

WORLD LEATHER

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

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Volume 36, Number 1



Biobased tanning materials
Blueprint for leather making
Leather Naturally's three pillars
Luxury car brands hit records



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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: An example of the importance of leather skills to the customisation services of luxury car brands. In this instance, specially made bright yellow leather went into this customised Rolls-Royce Dawn for a famous collector, Cuban-American mattress magnate Michael Fux.

CREDIT: ROLLS-ROYCE MOTORS



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FRANCE Luxury group Kering has reported full-year revenues for 2022 of €20 billion, an increase of 15% year on year. All of the group's brands posted record revenues, Kering said, but it added that the performance of the brands was "not up to our ambitious and potential" in every case. Some faced challenges towards the end of the year, but the group said it was confident it was pursuing the right strategy for the long term.

BELGIUM COTANCE secretary general, Gustavo González-Quijano, recently said tanners across the world are currently producing between 23 billion and 24 billion square-feet of leather per year. The estimated economic value of this output from leather manufacturers is around \$50 billion per year. Across the world, the industry as a whole directly employs an estimated 500,000 people.

UK Footwear brand Dr Martens is set to launch a footwear collection that utilises deadstock materials. Using a combination of leathers from different tanneries, the Northamptonshire footwear manufacturer plans to use the surplus material to minimise waste and provide customers with a unique product made to the same exacting standards.

AUSTRIA Following five years of renovation work, the Austrian parliament building was officially re-opened at the end of 2022. In the renovation works, leather from Boxmark was used in various locations, including the plenary hall and the meeting room of the Federal council. The leather manufacturer said that approximately 7,500 square metres of leather had been processed for the various projects.

ITALY Italy's national tanning industry body, UNIC, hosted a seminar on traceability and circularity in the international leather supply chain at Lineapelle in February. Speakers included Fernando Bellese, now at campaign group World Wildlife Fund, Gustavo Gonzalez-Quijano from COTANCE and Sabrina Frontini from certification body ICEC. UNIC also used the event to present its latest sustainability report.

NIGERIA The Nigerian Institute of Leather and Science Technology (NILEST) is said to have concluded its arrangement for the establishment of a leather tannery centre in the town of Idah, Kogi state. NILEST has said that the Nigerian leather sector is the largest non-oil foreign exchange earner, but that its potential has not been fully explored.

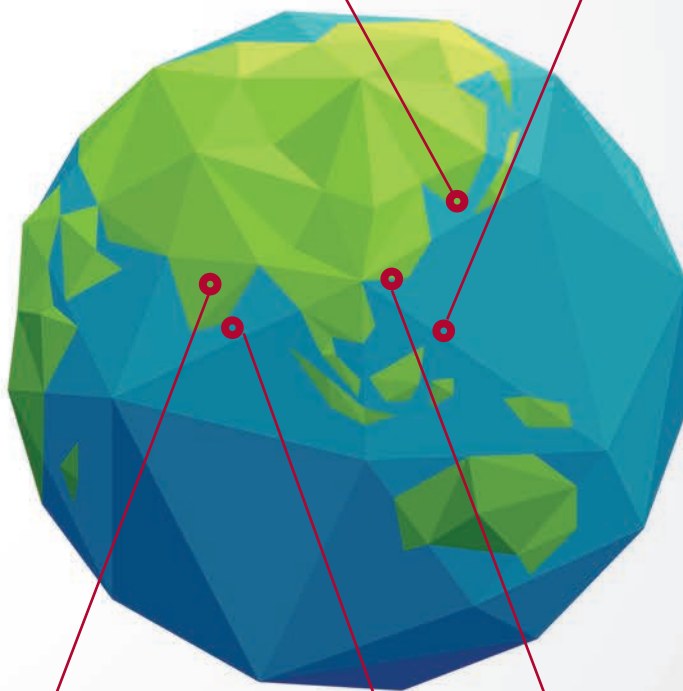
TURKEY Measures are in place to promote the use of domestic hides in the country's tanneries. The government has imposed a 16% import duty on bovine hides coming into the country as crust. In parallel, a \$500-per-tonne export duty is in place to discourage shipment overseas of Turkish wet blue. Industry commentators have said that good-quality raw material is available at good prices in the domestic market.

UNITED ARAB EMIRATES Campaign group Leather Naturally will hold a breakfast meeting on the morning of March 14, day two of the APLF trade show in Dubai. Guest speaker, founder and chief executive of Spin 360, Federico Brugnoli, will present collaborative work on a new industry standard LCA. Management board members will also present a report on the activities of Leather Naturally over the last year.

SOUTH KOREA More than 70 Italian leathergoods and footwear brands travelled to Asia at the start of February to take part in events in Seoul and Tokyo. The Italian companies used the events to show Asian buyers their collections for autumn-winter 2023-2024. Italian Fashion Days took place in Seoul from February 1-3, followed by Shoes From Italy and Moda Italia in Tokyo from February 7-9.

THE PHILIPPINES The Leather and Hide Council of America (LHCA) and the Fashion Accessory Makers of the Philippines (FAMPh) have partnered to open up the Real Leather, Stay Different student leather design competition to students in the Philippines this year. The initiative will aim "to reshape education around the production and use of sustainable leather in the Philippines", the partners said. Students in art and design schools across the Philippines will have the chance to design an apparel, accessory or footwear item using natural materials, 50% or more of which must be leather.

US Official figures show that, in 2022, tanners, traders and packers exported 30.5 million hides from the US, bringing in export revenues of more than \$1.25 billion. This represents a fall of 11.8% in volume, and of 9.3% in value. Last year, importers sourced 26.7 million wet-salted hides from the US, paying a total of \$869.5 million for them. The figures for wet blue show volume of nearly 3.8 million pieces and a combined value of \$404.8 million.



INDIA During the first nine months of India's current financial year (April-December 2022), the country's leather industry achieved \$4.25 billion in export earnings, the Council for Leather Exports (CLE) announced at the India International Leather Fair (IILF). This figure represents an increase of 17% year on year. Projections for the full financial year, ending in March 2023, suggest export earnings of approximately \$5.6 billion.

SRI LANKA Sri Lanka's exports of leather products and footwear had a value of \$49.8 million in 2022. According to the Sri Lanka Export Development Board (EDB), there are seven tanneries operating in the country. It said a number of large, vertically integrated manufacturers run their own tanneries on the island.



ARGENTINA Argentine beef exports reached a total volume of 632,000 tonnes in 2022, an increase of 10.9% compared to 2021. This volume represented 29% of the meat Argentina produced in the period. In terms of value, these shipments brought in \$3.4 billion, an increase of 24% year on year.

MACAU Producer of leather and additional materials ISA TanTec recently announced the results of product-based Life Cycle Assessments (LCAs), covering ten of the group's largest-volume leather productions. ISA TanTec said it had initiated the LCA on bovine leather production at two of its largest Asian tanneries, to give customers accurate environmental impact data and to identify resource-intensive hotspots in the supply chain.



Switch to bisphenol-free retanning agents

Leather chemicals group Zschimmer & Schwarz presented new bisphenol-free retanning and filling agents at the IILF 2023 exhibition in Chennai in February. It said the new products would offer customers "alternatives that are more environmentally friendly".

In the past, bisphenol A (BPA) was present in products ranging from babies' bottles to thermal paper but is no longer used for these purposes owing to concerns about its effect on human health and on the environment. In the future, the use of other, structurally similar bisphenols is likely to be regulated.

In small quantities, the company said, two of these substances (bisphenol F and bisphenol S) are present in synthetic tanning agents, which have been used in the retanning of leather for decades.

The current draft of the European Chemicals Agency (ECHA) provides for the introduction of strict limits for bisphenols in leather articles and chemical auxiliaries for leather processing. "This poses a great challenge to tanneries and the chemical industry," Zschimmer & Schwarz said, "and we have addressed this issue at an early stage and now present newly developed bisphenol-free retanning and filling agents that do not contain these substances."

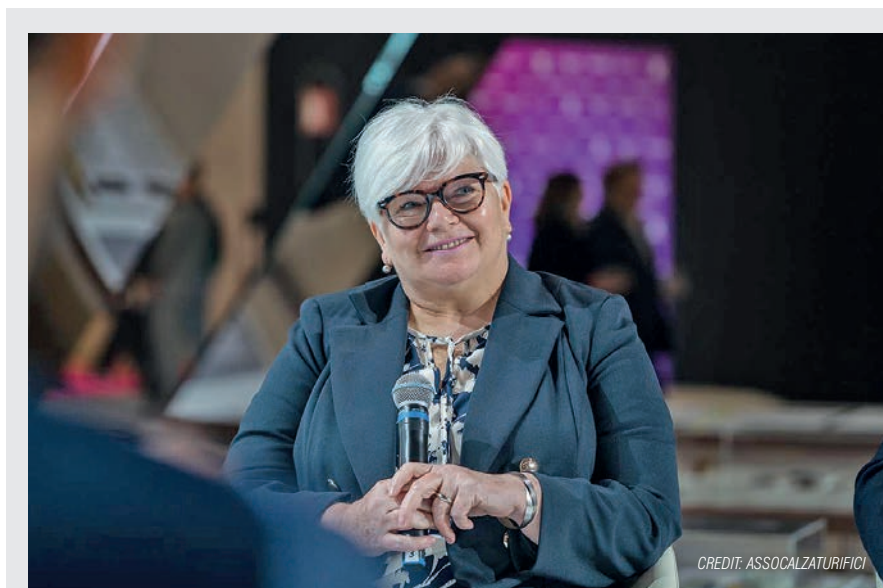
Its new products are Tafigal HFB, Tafigal S-TF and Novaltan S-VF. The company said these innovations will allow tanners to produce bisphenol-free leathers with comparable properties to previous articles.

World Footwear Congress postponed

The European Footwear Confederation (CEC), the Footwear Industrialists Association of Turkey (TASD) and the Turkish Footwear Industry Suppliers Association (AYSAD) have announced the postponement of the seventh World Footwear Congress.

Istanbul was to host the event in May but the organisers decided to postpone it following the devastating earthquakes in Turkey and Syria in early February, which resulted in almost 45,000 fatalities.

Instead, the World Footwear Congress will now go ahead in the same host city in November. Speaking at Micam in Milan in February, TASD president, Berke İçten, said the earthquakes had hit an important area for footwear production and that around 450 shoe factories had been damaged or destroyed. "We have also



CREDIT: ASSOCALZATURIFICI

Uneven recovery for Italian footwear

Preliminary results for 2022 show that Italian footwear manufacturers achieved sales revenues of almost €14.5 billion, an increase of 14% compared to the figure for 2021 and a return to pre-pandemic levels.

President of industry body Assocalzaturifici, Giovanna Ceolini (pictured), revealed the figures at the Micam exhibition in Milan in February.

Ms Ceolini commented: "Although the overall picture is encouraging after the complications of the last two years, there are some less comforting indications. Recovery has been very uneven and two out of every five of our member companies have still not returned to 2019 levels of revenue. A number of companies have not been able to make it through the crisis and have gone out of business."

Even though there was an increase in demand for Italian shoes in 2022, she pointed out that costs had gone up too and showed "no sign of coming down".

She lamented the war in Ukraine and pointed out that the conflict had directly affected "a region that has always been one of the largest customers of certain Italian footwear districts".

Export figures for the first ten months of 2022 suggest a figure of €10.5 billion, which is a new record for the period and an increase of 23.5% year on year. Assocalzaturifici's projection is that full-year export growth will be just a little below this percentage figure.

The average price per pair of the shoes Italian brands sold in export markets between January and October last year was €57.26, more than 10% up on the corresponding figure for the same period in 2021.

lost many talented colleagues," he said. "But the footwear industry in Turkey will recover and build back stronger."

Proviera welcomes Cromogenia as newest global partner

Leather chemicals manufacturer, Cromogenia Units SA, has been announced as entering into a licensing agreement on the exclusive production of probiotic products in Brazil and Argentina.

US-based life sciences company SCD Probiotics began to present Proviera as a new spin-off division in 2014, providing biotech-based products for soaking, degreasing, wetting back, dyeing and finishing hides.

Cromogenia, with more than 75 years

of experience developing and producing a wide variety of chemical specialities for industries around the world, with a focus on sustainability, will exclusively manufacture Proviera products for the Brazilian and Argentinean markets and offer probiotic products to its clients around the world.

Proviera leather biochemicals are metabolites derived from a proprietary fermentation and formulation technology, using probiotic cultures and natural raw ingredients. To use 100% natural products instead of traditional leather chemicals in the beamhouse will help tanners' environmental performance, Proviera has argued, because nearly 70% of the wastewater of leather production processes comes from the beamhouse.

First German tannery secures Oeko-Tex STeP certification

German leather manufacturer Heinen has become the first tanner in the country to secure STeP certification from standards body Oeko-Tex.

STeP originally stood for 'Sustainable Textile Production'. Oeko-Tex introduced this certification programme in 2013 to replace its old Standard 1000. It said at the time that its aim was to recognise companies that run environmentally friendly and socially responsible supply chains. It began applying STeP to leather in 2019.

Heinen has long embodied the principles that underpin STeP. Terracare, the brand name that Heinen applies to all its finished leather, is well known among sustainability-focused high-end brands.

According to Heinen, the name Terracare defines its production standards: environmentally-friendly, resource-efficient and socially compatible, using raw materials from Germany.

Software can help shoe firms prepare for new directive

Italy's national footwear manufacturers' association, Assocalzaturifici, presented a software tool called VCS at the recent Micam exhibition.

It developed VCS in partnership with Milan-based consultancy Spin 360. The two organisations have said the software can help footwear manufacturers demonstrate supply chain responsibility and sustainability.

In the build-up to Micam, Assocal said the tool would help shoe manufacturers identify and address areas of risk and reduce the impact these might have on the business.

It pointed out that, with compulsory reporting by companies of their corporate sustainability performance likely to come into force in the European Union by 2025, with an obligation to report information from the previous year's activity, companies active in the European market will have to take action sooner rather than later.

"VCS software will help companies tackle this," Assocal said.

Assomac and SLF to work together

The Sustainable Leather Foundation (SLF) and Italian tanning machinery manufacturers' association Assomac have signed a memorandum of understanding to work together on a number of key areas of development.

Managing director, Deborah Taylor, said SLF was developing a new "transparency dashboard" for machinery and other technology and would benefit from Assomac's expertise and knowledge in this area.

"We are delighted to count on Assomac as a key advisor," Ms Taylor said.

Still no buyer for Wolverine Leathers

The Wolverine Leathers business, which parent company, the Wolverine Worldwide footwear group, is in the process of selling, achieved revenues of \$58.6 million in 2022 and contributed \$4.4 million towards group profits. These figures represent year on year growth of 11.4% in revenue year on year and a 76% increase in profit.

Wolverine Worldwide announced in December that it had decided to "let go" of Wolverine Leathers, its in-house supplier of leather, as part of a series of cost-saving measures. It described the leather division as a "low-profit contributor" and said it wanted to create more value for shareholders.

Revenues for the whole group reached almost \$2.7 billion in 2022, an increase of 11.2% year on year. 



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Industry leaders lament earthquake disaster

Senior figures in the leather and footwear industries in Turkey have expressed their sorrow at the suffering of the victims of the violent earthquakes that struck the country and neighbouring Syria on February 6.

In separate messages, president of Turkish Leather Industrialists' Association, **Burak Uyguner**, and of the Turkish Footwear Industrialists' Association, **Berke Içten**, offered condolences to the victims' families and expressed hope that injured people would recover and help rebuild their communities.

Ten Turkish provinces were affected, but they were areas in which the textiles, chemicals and agricultural products sectors dominate manufacturing.

Some footwear manufacturing facilities were in place in Gaziantep, Diyarbakir, Adana, Hatay and Urfa provinces but production has halted there and some industry commentators have suggested it will not be easy for these factories to recover.

Super Bowl success for Loewe

The Kansas City Chiefs won American football's biggest prize, the Super Bowl, this February, but the Missouri-based team and its fans were not the only people celebrating afterwards.

Spanish luxury brand Loewe also hailed the event as a triumph after the headline act for the game's halftime show, **Rihanna**, performed in a Loewe outfit.

She wore a scarlet catsuit as a baselayer, with an unzipped cotton-canvas jump-suit in the same colour on top. Leather, the material Loewe is most famous for, also played a role. Rihanna complemented the look with a made-to-measure leather bustier, also in red.

In the game itself, Kansas City Chiefs beat the Philadelphia Eagles by 38 points to 35.

Gucci announces new creative director

Luxury brand Gucci has appointed **Sabato De Sarno** as its new creative director. The company said Mr De Sarno would assume responsibility "for defining and expressing the house's creative vision" across its women's, men's, leathersgoods, accessories and lifestyle collections.

Sabato De Sarno began his career at Prada in 2005, moving to Dolce & Gabbana, before joining Valentino in 2009, where he held positions of increasing responsibility, finally being appointed fashion director overseeing both men's and women's collections.



CREDIT: PATRICK MCDOWELL

Designer debuts leather with new finish

London-based designer **Patrick McDowell** used leather with a new type of finish to develop four items for his London Fashion Week show in February.

He worked with Santa Croce-based leather manufacturer Conceria Sirte to source leather with a first-of-its-kind, naturally-derived, biodegradable finish called Activated Silk L1.

This finish has been developed by biotechnology company Evolved By Nature. It uses molecules from natural silk protein to create biodegradable finishing products for leather and other materials.

Patrick McDowell has used leather finished with Activated Silk L1 to create a bow handbag, a sports bag, a leather puffer coat and a leather jacket.

Skills promotion role for Fendi CEO

The chief executive of luxury leathersgoods brand Fendi, **Serge Brunschwig**, has been chosen by Altagamma, the organisation that promotes luxury brands from Italy, to oversee a series of projects related to people and talent.

Altagamma president, **Matteo Lunelli**, said manufacturing talent and expertise are "the cornerstone of Italian creative excellence". He said this heritage has to be safeguarded and passed down to future generations and that member companies would achieve this by inspiring young people and creating dedicated training programmes.

He said Serge Brunschwig had always displayed "a keen awareness of these issues and great insight into the challenges involved". He expressed confidence that the Fendi chief executive would devote a lot of time to this task and advocate strongly for the sector, raising awareness among families and in schools of the opportunities available.

In his own comments about the appointment, Mr Brunschwig said: "We want to promote craftsmanship jobs in the luxury sector and show new generations that these represent a genuine career opportunity. The Italian ateliers that work with us are the driving force of Italian-made

excellence and we are proud to train and empower new artisans who will help safeguard Italian savoir-faire."

GL International opens doors to students

Santa Croce-based leather chemicals manufacturer Figli di Guido Lapi resumed its 'Open Factories' training programme in February, after a two-year break caused by the covid-19 pandemic, with a visit by the fifth-grade classes of the Carlo Cattaneo State Technical Institute (ITS Cattaneo) in San Miniato.

Running until May, the project will involve approximately 180 students from the school visiting businesses in the area, bringing the world of school closer to that of work. In May, tours of the other companies in the Lapi Group (Finikem, Toscolapi, Figli di Guido Lapi, Conceria Gille-Emme, Npa Moses, Lapi Gelatine) will continue with visits by other year groups from the school.

In addition to the students and teachers of ITS Cattaneo, the tour saw participation by FGL International CEO, **Francesco Lapi**, and managing director, **Fabrizio Ugolini**, the Mayor of Castelfranco di Sotto, the secretary of Federchimica AISPEC, and the vice-president of the Unione Industriale Pisana.

