

WORLD LEATHER

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

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Volume 34, Number 5



Syntans under REACH scrutiny

Tanning Tech is back

Industry's fierce reaction to Volvo

New life for long-closed luxury brand





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The World Leather team has been publishing a new 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: One of the bags in an inaugural collection Ramesh Nair has designed for revived French luxury brand Joseph Duclos. CREDIT: MARIE LISZKAY / JOSEPH DUCLOS



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FRANCE France's footwear manufacturers earned €1.9 billion in export earnings in the first six months of 2021, an increase of 28% compared with the same period in 2020. Industry body the Conseil National du Cuir said retailers and brands in France imported shoes worth close to €3.2 billion, up by 18%.

- Parisian luxury goods brand Hermès laid the foundation stone for the company's 21st leathersgoods workshop, the maroquinerie de la Sormonne, in the Tournes-Cliron region of France's Ardennes department.

UK The World Wildlife Fund (WWF) has joined The Leather Working Group as a member in a "significant strengthening of the existing partnership". This will include providing access to frameworks such as the Accountability Framework Initiative and tools like WWF's DCF Implementation Toolkit, designed to support businesses in reducing their risk of deforestation exposure through supply chain monitoring.

GERMANY Footwear sales in Germany registered €1.44 billion in the first half of 2021, a 12.5% increase compared with the same period last year. Footwear manufacturers employed around 14,600, a fall of 6.2% year on year, according to footwear and leathersgoods industry association HDSL.

ITALY The president of Italy's main footwear industry association, Assocalzaturifici, Siro Badon, officiated at the opening ceremony for Micam, saying he was greatly encouraged by an unexpectedly high day-one attendance of around 9,500 visitors. He hoped the event represented good preparation for the February edition when "things will really take off".

BELARUS Poland has been the biggest recipient of leather products from Belarus this year. Between May and the start of September, \$5.5 million worth of leather products have been sold abroad via the Belarusian Universal Commodity Exchange (BUCE), with the UK taking \$1.3 million and Russia \$1 million.

RWANDA The Rwandan government wants to establish an industrial park for the leather sector at Bugesera, 40 kilometres south of the country's capital, Kigali. It calculated at least 100 manufacturing companies in Rwanda are involved in producing shoes and leathersgoods for the domestic market.

ETHIOPIA Press in Ethiopia have reported revivals of a plan for a leather city in Modjo, including a 'state of the art tannery' complex. The Modjo leather hub could cost around \$200 million and create 30,000 jobs, according to the report. Plans were first announced in 2014, and were boosted in 2019 when it was reported the state had purchased 290 hectares of land on which the leather cluster would be built.

CHINA China Leather Industry Association (CLIA) has published its "guiding opinions" on what it described as the high-quality development of the industry during the country's 14th five-year plan period (2021-25). It stressed how it would be "critical" for China to make a comprehensive, concerted effort to progress from its role as a "big" leather producer to being known as a "powerful" one.

- The Chinese city of Xinji in Hebei, home to Xinji International Leather City, has hosted several leather industry events. Among these, the 29th China (Xinji) International Leather Fair and the CLIA's annual leather committee meeting.

MEXICO Two leather manufacturers from Brazil, Courovale and OCM, will attend the ANPIC exhibition in Mexico. Tanning industry organisation CICB described Mexico as a stand-out market for footwear, furniture and automotive: "Mexico is the fifth largest importer of leather and is moving towards growth as soon as 2022. We are prepared to meet this demand."

US Tanners, traders and packers in the US exported a total of 24.2 million hides in the first eight months of this year, a 63% increase in volume compared with the same period last year. Shipments of 21.4 million wet-salted and 2.8 million wet blue hides made up the total. Total revenues were \$923.5 million, a 65% increase.



UAE The 2022 APLF exhibition will take place in Dubai, rather than in Hong Kong. APLF director David Bondi said finding a change of venue had become necessary caused by restrictions on international visitors to Hong Kong, because of covid-19, are likely to continue until the end of March 2022.

PAKISTAN Pakistan's export revenues from leather and leathersgoods fell to \$856.6 million in the country's most recent financial year, July 2020 to June 2021, a drop of 9.3% compared with the year before. Finished leather exports fell in value by 12% to just over \$160 million. In terms of volume, the fall was of more than 25%, to 12.5 million square-metres.

AUSTRALIA Industry body Meat and Livestock Australia (MLA) has said it expects cattle slaughter to reach 6.3 million for the full year. Australia's cattle slaughter in the first half was 2.9 million head. Grain-fed cattle accounted for 45%; MLA said this was a historically high proportion.



BRAZIL Brazil's agriculture ministry (Mapa) has confirmed two cases of atypical bovine spongiform encephalopathy (BSE). Mapa said these were the fourth and fifth cases of atypical BSE that the authorities in Brazil have recorded in 23 years of monitoring. In keeping with an agreement between Brazil and China, it suspended exports of beef to China.

PARAGUAY A first national exhibition of leathersgoods and footwear took place in Paraguay. Footwear industry body CICPAR was one of the organisers, along with groups representing shoe industry suppliers and small enterprise organisations.



Oeko-Tex updates leather standards

Swiss standards company Oeko-Tex has updated some of its standards concerning leather. The changes effective at the end of September.

For Leather Standard 100 by Oeko-Tex, medium-chain chlorinated kerosenes (MCCP, C14-C17), which were previously under observation, are included under "Chlorinated kerosenes" with a limit value of 1000 mg/kg for all product classes.

The substance glutaraldehyde is included in the limit catalogues under "Other residue chemicals" with a limit value of 1000 mg/kg for all product classes.

For STeP by Oeko-Tex, the substance glutaraldehyde is included in the STeP/Detox to Zero by Oeko-Tex list of chemicals under subgroup 14 "Other substances" and the following footnote: Use accepted for leather tanning.

For ECO Passport by Oeko-Tex, the substance glutaraldehyde is included under "Other residue chemicals" with a threshold value of 1000 mg/kg for all product classes and the following footnote: Threshold does not apply to tanning and fixing agents.

Georg Dieners, secretary general of Oeko-Tex, said in its recently published annual report: "Despite the global challenges, Oeko-Tex can report a successful year. Our mission remains unchanged: to make the international textile and leather industry more sustainable, trustworthy and safe. This requires action from all of us.

"Therefore, we welcome the prioritisation of sustainability by lawmakers. While manufacturers and retailers are challenged with tracking industry and legal changes, aspirational due diligence laws can spur action across the industry."

After two years of development, the Oeko-Tex Carbon & Water Footprint Tool will be integrated into STeP by Oeko-Tex in 2022. It will enable companies to identify their potential to reduce carbon emissions and water consumption.

COTANCE renews calls for zero allocation for leather

The leather industry's representative body in the European Union, COTANCE, is rekindling the discussion about tanners' share of the upstream carbon footprint of their raw material, arguing that it should be zero.

COTANCE pointed out that the leather industry has long argued that, as a by-product, hides and skins should not carry any environmental burden from the rearing of livestock, the concept of zero allocation.

It pointed out that this is at odds with the conviction of livestock farmers and abattoir



Blockchain project provides industry blueprint

Jaguar Land Rover has partnered traceability provider Circulor, UK tannery Bridge of Weir Leather Company and the University of Nottingham to trial the use of traceability technology in the leather supply chain. As well as tracking compliance, the digital process enabled the carmaker to assess the carbon footprint of its leather supply network, tracing Bridge of Weir's leather from farm to finished article.

