

WORLD LEATHER

THE WORLD'S NO.1 MAGAZINE FOR THE LEATHER INDUSTRY

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Volume 35, Number 5



Skills worth saving

Tanning Tech round-up

Leather Leaders: José Fernando Bello

Shoe brand explains 180-degree leather turnaround

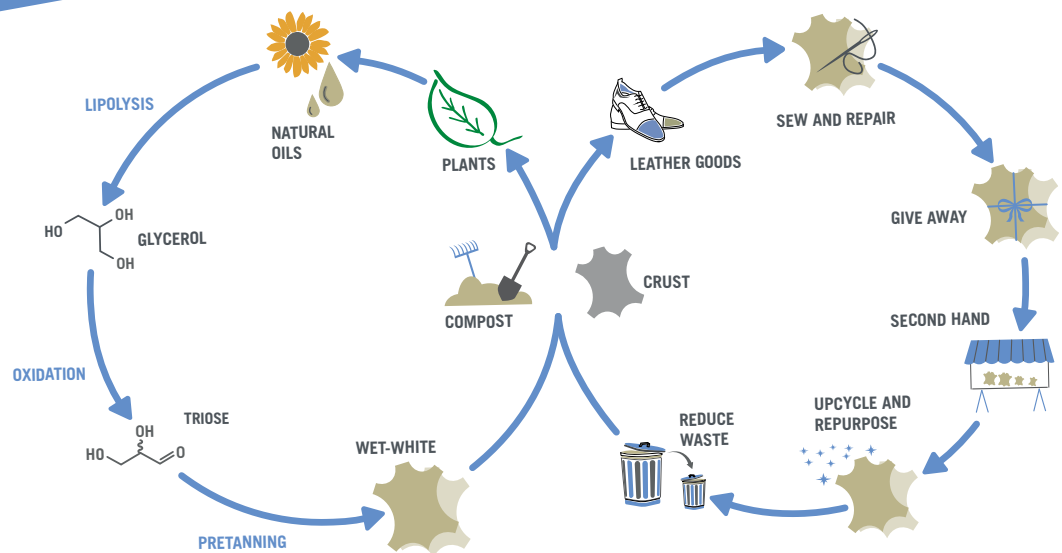


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- High biodegradability of leather
- Reduces problematic waste



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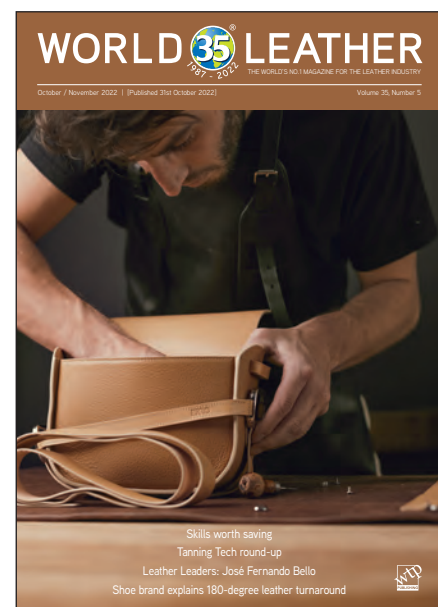
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The World Leather team has been publishing a series of original, dynamic podcasts since 2019. The whole series is available on Anchor, Spotify, Apple Podcasts, Google Podcasts, Pocket Casts, Overcast and other podcasting platforms. Just search for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



Cover image: Bag being finished in the workshop of leathergoods brand Erro in Anglet in the far south-west of France. Its aim is to preserve traditional savoir-faire and promote the value of products that are long-lasting.

CREDIT: ERRO



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UK Ten final-year design students at De Montfort University in Leicester recently had access to a four-day workshop to help them increase their knowledge of leather and their ability to work with the material. Ancient industry guild The Leathersellers' Company sponsored the workshop, which was led by London-based leatherwoods designer Charlie Laurie.

ITALY Italian leathergoods manufacturers' national association, Assopellettieri, has reported an increase in export revenues of more than 17% in the early part of 2022. Assopellettieri shared figures that show export revenues of almost €4.5 billion for the first five months of 2022, an increase of 17.3% compared to the same months in 2021. Bags contributed just over €3 billion to the total, which indicates growth of 20% year on year.

PORTUGAL The town of Alcanena, in which most of Portugal's tanneries are located, held a Green Week festival from October 23-29. Among the leather industry's contributions was a short but intense discussion forum on the sustainability challenges the leather sector faces. It took place in the auditorium of leather research and testing centre CTIC in Alcanena on October 27.

SPAIN Spain's Futurmoda exhibition took place again in Elche on October 5 and 6. In total, 91 leather manufacturers and suppliers of leather were among 300 exhibitors at the event, showcasing leather collections for the autumn-winter 2023-2024 fashion season. Of these, 48 were from Spain, 33 from Italy, seven from Portugal, two from Turkey and one from Germany.

TURKEY The local footwear industry has responded with enthusiasm to the news that the country will host the seventh World Footwear Congress next year. The event will take place in Istanbul from May 9-11, 2023. In response local industry figures said they will be pleased to welcome colleagues from around the world.



RWANDA This year, for the first time, the annual World Circular Economy Forum (WCEF) will take place in Africa, with Rwandan capital Kigali as the host city. Delegates will also be able to follow the sessions online. WCEF is an initiative of the Finnish government and Finnish innovation fund Sitra. The first WCEF took place in 2017 and sought from the outset to showcase solutions and learnings from around the world.



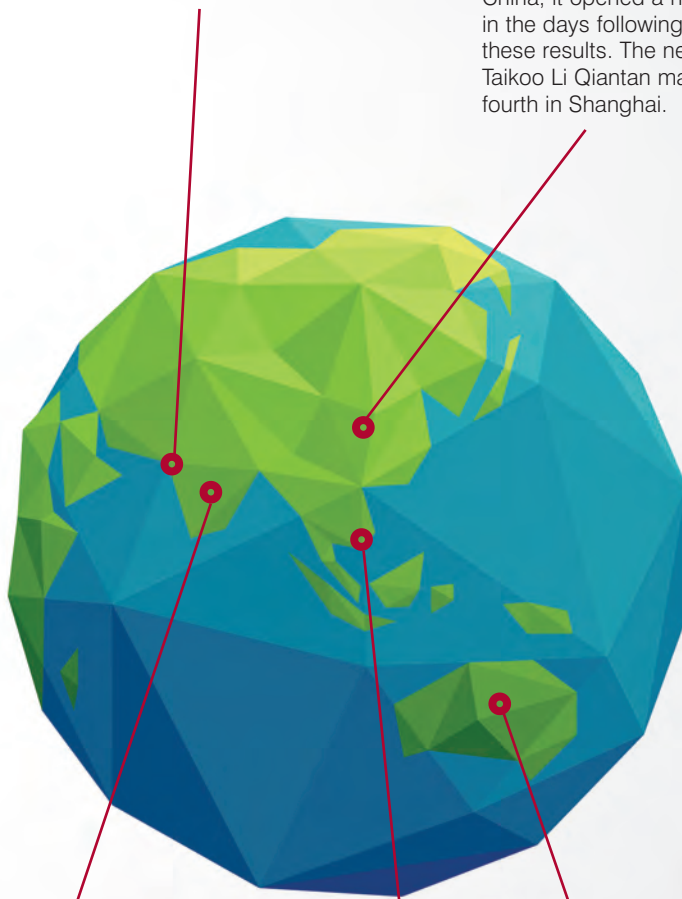
ETHIOPIA The Leather and Hide Council of America (LHCA) and the African Leather and Leather Products Institute (ALLPI) have partnered to launch an African leather design competition. This event will be part of LHCA's Real Leather, Stay Different programme and will take place in 2023. The partners said their aim was to help "reshape education around the production and use of sustainable leather across Africa". Finalists will present their work during the All Africa Leather Fair 2023 in Addis Ababa.

KENYA A senior figure in the Kenyan government's planning department, Saitoti Torome, has calculated that the country's leather industry has the capacity to create 50,000 jobs and put more than \$800 million per year in the country's economy. Mr Torome said in recent comments that the sector was suffering from a lack of raw materials and a shortage of skills, but he said a new leather manufacturing cluster in Machakos County in the south of the country could help give a much needed boost.

PAKISTAN Pakistan's footwear industry, which employs more than a million workers, got off to a flying start for the 2022-2023 fiscal year. In the first two months of the financial year, July and August 2022, shoe manufacturers in Pakistan exported more than 1.8 million pairs of leather shoes with a value of \$28 million. These figures represent an increase of 40% in volume and 22% in value compared to the same period in 2021.

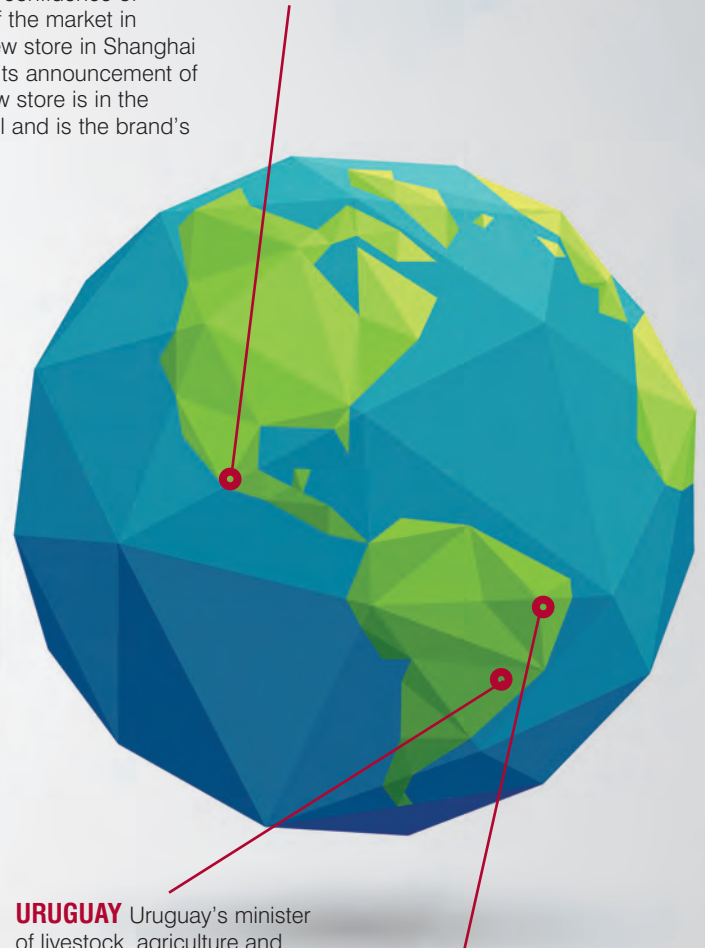
CHINA Luxury group Hermès has reported revenues of €8.6 billion for the first nine months of 2022. It said this represented growth of 24% at constant exchange rates compared to the same period last year. It added that sales in China had picked up strongly in July and August, in spite of ongoing restrictions in some areas because of covid-19. To emphasise Hermès's confidence of continued recovery of the market in China, it opened a new store in Shanghai in the days following its announcement of these results. The new store is in the Taikoo Li Qiantan mall and is the brand's fourth in Shanghai.

MEXICO The 60th edition of the Mexican leather, materials, machinery, and components fair, Anpic, closed its doors on October 21 after a satisfactory return to a person-to-person format. Organiser APIMEX said there was a good turnout of exhibitors and visitors at the event in León. Visitors were estimated at 8,000, with buyers coming from 19 countries.



INDIA Tanning technology provider Qualus has announced that trials of its polymer bead-based system at Indian leather manufacturer KH Group have proved successful. As a result, the KH Group will now begin using the technology in its retanning operations. It said the Qualus technology would allow it to make important savings in its consumption of water and chemicals.

CAMBODIA Increasing labour costs have prompted many China-based manufacturers to seek lower costs abroad. One of the main destinations for migrating Chinese leather product manufacturers in recent years has been Cambodia. Chinese owned leathergoods and footwear manufacturers are well-established there now. The leather sector boasts 186 companies active in the Cambodian province of Kampong Speu, which employ more than 148,000 people, and most of these companies are Chinese-owned.



URUGUAY Uruguay's minister of livestock, agriculture and fisheries, Fernando Mattos, announced an agricultural emergency for the entire country on October 20. This is because of a nationwide drought and poor fodder conditions for livestock. In recent weeks, the number of cattle and calves being sent to feedlots has increased as ranchers fear losing the animals because of feed and water deficits.

AUSTRALIA Australia's department of agriculture reported exports of more than 92,000 tonnes of beef for the month of August. It said this was the highest monthly total in almost two years; it was the highest since June 2020. Across the first eight months of this year, Australian beef exports have reached a volume of more than 570,000 tonnes, down by 1.8% on the figure for the same period in 2021.

BRAZIL Data from Brazilian national footwear industry body Abicalçados indicates that between January and August the footwear industry generated 40,000 jobs domestically. According to the same source, in August alone, more than 5,000 jobs were created. The footwear sector ended August with more than 306,000 people directly employed throughout the country, the highest figure for the sector since October 2015.

IULTCS warns of “serious effect” of new EU restrictions

The International Union of Leather Technologists and Chemists Societies (IULTCS) has submitted a formal document to the European Commission to warn it of the serious impact on the leather industry that proposed new restrictions on certain chemicals will have.

In the document, which IULTCS prepared with the help of research and testing organization FILK and of leather chemicals manufacturers Stahl and TFL, the organisations said new restrictions on chromium VI and bisphenols would “seriously impact the leather industry, particularly in the European Union”.

IULTCS said in the submission that the leather industry needed more time to implement the new bisphenol restrictions. And in relation to chrome VI, it said a more detailed study of data and testing methodology was required.

Low blow for leather

Leather will not be exempt from proposed restrictions on importing products potentially linked to deforestation into the European Union.

A plenary session of the European Parliament in Strasbourg in September considered a series of proposed amendments to the legislative proposals. One of these asked for the exclusion of hides, skins and leather from any new restrictions, but while 277 members of the European Parliament voted in favour of an exemption for leather, 338 voted against it.

The leather industry’s representative body in the European Union, COTANCE, has reacted with dismay to the result of the vote, although it pointed out that late changes to the proposals could still emerge from talks behind closed doors involving the European Parliament, the Commission and the EU Council to finalise legislation. These deals will happen before the end of this year. In a statement, COTANCE said it still hoped one of the European institutions would stand up for leather.

For now, though, it said the September vote was “a low blow”.

CTC launches traceability system from hide to finished leather

French leather and footwear research and testing body CTC presented a new system called ALIS at Tanning Tech in September. The Lyon-based organisation said the system would help maintain the traceability of hides during the tanning process.

This technology identifies the origin and reconstructs the route taken by the raw



Approval for Hermès to train more leathergoods artisans

Luxury leathergoods group Hermès has won approval to add to the qualifications it can offer new recruits at its in-house apprenticeship training school.

Hermès has nine leathergoods hubs across France and currently offers apprenticeship training in five of them, with a sixth, in Riom in the Auvergne, to join the list in November.

In September 2021, the group earned the right to offer formal state qualifications to the people training at these centres, starting with a professional national diploma in leathergoods manufacture. It has said it currently has 450 new leathergoods artisans learning their craft and working their way towards this qualification. The course takes 18 months in total.

Now, in addition, it has secured the right to offer a second qualification, in leather cutting and sewing; industry body the Fédération Française de la Maroquinerie has approved Hermès as an accredited provider of the necessary skills training for this.

Preparation of candidates for the new qualification will begin in 2023; the leathergoods group said it hoped this would give it a further 200 new apprentices each year.

material throughout the tanning process, from hide to finished leather.

One component, ALIS Marking, uses a high power CO₂ laser system to make a mark inside the raw hide with a unique identification code for each animal. It has been designed and patented to withstand the leather transformation process.

A second element, the ALIS Reading device, is based on a camera acquisition system and artificial intelligence algorithms. Information related to the quality and origin of each hide is automatically retained and stored in a database, allowing information to be shared across different sectors.

According to CTC, there are already nine French companies in the sector (slaughterhouses and tanners) that are using the ALIS traceability system.

‘Green Deal Leather’ project

The leather industry’s main representative body in Europe, COTANCE, has announced a new project through which it aims to establish a clear connection between leather and the European Union’s Green Deal and Circular Economy Action Plan.

The Green Deal is part of a €1 trillion

investment plan and is central to the EU’s aim of becoming carbon neutral by 2050. The Circular Economy Action Plan is part of the Green Deal.

COTANCE and trade union organisation industriAll Europe held launch meetings for the new project, Green Deal Leather, in September.

They said on launching the project that the European Union had identified the wider textiles sector, including the leather industry, as one of the priority sector for making Europe’s economy circular.

There will be support for the sector from the EU to help it recover from the effects of the covid-19 pandemic, COTANCE said and, in the longer term, make this transition.

Igualada tanners to test recycled water service

A specialist operator of wastewater treatment services in Catalonia is to start supplying leather manufacturers in the tanning cluster in Igualada with recycled water for use in production.

Igualadina de Depuració i Recuperació treats wastewater from the local tanneries and also provides water treatment services

to some parts of the municipality.

Using equipment that it says is not yet in place anywhere else in Europe, the company will set up what it is calling a water regeneration plant. It will process some of the effluent from tanneries to create two flows of regenerated water that it will return to the leather manufacturing facilities for reuse in production.

One of these flows will deliver water with a high level of purity as a result of osmosis; the other will be saline.

Waterologies a local technology provider, has developed the equipment that Igualadina de Depuracio i Recuperacio will use for the new service. It has run a successful pilot and generated 10 cubic-metres of purified water and 2 cubic-metres of saline water per day.

The water that the pilot exercise has produced is now being subjected to analysis at the University of Lleida's A3 Leather Innovation Centre in Igualada and a number of tanners have agreed to use it in production trials.

Biomass energy progress at Silvateam

Leather chemicals manufacturer Silvateam has completed a project to use 100% biomass as the source of energy at its factory in La Escondida in Argentina and intends to replicate it soon at its facility at San Michele Mondovì in northern Italy.

The director of the company's leather business unit, Antonio Battaglia, shared the information at the Sustainable Leather Forum in Paris mid September.

Silvateam has been working for some time on projects to turn the wood biomass that results as a by-product from its process to extract the natural tannins it develops for use in leather manufacture and other applications.

It subjects the wood to only one process, treating it with hot water at high pressure.

Mexico to have leather university course

The Mexican leather industry is celebrating the announcement that, as of 2023, it will be possible to study a degree course in superior tanning technology. The course will be available to students in the science and engineering faculty of the León Campus of the University of Guanajuato (UG).

This project is a result of a collaboration between the university and tanning industry body for Guanajuato, CICUR.

The relationship between the university and CICUR began in 2016 when they came together in a project led by Dr Juan Francisco Rayas Rojas, a researcher at the university and a member of CICUR. Other

UG professors later joined the initiative and in 2018 the idea of creating an academic programme arose to help companies improve their tanning processes.

CICUR has said it will award 25 scholarships for the course, which will last two years.

During the first year, students will learn on campus; in the second year, part of the workload will be carried out in tanneries.

Renewable water project

To celebrate its fortieth anniversary serving the residents, tanners and other industrial players in Italy's Chiampo Valley, water services provider Medio Chiampo has launched a project called Valore Acqua (The Value of Water).

A launch event for the project will take place at leather manufacturer Conceria Montebello.

As part of the project, Medio Chiampo plans to reduce its energy consumption by processing tannery sludge discharge so as to create its own renewable energy. Energy costs currently represent between 20% and 25% of its annual budget.

Polypropylene drum for beads

Turkish technology and machinery manufacturer, Ermaksan, has built a new polypropylene drum that is purpose built to work with Qualus' polymer bead-based tanning technology. The new drum can be used for in conventional processes as well.

The new drum went on show at Tanning Tech in Milan in September.

Leather can help address 'alarming' microplastics figures

The link between choosing leather and helping to address the problem of plastic in the ocean is clear, according to Zschimmer & Schwarz executive Gustavo Fink.

Mr Fink, who is the leather chemicals developer's key account manager in China, picked up recently on an infographic on the subject that German consumer data company Statista has circulated.