Chairman of Tasman Tanning retires

Industry veteran **Hunter Tait** stepped down from his role as chairman of New Zealand-based leather manufacturer Tasman Tanning Company at the start of the year.

Hunter Tait worked at the company for decades and was its managing director from 1998 until 2018. Tasman Tanning said his experience, knowledge and expertise in the hide and leather industry had contributed significantly to the growth and success of the company.

Its new chairman is **Richie Smith**. Tasman Tanning said his background in agriculture, farming, meat processing, manufacturing, dairy, telecommunications and technology would help “bring a new perspective to the company”.

Another celebrated fashion designer dies

Fashion designer **Paco Rabanne** died on February 3, two weeks short of his 89th birthday.

Paco Rabanne lived most of his life in France but was born near San Sebastián. He had a strong connection to the Basque city's other famous designer, **Cristóbal Balenciaga**, with whom Paco Rabanne's mother worked for many years as a dressmaker.

On moving to Paris in the 1950s, Paco Rabanne studied architecture but partly funded his studies by designing handbags, shoes and clothes. He began to produce full fashion collections of his own in 1966. He retired in 1999.

Sustainability Forum programme complete

Brazil's national tanning industry association CICB will run its 2023 Sustainability Forum on March 8 in Novo Hamburgo. It will take place during the Fimec exhibition, which runs from March 7-9.

This year, the Sustainability Forum will have as its theme 'The Path Towards Traceability'. The programme will include an overview of the leather sector from CICB sustainability consultant, **Ricardo Andrade**.

A series of technical presentations will follow, with agricultural engineer **Jordan Timo Carvalho** talking about the use of geotechnical systems in the livestock value chain, tanning technology specialist **Domenico Feltre** addressing the question of the use of laser technology for traceability during the tanning process and **Cesare dal Monte** from technology provider GER giving a presentation on the importance of data in the automation of the leather sector.

Mathias Almeida, an entre-preneur who focuses on helping businesses develop responsible sourcing strategies, will speak about sustainable production of livestock.

The Sustainability Forum will conclude with a panel discussion involving tanners **Alisson Granemann de Medeiros** of Viposa and **José Roberto Pacheco** of Midori Autoleather, and head of agriculture and livestock industry body CAN, **Francisco Olavo Pugliesi de Castro**.

Political presence at Micam

The February edition of the Micam footwear event brought high-ranking

political visitors to the Rho exhibition site in Milan.

On the second day, Italy's deputy prime minister, **Matteo Salvini**, visited the event at the same time as the president of Spain's biggest footwear-manufacturing region, Valencia, **Ximo Puig**.

Mr Salvini toured the exhibition accompanied by the president of Italian footwear manufacturers' association Assocalzaturifici, **Giovanna Ceolini**.

Her counterpart in Spain, **Rosana Perán**, president of FICE, hosted Mr Puig's tour, which concentrated on visits to the stands of some of the Spanish brands that travelled to Milan to take part. 



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

24 February 2023

Brazil halts China beef exports

23 February 2023

CICB emphasises Europe's importance for Brazilian leather exports

22 February 2023

Gruppo Dani hits target early

21 February 2023

Lineapelle opens with a spring in its step
Hermès to pay one-off bonus to all employees

20 February 2023

City of Milan inspires Mipel's 123rd edition

17 February 2023

Lamborghini and Tod's announce partnership

16 February 2023

Holiday-season upturn leaves Caleres confident about record results

15 February 2023

PV visitor numbers up by more than 60%

14 February 2023

Thousands of jobs to go at Ford in Europe
Sustainable fashion focus for Première Vision Paris

13 February 2023

Q1 growth for Adient despite external obstacles

10 February 2023

Record beef exports for US in 2022
Brands honoured by Altagamma for digital performance
Student exhibition inspired by historic leathercraft

09 February 2023

End of Stahl deal opens up new avenues for Proviera

Acquisition gives Lectra a new dimension

08 February 2023

Fall for luxury in China, but three factors helped some brands fare better

Challenging quarter for Capri Holdings

Stahl joins the Sustainable Leather Foundation

07 February 2023

Milan in sight as Brazilian shoe brands look to build on 2022 exports

06 February 2023

Première Vision takes steps to overcome transport interruptions

Beef business set-back for Tyson

02 February 2023

Leathergoods and footwear lead the way for Italy in South Korea

Another automotive success for Bridge of Weir

Positive first day in Chennai

01 February 2023

Limited local supply drives cattle imports into Turkey

India International Leather Fair returns after pandemic hiatus

31 January 2023

LVMH multiplies the value of its leathergoods business by four in a decade
UK leather manufacturer goes into administration

30 January 2023

Shoe and leather components exports from Brazil grew in value in 2022

27 January 2023

Record revenues take Louis Vuitton past major milestone

Tod's group set to break the €1 billion barrier again

Footwear is the bright spot for Pakistan

26 January 2023

GLow-carbon leather for high-performance sports car

India's leather industry thrives as lockdowns blunt China exports

A busy start to the year for Ubrique's leather training school

25 January 2023

Retail boost for Pittards

US cattle on feed down by 3% at start of 2023

Marfrig obtains new beef export licences

Circularity gap is growing, according to Deloitte

24 January 2023

Lineapelle London is back

Awards presented to leather and footwear sector students in Milan

Educational workshops organised by PrimeAsia

23 January 2023

ECHA adds to candidate list of substances of very high concern

High-school students gain insight into Hermès craftsmanship

All-African Leather Fair confirmed for February

Disruption hits Dr Martens

20 January 2023

Colombia will maintain 35% tariff on footwear imports until 2025

Langro Chemie appoint new distributor



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The needle moves

The director of marketing at UK-based leather manufacturer Pittards, Debbie Burton, took up the role of chair of industry campaign group Leather Naturally in July 2022. She had previously been head of its communications team.

How do you expect 2023 to go for Leather Naturally?

Well, the economic situation is tough and life feels serious, but we see the needle beginning to change in terms of opinion and receptiveness towards leather and we are really well placed as an industry to take advantage of this. We normally talk about our strategy for the year ahead in April, when we have our annual general meeting, but this year, in these times, we thought that we would go against this and decided to make some announcements at the end of January about what we are going to do. The audience seems more willing to listen, so we wanted to go early with the strategy. We looked at everything we have done so far and decided that what we will do now is take a very targeted approach to communicating with consumers (by which I mean consumers of information about leather), with brands and with the industry

Who is that audience? Who are these consumers of information about leather?

It can be students, journalists, people that buy stuff, the general public; that's who I mean. We have activity based around those people, creating targeted communications, in a reactive and a proactive sense, for them. When you don't have millions and millions of pounds to spend, targeting is

really important. The Leather Naturally website is part of the reactive communications strategy, and this is supported now by paid search. We have invested in that because it's really important in forming our relationship with those groups of people. We studied what people were reading on the website and what they were searching for. We wanted to understand what they were having conversations about and what it was about leather that they wanted to know. As a result, we have rebuilt the site, rewriting the content to chime with the search terms that people were using. We've done this to be part of their conversations about leather.

Which of the outcomes from that work surprised you?

One surprise was that there aren't all that many questions that people ask about leather. On our homepage, we have 10 frequently asked questions. Those came from the research we did. Essentially, everything boiled down to 10 questions, and five of those were the most searched. The second thing is that we got some push-back from the industry for using consumer language, including terms such as 'vegan leather'. We don't use it because we like the term. We don't like it. But we think it's appropriate to use it because it comes up in the questions that consumers are asking. And when they come to that page on our website, the first thing they will see is that



“We are in a moment in which people want to do better for the planet and reduce their impact. We have this opportunity now to engage with them, without lecturing them, to help them understand how leather can be part of the journey they are trying to take.”

there is no such thing as ‘vegan leather’. But we have used that term; if we want to answer consumers’ questions, we have to use terminology they use. We can take the high ground and insist on using terms such as ‘alternative materials’ instead, but that’s not what people type into Google. And when they do search for answers to their questions about leather, we want ours to be the first answer they see. We don’t want them to find instead an answer from someone who will tell them that the vegan material is amazing and that they should use it instead of leather. I think this comes down to understanding consumer attitudes. You can’t lecture consumers. You have to understand what it is they want to know. We have articles that address the questions they are asking and we have invested a little bit of money in paid search to make sure ours are at the top of the answers people see when they search.

What has this analysis shown you about the content of your website?

We know from our paid search data that we have an 8% click through. In the terms of digital, a 2% clickthrough would be good; 8% is phenomenal. We also know that anyone who comes to the website through a resource we launched last year, Leather Truthfully, spends three times longer than the average person consuming the content. So these are people who are really engaged. We tested it and we know they read down to the bottom of the page; they come and they stay. When the flurry of controversy around leather’s score on the Higg Index began in 2020, Leather Truthfully was already in the planning, so it was very timely. We created this really simple platform, highlighting key questions and giving the answers in a simple way. And if readers want more detail, we give them a link where they can learn more.

What impact will this have on Leather Naturally’s efforts to communicate on social media?

It will mean a slight change in some of the postings we will put out on social media, plus continuing with Leather Truthfully. I’m excited about this because it is coming at a time when people want to consume less, use things for longer, repair things and so on. There is an emotional part of the argument that we think we can tap into here. We are in a moment in which lots of people want to do better for the planet, be more responsible and reduce their impact. We have this opportunity now to engage with them, without lecturing them, to help them understand how leather can be part of the journey they are trying to take. We have that moment now and we will be using our social media to offer content that can be helpful.



Debbie Burton, chair of Leather Naturally.

CREDIT: LEATHER NATURALLY.

In what ways will your strategy help brands?

The second pillar of our strategy focuses on brands, on how we can engage with them better and how we can help them with their messaging about leather. One thing we learned from research we did with Leather UK in 2021 is that consumers really trust brands. For this reason, we published a leather-making guide last year, masterminded by Luis Zugno, head of innovation at chemicals group Buckman. It is really a lifetime of knowledge and work distilled into this incredible document. And we think it will be useful for brands and retailers. If they want to educate people working in their stores about leather, they can give them this concise version of the whole process. This is a conservative estimate, but we think that it has been downloaded about 5,000 times. It’s available in various languages and we intend to increase that. We are giving the brands a tool, something that’s written in really simple language and has great photos.

It sometimes seems that, no matter how many times or how emphatically the leather industry makes certain points, or how much it bases what it says on science, the message does not reach influential commentators, including journalists, film-makers and prominent people in the fashion industry. What stops the message from hitting home?

I think it’s hard, but we see some progress; we see consistent, organic growth of visitors to the website. We’ve served up half-a-million pages of content and we have



LEATHER ^{AND} HIDE

COUNCIL OF AMERICA

BACKTRACK. AT WORK ACROSS THE SUPPLY CHAIN.

Leather's sustainability credentials are critical to our industry's future.

Today sustainability is tied to traceability, as customers and consumers alike ask not just 'where has it come from' but 'what is its impact' and 'how is it being managed'. Answering these questions is central to addressing ESG concerns.

WHERE: WITH NO MANDATORY ANIMAL IDENTIFICATION SYSTEM OR GOVERNMENT TRACEABILITY SYSTEM FOR HIDES, PRODUCT CLAIMS ARE SUPPORTED BY PRIVATE SECTOR SOLUTIONS.

L&HCA is working with the U.S Department of Agriculture to provide independently certified traceability back to packing or processing point of origin.

WHAT: THERE ARE WILDLY DIFFERING VIEWS ON THE ENVIRONMENTAL IMPACTS OF OUR INDUSTRY AND SUPPLY CHAIN, FUELED BY A LACK OF HARD DATA.

L&HCA is developing the data resource to enable a full Life Cycle Assessment for US hides. This will enable quantification and evidencing of actual impacts.

HOW: THE US INDUSTRY CONTINUES TO INVEST IN SETTING THE SUSTAINABILITY BENCHMARK. WE NEED TO EVIDENCE THIS GOOD PRACTICE.

L&HCA works with the industry partners to help assess, quantify, certify and support ESG investment, across the leather value chain.

Together we can enable our customers to make an informed, sustainable, and natural choice, with absolute confidence.

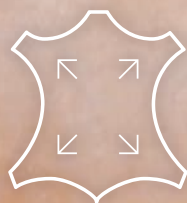
LEATHER & HIDE COUNCIL OF AMERICA: usleather.org



Fratelli  *Carlessi*

CRC

Cell Rotary Conditioning

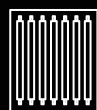


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CRC is able to achieve uniform and repeatable results regardless of the volume or type of leather being processed. By combining an independent cell system with air flow control, it is possible to process leather in a short time and at low temperatures, **reducing working time and energy consumption.**

In addition, the intelligent tensioning of the leather allows to obtain its maximum yield with surprising results.



Independent cells



Automation in workstations



Better air flow distribution



Distance between leathers optimized



established some good relationships. Leather Truthfully has helped with this too because we have also used it as a place for journalists in the hope of starting a conversation with them and developing a relationship. We've seen what happens when we send off furiously worded responses to articles: no one publishes a correction. We knew it was unlikely that the Leather Truthfully initiative would lead to a world-changing story overnight. Rather than that, the intention was to create long-term relationships with important journalists working for important publications, journalists who write about this stuff. We just did an audit of all the media with which this has helped and the combined audience of those platforms is about 100 million readers. We got a platform with Business of Fashion, which, I think, a few years ago, would have been unthinkable. We had a very in-depth article with Forbes and we had a great interview in Monocle. But it's not 'one and done'. It can't be; it has to be an evolving relationship. And we've seen this work already. What we will do this year is evolve that campaign. We will use the narrative of leather's longevity and evolve it in line with what we are doing on social media.

You mentioned at the beginning that Leather Naturally also wants to take a targeted approach to communicating with the industry. What does that involve?

Last year we established March 30 as 'World Leather Day', a moment in time when we could all share positive messages about leather. We create shared social media posts, content that members can use. Not every company has someone to do social media posts of their own so we give them content that they can translate if they need to and use for themselves. We plan to create more of that shareable content. We want Leather Naturally to be a source of trusted content, and 'trusted' is really important. That's why I spend time working out how much time people spend on our website and for how long they engage with the pages. When people spend a long time looking at your pages, Google starts to trust you. And again, when you don't have millions and millions of pounds to spend on a campaign you need that trust to move to the top of the search results. We know our Google trust rating is going up. It takes more than 2,000 hours of volunteer time to run the Leather Naturally campaign and we are making things happen. Think what we could achieve if more people in the industry, double or triple the people taking part now, could become involved.

How would you sum up the contribution that Metcha made to Leather Naturally?

Think about what it was for. It was conceived as a way to reach a Gen Z and millennial audience, people less likely to use leather or understand where leather comes from, but more likely to want longevity and be concerned about their environmental impact. Did it achieve that? Yes. I think it was a really positive example of how the industry came together and decided it wanted to fund a campaign to address those issues. By the time it ended, in 2022, it had an audience of 4.5 million and was working with influencers and collaborators who had an additional combined audience of 21 million. It got the word 'leather' mentioned 1.2 billion times online and 79% of its audience were Gen Z and millennials. That's in keeping with what it set out to do. It did exceptionally well against its brief.



The Leather Naturally campaign says it has worked hard to understand what it is that consumers want to know about leather and to try to answer the questions consumers are asking.

CREDIT: ALEX GALLOSI-PREMIÈRE VISION

What in your opinion prevents the leather industry from achieving greater unity?

I find it fascinating, and I don't have an easy answer. After 15 years in the leather industry, I think I still view it sometimes as a little bit of an outsider. One thing I find is that there is not one person in the leather industry who is not passionate about it. You can't work in the leather industry and not be passionate about it. This is what caught me. I had a background in product and development for sports brands. At the time, Pittards wanted someone to launch their technologies into the sports market and they figured they could teach me about leather. I arrived for the first day and they put me in the effluent plant. I spent a month finding out how the tannery worked, and I was utterly engaged with it. You find people with so much knowledge, you could never hope to get it all out of their heads. It's really compelling. People are passionate about it, and everyone is unified in that passion. The only thing I would venture, again with my slight outsider's hat on, is that leather is such a versatile material; it feeds into many different segments: footwear, furniture, apparel, automotive, to name just a few. All markets go through their own cycles, which perhaps brings the focus more onto that individual segment and not on leather as a whole. What we need is always to have an eye on the bigger picture as well. I would optimistically say that realising it is the first step to fixing it, and we are doing that. Reflecting on what Leather Naturally has been able to do with its current membership numbers, thanks in no small part to those volunteer hours (which means most of the funds can be spent on making things happen), it strikes me that we could do a great deal more if more companies were to join. 🌐



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Executive summary

The value of an article may be defined as a function of its performance during use, and perceptions of its uniqueness or desirability. Leather has a good reputation for durable performance and it is widely perceived as a luxurious material that wears well and ages gracefully. The leather manufacturing industry has significant vested interest in supporting its position in the market as a material of high value.

The tanning process builds on the natural properties of leather to ensure this natural protein bio-material is made resistant to microbial attack and remains stable at elevated temperatures. Leather's mouldability, durability, and moisture-management properties make it a premium material. When the performance properties of leather are combined with the appeal of the way the material looks, feels and smells, it is truly deserving of its reputation as something special.

Leather is featured as a premium material by many of the world's leading manufacturers of consumer brands. It is used to promote the desirability of their products. Using the term leather in a product's name invokes a favourable emotional response in the minds of most consumers. Leather is a selling point.

Synthetic material replacements, many based on fossil fuel and plastics, exist for all leather end-uses and are becoming increasingly competitive. Synthetics, made increasingly to look and perform like leather are also favoured by some manufacturers of articles because of cost or consumer sentiment. To add to concerns, influential voices in fashion and in animal rights campaign against the use of leather. This is unfortunate, as leather can be made sustainably, without undue damage to the environment.

Confusion in the mind of the consumer can detract from the desirability of leather. This essay argues that it is critically important to differentiate leather clearly as a component product of choice. 🌱

About this essay

We published the fourteenth Nothing To Hide essay in its original form in *World Leather* February-March 2016. It is the work of Elton Hurlow, a leading industry figure until his retirement in 2021, and a great friend of this magazine. Mr Hurlow is a past-president of the International Union of Leather Chemists and Technologists Societies (IULTCS) and was the driving force behind the Global Leather Co-ordinating Committee (GLCC), a body that brought together to discuss matters of common interest to all of the global leather industry's representative bodies. He started as a research chemist at the South African Leather Industries Research Institute (LIRI) and relocated to the US in the late 1980s, where he first worked at the US Leather Holdings Group. He joined Buckman in 1997 as global market development manager for its leather division. He moved to Europe in 2015 to become divisional manager of its business there, before moving back to the US at the start of 2020 to take up the role of strategic marketing manager for leather, which he fulfilled until retiring.



The interior of a 2024 Chevrolet TraxRS. Leather's durability makes it highly suitable for use in car seats and interiors.

PHOTO CREDIT: CHEVROLET

Nothing to Hide: The value of leather as a component brand

Performance is determined as a combination of material properties and engineered design. Perceptions are subjective and malleable; they are shaped by information deemed reliable and by personal experience. Leather has a good reputation for durable performance and it is widely perceived as a luxurious material that wears well and ages gracefully. The leather manufacturing industry has significant vested interest in maintaining a strong identity and favourable image for leather to support its position in the market as a material of high value.

The basis for leather's performance stems from its physical components. Designed by nature, leather's intriguing structure starts with nano-strands of triple helical collagen twisted into very fine fibrils, then counter-twisted into larger fibres, then intertwined into fibre bundles. The secondary and tertiary structures provide great physical strength. Very fine fibres that give a smooth glossiness to the grain surface, along with the distinctively patterned hair follicles, impart a pleasing touch sensation and a natural beauty to full-grain leather.