A 'digital twin' of the raw material was created, allowing its progress to be tracked through the leather supply chain simultaneously, in the real world and digitally. A combination of GPS data, biometrics and QR codes was used to digitally verify the movement of leather using blockchain technology.

Defining the verification process has created a repeatable blueprint for tracing a single piece of leather at every stage. It can be used across Jaguar Land Rover's global supply chain and by other industries that rely on leather, such as fashion and footwear, said the companies.

Dr Warren Bowden, head of innovation and sustainability of Scottish Leather Group, said: "At Bridge of Weir, we see the potential to create carbon-positive leather. We source from local farms where the livestock is grass fed, where there is no deforestation, and we couple this responsible approach to sourcing with ongoing innovation to create zero-carbon and zero-waste manufacturing processes. The blockchain technology developed in this trial will enable each stage in the process, and the entire leather supply chain, to be accurately tracked and measured."

The project is part of Jaguar Land Rover's Reimagine strategy, whereby it aims to achieve net zero carbon emissions across its supply chain, products and operations by 2039.

operators that the carbon emissions of a cow during its lifetime must be distributed among meat and milk and all by-products. "This gives a disadvantage to animal by-products compared to, for example, synthetic products," COTANCE said.

It argued that only the products an animal is reared for, which is to say meat and milk, should carry the CO₂ burden from animal husbandry.

One of the reasons for this is that farmers and meat and dairy companies will, very often, have no way of knowing for certain if the hides of the animals they raise and process will be made into leather or go to waste. In the US, 5.5 million hides went to waste in 2019, followed by a further 4.8 million in 2020.

COTANCE also pointed out that hides that go to waste create "significant additional CO₂" than good tanners generate in making them into leather.

It told *World Leather* that its reason for raising the subject now is that the debate is still not resolved among experts and this leads to important discrepancies in different lifecycle assessment (LCA) exercises. It described LCA as being still "a science in the making".

This causes confusion, however, and, according to COTANCE, it is important for the leather industry to continue its efforts to secure agreement with the meat industry that the carbon footprint meter starts running for leather at the abattoir, with zero allocation for leather of what happens before that.

COTANCE's hope is that, by laying out its position and its arguments again, the leather industry's stakeholders and partners will add their voices to its calls for zero allocation. Its renewed call for recognition of the zero allocation argument comes in advance of a new sustainable product policy that the European Commission is planning to introduce.

"The allocation issue is a sticking point in our dialogue with the meat industry," COTANCE has explained. "If both sides agree, this will become the rule and the European Commission will take that over."

Without that agreement, however, it warned that the Commission will make its own decision on how to move forward. This might be the 0.42% allocation that COTANCE secured European Union approval for, after five years' work to calculate the environmental footprint of leather, in 2018. Or it could be a different percentage.

Agreement for zero allocation would be better, COTANCE said, because it will support leather's circular economy credentials.

Anti-viral technology provider pens Smit & Zoon partnership

Antimicrobial technology provider Micro-Fresh is partnering with leather chemicals group Smit & Zoon. The companies will aim to bring to market anti-viral protection for leather.

Earlier this year, a team at De Montford University in Leicester, led by microbiologist Dr Katie Laird, found that Micro-Fresh could provide samples of leather with a sufficient level of anti-viral protection to "inactivate" coronavirus after two hours.

Dr Laird and her team carried out the study with the British Footwear Association (BFA), testing a wide range of samples of leather (from calf, cow, goat and sheep). They treated samples that were finished as full grain, aniline, corrected grain, semi-aniline and nubuck or suede with and without Micro-Fresh to see how long covid-19 survived on the material.

This study used a human coronavirus OC43. In an earlier study focusing on textiles, the De Montford team had previously shown this to have "a similar survival pattern" to that of SARS-CoV-2, the virus that causes covid-19.

The results showed that covid-19 was able to survive on leather for as much as 48 hours and could be transmitted from the leather to other materials such as the cardboard in shoe boxes or metal and other surfaces during the manufacturing process. However, in the samples treated with Micro-Fresh technology, the virus could only survive for only two hours.

This new partnership gives Smit & Zoon the right to distribute Micro-Fresh products for use in leather finishing in all markets except the US.

ISA TanTec launches first mycelium-based material

Leather manufacturing group ISA TanTec has confirmed that a new division, Creation of Sustainable Materials (COSM), has launched its first product.

The first material launched under the COSM label is called HyphaLite HP. It is 80% bio-based, complies with brands' restricted substance lists and is, according to ISA TanTec, biodegradable.

Hyphae are the filaments that make up mycelium. The Lite part of the material's name comes from the LITE (low impact on the environment) system that ISA TanTec uses to produce leather with low consumption of water, chemicals and energy.

ISA TanTec confirmed at the time of the launch that it is bringing HyphaLite HP to market as an alternative to petrochemical-based synthetic. 

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Claus Reineking leaves Stahl to become Langro MD

Stuttgart-based leather chemicals manufacturer Langro-Chemie has announced that its managing director, **Tilo Schumacher**, has stepped down after 23 years in the role and after a total of 46 years at the company.

His successor is **Claus Reineking**, who has left his role as Stahl's global technical director for leather, to take up the managing director position at Langro.

Mr Reineking studied leather production at the Reutlingen tanning school at the end of the 1980s. After short spells of work at Smit & Zoon and Ecco Leather he spent 14 years at Clariant, transferring to Stahl in 2014 after the Netherlands-based group acquired Clariant's leather services business.

At Stahl, he fulfilled several global roles before becoming the group's global technical director for leather in September 2019.

Langro-Chemie's leather finishing business was acquired by Trumpler three years ago.

Honour for Pittards CEO

The chief executive of leather and finished product manufacturing group Pittards, **Reg Hankey**, has been named a Fellow of the City & Guilds London Institute, an organisation founded in 1878 to promote high standards in technical education.

Mr Hankey earned this distinction for "his leadership, imagination and integrity, and for having made a positive impact on the leather industry".

He received the award from a senior member of the UK royal family, The Princess Royal, **Princess Anne**, at a ceremony in London this October.

Senior appointment at BLC

Research group Eurofins has appointed **Dr Andrew Hudson** to the post of managing director of its BLC Leather Technology Centre business unit.

Dr Hudson will lead the organisation that provides testing, consulting and auditing services to the global leather industry.

He joins BLC from chemicals manufacturer Buckman. Dr Hudson joined Buckman at the start of 2018 as global market development manager for its leather division.

Change of chair for PTA

The new chairman of the Pakistan Tanners' Association (PTA) is **Amanullah Aftab** of the Hafiz Tannery in Karachi.

There are two vice-chairs, **Azmat Saleem Sheikh** of Leather Coordinators in Sahiwal and **Aziz Ahmed** of AMA Leather, Karachi, with Mr Azmat serving as senior vice-chairman.



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ICLT director to leave role

The director of the University of Northampton's Institute for Creative Leather Technologies (ICLT), **Rachel Garwood**, left the role at the start of October.

Ms Garwood said the university had decided to merge its leather department, including ICLT, with its fashion department and that, as a result of this restructure, her role had become redundant.

