprint Network, for information. Their findings were as follows:

“A bovine animal at the end of its lifetime has an average water footprint of 1,890,000 litres. The major [portion] (83%) of the water footprint of the animal is attributed to the derived beef, while, on average, 5.5% is attributed to the bovine leather (and the remaining [portions] to other products). A cow weighing 250 kilograms will produce six kilograms of leather, so that the water footprint of bovine leather is [around] 17,000 litres/kilogram.”

Evidently, this study did not consider leather a sustainable by-product of the meat industry and incorporates a substantial share of the entire lifecycle of the cow into its assessment of bovine hide water consumption.

European leather

Late 2020 saw European Union leather industry representative body COTANCE publish a social and environmental report alongside European trade union

The Vintage Bar employs creative branding and emerging technologies to elevate the pre-owned shopping experience.

ALL CREDITS: THE VINTAGE BAR





organisation industriAll. Included in the report is a figure for the average consumption of water in European tanneries: 0.121 cubic-metres per square-metre of finished leather. The number comes directly from tanneries; 79 leather manufacturing companies from 11 European countries submitted data on their water usage between 2016 and 2018 and the authors of the report worked out the average. This figure is more than 100 times less than the figure for water consumption that the Farfetch fashion footprint tool offers for leather (to be able to offer a like-for-like comparison, *World Leather* worked out that the tool's figure for the water consumption required to make one square-metre of finished leather would be 131.484 cubic-metres).

The European leather industry's 2020 report left its water consumption numbers on the high side, moreover, due to increased participation from companies that process from raw hides and skins to finished leather in the surveys that formed the basis of the report's findings in 2020, compared to the last time COTANCE and industriAll published a similar report for European leather in 2013. For this reason, having a higher number of full-cycle companies means that the average figure for 2020 is greater than it would have been if exactly the same companies had submitted their data for the reports in 2013 as well as in 2020. Rather than make any adjustment to the data for the sake of presenting a more direct comparison between 2013 and 2020, the later report deliberately published the higher figure, the opposite of greenwashing, if you like.

Further, the 2020 report expressly states that European tanners "have become the preferred suppliers" for high-end luxury fashion brands, such as those that Farfetch offers via its platform. The retailer's fashion footprint tool does not distinguish between luxury brands and those at the lower end of the fashion scale for its material metrics, though. Nor does it differentiate between sourcing geographies, but instead presents a "global average" for leather's water impact in its accompanying report. Certainly, as Ms Knoedler pointed out in her *Nothing to Hide* essay in 2015, a "high proportion" of leather production is situated today in developing or low- and middle-income areas. Ms Knoedler could only then assume that, due to ranging regulations, water consumption in these locations "is higher than in developed areas [such as the European Union]", which would of course skew the "global average" higher. This points to the need for more globally literate, up-to-date (and easily comparable) information on the international leather industry's utilisation of water.

Farfetch's Mr Berry, for his part, acknowledges that the existing fashion industry environmental impact data is "not good", and that lifecycle analysis is a "very complex" undertaking. We shared the COTANCE and industriAll 2020 figures for leather's water consumption with Mr Berry; he did not comment on them but insisted Farfetch had no intention of portraying leather unfairly. He praised leather's "made-to-last" durability and investment value, particularly when considering the resale potential of pre-owned leathergoods.

From Copenhagen, with (long-lasting) love

Founder of Copenhagen-based The Vintage Bar (a luxury fashion e-tailer which specialises in the sale of pre-owned leathergoods and apparel), Marie Louise Schultz, agrees with Mr Berry on this. Established with a keen eye on sustainability, the original intention behind The Vintage Bar, whose key markets are Scandinavia, Germany and the US, was to "help



Buyers specially trained in luxury authentication travel the world in order to handpick second-hand pieces on The Vintage Bar's behalf.

mitigate" fashion's environmental impact, generally, by "curating pre-owned pieces from the finest brands", Ms Schultz says. Artisanship is therefore central to The Vintage Bar's buyers' mission to source the "right" leather pieces for its online store and physical showroom, as well as the ability to be repaired or refurbished "to the absolute best standards", by the company's trusted Paris-based leathergoods restorers prior to resale.