Once the pelt of an animal is cleaned and purified, the tanner uses knowledge of the leather-making process to stabilise the structure and create additional desirable physical and aesthetic properties. The tanning process builds upon the natural properties to ensure the

natural protein bio-material is made resistant to microbial attack and remains stable at elevated temperatures.

Selection of different raw materials and with appropriate tanning, retanning, and finishing operations, the tanner creates a wide range of properties appropriate for various end-uses. Leather's mouldability, durability, and moisture management properties make it a premium structural material for makers of shoes. Its endurance, comfort, and cleanability make it a good covering for furniture or automotive seats. Its increasingly elegant look as it ages and warmth to the touch make it a good choice for jackets, handbags and other leather articles.

When the physical performance properties of leather, combined with optic, haptic and olfactory features, are properly crafted in a well designed article, leather is truly deserving of its reputation as

something special. Leather is an honest, natural product that earns its position in the marketplace as a premium and noble material. Leather-making is a traditional and an ethical practice and, as consumers of meat and milk, it is a fitting tribute to sacrificed animals that their hides and skins are not simply discarded but live on as leather.

As tanners, we need to remind ourselves that leather is a component material and not a finished article. There are a number of steps in the value chain that separate the tanner (who typically manufactures the leather as a bespoke order) and the consumer. It is often a buyer representing a finished product brand who stipulates the properties and qualities required, or they make a selection from what is on offer from the tanner. Although there are some good examples of vertical integration up and down the value chain, there would appear to be an opportunity for the leather manufacturing industry to better understand the consumer. This would allow the tanner's knowledge of leather to be better communicated up the supply chain to the point of retail. The tanner understands the raw material and its intrinsic properties and has the ability to ensure the most advantageous features are crafted into the leather depending on the article and its intended use.

Identity of leather

Leather is featured as a selected premium material by many of the world's leading manufacturers of consumer brands. It is used to promote desirability of their products. This is largely based on what a typical consumer will know and expect from leather, which is to say their perception. We see this used as sales strategy in retail where the word 'leather' is used to convey a sense of value. The article is described by the salesperson as a leather jacket, a leather sofa, a leather shoe, or a car with leather interior. The descriptor leather is used to invoke a favourable emotional response in the mind of the consumer. It is meant to elicit expectations of durability, luxury,

performance and intrinsic value.

Indispensable for many articles in earlier times, today leather is a choice. Synthetic material replacements exist for all leather end-uses and are becoming increasingly competitive. The functional and aesthetic properties of synthetic replacement materials have improved significantly over the last few decades, pointedly surpassing those of leather for many applications. Polymeric shoe soles have better wear properties and are permanently waterproof. Manufacturers of athletic shoes have opted for thinner and stronger materials that are less dense, more lightweight. Airline and automotive seating is under threat from low-density materials that claim to be easier to clean and maintain. Synthetics, made increasingly to look and perform like leather, are also favoured by some manufacturers of articles because of cost. Some retailers use confusion surrounding leather material identity for profit; the word leather is abused at point of retail. Synthetic materials, or materials that might contain some leather but are not natural leather, are sold using the word "leather" (for example bonded leather, e-leather, leatherette, eco-leather, and so on). At times this is deliberately designed to confuse the buyer. Some areas of the world have lax labelling laws and synthetic materials, made to look like leather, are intentionally mislabelled.

Unfortunately, a portion of leathers made by the industry are also made poorly, or are notionally "upgraded" with a heavy plastic coating. Some "enhancing techniques", done well, may be necessary and acceptable, but the look and touch of many lower-quality heavily finished leathers make them appear and perform unsatisfactorily; they are more like cheap synthetic material than leather. Sales people are often not much help in enlightening the customer about the differences between what is and what is not leather, nor about the true benefits of quality leather. A number of brands and retailers intentionally design in lower-cost synthetics or low-quality, cheap

Panel 1: Important properties of leather

Mouldability	The ability of leather to expand with moisture and pressure, and contract with heat and upon drying, and to retain a moulded shape. This is the key in the design of leather articles, and fundamental to the comfort of leather footwear.
Moisture management	Leather will wick water away from a surface and has a significant capacity to absorb moisture for later release. Water is moved through the leather by capillary action, but may also be transmitted as water vapour. These natural properties are important for managing sweat, key for foot comfort or where leather directly touches the skin.
Temperature management	Leather micropores trap a large amount of air and provide excellent insulation. Leather can be warm in winter and cool in summer.
Durability and dimensional stability	Leather has great tensile and tear strength and a high capacity to resist abrasion and repeated flexing. It is also dimensionally stable, an important factor when used as a covering material such as seating material or clothing.
Elegance in ageing	As leather ages, especially if veg tanned with oils and waxes, it develops an appealing patina. That adds dimension and depth to the look of the leather. Areas worn by repeated use wear gracefully and add character. This is one of the more distinguishing characteristics of leather compared to synthetics.

Panel 2: Qualities of ‘leather’ the brand

Ethical	By-product of meat and milk industry	Esteemed	Traditional and renowned
Honest	Recycled, authentic, natural material	Functional	Useful and versatile
Crafted	Craftsmanship of tanners and finished product brands	Durable	Ages well, sustainable
Desirable	Differentiated and relevant	Luxurious	Perceived as a noble material

leathers hoping to cash in on consumers’ perception of leather as a luxurious, durable, and noble material.

Image of the industry

To add to concerns about leather identity, influential voices in the fashion and animal rights sectors advocate against the use of leather, arguing that leather is no longer necessary and should be avoided. High utilisation of resources (water, energy, chemicals), controversy over carbon footprint, and the way some in the industry handle waste also invite criticism from a world increasingly focused on transparency in sourcing and demanding more sustainable manufacturing and stewardship of resources. This is unfortunate, as leather can be made sustainably, without undue damage to the environment. However, the practice of some can impact the view of many. Confusion in the mind of the consumer, about leather as a product and the industry that makes it, can detract from the desirability or demand for leather, and thus negatively affect value.

Leather as a brand

Using price as proxy, ultimately, the value of leather is established at point of retail by what the consumer is willing to pay. Depending on the article and design, leather may be a major or lesser component part. Leather may make up more than 80% of a belt, a bag or a shoe, or leather can be a much smaller part as a garment trim or the cover of an automotive seat. What is typical is that the leather is a feature of the article and promoted as selling point. Leather fits all the definitions of a brand.

Ingredient or component branding is one of the most rapidly growing segments of marketing today, especially among global brands. The desired result of such a strategy is a win-win partnership between component



A large part of leather’s appeal is that it is a natural material and each piece is unique.

PHOTO CREDIT: MIPEL

manufacturer and brand. Each brings their expertise and knowledge to help enhance the value of the final article. This demands clear communication and a close working relationship with agreed and defined responsibilities and goals. When done right, the effort is synergistic and benefits the component manufacturer and producer of the final article. Some of the principles of component branding may bring benefit to the leather manufacturer.

Marketing and the modern consumer

The goal of marketing is to enhance value. In a world of alternatives and substitutes it is critically important to clearly differentiate leather as the component product of choice. This can be done by labelling, but a simple tag is not enough. Brand marketing is about creating and sustaining a positive mental image or feeling. This includes all that is

known and experienced about the product. A compelling story is often used to engage consumers and stimulate their interest and loyalty. Modern consumers are interested not only in the story of what the material can do for them, but increasingly about what it means, and where and how the material was made.

The story that should be told of leather is one of a natural product, each piece unique; a durable material with many desirable performance properties (inherent and crafted) and an aesthetic appeal, highly engaging for the senses. The story should include the fact that leather is sourced in an ethical way, that it is made in tanneries that take responsibility for the environment, care for workers and communities, and that the material progresses through a traceable and verifiable supply chain.

This is the story that should be told; this is the story of “nothing to hide”. 🌱



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Through dedicated research we have developed a core range of bisphenol optimized syntans. The first, TANIGAN® BN-O Liq, TANIGAN® LF-O Liq and TANIGAN® DS-O Liq, have already been launched. These TFL pioneering syntans address the latest regulatory challenges ahead of time with a BPS content < 0.1% and are completely free of BPF. These remain an essential part of wet end processing ensuring the required leather tightness, fullness, softness and fastness attained. They also consume less energy in their production and have a lower carbon dioxide footprint. You can expect further product launches adding onto these essential “building blocks” shortly.

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1 NO POVERTY

WHAT ARE WE DOING?

we're generating value
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Sustainable Development Goals

3 GOOD HEALTH AND WELL-BEING

WHAT ARE WE DOING?

we take care of employees'
wellness sharing an annual
economic bonus

AGENDA 2030
Sustainable Development Goals

4 QUALITY EDUCATION

WHAT ARE WE DOING?

we believe in the professional
development of employees by
organising specific training courses

Cartiglio Responsible

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Sustainable Development Goals

5 GENDER EQUALITY

WHAT ARE WE DOING?

we are a mechanical/manufacturing
industry where 34% of the
employees are women

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7 AFFORDABLE AND CLEAN ENERGY

WHAT ARE WE DOING?

we are able to run plants with
renewable energy

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8 DECENT WORK AND ECONOMIC GROWTH

WHAT ARE WE DOING?

we protect our employees with
appropriate remuneration and
opportunities for professional growth

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12 RESPONSIBLE CONSUMPTION AND PRODUCTION

WHAT WE'RE DOING?

we generate energy through solar panels to feed our plants

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13 CLIMATE ACTION

WHAT ARE WE DOING?

we produce plants to reduce mass and volume of civil and industrial sludges. Results: lower disposal

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16 PEACE, JUSTICE AND STRONG INSTITUTIONS

WHAT ARE WE DOING?

we support local political institutions and sports associations for the integration of adults and children

Cartigliano 2030 Technologies

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9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

WHAT ARE WE DOING?

we invest 10% of annual turnover in R&D by collaborating with universities and technical schools

AGENDA 2030
Sustainable Development Goals

10 REDUCED INEQUALITIES

WHAT ARE WE DOING?

we believe in the capacity of individuals regardless of religion, gender and origin

AGENDA 2030
Sustainable Development Goals

11 SUSTAINABLE CITIES AND COMMUNITIES

WHAT ARE WE DOING?

we promote the demographic growth of the Cartigliano's community through "Progetto Giano"





Renewability in the leather industry

Renewability in the leather industry refers to the ability to produce leather in a sustainable and environmentally friendly way. This can include using materials and methods that minimise waste, pollution, and promote and increase the use of natural resources. Some examples of practices that promote renewability in the leather industry include:

- Implementing closed-loop systems that recycle and reuse process water;
- Using renewable energy sources, such as solar or wind power for production facilities;
- Utilising process chemicals with increased biobased content;
- Implementing sustainable sourcing practices, such as only sourcing hides from farms that meet certain environmental and animal welfare standards.

Overall, renewability in the leather industry focuses on minimising the environmental impact of leather production and promoting the use of more sustainable materials.

There is little argument that hides and skins are a biogenic material, a point raised in the original COP26 Leather Manifesto stating they are 'part of the biogenic carbon cycle and as such are comprised of carbon that has been in the atmosphere for millennia. These readily available raw materials, when ethically and properly produced, are an important replacement for fossil fuels, reducing the need for its extraction and retaining more carbon in the earth'. An excellent starting point for tanners and those in the industry looking to progress in line with, or even ahead of, political pledges.

Over the course of 2023, the technology section of *World Leather* will be highlighting how the industry is working to improve sustainability, through the endeavours of the leather supply chain both in terms of process chemicals but also from the latest developments from machinery manufacturers meaning that energy, time, and waste are all saved and optimised.

In the move away from fossil fuel and plastic, leather has a head start. We need to build on it. 🌱



CREDIT: NOAH BUSCHER / UNSPLASH

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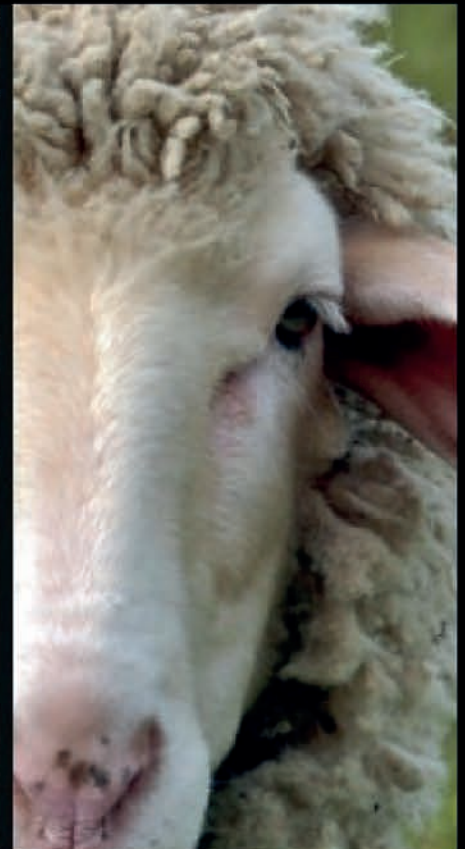
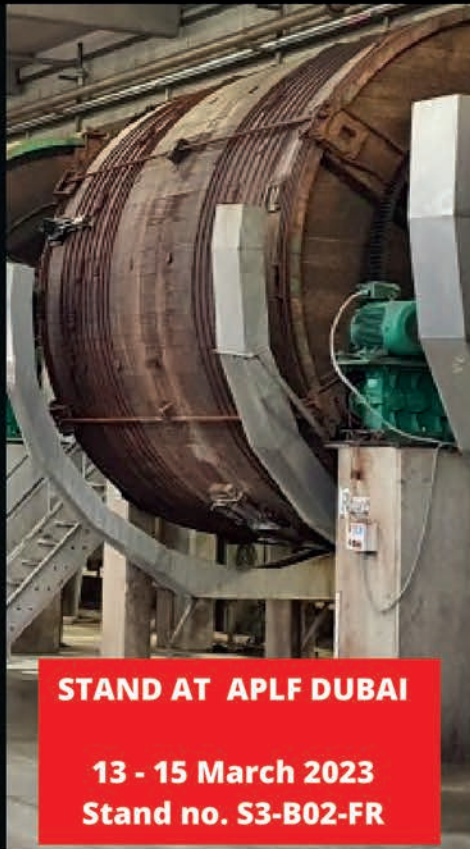
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We also own the largest wetblue tannery in France. CET can process up to 500 tonnes of raw hides per week.



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- STEERS AND HEIFERS
- BIG PACKER HIDES
- CET Tannery in France

- CALF AND KIPSKINS
- PREMIUM DAIRY COWS
- SHEEP AND LAMBSKINS
- SALTED CROUPONS
- SHOULDERS & BELLIES
- WETBLUE AND WETWHITE HIDES



Bio-based products for leather

Olga Balus
Cromogenia Units, S.A.

The evolution of the global economy has been dominated by a linear production and consumption model where, starting from raw materials, products are manufactured which are then sold, used and, at the end of their life cycle, disposed of as residues. While much progress has been made in improving resource efficiency, all systems based on consumption rather than on the restorative use of resources involve significant losses across the value chain.

To reverse this trend, the concept of a circular economy is increasingly heard. Basically, this economic model attempts to decouple global economic development from the consumption of finite resources. This system addresses growing challenges posed, among others, by the reduction of environmental effects (including carbon emissions) while maintaining products, components and materials in the economy for the longest time possible. This can be performed by using renewable energies, disposing of toxic chemicals, and/or reducing residues by reuse, revalue as a by-product, or recycling.

Leather, derived from the hides of animals raised for meat and dairy production, is a valuable material renowned for its durability, stability, comfort, and breathability. As a product of the circular economy, leather utilises otherwise wasted resources and minimises the use of nonrenewable materials like plastic, thereby promoting environmental sustainability.

The tanning process, however, relies heavily on the use of chemicals primarily derived from the petroleum industry, such as formaldehyde and phenol among others. The utilisation of petroleum, a finite and nonrenewable resource, significantly contributes to climate change and demands a large amount of energy. Furthermore, petroleum's transformation poses threats to human health and the environment due to the hazardous products and residues produced. As such, it is considered an unsustainable resource¹. The reduction or replacement of petroleum derivatives with sustainable alternatives such as biomass-based products is crucial for promoting a more sustainable leather industry. Biomass is recognised as the only sustainable source of organic carbon for the industry^{2,3}.

Biomass derivatives have a high economic potential due to their numerous applications and the increasing demand for sustainable and environmentally friendly products. They are derived from renewable and sustainable sources, such as agricultural crops and waste, and offer an alternative to fossil-fuel-based products. This creates new business opportunities and supports the development of local economies. Moreover, biomass derivatives can contribute to reducing greenhouse gas emissions, as they are produced from biomass sources that absorb carbon dioxide from the atmosphere during their growth cycle. In many cases, this results in a lower carbon footprint compared to products derived from fossil fuels.

In line with this, Cromogenia Units developed the ST-Series of sustainable products. This range contains fatliquoring and retanning agents. This article will focus on acrylic resins and phenolic retanning agents characterised by their high content of biomass derivatives.

Sustainability of bio-based products

While there is no single definition of a sustainable product, most of them agree on one point: minimum impact on the environment.

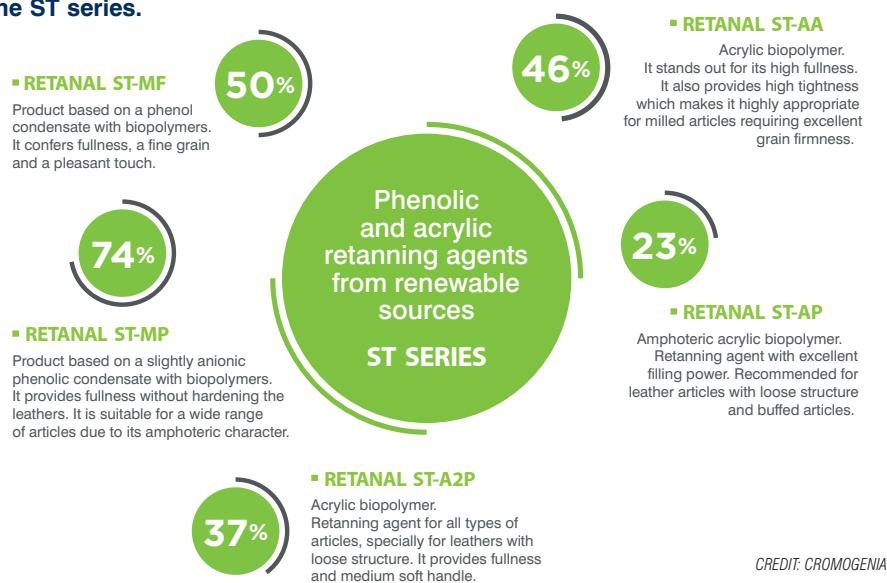
Some authors comment on the complexity of defining the sustainability of a product, but propose several requirements for a product to be considered sustainable⁴:

1. The product must be non-toxic to the environment and human beings. In addition, it must be biodegradable or recyclable.
2. The product must be synthesised through a safe and eco-friendly process (sustainable synthesis) to allow saving water and energy or reducing greenhouse gases, among others.
3. The selected products must be a true scientific or technological breakthrough that improves safety, the environmental impact or the economic impact, among others.
4. The product must generate a profit.
5. The product must be accepted by the consumer, within the social pillar. This implies educating on and explaining the innovations to the population.
6. The product must be of renewable and/or recycled origin, and preferably from resources that are not used in the food industry.
7. The price of the product must be in accordance with its application, so that the consumer can make both an affordable and sustainable choice.
8. The product must not be used to make products that harm humans, such as weapons or drugs.
9. If the sustainable product has a higher cost than the standard product, this additional cost must be borne by the consumer, the manufacturer and the public authorities through support policies or regulatory changes that favour sustainable products.
10. The analysis of the life cycle of a product or process gives a general overview and therefore helps understand sustainability.