Rachel Garwood became director of the ICLT in 2011 after working there as a senior lecturer since 2008. Before that, she worked for almost 20 years at the BLC Leather Technology Centre.

She said on announcing her departure that she wished the ICLT and the new merged department at the University of Northampton ongoing success. She added that she hoped to bring her 33 years' experience of the leather industry, comprising technical, marketing, business development and managerial roles, in addition to her work in leather education and training, to a new role in the leather industry.

In all, the PTA central executive committee has 15 representatives of companies in the country's various tanning clusters.

Tod's CEO departs, Della Valle brothers resume leadership

High-end footwear group Tod's has parted company with chief executive, **Umberto Macchi di Cellere**. Mr Macchi di Cellere took up the role in November 2017.

Tod's announced that its chairman, **Diego Della Valle**, and vice-chairman, **Andrea Della Valle**, would lead the company jointly.

Rather than appoint a new chief

executive, it has brought in former L'Oréal, Burberry and Christian Dior executive, **Simona Cattaneo**, as general manager.

It said this change would shorten and speed up the decision-making process.

IULTCS launches eighth Young Leather Scientist Grant

For the eighth year, the International Union of Leather Technologists' and Chemists' Societies (IULTCS) will award grants to two scientists under the age of 35.

The IULTCS will provide €1,500 for a Basic Leather Research project, and Leather Naturally will provide €1,000 for the Dr Mike Redwood Sustainability/Environment grant.

Michael Meyer, chairman of the International Union of Research Commission of IULTCS, said: "We have seen the programme growing stronger over the past years. Last year's awards resulted in numerous ambitious applications with innovative ideas and sustainable technologies."

Applications opened on 1 October 2021 with a deadline of 30 November.

Ecco promotes Panos Mytaros to group CEO

Danish footwear and leather group Ecco has appointed **Panos Mytaros** as CEO, replacing **Steen Borgholm**, who stepped down by mutual agreement.

Panos Mytaros first worked for Ecco as tannery director in Indonesia.

In 2002, he returned to Europe to build the Ecco Leather Group, based in Dongen in the Netherlands and joined the board in 2011.

The group has also added two to its board. **Thomas Gøgsig** is the third generation in his family to work for Ecco. He was appointed head of applied research in 2015 and in 2018, VP and chief of staff in the marketing division.

Mads Fink Eriksen has worked with Ecco for 10 years, starting in China. In 2020, he was appointed chief financial officer.

Kering CEO refuses to bring leather into fur fight

The chief executive of luxury group Kering, **François-Henri Pinault**, has defended the use of leather in general and of exotic leather in particular by its brands, which include Gucci, Bottega Veneta, Balenciaga, Alexander McQueen, Brioni and Saint Laurent.

Kering announced on September 24 that it would end the use of fur in all of its collections. Mr Pinault said that, starting with Gucci in 2017, the group's brands had, one after another, taken the decision to stop using fur. The recent announcement

formalised this phasing out of fur.

In an interview on French television soon after, Mr Pinault confirmed that, in future, consumers would see no fur in any of the group's shops. "There will be no more fur and no more raising of animals for fur," he said. "And there will be no going back."

This prompted questions about Kering's continued use of leather, particularly of exotic leather. Kering acquired its own specialist producer of exotic leather, France Croco, in 2013 and built a new production facility for it in northern France in 2017.

Mr Pinault described the use of exotic skins as "a little different", a reference to their raw material deriving from authorised and carefully managed biodiversity projects.

Real Leather, Stay Different winners

The winner of the inaugural 'Real Leather Stay Different' international student design competition has been selected from over 400 entrants, representing 36 countries.

Emily Omesi, a BFA undergraduate of Fashion Institute of Technology in New York City (FIT NYC), impressed the judges with her leather jacket design entitled 'Bacterial Genetics', inspired by scans of infectious diseases.

The judging panel included **Katie Greenyer** of the Pentland Group, stylist **Mike Adler** and Rollacoaster magazine art director **Milan Miladinovs**.

Ms Omesi said: "I love working with leather - there is truly no other material like it. It's durable and can last the wearer a lifetime but is also very delicate to sew. Handling leather takes patience and practice - similar to creating a sculpture. Every leather hide is unique, which makes the process that much special."

The winners of Taiwan's Real Leather, Stay Different student design competition have also been announced at an awards ceremony in Taipei.

Representatives from the tanning and leather and fashion industries, local brands and retailers, media, and government representatives, as well as students and educators from participating schools attended the ceremony.

Real Leather, Stay Different is a campaign launched by the LHCA in the US that celebrates all that is great about leather - sustainability, versatility, durability and beauty.

Twenty-four student designs were selected for gold, silver and bronze places in each of the four categories: garments, footwear, accessories and design.

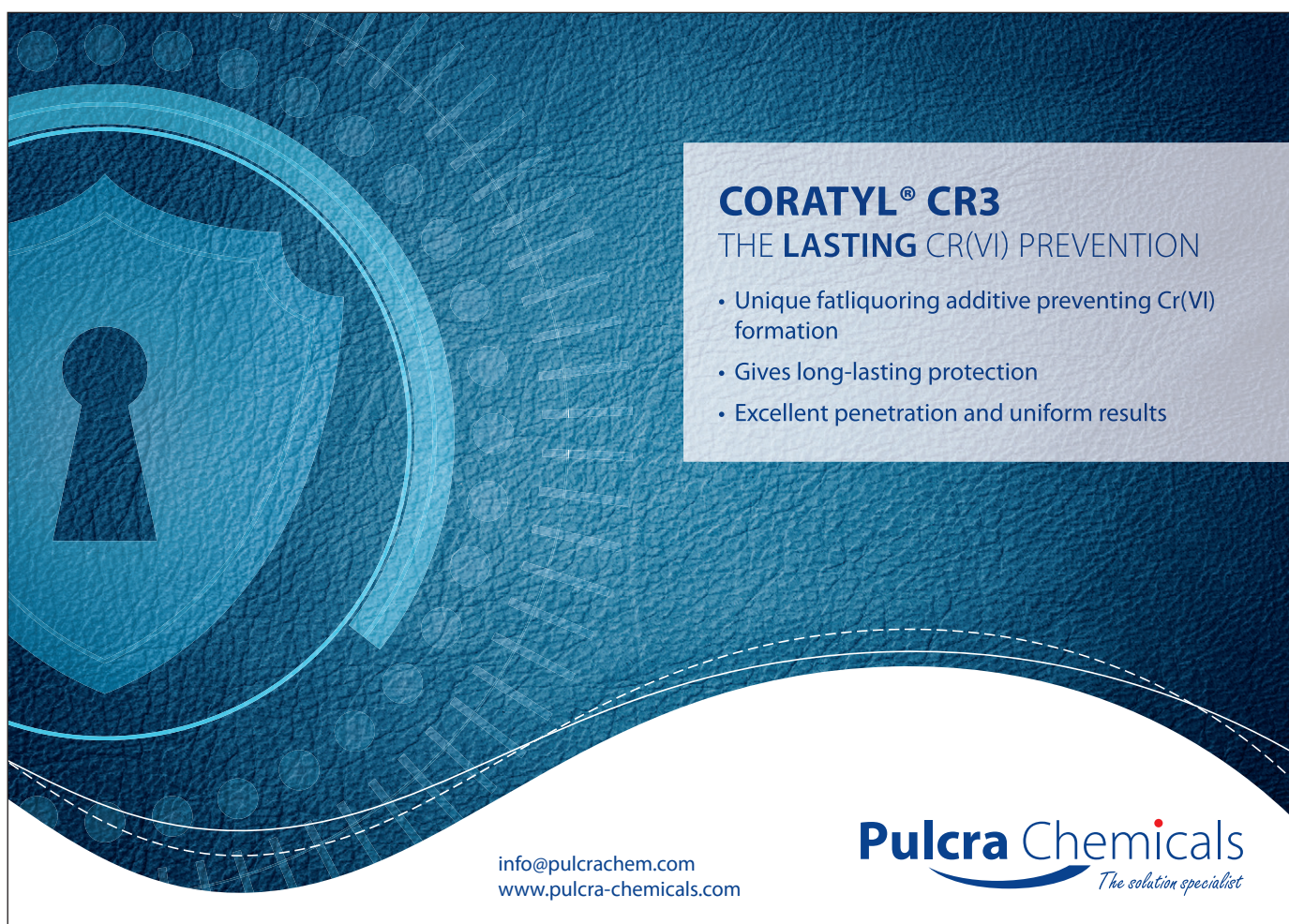
IULTCS makes 20 student places available at November congress