"We want to preserve these items and, with this, also preserve luxury fashion in general, so it can be coveted for years to come. We want to disrupt the industry, extending the lifespan of some of fashion's most iconic designs," Ms Schultz explains. She describes The Vintage Bar as "committed to driving sustainable change", in order to play a role in making conscious consumer behaviour "the new normal". Farfetch similarly describes itself as on a "mission". Towards the bottom of the webpage which contains its fashion footprint tool, the retailer states explicitly that "empowering everyone to think, act and choose positively" is a crucial step in its aim to become "the global platform for good in luxury fashion". Higher up on the same page, it advises fashion-conscious, environmentally astute luxury shoppers to search out "long-lasting, lower impact materials". Its fashion footprint tool is, clearly, intended to help with this exercise.

Yet, this initial iteration of the tool does not allow for any interpretation of how long-lasting a material is, or could be, if chosen. Leather, a natural, circular substance of extraordinary historical resilience (when processed and crafted into leathergoods, at least) throughout human history, would surely fare very well if measured by such a metric, so long as Farfetch means long-lasting usefulness, that is. ☺



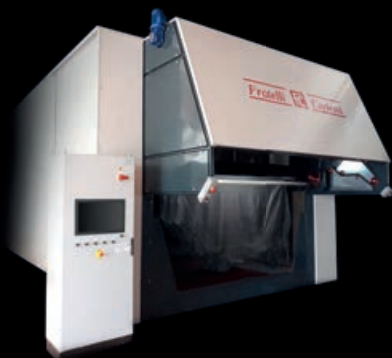
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Leather jackets seem popular again, which has come as no surprise to the founder of Boda Skins, Nathan Alexander. The Manchester-based designer describes long-lasting jackets made from nappa and shearling as “the epitome of cool”. To extend the life of its products even further, the brand recently introduced an interesting programme for repairing and reselling used items, and reusing the material from any jackets that can no longer be worn.

Too cool for fast fashion



Manchester-based clothing brand Boda Skins has launched a circular idea that involves taking back old leather jackets from customers for repair and resale. Material from any jacket beyond repair will go towards making multi-purpose bags. It will then use these bags as packaging for sending out new jackets; this is part of a wider zero-waste packaging strategy.

Boda Skins is the brainchild of designer and chief executive, Nathan Alexander, who has never hidden his deep dislike of fast fashion. His belief is that people should have fewer, better clothes in their wardrobes. In this context, he describes leather jackets as “a brilliant piece of fashion to own”. They are sustainable items, can be worn with anything and are easy to care for, he says, adding that they are “the epitome of cool”. His brand is focused on offering clothes that will stand the test of time, garments that people will forge a lasting relationship with, fall in love with and “wear to death”.

At that point, it now wants customers to sell their beloved leather jackets back to the brand. At the start of 2021, Boda Skins launched a programme inviting people to send their old jackets back to the company. Managing director, Ashley Waring, explains that all customers need to do is get in touch and give their name, the order number they had when buying their old jacket and their assessment of the condition of the item; Boda will give an estimated credit value for each item. “Once we receive the jackets,” she continues, “and



The Varsity Onyx jacket from Boda Skins, with lambskin sleeves.

ALL CREDITS: BODA SKINS



At the start of 2021, Boda Skins launched an initiative to buy pre-owned jackets back from customers. It will repair and resell as many as possible and reuse the material from jackets that can no longer be worn.

have checked them over, clients will receive the credit, which they can use to purchase another item from our website.”

What the company wants to prevent is jackets it has made hanging at the back of a wardrobe for years gathering dust. Any repair or restoration the garment needs will take place at Boda’s headquarters in Manchester, after which it will become available for sale in a special ‘pre-loved’ section of the brand’s range. The company says it will donate the proceeds from sales of these pre-loved jackets to charity. Material from any jackets that are beyond repair will become part of new multifunctional bags, cutting down on waste and also on packaging.

For Ms Waring, this is another way for Boda Skins to extend the life of its products. Longevity is not something that concerns her; she says the nappa and shearling jackets and coats the company produces can last a lifetime, growing only more beautiful with age. However, she recognises that people sometimes like a change. Not everybody will want to wear the same jacket for their whole life, she says, adding: “But it doesn’t need to be thrown away. Our jackets are investment pieces, to be passed through generations.”