Therefore, the bio-based concept is one of the points to be considered for a product to be sustainable. This concept, however, must be used in conjunction with other concepts, such as the environmental impact associated to the product during its life cycle, which may be determined by its life cycle assessment (LCA), its carbon footprint, its (product and residual bath) toxicity, or its biodegradability.

Bio-based content

The bio-based carbon content of a product can be quantified according to standard ASTM 6866 "Standard test methods for determining the bio-based carbon of solid, liquid and gaseous samples using radiocarbon analysis". In line with this standard, the bio-based carbon content of the retanning agents of the ST series is shown in *Figure 1*.

**Figure 1: Bio-based carbon content of phenolic and acrylic retanning agents of the ST series.**

In addition to the bio-based carbon content of the products of the ST series, other parameters were studied. The LCA of the products allowed determining their environmental impact and carbon footprint as compared to 100% fossil derivatives. Calculations were performed with the impact categories of EF2.0 midpoint for Life Cycle Impact Assessment (LCIA). OpenLCA 1.8.0 software and the Ecoinvent 3.7.1 database were used. On the other hand, their biodegradability was also evaluated by analysing the BOD5/COD ratio⁵⁻⁹. This ratio does not provide absolute biodegradability results, but rather an idea of the low, medium or high biodegradability of the product. The biodegradability ratio is shown in Table 1¹⁰.

The biodegradability, bio-based content and carbon footprint results are shown in Table 2, always compared to their reference standard. Acrylic resins and phenolic retanning agents are shown in orange and blue, respectively. Acrylic resins contain 23-46% of bio-based carbon, and the phenolic retanning agent contains 50%. Regarding biodegradability, all products improve biodegradability as compared to the reference product. But Retanal ST-AP and Retanal ST-MF are in the range of products with low biodegradability, being at ratio BOD5/COD <0.2. All products reduce their carbon footprint, most of all Retanal ST-A2P (57% reduction).

Conclusions

As shown in the results obtained with the retanning agents of the ST series, bio-based products have a lower

carbon footprint than fossil-based products, and they also tend to be more biodegradable, making them more sustainable than standard products.

The overall picture therefore suggests that making use of bio-based product, from by-products and residues generated in the production of certain raw materials, together with recycling activities and biodegradable solutions that allow bringing the product back to the cycle, help initiate an approach to the circular economy. 🌱

References:

1. Zimmerman JB, Anastas PT, Erythropel HC, Leitner W (2020) Designing for a green chemistry future. *Science* (80-) 367:397–400. <https://doi.org/10.1126/science.aay3060>
2. Serrano-Ruiz JC, Luque R, Sepúlveda-Escribano A (2011) Transformations of biomass-derived platform molecules: From high added-value chemicals to fuels via aqueous-phase processing. *Chem Soc Rev* 40:5266–5281. <https://doi.org/10.1039/c1cs15131b>
3. University of Bologna and Fraunhofer ISI (2018) Detailed Case Studies on the Top 20 Innovative Bio-Based Products. *Top 20 Innov. Bio-Based Prod.* 298
4. Marion P, Bernela B, Piccirilli A, et al (2017) Sustainable chemistry: How to produce better and more from less? *Green Chem* 19:4973–4989. <https://doi.org/10.1039/c7gc02006f>
5. Gawande P, Yenkie M, Gogte B, Kharadbhajne V (2016) Biodegradability Study of Synthesised Polymer Based on Glucose and Sorbitol. *Int J Eng Sci Res Technol* 5:1019–1024
6. Kalyanaraman C, Sri Bala Kameswari K, Sudharsan Varma V, et al (2013) Biodegradation of lecithin-based fatliquor: optimisation of food to microbes and residence time. 108:1–22
7. Qiang TT, Luo X, Ren LF, et al (2011) Preparation, characterisation of silicone succinate ester and its application in leather industry. *Adv Mater Res* 197–198:409–416. <https://doi.org/10.4028/www.scientific.net/AMR.197-198.409>
8. Kalyanaraman C, Kanchinadham SBK, Vidya Devi L, et al (2012) Combined advanced oxidation processes and aerobic biological treatment for synthetic fatliquor used in tanneries. *Ind Eng Chem Res* 51:16171–16181. <https://doi.org/10.1021/ie301904g>
9. Inescop (2013) Study on Agents Environmental Impact Action 1-2
10. Luo Z, Yao J, Fan H, et al (2010) The biodegradabilities of rape oil-based fatliquors prepared from different methods. *JALCA* 105:121–128.

Table 1: Biodegradability

Biodegradability	Low biodegradability	Medium biodegradability	High biodegradability
Ratio BOD5/COD	<0.2	0.2 - 0.45	>0.45

Table 2: Biobased carbon content, biodegradability and carbon footprint of the products

Sample	Biobased content (%)	Biodegradability	Carbon footprint reduction
Standard acrylic	0	Very Low	-
RETANAL ST-AA	46	High	-4%
RETANAL ST- AP	23	Lo	-47%
RETANAL ST- A2P	37	Medium	-57%
Standard phenolic	0	Very Low	-
RETANAL ST-MF	50	Low	-18%

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Bio-based chemicals for leather processing

Dr Ivo Reetz – Pulcra Chemicals GmbH, Geretsried, Germany

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Climatic change and global warming have been identified as major threats to sustainable development. With the European Green Deal, the EU has committed itself to net climate neutrality by 2050, which implies a significant reduction in greenhouse gas emissions of 55% by 2030, in comparison to 1990.

Why renewable carbon in chemicals?

About 85% of the carbon used for the production of organic chemicals or derived materials comes from fossil sources¹. The use of renewable carbon, therefore, is a global trend in the chemical industry and an important step towards achieving carbon neutrality. By using renewable feedstock, greenhouse gas emissions associated with the production of chemicals are reduced substantially. A major part of embedded carbon in industrial or consumer goods, including leather chemicals or leather itself, eventually finds its way into the atmosphere as CO₂. When working with fossil feedstock, the carbon used was bound in the earth, and its release therefore implies a strongly negative carbon balance. Renewable raw materials based on vegetable or animal feedstock have a much better carbon footprint: plants are binding CO₂ from the atmosphere, and livestock is fed on a natural diet. Consequently, by changing to renewable raw materials, the inflow of CO₂ into the atmosphere is actively stopped.

The question of time

Due to the relative longevity of leather articles, leather chemicals have an advantage over other process chemicals. Notably, the release of carbon only takes place at the end-of-life of an article. In the case of leather, this can be many years, if not, in exceptional cases, many decades. In this context, the achievement of high leather quality with good fastness, an appealing look and durability, is directly related to sustainability – the longer the leather article is used, the longer the time before the carbon is released back into the environment. Nevertheless, using renewable carbon does improve the carbon footprint in leather.

What type of raw materials and products are used for bio-based leather chemicals

Historically, leather production was based on bio-based feedstock. Tanning with vegetable extracts has been practised for thousands of years and has been constantly refined. Enzymes of sometimes odd sources have been used for bating and unhairing, not to mention natural oils, dyes and fillers that have always been present in leather processing.

In modern leather chemicals, the trend for natural components is coming back. Natural oils are the base for emulsifiers and fatliquors, which are used to clean, degrease or soften the leathers. The know-how is that essentially the processing is done by replacement with carbon-free or low-carbon components. Normally, oils are not used directly, but in a highly processed step. Fatty alcohols or fatty acids are the precursors for many components, which are of interest for leather processing, for fatliquors, emulsifiers or even monomers for polymeric softeners. These precursor molecules are esterified, condensed or etherified, in order to impart the type of functionality needed for leather processing. The resulting products might be considered as synthetic but can be based on fully natural components.

There are also interesting examples of molecules, which come with 100% bio-based carbon. Alkyl polyglycosides (APG) have been introduced as leather degreasing agents. These products are made from corn starch and purified vegetable fatty acids and are very good examples that excellent performance and 100% renewable carbon can go hand in hand. APGs are used in various modern degreasing and washing agents, often in synergy with classic surfactants. Another example is phosphoric esters, which use carbon-free phosphoric anhydride as a reactant. When the fatty alcohols used as precursors are bio-based, the final molecule has 100% bio-carbon.

Bio-based components are also part of many other types of leather chemicals. Retanning agents containing amylose, cellulose or lignin components as well as products based on functionalised proteins are examples that have been refined in



recent years. Highly specific enzymes have replaced many traditional preparations and are used in many steps of the beamhouse process. Also cost-wise, bio-based chemicals can nowadays often compete with fully synthetic products.

One important subject in the development of new bio-based leather chemicals is to achieve the same quality that tanners are used to with the use of synthetic, fossil-based materials. One example is natural fatliquors, which, due to the presence of double bonds, in many cases give more yellowing and oxidation than synthetic ones. However, in recent decades with the use of specific man-made antioxidants and techniques for the pre-oxidation of oils, the propensity to yellowing has been significantly reduced. The use of the concept of extended surfactants is another new possibility to make use of fully saturated carbon chains for highly resistant chemicals. It is fascinating that these new and complicated molecules, which are made by complex chemical synthesis, originate from a great proportion of materials of natural origin.

Contradictions

A common misunderstanding regarding bio-based chemicals is that they would, per se, be more sustainable. The use of renewable carbon in all sorts of industrial activity is certainly a fundamental necessity for slowing down climate change, but "Climate Action" is in fact only one of 17 UN goals for sustainable development. Excessive land use, monoculture, the production and use of fertilisers, or

excessive water use for farming do have a clearly negative impact on overall sustainability. Life cycle assessment is used to quantify various impact characteristics and thus gives a more holistic approach for decision making regarding the sustainability of products. Although the quality of data is still not good enough, LCA can be a good tool for comparing specific products for the same usage area.

Outlook

More than 70% of the carbon footprint of the chemicals industry originates from indirect, Scope 3 emissions. More than half of these emissions are attributed to the raw materials used in production. Although for a precise calculation, data is still lacking, but it is already perfectly clear that the chemical industry is not going to reach climate neutrality without shifting to a substantially higher percentage of renewable feedstock. For the tannery and the leather itself, the use of products made from bio-based carbon brings the big benefit of further improving the carbon footprint of leather. In the end, it seems only logical to combine natural leather with a chemistry made with bio-based raw materials. 🌱

References:

1. <https://renewable-carbon.eu/publications/product/turning-off-the-tap-for-fossil-carbon-future-prospects-for-a-global-chemical-and-derived-material-sector-based-on-renewable-carbon/>

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Leather, the ultimate sustainable material

Michael Franken – TFL Group

How “bio” is leather and how can chemistry ensure its unmatched environmental and sustainability profile prevail?

The term “bio” found its way into the leather industry over recent years and is increasingly used to indicate organic renewable content. This comprises mainly collagen protein raw material together with all bio-products added from raw hide to the finished leather. The bio-based carbon content consists of all the components not derived from fossil fuel origins and thus differentiates leather from so-called leather substitute materials that are mostly, if not exclusively, based on plastics from mineral oil. Unfortunately, today the advertising for such plastics is ubiquitous and very often people are buying these materials unwittingly without any knowledge of their origin, sustainability nor performance.

Adequate transparency is essential for manufacturers to optimise the bio-profile of leather and to show its contribution with regards to CO₂ avoidance. Leather, as an upcycled material derived from the meat industry, is turned into a material of high value rather than being incinerated or composted with a negative CO₂ impact.

Such transparency is necessary for consumers to make the all-important correct purchase decision about the final article and the resulting performance and environmental impact.

Why Bio?

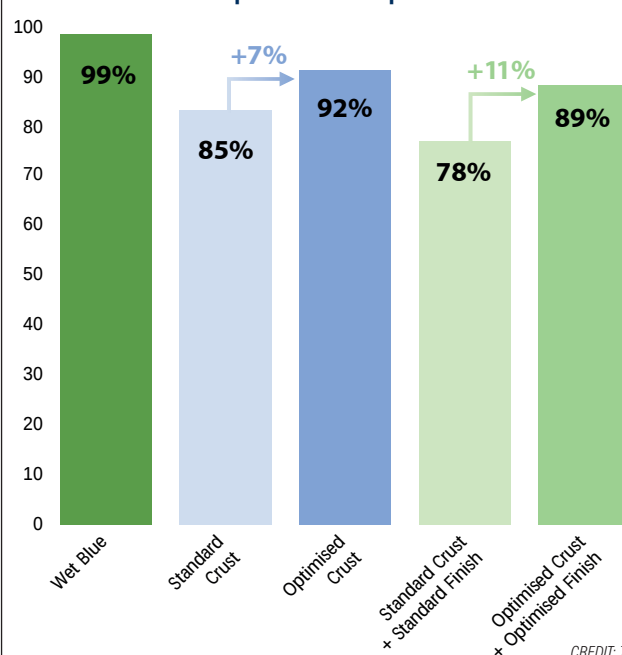
Put simply, we define bio as originating from renewable resources, like leather itself, whereas most leather alternative materials are based on mineral oil and are thus non-renewable.

Leather substitutes based on mineral oil may offer some limited advantages, but also present many disadvantages, including their negative environmental and sustainability credentials. Leather is a unique material that is not only highly desired and valued by the market but also possesses a very high content of renewable and sustainable biomass.

Electric vehicles are growing in popularity due to the drive to increase sustainability and reduce air pollution. Unfortunately, some automotive manufacturers are increasing the fossil fuel-based content of their car interiors by switching from leather to initially seemingly cheaper alternatives, especially for seat covers. Similarly in other sectors such as footwear, clothing and leather goods, some manufacturers try to push substitutes and replace leather.

Companies attempting to replace leather, with its extremely high content of renewable biomass, with alternatives derived from finite fossil oil, directly and undeniably negatively impact the environment. This is only delaying the inevitable and resulting in avoidable pollution. Furthermore, as the leather substitutes suffer from shorter life expectancies, they will need to be replaced sooner and therefore represent a hidden cost to the unwitting consumer and, in addition, a further unnecessary and increased environmental burden.

**Table 1: Bio-based carbon content
Conventional vs Optimised Recipes**



How bio is leather manufactured by conventional means?

From the outset, untreated raw hides are a natural product with the highest possible biomass, that being 100%, much like many other unprocessed materials, be it fruit, muesli, or the milk we may have had for breakfast!

The first step in the processing that converts raw hide into a leather intermediate, where the chemistry remains in the substrate, is the tanning, and of course it is obvious that this can have an impact on the biomass. Although the predominant tanning today is the inorganic chrome-based chemistry, this process is now highly efficient and uses very little, such that a typical wet blue hide still consists of approximately 99% biomass. In the case of chrome-free leather the biomass is somewhat lower, but it still accounts for approximately 95% biomass.

Let us now look at the next steps: retanning, dyeing and fatliquoring. To convert wet blue into crust, we must apply a certain number of chemical products to give leather the required characteristics needed for the final product. Regardless of whether we produce chrome or chrome-free leathers, we can measure a substantial impact of these production steps on the ratio of biomass of the leather.

A standard retanning followed by a standard finish, without



optimising the use of renewable chemistry at all, decreases the ratio of biomass of the leather significantly. A 99% renewable leather after tannage, now drops to around 85% after retanning and can even fall under 80% after finishing. These numbers have been obtained by means of the Radiocarbon Method (ASTM D 6866).

This is a disappointing result, especially when we consider the almost perfect starting value. Conventional wet end and finishing chemistry have an impact on leather's bio balance and we cannot be content with that from a sustainability point of view; ultimately, we can do better.

Can chemistry optimise leather bio content?

We have seen that adding chemical products to crust leather leads to a decrease in the total renewable biomass of the final articles. This is logical as most chemical products have a lower ratio of biomass than the raw hide itself. For this reason, TFL has worked on developing products for leather manufacture that contribute to bio-optimisation.

By using the right products, with high bio-content, the biomass of leather can be kept at a very high level. 5-10% more bio can be gained by choosing the right retanning products and systems with a further 5-10% acquired through the right choice of finishing products. In numbers, this means that the biomass of the final article can reach up to 90%, undeniably an impressive figure, particularly when compared to certain alternatives that struggle and which approach zero!

TFL have named the products that significantly contribute to achieving the highest possible ratio as Pure, and only applies to products that contain a minimum of 50% renewable chemistry.

Such products can be:

- fillers
- polymeric retanning agents
- softening agents
- dyeing auxiliaries
- finishing auxiliaries
- polyurethane binders

How does a tanner select the right products to make bio-optimised leather?

One way is to simply use TFL products that incorporate the name Pure. However, depending on the article and the required performance, it may currently not always be possible to work exclusively with these products. Additional products with lower bio-content may still have to be taken into consideration. To enable customers to better select the products with the highest possible biomass, we have determined the bio-content of every single product in our comprehensive product portfolio. This applies for both wet end and finishing.

With this knowledge it was possible to develop a White-List featuring all products that do contain renewable raw materials. In addition to this White-List, we have developed a Bio-Calculator, a unique tool to calculate the biomass of every recipe by simply entering it in an Excel file. The calculated biomass is an excellent indicator for the measured radiocarbon content of the final leather.

Armed with this knowledge, together with this tool, it has become a simple task for customers to optimise any of our recipes with regards to its bio-content. 🌱

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Addressing Scope 3 emissions

Stahl's climate change mitigation ambitions include the reduction of its Scope 3 (upstream) greenhouse gas emissions by 25% over the next 10 years as well as supporting customers in achieving their own climate goals. Most of these emissions are coming from the raw materials that the company uses to make its products. So, to achieve these climate goals they need to find lower carbon alternatives for these raw materials, such as biobased chemistries or other renewable carbon sources.

Developments in the leather chemicals segment rarely make the news, and yet, this small but important area of the market is increasingly a hotbed of innovation – in particular, sustainable innovation. With growing public scrutiny of leather supply chains, attention is often drawn by “virtue signalling” but with a great lack of any real substance or balance.

At Stahl, developing novel treatments and coatings for leather, from wet-end processes to leather finishing, has been a cornerstone of the business for nearly a century. Its very first product, in 1930, was a finishing solution for tanneries. This simple yet effective tool enabled customers to stop producing their own chemicals and focus on their main priority: making leather.

Supporting a low-impact value chain

Leather chemicals and coatings remain core to the chemical company's offering. The products supplied are used to make a wide range of consumer-ready goods, including shoes, handbags, and vehicle interiors. As the company approaches its centenary, the priority remains to enable tanneries and leather manufacturers to make more effective choices. And, in the race to a net-zero economy, this increasingly means helping customers to reduce their environmental footprint by integrating low-impact solutions into their portfolio. Seen as a win-win scenario, by working to reduce the footprint of the products, Michael Costello, Stahl's environmental, social and corporate governance

director, explains: “Downstream emissions to our customers will be impacted by the reduced emissions of our chemicals, but also by the impact of the processes associated with using them.”

Walk the walk

The first step of this process is reducing the footprint of its own operations. Since 2015, Stahl has been taking steps to reduce its greenhouse gas (GHG) emission intensity for Scope 1 and Scope 2 emissions (owned assets and activities and bought energy) in line with the guidance provided by the Science Based Targets initiative (SBTi). To do this, the Netherlands headquartered company is working to reduce energy consumption, alongside investing in self-generated renewable energy at its facilities around the world.