The graphic says synthetic textiles' estimated share of total microplastics in the world's oceans is 35%, the highest of any source. Statista quoted the International Union for the Conservation of Nature as the source of the data.

Commenting on this information, Gustavo Fink said that choosing leather and other natural fibres, including cotton, in the many applications in which they present alternatives to plastic-based materials could contribute to "reducing these alarming figures".

Polestar's sustainability aims

The latest vehicle launch from Volvo's Polestar brand, manufactured in China, is the all-electric Polestar 3 SUV, which boasts a host of sustainability features in its interior design.

For example, the dash is made from black ash wood in its natural form to reduce waste in the manufacturing process.

The leather used in the interior of the Polestar 3 is from the Scottish Leather Group's Bridge of Weir tannery. The perforated nappa leather is chrome-free and traceable.

In addition, the stitching and other interior elements use animal welfare-certified yarn. The wool comes from certified farms.

LHCA launches new documentary series

As part of its Real Leather, Stay Different campaign, the Leather and Hide Council of America (LHCA) launched a new documentary series, Rewind, on October 20.

The series makes the case for leather having a role in a more sustainable future, with the first episode taking this argument back to the farm.

This first instalment examines how to make the best use of limited agricultural land and the important role ruminants play in producing food from land that is unsuitable for growing arable crops.

LHCA intends to release a new episode of Rewind each week; the next one will be devoted to leather's place in the fashion industry.

Suppliers must commit to ISA hide policy

Leather manufacturing group ISA TanTec has said it is gradually integrating a new responsible hide sourcing policy into its supply chain that it has drawn up with campaign group World Wildlife Fund.

Focusing on hides from the US and Brazil, the new sourcing policy reflects a commitment to animal welfare and to "developing a deforestation-free and conversion-free cattlehide supply chain".

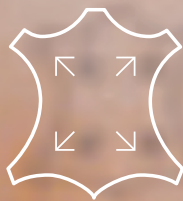
For leather ISA TanTec sources from Brazil, it will be mandatory for suppliers to commit to policies and procedures "that establish timebound deforestation-free and conversion-free production supply chains".

The group's vice-president for sustainable business development, Keith Hill, said: "Indirect cattle suppliers in Brazil are the main focus to stop illegal deforestation practices. A pilot project has been initiated with one of our key suppliers in Brazil to prove proof of concept for a deforestation-free supply chain." 🌱

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SLG names new chief executive

Scottish Leather Group (SLG) has announced **Steve Henning** as its new chief executive. He takes over from **Iain McFadyen**, who retired at the end of September.

Mr Henning has held leadership positions at a number of engineering and manufacturing groups in the UK, Asia and the Americas.

He said on taking the post at SLG that a key motivation for him had been the leather manufacturing group's commitment to quality. He said he was also impressed by the group's investment in, and progress towards becoming net-zero by 2025.

SLG also announced the appointment of **Michael Carnachan** as its chief operating officer. Mr Carnachan has worked at the group since 1991 in a number of senior roles.

Senior leather appointment at Louis Vuitton

Luxury leathergoods brand Louis Vuitton has appointed **Catalin Marin** to a new role, giving him responsibility for leather as a raw material.

Mr Marin has worked for Louis Vuitton for almost 15 years. His most recent role was as operations manager for men's leathergoods at the brand.

In his new role, he will have responsibility for buying leather for all Louis Vuitton collections, as well as for developing the quality of the leather the brand uses.

Revolving door swings again at Burberry

London-based luxury brand Burberry has announced a new chief creative officer. **Daniel Lee** took up the post in October, replacing **Riccardo Tisci**. Burberry said Riccardo Tisci had decided to leave the brand after five years.

Until November last year, Daniel Lee was creative director of Italian leathergoods brand Bottega Veneta. He held that role for just over three years but, in that time, won acclaim for injecting a fresh spirit into Bottega's collections.

When he left the Italian brand, **François-Henri Pinault**, the chief executive of its parent group, Kering, said Mr Lee had brought passion and energy to Bottega Veneta and "put it back at the centre of the fashion scene".

Before Bottega Veneta, he was director of ready-to-wear design at Celine, which he joined in 2012, and also worked at Maison Margiela, Balenciaga and Donna Karan.

Daniel Lee was born in Yorkshire, where Burberry has its roots, and trained at Central Saint Martin's in London. This new



Fulvia Bacchi speaking at a recent edition of Lineapelle.

UNIC lambasts lack of logic in automotive assertions

Representatives from across Italy's leather value chain gathered in Florence in October to celebrate, for the third time, a 'State of the Industry' event.

Senior figures from the major national industry associations, Assopellettieri and UNIC, **Franco Gabbrielli** and **Fulvia Bacchi** respectively, were among the main speakers.

Mr Gabbrielli said the large number of delegates that this third 'State of the Industry' event had attracted to Florence was an indication of a strong desire among people in the leather industry to build dialogue, to address important issues head on and to grow.

For her part, Ms Bacchi spoke in the build-up to the event with typical forthrightness about the challenge the leather industry faces from campaigns to impose synthetic materials as substitutes for leather.

She said companies and campaign groups pushing for this were, often, guilty of disinformation, deliberately putting out incorrect messages that had been "thought up round a boardroom table for marketing purposes".

She pointed to "the deafening clamour" of automotive brands rushing to launch "their sudden conversion to vegan fashion and all of its diktats". She said this had led them to claim publicly, but without proof, that the vegan materials they have chosen are more sustainable.

She insisted that the arguments these automotive companies have presented so far are "based on the illogical assumption" that they can help animals by refusing to use leather. She pointed out that 99% of the hides and skins UNIC's member companies use to make leather is a by-product of the meat industry.

move from Italy back to London mirrors the one Burberry chief executive, **Jonathan Akeroyd**, made earlier this year when he left Milan-based brand Versace to return to the UK.

Bangkok event pleases APLF

With 200 exhibitors taking part, APLF's special ASEAN exhibition took place in Bangkok in October.

APLF Limited director, **David Bondi**, welcomed exhibitors and visitors to the event, saying: "Along with the business-matching programme and seminars, leather courses and workshops are all scheduled to make APLF an integrated event for trade, education and business."

This is only the second trade fair in APLF history to be held outside of its home base

of Hong Kong, but organisers said they were expecting good levels of business take place and new contacts to be made over the three-day event, held at the newly refurbished Queen Sirikit National Convention Centre.

Cambridge Satchel founder 'steps away'

Six weeks after the brand's acquisition by a Paris-based group, founder of leathergoods brand The Cambridge Satchel Company, **Julie Deane**, has announced that she will now "step away" from the business.

At the end of August, Chargeurs announced the acquisition of The Cambridge Satchel Company, which Ms Deane founded in 2008. She said in the new

announcement that the company that helped make old-fashioned school-bag style satchels a sought-after fashion item had felt to her like one of her children.

Like any good parent, she explained, she has decided to move aside to allow the brand "to fulfil its potential in its new home, watching and cheering from the sidelines".

New CEO for Furla

Former Clarks chief executive officer **Giorgio Presca** is joining Furla as the Italian accessories company's new CEO.

Mr Presca has also been CEO of Golden Goose, Geox and Citizens of Humanity. He has held executive positions at brands including Diesel and Levi's. In total, he has more than 30 years' experience in the fashion sector.

He succeeds **Mauro Sabatini**, who left Furla in April. Chief operating officer, **Devis Bassetto**, temporarily held the position of CEO after the exit of Mr Sabatini.

Minister eyes 'world leader' status

India's minister for commerce and industry, **Piyush Goyal**, has said the country has a chance to become the biggest producer of footwear and leather garments in the world.

In an address he gave at the Meet At Agra leather and footwear components event on October 7, Mr Goyal said India was currently the second-biggest supplier of both types of product, behind China, but he said that there was potential for it to become "world leader".

His claim was based on the fact that India's tanneries produce an estimated 3 billion square-feet of leather every year.

Professor announcement

The University of Northampton has awarded **Will Wise**, research leader at its Institute for Creative Leather Technologies (ICLT), the title of Professor of Leather Science.

It pointed out that a professorship is given "only to those with the most distinguished scholarly achievements in teaching, enterprise and research".

ICLT physical testing laboratory officially reopened

During a small industry gathering at the Institute for Creative Leather Technologies (ICLT) at the University of Northampton, newly appointed vice-chancellor, **Professor Anne-Marie Kilday**, officiated at the unveiling ceremony for the newly refurbished on-site physical testing laboratory.

Through the support of research and testing organisation SATRA, the new testing laboratory has been fully refurbished with a range of state-of-the-art

leather testing equipment.

"Although I'm new to the university, I know how important leather education and research has been for the story of the university, past, present and future," Professor Kilday said. "It's important to us, and important for our profile and for student recruitment."

AICC's new president

The Italian leather chemists' association, AICC, has a new president. **Franca Nuti** was elected to the role at a meeting in Ponte a Egola at the start of September, replacing **Mariano Roberto Mecenero**.

Franca Nuti, who is head of research and development, regulatory affairs and sustainability at Santa Croce-based leather chemicals manufacturer FGL International, will be president of AICC for the next three years.

Paris Fashion Week debut for Ecco Leather collective

An Ecco Leather initiative called **At.Kollective**, described as a combination of small capsule collections that sit outside the trend cycle, made its debut at Paris Fashion Week at the end of September.

Designers involved include menswear specialist **Bianca Saunders**, **Issac Reina**, formerly of Hermès, **Natacha Ramsay-Levi**, a former creative director at Chloé and Berlin-based **Kostas Murkudis**, who previously worked with Helmut Lang.

Ecco Leather asked each of them to design a capsule collection using its materials. Group chief executive, **Panos Mytaros**, told the *Financial Times* that there was no "overarching creative direction" and that Ecco had wanted each of the designers "to interpret in their own way".

For his part, Kostas Murkudis said he had been greatly impressed by Ecco Leather's capabilities. "They were developing amazing leathers for big luxury brands and not communicating about it," he told the FT.

Leather colouring expert dies

Ray Tremlett, who died in September, aged 83, was an expert in dyeing technology for the leather industry.

After graduating with a BSc from Leeds University, he first worked for the Danish Tanners Research Association. He later joined Ciba Clayton in the UK, a company making dyestuffs, textile auxiliaries, chemicals and leather oils, where he was responsible for product and process development, especially for dye ranges and compatibility studies.

Following the merger of Ciba and Geigy, he became head of customer service and then business manager for the new company, covering the UK and Africa. He

also worked for TFL during a long career and was a life member of the UK's SLTC.

After retiring towards the end of the 1990s, he joined *World Leather* as an editorial consultant, with a focus on developments in dyeing techniques and chemistry.

Secondary raw materials

The president of the United Nations Industrial Development Organisation (UNIDO) in Argentina, Chile, and Uruguay, **Manuel Albaladejo**, has said that businesses across the world are guilty of misinterpreting "the meaning of waste".

At a recent event in Montevideo, Mr Albaladejo said: "Between 2002 and 2019, international trade in industrial residues grew by almost 9%, compared to growth of 7% for trade in general. This shows that these residues are, in fact, a resource."

He went on to say there was a great business opportunity in "this market for secondary raw materials, which is to say materials derived from the transformation of industrial residues".

Fernando Bellese leaves PrimeAsia

Leather manufacturing group PrimeAsia has announced the departure of its chief sustainability officer, **Fernando Bellese**. He left the company at the start of September.

Mr Bellese joined the US-based company in 2019 after eight years working for JBS Couros in his native Brazil and, later, in the US, leading many of JBS Couros's sustainability initiatives.

During these years, Fernando Bellese has also played leading roles in industry initiatives, including the Leather Working Group and Leather Naturally. He is to remain in the US to take up a new role at campaign group World Wildlife Fund.

PrimeAsia thanked Mr Bellese for his work at the company and said its search had already begun for a new chief sustainability officer to support the growth and continuity of projects that it described as central to its strategy.

Tribute to Issey Miyake from Ecco

The leathergoods division of Ecco has highlighted bags in its spring-summer 2022 collection that honour **Issey Miyake**.

Creative lead, **Sofie Spindler**, said the pioneering spirit of Issey Miyake, who died in August, had inspired some of the bags in the collection.

Ecco made the bags using leather its in-house tanneries produced with its proprietary **DrTan** technology, designed to be a water-saving alternative to traditional tanning methods. 🌱

GREENSTAR



LESS WASTE, MORE NATURE

gemata.com

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.

27 October 2022

Tanning group shows support for 'just fashion' transition

26 October 2022

Growth for LECTRA
Tod's takeover bid fails

25 October 2022

Vintage cars retain their appeal
Clarks lands in New Jersey

24 October 2022

LVMH is closing in on another Tuscan tannery, reports say
African commitment from Prada
Growth for Stella International, but headwinds remain

21 October 2022

Solofra to host AICC seminar

20 October 2022

New electric vehicle sales soar in China
Double header for Brazilian leather on two continents

19 October 2022

Mycelium bag project peters out
China to consume more beef but import less in 2023

18 October 2022

A first for ASEAN
Some Mini production to move away from UK

17 October 2022

Circular outdoor boot from Timberland
US footwear prices still increasing
Export award for Gucci
LVMH workshops open their doors to the public

14 October 2022

High-profile ESG success for Silveam
Indonesia lays the ground to import more Brazilian beef

13 October 2022

Separate circular economy entity set up by Renault
FAO figures show hide production remains close to 300 million
Online shoe shopping still buoyant in Brazil
Uruguay: feeder cattle prices under pressure

12 October 2022

US hide exports to China fall by 25%, as Italy buys more wet blue
Mexico's leather industry to meet in León
Electric car sales up in the UK

11 October 2022

LVMH's leather division grows revenues by 30%
Venezuelan footwear production held back by banking restrictions
Top 100 companies inclusion for SLG

10 October 2022

APLF projects to support local designers in Bangkok

07 October 2022

Green Theatre at Lineapelle
Successful audit for Sadesa's Thailand plant

06 October 2022

France: invitation to leather entrepreneurs
Cattle slaughter remains steady in Uruguay
Spain's leather exports stay on positive track

05 October 2022

Madison Avenue opening for Hermès
Brazil concerned about trade with China

04 October 2022

Half a century and record sales for Manolo Blahnik
US cattle on feed up slightly in September report

30 September 2022

Higher education proposal for the leather industry
Record cattle herd in Brazil

29 September 2022

German leathers goods makers see slight growth in H1

28 September 2022

Visitor numbers up at Simac-Tanning Tech
Boom in luxury footwear and leathers goods for men

27 September 2022

Pakistan's leather exports down
After 13 months of declines, EU car sales finally rise

26 September 2022

Record footwear exports for Portugal in H1
Mexico City trends event attracts 400 buyers
UN Global Compact participation for Gruppo Mastrotto

23 September 2022

Uruguay: leather scraps idea to go on show in Germany

22 September 2022

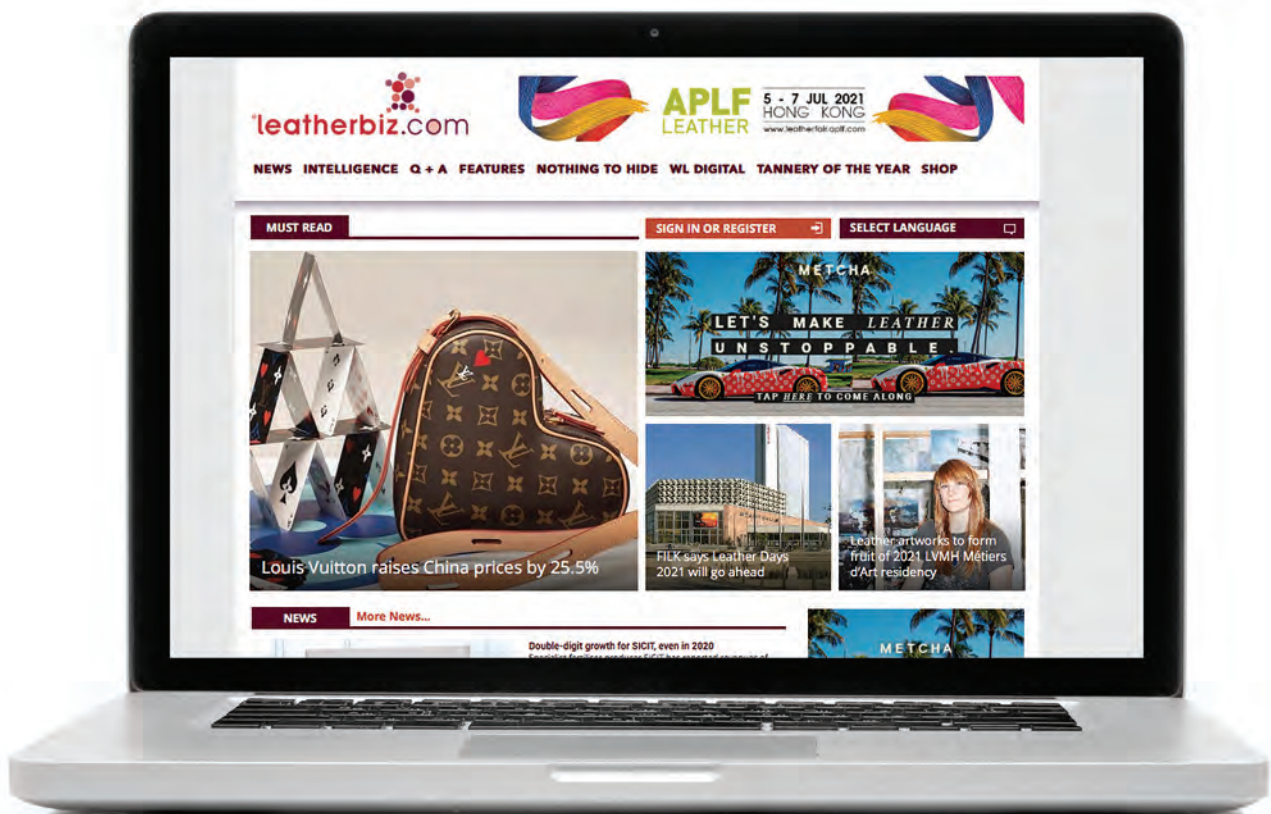
Advanced materials conference to go ahead in Romania
Milestone for SLG tannery
Mipel and Micam visitor numbers up by 20%
Gucci to open research facility in Tuscany

21 September 2022

Kering discusses pathway to sustainability in Vicenza
Rino Mastrotto - from leather to textiles
LWG to launch its Leather Chain of Custody project

20 September 2022

Tannery attracts big investment from Prada
III IULTCS EuroCongress takes place in Vicenza



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“Brazil has a vast territory, 60% of which is in the Amazon region, where more than 25 million people live, so there is a great focus throughout our country on preserving and sustaining this environment. This is a daily and tireless commitment in Brazil.”

CICB executive president, José Fernando Bello.

CREDIT: CICB

Leather in the land of 3.5 million cattle farmers

Brazil's main leather industry body CICB celebrates its 65th year in 2022. Its executive president says this shows how many stories the Brazilian leather industry has to tell.

What does it mean to you personally and to the whole of the leather industry in Brazil to celebrate 65 years of CICB?

We are very happy and proud to reach 65 years because this shows the power and the long history that the leather sector has in Brazil. The industrial chain we belong to is huge and has been in place for a long time. We have partner entities such as Assintecal and Abimóvel that also have a long tradition, starting in the 1980s and 1990s. But we can see that it was the leather industry that started this by becoming a representative body of the sector in 1957. We are united and we seek to improve the sector and society as a whole. Our 65 years show how much history CICB has behind it and how many stories we have to share.

How would you summarise the situation of the industry in Brazil now, in the second half of 2022?

Well, there is quite a lot of caution because we have seen signs of possible stagnation in the consumption of non-essential products. In parallel, there has been a diminution

of production in China because of ongoing covid-19 restrictions. Then there is the fall-out from the war between Ukraine and Russia, which is increasing production costs for clients in Europe who are buyers of Brazilian leather. The third problem is high inflation which is causing the cost of living to go up across the entire world. This is going to restrict consumers' ability to buy products that use leather, including new furniture and new cars. With this scenario of high inflation, people have to use their incomes to pay for food, school fees, day-to-day transport and other things that we cannot avoid, so there is less money available for other products. The war is a real problem, obviously for the people directly involved most of all, but it has happened just when the market was showing excellent signs of recovery. It seems unbelievable to me that there could be a war like this in the twenty-first century, killing children, old people, and entire families, preventing people from living freely the lives they want to live, destroying whole environments. It is unacceptable.