Boda Skins sources material globally, with much of its nappa leather coming from Turkey, but also from Pakistan and India. Some of its shearling material comes from Australia. It is vociferous in its support of suppliers’ efforts to become as sustainable as possible, signing up for accreditation from multi-stakeholder body the Leather

Working Group. One leather supplier in India has done this recently, following the inauguration of its newly built, sustainability-focused factory. Boda Skins likes that it is able to put a by-product from the food industry to such good use; it wants nothing valuable to go to waste.

We heard from a number of leather apparel brands in 2020 that leather jackets had become particularly popular again. Boda Skins believes style and longevity are at the core of this, at least as far as its customers are concerned. Even during the most restrictive periods of 2020, with long lockdowns in place in key markets such as Germany and the UK, it registered 20% growth year on year, despite delays and challenges in managing a global supply chain. “Customers are really supportive of slow fashion,” Ashley Waring says, “We utilise the skins to make quality products that will last. The consumer respects this.”

The company also managed to raise £500,000 in new funding last year and has said it intends to use the cash injection to expand its product range and core technology, but also to accelerate growth in Asia. “We’ve had increased demand from Asia but haven’t launched fully there yet,” explains founder, Nathan Alexander. “That will be our main focus for 2021.”



Managing director, Ashley Waring, with her colleague, finance director, Cameron Lee.

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One of the founders, Piero Peroni, applying gold leaf to leather in the Fratelli Peroni workshop in Florence. Silvia Venturini Fendi launched the Hand In Hand project to promote and celebrate the skill of artisans from all parts of Italy.

CREDIT: FRATELLI PERONI



Fendi set out to find artisans who still live and breathe traditional crafts from the different regions of Italy to work with the company on special editions of its Baguette bag. It chose a specialist leathergoods manufacturer in Florence as its partner for Tuscany.

Artisans win hands down

Luxury brand Fendi has launched a project called Hand In Hand, for which it has asked 20 different ateliers from 20 different parts of Italy to come up with their own interpretations of the brand's Baguette bag. Its creative director for accessories and men's collections, Silvia Venturini Fendi, created the Baguette in 1997.

An early contribution to the project is a version of the Baguette from Florence-based leather artisan workshop Fratelli Peroni. Peroni artisans created the bag from a single, seamless piece of moulded veg-tanned leather and used a traditional technique called 'cuoietto

artistico fiorentino' to create a Baguette without stitches.

Fratelli Peroni has worked continuously since the 1950s. It was founded by brothers Roberto and Piero Peroni and is still family-owned. Piero's sons, Maurizio and Marco are now involved in running the business with him, and a total of eight artisans are active in the workshop.

Intrinsic beauty

Commenting on the wider project, Ms Venturini Fendi says: "Each bag is unique, because the imperfections inherent to handmade craftsmanship are what express intrinsic beauty. Fashion often

focuses on the designer, and I think it's time that we celebrated the community of artisans behind these amazing creations."

Florence's leather specialists represent a fine example of this artisanship. The Tuscan city's leather-making traditions are ancient and even though it was the early part of the twentieth century before 'cuoietto artistico fiorentino' became popular, the technique owes much to the work of the artisans of the sixteenth century. Fratelli Peroni itself began making products using this method in the 1970s. A popular item from its range that shows the beauty of the technique to good effect is a coin-purse. Hand-made from



vegetable-tanned leather, the purse, known locally as the 'tacco Peroni', which is quite small but 37 separate steps are required to create it.

What the artisans do first is cut a piece of leather and dip it into warm water to make it "elastic and malleable". Then the material is placed onto a mould and left to dry for eight hours resulting in leather that is rigid enough to hold the shape the skilled artisans give it. No stitches are necessary. Decoration is entirely by hand, using natural dyes and, sometimes, gold leaf, applied using traditional techniques with bronze punches and wheels. Accessory decoration became a craft in its own right in the Florentine workshops of the nineteenth century.