The emissions category that contributes the most to its overall environmental footprint, however, is “Scope 3” GHG emissions. This category covers emissions produced at different points of its wider value chain. Mr Costello tells *World Leather*, “Our primary focus is on upstream emissions, which is around 90% of our scope 3 emissions, excluding the ‘end of life’ category.”

Last July, Stahl announced its first company-wide Scope 3 emissions reduction target, namely, to reduce upstream emissions by a minimum of 25% compared with 2021 levels, within 10 years. This commitment is the driving force behind the ambition to replace fossil fuel-based raw materials with lower-carbon alternatives.



Due to the nature of the business, this will be a significant undertaking; while companies that have a strong focus on renewable energy and sustainable practices, such as those in the technology and software industry, might have an easier time transitioning to a fossil-free value chain, full decarbonisation of the chemical industry is unrealistic. To avoid further depleting society's remaining carbon budget, therefore, the only course of action for companies such as Stahl is to limit the use of fossil-based raw materials.

Committed to renewable carbon

It is actively removing products with a high carbon content from its range, as well as researching alternative synthesis routes with a lower carbon footprint. But the most effective strategy will involve replacing the fossil-based feedstocks in products and processes with renewable or low-carbon alternatives that offer equal or improved functional performance.

The approach chimes with that of other chemical producers. As a founding member of the Renewable Carbon Initiative (RCI), Stahl is among a growing cohort of like-minded companies working to accelerate the shift away from fossil carbon in organic chemicals and materials. There are various routes to reach this goal. Renewable carbon is often associated with biomass, which has a range of potential sources. These include rapeseed oil, wheat, agricultural waste, algae, and soy. They have also started work with feedstocks derived from direct greenhouse gas

utilisation (commonly known as carbon capture), as well as recycled plastic waste. Some of these biomass-based products are more expensive than fossil fuel-based raw materials, but that is simply due to economies of scale in production, and timing.

Customer acceptance

With many years of technical experience and understanding behind the more fossil based chemistries, certain compromises may have been thought to be required, but, that said, the world has committed to reducing GHG emissions and industry, brands and retailers are aligning themselves to the Paris Agreement goals of 25-40% reduction in emissions over the next 10 years. Lower carbon alternatives must soon start to replace current products and processes if the industry is to meet its goals.

For Stahl, this comes, initially, from their Ympact range. Developed in tandem with customers and other value chain partners, this family of novel chemicals for leather production is formulated with renewable feedstocks and offers equal or superior technical performance versus conventional alternatives. Launched in 2021, the range now includes 15 specific solutions of renewable carbon wet-end products for leather processing, with a renewable content between 25% and 70%, derived from either biomass feedstocks or carbon capture technology. It is now working with partners to extend the Ympact family, with new products due for launch in the near future. 🌱

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Increasing awareness of PFAS in the leather industry

Benefits for water and oil repellency are the main reasons many leather and textile companies rely on the use of per- and polyfluoroalkyl substances (PFAS). Yet these chemicals pose health risks in the medium and long term and, moreover, once they enter the food chain, they continue to accumulate.

Leading leather and textile standards organisations recently initiated an overdue change by banning organic fluorochemicals from their programmes. These industry-led moves come as countries start opting to ban the use of PFAS within the near future. In terms of leather, the Oeko-Tex association confirmed with its new regulations published earlier this year that the use of PFAS will no longer be allowed in textiles, leather, and footwear under its Standard 100, Leather Standard and ECO Passport certifications. The new regulations will come into effect during the first quarter of this year.

The use of PFAS dates to around the middle of the last century when these substances were first produced and shortly thereafter became commercially available. Since then, their use has steadily expanded. But since their disadvantages for human beings and the environment have been proven, the industry has been looking for alternatives, especially in the field of leather.

"In normal use and for water-repellent properties there are good alternatives which have been in use for several years," says Prof. Dr. Haiko Schulz, the director and general manager of FILK, the Freiberg Institute. The water repellency of regular shoe upper leather and clothing leather is hardly affected. According to the current state of the art, this is

often achieved with silicone, and for price reasons. But there are challenges with the high requirements in connection with dirt repellency, specifically with velour and nubuck, and with automotive leathers.

In the high-performance and personal protective equipment (PPE) area where the oil-repellent properties are essential, for example firefighting equipment, there is currently no substitute that achieves the same properties as PFAS. "The replacement of perfluorinated organic compounds is a challenge in certain leather applications. There are solutions and alternatives, but you must accept compromises in performance," says Dr. Schulz. Since there are no alternatives yet and PPE is primarily about protection, Oeko-Tex has made an exception for certain PFAS on PPE.

The problem is not acute toxicity but bioaccumulation, which is why PFAS are also called 'forever chemicals'. A far-reaching ban is therefore planned. And as certifiers lead the way and the industry continues to work on alternatives, many states worldwide are enacting legislation. While the governments of Bangladesh, Indonesia, Pakistan, and Vietnam have pledged to address the use of chemicals in their textile sectors to move away from potentially hazardous substances, California will ban the use of PFAS in early 2025, with some exceptions. At the same time, the UN will start supporting PFAS phase-out programmes in certain manufacturing countries. This February, the EU has published a proposal for a European ban on PFAS that was submitted by the Netherlands, Denmark, Germany, Norway, and Sweden. ●

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A blueprint for leather manufacture

Richard P. Daniels, Greentech, UK

This work can be considered as a blueprint – a flexible roadmap – for leather manufacture. It is different from the familiar linear view of leather making as it does not follow step-by-step events as usually set down in quality control manuals or defined by formulations and instructions. It is a holistic perspective on manufacture.

Leather making comprises three components: materials in manufacture, the physical changes that are made, and changes due to chemical processing. Of equal importance in well-balanced manufacture, in this study they are expressed as a model. At the same time, the factors that comprise each of these components are identified, expressed diagrammatically, and supported by short summaries.

These provide an indication of the interrelationships that underpin manufacture. It is a broad study. Nothing radical – just an alternative slant for a specialist involved in complex manufacture.

It is a means of looking at events in a different way, and possibly throw some light on issues that are often not obvious. Look at it as an assist to consider effects that can arise from small changes that are often accumulative. Or possibly to avoid the problems that sometimes reoccur having been previously resolved. Maybe it will even raise issues that lead to better manufacture.

1. A blueprint for leather manufacture

In commercial manufacture, chemical processes and mechanical actions are followed step-by-step to make different types of leather. However, to best control these events, to develop processes, for rationalisation and problem solving, the technologist needs a clear and holistic perspective. A diagram highlighting the interactions between these three components of equal importance is given as *Panel 1*.

Change within any of the components – single or small multiples – alter the outcome, hence the properties of the final leather.

The factors that compose each of the three components are expressed in the following models. They are inter-related as indicated, but there are strong relationships across all of the models, too. None the details in these models, or the summaries that follow, indicate a “hierarchy of technical importance”.

Panel 1: Blueprint for manufacture

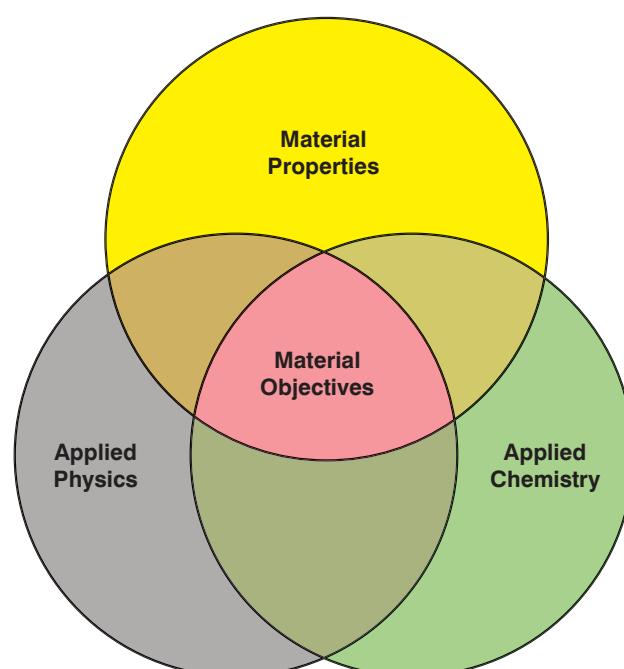
These three-components and their objective are detailed as:

Material Properties: Not just raw hide/skins for finished leather, but their properties and behaviour throughout all manufacture.

Applied Physics: All mechanical actions, handlings, and static events involved in making leather.

Applied Chemistry: The practicalities of theory, chemical amendments, processes, and ageing effects throughout manufacture.

Materials Objective: This does not refer specifically to the final leather. It concerns hides and skins being in the optimum state at any part of manufacture, and in preparation for the next event. It applies at the time of any application of force, and at any point within the entire chemical processing.





2. Material properties

This applies to hides and skins, where the properties and requirements change as the substrate is modified throughout manufacture. Viewed as ten interrelated factors these matters are expressed as *Panel 2*.

The first four of the ten summaries relate to quality, physical behaviour, and the potential of the raw materials for

process. These are an integral part of hides and skin purchases. This also applies to part processed products – such as pickled skins, tanned goods and leathers in a dried/crust state for either further processing or finishing. These are the realities for the technologist to address step-by-step in conversions towards the requirements of the finished leather.

Panel 2: Material properties

These ten factors are summarised as follows:

Structure and Potential: Considerable variations found according to animal species, age, sex, breed, feed, husbandry and environment. Post mortem events – flay cuts, strain from stripping, and preservation – influence usability too.

Quality and Objectives: For success, the quality of the hides and skins should be appropriate for the requirements of the final leather. Multiple gradings/selections are required in terms of quality, potential substance and area.

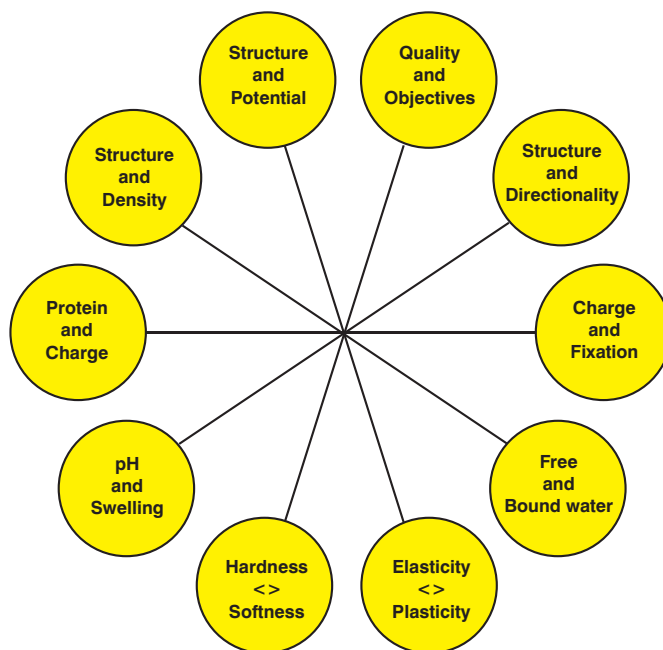
Structure and Density: Considerable differences across hide/skin. From the dense compact butt areas, to the stretchier and more open structured belly and thin axilla pockets. Also, deep crease lines mainly in the neck parts.

Structure and Directionality: As a broad guide, hides/skins stretch more easily in the direction of the lay of hair, a reflection of the underlying fibre structure. This directionality is much greater in the belly/shank areas when compared to butt parts. This behaviour can be moderated to a degree in manufacture.

Protein and Charge: The collagen structure comprises a sequence of amino acids joined by peptide links into long chain protein polymers. These chains also carry amino and carboxyl side groups. At around neutral pH these peptides and groups in raw skin show a balance of positive and negative charge, but these can be manipulated in subsequent manufacture.

Charge and Fixation: Shifts towards acid or alkali conditions create an increase in either positive or negative charge within the collagen structure. This increases attractions and fixations with chemicals/products of opposite charge.

pH and Swelling: pH rise causes an increase in charge, encouraging movement of water into the untanned structure. Known as osmotic swelling, this effect is utilised in the liming process, but suppressed in acid pickle systems.



Free and Bound Water: Water strongly influences the outcome from mechanical actions throughout all manufacture. Free-water is adjusted by pressure in wet machine operations, and by rapid evaporation in a 1st phase of drying. The remaining moisture is bound/held by physico-chemical linkages and released more slowly.

In the 2nd phase of evaporation inter-fibre adhesions develop, that strongly influenced the physical and aesthetic properties of the dried leather, the retained area, and substance. Even so, on completion of manufacture these properties are affected by changes in moisture content.

Hardness <> Softness: Softness is developed by improved opening, separations and lubrications within the structure, whereas filling in tannage/retannage can increase firmness. Increase in moisture content and temperature cause a shift towards softness.

Elasticity <> Plasticity: At all stages within manufacture - raw skins to final leather - an increase in moisture content or temperature will cause a shift from elastic towards more plastic behaviour.

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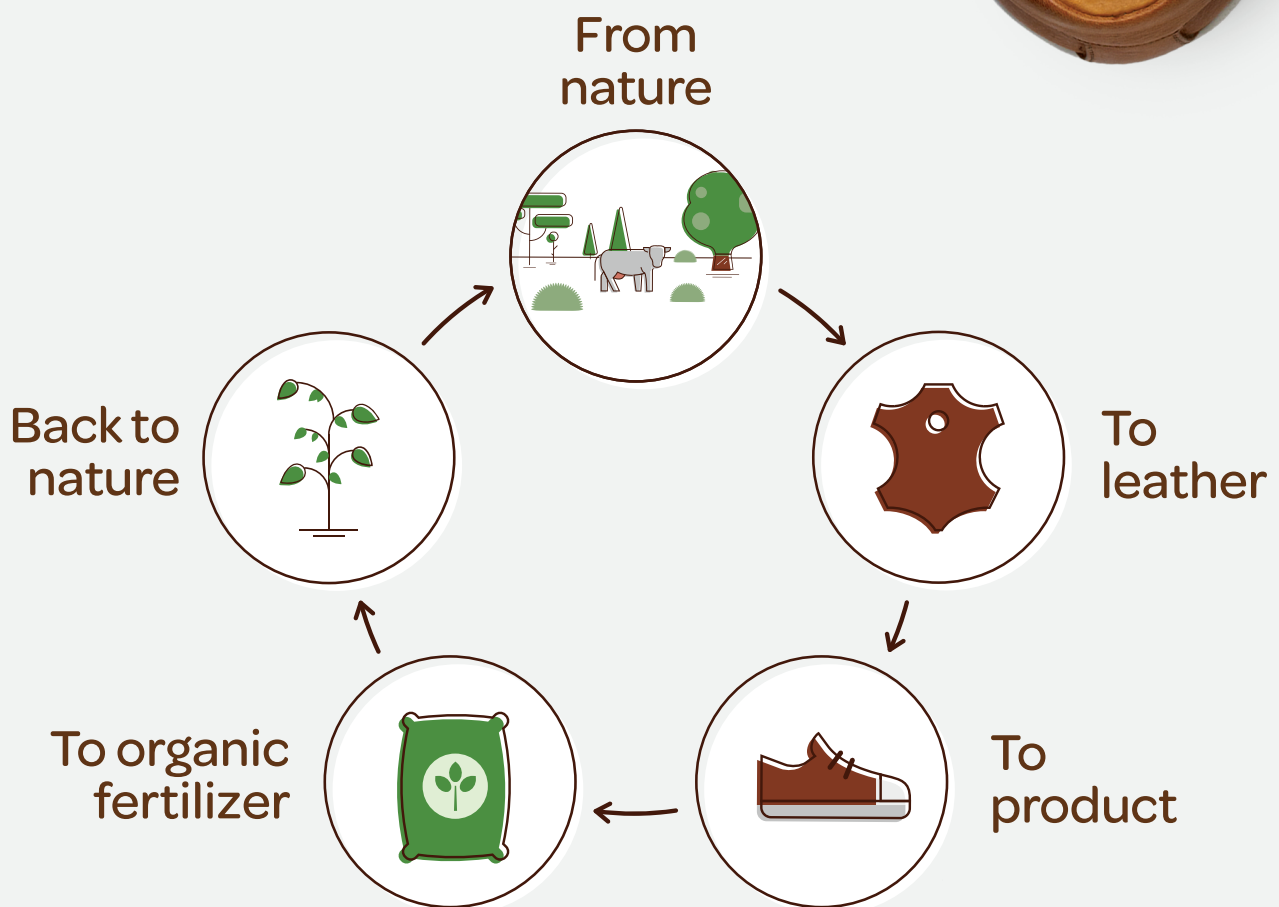
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3. Applied Physics

This applies to the forces applied throughout all leather manufacture, being viewed as eight interrelating factors. The application and outcome from any force throughout procedures depends on the physical properties of the structure at the time of application. These requirements change as the substrate is modified, with specific conditions needed before presentation to any mechanical action to optimise the outcome. These matters are expressed as *Panel 3*.

Panel 3: Applied Physics

These eight factors are summarised as follows:

Structure and Properties: Hides/skins are changed radically throughout manufacture. The outcome from any mechanical event is critically linked with the physical properties of the structure that exist at the time of action.

Operation and Objectives: For all mechanical applications, the objectives and requirements need to be clearly defined. This should take into account the outcome from the operation, but also the long-term consequences.

Presentation to Operation: On application of force, the structure is deformed. This varies across each piece due to fibre density, plasticity/elasticity and directionality at the point of action. Effects are optimised if the structure is in best condition for offer, as well as correct machine design and settings, and good operative judgements.

Force and Machinery: Mechanical actions need to address both cross-hide and in-pack variations. For multi-roller machinery, there is a bias for the application of force in the direction of feed, and this can cause permanent dimensional change.

The Processing Vessel: Forces are applied for long periods of time. Vessel design affects both strain/relaxations and dimensional change of pieces in process. This strongly influences the scope and management of the chemical process.

Management and Operations: Hidden effects are found throughout manufacture. These involve changes of the structure during transportation, stacking, and down times. Includes ageing effects – relaxations, compressions, temperature change, and migrations.

Various forces are applied and are intended to compress, strain, slice, and shave. Actions are limited by the properties of hides/skins at that time, the machine design, and the settings available for optimal performance. Similarly, events within processing vessels are determined by design and internal constructions, and their management. Consistent manufacture is strongly influenced by the general plant as well: services, machine linkages, and management.



Reconfiguration of Structure: Reshaping occurs within all wet mechanical operations, and chemical processing. Significant changes in shape and performance managed by fibre-bondings during 2nd phase evaporation drying – especially when under strain.

Yield, Quality, Area: This concerns the area of leather obtained at the end of process in relation to either an initial area or weight. It is only of value if the area of the end product is fully usable. Where good practice applies, these values are shaped by choice of raw materials, mechanical operations, chemical processing, and due care and attention.

4. Applied Chemistry

This relates to the management of chemical processes as applied to the changing collagen structure. Viewed as ten interrelated factors, these involve the practicalities within chemical processing, and wider issues concerning chemical use.

Each step within this process depends upon the physical and chemical properties of the structure that exist at the time of chemical offer. These matters are expressed as *Panel 4*.

All procedures are shaped by the materials that have been selected and their end objective. In particular, each step within the chemical process has to accommodate three realities:

- 1: Structure and properties of the material at the time of process.
- 2: Plant, machinery and processing vessels. This includes the inevitable limitations concerning this equipment and its scope in use.
- 3: Environmental responsibilities.



This is why the “off-the-shelf” process does not produce the best result. It is why a “successful” process is not so effective – even “not work” – if transferred to another plant.