The International Union of Leather Technologists' and Chemists' Societies (IULTCS) has donated \$2,000 to enable 20 students to be virtual delegates at the XXXVI IULTCS Congress in November.

The congress will run in Addis Ababa from November 3-5, preceded by the fifth World Leather Congress on November 1. Some delegates will attend in person, others will connect virtually.

IULTCS president, **Dr Luis Zugno**, said the organisation wanted to encourage future leather scientists and technologists to participate in events such as the congress. He said IULTCS had decided it is to provide the financial means to allow 20 young people to do this and he asked industry professionals to make sure likely candidates become aware of the opportunity.

The Africa Leather and Leather Products Institute (ALLPI) is hosting the congress and it's to the executive director of ALLPI, **Professor Mwinyi Mwinyihija** (executive.director@allpi.int), that prospective delegates should apply for one of the 20 places. 🌐



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World Leather's publishing cycle and limitations on space make it impossible for us to run more than a carefully selected sample of news from across the industry. However, we publish hundreds more stories on *leatherbiz.com*. The site is updated every day with news from every continent and every part of the industry, making *leatherbiz.com* one of the most comprehensive archives of news anywhere on the web for the global leather industry.

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

15/10/2021

Coach reaffirms reuse commitment
Dipping demand leads to waste at DyStar

14/10/2021

Guangdong footwear delegation visits Wenzhou

13/10/2021

Fosun capitalises on Larvin name in rebranding

12/10/2021

'Exceptional growth' continues for LVMH
Chanel restricts purchases in exclusivity bid

11/10/2021

Anya Hindmarch introduces biodegradable leather bags

08/10/2021

Seoul's Billys & Co debuts work footwear
General Motors aims to double revenues by 2030

07/10/2021

What cross-body bags say about market recovery
August's \$1bn was "a huge milestone" for US beef exports
Pineider pens new Asian story with first standalone store
Apex Footwear signs 20-year tannery lease

06/10/2021

First-half French hide and leather exports up
UNIC takes action, but not against Volvo directly
Manolo Blahnik revenues rise by 81%

05/10/2021

Industry reaction to Volvo decision rumbles on
France: handbag exports up by more than 50%
YNAP to enter luxury re-commerce arena

04/10/2021

National Day sees Hainan sales surge by 122%
Eleven JM Weston styles make up anniversary exhibition

01/10/2021

Asian anguish for ISA TanTec
Kering makes senior Asia Pacific appointment
Continued recovery for Pittards

30/09/2021

WWF adds PrimeAsia to its leather industry partners
Registration for Inside LVMH certificate now open
USDA to invest \$3 billion in agriculture, animal health and nutrition

29/09/2021

Leathergoods growth for France
Pittards launches full footwear service

28/09/2021

Price increase for Buckman products could reach 20%
Burberry not afraid to challenge the conventional
Hermès expands French leatherworking footprint

27/09/2021

Lineapelle surge prompts hope of 'big comeback' for leather
Volvo fails to fill the hole in its leather logic
South Korea: from leathergoods to RTW

24/09/2021

New COTANCE president takes the reins
Industry to Volvo: Leather is the ultimate bio-based, recycled material
Dior handbag show stops by Shenzhen

23/09/2021

Seven out of ten bestsellers for furniture e-commerce firm are leather sofas
Availability of supply is the hot topic at Tanning Tech

Tandy Leather Factory returns to profitability

22/09/2021

Tanners in Turkey complain of steep chemicals price increases
Reopened exhibitions are a show of confidence
Raphael Young consults for 'upgraded' Red Dragonfly

21/09/2021

Italy's positive mood helps make Mipel a success
Ex-BCG executive becomes Hermès leather artisan
Single case of BSE on UK farm

20/09/2021

Leather-making tools from 90,000 years ago discovered
Spoor signs up first furniture brand for its traceable leather
Visitors return to Micam

17/09/2021

Delvaux pops over to Harrods
Leathersellers' Company hosts industry dinner

16/09/2021

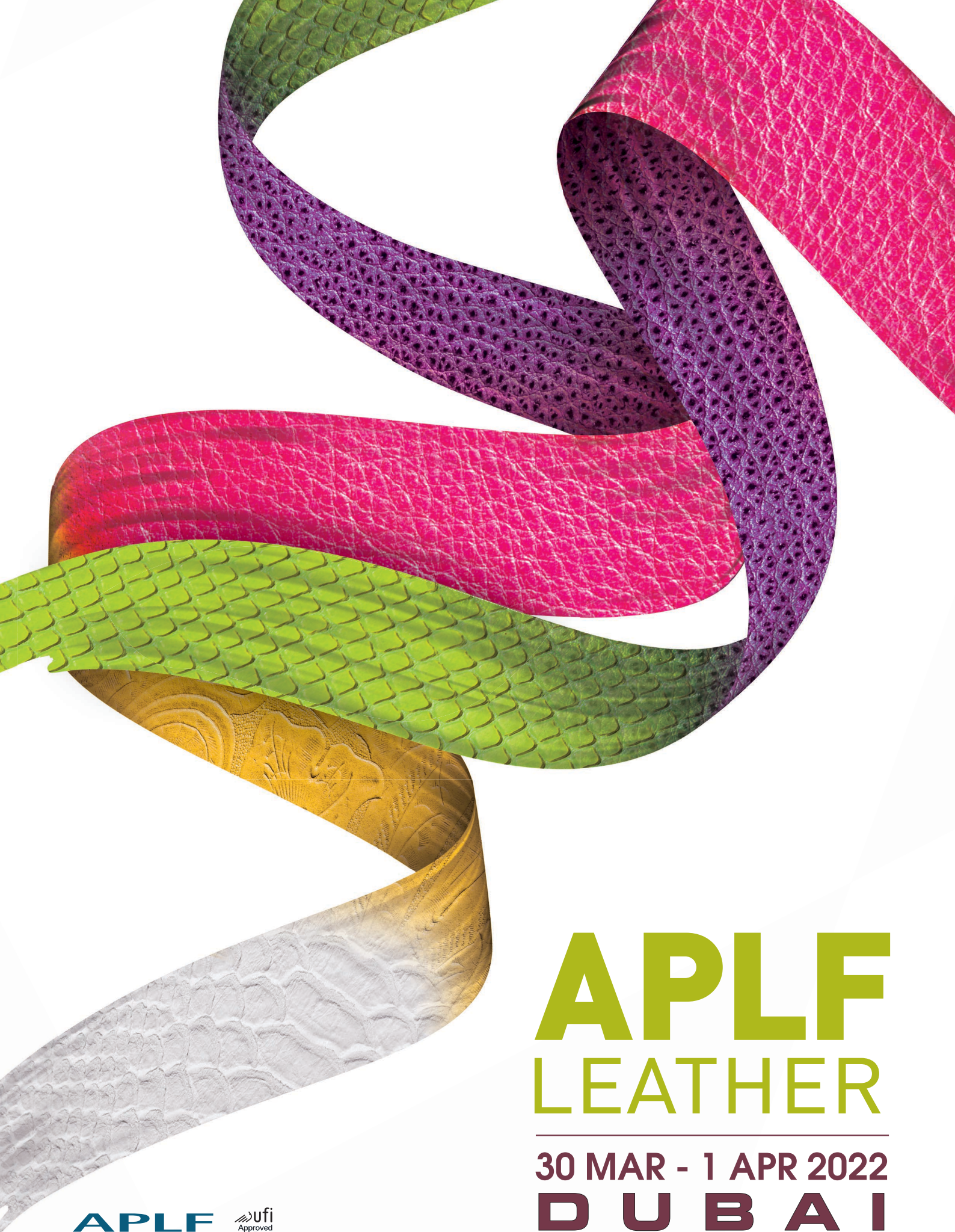
Chinese tanneries' sales surge 21% in H1
Finnish group to earn millions from early phase of leather waste project
Growth for India's leather exports as CLE chases big target
Fendi's footwear masterclasses will keep skills alive