Special Baguette

Fratelli Peroni describes the 'cuoietto artistico fiorentino' as a natural step forward from the beginnings of the tanning industry. Once men and women had mastered the knack of treating hides and skins so that they would not putrefy, finding ways to decorate the material was only logical. It argues that this reached its high point in Italy at the time of the Renaissance and, especially, in the birthplace of the Renaissance, Florence. Nevertheless, it estimates that very few artisan workshops using the technique are left in the city now. "Perhaps there are only three or four remaining," the company says.

This was still enough to catch the eye of Silvia Venturini Fendi when she and her team were putting in place their plans for the Hand In Hand project last year. A Fendi delegation visited the Peroni workshop one day, viewed the articles in the company's showroom and initiated a dialogue about using the 'cuoietto artistico fiorentino' technique to make one of the special Baguettes. With a Baguette-shaped mould around which to wrap the leather, the bag is formed in a similar way to a 'tacco Peroni' coin purse.

Reconnection to the Renaissance

Peroni has said it liked the idea from the outset, explaining to *World Leather* that "reconnecting to a tradition that comes from the Renaissance" could send an



Special Baguette. The bag Fratelli Peroni made for Fendi using the traditional 'cuoietto artistico fiorentino' technique. CREDIT: FENDI

important message to the entire industry. Even high-end Italian brands have become too focused on production lines, Peroni argues, and are, perhaps, in some danger of losing sight of the "artisan values" that have led to leathergoods made in Italy becoming so popular among discerning consumers in all parts of the world.

For her part, Silvia Venturini Fendi explains that Hand In Hand is a project in which she wanted to show "what is behind a beautiful product". She says she wanted to do this by working with people who are

still cultivating centuries-old skills and handing the techniques on from generation to generation.

She continues: "I chose the very best, people who are doing unique things. This is what interests me; I wanted to support these incredible people. Their work, doing everything by hand, is so romantic. It's the imperfections in hand-made things that make them so interesting and beautiful. We say these people are artisans but, to me, they are more than that. They are artists." 🌟

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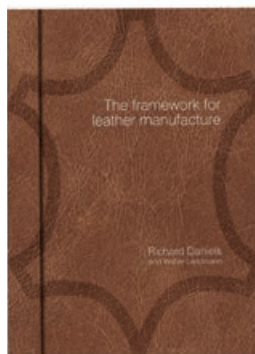
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36 Crosby Road North, Liverpool L22 4QQ, UK
Tel: +44 151 928 9288 E-mail: wl@worldtrades.co.uk

Editor	Stephen Tierney
Deputy Editor	Clare Grainger
Commercial Manager /Technical Editor	Matthew Abbott
Assistant Content Developer	Charlotte Robson
Consultant Editor	David Buirski
Graphic Designer	Tim Button
Subscriptions	John Collins
Administration	Lisa Fabian-Smith
Publisher & CEO	Simon Yarwood

Worldwide Sales Offices

China/Hong Kong/Taiwan:

Ringier Trade Publishing Ltd.
 1001 Tower 3, Donghai Plaza, 1486 Nanjing Road West,
 Shanghai 200040 China
 Tel +86-21 6289 5533
 For China: Marco Chang, General Manager. E-mail: marco@ringiertrade.com
 For Taiwan: Kelly Wong, Taiwan manager. E-mail: kwong@ringier.com.hk

India:

S Sankaran, 106 Vepery High Road, Periamet, Madras 600 003
 Tel: 91 44 25386566 Fax: 91 44 28343685
 E-mail: indianleather@yahoo.com

Indonesia:

Niran Raphi BSc., Gedung Cahaya Palmerah 3rd fl, #307
 Jl. Palmerah Utara III No.9 Jakarta Barat 11480 Indonesia
 Tel: +62 021 5329343 / 5329014 Fax: +62 021 5329344
 E-mail: esdekatraco@centrin.net.id

Mexico:

Mr. Gennaro de la Garza, Calle Schubert 520, Col. Leon Moderno,
 Leon, GTO. C.P. 37480
 Tel: +52 477 712 1882 Fax: +52 477 712 1882
 E-mail: genarodelagarza@hotmail.com
 or delagarzagenaro@yahoo.com.mx

Pakistan:

Abdul Rab Siddiqi, Office M – 2, DADA Garden, Jamaluddin Afghani Road,
 Sharfabad, Karachi 74800
 Tel: 021-34893095 Mobile: 0333-2323166
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