Why does the subject of deforestation continue to come up as, specifically, an angle of attack against the leather industry? Why does this keep coming back?

For each head of cattle, 60% of the final value comes from meat and 40% from all the by-products, one of which is the hide. Our material, in the end, represents between 1% and 2% of the value the meat company receives. No one anywhere in the world buys land to raise cattle thinking about leather; they think about the meat or, if they have dairy cattle, about milk too. Leather is only a by-product. Nevertheless, leather is a product that has many different uses, including shoes, bags, belts, upholstery, automotive interiors and so on. And leather lasts a long time. If you buy a leather sofa it can last for 30 or 40 years. Bags can stay in the same family for 60 years. A lot of meat, on the other hand, has vanished within a week: a restaurant buys it or a family buys it and the meat disappears. But leather remains. We are totally against illegal deforestation and there is the need always to seek the best production practices and take a careful look at each process, but this must be addressed by all actors in the chain, and there are many of them. The Brazilian leather industry is permanently attentive to the development of new technologies, partnerships and solutions that can improve its processes and deliver to customers the quality and the sustainability they demand.

But if brands and consumers in some parts of the world are convinced that they can help combat deforestation by rejecting leather and other products from Brazil, what do you think, after years of wrestling with this, is the best way to respond? What is the best way to convince big brands to contribute to the solution?

It's an interesting question. There is movement on this in Brazil. A lot of work is going on among the institutions in the chain, including the agribusiness sector and the federal government. Technology providers are involved too, developing software tools that will help producers in rural areas enhance their environmental efficiency. The development of these tools, naturally, needs financial support. The Brazilian government is giving support, but I repeat: it is very important to have all the actors involved, which include



Proportionally, Brazil has the highest number of tanneries with LWG gold certification

CREDIT: WTP

livestock suppliers, customers and end consumers. Brazil is very big: we have about 3.5 million cattle ranchers, most of them relatively small. This makes it difficult for management programmes to reach producers in remote areas where the use of technology and internet access are limited, but there is a constant quest to achieve this goal. It is clear that more than 95% of Brazilian agribusinesses work in perfect alignment with the legislation, in keeping with best practice in sustainability. Brazil has a vast territory, 60% of which is in the Amazon region, where more than 25 million people live, so it is obvious that there is a great focus throughout our country on preserving and sustaining this environment. This is a daily and tireless commitment in Brazil.

What can the tanning industry do to counter negative perceptions of Brazilian leather resulting from these campaigns?

We have our CSCB programme, which stands for Certificação de Sustentabilidade do Couro Brasileiro, or the Brazilian Leather Certification of Sustainability. We launched it in 2015 and it is established now. The CSCB is audited by a body accredited by the National Institute of Metrology, Standardisation and Industrial Quality (INMETRO), which has a mutual recognition agreement in the IAF (International Accreditation Forum) and the ILAC (International Laboratory Accreditation Cooperation) framework.

This guarantees the international standing of CSCB accreditation. We have had in the past particular partnership agreements signed, as with ICEC, from Italy, in 2018. When it comes to the LWG gold level, Brazil has the highest number of tanneries certified at this level, proportionately. We have 240 tanneries in Brazil and a large number of them are LWG gold. There are tanneries that have LWG and CSCB certification.

Is it time for the whole of the global leather industry to stop being so defensive and go on the offence? If so, what is the best way in your opinion to do that?

I always point out that the leather industry is millennia old, but it needs to focus its efforts even more on the modern world of communications; good communication is not one of the greatest strengths of our industry. This is a challenge. In a general sense, tanners understand that CICB and other institutions should take the responsibility for communicating about the industry, presenting it in a positive light. But that requires a big budget to make sure you reach the right target audience. It seems that, for young people, for example, leather may not be the most attractive subject to talk about. They have other interests and concerns to talk about and don't seem to think much about our industry. Also, it would be good if the relationships between meat companies and tanners were better. We do have to become more proactive in communicating about leather. 🌱

New Generation Of Leather



United Chemicals

Nothing to Hide: The carbon footprint of leather

Executive summary

In 2013, the European Commission agreed to fund a series of pilot projects to examine the environmental footprint of a range of consumer products, part of a wider initiative to define what makes a 'green product'. The leather industry's representative body in Europe, COTANCE, applied, with the backing of the global leather industry, to take part. These efforts seemed to have reached a successful conclusion in 2018, when the rules COTANCE had developed for calculating the environmental footprint of leather won official approval from the EU.

A clear definition of the environmental impact of a product and of its lifecycle should be a key market driver and calculating a product's impact correctly should be a strategic element in global competition. However, working out how to calculate environmental impact or carbon footprint of products linked with livestock can be particularly difficult. Such product chains can be complex; a case in point is the cattle industry and leather.

Since 1990, most of the carbon footprint and lifecycle analysis studies that have been produced for leather have failed in defining clearly enough the role by-products play within the allocation of the whole environmental impact of the livestock and meat supply chains from which the raw material for leather comes.

In recent times, there has been more clarity around this thanks to proposals for a better 'mass balance partition' involving all the different by-products (from many different industries) that come from the bovine lifecycle. However, the problem of deciding and agreeing how best to allocate the shared environmental impact remains.

Several approaches to allocating the impacts of the different by-products are available. Some of these point clearly towards a 0% allocation for a hide until it reaches the abattoir; others even lend themselves to the idea that leather makes a positive environmental impact because it adds high value to waste. Unfortunately, the 2018 decision seems not to have delivered the acceptance the leather industry hoped for and these factors are still the subject of intense debate, both in academia and in industry. 🌱

About this essay

We published the twelfth Nothing To Hide essay in its original form in *World Leather*, December 2015–January 2016. Even then, arguments over the best and fairest way to calculate the carbon footprint of leather had raged for a decade. But the essay attempted to cover the arguments in the greatest possible depth. The original essay leaned heavily on what Milan-based consultant Federico Brugnoli, whose work with and on behalf of the leather industry now dates back more than 20 years, had been saying on the subject at the time of publication. In this updated version, we summarise those arguments and give an account of the ongoing battles on carbon footprint. The leather industry has won some but not all of those battles.

The Berlaymont building in Brussels, headquarters of the European Commission.

PHOTO CREDIT: EUROPEAN COMMISSION

The products that provide farmers and packers with their main reason for going into business should carry the can on carbon footprint.

PHOTO CREDIT: VICTOR WORTMANN



Nothing to Hide: A drawn-out debate

Debate on how best to calculate and communicate the carbon footprint of leather rages on. This essay tracks the main points of the long-running dispute over which aspects of the leather and livestock supply chains should (and should not) form part of the calculations.

The European Commission supports green products and green industries and has said it wants consumers to have confidence that products claiming to be green really do have a minimal impact on the environment, a low carbon footprint. In 2013, the European Commission invited stakeholders in a number of sectors to help it develop agreed methods for measuring environmental performance. The leather industry was one of those that volunteered to take part; its representative body in the European Union, COTANCE, identified this as a good way to gain recognition of leather as a green product and also for the global leather industry to achieve agreement on a disputed issue: what proportion of the carbon footprint of livestock in the upstream supply chain should apply to finished leather?

Because other industries have to wrestle with the same question, the Commission asked representatives of the leather, meat, dairy, animal feed and pet food sectors to work together to agree “system boundaries” in the cattle value chain and establish how best to share environmental responsibilities. Agreeing “system boundaries” means defining which processes must be included and which excluded in determining the product environmental footprint (PEF) of the diverse materials and by-

products involved. PEF is a Life Cycle Assessment (LCA)-based method of quantifying the environmental impacts of products, goods or services. PEF sets a basis for comparing one product to another, helping consumers decide which is more sustainable. The guiding principle is that a fair comparison is only possible if the results are based on the same product category rules (PCRs).

Weidema’s and Brugnoli’s work

This was far from the first time the leather industry had attempted to address this question. To offer some context, industry consultant Federico Brugnoli presented in 2012 an argument that the carbon footprint of leather should begin at the slaughterhouse and end at the tannery gate when the finished leather is shipped to customers. The effect of this would be to exclude any of the agricultural footprint involved in animal rearing from being attached to hides or skins in most situations. His report, commissioned by the United Nations Industrial Development Organization, drew on earlier work on lifecycle analysis by Danish academic Bo Pedersen Weidema. The technical name Professor Weidema gives to this idea is ‘system expansion’. His

position is simple enough: you have to identify the 'determining product', the main product for which the animal is reared, and apportion to it 100% of the environmental weight of rearing the animal, its upstream carbon footprint.

Leather that comes from cattle, goat and sheep (which is almost all the leather in the world) is never going to hold 'main product' status. Those animals are looked after and sold for meat and milk; their hides and skins also have an economic value, but this is the least relevant reason for farmers and packer companies to take an interest in the animal. It is the products that provide the farmer and the packer with their main reason for going into and staying in business that have to carry the can on carbon footprint.

Figures for wasted hides

There is very little tanners can do about the greenhouse gas that cows, sheep, goats or other animals emit before packer companies transport them to the abattoir to satisfy consumers' demand for meat. A hide or skin will become available as a by-product of this process. Most consumers and all tanners believe human beings may as well show full appreciation of the beasts by using this material to make beautiful, versatile, sensuous, long-lasting leather. What happens to hides and skins if tanners stop buying them? Would this affect the number of animals slaughtered?

The answer to this question arrived when the Leather and Hide Council of America (LHCA) conducted a detailed enquiry into this very question. It concluded that 5.5 million US hides had gone to waste in 2019 and that a further 4.8 million had followed in 2020. The hides, all these millions of them, could not command sufficient interest among tanners because demand for finished leather slowed and this material, with great potential for adding value, went to landfill or incineration. The animals were still raised and still went to slaughter, of course, as the very existence of the incinerated and landfilled hides proved; but from the outset, the hides were as far from the thoughts of livestock farmers and meat companies as the heavens are from the earth.

Levers for change

The exercise that COTANCE began to engage with in 2013, the PEF pilots, had its origins in the development of the European Commission's Single Market Act, which consisted of "levers to boost growth and strengthen confidence in the economy". In explaining one of the initial set of 12 levers, 'consumer empowerment', the Commission said: "To ensure that consumers receive reliable information on environmental performance, the Commission will propose an initiative on the ecological footprint of products."

This is also one of the reasons why there has been a proliferation of methodologies and standards to attempt to work out what the ecological footprint of a product is. Fastest-growing in terms of use are the methodologies that are based on quantitative information and on the sound scientific basis that LCA offers. As the name suggests, LCA studies environmental impact throughout the whole product lifecycle. In the leather supply chain, this has meant identifying all the main actors in the supply chain, (from the farm all the way through to chemical suppliers and tanneries) and encouraging each of them to put in place lower environmental impact processes, leading to a final



Hides and skins are usually far from the thoughts of livestock farmers and meat and dairy companies and are frequently discarded, even though they constitute a by-product with potential to add value.

PHOTO CREDIT: PHILÉMON D'ANDURAIN

product that has secure information and high-quality data to show that it has a low environmental impact, with numbers that can be communicated to the market. Carbon footprint is expressed as the sum of and removal of greenhouse gases in a product system: in our case kilos of CO₂-equivalent per square-metre of leather or one kilogramme of sole leather. To work this out, COTANCE obtained data from tanneries and put that data into internationally accepted models, linked to datasets, to produce results.

Political strength

It is the system boundaries, the processes that need to be taken into account when calculating the environmental footprint of a product, that have provoked the greatest debate here.

Agriculture and livestock farming should have been excluded and the lifecycle of leather should start at the slaughterhouse, or to be more precise, on the floor of the slaughterhouse because it is when the hide hits the floor that this by-product of the meat industry begins to have its own separate commercial value. What this means is that we can also identify which phases of the operation at the slaughterhouse relate to the supply of raw hides. Only a small proportion of the activities that take place in the slaughterhouse relate to the raw material tanners use. After flaying, everything else that happens in the slaughterhouse is related to meat. Pointing all of this out made the meat industry unhappy because it suggests the meat industry should accept responsibility for all the environmental impact before the abattoir.

Nevertheless, it is still true that the leather industry only has raw hides to work with because of the meat industry. If there were no demand for meat, there would be no availability of raw hides. Meat is the determining product. But in an exercise such as the European Commission's 2013 look at PEF, it was one thing to be technically sound and another thing altogether to be politically strong. In meetings with the other sectors that took place during the European

Commission's PEF of a cow initiative (it was called the Cattle Model Working Group), it was always clear that what would win the day was not going to be determined by how good the arguments were, but by how powerful the industry was.

A different approach

It would be better to avoid allocation of different shares of the environmental footprint of a cow. It has usually proved impossible to avoid it, however, and it is at this point that other physical and economic relationships must come into consideration; the physical aspects of what goes on in the supply chain should take precedence over the economic aspects when deciding how to proceed. Unfortunately, a number of the LCAs that have been adopted still seem to give preference to economic allocation for raw hides.

The Cattle Model Working Group took a different approach, following a European Commission idea of linking it to protein content, which is very much a physical question. It is complicated, but has been good for leather because this method says that, on average, 88% of the impact of dairy cattle, for example, should go to milk and only 12% to meat. An animal's entry into the food chain at the slaughterhouse, therefore, brings only 12% of the upstream carbon footprint with it. At the abattoir, an economic model takes over, attributing 3.5% to the hide, but it means leather's share of the upstream carbon footprint, according to the Cattle Model Working Group's submission, is just over 0.4%; the exact figure is 0.42%. This is the good news.

The bad news is that reports are still being published claiming that many thousands of litres of water are required to make one pair of leather shoes. These numbers, which seek to allocate to leather volumes of water 'consumed' at the farm (sometimes just by falling on fields as rain or snow), can resonate with consumers and create a negative or bad feeling. This is a battle that the leather industry is going to have to continue to fight.

The promise of 2018

This is true even after the momentous days of April 2018 when COTANCE, after spending five years developing rules for calculating the environmental footprint of leather, won official approval for its findings from the EU.

EU approval seemed to mean the product environmental footprint category rules (PEFCR) that COTANCE and its partners, most notably Italian tanning industry association UNIC, painstakingly put together would now become the officially recognised method for calculating the environmental footprint of leather. Leather came off significantly better with the PEFCR method than with other calculations that finished-product brands and campaign groups had been bandying around for years, particularly with regard to the upstream carbon footprint of a hide. Some groups have used their figures to argue against the use of leather in finished products or to justify a switch to synthetics. After April 2018, it looked as though their calculations had been shot to pieces and would never be used in any serious analysis again.

The European Commission even agreed for the leather PEFCR to be made into an online tool that would make it easy and affordable for even the smallest tanneries to calculate their environmental footprint. In 2020,

though, it became clear that this idea would not come to fruition owing to a breakdown in the relationship between the European Commission and the technology provider that had agreed to build the tool.

Following this, companies have continued to publish LCAs and make it clear, when it comes to leather, that they have either never heard of the PEFCR or prefer to ignore them. Upstream carbon footprint has continued to loom large and the economic model applied often uses a percentage value for the hide that is far in excess of where genuine market value has been for years. In fact, this is true even of the Cattle Model Working Group's 3.5%.

Tanners continue to find themselves pressed by large customers to apportion a percentage of the carbon footprint from raising the animal to the finished leather. Some brands continue to use this argument to justify putting non-leather materials into their products.

Hope remains

Work continues on making LCAs fairer. Whichever LCA study companies develop for leather, the starting point should be a precise definition of the product, followed by a definition of the PCRs, which are important because, once defined and presented in a way that allows them to be verified by third parties, they can be applied to all leather LCA calculations. It is certainly an exercise that can make companies look at their products and processes in a different way.

Determined not to let its work between 2013 and 2018 go to waste, COTANCE announced in the autumn of 2022 a new project called Green Deal Leather, through which it will aim to establish a clear connection between leather and the European Union's Green Deal and Circular Economy Action Plan. The Green Deal is part of a €1 trillion investment plan and is central to the EU's aim of becoming carbon neutral by 2050. The Circular Economy Action Plan is part of the Green Deal.

COTANCE and trade union organisation *industriAll* Europe have explained that the European Union identifies the wider textiles sector, including the leather industry, as one of the priority sectors for making Europe's economy circular.

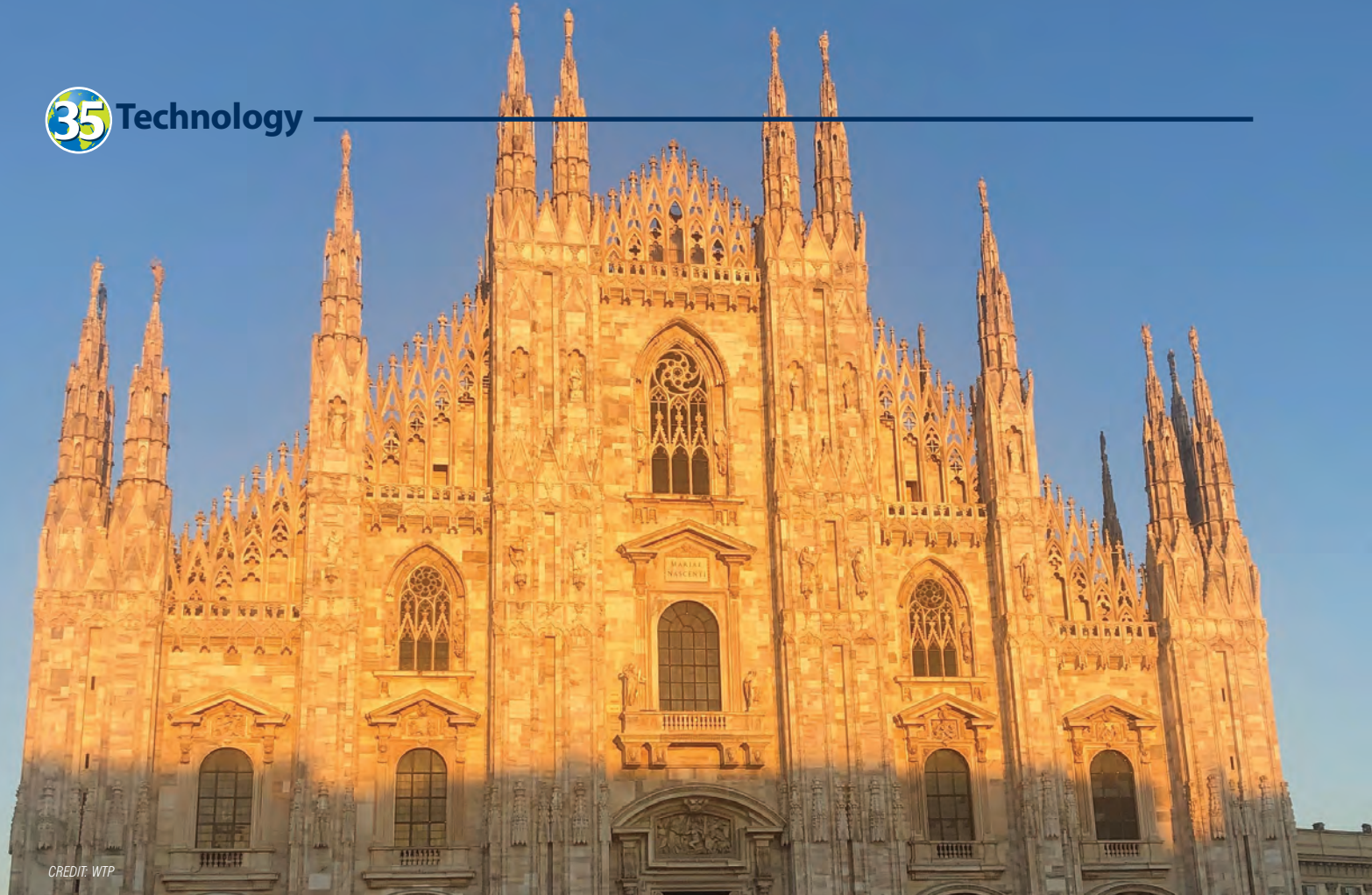
There will be support for the industry from the EU to help it recover from the effects of the covid-19 pandemic and, in the longer term, make the circular transition. COTANCE will work with *industriAll* to make sure this includes investment in protecting jobs in the leather sector in Europe and in creating new employment in the industry. It says that driving sustainability and building a fairer, greener and more resilient European tanning industry will be the key to this.