5. Applications

This is a broad viewpoint of complex technology, offering a base to consider events, or better understand the many down-stream effects arising from single or small multiple changes. An example concerning temperature fluctuations is given as *Panels 5a* and *5b*.

6. Summary

This blueprint offers a fresh perspective on challenging manufacture. The descriptions as given are basic – each factor demanding sub-division for deeper consideration. Nevertheless, it is an alternative structure that offers scope for expansive thought and perhaps clearer understandings.

Equally, it throws some light on how leathermaking factors are delicately interlinked within and across the whole technology. And how the outcome from single change or gradually changing conditions can accumulate, and might be better managed.

It is about better use of resources and it is another way of looking at things! 🌐

Additional references:

This is an amended version of the paper “Blueprint for Leather Technology”, published Journal of the Society of Leather Technologist and Chemists, Vol 106, No.5, Sep-Oct 2022.

A detailed study (10 Parts) entitled “Making Leather – An Overview of Manufacture” by R.P Daniels is available free of charge for download. See SLTC website sltc.org, UNIDO.org, IULTCS.org, leatherbiz.com

Panel 4: Applied Chemistry

These ten factors involved are summarised as follows:

Structure and Properties: This refers to the chemical properties throughout the structure and its reactivity at a specific time within the chemical process.

Process and Objectives: This applies to each step within a chemical process to attain the right condition for the next chemical offer. Also, for the final outcome from that process to meet the needs of subsequent processes and operations.

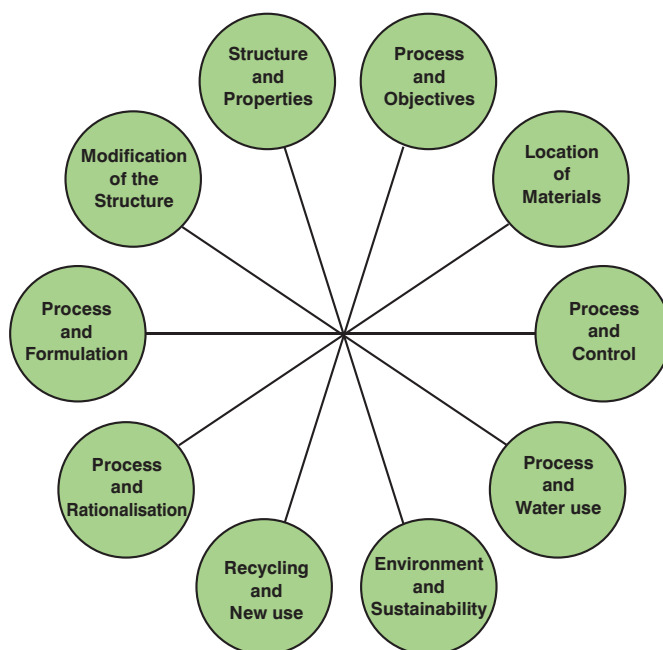
Modification of the Structure: This concerns the way that the structure is chemically changed to help develop the properties as required in the final leather.

Location of Materials: Involves penetration of products and chemicals into the structure as required, and to address cross-hide/skin variations. In particular, the targeted filling of voids in belly parts for more uniform behaviour, grain support and enhancement.

Process and Formulation: The formulation defines the chemical process, and how it should be managed. It takes all outcomes from previous procedures into account, but also subsequent operations and processes that might be needed.

Process and Control: Attention to process detail to ensure uniformity. Involves management of charge, pH, temperature, process floats, running times, etc. It also includes handling and inspection of goods at times during process.

Process and Rationalisation: Processes are frequently additive in use of chemicals and products. Rationalisation is often possible without changing quality: a simplified procedure is more efficient and cost effective, with less scope for chemical waste and product variation.



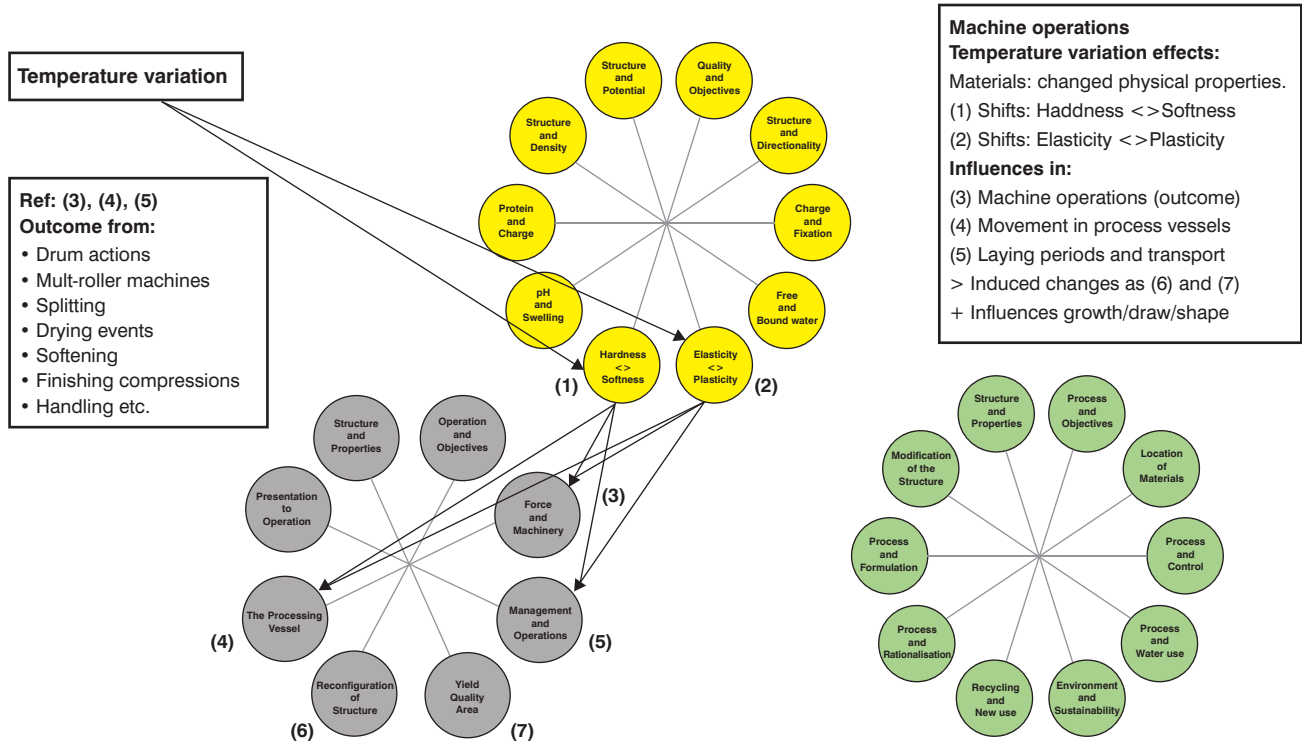
Process and Water Use: Water is required within chemical process and washing sequences. Good water management (volume/temperature) is part of process control, and includes the separation/collection of drainings and wash floats.

Recycling and New Use: With care, end-of-process (used) chemical solutions may be collected and reused. Offers lower chemical use and reduced wastewater treatment. Possibilities of solids previously viewed as waste for new-use products.

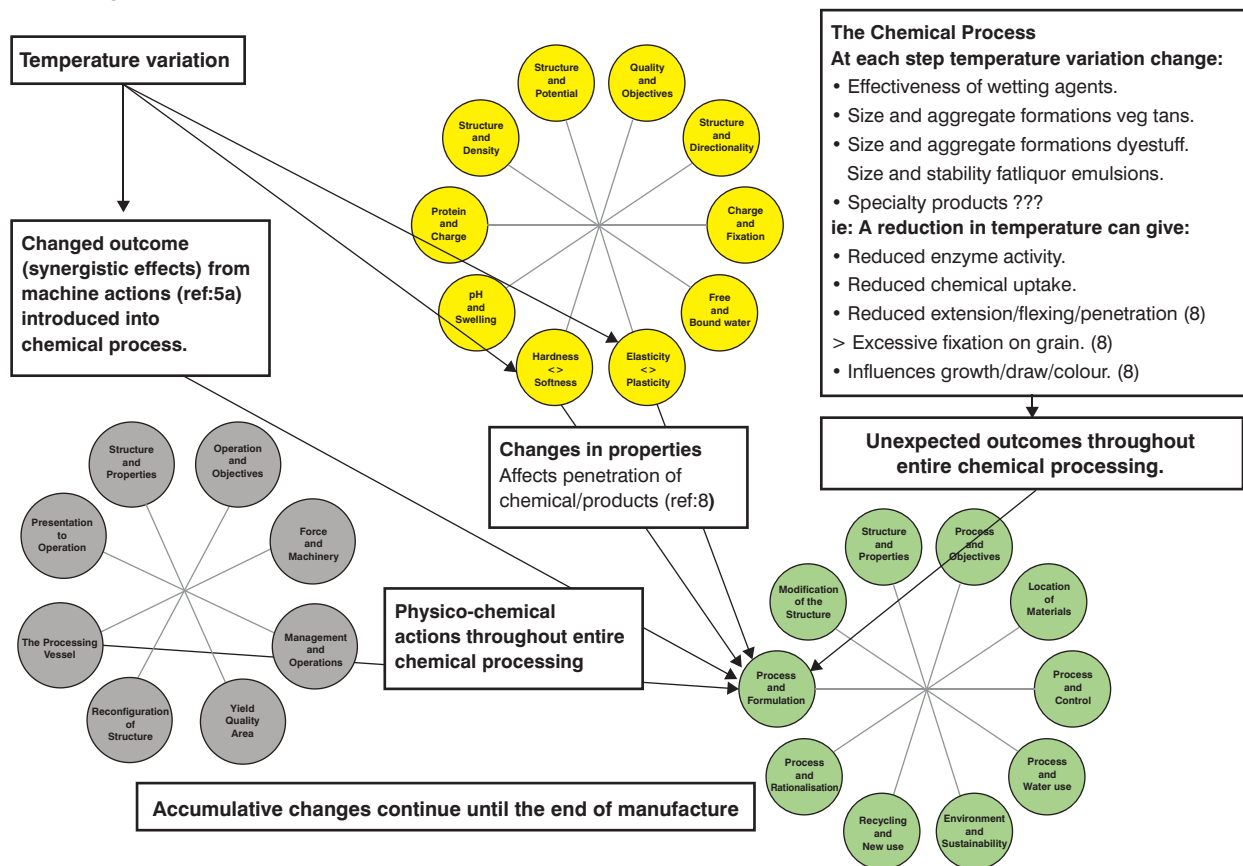
Environment and Sustainability: Includes careful selection of chemicals used, efficient processing, recycling as possible, and full wastewater treatment to licenced standards. Unusable solid waste for secure disposal, health and safety (CSR) issues, and energy savings.



Panel 5a: Temperature related effects within leather manufacture



Panel 5b: Temperature related effects within leather manufacture





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India builds on pandemic advantage

After a three-year absence due to the covid-19 pandemic, the India International Leather Fair (IILF) returned with its 36th edition.

The return of trade shows is now old news. Having seen the leather industry open up again, albeit cautiously, with shows following where restrictions have been relaxed or lifted, regular readers of *World Leather* will know that the majority of shows we have reported on have been positive in many ways. Face to face meeting is an essential part of the tactile, olfactory world that leather inhabits and the mere act of coming together helps to cement relationships, reignite business and put, what could only be described as an *annus horribilis*, or more correctly anni horribiles, behind us.

Ambitious growth

With official figures from the Council for Leather Exports (CLE) showing a 33% increase in export revenue for the 2021-2022 financial year, representing \$5 billion, it is clear to see that they are moving in the right direction to achieve the aim of \$13.7 billion by 2030. With the pandemic years behind them, double digit growth should not be unexpected, such is the position that the Indian leather industry holds in the global market, but to also achieve double digit growth for the current financial year points to something a little more seismic. With a 17% growth registered for the first quarter of the financial year, CLE president, Sanjay Leekha, told *World Leather* that the projection is for around 18% by the end of the current financial year and that total export revenues should be slightly higher than target, at \$5.7 billion, and in line with pre-

pandemic levels.

With export revenues to the US having already surpassed \$1 billion, traditional markets for India have readjusted slightly over the last two years. Where the previous stronghold of the EU and the UK, capturing approximately 60% of exports, avenues have opened for alternative sourcing with increased interest from the US. As explained by Mr Leekha, this is for a number of reasons, including the sanctions and tariffs between China and the US but also due to covid lockdowns in China. For these reasons, he reiterated his inauguration speech comments that "the entire world is now looking at India as a major and reliable supplier of value-added products and the leather industry is no exception to this". The year-end forecast for exports to the US are currently around \$1.4 billion, with the CLE having an April to March financial year.

Having gained advantage through the pandemic period, the US brands are now better understood by the factories in India. "The American brands come with a certain quantum and volume that is required and the factories are now more equipped to handle those volumes than they were a few years back," said Mr Leekha.

Mirroring many of these positive sentiments, CLE vice president, Rajendra Kumar Jalan, went on to say that India, with potentially the largest and youngest workforce, the ability to move to scale up productions, and the assistance from a proactive government, and one of the world's largest democracies, is seen as a benefit by many. Whilst the



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younger population of China may be steering away from footwear and leather goods production, “India is the destination and the future”.

Whether there will be similar strategies to the “China + 1” approach is hard to say but there are moves from Indian companies to broaden their foothold in production outside of India, with companies already involved with safety footwear and some brands in Europe and the UK.

Clear Interest

Whilst not direct evidence of the ambitious plans set out by the CLE, interest in the show was undeniable. The usual reporting on footfall metrics for tradeshow have understandably been under cautious review, certainly as far as this reporter is concerned, but it has been a long time since traversing the halls of a trade show have proven quite so difficult due to the numbers of people walking the aisles. It will be some time until exact visitor numbers are published by the organisers but with over 400 exhibiting companies, including representation from 16 other countries, talk both on and off the stands was positive. The biggest winners were the chemical companies — again seeing some of the biggest names in the industry taking prime positions only lends more credence to the value they place in the location of this “international” fair.

Whilst “themes” do not generally form a narrative for exhibitions, it was clear that recent regulations regarding bisphenols were at the forefront of many of the chemical companies’ promotional literature. Offering the latest information to assure customers that the products were bisphenol-free; the concern that was raised with these chemicals in recent years has clearly been a focal point for the supply chain.

Machinery manufacturers were overall happy but in the current climate, big ticket sales are not necessarily the immediate thought of the tanners visiting the show but rather maintaining relationships and from the manufacturers themselves a “seen to be seen” attitude prevailed.

If there was a negative, it was noted by more than one exhibitor that the attendance of international visitors was somewhat lacking. This was perhaps seen as a hangover from the covid pandemic where many physical meetings became replaced by virtual



ones and for certain trips, only local agents and staff feel the necessity to visit. Until the world fully reopens, and by this, the real indication is China, then trade shows may seem less international but still of importance.

Concrete plans

As was reported after the last show (see *World Leather* Feb/March 2020), expansion plans for the convention centre were spoken about by the India Trade Promotions Organisation (ITPO) at the press meeting and, if memory serves, this was also a topic at the event in 2019. With a three-year hiatus, it was good to see that not only had ground been broken but large-scale building progress had been made. Stretching out along the back perimeter of the convention centre grounds, an imposing concrete block construction has started to grow from foundations laid to increase the size and capacity of the Chennai convention centre. In its current form, it is difficult to visualise the exact structure but, thanks to a scale model in the convention centre reception, the full effect can be seen. Two halls, either side

Top: There is progress on increasing the exhibition space at Chennai, with building work making an imposing backdrop.

Bottom: A scale model of what the new Chennai Convention Centre will look like when complete.

of a central atrium will give a total of 16,000 square meters of exhibition space with adjacent multi-storey car parking facilities. In total, this will more than double the current capacity and would allow larger stands for regular exhibitors but also provide space for new exhibitors to join in 2024. According to ITPO general manager, Mrs Hema Maity, there is currently a waiting list for exhibitors and confidence is high that the space could easily be filled. That being the case, a three-day show might not be long enough to get around.

Designers Fair

Once again, coinciding with the IILF, the CLE organised the 6th edition of the Designers Fair. Forty-two design institutions and companies were involved with 32 designers representing 12 countries. ●

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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

Next-generation industry leaders

More details have emerged of an ambitious new project that aims to bring talented, knowledgeable, professional young people into leadership roles in the leather industry. Announced last September, the Leatech project will formally launch this October, with students from different parts of the world embarking together on a new Master's degree programme in innovative and sustainable leather technology.

Full-funding will be available for a large number of students, possibly as many as 100 of them over a four-year period, to take part if the project receives the green light from Europe's Erasmus Mundi programme for educational development. If the support from Erasmus comes through, successful applicants will not only receive high-quality teaching, practical training, an advanced degree and their pick of employment afterwards at some of the most innovative, sustainable and progressive leather companies in the global market — and they will also get to travel the world and make friends for life, with all of their travel, tuition, subsistence and accommodation costs being met.

The leather industry's representative body in the European Union, COTANCE, has calculated that the value of the scholarships available to students will be around €1,400 per person per month. COTANCE is a project partner for Leatech and formally submitted it for approval from the European Commission, which runs Erasmus, in February this year.

A post-graduate master's programme in innovative leather technology involving four institutions in four countries will welcome its first students in October 2023. They will help the sector fill important skills gaps and prepare a new generation of leaders for the global leather industry.

Centres of learning

Four participating universities are in place (there is scope for others to join in the years ahead) and preparations are already under way to deliver a diverse, in-depth teaching programme, in person, in English, starting with an initial intake this October.

Students will spend the first semester in Spain, at the University of Lleida's A3 Leather Innovation Centre in Igualada. Following that, they will spend the second semester of the two-year course at the leather engineering department at Ege University in Izmir in Turkey, taking them to the end of

the first academic year of the course. At that point, the Leatech group will travel to Mexico for a summer school at the Centre for Applied Innovation in Competitive Technologies (CIA TEC) that runs in León, Guanajuato.

In the second year of the course, the Leatech project will move to France for a semester. The host institution there will be the ITECH engineering school in Lyon. For the final semester, students will be able to choose which of the four centres of study they want to return to. Each of the four has its own specialisms: automotive leather in León, circularity, traceability and sustainability in Igualada, small-skins tanning and biobased technologies in Izmir and advanced engineering and colour management in Lyon. The students will complete the course and receive their Master's degrees midway through 2025.

Companies need talent

COTANCE secretary general, Gustavo González-Quijano, says the new course is exactly what the leather industry needs. He quotes the findings of an earlier project, one to promote digital skills among people working in leather, footwear, textiles and clothing in the European Union. It began in 2017 and delivered its conclusions at a conference in Brussels in early 2019.

Surveys of companies in the leather sector took place as part of this project and identified a need for a new generation of professional leather technologists. Companies said they wanted people with good knowledge of leather and leather-making processes, but they also had a need for people who understand the advanced technology now integrated into tanning machinery, people who can bring into the tannery the digital skills that will allow manufacturers to use that technology to maximum effect.

Leatech's promise is that its graduates will provide the industry with young professionals who have these qualities and a deep appreciation of the sustainability, traceability and circularity stories that the leather sector can tell. It will help them communicate well about the lifecycle analysis exercises that their future employers are working on now.

The initial announcements around Leatech resulted in COTANCE receiving 26 letters of support and commitment from different parts of the industry. Some companies have said they are happy to offer work placements to let



Students at the A3 Leather Innovation Centre in Igualada.