15/09/2021

Italian bodies set up their own WWF partnership
Kering and Balenciaga to display early prototypes

14/09/2021

New Hermès leather site continues Francophile pattern
More than 300 attend Sustainable Leather Forum



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Manuel Ríos Navarro, chief executive of Spanish double-face and entrefino producer Inpelsa, was elected as the new president of COTANCE in September 2020, with the proviso that that he would take up the role as soon as circumstances allowed. It took a year for covid-19 restrictions to clear sufficiently for this to happen, but on September 24, this year, Mr Ríos, his predecessor, Andreas Kindermann, formally handed over the baton.

Mutual understanding is the only way

How did it feel to be able, finally, to take up the presidency of COTANCE?

It's something that was decided a year ago, as you know. That's when the change should have taken place. But, owing to the situation that Europe, and in fact the whole world, was in at the time, when no one could move, no one could travel and we couldn't meet one another in person, we talked about it and decided that the best thing for COTANCE would be to postpone the handover until things settled down a little bit and we were able to start going back to normal. Lineapelle in Milan this September was the first occasion on which people from the leather sector were able to meet up and we decided that the last day of the exhibition, coinciding with a COTANCE meeting and general assembly, would be a good time to make the change.

What will your priorities be as president of COTANCE for the next two years?

It seems to me that we are in the middle of a very important change for all industrial sectors and, indeed, for the whole world. New ways of living are emerging and this means all business sectors have some decisions to make. These decisions centre on how businesses need to conduct themselves now, on the ways in which they will make their products, and on the sort of service they are going to expect from their suppliers. In our case, that means making decisions about the supply of hides and skins and of leather chemicals. This has already begun in the leather industry. I think my predecessor, Andreas Kindermann, did a very good job over the last three years and that our industry has already taken a series of positive and important steps on the road to sustainability. Hides and skins, our raw materials, are the most important thing for us. We have to maintain and try to improve the quality of European raw material. We are doing that and we have to keep doing it. At the same time, we want to work collaboratively with leather chemicals suppliers because our customers are becoming more and more strict in the demands they make concerning the sustainability of the products we make for them. I also think we have to try to increase the level of knowledge people outside the industry have of leather. There must be very few industries in the world that are already as sustainable as ours is because, in the end, all we do is provide added value to a by-product from the meat industry. This is something that the wider public has to come to know and we have to try to impart that knowledge to them.



COTANCE president, Manuel Ríos Navarro, at the Inpelsa stand at Lineapelle in September. ALL CREDITS: WTP



The leather industry seems to have difficulty convincing some brands, finished product manufacturers and consumers that leather is a renewable, sustainable, recycled, recyclable, natural and beautiful material. You've spent a lifetime thinking about this and working to help the market understand it. Do you find it frustrating that there still seems to be a lot of work to do to convince people, to get them to believe what we say about leather?

Yes, of course, but something I always say is that there is no point feeling sorry for yourself. That's a waste of time. We have to look at what has served us well until now. We do still have a lot of work to do because there is a negative perception of leather production and we have to try to turn it around. But the fact is that, in doing that, we don't have to make anything up. All we have to do is communicate well about what we do. But I don't think we should be battling with suppliers of alternative materials, arguing about whose material is better or worse. Everyone needs to follow their own path; our task is to transmit a clear message about what it is we do, which is, as you said, produce something that is sustainable and very beautiful.

How do you view the situation of our industry in Spain at the moment? There was a report from the National Statistics Institute that put leather and footwear in last place in terms of the speed of recovery of the wider manufacturing sector following the pandemic. It said industrial activity in May 2021 was down by 29% compared to the same month in 2019. Are things better now?

Yes. My view is that, not just in Spain but across the whole of Europe, we have had a few months now of a bit of optimism. We can see that, little by little, we are returning to normal. It seems to me that the vaccination policies that governments have put in place across Europe will give Europe something of an advantage compared to other parts of the world. This suggests to me that we are going to see a strong recovery here in Europe before regions such as the US and Asia. I think we're seeing this already and I view it as something positive. I don't think there is going to be any backtracking now, any return of the restrictions we have seen. I think that, from now on, week by week, month by month, things are going to get better.

And how are things at Inpelsa? Your stand at Lineapelle seemed busy, with lots of visitors.

Well, we're just getting on with our work each day, always trying to make improvements where we can because we know we must never stop trying to get better.

We have written in the past about SELAMBQ (Spanish Entrefino Lamb Quality), a co-operation programme that aims to halt deterioration in the quality of entrefino lambskins. What lies ahead for this project?

The SELAMBQ project came about because the quality of entrefino, which we can justifiably call the highest-quality lambskin in the world, had been slowly decreasing for about ten years. We had begun to have problems with the skins that we had never had before. What we wanted to do was carry out a study to see what was at the root of this and to try to resolve it. In this case, the results have been good. We have realised that there are issues that you can't resolve overnight, but something that has come out of that is a

"We have no choice but to try to understand one another. This is the road that we have to continue walking down."



Samples from Inpelsa's latest double-face collection.

realisation that it's important for us in the leather industry to communicate well with the meat sector. It's the meat companies, after all, who look after the product that we need. But we've explained to them that if they look after the lambs well, they will add value to the skins and we will pay more for them.

Is this a good example of what companies can achieve when they work together?