From the outset, Green Deal Leather will drive home the message that Europe can have a leather manufacturing industry that causes "zero adverse impact". One aspect of this will be to show that leather's carbon footprint makes it a sustainable material for brands and finished product manufacturers to use.

National industry bodies from Spain, France, Italy, Germany, Hungary, Portugal and Austria, which together have more than 80% of the industry's workforce in the European Union, will be the project partners for Green Deal Leather. They will collect the necessary data on workplace safety and carbon footprint from official information sources, surveys, interviews and other channels. The project will conclude in 2024. 🌱

**Enables consumers to make
an informed purchase,
based on the extensive
testing of leather products.**





CREDIT: WTP

Innovation, automation and traceability in Milan

The pandemic is over! Or at least you would be forgiven for thinking that if you spent any time in Northern Italy in the middle of September. Once again, the positioning of the Micam and Mipel shows for footwear and leathersgoods immediately prior to the Lineapelle and Simac Tanning Tech exhibitions proved successful. If anything has been learnt from the lockdowns, it's that travel is not quite as inexpensive as it was or as we remember. Therefore, packing as much into one visit as possible clearly makes sense.

With Mipel and Micam reporting almost 35,500 visitors across their three day shows, it certainly hints at the rising positivity in those sectors, with 20% more visitors than at the previous editions in March this year. The explanation from the organisers for this, if it were needed, was down to the “particularly enthusiastic participation of visitors from Spain, France, and Germany” and they reported good numbers of buyers from the US, Canada and Japan, too.

Immediately following on, Simac Tanning Tech organisers had already anticipated an increased exhibitor attendance of 30%, as floor space requirements in comparison to the 2021 event were well up. It is quite easy to gauge these forecasts from an exhibitor's viewpoint but one must wait until the dust settles and the statisticians are able to perform their calculations to reveal the true attendance numbers. With free-flowing footfall walking between the aisles and from exhibition to exhibition it can sometimes be difficult to fully measure the numbers in “real-time”. The classic indicators of jostling for

position off the incoming train or queues at the entrance turnstiles are now out of date metrics that do not tell the full story. The faithful lunch time lull was ever present – wine bottles open, parmesan wheels undergoing intricate carving and the stands become a busy place for the social interaction we have all missed for a good few years.

What was impossible to miss was that to all intents and purposes, the “show” was clearly and effectively put back into the term “trade show”. Large stands, stainless steel machinery, the quiet hum of compressors and spray lines – interspaced with the occasional thumping of a staking machine filled the senses and, in the blink of an eye, it was like the pandemic had never happened. Once the statisticians had had time to analyse things, the truth revealed an almost 50% rise in exhibitor floor space with visitor numbers exceeding 4,000. Whilst representatives from China, for pandemic reasons, were absent from the show as too were countries involved in the ongoing Ukraine conflict, in total, visitors from 86 different nations were present in Milan.

In conversations with *World Leather*, most exhibitors expressed great satisfaction in the quality of these visitors. It seems the need for face-to-face contact cannot be underestimated or even substituted by digital means. The

heady days of company-wide all expenses paid trips to leather fairs may be behind us but there is no doubting the importance of the Simac Tanning Tech and Lineapelle exhibitions to the industry.

At the show

The observations from the stands at the show centred around automation, innovation, and traceability. Here are some that *World Leather* Technical Editor Mat Abbott found of specific interest.

TRACEABILITY

Leather tattoo

Traceability is key in today's supply chain and Feltre were showing their 'Leather Tattoo' once again, having debuted it in 2021, a system that utilises a laser to mark the hide (raw or tanned) with an identifiable logo or numerical characters. Working in just a few seconds, the markings are visible throughout the processing and allow the traceability of the product to be linked to incoming hide procurement information. The equipment software allows for the adjustment of marking depth and speed to take into account different raw material types.

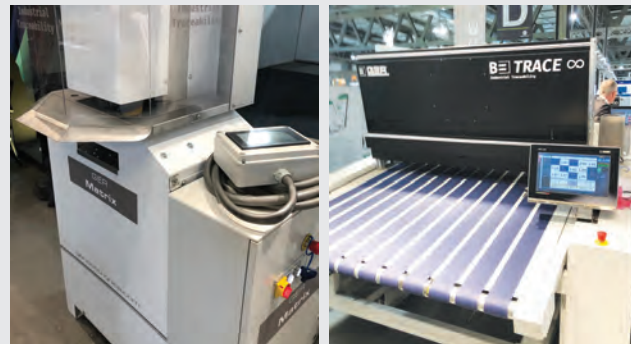
Slimline stamping machine



Tanning technology provider Equitan had a new version of its QSU hide stamping machine on display. Founder Antonio Antoniazzi has calculated that the average character stamped onto hides by their standard machine, the QSU4, measures 13 millimetres. Now he has created the new QSU SL (the last two letters stand for 'slimline') to reduce the average character size to 10 millimetres. He explained that this will allow tanners to apply numerical stamps that will take up less space on each hide, and that it will also allow them to place the stamps closer to the edge of the hide, thereby making an increase in available cutting areas possible. This increase may be small on an individual hide, but over a whole production run could make a worthwhile difference, Mr Antoniazzi claims. The new version also uses less energy.

Digital Traceability

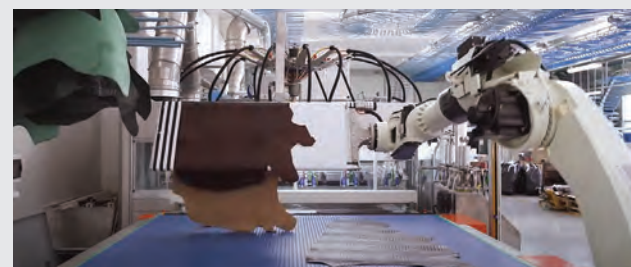
Providing a complete digital traceability solution, GER Elettronica exhibited their BE TRACE technology. A system that not only combines the physical marking of the hide or skin prior to process but also reads, records, and stores full process history for the leather and the parameters from the processing. The advantages this brings are said to be process optimisation and efficiency. Adapted to read different marking methods, the system



can be used at different process stages, whether this be tanned, crust or finishing.

AUTOMATION

The next industrial revolution



The patented robotic arm can perform many manual functions to load and unload leather process lines.

Automation in the tannery has mostly focused on the heavy manual handling aspect of the process, with operations to simplify and ease lifting. Barnini were displaying their BRS – Barnini Robot System Automation – for the more intricate operation of spray machine conveyor loading. The somewhat unskilled operation has been the focus of a project by the company to improve consistency in production, reduce manpower costs and provide continuous feeding of the line by automated robot. The system allows for leather to be picked up from pallets and trolleys and laid in the most efficient orientation on the spray line.

Compact cutting

Where space is at a premium, Elitron was displaying their Spark F cutting system. Using a five-head cutting tool, the compact design allows precise but flexible cutting options on a static suction bed. Suited to the leather and leathersgoods sectors, the machine is ideal for prototypes or samples, or for use where space restrictions dictate. Video projection aids in the optimisation of yield whilst at the same time reducing waste and associated costs.



INNOVATION

LCA embedded drum



The drums program panel (right) is key in the monitoring of process performance and assessment of environmental impacts and costs.

Automated drums are quite commonplace in the modern-day tannery, but sustainability consultancy company Spin 360, in partnership with Italian tanning machine developer Italprogetti, is taking things to the next level with the Smart Drum. Spin 360, headed by Federico Brugnoli, has a strong background in sustainability and life cycle assessment and offers a “new intelligence in leather tanning” with this drum. Incorporating process parameter sensors, the pilot scale-size drum allows technicians to formulate and run wet leather processes and through the integrated software understand, modify and record process costs plus resultant leather quality but, more importantly, the environmental impacts. Most innovatively, it includes a ‘what if’ feature where process formulations can be altered in a virtual sense to simulate potential changes to the environmental footprint of the process and leather thus allowing technicians to formulate theories for improvement, test, and validate the results.

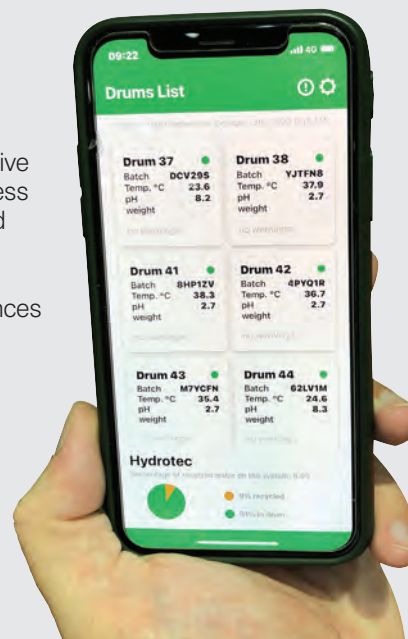
Tanning with sugar

Tanning technologies have been much under the spotlight in recent years. The latest company to enter the arena is Schill and Seilacher with their wet white tanning chemistry called Succuir. A sugar-based tanning product, it utilises the waste stream from a vegetable oil production to form Triose and so has very high sustainability credentials. At the product launch, the company said it was produced in line with “many green chemistry principles” as outlined by the American Chemical Society. The resultant leather itself, on display at their Lineapelle stand, was presented in an array of colourful skins and felt much like many of the other leathers on display around the hall. As an intermediate tanning medium, the Succuir tannage offers metal-free, glutaraldehyde-free biodegradable wet white that tanners should be able to adapt to quite easily.

Control at your fingertips

Connectivity of tanning machinery in the form of tannery 4.0 is mainstream now. In our personal lives, smart technology presents opportunities to monitor and control household devices. In Milan, Pajusco Tecnologie brought smart technology to the tanning industry. Through a smart phone app and software system, the JDrum concept allows not only real-time process monitoring but also process management and intervention should anomalies occur. With “clear and intuitive data analysis”, process data can be archived for two years giving traceability and conformity reassurances to both tannery managers and customers. 🌐

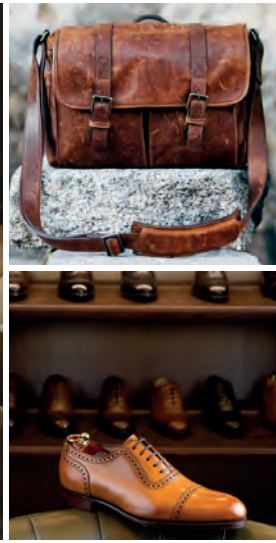
The JDrum system allows a full understating of various process parameters and stages, all in a smart phone app.



Wet white leather tanned with Succuir.



USA: Your Source for Top Quality Raw Materials



The US is the global leather industry's preferred supplier of hides, skins and wet blue leather products.

- Over 31 Million Cattle Hides and Wet Blue Products Produced Each Year
- Top of the Line Animal Husbandry and Processing Practices
- Favorable Climate Conditions for Grain Quality
- Professional Industry Management
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- Reliable Industry Trade Standards - The Standards Governing the Sale of North American Cattle Hides

LEATHER AND HIDE
COUNCIL OF AMERICA

Find out more by visiting the Leather and Hide Council of America at www.USLeather.org

The “Silent Killer” – hydrogen sulphide gas

PART 2: *Following the re-release and updated UNIDO free access guidance “How to deal with hydrogen sulphide gas in tanneries and effluent treatment plants”, we now look at safe work practice, accidental release measures and how to be prepared (see part 1: The “Silent Killer” World Leather Aug/Sept 22).*

As the saying goes, prevention is better than cure. That said, preventing the release of a poisonous gas that at high concentrations has no smell, requires some method of detection. In low concentrations, the presence of the “rotten egg” smell gives some idea that the gas is present but with no quantification, it is difficult to know what steps may be needed to ensure the safety of workers and even the public. Fortunately, gas detection equipment in various forms can quickly and easily give accurate information as to the levels present to help ensure safe working practice.

Fixed area detectors – Mounted in open areas and continuously monitoring for H₂S in the working area, these detectors alert operators to leaks and releases in the workplace. Typically set to alarm at concentrations of 10-15 ppm, the fixed-area detection stations may be mounted in areas where a risk of H₂S formation is high, such as in effluent treatment plants and beamhouse departments.

Portable gas detection – This allows instantaneous and accurate readings of gas concentration. Portable detectors are used to test confined spaces and general work areas to confirm whether there are elevated levels of H₂S. Personal detectors are worn by employees and will sound an audible alarm at levels of 10-15 ppm. A wide variety of reliable and well-regarded H₂S detectors which measure and alarm in the 10 ppm range are available to industry.

As previously noted, being heavier than air, if emitted, the gas tends to fill low lying areas or sumps, pits and drums – areas generally defined as confined spaces. For this reason, it is imperative that before entering any of these, workers first test for the presence of the gas. For safe work practices, a “confined space” is defined by the US Occupational Safety and Health Administration (OSHA) as an area that has limited or restricted means of entry or exit and is not designed for continuous occupancy, but large enough for workers to enter and perform certain tasks, containing or that has the potential to contain a hazardous atmosphere; contains material that has the potential to engulf an entrant; has walls that converge inward or floors that slope downward and taper into a smaller area which could trap or asphyxiate an entrant. In any case, a risk assessment permit to entry for confined spaces should be carried out – assessing both the risks and plans on how to control those risks including emergency arrangements where necessary. Specialised confined space training is also advisable, if not already part of local legislation.

Along with difficult access, confined spaces often present problems such as inadequate ventilation or noxious air. Unfortunately, two-thirds of deaths in confined space rescue



When entering a confined space, a worker must be attached to an independent lifeline for adequate fall protection and retrieval. A complete retrieval system should consist of:

i. a man-rated winch to be attached to personnel at all times during the descent and work below ground; ii. tripod; iii. full body harness; iv. work winch to raise and lower materials only; v. PPE – helmet, working gloves, suit; vi. H₂S detector; vii. self-contained breathing apparatus (SCBA).

CREDIT: SHUTTERSTOCK.COM

situations occur to people trying to rescue someone else. The critical nature of these rescues sometimes leads to poorly planned attempts. Adequate planning, preparation, training and practise, along with proper equipment, are necessary to keep employees safe while working in and around confined spaces. The first fall protection consideration when working near or preparing to enter a confined space relates to the access area itself. When a hatch or cover is removed to provide access to a confined space, as is the case with manhole covers, the opening must be immediately guarded with a railing, temporary cover, or some form of barrier to prevent an accidental fall into the space. All workers, not just those entering the confined space, need to be fitted with fall protection. An employee may become inadvertently overwhelmed by fumes when the cover is removed, which could result in loss of consciousness. Therefore, it is important for those working near the opening to wear either a restraint lanyard, preventing

them from reaching the edge of the opening, or an arrest lanyard or lifeline, to stop a fall in progress, before the cover is even removed.

Accidental release measures

Uncontrolled releases should be responded to by trained personnel, using proper protective equipment and using preplanned procedures to clear the affected area and protect people. Due to the potential flammable nature of the gas, adequate fire protection must also be provided. If H_2S gas has been detected, appropriate measures can be taken to neutralise the gas that is present. This can be done by sprinkling the area with hydrogen peroxide or mix a spillage with iron sulphate. Proper ventilation should be used to target low lying areas, but never with pure oxygen, which can react strongly with hydrogen sulphide gas. Even if no gas has been detected, caution should be taken, and the same safety procedures should be followed.

In all instances, a calm methodical approach to the situation is required, with particular attention being paid to yourself as the rescuer – and immediately remove the victim from the accident area; when safe to do, so start emergency first aid procedures and alert the relevant authorities.

How to be prepared

Proper training and equipment to perform quick, safe rescue is essential in any operation where risk locations or confined spaces must be entered, with regularly reviewed and up-dated emergency plans with regards to staff training, first aid provisions and equipment.

- Keep the emergency equipment exclusively ready for emergency purposes in properly marked locations;
- Keep all safety equipment clean and in good order;
- Inform first aiders and yourself on required measures to be taken in case of hydrogen sulphide gas poisoning;
- Practise rescue of accident victims from all risk locations in your tannery or effluent treatment plant, in particular from tanks, pits, and manholes;
- Prominently display contact numbers of fire brigade and hospital;
- Liaise with fire brigade to assure their immediate assistance in case of emergency.

Anecdotal example

There may be no better indication of the need for confined space safety training and equipment than, sadly, a real life example. Workers at a tannery effluent treatment plant were trying to fix a faulty pump at the bottom of a manhole. One worker was at the bottom of the hole when he was overcome by hydrogen sulphide fumes. Another worker went down the hole to attempt to rescue him, but he was overcome as well. Another worker followed, then a fourth. All four men tragically died trying to rescue one another. These types of deaths are preventable. Had the workers been using gas detection devices and wearing harnesses connected to a winch or self-retracting lifeline with rescue capabilities, the early warning could have given the entry attendant and other workers enough time to engage the winch and perform a non-entry rescue. ☹

This is a review only and the full guidance can be seen on the UNIDO website.



PERFECT LEATHER
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 **TRUMPLER**
SIMPLY GOOD CHEMISTRY

Pulcra Chemicals, with its headquarters located 20Kkm south of Munich in Geretsried, Germany, draws on over 140 years of experience in the supply of chemicals to the leather, textile and fibre industries.

CREDIT: PULCRA CHEMICALS

Extended surfactants and extended fatliquors for leather

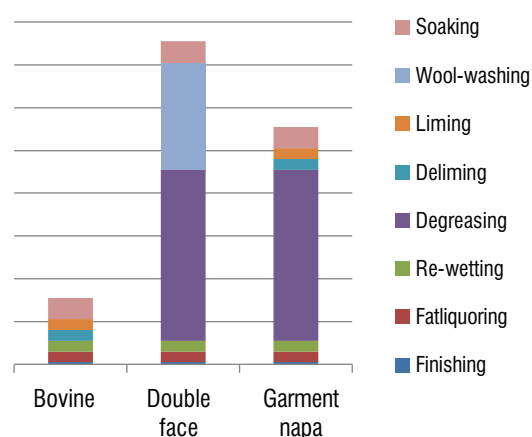
Ivo Reetz - Pulcra Chemicals GmbH, Geretsried, Germany

Surfactants play important roles in the tannery, from aiding in soaking, washing and degreasing through to emulsifying in finish formulations and fatliquoring. Recent research into the relatively- new “extended surfactants” has highlighted the improved sustainability of these materials for the industry and, importantly for the automotive tanning sector, they show noteworthy improvement in emissions due to larger molecular size and increased solubility.

Surfactants of various ionic natures are used in practically all steps of leather manufacturing. During soaking, degreasing or washing of wool, significant amounts of emulsifiers are applied, and an important fraction of this amount is discharged into the wastewater. In fatliquoring, surfactants are also used to aid penetration of the softening lubricating components, or of long chain surfactant molecules that work directly as lubricating components. For improving the overall sustainability, research is constantly being carried out to find more effective, bio-degradable emulsifiers that can achieve good results even with smaller usage quantities.

Extended surfactants are a new type of surfactant, the use of which is relatively new in the tanning industry. These substances have separating groups between the hydrophilic and hydrophobic parts of their structure that can substantially improve many of their properties. In this work, their efficiency is demonstrated in various process steps, including soaking, degreasing and wool washing. When used in chemicals for automotive leather, extended surfactants and fatliquors are particularly noteworthy for their significantly lower emissions. This is explained in terms of their larger molecular size, which is combined with improved solubility. Extended fatliquors show an improvement in the softness of the leather and give outstanding physical properties.

Figure 1: Use of surfactants, relative quantities.



Degreasing and soaking

In small skin leathers, significant quantities are used for degreasing and wool washing. In bovine leather, it is the soaking process where significant amounts of emulsifiers are needed. Figure 1 gives an illustration of the quantities used in different types of leather¹.