Credit: A3 Leather Innovation Centre-University of Lleida

the students see how the ideas they have studied work in practice. Some are interested in securing and funding a place for employees of their own. Apart from leather manufacturers, companies that use leather in finished products, including high-end leathersgoods brands, have come forward to express an interest.

Funding available

It is clear from this that not all of the Leatech students will be part of the scholarship programme. As a starting point, though, Gustavo González-Quijano is confident there will be funding for 60 people from the main Erasmus fund. He is also aware, however, of a number of "Erasmus sub-programmes" from which extra scholarship places might be funded. He thinks securing as many as 35 places from one of these and up to 10 from another might be feasible. His vision is that students across four intakes will avail themselves of these scholarship places spanning, perhaps, four intakes of around 25 funded places each time. Each intake will also have some self-funded or company-funded classmates.

The application process for the inaugural intake is open now and will remain open until May 31, 2023. Students will have to convince the admissions committee of their academic excellence, of the value of any professional experience that they have gained so far and of their personal motivation. They will have to perform well in an interview and supply

references. The first of these components will count towards 50% of each applicant's assessment. The admissions committee, made up mainly of academics from the participating universities, are looking for people with a technical background, perhaps in chemical engineering, environmental science, biotechnology and similar disciplines at undergraduate level. Previous work experience will count for 10%, the personal statement to show how motivated they are will count for 15%, performance at interview another 15% and good references from previous tutors 10% (two references for each applicant will be required).

Shift in perception

The project team will tell students on July 3 if they have won a place on the course and will announce the allocation of scholarship funding for this first intake on July 10, giving the successful applicants the rest of the summer to prepare before travelling to Igualada to get started. The assessment process will be rigorous and the group that emerges will be vibrant and, because no more than 10% of students of the same nationality can win one of the scholarships, it will also be diverse and international.

Above all, these students will make a talented bunch. "We need to bring these talented people into the industry," Gustavo González-Quijano says. "We need them to become our next generation of industry leaders. This is the challenge." 🌱



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Designers need to pick a side



Talented young people coming into fashion design have a choice to make, according to leather industry leader Chiara Mastrotto. They need to take a clear position regarding the materials they want to work with when creating their collections of shoes, clothes and accessories. Is their preference to use materials derived from fossil fuels or renewable ones? She thinks most designers would pick the renewable option and this leads her to suggest that leather should be a prime contender for inclusion among the materials they source. She made the comments to the organisers of *Première Vision* in the build-up to the most recent edition of the event this February.

Ms Mastrotto has all the sympathy in the world for people with a passion for the planet because she shares it. She climbs mountains in her spare time. One of her heroes is South Tyrol-born adventurer, author and former Green Party politician Reinhold Messner (the first person to complete a solo ascent of Mount Everest), and she insists that she takes inspiration from nature every day.

For her, this is entirely in keeping with her work in leading a global leather manufacturing group that employs more than 2,000 people, has factories in her native Veneto, in Tuscany, as well as in Brazil, Mexico, Indonesia and Tunisia. In a logistics hub it calls Gruppo Mastrotto Express, the company keeps a stock of finished leather in 1,500 colours for quick delivery to customers in 120 countries around the world.

Family business

Gruppo Mastrotto has been making leather since 1958. The company was founded by Arciso Mastrotto and was then developed by his sons Bruno and Santo. It is now led by a new

The chief executive of Arzignano-based leather manufacturer Gruppo Mastrotto has some straight-talking advice for young designers.

generation: Chiara and Graziano Mastrotto, respectively president and vice-president of the group.

She says sustainable development has been at the core of her strategy from the outset. Fruits of this so far include the Green Leather Industry for the Environment (greenLIFE) project, which launched in 2014 as a joint initiative with another Arzignano-based tanning group, Gruppo Dani, and three technical partners. This project won partial funding from the European Union and ran for three years, promoting sustainability in the wider tanning industry.

In 2021, Gruppo Mastrotto published its first dedicated sustainability report and declared that all of the electricity it uses from now on will come from 100% renewable sources. Last year, it announced that it was able to label its finished leather as carbon-neutral after reducing or offsetting its emissions.

It followed this up with the announcement that it is to take part in the United Nations Global Compact, which the UN refers to as the world's largest corporate sustainability initiative. More than 15,000 companies around the world and 4,000 non-business organisations are involved in the programme, which the UN launched at the start of the new



“Its beauty, naturalness, durability and comfort make leather a unique material and an excellent example of the circular economy.”

CHIARA MASTROTTO

millennium. Participating companies have to commit to ten clearly defined principles to support corporate sustainability, with these principles coming from established UN treaties on human rights, labour, environmental matters and anti-corruption. Company leaders need to commit to bringing these principles into all aspects of the business, to share progress transparently and to support wider UN initiatives, including the 17 Sustainable Development Goals.

Labels that enable

Another milestone that Chiara Mastrotto is proud of is that the group was able to present three of the collections it introduced in 2022 as certified bio-based, using a classification system set out by the US Department of Agriculture. She believes the group secured a leather-industry first with this. Other certification programmes it has engaged with include Blue Angel, the Leather Working Group and Oeko-Tex. For Ms Mastrotto, what is important is that these labels be based on a “robust, objective and verifiable scientific methodology”, and on data. This, she insists, is the best way to avoid unfair competition.

But labels should make it possible for buyers to have information about the environmental and social characteristics of any product, she believes. She wonders about the tendency to focus only on greenhouse gases and the related numbers, “with no desire to understand what is behind those numbers”.

Scrap value

At the end of last year, the group enhanced its circular-economy credentials further by introducing Reviva. This material is the result of a project that uses finished leather scraps and offcuts that are normally considered waste. This is an excellent solution, the chief executive says, to the challenge of putting leftover material to good use.

“We love leather because it is a natural product and part of the circular economy,” she explains. “And it’s important to keep clarifying this. Leather is a by-product of the food industry that we process and ennoble by creating beautiful material. We start with hides and create a material that our customers can then use to create bags, shoes, home materials and automotive interiors.”

Inclusion zone

She adds that sustainable fashion should mean diversity as well as circularity and carbon neutrality. Here, too, Gruppo Mastrotto has taken action. People from 36 countries make up its workforce, the percentage of women is above 30% and it has what Chiara Mastrotto calls “a perfect 50-50” in the boardroom. Its commitment to inclusion extends to a special project inside the group in which a team of five employees, all of whom have a disability, create colour charts that go to customers around the world to promote the Gruppo Mastrotto Express service.



Gruppo Mastrotto president and chief executive, Chiara Mastrotto.
Credit: Gruppo Mastrotto

In 2023, she wants to continue to roll out the group’s sustainability plans at a fast pace and for this to deliver the results she wants to achieve.

No revolution required

Another aim is to help improve the way the industry communicates with the outside world about leather. “Its beauty, naturalness, durability and comfort make leather a unique material,” she says, “and an excellent example of the circular economy. The whole value chain must make an effort to explain these characteristic to the end consumer. We should be proud of our economic, environmental and social importance as a sector and we have to find the best way to make our communication more effective.”

She says she believes in the wider fashion sector’s ability to help promote sustainable development. This need not require a revolution, according to Chiara Mastrotto. What she calls “a structural evolution” should be enough to bring about a business model that takes account of the environment in its strategic decision-making and operations. This should run deeply in companies and across the value chain, she insists. And as a sector, she thinks leather can play a strategic role. “We can make a great contribution,” she explains, “because we upcycle a by-product of the food industry and we create a long-lasting material that designers can use to create their products.”

This is where the stark choice for designers comes in. They need to pick a side. 🌱

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Traceability can assure consumers leather has come from a humanely managed source.

Credit: Gatién Gregori/Shutterstock



Pro animal and pro leather



One of the loudest debates in this industry has been framed as a battle between those who are 'pro-animal' versus those who are 'pro-leather'. Online search engines and marketing experts have decided the term 'humane leather' is synonymous with 'vegan' or synthetic alternatives to leather, rather than the real thing. Animal welfare expert Temple Grandin, whose latest book was released at the end of 2022, reminds us of a third stance: one can be pro-animal and pro-leather.

The book, *Visual Thinking: The Hidden Gifts of People Who Think in Pictures, Patterns and Abstractions*, is focused more broadly on the way the author's mind works. She literally thinks in pictures, and the latest research into the benefits of different ways of thinking is also part of the focus. It is a reminder that Dr Grandin's unique perspective is what has enabled her decades-long paradigm-shifting efforts in the humane treatment of livestock.

World Leather has written extensively about Dr Grandin's fascinating work in the *Nothing to Hide** essay, 'The importance of animal welfare to the leather industry' (essay number two in the series), so we will not try to recap it all here. But the flurry of attention her latest book has generated gives a new opportunity to pause and take note: a sustainable

Temple Grandin's latest book reminds us that people really care about the animal welfare and land management behind their leather products. Forward-thinking businesses are embracing this and working smartly to meet consumer demand for greater traceability.

leather industry must be one that values animal welfare and healthy land management, and demonstrates this to consumers through transparency and traceability.

Those who are working closely in this space say that consumer demand for humane and conscientiously produced leather is growing. The ability to demonstrate where one's new bag, jacket, shoes, and car interior originated is becoming a necessity within the leather supply chain.



Animal welfare expert Temple Grandin. Credit: Joe Seer/Shutterstock



Danielle Dotzenrod, founder of Behumane. Credit: Behumane

What does humane leather look like?

Dr Grandin credits her autism for her tendency to think in pictures and to view the world more sensorially, as animals do. This, she says, is what has allowed her to identify simple steps that can eradicate trauma and fear from a cow's experience.

In a recent interview on BBC Radio, she gave an example of this. "Right now I'm thinking about non-slip flooring and I'm seeing how cattle come down to the stun-box," she told presenter Evan Davis. "You put a non-slip floor in there and they stop jumping around because they're not slipping; a very simple modification that makes a big difference." Seemingly innocuous details that might go unnoticed by a human can be frightening for a cow. "I often get asked, '[are] they afraid of being slaughtered?'" she says. "No, they're more scared of shadows, of vehicles going by, of coats on fences."

If done right, Dr Grandin says the animals should have a good life and then, when the time comes, going into an abattoir should be a non-event. "If you get rid of the distractions like the shadows, the reflections, seeing people up ahead," she said, "you open the door to the stun-box and they walk right in."

Humane animal management also means incorporating the Five Freedoms, as established by a UK animal welfare council decades ago. These include access to fresh water and a healthy diet; an appropriate environment including shelter and a comfortable resting area; freedom from pain, injury or disease by prevention or rapid diagnosis and treatment; sufficient space, proper facilities and company of the animal's own kind; and freedom from fear and distress, with conditions that avoid mental suffering.

Today there are countless ranches and abattoirs that hold such ideas to be paramount. For example, White Oak Pastures

in Bluffton, GA, uses regenerative grazing practices and holistic management, allowing animals to roam freely and breed naturally. And, as the company explains on its website: "As much as we are committed to providing our animals with a peaceful, healthy life, we are committed to offering them a humane and dignified death." The plant was designed by Dr Grandin and "is focused on keeping our animals at ease".

Though not yet the norm, ranches like these can be found in many parts of the world. So how can the leather industry make wider use of such suppliers, increase awareness of them, and bring peace of mind to consumers?

Creating traceability

Based in Decorah, Iowa, Behumane launched in 2018 with the aim of providing consumers and brands with the answer to questions like: Where did my product come from? How did it get to me? Does this company align with my values? The company integrates into various points of the leather supply chain, selling wet blue, finished leather, and small leathergoods, with the raw material sourced from ranches that have high animal welfare standards and practise regenerative agriculture.

Today, Behumane is working with more than 100 ranchers who handle upwards of 70,000 head of cattle in different parts of the western United States. "We have built and designed our own supply chain with forward-thinking partners who agree the future should be more transparent," founder, Danielle Dotzenrod, tells *World Leather*. The company ensures "segregation and identification procedures are met in order to offer our customers traceability through full transparency".

And it is doing this at scale, she says. Behumane is working with tanneries in the US and overseas that "recognise the

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need to have responsibly-sourced leather readily available to their clients”, and with businesses that range from “some of the world’s largest shoe manufacturers, to small- and medium-size brands known primarily for their leather reputation, to industry leaders in responsible sourcing whose last piece of the puzzle was traceable leather.”

This can include inserting blue hides or leather into a brand’s current supply or handling the leather from sourcing through manufacturing, which brings Ms Dotzenrod into regular contact with every part of the supply chain. Because of this, she has learned that attitudes toward the need for transparency and traceability vary. Ranches, she says, are the quickest to get on board with a company like Behumane. “We find ranchers that align with the work we are doing and the change we are trying to help make,” she says. “They are the ones doing the real work so the process should start with them.”

Ranchers understand the value in highlighting humane and eco-friendly practices, according to Ms Dotzenrod. She explains: “They have been the leaders in the traceable food movement from the beginning. Transparency and trust with their customers and consumers in animal welfare and responsible soil health practices are at the core of their values.”

In approaching tanneries for potential partnerships, however, Ms Dotzenrod initially met with some resistance. Increasing demand from brands is changing that, though. “If a tannery can’t or won’t supply traceability, brands are building new relationships with those who are willing to evolve in order to provide it.”

She finds brands are showing the most interest in greater traceability. This is due not only to increased consumer expectations, says Ms Dotzenrod, but to growing government regulations around animal welfare and soil health practices. And consumer attitudes? “They are only going to care more,” she says. “We’re never going backwards from here. Brands want to live up to their promises and traceability is the only way to do it.”

However, demand alone can not lead to greater traceability. Ms Dotzenrod feels a company like hers fulfils a key role in filling the gaps between parties in the supply chain. “Being able to prove the source of the hides, back to the ranch, is what brands care about most,” she says, but relatively few slaughterhouses are “willing to share



A Behumane stamp assuring consumers of the leather’s provenance.

Credit: Behumane



Spoor uses laser technology for traceability.

Credit: UNIC

their specific ranch sources and segregate the hides accordingly.” Strong partnerships with the ranches are critical to making that happen.

Behumane builds and oversees its entire supply chain from sourcing through point of sale. “It’s our critical relationship with the right ranches, our ownership and management of the hides, and our ability to oversee, document and prove, and report our entire supply chain with transparency to our customers that are the differentiators.”

Ranches, abattoirs, tanneries, and brands that are not already prioritising traceability (and a supply chain that originates with well-treated animals on regenerative land) should be paying attention. There is a real demand for responsibly sourced leather, says Ms Dotzenrod. “The days of all hides being commodities are gone and the value of hides is going to vary according to their ranch origin.”

Pursuing transparency

Spoor, the Danish brand that branched off from Scan-Hide, is another example of the growing body of products and services offering solutions to the challenges of traceability.

Established in 2020, Scan-Hide sources raw hides directly from abattoirs and, at its tannery in Vester Skerninge, Denmark, registers ear tags and the information they contain into its own system. Using laser technology, Scan-Hide then imprints each hide with a number linked to the animal’s ear tag; this laser mark remains throughout the entire tanning and refinement process, allowing all partners in the supply chain to know where the leather in any given product originated. On behalf of finished-product brands, Spoor takes semi-processed hides from its parent company and arranges for them to be finished at partner tanneries that

undertake to keep the traceability commitment in place.

“Our definition of traceability goes back to a single farm and animal, since this is where it all begins,” Birgitte Holgaard Langer, Spoor’s business development director, tells *World Leather*. “In order to have the full control, insight and documentation behind a piece of leather, traceability is needed.” This is about moving brands from “believing to knowing,” she says, adding that “data and documentation will be increasingly important for conscious brands.”

Like Ms Dotzenrod, Ms Langer says her company is seeing increasing interest in, and demand for, leather from farms with high standards of humane animal management. The motivation for this varies from one brand to another. “Documentation on animal welfare is one,” she says; “brands understand the interconnection in our ecosystem.” Others need accurate data for lifecycle assessment calculations, or desire to work with transparent materials, or simply “wish to improve the product and processes towards a more responsible future.”

Ms Langer also praised the general willingness from Spoor’s partners to learn about traceability, while parent company Scan-Hide is continuously seeking new circular solutions in the way it tans its Nordic hides.

“We have created a culture where we are all motivated by finding better ways than what we had yesterday,” she says; co-creation is a key, in terms of identifying the company’s own ecosystem and how partners within it can improve together. “Sustainable progress cannot be done in silos, but

connecting the dots and finding solutions across value chains is a very fruitful way of working.”

Asking the difficult questions

Temple Grandin has said: “We’ve got to give cows a good life.” If cattle are being treated humanely and the land is being used responsibly, then one of the leather industry’s most pressing goals should be demonstrating this to the end consumer.

As Ms Dotzenrod points out, this might start with more questions than answers. “Legitimate regenerative agriculture has to be scientifically practised, proven and documented by the ranchers,” she says. If the leather and fashion industry wants to get on board, it has to figure out which ranches hides come from and ask what their practices are, if their animals are treated humanely, if they have access to pasture and if the farm is practising regenerative agriculture.

These are hard questions and, in Ms Dotzenrod’s experience, traceability initiatives in the past often stopped at the slaughterhouse because downstream supply chain partners did not really want to know the answers. Now, though, the answers are there for those who have the courage to ask. 🌱

* Nothing to Hide, a series of essays covering the science, technology and ecology of the leather industry www.nothing-to-hide.org



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Sale at auction of a special bottle of whisky has provided the funding for The Macallan Artisan Apprenticeship Fund.
Credit: The Macallan



Whisky helps keep craft skills strong



A fund that aims to help save artisan craftsmanship will enable a bookbinder in the UK to pass on traditional skills in working with leather to a new generation. Special whisky from Speyside in Scotland has played a crucial role in the project.

Malt whisky brand The Macallan has launched a programme to help preserve craftsmanship in a wide range of sectors. It has called the programme, which has started off with total funding of £260,000, the Artisan Apprenticeship Fund. In early February, it named four companies as initial beneficiaries of the fund, including Shepherds Bookbinders. The other three are luxury garment maker Alexander Manufacturing, contemporary glass studio Glasstorm, and fine-art foundry Powderhall Bronze.

An initiative from malt whisky company The Macallan is supporting the preservation of artisan leathercraft skills at the UK's oldest bookbinder.

The London-based hand bookbinding business will receive a £60,000 share of the Artisan Apprenticeship Fund and will use the money to help it train an existing member of staff to become a skilled bookbinder. Under the guidance of expert



Shepherds Bookbinders works with vegetable-tanned leathers, chiefly goatskin and calfskin.

Craftspeople still pare the leather edges by hand, using a spokeshave and an edge-paring knife to ensure the corners and turn-ins of book covers are neat and smooth.

Credits: Shepherds Bookbinders

bookbinder Jonathan Powell, the apprentice will learn all the key skills involved in binding books in leather, including gold-leaf finishing.

Shepherds has told *World Leather* that it works only with vegetable-tanned leathers, chiefly goatskin and calfskin. “The leather has to be naturally tanned,” the company explains, “so that it is supple and has a soft surface suitable for tooling in gold leaf in the traditional way.” Suppleness and a flat grain are qualities that bookbinders have always looked for in leather because of the importance of making sure the cover takes and retains the shape of the book. At Shepherds, craftspeople still pare the leather edges by hand, using a spokeshave and an edge-paring knife to ensure the corners and turn-ins of book covers are neat and smooth. These must be bump-free to make the decorative tooling on the corners fully effective.

All aspects

All of these traditional skills will now be passed on to the new apprentice with funding from The Macallan. The three-year apprenticeship will involve dedicated training days at the bench at the Shepherds workshop in Wiltshire, as well as undertaking formal courses in bookbinding. The new apprentice will also have weekly work experience days in the company’s bindery in London, plus three external visits to relevant institutions and binderies each year.