The main thing about this is that, in a totally connected world like ours, businesses can remain independent, but there should still be room to collaborate with others, and to do so transparently. It's good to do that, good for each company and good for the sector overall. We have no choice but to try to understand one another. That doesn't just apply to this example of what we're doing with lambskins in Spain. The same thing is happening with calfskins in France and with all the examples of high-quality raw material that we have. This is the road that we have to continue walking down. 🌐



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Nothing to Hide: Standards and use limitations for chemicals in leather production

Executive summary

Every manufacturing industry uses chemicals and these products are part of everyday life. Leather manufacture also uses chemicals to meet the wide range of requirements of today's consumer.

However, false claims are often made regarding both the use of chemicals in making leather and their discharge into the wider environment. Among the chemicals wrongly stated as being used are mercury, selenium, and arsenic.

Approximately 80-85% of the leather manufactured today is based on chromium salts. Chromium III is used for this purpose and is considered non-hazardous to health: there are no regulations for its use in leather or leathergoods, and it is not considered hazardous in the wider environment.

It is possible for some chromium VI to be formed by bad practice in leather manufacture, but this can readily be avoided in chemical processing. This product is a known carcinogen and no leather article that is likely to have contact with people's skin can contain 3 milligrammes per kilo or more of chrome VI. This limit is subject to debate and could be lowered further.

Any chemical can cause harm if not used under the correct conditions. For this reason extensive regulations have been created for the use of chemicals within Europe. This has led to a ban on many chemicals that were previously widely used in global manufacturing. All of these restrictions apply to the manufacture of leather and their presence in leathergoods in Europe and similar legislation is coming in elsewhere in the world.

It is also the case that major users of leather such as footwear and accessory brands and automotive manufacturers not only comply with these restrictions, but can impose even more stringent requirements on their suppliers. This raises the bar for all suppliers. Demands are becoming increasingly stringent as brands and their suppliers strive to supply safe products for consumers. 🌱

About this essay

Dr Kerry Senior is the director of Leather UK. He is a specialist in environmental and raw materials issues and spent nine years earlier in his career working for BLC Leather Technology Centre. After that, he carried out project work on environmental, raw materials and health and safety matters, before taking up his current post in April 2013. He is also secretary to the International Council of Tanners.

Main image: All manufacturers, including tanners, have to be very careful in their choice of process chemicals.

ALL PHOTO CREDITS: WTP



Approximately 80-85% of the world's leather is tanned with chromium salts.

Nothing to Hide: Finding the formula

The vast majority of leather production is based on chromium salts. Chrome (III) is non-hazardous to health, and while it is possible for some chrome (VI) to form as a result of bad practice in leather manufacture, it is rare, and can be readily avoided, says Dr Kerry Senior, director of Leather UK.

Chemicals and their use touch upon every aspect of modern living. All industries make use of chemicals and the leather industry is no exception. The manufacture of leather has moved a long way from its earliest origins, to the application of a diverse range of chemistries to produce a unique and beautiful product. Modern chemicals allow tanners to manufacture leather with a huge range of applications, technical specifications and organoleptic properties.

The leather industry is frequently accused by the media, agenda groups or unwitting official organisations of using chemicals that have damaged the environment or human health. Agenda groups regularly and wrongly claim that leather manufacture involves the use of chemicals such as mercury, arsenic and selenium. Regrettably, such incorrect comments are repeated by others who have not done their own research. Even the World Health Organization continues to claim

that arsenic is used in the manufacture of leather. Many of these claims may contain some historical truth but they are not relevant to the modern tanning industry.

Unrestricted and careless use of any chemical has the potential for harm to human health and to the environment. As with other industries, the use of chemicals in leather manufacture has been subject to evolving controls, largely through formal regulation such as the 2006 EC Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation, and, increasingly, to meet consumer and brand requirements.

Growing awareness of risks has seen the implementation of restrictions and bans on chemicals that had previously been widely used. These requirements ensure that leather is produced without representing a risk to the environment or the consumer.

The regulations affecting the industry can be explored by reference to some of the chemicals that are often presented as causing harm to health and the environment as a result of their use in leather manufacture. These include chromium compounds, azo-dyes, formaldehyde, pentachlorophenol (PCP) and many others. Many of the regulations relating to these chemicals have been developed in Europe and the scope of restrictions will be explored by reference to certain European regulations and the leather manufacturing chemicals that they apply to. However, worldwide, the leather industry is subject to stringent regulation with regard to chemical use.

Chrome III versus Chrome VI

Approximately 80-85% of the world's leather production is tanned with chromium salts. Chromium compounds may exist in a number of valencies; the tanning industry specifically utilises chromium III salts that are considered non-hazardous to health. The non-hazardous nature of chromium III means that there are no regulations limiting the use of chromium III salts in leather manufacture or leather products.

Owing to its strong tendency to adsorb to organic material and low toxicity, chromium III is not deemed to be hazardous to the environment. By way of illustration, the 1985 EC directive on application of sewage to land set no limit for chromium in either the soil or the sludge. In the US, the limit for chromium in bio solids for application to land was deleted as there was insufficient evidence for regulation. Solid waste from the leather industry containing chromium III is also excluded from the US EPA hazardous waste list.

Conversely, chromium VI compounds are hazardous to human health. Chromium VI can be formed by poor practice in the manufacture of leather or in leather products as a result of a number of physical and chemical processes. Chromium VI is a recognised carcinogen through inhalation, and an allergen causing contact dermatitis in sensitised individuals. Exposure via the inhalation route is not relevant to the leather industry but, given the number of leather items that an individual may regularly come into contact with, exposure by the dermal route is relevant. As a result, chromium VI that might occur in leather is



The production of leather has become more than a matter of tanning. It is not only subject to the demands of REACH legislation, but tanneries increasingly need to contend with added restricted substance lists imposed by major users and specifiers of leather.

subject to a range of regulations.

The 1989 EC Directive on Personal Protective Equipment required that there be no detectable chromium VI in leather work gloves. In Germany in 2010, the 18th amendment to the Regulation of the German Ordinance on Commodities extended this prohibition to all leathers, including clothing, furniture and bags. In 2014, the European Commission issued a draft Commission Regulation, amending Annex XVII of the REACH Regulation (EC No. 1907/2006) to include a restriction on chromium VI in leather articles coming into contact with the skin. This regulation came into force in 2015 and required that leather articles or articles containing leather parts coming into contact with the skin shall not be placed on the market if they contain chromium VI in concentrations equal to or greater than 3 mg/kg (the effective limit of detection for the test method). In 2018, ECHA put forward a proposal to further lower the limit of chromium VI in leather articles to 1 mg/kg, in line with the textiles industry. Although seen by the leather industry as not scientifically justified, the proposal went through a consultation period in 2020. Following the consultation, a recommendation was made that the 3mg/kg limit should be retained until a new analytical method is developed; it is not definite that this will be adopted in the regulation. If the 1mg/kg

limit is adopted, there would be a three-year derogation of limits for which new test methods would be needed. At the time of writing, the final text has not been made public.

Outside Europe, and a situation worth keeping an eye on, is that of California Proposition 65 (Prop 65) – specifically relating to the Safe Drinking Water and Toxic Enforcement Act of 1986. This requires businesses to provide warnings to Californians about significant exposures to chemicals that cause cancer, birth defects or other reproductive harm. Since 1987, chromium VI has been on the Prop 65 list and in recent years several alleged cases of warning violations have been raised with concern about leather in gloves.