Table 1: Chemical structures of surfactants used for leather manufacturing.

Anionics	Non-ionics	Cationics
Sulfonates/Sulfates (sulfated alcohols or alkylethers, sulfosuccinates, ABN, sulfonated esters, secondary alkane sulfonates)	Polyethers (fatty alcohol ethoxylates (FAEO) ² , propoxylates, mixed alkoxyates	Alkyl quaternary compounds
Phosphates (alkyl or alkylether phosphates)	Alkylpolyglycosides (APG) ³	Esterified alkyl quaternary compounds (esterquats)
Carboxylates (polymers or soaps)	Aminoxides ⁴ , Betains ⁵	Imidazoline derivatives ⁶

Surfactants in the general sense are molecules with a polar head group, and a longer non-polar tail. The classification of emulsifiers is usually made by the ionic charge of the polar head. *Table 1* is a summary of the types of emulsifiers being used for the tanning process.

Extended surfactants are a relatively new class of surfactants⁶. The extension is an intermediate polarity group, mainly composed of a propylene oxide block that is introduced between the hydrophilic head and the lipophilic tail. In many works it has been shown that extended surfactants have a higher micro-emulsion forming capacity and ultra-low interfacial tensions^{7,8,9}. This phenomenon is explained with the unique structure of extended surfactants. The polypropylene block makes the polarity change at the phase boundary smoother, and the structures at the interface denser¹⁰. On the other hand, the lipophilic chain extends much deeper into the oily phase, which improves its structuring. There is also an important advantage from a practical

point of view: the propylene oxide block has a fluidising effect and makes it possible to explore much longer hydrocarbon chains, which normally, because they are solids, cannot be used due to lack of water solubility of the resulting structures.

Extended surfactants for the tanning industry

To investigate the use of extended surfactants in leather manufacturing, different types of surfactants with and without extension have been compared in various processes¹¹. As extension changes the hydrophilic-lipophilic balance (HLB) of the surfactant, tailored molecules have been made, whereby the introduction of extension was compensated by a decrease of the lipophilic chain. *Tables 2-4* list the molecular structures used in this work. The HLB values are calculated according to Griffin¹².

Extended non-ionic class surfactants based on ethylene oxide (see *Table 2*) have been used in a degreasing test on

domestic English sheepskin. In this trial it was observed that degreasing efficiency improved by 13% with the use of the longest extension. This class of compounds was introduced commercially with great success for the degreasing of difficult sheep skins. The unmatched emulsion power of extended surfactant for natural fat is a direct result of the extension. The triglycerides, i.e. the natural fat of the leather, are aligned with the ester group near the extension, and the fatty chains follow the lipophilic tail of the surfactant. This structuring improves the packing density and, consequently, the amount of oil, that can be emulsified¹³.

Surfactants with a sulfate group have been used for wool washing on Australian sheepskins in three intakes during washing. With the longest extension, a higher openness and degree of whiteness of the wool was observed. The fat content in the wool decreased by 75% with respect to washing with the conventional emulsifier without extension.

As a third application, the use of extended surfactants in soaking was analysed. Groups of ethoxylated fatty alcohol sulfosuccinate were used for this test, comparing samples with and without extension.

In this case, the best soaking and cleaning effect on both the flesh and hair side was observed with the medium extension. The test was done using a 1% amount of emulsifier with a salted bovine skin of Turkish origin.

Extended fatliquors

The main purpose of fatliquoring is to prevent collagen fibres from sticking together during the drying process of the leather¹⁴. Important properties such as softness and tear resistance are significantly related to fatliquoring. Many oxidative processes in leather have their origin in the oxidation of the fat or fatliquor, which is why fatliquors are in the focus of protection against oxidation and aging in leather¹⁵.

Modern lubricants are relatively complex products. A fatliquor usually consists of an anionised fatty ester, emulsifiers, crude oil, co-surfactants and various additives. The anionised fatty ester itself meets all the requirements of a surfactant, which is defined by the ability to reduce the surface tension at an oil-water interface, and the peculiar surfactant structure of hydrophilic head and lipophilic tail. Of

Table 2: Non-ionic surfactants for degreasing trial.

Chemical structure	n	x	MW	HLB
$\text{iso C}_n\text{H}_{2n+1}\text{O} \left[\text{CH}_2\text{CH}(\text{CH}_3)\text{O} \right]_x \text{H}$	13	0	460	2.8
	11	4	668	3.2
	10	6	770	3.3

Table 3: Surfactants with sulfated groups for the wool washing test.

Chemical structure	n	x	MW	HLB
$\text{iso C}_n\text{H}_{2n+1}\text{O} \left[\text{CH}_2\text{CH}(\text{CH}_3)\text{O} \right]_x \text{SO}_3^- \text{Na}^+$	13	0	277	39.5
	11	4	484	50.9
	10	6	586	40.1

Table 4: Surfactants with mixed anionic groups for the wool washing test.

Chemical structure	n	x	MW
$\text{iso C}_n\text{H}_{2n+1}\text{O} \left[\text{CH}_2\text{CH}(\text{CH}_3)\text{O} \right]_x \text{SO}_3^- \text{Na}^+ \text{COOH}$	13	0	638
	11	4	846
	10	6	948

Table 5: Fatty components F1 and F2 of the conventional and extended fatliquors CF and XF, respectively.

Chemical structure	Name	R-	x	y	MW
	F1 (CF)	Oleyl	0	0	426
	F2 (XF)	Cetostearyl	8	5	1.094

course, the HLB value of this part of the fatliquor is low.

With extended surfactants, the exploration of very long chains can be achieved. This, from a fatliquor point of view, has an important advantage: longer chains also give better lubrication, assuming that penetration of the components and uniform distribution within the skin is achieved.

A fatliquoring product of a complex composition was formulated, using a composition of a long-chain sulfo-succinate without (F1) and with extension (F2). The fatliquors, conventional (CF) and extended (XF) were both formulated in the same manner. Both had a concentration of 45% a.m., including 25% a.m. of component F1 and F2, respectively. The remaining ingredients were long-chain hydrocarbons and glycols.

The formulation is an oil-in-water (o/w) emulsion, which is usually an easy ready-to-use product for fatliquoring process. The following general observations have been made:

- The extended fatliquor tends to form micro-emulsion. The conventional base lubricant is a milky oil.

- Foaming on application is suppressed.
- Emulsions in different electrolytes including pickle, chromium, mimosa and syntan, with extended base oil are more stable compared to conventional base oil.

The two fatliquor samples were used in an automotive leather recipe, using 12% of both products in the main fatliquor. The results of the tensile and tear strength determination (see Table 6) clearly show the increased lubrication effect of the extended fatliquor. The improvement in physical strengths is related to a higher greasing uniformity, which was also to be expected due to the thinner and more stable emulsions. As an additional effect, the longer lipophilic chain, can also improve physical strengths. A combination of longer chains and a more stable emulsion is a unique property made possible by the introduction of the extension.

Skins with conventional and extended fatliquoring were subjected to emission tests by fogging and dynamic headspace (FOG).

In the fogging test, a significant improvement was observed, both in

gravimetric and reflectometric fog. Also, in dynamic headspace test a significant improvement in FOG emission was detected. With both products a generalised ("Ölberg") emission was found, and in the case of the extended fatliquor it decreased from 2057 ppm (CF) to 334 ppm (XF). There are several possible explanations for the improved emission. The greater uniformity of the grease is an important factor - agglomerations of grease result in lower adsorption and, as a consequence, higher emission of volatile compounds in the case of heating. A very important factor is the boiling point of the anionised fat. In the case of CF, the raw material used is a C1618 chain fatty alcohol with a molecular weight of 260 g mol⁻¹. Its boiling point is 340°C, which is within the range of semi-volatile organic compounds, SVOC, substances considered to be of maximum risk for fogging. On the other hand, in the case of the extended grease, the raw material has a molecular weight of 940 g mol⁻¹ and a boiling point above 450°C, so it is ruled out as a volatile substance. In the preparation of the anionised grease part, the conversions achieved are about 80-90%, so that there always remains a part of unreacted raw material in the final fatliquor.

Sustainability considerations

With the definition of sustainability as combination of social equity, economic, and environmental factors, there are several points to be highlighted.

First, the improvement of application efficiency by introducing extension makes it possible to reduce the amount of product used, achieving the same application result. On the other hand, the quality of the final leather can be improved, which is also considered a positive effect from a sustainability point of view.

The extension is propylene oxide based, which is clearly fossil based and thus has a negative effect on the carbon footprint of the molecule. On the other hand, the starting fatty alcohol (FOH C1618) used in this extended fatliquor study is based on natural cetostearyl alcohol. With regard to biodegradability, the introduction of oxide groups may worsen the biodegradability rate. However, the raw material used for the extended fatliquor has a biodegradability > 60% in the test: OECD 301F, so it is classified as readily biodegradable. With the improved interaction with the leather,

Table 6: Results of determination of mechanical resistance according to DIN 53328 DIN 53329

Test	Unit	CF	XF
Stitch Tear str	N/mm	33	60
Stitch Tear Force	N	52	91
Tear strength	N/mm	17	19
Tearing force	N	27	28
Tensile strength	N/mm ²	13	15
Breaking load	N	214	242
Elongation	%	24	26

Table 7: Fogging results according to DIN 17071 and FOG by VDA278.

Test	Cond.	Unit	CF	XF
Fog, Grav	16h 100°C	mg	1.7	0.5
Fog, Refl	3h 100°C	%	37/50	67/64
Fog, Refl	6h 75°C	%	84/87	96/98
FOG	VDA278	ppm	2194	337

the COD values in most applications also improve, which results in reduced impact to wastewater.

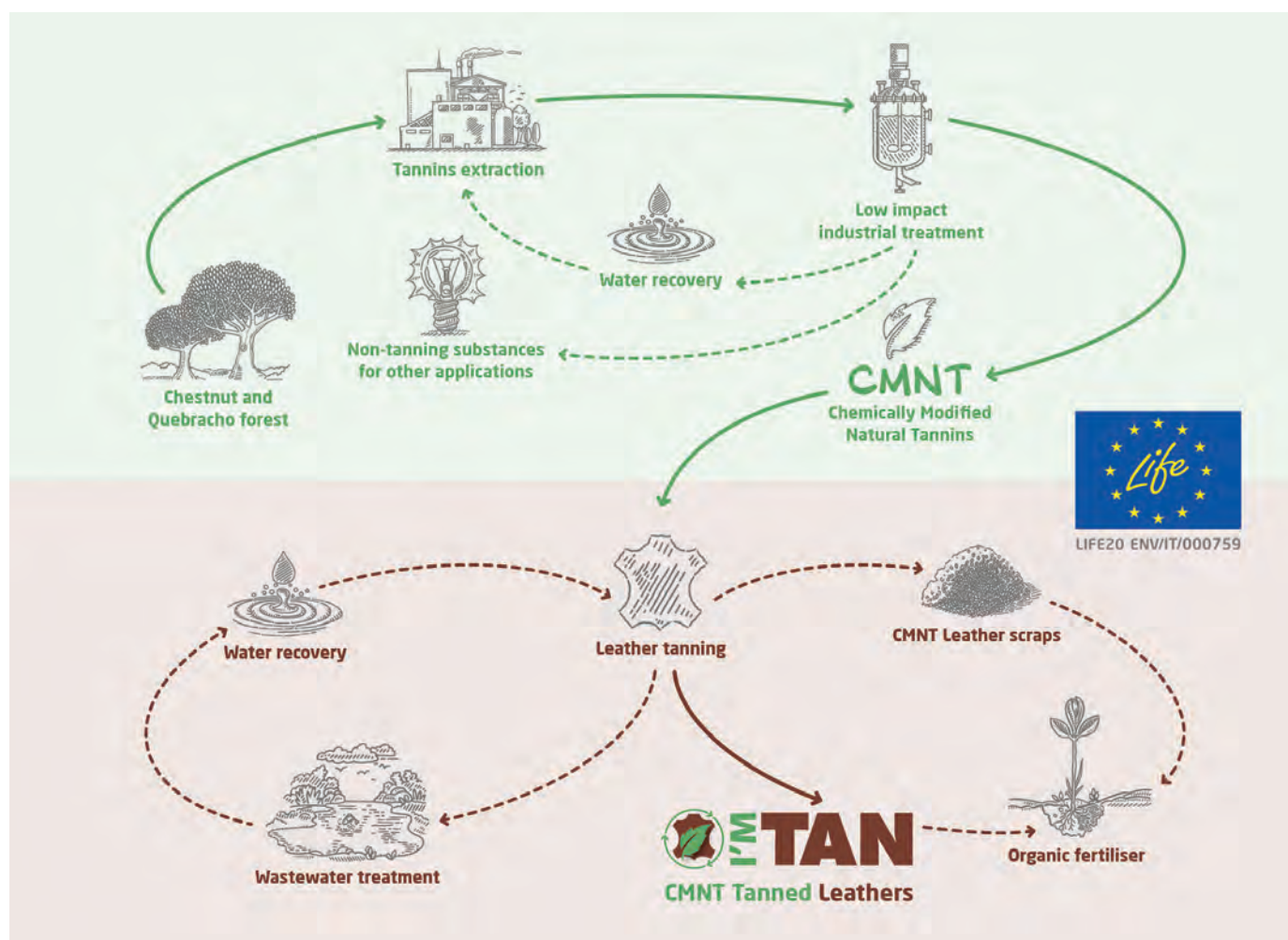
Conclusions

Extended surfactants are tailor-made molecules with great potential for the tanning industry. The tendency to form micro-emulsions is a clear advantage for the improvement of penetration and stability of emulsions. In the degreasing process, where these products are already used commercially, a significant improvement is seen, including on leathers that are very difficult to degrease. The extended fatliquor improves the lubrication of the fibres, something that has been shown to improve the physical resistance of the leather. In application on automotive leathers there is a significant improvement in emissions. This is attributed to the higher uniformity and larger molecular structure. Extended surfactants and extended fatliquors also have interesting properties from a sustainability viewpoint. ☺

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LIFE I'm Tan Project – traditional tannins get a modern day make-over

Leading tannins manufacturer Silvateam is working with a series of partners in Italy to adjust the ways in which natural tannins are usually prepared for use in leather making. The European Union funded LIFE I'M TAN project aims to develop modified natural tannins (CMNTs), from chestnut and quebracho, to achieve lower chemical hazards, sustainable costs, reduced waste, and improved circularity compared to conventional tanning processes. World Leather interviewed Silvateam to learn more about the project.

Vegetable tanning of leather, often referred to as the first form of tanning, has remained unchanged for centuries. Natural tannins, obtained from tree barks and wood as well as leaves and nuts through a simple process of aqueous extraction, were the historical tanning agents. These leathers were first produced through pit tanning, where hides were suspended in pits of ever-increasing tannin concentration until such time as the process was deemed complete – with an often-quoted timescale of “a year and a day”.

More efficient processes came about with the

industrialisation of the process, utilising belt-driven drums to speed up the tanning reactions, but this was essentially still using the same extracts that had been available previously. It is fair to say that nowadays the extraction of tannin is more advanced, but it is still essentially a process of leaching out the substance from the plant-based materials. With the I'M TAN project (LIFE20 ENV/IT/000759), Silvateam are looking to modify the natural tannins to impart extra properties, whilst improving circularity throughout the whole supply and production chain.

What is the concept of the project?

Vegetable tanning has always made wonderful leathers, from traditional sole, belts and harness through to the finer fashion styles of vachetta leather. The issue with vegetable tanned leathers is performance. Historically, for these reasons, natural tannins were replaced with substitution syntans which now have other implications, associated with some contained substances like free formaldehyde and bisphenols. These substances have been recently shown to be harmful, so it is the right time to focus on upgraded vegetable tannins. Using advanced, revolutionary modifications of natural tannins, we can improve performance, colour and even wastewater treatment issues ultimately by removing the non-tanning molecules, which can be diverted to other industrial applications. Recently there is high interest in materials with high biocarbon content. For this purpose, tannins are the perfect choice for tanning as they contain only 'young carbon' produced by plants, not deriving from fossil carbon.

Many different grades of vegetable tannins are currently available; why is this so different?

The current choice of the most suitable tannin is made by carefully selecting the raw materials. For lighter colours we can use tara or gall nuts, for example, or to produce heavy and sole leathers it is preferable to select chestnut. However, this project is focused on specific modifications that will give a different chemistry to the tannins. Moreover, research has shown that tannins contain certain compounds which are responsible for colour but not for the tanning process, so these can be removed.

Who started the project and how far into it are you?

Silvateam initiated the project back in September 2021. We already had some knowledge of what we were doing but to pass from lab scale (TRL 5) up to pilot scale (TRL 8), prior to commercialisation, we needed to bring in partners to assist us. So far, we are still in the laboratory stages. We will start to produce some small lab scale leather samples soon. We are spending a lot of time conducting analysis and characterisation of the process to be scaled up to the pilot scale. Benchmarking has been a very large part of the early stages. Trying to produce and fully analyse as many different leathers as possible to replicate those from our tannery partner, and to also understand their environmental impact with wastewater analysis, have been the main activities so far. By setting these benchmarks, we can measure our success against real productions. We have regular partner meetings to report feedback but due to some of the recent global issues we are a little behind where we expected to be.

Who are the partners and what are their roles?

One of the partners is Crossing – a spin off company from the University of Venice. Their aim is to optimise the chemical modifications that we hope to achieve in the project and moving from lab scale to pilot scale will be their function,



Spray dried powders of chestnut (above) and quebracho (below) tannin extracts.



alongside our assistance and help from other project partners. CRCF (Centro Ricerche per la Chimica Fine) is the research partner, making production in bigger scale (prototype), while Aquarno is involved for the wastewater treatment side. Our tannery partner is Conceria INCAS. They are based near Santa Croce sull'Arno in Castelfranco di Sotto and have expertise in vegetable tanning.

From the benchmarking process, are you looking to replicate and replace all tannages with the CMNTs?

Not at all. From the process we are going through, we are not just looking to provide a new tannage but to also improve current technologies and processes. This project is not anti-chrome, anti-aldehydes or anti-syntans: its goal is to give tanners an option to make their usual leathers more sustainably.

How does this project fit with the Ecotan project that you have been promoting?

This new project will be a booster to the Ecotan system. The Ecotan technology includes tannins and syntans whereas this LIFE project aims to provide increased performance from the tannins, whilst improving the environmental footprint of the entire chain.

Removing some of the lower weight non-tannins, do you expect to see any drastic changes to the resultant leathers?

Removing the non-tanning substances should not impact the leather quality. Nevertheless, we realise that some compromises might be needed. Certainly, with the restrictions on bisphenols present in syntans, the soft white leathers that brands love become almost impossible to create but we hope to provide the industry with a new product to use for this. Chrome tanning is over one hundred years old, and most of the best syntans, although slightly modified, now are fifty or so years old. We, therefore, need time to assess and evaluate but, so far, we've made great progress in such a short time.

The project claims a 60% saving on water consumption; can you provide more detail on this?

The reduced water consumption comes mainly from the possibility to recycle the tanning bath. Traditional drum tannages do not allow this as there are residual non-tannins, such as salts and sugars, that will be increased too much in the following bath. Our aim, by removing these non-tannins, is to make sure that this build-up will not occur, ensuring the recyclability of the bath, therefore reducing the consumption of water.

Will the CMNTs be aimed at a specific sector?

Any sector performing drum tanning. We work with all sectors from leather goods to automotive. What we will offer are tannins that, thanks to industrial modifications, will help tanners to produce leathers with higher performance, lower environmental impact and higher biobased content compared to the benchmark tanning process. ☺

A new roller machine for whole hides

Greenstar is said to be the culmination of Gemata's thirty years of experience in the field of leather finishing machines. Lending itself to ultimate precision, the machine offers whole hide finishing for all types of application.

The range of Gemata products has recently expanded with the addition of a new machine specifically designed to finish whole and half hides of any type. With working widths of 3400mm and 3800mm, it is envisaged that the machine will appeal to the automotive and upholstery tanners in much the same way as its Megastar range of rollercoaters. Appreciated by these sectors, the reverse coating applications' precision and effective covering, even on imperfect hides with low spots, is guaranteed due to the large diameter of the rubberised counterpart roller, according to the company.