Shepherds Bookbinders managing director, Alison Strachan, comments: “The traditional skills we require of our bookbinders are wide-ranging and complex, and this funding will allow us to fully train a young person in all aspects of the craft. The Artisan Apprenticeship Fund is a fantastic initiative, and we are so grateful to The Macallan for helping us to ensure these skills will continue to thrive.”

A short distance from the bindery in London, Shepherds runs a shop that stocks materials for bookbinding projects and a vast range of paper for fine arts, crafts, design and printing. The company runs courses here, and at its workshop

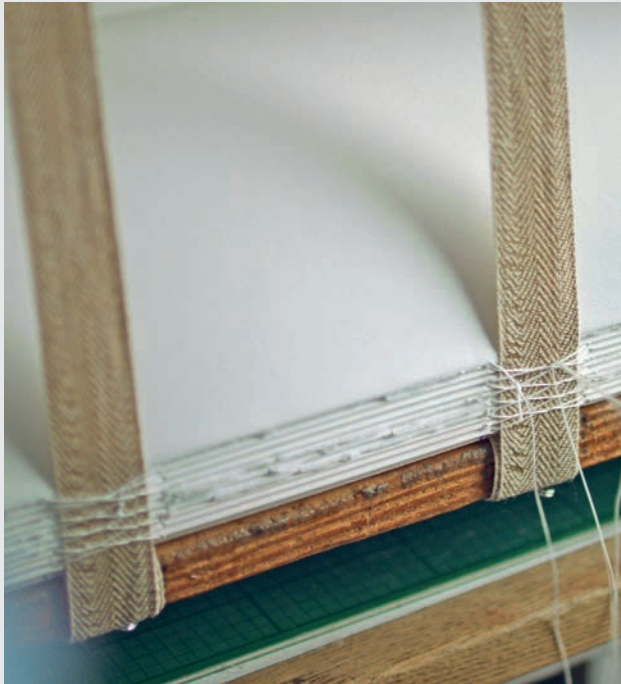
in Wiltshire, which is located in a thatched barn. In 1998, Shepherds took over the trading names of two of the most influential bookbinding companies in the UK, Sangorski & Sutcliffe, and Zaehnsdorf. By the time of the acquisition, these two famous firms had a combined history of 250 years and had contributed substantially to research into leather preservation techniques.

By this time, though, they had themselves merged to form one business, known as SSZ, which luxury leathersgoods brand Asprey had formed in the 1980s and run for about ten years before selling to Shepherds.

Collective effort

At the core of this drive to preserve bookbinding, leathercraft and other skills is The Macallan Artisan Collective, a creative forum for craftspeople to network, exchange ideas, innovate and collaborate via live gatherings and digital events. Established in 2021, it champions and celebrates artisans, their philosophies, knowledge and skills, as well as the critical role they play in local and global economies. It is through this collective that The Macallan is delivering the Artisan Apprenticeship Fund, which is part of its commitment to preserving and safeguarding legacy crafts, trades, skills and values that will support employment for generations to come.

Its own legacy and traditions allowed it to raise the £240,000 to start the fund off. In 2021, The Macallan decided to release 288 bottles of a special whisky it called The Reach. This whisky was distilled in 1940 and had lain in a single sherry-seasoned oak cask for 81 years. It is the oldest whisky the company has ever released. Bottle number three went into a special display and went for auction at Sotheby’s in London. The display featured a presentation cabinet made from elm, with the wood coming from a tree that had grown on The Macallan estate before falling in 1940, the year the whisky was born. The cabinet was lined with glossy red leather.



The Macallan has pledged to support the preservation of artisan skills.

Credits: Shepherds Bookbinders

The whisky itself was presented in a decanter made from mouth-blown glass by Artisan Apprenticeship Fund winner Glasstorm. For the Sotheby's sale, the decanter was cradled in a specially commissioned sculpture of three hands, crafted by Renfrewshire-based artist Saskia Robinson using bronze from another of the Artisan Apprenticeship Fund winners, Powderhall Bronze. One hand symbolises the distillery workers who made the whisky. Another is modelled on the hand of Allan Shiach, a celebrated writer and screenwriter who was also chief executive of The Macallan until 1997. Mr Shiach's grandfather was head of the company when The Reach went into its cask. The third hand is modelled on that of the brand's current master whisky maker, Kirsteen Campbell.

Stuck for words

When The Reach emerged, Ms Campbell said working on it had been one of the highlights of her career. "It's hard to put into words how truly special this whisky is," she commented. Nevertheless, she went on to describe the spirit as having a deep auburn colour, with notes of dark chocolate, cinnamon, peat, plums and leather on the nose, and of treacle toffee, bramble jam, liquorice, ginger, nutmeg, charred pineapple, pecans and woodsmoke on the palate.

Sotheby's said this was the oldest whisky ever to come to auction and it sold bottle number three in October 2022 for almost three times the estimate to a private collector in the UK; this sale provided the money for the Artisan Apprenticeship Fund.

For generations to come

Head of insight and sustainability at the 199-year-old whisky brand, Elizabeth McMillan, says The Macallan thrives as a local brand because of its relationships with communities and networks of craftspeople with whom it builds "shared value creation". She says Shepherds Bookbinders fits into this because of its dedication to craftsmanship and quality and

that the whisky company is proud to play a part in helping it to train and guide its next generation of artisans.

"The Macallan holds a deep affinity with all luxury artisans and master makers," Ms McMillan continues. "Dedication to creativity, craftsmanship, innovation and collaboration are a key part of our brand DNA, and through The Macallan Artisan Collective and Artisan Apprenticeship Fund, we aim to establish a legacy of positive action by fostering meaningful progress for our key communities through partnerships, collaborations, and fundraising. Preserving and safeguarding legacy crafts, trades, skills, and values is an essential part of this, to help support employment for generations to come."

Handcrafted luxury

Glasstorm co-founder Brodie Nairn says he has found the experience of taking part in the Artisan Collective interesting. One or two large companies are part of it, he explains, while many of the participants are small and some are tiny, with perhaps only one or two people involved. "What we all have in common is handcrafted luxury," he says. "The Macallan runs so many initiatives and special projects and it realised it was working with 30 or 40 different artisan manufacturers and all of these companies have this link to handcrafted luxury."

However, Mr Nairn warns that the skills a person has to have to be able to make things in this way cannot be learned from a computer screen or a software programme; nor can these activities be carried out by a robot. "They are skills that are handed down, handed over by the master to the apprentice," he explains. "It is difficult to train someone in these crafts and it can take years before the new person is any good."

On the subject of the Artisan Apprenticeship Fund, he says Glasstorm is "absolutely thrilled" to be part of it and that for The Macallan to have set it up "shows the true spirit" of the whisky brand. "For The Macallan to put this money into our companies is a significant contribution towards preserving these craft skills," he says. "It's very important." 



Use of natural leather, supplied by a Paraboot tannery partner, gives each shoe a unique character which will only grow with age and wear.

All credits: Classic Paris



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Approximately 110 years after its founding in the village of Izeaux, not far from Grenoble, in 1908, made-in-France leather footwear company Paraboot approached Parisian creative label Classic with an idea for a collaboration. At first, it felt like a bit of a stretch, admits the latter's founder, Thibault Choay, who started Classic Paris as a specialist art book publishing house back in 2010, following a period as a journalist. Later, though, after working on several co-developed products of his own, Mr Choay began thinking of the project as a brand. The partners thus debuted an exclusive take on Paraboot's Yosemite ankle boot, limited to 80 or so pairs in all, towards the end of January. Initially shoppable in-person for a nine-day period between January 18 and 27 at Classic's appointment-only showroom in Le Marais, the remaining stock continues to be sold online, priced at €350.

Turning pages

Mr Choay describes the response to the shoes so far as "incredible" and "very encouraging for a total first". Regarding sales, the physical launch went very well, he tells us, and subsequent digital demand has been steady. The wider collection, built around the climber-inspired ankle boots and consciously curated as though a group show or exhibition, received interest from parties hoping to re-present it via

The stories behind makers and their materials are powerful, as Paraboot's latest co-creator knows only too well. Here, World Leather uncovers the many sides to a mountain boot.

international pop-up events within two weeks of its release, Mr Choay reveals.

Though the quantity of co-designed Yosemite manufactured in this instance was ultimately decided by how many leather uppers Paraboot's Saint-Jean-de-Moirans factory could feasibly make, considering the minimum number of hides needed to secure production, the line-up itself is diverse, yet coherent. The footwear, unquestionably the capsule's protagonist, is supported by a creative cast which collectively expresses Mr Choay's personal appreciation for alpinism, vintage clothing and mountaineering gear. Not to mention Paraboot's predecessor brand Galibier, which gave its early collections a mountain boot slant, and of course the silhouette's rugged Californian namesake, Yosemite National

Park. Choosing the Yosemite for his canvas was “pretty easy” in this respect, the publisher says.

Running alongside the chunky, rubber-soled boots is a commemorative 100% cotton t-shirt, an Ebbets Field Flannels-made woollen baseball cap, a Kinto water bottle, a pair of Les Bâtons d’Alain ultra-light trek and skiing poles, a Classic Paris-published photography book and a large-scale negative stencil piece by Alexandre Bavard, who also goes by the name of Mosa. The long-sleeve tee notably features a restyled vintage Paraboot advertisement in which Classic’s logo, redesigned to fit with the footwear company’s aesthetic, replaces Galibier’s. Either arm has likewise been branded with the logo of each additional collaborator. The creative label’s revamped script is variously emblazoned across the rest of the assortment, too, including a specially printed shoebox (more on this later) and even Mosa’s artwork. A unifying neutral palette, accented with grassy green hues, is suggestive of the overall urban-outdoors emphasis and pared-back, timeless design.

Stamp of approval

The cornerstone, however, for Mr Choay, is the Blake-stitched shoes’ dual-branded dark green tag, another strong signifier of Paraboot’s involvement. While the face fabric bears Classic’s newly cursive imprint, when turned over it displays the manufacturer’s logo as a mark of authenticity – a subtle nod to streetwear culture and its influence on Mr Choay’s life and work. He describes this detail as the capsule’s real genesis.

“Crazy trainer collaborations are common trade,” the founder and creative lead explains. His ambition for Classic’s version of the Yosemite, then, was to use only materials which highlight the boot’s design, as opposed to “outshining it with a catchy colourway or crazy details”. Crucially, Mr Choay wanted something much more understated, something quietly classic. This tied in well with the decision to use only vegetable-tanned natural leather with no other treatment, he adds, having requested hides with a raw and “untainted” quality, which would age and accumulate unique markings over time, in step with the wearer.

Paraboot also typically keeps its main line of leathers natural. With the exception of a small amount of cordovan leather sourced from North America, the still family-owned, vertical operation exclusively uses hides of European origin. Around 77% of its raw material hails from France and all heels and soles are made at Saint-Jean-de-Moirans, it states, using the same French blends and vulcanisation processes as the brand’s original boots. Generally, every pair of its shoes requires at least 150 different operations and two hours of work. Paraboot’s parent company, Richard-Pontvert, is officially recognised as an Entreprise du Patrimoine Vivant in its home country, considered part of France’s ‘living heritage’ with its commitment to preserving domestic artisanal know-how over the years.

An adventurous spirit

Classic Paris similarly focuses on the artists and creative practitioners in its orbit, with Mr Choay preferring to let cultural and commercial projects evolve organically, he says. The book published in celebration of the tie-up best illustrates this. A long-time friend, Matteo Verzino, was responsible for translating the collection’s “vibe” into photographs that would most resonate with Classic’s audience, and mesh well with the broader collaboration’s aesthetic references and choice of materials. Meanwhile, the writer behind the accompanying



A specially redesigned Classic logo suits the traditional Paraboot green tag very well.

partly fictional text, Oscar Coop-Phane, came on board following a casual conversation with Mr Choay about shoes and Paraboot in a bar. The photographs document the artists at work to produce a visual retelling of their various “backstage” stories. Importantly, no product shots feature in the final volume and neither does Mr Coop-Phane describe the boots at any stage.

Although enthusiastic in its support of the undertaking, the Paraboot team was kept away from work on the book, to ensure its integrity as a standalone, non-promotional outcome, Mr Choay tells us. Rather, the publication is meant to serve as evidence of the different actors’ creative freedom. It also allowed him to repay Paraboot for sharing its well-honed footwear manufacturing expertise through contributing his own in making and selling art books. “Books are the origin of it all,” he underlines.

Ro Studio, a screenprinter based in the Parisian suburb of Montreuil, was another core member of the book’s production crew. Mr Choay met the artist, Romain Gauthier, who makes his own inks, when Mr Gauthier was attempting to create a coloured map of the French capital using only inks he could produce himself from the natural resources found in each neighbourhood. He brought his waterless mobile printing set-up on the trip to Saint-Jean-de-Moirans, which enabled him to make botanical inks for the collection’s t-shirts and shoeboxes from plant matter gathered in the fields surrounding Paraboot’s main facility and headquarters. The Yosemite’s shoeboxes were therefore all printed on-site, surrounded by mountains, which captivated onlookers “in the same way we were captivated by the shoemakers’ crafts”, Classic’s founder reflects.

Less an exercise in eco-friendliness than a holistically minded knowledge exchange experiment, this snapshot of just some of the energies and activities that helped shape the capsule’s limited editions goes a long way. Not only in signalling appreciation for the not insignificant role the natural landscape plays in all things Made in France, but also in demonstrating Mr Choay’s clear understanding of the sheer, multi-layered effort that goes into crafting footwear “with the best and most respectful materials possible”. 🌱



A record year for luxury car brands

Good news has been thin on the ground for automotive production in the UK. Trade association SMMT has confirmed that car production declined by 9.8% in 2022 to 775,014 units, the lowest figure since 1956. The association said the main reasons for the low output were a “crippling global shortage of semiconductors”, significant structural changes, and the impact of supply chain pauses in China owing to covid-19 lockdowns there.

Soon after the release of these figures, Ford announced that it intends to eliminate 3,800 jobs from its operation in Europe. Subject to consultation, this will include 2,800 jobs in product development and a further 1,000 administrative, marketing, sales and distribution roles. Around 2,300 of the job-losses will come in Germany, but 1,300 are in the UK, with 200 more in the rest of Europe.

Amid doom and gloom for the UK automotive industry, luxury brands Rolls-Royce Motors and Bentley posted record figures for 2022.

Electric future

Ford said it was “completely reinventing” its brand in Europe and would invest in the design and development of electric passenger vehicles. It explained that this change would impact the organisational structure, talent, and skills it will need in Europe in future.

Luxury automotive brands Bentley Motors and Rolls-Royce Motors also have their eyes on an electric-vehicle future, but they



Bentley completed more than 500 unique projects for buyers of cars from its Mulliner collection last year. This one was number 500.

CREDIT: BENTLEY MOTORS



Inspired by fashion, a customised Rolls-Royce Cullinan.

CREDIT: ROLLS-ROYCE MOTORS

have also worked hard this century to pass on older skills in handcraft and artisan production to new generations. The result is that 2022 was a year of record-high sales for both of them.

Momentous year

Rolls-Royce Motors delivered a total of 6,021 motor cars to clients in around 50 countries worldwide last year. This represents an increase of 8% on 2021 and its highest-ever annual sales figure. This is the first time in the company's 118-year history that sales have exceeded 6,000 in a single 12-month period. Chief executive, Torsten Müller-Ötvös, called it "a momentous year for Rolls-Royce Motor Cars".

Following this, fellow UK-based marque Bentley claimed a milestone of its own. In 2022, it sold 15,174 vehicles, an increase of 4% on the previous year and a record result. Commenting on this performance, chief executive, Adrian Hallmark, said: "The business overcame significant headwinds and demonstrated great resilience to deliver a third consecutive record sales year."

What lies ahead

With regard to product innovation, both brands have spoken positively about their faith in future models that will take them into the electric vehicle market. Bentley said its 2022 success was driven by the introduction of a new hybrid model, the Flying Spur,

part of a programme called Beyond100. Bentley is aiming for full electrification by 2030 and has said it will deliver five new electric models by then.

For its part, Rolls-Royce intends to start selling its first all-electric car, Spectre, this year. The vehicle, a two-door coupé, is still undergoing what it has called the most rigorous testing programme in its history, covering 2.5 million kilometres and counting.

Living traditions

It is fair to say that another important reason why the two luxury car companies are enjoying unparalleled success at the moment is because they also value the past. A long heritage and respect for traditions are of great importance across the board in the luxury market. Traditional skills are too. And Rolls-Royce and Bentley are using the skills and craftsmanship of their workforces to the full because the bespoke services they offer to their high-end buyers are more in demand than ever.

Noting that special commissions of this kind also reached record levels last year, Torsten Müller-Ötvös said putting these skills at the disposal of clients was part of the essence of Rolls-Royce. He said: "Our clients' requests are becoming ever more imaginative and technically demanding, a challenge we enthusiastically embrace." He explained that the creativity and



quality of the work the company's bespoke team achieves, including its work with leather for the vehicle interiors, means that, on average, clients are now content "to pay around half a million euros for their unique motor car". Bentley says it, too, is seeing increasing demand for personalisation services.

Personal choices

Recent personalisation projects have included a special-edition of the Rolls-Royce convertible grand tourer model, Dawn. This car was the latest in a long list of special commissions for entrepreneur, dedicated car collector and long-standing customer of the brand, Michael Fux. This project involved creating leather and other materials in a colour named Fux Bright Yellow, which is "celebrated throughout every element of the motor car".

At Bentley, the design team hit another milestone in 2022 by completing more than 500 unique projects for buyers of cars from its Mulliner collection. Mulliner is the world's oldest coachbuilder and has helped create iconic Bentley models for 100 years. The 500th Mulliner commission last year was for a UK customer, one of the first of the marque's Flying Spur S Hybrid cars to be personalised. In this case, the customer chose an exterior in a new shade of blue called Spark. To complement this, the Bentley team used leather in a colour it called Beluga on the inside, with flashes of leather in another shade, Klein blue to complete the effect.

New generation

Both manufacturers run their own apprenticeship programmes to be able to pass on skills and knowledge, including about leather and its use in automotive interiors, to the new generation

Bentley's apprenticeship programme is teaching new generations of craftspeople to work with leather.

CREDIT: BENTLEY MOTORS

of craftspeople who will help them keep growing. Bentley's programme launched in 2014 and it has 37 places to fill this year to join the 4,000 people who already work at its headquarters in Crewe. Its board member for human resources, Dr Karen Lange, says: "Extraordinary people and products have always been at the heart of our business, and now is such an exciting time to join Bentley as we transform our entire operations in the coming years towards the electric era. Our new recruits will help shape the company, designing and creating the true epitome of sustainable luxury mobility." Bentley currently has 621 people working in its interior trim department; eight of them are part of its apprenticeship and graduate programme.

Further south, at Goodwood, places on the Rolls-Royce apprenticeship programme are available across the business, including in the interior trim centre, the interior surface centre, the quality team and in sewing. Its programme also offers degree apprenticeships that run in partnership with nearby universities. Manager of bespoke and innovation, David Silk, has said that 95% of buyers of Rolls-Royce cars ask for at least some bespoke elements in the interior, keeping the 300 or so employees in its leather workshop busy.

To illustrate the importance of high-quality leather to these automotive companies, Bentley's Continental GT speed uses leather from six whole bull hides. The leather covers 223 different parts in an interior that has an area of almost 30 square-metres. And at Rolls-Royce, the company's Phantom cars, its largest model, each consume nine full-size hides' worth of leather. 🌱

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