Restriction of azo dyes

Chromium is not the only chemical used in leather manufacture that is subject to regulation. Azo dyes account for 60-80% of all dyes and most coloured leathers are treated with azo dyes and pigments. However, a small number of these dyestuffs may be reductively cleaved to form carcinogenic aromatic amines.

As such, in 1994, the German Consumer Goods Ordinance was amended to restrict the use of certain azo dyes that may give rise to the restricted aromatic amines in consumer

goods, including leather. Several other EU member states introduced similar regulations and, in 2002, the 19th amendment of the Council Directive 76/769/EEC, prohibiting the use of those azo dyes in consumer goods that are considered to have regular skin contact, was approved.

Similar legislation exists outside Europe. In 2010, the US EPA added benzidine-based and benzidine congener-based dyestuffs, specifying 48 dyes, to the EPA List of Chemicals of Concern, on the basis of their potential to form carcinogenic aromatic amines. India has published legislation prohibiting the handling of 112 azo- and benzidine-based dyes. "Handling", as defined under the Environment (Protection) Act, 1986, includes manufacture, processing, treatment, package, storage, transportation, use, collection, destruction, conversion, offering for sale, transfer or the like of such substances. Other countries, such as China, Syria and Turkey, have enacted or are in the process of enacting legislation or other risk management actions on certain azo- and benzidine-based substances.

EU rules have global reach

In the past, legislation has been developed on a compound-specific basis in response to an identified risk in use. However, regulations such as the 2006 EC REACH regulation and 2012 EC Biocidal Products Regulation take a much more proactive approach. This requires chemical suppliers to identify and understand the risks posed by their products in order for them to put be on the market.

The REACH regulation requires chemical substances manufactured or imported into the EU in quantities of greater than one tonne are registered with the European Chemicals Agency (ECHA) with a dossier of information on that substance. Failure to do so will mean that the substance cannot be manufactured, imported or sold in the EU. The dossiers will be evaluated and those substances considered to be of 'very high concern' will require an authorisation for use. Manufacturers, importers and users seeking an authorisation will have to demonstrate that risks associated with uses of these substances are adequately controlled or that the socio-economic benefits of their use outweigh the risks. They will also be required to analyse whether there are safer suitable alternatives or technologies. If there are, then they must prepare substitution plans and, if not, then they should provide information on research and development activities if appropriate.

REACH also restricts the sale or manufacture within the EU of product formulations containing more than certain amounts of chemical substances or the presence of certain chemical substances in consumer goods, e.g. chromium VI in leather. This means that, while REACH has no force outside of the EU, any product imported into the EU will have to comply with its requirements, such as the proposed restriction on chromium VI, and the limits on substances of very high concern. As the EU is the biggest import market in the world, this gives the regulation truly global reach and requires all manufacturers, including tanners, wishing to sell their products to the EU to be very careful in their choice of process chemicals.

Regional regulations can rapidly become global phenomena, as has been the case with EU restrictions on azo dyes and the REACH regulation, which has led to the development of similar legislation in other countries. Additionally, international agreements, such as the

Stockholm Convention on Persistent Organic Pollutants, have impacted the use of chemicals that have been used in the manufacture of leather, such as brominated organic flame retardants and perfluorooctane sulfonates. Clearly, the constant evolution of legislation and its rapid adoption around the world means that the tanning industry, like other industries, is subject to numerous and increasingly stringent controls governing the use of chemicals in the manufacturing process.

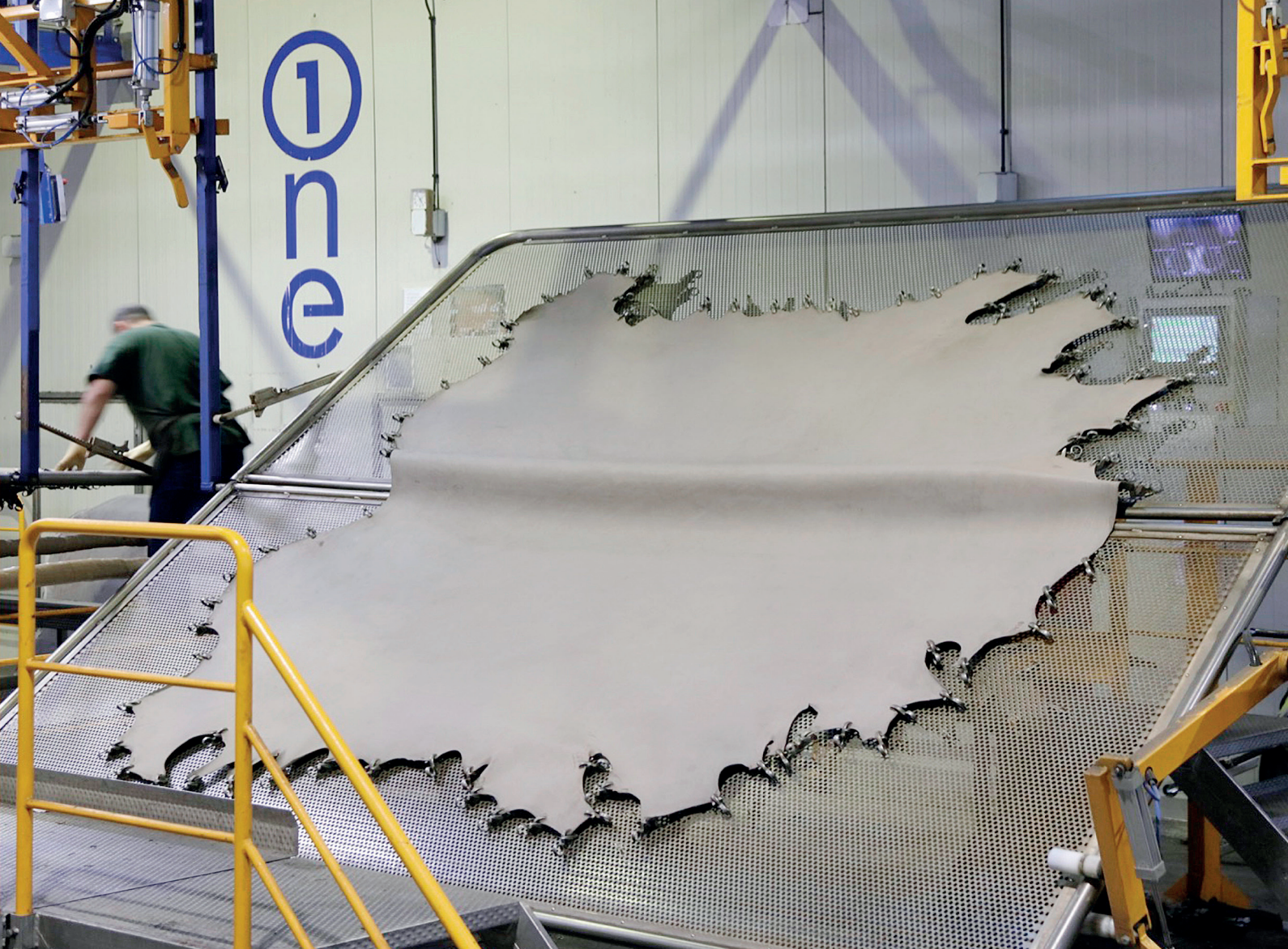
Restricted substance lists

In recent years, however, a significant driver for the restriction and control of chemicals in leather manufacture has been the development of Restricted Substance Lists (RSL) by major users of leather, such as Nike, adidas, Marks & Spencer and Ikea. These RSLs normally repeat existing legislative standards but have global application. Any company wishing to supply leather to these brands must comply with the RSL regardless of their geographical location.