The new Greenstar machine consists of three main structural elements: the spreader for stretching and inserting the leather, the machine body for spreading the chemical product on the surface of the leather and then the puller for spreading and conveying the hides to the drying tunnel.

Combining and condensing designs from previous models, the stiffness and precision of a large diameter counterpart roller is combined with a conveyor belt employing a constant pull. This engineering solution enables the removal of the hides without any form of detaching rollers or other mechanical device and therefore eliminates any contamination on the flesh side.

The improvement in the hide detachment process is due to the geometry of the machine, which is composed of a motorised rubber belt, a large diameter chromed counter roller and a small diameter return roller conveyor. With the ability to position the exiting conveyor at four different angles, this provides for an increase in spreading precision, and greatly increases the quality of the finish. It also utilises a patented system to maintain constant tension in the belt in all the



At the recent Simac Tanning Tech exhibition, the 2400mm version of the Greenstar machine was displayed.

CREDIT: WTP

different positions, extending the life and reliability over time and preventing the belt from deforming or losing shape.

The most innovative feature of the Greenstar machine is the data storage and management system of the engraved cylinders. The machine is equipped with a data reading and writing system linked to the engraved cylinder by means of an inserted RFID tag. With this technology, information that uniquely identifies the engraved cylinder, the type and style of engraving and the production date can be written, stored, and modified on the operating system, whilst the working hours of the cylinder are automatically stored on the relevant machine in which it is mounted. It is therefore possible to plot the working time of the cylinder in advance for scheduled maintenance, linked to the estimate of wear.

Other improvements include a new movement of the doctor blade. This technology, with a calibrated horizontal

movement, keeps the engraved cylinder capacity constant, ensuring uniform coating and automatically compensating for wear and tear of the doctor blade itself. The chromium-plated steel counter-roller is continually cleaned by a scraper blade that prevents dirt residues from adhering to it and to the inner face of the rubber belt, which would spoil the quality of the coating.

Equipped with Long Life cylinders, available in several dozen styles and capacities, these improve and optimise the delivery of the chemical product from the engraving, making applications much more uniform. They also shorten the time required for cleaning operations at the end of processing to around 15 minutes, and speeds up colour changing.

As one would expect, Greenstar is equipped with control systems that allow both remote identification of problems and remote assistance. ☺



TFL State-of-the-Art Low Bisphenol Syntans Keep You in the Lead

Markus Hess and Chris Tysoe – Heads of Product Management (Wet End)

The Bisphenol story began with BPA (Bisphenol A) in plastics, the concern being that it can migrate from containers like bottles etc., via food and drink into the human body. EFSA (European Food Safety Authority) completed its first full risk assessment of BPA in 2006 and published a re-evaluation of BPA exposure and toxicity in January 2015 reducing the tolerable daily intake. Now the EU regulations are focusing on 34 bisphenols of similar concern (BoSC) which include BPS and BPF. These two bisphenols are relevant to synthetic tanning agents commonly used in the leather industry, either being an essential raw material or impurity from manufacturing. A restriction proposal for Bisphenol contents in syntans as well as in leather has been announced by the German authorities in October 2020. This will lead to a threshold for consumer articles imported to, or manufactured in, Europe. However, threshold limits are yet to be determined and the publication of draft has been postponed by the German Authorities until earliest October 2022.

Syntans, the only product range directly affected by this legislation, remain an indispensable tool to convert wet blue and wet white intermediates into genuine leather. Syntans bind to the polar groups of Collagen resulting in a genuine cross-linking by hydrogen bonding (see Figure 1). This tanning effect is not achieved by applying existing polymers, fillers and other auxiliaries alone. In addition, the sulfonate group, also shown in figure 1, can bind by ionic bonds to collagen amino groups or to chrome in chrome-tanned leather.

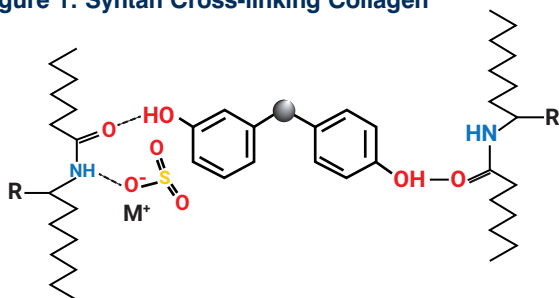
Syntans form an essential part of wet end processing contributing to the retanning to obtain articles with desired fullness, tightness and softness whilst ensuring the highest fastness requirements are attained. Syntans also help to control stretch and give leather articles the required dimensional stability together with enhanced durability and longevity. Tailor-made syntans present numerous advantages, such as consistent quality, better lighter colour and higher dispersing effect for rapid penetration. For the same reason, some light-coloured, light fast vegetable extracts on the market today are blends with syntans.

BPS and/or BPF residues in syntans do not have any performance effect. Therefore, we have been working on reducing the free BPS and BPF content of our syntans to the minimum possible currently while still using the raw material for the performance which the tanners require. TFL, as a leading global supplier of leather chemicals, has outstanding syntan research and development resources. This we have levered to maximum advantage and now launch new ground-breaking syntans based on genuine and fundamental chemical development. Our customers are now themselves taking advantage of this new chemistry to at least maintain their leather quality and business and yet meet the requirements set by the legislation.

The newly developed syntans **TANIGAN® BN-O Liq**, **TANIGAN® LF-O Liq**, **TANIGAN® DS-O Liq** and **TANIGAN® RL-O Liq** were thoroughly tested under tannery conditions at several selected customers before the launch. The new syntans can closely mimic the performance of our existing globally recognized “industry standard” icon products such as **TANIGAN® BN** etc. However, they are not a 1:1 identical copy and a technical fine-tuning of the wet end retanning formula maybe required in some cases to achieve the desired crust results.

All these syntans meet the <0.1% BPS + BPF level to avoid the labeling demanded by legislation. Applying above mentioned syntans according to TFL recommendations will enable you to not only produce the quality of leather articles demanded by the market but also simultaneously address the BPS and BPF issue. This is not an end to our activities, and you can expect further product launches to support the leather industry in due course adding onto these initial four essential “corner stones” and again all will be <0.1% BPS + BPF. 🌐

Figure 1: Syntan Cross-linking Collagen



The very best hides and skins from Europe



- BIG PACKER HIDES
- STEERS AND HEIFERS
- FEEDLOT BULLS
- SELECTED WETBLUES
- CET Tannery in France
- CALF AND KIPSKINS
- PREMIUM DAIRY COWS
- SHEEP AND LAMBSKINS
- SALTED CROUPONS
- SHOULDERS & BELLIES



L'Art de la Viande

Nick Winters Hides & Skins division is a leading supplier of quality European Hides & Skins since 1992. With operations in France, Ireland, Italy and the UK, we service the most demanding tanneries worldwide.

Since 2019, we are part of BIGARD Group, the largest European beef processor (28,000 bovine, 4,500 calf, 90,000 pigs and 15,000 lambs weekly).

The group has recently acquired a modern wetblue tannery in France to process up to 600 tonnes per week.

Nick Winters Group operates another division specialising in the export of chilled and frozen beef, lamb and pork. This includes variety meats and animal by-products to worldwide food and bio-technology industries.

COME AND VISIT
OUR STAND AT

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CHENNAI
INDIA

1-3 FEBRUARY 2023



Leather and the circular economy



Leather uses renewable raw materials



Waste from other sectors (meat and dairy) is the input for making leather



The material is long-lasting



Leather products are eminently repairable



Leather is in keeping with sustainable consumption and sustainable production and, thus, supports the UN's Sustainable Development Goals (SDGs)



Use of leather aids the battle against marine pollution, also part of the SDGs



The leather industry opens up pathways into the circular economy for companies of all sizes, including many thousands of small and medium enterprises



Leather content fulfils finished product manufacturers' desire to use recycled material



Finished products made from leather will meet criteria for green tax relief and for green procurement exercises



Leather manufacturing supports green employment commitments

Credit: WTP/Flaticon

Steeped in tradition

Walter Rodrigues was born in São Paulo state, where his father ran a team of drovers who moved cattle from place to place in the vast rural spaces of the interior. Mr Rodrigues includes among his favourite possessions a pair of boots that would not have been out of place on those cattle drives. "They speak to my inner cowboy," he confesses, "even though they are really from Italy. They are by John Galiano. I bought them 11 years ago when Galiano was still designing for men. I love them also because they are very comfortable."

Cold comfort

He lives in Rio Grande do Sul now, bringing him into the heart, at least in spirit, of the cowboy culture, with all its skilled horsemanship and leathercraft beauty, of the Gauchos. He has chosen not to live in the capital, Porto Alegre, but in another city, Caxias do Sul. He likes it there because it is 800 metres above sea level and the climate is cold; the temperature often falls to zero or lower in winter and some years, in August, it snows.

Many of the locals are the descendants of people who emigrated from northern Italy to Brazil and some of them still speak in Veneto dialect. "You can hear it at the market," he says, "among the sellers of fruit and vegetables. They speak it to each other, if not to customers like me." He travels happily, by bus, contemplating the landscape for the two or three

Fashion designer Walter Rodrigues finds himself becoming more and more fascinated by leather's rustic appeal and he believes it can play an important role in fashion's circular future.

hours required to reach Novo Hamburgo or Porto Alegre whenever he needs to see his leather industry contacts.

All of this came up in conversations at the most recent edition of Inspiramais, which took place in Porto Alegre in July. For years, Walter Rodrigues has worked with leather industry bodies CICB and Assintecal as a trends consultant and has helped build up the reputation of Inspiramais as an important meeting point between tanners and finished product designers and brands from Brazil and beyond.

Return to earth

His overarching idea for the direction designers should take in the second half of 2023 (he prefers to refer to fashion predictions in this way rather than mention seasons



*Gaúcho culture at work in
Rio Grande do Sul.*

Credit: Victor Wortmann



of the year, which differ from south to north anyway) is called 'Terra' or earth. This immediately points towards the importance of sustainability and circularity, but in fact Walter Rodrigues seems tired of the S-word. "I will be happy when we stop talking about sustainability," he says, "because it will mean the practice of sustainability has become an integral part of what we do."

At the same time, he acknowledges the inspiration he has taken from an apocalyptic comment on this subject from erstwhile fashion designer and now full-time artist Helmut

Lang. He quotes something the Austrian designer told him, saying that unless we look after the earth, we won't have a fashion industry at all, and brands won't have consumers to buy their products. Walter Rodrigues quotes this often and says it should focus minds.

He has been talking about sustainability at events like Inspiramais for seven years now and is yet to become convinced that most consumers have truly embraced the idea of circular fashion. "Sustainability is not in people's hearts yet," is how he puts it. "And it has to come from them, from



*Designer and trends consultant Walter Rodrigues at
Inspiramais in Porto Alegre in July 2022. Credit: Inspiramais*



*Fruit-sellers in the market in Caxias do Sul.
Credit: Shutterstock/Cabusca*



Boots by John Galiano that speak to Walter Rodrigues's inner cowboy. Credit: WTP



Boots from Schutz giving an early taste of what Walter Rodrigues's 'Primal' theme will mean. Credit: WTP

consumers. They have to ask questions about the sustainability of products as they go from shop to shop. That's how this will reach finished product manufacturers. I think people still need a bit more time before we reach that point."

Crystal ball

How much more time? If he had a crystal ball, the designer says he is sure it would show that, even if the road towards a circular future is long, there is no turning back now. "I expect a lot of change to take place between now and 2030," he adds. "You can drive change by hitting people where it hurts, in the pocket. When money comes into it, everything speeds up." This is a reference to suppliers rather than consumers.

He explains that one development he has witnessed in Brazil involves a major footwear group, Arezzo. It has begun telling suppliers that if they want to continue selling to the group, they are going to have to have in place certification that provides guarantees of sustainability and transparency. "This is something that I find very interesting," he says. "It shows that there is movement."

Cowboy legacy

He and his team also chose the name 'Terra' after "observing the events that have occurred since 2019", phenomena such as the covid-19 pandemic that seemed to make the earth stand still and force immediate changes in people's day-to-day activities. The team wanted to explore how designers and consumers might react and get things moving again after such a "period of apprehension". They have sought to address questions such as the steps fashion companies can take now to try to re-establish empathy, accessibility and peace, and how they will go about building circularity into their way of doing business.

This time at Inspiramais, Mr Rodrigues also offered a sneak preview of his main theme for the first part of 2024. He calls it 'Primal' and this is where his cattle-driving roots show again because he insists "cowboy legacy" has emerged as an important component of his vision for design for the times to come.

There were very early signs of 'Primal' at the most recent Inspiramais in the shape of a colourful collection of women's boots developed by footwear brand Schutz, part of the aforementioned Arezzo group. Using leather from tanneries including Fuga Couros, JBS Couros' Leather Labs, Treat Couros, and Curtume Mats, Schutz came up with a style that combined a fashionably high heel with the toe-shape of a cowboy boot. Upper materials were generous, but folded down to give a low-cut look, almost like a double-cuff on the sleeve of a dress or a blouse.

Materials that connect

Walter Rodrigues talks of people confronting their fragility and taking comfort from touching "materials that can connect us to our feelings". What this is about, he says, is using materials (including leather, of course) to make "products that will seduce consumers". These materials will have to be beautiful as well as sustainable, he insists; they will have to have textures that people will want to come into contact with.

"Now more than ever," he concludes, "we have to create new parameters for the way we live, and this includes the way we create products and the way we use them to express ourselves. This clearly has major implications for fashion. What is primal, the essence of what we believe in, is an urge to become involved with one another, to create things together, to collaborate. But we are entering a new, circular world and in it the great, primal value will be authenticity." 🌱



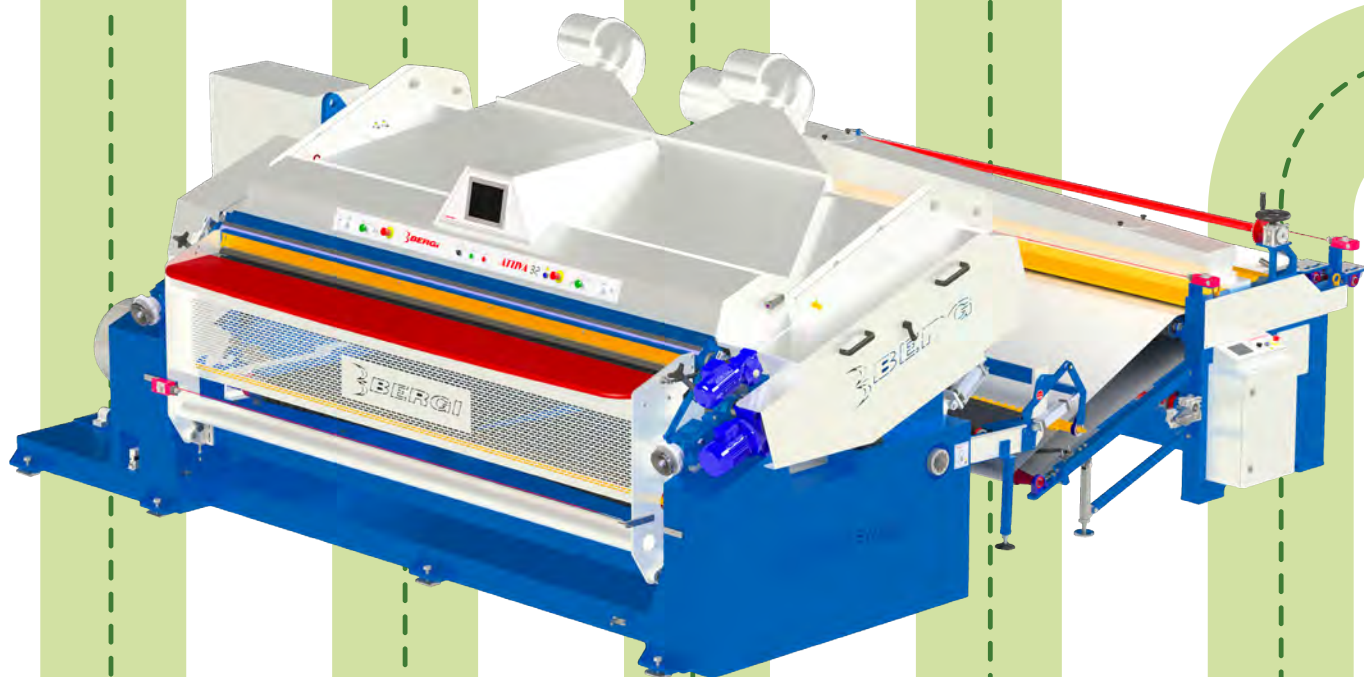
BUFFING LINE

ATTIVA

Through-feed belt buffing machine. Designed for articles that require a cold processing and a high efficiency dust discharging; then is suitable to process vegetable tanned leathers, hot and cold greased leathers, stuccoed splits for automotive and reel material (rubber, PU, PVC and similar). The distance between the buffing point and the exit belt is halved compared to a traditional buffing machine, ensuring the leather is laid out more flatly at the entrance of the dedusting machine.

ARIOS A

Through-feed dedusting machine, designed to remove the dust from leather and similar materials. It can be used in all production steps that generate residuals such as buffing, dry shaving, dry splitting, staking or milling.



B·OS
operative system

Storable working parameters

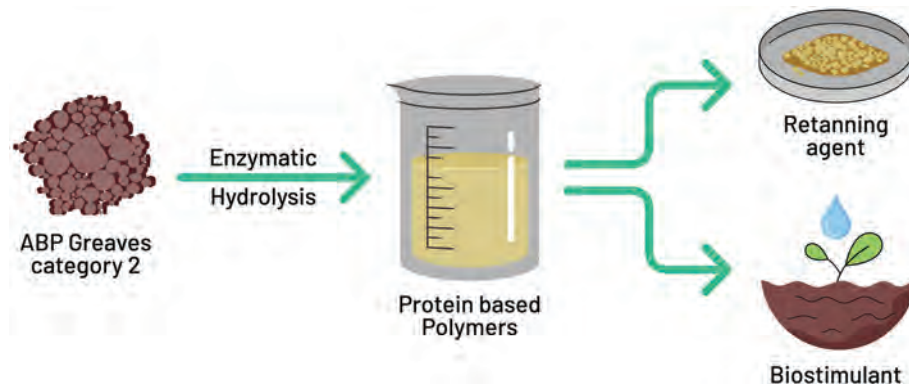
Electronic control of working speeds

Automatic switch-on with programmable timer

Remote diagnostic and assistance system on request.

THINK GREEN





Turning waste into raw material, the LIFE byProtVal project

In 2017, INESCOP was joined by Trumpler Spain along with Energygreen Gas Almazan S.L. (EGA), a company dedicated to the management of non-hazardous waste through different technologies such as anaerobic digestion and rendering, and the ABP-rendering company Granja Otivar S.L., in the development of the byProtVal project. A multi-sectoral initiative to promote this circular economy model, it is a funded project by the European Union LIFE programme.

According to data from the European Fat Processors and Renderers Association (EFPPA), it is estimated that European slaughterhouses kill around 328 million head of cattle and 6 billion fowl annually, generating a large volume of low-risk Category 3 ABPs. In addition, many animals die on farms each year, producing around 2.5 million tonnes of Category 2 ABPs, unless they are high-risk disease carriers. As in the case of the circular economy, a key feature is that by-products return to the value chain to be integrated into the production of higher value goods and services. The management of these by-products generates more than 3.5 million tonnes of animal protein which could be used as raw material to generate products for the leather industry in the form of retanning bio-polymers and in the agrochemical sector for amino-acid based bio-stimulants.

Protein recovery

With the current practice of mainly using Category 3 ABPs for animal feed and Category 2 for energy recovery or disposal in landfill, the upcycling potential of this “waste” is clearly a viable alternative, being rich in proteins, carbohydrates, fatty acids, vitamins and minerals. In order to obtain the derivatives from the waste, usually this would entail thermal hydrolysis, essentially boiling under high pressure. This methodology, however, was found to have certain drawbacks for the project. Being highly energy- and water-intensive, the high environmental impact potential for this method, plus the degraded nature of the resultant protein bio-polymers, led to the development of a novel enzymatic hydrolysis process, a more sustainable process that benefits from a lower environmental impact plus a greater

The Spanish footwear industry research centre INESCOP, under the framework of the LIFE ByProtVal project, has been working on the recovery of different protein-derived products from rendering residues (greaves) and wastewater produced in the treatment of Category 2 and 3 animal by-products (ABPs), respectively, for their subsequent recovery as raw material to produce retanning agents and fertilisers.

yield than from the thermal process. In addition, through the utilisation of different enzyme preparations, differing ranges of protein degradation can be achieved creating products of different molecular weight and differing amino acid profiles. Current trials have proved recovery of up to 85% of the protein, and with an adaptable technology that can be configured to work with other distinct types of ABPs.

Leather manufacture

Following the bio-polymer extraction, samples of conventionally tanned wet blue leather were subjected to an industry standard shoe upper retanning, after which numerous physical tests were carried out to validate the bio-polymer properties.

After validating that the bio-polymers obtained had the appropriate characteristics to be used as retanning agents, the comparative environmental impacts for both a synthetic



retanning agent and a bio-based protein retanning agent were evaluated. The synthetic retanning agent such as polymeric acrylic syntan was found to have a carbon footprint value of 0.91–1.72kg CO₂eq/kg, while the bio-based protein retanning agent had a lower impact with a carbon footprint value around 0.43–0.61kg CO₂e/kg, contributing to an approximate three times reduction in the carbon footprint leather manufacturing. In addition, the use of a protein retanning agent not only improves the biodegradability of retanned leather compared to leather tanned with synthetic retanning agents but, additionally, the use of peptides recovered in the project as biobased functional chemicals in the tanning industry will support EU policies regarding sustainable and circular fashion.

Bio-stimulants

The future of modern agricultural practices is of current relevance and are faced with improving both quality and yield of crops to feed the growing population, whilst at the same time minimising the environmental impact and concerns with human health through the use of mineral fertilisers. The increased demand for organic foods and the rising awareness from consumers has shown that bio-stimulants have the potential to lessen these issues and provide a renewable option for improving crop quality and yield by simplifying the nitrogen life cycle in plants. Therefore, bio-stimulants from animal by-products by means of enzymatic hydrolysis contributes to a 35% reduction in CO₂ emissions to the atmosphere, reduces energy consumption, and reduces water consumption by 96%, and the production of wastewater. In this way, a bio-stimulant is produced with a carbon and water footprint that is much lower than that of bio-stimulants produced from chemical processes.

Furthermore, with the aim of protecting the environment and human health by preventing the harmful effects of waste production and accumulation, the Waste Framework Directive 2008/98/EC proposes EU member states not only

Leather mechanical properties obtained and requirements for their use in footwear

PARAMETER	STANDARD TEST	RESULTS min.-max	RECOMMENDED VALUES
Grain breakage (mm)	ISO 3379:2016	8.4–11.5	≥8.0 mm
Tear strength (N)	EN ISO 3377-2:2016	100–135	≥50 N
Tensile strength (N/mm ²)	EN ISO 3376:2012	30–47	≥15 N/mm ²
Elongation-at-break (%)	EN ISO 3376:2012	45–60	≥40%

take measures to minimise waste production through the development of clean technologies, but also to encourage its recovery and valorisation, within the proposed measures related to the promotion of circular economy and sustainable use of resources. High added value protein recovery from ABPs Category 2 is also in line with EU policies on the circular bio-economy since it aims to convert wastes into the raw material for the manufacture of added value products. Besides, the substitution of mineral fertilisers by the organic fertilising products produced in the project will mean a reduction of nitrogen leaching to groundwater and GHG, (greenhouse gas), emissions due to agricultural activities. It will also support the implementation of EU policies on organic farming, as well as future Common Agricultural and other policies derived from the European Green Deal.

LIFE byProtVal is now in TRL 7 on the Technology Readiness Level scale, in a scaling-up production process stage, to recover protein derivatives from greaves and rendering plant wastewaters, as well as meat product processing plants. A pilot demonstration plant, with a recovery capacity of over 100 tons per year has been installed in Almazán, Soria, Spain for by-product treatment. The project now seeks to optimise processing parameters and running conditions, so that protein derivatives can be validated and produced in significant quantities as bio-stimulants for sustainable agricultural use.

(TRL is based on a scale from 1 to 9 with 9 being the most mature technology. The use of TRLs enables consistent, uniform, discussions of technical maturity across different types of technologies) 

Category 2 ABPs

Category 2 ABPs are classed as high risk.

They include:

- animals rejected from abattoirs due to having infectious diseases
- carcasses containing residues from authorised treatments
- unhatched poultry that has died in its shell
- carcasses of animals killed for disease control purposes
- carcasses of dead livestock
- manure
- digestive tract content

Category 3 ABPs

Category 3 ABPs are classed as low risk.

They include:

- carcasses or body parts passed fit for humans to eat, at a slaughterhouse
- products or foods of animal origin originally meant for human consumption but withdrawn for commercial reasons, not because it is unfit to eat
- domestic catering waste
- shells from shellfish with soft tissue
- eggs, egg by-products, hatchery by-products and eggshells
- aquatic animals, aquatic and terrestrial invertebrates
- hides and skins from slaughterhouses
- animal hides, skins, hooves, feathers, wool, horns, and hair that had no signs of infectious disease at death
- processed animal proteins (PAP)



CROMOGENIA, CARING FOR A BETTER FUTURE

CROMOGENIA

Decades ago, we at **Cromogenia Units** put faith in **sustainability**, environmental protection, care for people, cleaner technologies and, ultimately, more **sustainable** and **environmentally sensitive** products and processes. Today more than ever, we follow that path.

Indeed, **Cromogenia Units** has devoted its **R&D** efforts to improving processes to develop products that comply with high quality standards, meet its customers' needs, are more sustainable and eco-friendly, and meet the requirements of toxic substances such as Bisphenol.

BISPHENOL-FREE XL RANGE

In this sense, the **Cromogenia Units** division has designed a range of retanning products –the **XL RANGE**– with Bisphenol S and F not detectable in leather. This range includes several products that allow obtaining Bisphenol-free garments, leather goods and upholstery.

The innovative **XL RANGE** of retanning products, featuring high biomass content, is yet another step towards sustainability and eco-friendliness in the leather industry.

Celebrating its 80th anniversary in 2022, **Cromogenia Units'** long history in the leather industry is characterized by the quality of its products, its bet on the environment, and dedicated customer support.

RETANAL XL

- Innovative
- Bisphenol-free
- High biomass content

INNOVATION



www.cromogenia.com



Rio Grande do Sul-based Courovale is a specialist in developing colourful finished leather for fashion-focused footwear and handbag brands.

ALL CREDITS: WTP.

The last zero-waste obstacle



RENEWABLE



SUSTAINABLE



SMEs



RECYCLED

The first leather manufacturer in Brazil to achieve diamond-level certification in the country's Leather Sustainability Certification (CSCB), Courovale, is proud of this distinction, which it secured midway through 2021. However, the achievement marked no halt in its pursuit of sustainability improvements.

Tanning industry association CICB launched the programme in 2015 with the support of trade and investment promotion agency Apex-Brasil. This was after the idea had first come to light in 2013. Based on what CICB calls the three pillars of sustainability (economics, the environment and social responsibility), audits examining 173 different indicators are carried out by Brazil's National Institute of Metrology,



Quality and Technology (Inmetro), following which tanners can obtain bronze, silver, gold and diamond certification, depending on how many of the criteria they fulfil across the different audit categories. Provided they meet at least 50% of the

Courovale's commercial manager, Verônica Meurer, points the way towards ongoing improvement in sustainability.

“Customers ask about sustainability all the time and we want to be able to tell them that we represent a clean industry.”
Verônica Meurer.

indicators, they can earn bronze certification. Silver is for those meeting 75% and gold for those meeting 90%. To achieve diamond certification, the score has to be 100%.

Dedicated follower of fashion

Courovale achieved CSCB gold in 2018 and worked for the next three years to turn gold into diamond. Even now, according to Courovale's commercial manager, Verônica Meurer, the quest for new ways to reduce its water and energy consumption, eliminate waste and safeguard workers' health and safety goes on. The leather producer is based in Portão, near Novo Hamburgo, in the Brazilian state of Rio Grande do Sul. It is a specialist in producing finished leather for the fashion industry, with expertise in embossed finishes to give crocodile, snake or metallic effects. “We don't do nubuck, we don't do fashion,” Ms Meurer explains. “We do leather that is on trend, two collections a year, for shoe and bag brands, and we have two people working for us in Italy to advise us about forthcoming trends.”



Courovale usually achieves the special effects it puts onto its leathers by means of foils. These foils are effective, but represented the last barrier in the company's quest for zero-waste to landfill.



Around 20% of Courovale's finished leather goes through digital printing technology at the moment. It takes around 35 minutes to print a pattern on each side.

There is a bespoke service, too, she explains. Customers can come and ask for a customised finish, based on something they saw while travelling or an idea they have developed themselves, but most of its work is for brands. In the past year, 70% of Courovale's leather has gone to finished product manufacturers in Brazil, even if, in some cases, the finished products themselves go for export. It ships the other 30% to Asia, to the manufacturing partners who make product there for international brands. Before the covid-19 pandemic, Courovale's domestic-export split was closer to 50-50.

"In 2020, a lot of export orders were cancelled," the commercial manager continues. "People did not know if they were going to receive hides they had ordered or if they were going to be able to work with them if the hides did arrive because they were not sure if their factories were going to stay open. We were able to keep in touch more easily with the factories around us here in Brazil. This was good, but we would probably prefer to have a return to 50-50 because the situation can change so quickly in the Brazilian market."

Strength in diversity

Orders that the tannery receives are seldom large; its strength is in the wide range of different articles and different colours that it can offer. It buys in wet blue and has a partner, locally, who processes the hides to crust stage and cuts them into sides before finishing at its own premises in Portão. At full capacity, its output would be 55,000 square-metres per month. In the Brazilian spring this year (autumn in the northern hemisphere) it was running at about 60% capacity, although Verônica Meurer says she harbours hope of things picking up before the end of 2022.

To return to the pursuit of further progress, she shares that, until this year, and even with diamond CSCB certification, one last obstacle remained between Courovale and the goal it had set itself of achieving zero-waste to landfill. This was linked to the specialist work it does for the fashion market. For some

years now, the company has been using digital printing technology to print some patterns straight onto leather. At current rates, it takes 35 minutes to print a single side. Ms Meurer estimates that about 20% of production is going through the digital printing equipment at the moment, but she recalls that, a few years ago, snake prints became exceptionally popular and 50% of all the leather Courovale was producing at the time was going through digital printing.

The last obstacle

For much of the rest of its output, though, it uses foils as the carrier for the patterns it imparts onto its leather. These foils were the last part of Courovale's conundrum over zero-waste to landfill. Finding a home for the foils after use was hard, but it has completed the task and can now wear its zero-waste credentials with pride. "This matters," Verônica Meurer insists, "but customers ask about sustainability all the time and we want to be able to tell them that we represent a clean industry. Our CSCB certification helps us do this, but it's mostly in Brazil that we receive



Some of the articles Courovale has developed using EcoTan technology from Silvateam.

recognition for that. I would like it to have more recognition in international markets."

She would also like to have more recognition of the value of leather and some appreciation of why it costs what it does. At the most recent Lineapelle New York, visitors to the exhibition, potential customers, asked her straight out which was Courovale's "most sustainable leather". She was able to show them a range of articles the company has produced using EcoTan technology from Silvateam. This involves the use of only natural products in the making of the leather, which will allow specialist partners to take the material back at the end of a finished product's useful life for use in fertiliser production. "Customers are interested in this," she says, "even if I think they would like us to have a discussion with Silvateam about making it more affordable." 🌱

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Commitment to sustainability is part of the fabric at Brazilian tannery Krumenauer.
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The race to trace



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Brazilian leather manufacturer Krumenauer has developed its own method of achieving hide traceability and is sharing the information with its customers. This is one of a series of initiatives the company has put in place to make its leather production as circular as it can.

Krumenauer specialises in making veg-tanned leather from Brazilian wet white, and veg-retanned leather from US wet blue for manufacturers of shoes, leathersgoods, belts and craft projects. It has said 15% of its output this year is staying in Brazil to supply shoe manufacturers in the domestic market. Commercial director, Joel Krummenauer (some members of the family, which arrived in Brazil from Germany in the 1850s, use a double-m, while others use the same spelling as the company name), says 95% of production went for export in 2021, with just 5% staying in the domestic market. But 2022 brought a change.

He also explains that prolonged lockdowns in China, plus wider supply chain and transportation



Fourth-generation representative of the family that runs the tannery, Joel Krummenauer.

Curtume Krumenauer has projects in place to use only renewable energy, to provide traceability on its raw material and to send wastewater and leather scraps for use in circular agricultural projects.

difficulties led brands to increase their sourcing of finished products such as footwear from Brazil. This has increased local demand for the company's leather. "The footwear factories here are pretty busy and have good orders at least until November or December," he says. "Demand for our leather from footwear manufacturers is increasing."

Production is different

The family business began exactly 111 years ago and Joel Krummenauer is part of the fourth-generation to run the tannery, which is located in Portão, near Novo Hamburgo. The oldest part of the current facility is from 1911, but the building has undergone various phases of redevelopment since then. Until the 1980s, all of the company's leather was made from



Krumenauer's two types of raw material side by side, Brazilian wet white on the left, US wet blue on the right.



While grading and sorting wet white hides, Krumenauer adds a stamp in the corner to identify the supplier and date-of-purchase of each one.

local hides and went to local furniture manufacturers, whose products were destined for the domestic market.

"Production now is very different," the commercial director says. The wet white it sources from Brazil comes from the central and northern regions of the country, hundreds, even thousands of kilometres away. Mimosa is the main tanning agent and for this there are local sources in the shape of Seta and Tanac, the latter of which is located only 30 kilometres from the tannery. Krumenauer's current capacity is a maximum of 1,000 hides per day, producing articles of varying thickness, ranging from 0.81 millimetres as a minimum to as much as 4.5 millimetres for applications including saddles and single-layer belts.

Benefits for farmers

About half of the hides Krumenauer tans at the moment leave for the US market as natural leathers; customers in the US like the neutral appearance as well as the quality of this material and apply their own designs, logos and colours to it. One benefit from this is that the water the company uses to retan these hides and make natural leather can and does go straight onto the fields of local farmers. Joel Krummenauer enjoys talking about sustainability issues such as these but points out that it is not new. "We have been giving local farmers this wastewater for around ten years now,"

he explains. "The farmers ask us for it because it works; it's just water plus nutrients from the bark of the mimosa, which are rich in nitrogen."

In a newer agricultural initiative, shavings from the Krumenauer tannery are now going into fertiliser production. In times past, this material had other uses, for example in the manufacture of adhesives. For it to go into products that enrich the soil makes it more circular. Back at the tannery, there are certificates on the wall to confirm that there is a policy in place to use only renewable energy, something the company has been committed to since 2016.



Scraps from the Curtime Krumenauer operation previously went into adhesive production, but are now going into fertiliser and are part of the circular economy.

Stamp of approval

It has begun to enhance its environmental credentials by marking all of the wet white it buys in from Brazilian partners for traceability. Under the bright lights of the sorting and grading table, a member of the team puts a stamp into the corner of each hide to show the supplier's identity and an invoice code to give proof-of-purchase information, including the date of purchase. "This information will take the user of the hide back to the slaughterhouse," Mr Krummenauer explains.

Naturally, this race to trace the provenance of hides carries a particular importance in Brazil where, try as it might, the leather industry struggles to shake off an unfair association with deforestation. At the very mention of it, Joel Krummenauer rolls his eyes. He has been on the receiving end of criticism, some of it hostile, for supposed connections between the whole of the Brazilian leather sector and the illegal destruction of forest environments in Amazon regions. This happened to him as recently as this July at Lineapelle New York.

"This concern for the Amazon seems to come round in cycles," he says. "And it is perfectly understandable that clients want products and services that are as sustainable as possible. This issue must be addressed by all actors in the chain, and there are many of them, across the whole world. Lots of countries have important work to do on this." 🌱



Nona Source's second showroom opened in London this year. Credit: Andre Kong Studio

Creative circularity



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SMEs



RECYCLED

Creativity and resourcefulness are two of the most potent tools in fashion's efforts to mitigate the industry's environmental impact. Nona Source, a high-end surplus materials reseller that will celebrate its two-year anniversary in the spring, is a thriving example of this.

Named for Nona, the goddess in Roman mythology who spins the thread of life, this online platform sells deadstock leather and fabrics from LVMH maisons. Creatives can peruse and order from a dynamic selection of woven and knit fabrics, as well as leather and other materials.

The concept is one that invites ingenuity and circularity from customers. By the nature of the materials, being deadstock, there might be at any given moment 825 metres of a black cupro and cotton shiny twill; 24 metres of a brown hairy alpaca suiting; and 35 square-metres of black glitter varnished calfskin, and the selection is regularly changing. Designers take inspiration from what is available.

At the same time, deadstock is given new life. Instead of being tucked in the back of a storeroom somewhere or, worse, relegated to an ugly mountain of discarded materials, it turns heads on runways and the streets of glamorous cities in the form of stunning and unique creations. The Nona Source Instagram page is filled with colourful, striking images of dresses, jackets, bags and more, all made with the platform's rescued materials.

Marie Falguera, a co-founder of Nona Source, tells *World Leather* that customers vary, from established brands to

Nona Source has figured out how to turn LVMH fashion houses' deadstock material into a dynamic and rich resource for innovative and flexible designers.

independent designers and young talents launching new labels. All share a key trait: "They have in common the willingness to work differently," she says, "by using existing resources without compromising on quality or inspiration."

An enthusiastic welcome

Nona Source was, as its founders describe, "born out of happy encounters". Romain Brabo, an expert in material purchasing and manufacturing at LVMH-owned brands Givenchy and Kenzo, came across what he called "sleeping beauties" being stored in various luxury labels' warehouses; he quickly sensed the opportunity to revive the high-quality materials. Through LVMH's global intrapreneurial programme DARE (Disrupt, Act & Risk to be an Entrepreneur), Mr Brabo met Anne Prieur du Perray, the digital transformation manager at LVMH, and Ms Falguera, who was an

environmental coordinator for Kenzo and a materials expert. DARE provided the three with the mentorship and support needed to make Nona Source a reality, and the platform officially launched in 2021. Now, Ms Falguera oversees product, Ms Prieur du Perray is in charge of operations, and Mr Brabo heads business development.

They now have more than ten LVMH maisons from which to pull materials and sometimes as many as 1,200 options available online at one time. For Ms Falguera, customers buy from Nona Source for the quality and competitive pricing, but also, essentially, for the carefully-cultivated buying process.

“We believe digital is a great accelerator of circularity, and especially of sustainable sourcing,” she says, “so we keep on improving the user experience and the service to customers.”

Establishing an effective system for presenting materials digitally was a priority from the start. In a video produced around the time of the launch, the co-founders discussed how they were circumventing the challenges posed by consumers not seeing materials in person.

“The search for materials is an extremely sensory experience for young designers,” Ms Falguera says in the video, “so we worked a lot on the ‘touch and feel’ experience to get a digital replication that’s as beautiful as possible, working on the photos, videos and detailed descriptions.”

Now, nearly two years later, she finds these efforts have paid off. When asked what has surprised her most since launching Nona Source, Ms Falguera responds: “The enthusiastic welcome our solution received from all fashion professionals and the quick adoption of the digital sourcing; many customers order without touching the fabrics.”

To illustrate, consider the listing for a small consignment of toffee-coloured leather from Tuscany (which may or may not still be available as you read this). In addition to a high-resolution photo of the product, a short video shows the material being handled, spread out flat, rolled, folded this way and that, even running an arm beneath to show how the leather rises and falls. The description (in this case, “natural calfskin with warm colour and a unique velvet touch”) is accompanied by details such as grain (“smooth”), ‘sensoriality’ (“peach-skin touch”), handfeel (“unstretchable and super supple”), and original use



Marie Falguera, co-founder of Nona Source.
Credit: Nona Source

(“shoes”) as well as a technical sheet and other information about its provenance, in this case Conceria Sciarada in Castelfranco di Sotto. Although the consumer isn’t able to touch the fabric through the screen, the presentation leaves little room for surprises.

There are, however, options for touching the materials. Two showrooms, one in Paris and one in London, invite customers to see stock in person (by appointment). The Paris location is at La Caserne, which Ms Falguera describes as an incubator dedicated to eco-responsible fashion, located in a former fire-station.

The London showroom opened in May this year in Mills Fabrica, a workspace dedicated to sustainable innovators. At the time, LVMH environment director, Hélène Valade, described the new venue as an illustration of Nona Source’s commitment to the group’s LIFE (LVMH Initiatives For the Environment) 360 programme. “By supporting the London and UK-based creative community, we also aim at boosting circularity and upcycling of our unused fabrics as we have done with the Parisian showroom,” she says.

“The showroom in London is totally similar to our Paris showroom, the same articles displayed, same services,” says Ms Falguera. But having a London location helps to circumvent some of the logistical challenges created by the UK’s departure from the European Union. “Brexity,” she says, “brought some

challenges, especially for very small brands, such as customs lead time, processes and costs.”

Staying local and sustainable

When Nona Source first launched and the three co-founders laid out their vision, the platform’s circularity was highlighted as mission critical. “The future for Nona is to become an innovative circular programme committed to more ethical fashion,” Mr Romain says in the aforementioned video. He is followed by Ms Falguera who adds: “The future for Nona is to become an innovative circular programme committed to more ethical fashion.” And, Ms Prieur du Perray concludes, “become the sourcing solution of choice among young designers across Europe.”

So far, the platform seems to be holding true to those ideas. “We offer easy access to existing, high-quality fabrics, encouraging reuse to reduce waste and pollution,” says Ms Falguera now. Currently Nona Source only delivers in the European Union and the UK to “favour local sourcing and limit transport carbon footprint” as the stock is located in France.

She points out that the “sleeping beauties”, as they still like to call the deadstock, all come from the luxury maisons of LVMH, which are themselves committed to ethical and responsible sourcing. “The whole value chain is compliant with the highest standards on ethics, chemical use, and animal welfare,” she says.

What’s next?

Following a bright start, the co-founders are working now to continue growing Nona Source’s offerings. This includes extending the platform’s reach and working on collaborations with other fashion houses, labels, says Ms Falguera, that “are great ambassadors for the creative circularity we promote.”

The ability to operate online is fundamental to the group’s sustainability ethos and remains a top focus, so they will also continue improving the user experience and the services to customers, she continues, emphasising that the platform’s digital approach makes sustainable sourcing easier.

This is important because sustainable sourcing is “one of the pillars of eco design,” she says, and her platform “encourages and supports brands and creatives willing to accelerate their transition towards a more circular economy model.” 🌱



Makers of leather boots, shoes, apparel and accessories, from exotic skins to suede, play a key role in the Closely Crafted alliance.

CREDIT: Closely Crafted

A revival of American savoir-faire



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GREEN JOBS

A very human appreciation for artisanship stirs souls across the globe, but how this translates into consumer sentiment is perceptibly different from country to country, as any traveller with a penchant for shopping knows. Commenting on the launch of the first Homo Faber exhibition of fine European craftsmanship back in 2018, for example, chairman of Swiss luxury goods group Richemont, Johann Rupert, remarked to the *Financial Times* that handcraft is one area in which human beings can triumph over machines in securing employment, now and in the future.

Traditional manufacturing techniques, dependent as they are on the human eye and hand, are similarly expected to continue to engender a premium price tag at retail, Mr Rupert. Particularly as reliance on technology-driven, automated processes ramps up elsewhere. Nurturing respect for high-quality artisanal work and the industries that sustain it is by no means a one-size-fits-all approach, however.

Couture milliner Gigi Burris O'Hara suggests to *World Leather* that consumer expectations in the US are "dramatically different" to those typically observed in Europe. The Parsons School of Design-trained milliner, who celebrated a decade of her eponymous Gigi Burris Millinery brand in October, is also the founder and executive chairwoman of Closely Crafted, an alliance for artisan manufacturers in the US. She cites top-down efforts in Europe to entrench a sense of pride in locally made luxury goods, more conducive to cultivating an appetite for

Future-proofing creative expression from generation to generation is no easy task, but as craft-minded entrepreneurs have been forced to shutter their doors across the US, a clear case for learning how to champion and capitalise on local savoir-faire has emerged.

"investment" purchases, as an important reason for such marked differences in attitudes.

Meanwhile, US society has in large part been conditioned to demand lower prices and ever-faster lead times, Ms Burris O'Hara adds. Many local workshops and factories have thus shut up shop, resulting in the loss of specialised skills and knowledge from the national economy. This reality, compounded by the business impact of covid-19, meant that the idea for a not-for-profit industry alliance, united by its laser-focused commitment to preserving and promoting American savoir-faire, not to mention the well-being of artisans, soon took hold. The milliner would go on to launch Closely Crafted this July.

A valuable skillset

The closure of Bantam leather atelier, a 30-year-plus stalwart of Manhattan's garment district, born of husband-and-wife team and first-generation immigrants, Janos and Stefanie Papai, was especially heartbreaking for Closely Crafted's founder. Her own husband, Evan O'Hara, the entrepreneur behind luxury leathergoods brand Vereda, which works exclusively with wild American alligator skins sustainably harvested, often by himself, in his native Florida, collaborated with the factory for over a decade. To this day, Mr Papai visits Vereda's New York City studio on a weekly basis to continue to share his expertise with Mr O'Hara, who purchased some of Bantam's machinery after it folded. "This passing of generational craft knowledge and know-how is what we hope to capture [with Closely Crafted], creating a sustainable future for luxury fashion production in the US," Ms Burris O'Hara tells us.

Bantam was one of only a few local leatherworking enterprises to specialise in exotic skins, although it also worked with luxury houses to make samples and realise commercial-scale manufacturing using high-end hides, skins,



Closely Crafted's founder and now executive chairwoman studied at Parsons School of Design in both Paris and Manhattan, under the tutelage of couture milliner and plumassier Leah Chalfen.

CREDIT: Sophie Sahara

scale his own brand at a strategic pace, without requiring much seed funding to begin trading. The milliner herself has previously used alligator skins, handcrafted flowers, feathers, Swarovski crystals and silk ribbons to embellish her designs.

Part of the Bantam atelier's legacy, for Closely Crafted at least, seems bound up with the imprint of yet-unrealised possibilities for local production left behind in its wake. The manufacturer's absence, as is the case with others of a similar mould, will inevitably push some domestic brands to commission skilled artisans from outside the country. A significant challenge for the newly formed non-profit, therefore, will be to persuade government leaders and fashion industry influencers from across the US of the real, present-day value in preserving the nation's craft heritage and know-how, as happens in Europe.

shearling and suede materials. Most importantly, the standard of leather artistry to come out of its workshop was of "couture quality". So much so, Vereda trusted the factory to not only produce the label's core collections, but also fulfil orders for bespoke pieces placed by private clients, according to Ms Burris O'Hara. Its low minimums and agility meant her husband could



Leather craftsman Evan O'Hara in his New York City studio, which he shares with Ms Burris O'Hara, his wife.

CREDIT: Vereda



“This is an issue that touches [people] all around the country,” the alliance’s founder emphasises.

Renewed purpose

Fittingly, Closely Crafted’s network already stretches from its base in New York City to the West Coast, back over to the south-east and then up to major regional hubs like Chicago and Detroit. Longer-term plans for the organisation include establishing permanent footprints in Los Angeles, Texas and Alabama. Besides leathergoods and apparel, it spotlights a curation of “designer allies” known for their American-made shoes, boots, denim and more on its website, which can double up as something of a shopping guide for those seeking a taste of locally flavoured luxury. Other ongoing projects include producing shareable short-form video content for different social media, designed to provide a window into the artistry of craftspeople showing work as diverse as leather patina and hat blocking through a Closely Crafted lens.

Next up on the horizon is the formulation of a value-based benchmark, reflective of the many hours of skilled manual labour needed to create premium-priced artisanal products, which the organisation will make available to its brand partners. It is hoped that this tool will empower the domestic fashion industry to improve its storytelling and better connect with its target audience as a single, more harmonious voice. Helping stakeholders from all corners of the globe relay important, consumer-friendly messages around the quality and sustainability impact of American-crafted luxury

products, especially in quantifiable terms that clearly align with their pricing structure, is a core component of Closely Crafted’s own strategic mission to inspire, nurture and advocate for traditional artisanship in the US.

Work on this has already begun with four independent luxury boutiques, Hampden Clothing, The Webster, McMullen and Vermillion, whom the non-profit is currently supporting to produce engaging marketing assets that spotlight the local artisan-makers behind the collections they carry. Further down the road, Closely Crafted will host its first intake of apprentices, for which funds are being raised via a dedicated Move the Needle campaign as the organisation moves to finalise the programme’s structure and define its outcomes following much board-level discussion. The initial cohort will be shaped by the expertise of allied designers and industry figures, while the mentor-mentee work pattern will be adapted and fine-tuned over time according to need. Leatherwork, pleating, flower-making, embellishment, hat blocking, shoemaking and leather patina will all eventually feed into Closely Crafted’s apprenticeship offer, its founder states.

The success of the effort will ultimately be measured by the degree to which it can inspire passion in the hearts and minds of shoppers, potential trainees, would-be mentors and industry influencers alike, convincing them of the need to make a tangible investment in local vocational skills. But it is evident that Ms Burris O’Hara is in it for the long-term, something for which the next generation, already destabilised by various global crises, will likely be extremely grateful. ☺

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CREDIT: VICTOR WORTMANN

Veja's 180-degree turn

Footwear brand Veja has had something of a change of heart on leather. Last year, the Paris-based brand published a detailed report on its carbon footprint. It said that the raw materials it uses to make its shoes contribute 71% of its total carbon footprint. It went on to say that leather accounts for 97% of the impact of all of its raw materials.

Based on this, Veja said it had decided to reduce the presence of leather in its collections. It pointed out that, while 70% of the shoes in its autumn-winter collection in 2019 contained leather, the corresponding figure for autumn-winter 2020 was 51%.

In its calculations, it found that 70% of the carbon footprint that it attributes to leather occurs upstream in the supply chain, mostly from cattle farming. It attributed the remaining 30% to leather production and transportation. We argued in an article in our Leather and the Circular Economy section in *World Leather* August-September 2021 that it was unfair for Veja to attribute to leather such a large carbon footprint from cattle farming and that its figures for leather production and transportation also seemed implausibly high.

To its credit, the company responded to questions and shared a generous amount of information in its attempts to explain its numbers, but it also seemed slightly aggrieved at our unasked-for analysis and appeared determined to go ahead with its move away from leather.

Strong ties to Brazil

In truth, it was something of a surprise to learn that Veja would be one of the companies to feature on the programme at the Sustainable Leather Forum in Paris in September this year. On the day, however, Veja's tone was positive and it was encouraging to hear it talk in detail about its supply chain commitments, including its ongoing commitment to sourcing leather.

Since its publication of a carbon footprint report in 2021 that showed leather in a poor light, shoe company Veja has worked hard to improve its knowledge of the leather value chain, with encouraging results.

Since 2004, when co-founders Sébastien Kopp and François-Ghislain Morillion decided to set Veja up, the brand's ties to Brazil have been strong. They set out to make athletic-style shoes in keeping with fair-trade principles and decided to use leather, organic cotton and natural rubber. Brazil seemed a good source of all three key materials and they began building up their relationships with suppliers in the South American country from there.

This includes manufacturing of the finished product, which they have put into the hands of partners in the southern state of Rio Grande do Sul. It established its ties to its main partner there in 2013 and, even though growth has led it to enlist the help of other shoe producers in the same part of Brazil, it still entrusted around 60% of its total output to the original factory in 2020, and Brazil is still the country of origin of all of its shoes.

Fair conditions

As part of its commitment to transparency, Veja has published comparisons it has made between the treatment of footwear factory workers in Rio Grande do Sul and their counterparts in south-east Asia, where, it points out, 95% of the world's sneakers are made now. Factories in Brazil offer a much higher social added value, the French brand has concluded. Factory



Veja is committed to offering a window into its leather supply chain.



From the outset Veja decided to use natural rubber, organic cotton and leather in its shoes and identified Brazil as a good source of all three key materials.

CREDITS: SHUTTERSTOCK/SYLV1ROB1

owners respect the norms of the International Labour Organisation and the Brazilian workers who make its shoes have a 40-hour week, weekends off, a pension programme and four weeks' annual holiday.

Veja contrasts this with figures its research has thrown up of factory workers in China enduring shifts of 16 hours per day or more, a six-day working week and an hourly pay rate equivalent to €0.55.

Agricultural attitude

Co-founder François-Ghislain Morillion says he likes to think of Veja as "an agricultural brand" because it has always sought to work closely with suppliers who live and work in an agricultural setting and spends a lot of time with them.

It has 22 people working in its sourcing team, which is 22 more than it has working in marketing. It has six people working for it in Amazon regions to maintain its relationship with the growers of the *Hevea brasiliensis* trees that supply rubber for Veja soles. It has another four people in the north-east of Brazil who carry out a similar role with producers of the organic cotton fibre that goes into the laces and linings. Mr Morillion is proud of what this strategy has achieved so far. He says: "We started with small projects, ones that were just getting off the ground and, initially, we had, for rubber, 48 producers. Now we source our rubber from more than 1,200 families who have formed themselves into

a collective. We don't buy from individual suppliers. We buy from the co-operative, which represents the families. This is part of our strategy of seeking to have the biggest and most positive impact possible on communities."

While the situation with cotton-growers is similar, the Veja co-founder admits that the brand has made less progress with the leather supply chain. "There are several reasons for that," Mr Morillion continues, "but one of the most important, and I'm not using this as an excuse, is that the leather supply chain is more complex and more opaque. Leather is a by-product of the meat industry and there are operators in the meat industry who would clearly rather not have us poke our noses into their affairs."

In spite of covid-19, it recently embarked on an exercise to try to put right this comparative lack of progress on leather. Its partner tanneries are in Rio Grande do Sul, too, and during a recent visit to those tanneries it attempted once more to go to the farms that raise the cattle whose hides end up in the leather Veja uses. What happened during those farm visits caused initial concern at the company and probably confirmed some of the 'leave leather' sentiment that came across in the carbon footprint report. Curiously, though, in the end this experience led to much more positive outcomes for the brand's attitude to leather, with Mr Morillion even talking about a 180-degree shift.

Fuller engagement

He acknowledges without hesitation that if the brand's rapport with leather and the leather supply chain had fallen short of the closeness it has achieved in cotton and in rubber, the publication in 2021 of its carbon footprint figures did nothing whatsoever to improve the situation. "Yes, there was a bit of noise at the time," François-Ghislain Morillion says now, "because the people in the leather industry were not at all happy about what we published."

He goes on to say, however, that responses suggesting Veja had decided to end its use of leather overnight were unfair and inaccurate. Instead, he says the work the company did in preparing the 2021 report convinced it that, no matter how hostile the reception it had received from meat companies in the past, the new round of visits to tanneries and farms was essential because it realised that it had to engage more fully with its leather value chain.

Veja remains committed to pursuing alternatives, for example, making non-leather uppers by using the organic cotton fibres it already sources to make a canvas shoe-upper fabric and then coating it. "We want to develop our offering in this area," he says, "for customers who do not want to use leather. But we are committed to becoming better at working with our leather supply chain too and to get to know it better."

On home soil

To this end, Veja's impact and compliance manager, Ligia Zottin, who is from Brazil but is based at company headquarters, travelled back to her homeland to try once again to gain in-depth insight into leather. In the course of this, Marlon Backes, a leather expert that Veja employs in Rio Grande do Sul, joined her on a visit to a cattle farm in the interior of São Paulo state.

Everything began well, with the family that ran the farm delighted that someone had travelled all the way from France to see their operation. "They showed us how efficient the process was, with the animals being born and raised on the



After its carbon footprint report in 2021, Veja was a surprise participant in the Sustainable Leather Forum in Paris in September. Veja's impact and compliance manager, Ligia Zottin, speaking at the 2022 Sustainable Leather Forum in Paris. CREDIT: SUSTAINABLE LEATHER FORUM

farm," Ms Zottin recalls, "and just when we decided we had seen enough, we noticed that there were 20 or 30 animals that were different from the others. We asked why and the farmer told us they were animals that had just arrived from Altamira." This stopped the Veja team in its tracks. For Brazilians, Ms Zottin explains, Altamira, a place in Pará state in the far north-east, is closely associated with deforestation.

"And at that moment," she explains, "we decided we could not continue sourcing from this region because there was a risk. We were hiring people in the Amazon because we want them to talk to families there and explain we are committed to forest protection; it did not make sense to continue buying hides from a region where there was this risk of contributing, indirectly, to deforestation."

But all was not lost. Tipped off about cattle with zero-risk of being linked to deforestation there, the team decided to start sourcing hides from the far south-east of Brazil and from Uruguay instead. Veja staff in Rio Grande do Sul began an exercise of not just buying hides from the south-eastern part of the state, close to the border with Uruguay, but to get to know some of the farmers as well. One relationship, with farmer Victor Wortmann, has blossomed to such an extent that he joined the Veja team on stage at the Sustainable Leather Forum in Paris.

Pride of the Pampas

Mr Wortmann farms at a ranch called Estância Coxilha, not far from Quaraí and the border with Uruguay, 600 kilometres south of Porto Alegre. The land here in the far south is part of the Pampas, the fertile grasslands that cover this region, part of Argentina and the whole of Uruguay. For almost four centuries, this land has been used as pasture for raising cattle. The only trees in sight are eucalyptus, planted relatively recently to provide shade for the cattle when the sun is at its fiercest.

Estância Coxilha specialises in Braford cattle, a cross between Herefords and Brahms, and Corriedale sheep. From birth to abattoir, these animals spend their entire lives on the farm, are 100% grass-fed and treated in keeping with all animal welfare requirements. "This gives us control," Mr Wortmann says, "and allows us to guarantee the origin of the meat, wool, hides and skins we produce." He leaves 90% of the land on the farm – into

which he says you could fit half of Paris – completely untouched, making it a haven for fauna and insects of all kinds. The processes are regenerative, he explains, because the presence of the ruminants on the land, tramping organic matter into the ground as they move from place to place, leads to "constant regeneration of the undergrowth and enriching of the soil in a natural cycle".

Victor Wortmann represents the third generation of his family to lead operations at Estância Coxilha. His grandfather bought a first plot of land and founded the farm in 1959 and his father later took over. He says he approaches his work as "a mission to honour the history and the heritage" of the people in whose footsteps he is following. This means upholding their commitment to transparency, animal welfare, social issues and the environment, and to delivering meat, hides, wool and other by-products "that people can trust". Nothing bad can happen to this part of the Pampas while his family is in charge, he insists.

Turn to the south

The ongoing Estância Coxilha project has made a positive impression on Veja. After meeting Victor Wortmann, hearing his story and visiting his farm, the footwear brand decided that it could and would continue to use leather and to source it from tanneries in Brazil provided it can use hides from farms such as this. "When you have people like Victor, working in the way he works," François-Ghislain Morillion says, "all you can do is tell yourself that you have to change from what you were doing before and move to this."

It was this that led Veja to make what he describes as its 180-degree turn on leather sourcing: no more sourcing hides in the central and eastern parts of Brazil because of the risks of being inadvertently implicated in deforestation. "We've never sourced hides in the Amazon, but when you buy from someone who buys from someone who buys from someone else, you can end up with material from the Amazon," he explains. "Working with farmers like Victor and others in the same region, you can see that the cattle are from European breeds that no one could raise in the Amazon biome because it's too hot there."

Veja has found a way of restoring faith in its leather supply chain by turning its gaze southwards. 🌱



Victor Wortmann says nothing bad can happen to his part of the Pampas while his family runs Estância Coxilha.

CREDIT: VICTOR WORTMANN

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