As RSLs are developed without the need for the same, and often extended, legislative process as regulations, they can be developed much more quickly and require considerably more stringent limits than might be required by 'local' regulation, e.g. there is no EU restriction on the formaldehyde content of leather yet the Nike RSL sets a limit of 75 mg/kg (16 mg/kg for products for infants) as defined in Japanese Law 112. The formaldehyde limit applied by Jaguar Land Rover for interior trim components is just 10 mg/kg. As such, for tanners needing to meet the RSL of their customers, these become the de facto standard regardless of local regulation.

The development of RSLs is driven by a number of factors, including a desire for an attractive corporate social responsibility profile, consumer demands and pressure from environmental groups. The Roadmap to Zero Discharge of Hazardous Chemicals, now managed by the ZDHC Foundation, attracted commitment from a number of major footwear and apparel brands, including Nike, adidas and Puma, to work towards eliminating the discharge of hazardous chemicals from their production processes by 2020. By the end of 2015, the ZDHC had compiled its Manufacturing Restricted Substances List (MRSL) to include for the first-time chemical formulations and substances that it wanted companies involved in leather production to be aware of and avoid. Currently the ZDHC has over 160 contributors, covering chemical suppliers, solution providers, associations, and brands plus an increasing number of tanneries.

The legislation governing the use of chemicals in industry, including the manufacture of leather, is in a constant state of evolution and, for the most part, each iteration or version increases the stringency and demands placed upon tanners. In addition to the requirements of legislation, tanners find themselves under increasing scrutiny by their customers and are required to comply with increasingly stringent product specifications. The combination of regulatory compliance and the commercial necessity of RSLs and MRSLs mean that tanners must be mindful of the chemicals used in the manufacture of their products. It would be disingenuous to claim that all leather (as with all other industries) is entirely compliant with the relevant legislation. However, the majority is and is manufactured by companies that not only rise to meet the demands of legislation and customers but are also driven by their own desire to produce a desirable, beautiful and safe product. ☺



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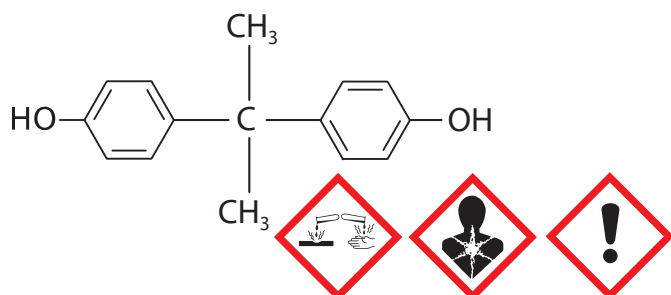
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Bisphenol in syntans and leather under scrutiny

**Dr Martin Kleban, Head of Product Safety,
Regulatory Affairs and Quality Management Systems, TFL Ledertechnik GmbH**

While in the past, regulatory authority activities regarding leather have been focused on the presence and use of chromium, and especially chromium (VI), recently their attention has veered towards concerns regarding organic chemicals. Those that can have an impact on leather manufacture include, for example, sensitising substances, polyfluorinated polymers, silicones and glutaraldehyde as well as bisphenol A. This article provides a concise overview on the background and implications of the published "restriction on BPA and similar substances" in consumer articles and the change in classification of dihydroxy-diphenyl-sulfone.

Background on Bisphenol A (BPA) CAS Nr. 80-05-7



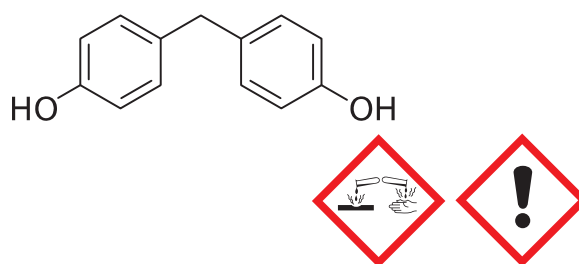
Bisphenol A (BPA) was introduced in the chemical industry a century ago and since then has developed as a raw material for high performance plastics with an annual global production volume of several million tons. In the plastic, no or only negligible residues of BPA can be detected, but there are a number of niche uses in the consumer sector where BPA is applied as is.

Apart from a substantial toxicological profile typical for phenolic compounds, BPA has been demonstrated to be a low potency endocrine disruptor acting among others on the mammalian estrogen receptor.

Those facts have resulted in a number of regulatory actions dealing with BPA. Among others, BPA is listed as a SVHC (substance of very high concern) candidate and banned in Europe from the use in paper for thermoprinters and in plastic for bottles. A REACH restriction on consumer products, including textile and leather, has recently been announced.

In chemical formulations for leather manufacture, BPA can be used as a raw material for finishing crosslinkers, but no residues will be found in the formulations or the final leathers.

Background on Bisphenol F (BPF) CAS Nr. 620-92-8 / 1333-16-0



The intended use of bisphenol F (BPF) in the chemical industry is as a monomer in the synthesis of epoxy-resins, where it will be completely consumed during manufacture with no trace present in the final polymer.

However, as it is generated by the reaction of phenol with formaldehyde, it can be formed during the manufacture of phenol-based synthetic tanning agents and residues can remain in the commercial formulation.

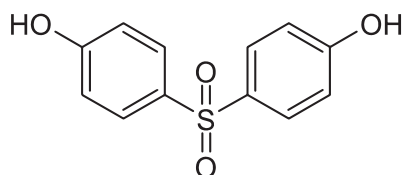
Being only a monomer, the toxicological evidence available for BPF is more limited than for other bisphenols. In such situations, regulatory authorities and NGOs assume effects to be similar to the most harmful analogue, which in this case is BPA, and apply the same restrictions, even if the Global Harmonised System (GHS) classification and labelling does not yet call for it.

BPF is listed in the published REACH restriction on BPA as a "similar substance", and thresholds may come into force in 2025. A CLP (classification, labelling and packaging) proposal has also been announced.

The impact of BPF on leather has become evident only very recently, but now developments are under way to reduce the residual content of BPF in the respective products.



Background on Dihydroxy-Diphenyl-Sulfone (Bisphenol S, BPS) CAS-Nr. 80-09-1



Corrosive



Health hazard



Harmful irritant

Dihydroxy-diphenyl-sulfone (BPS) is grouped by authorities into bisphenols despite the fact that it has substantially different characteristics caused by the sulfone-bridge (O=S=O). It is less reactive and more stable, resulting in chemical formulations that impart the leather with higher fastness values and better performance properties than phenol-based products.

Until a few years ago, BPS did not need any classification or labelling for chemical hazards. New investigations that started in 2015 now conclude that BPS is a low potency reprotoxin. The respective classification and labelling will be introduced in the coming months and may have a listing as a SVHC candidate as a consequence, likely to be in 2022.

BPS is listed in the REACH restriction on BPA as a "similar substance" which should be regulated with the same criteria. This regulation may result in a threshold for BPS in leather and potentially as well for the chemicals which would be expected to come into force not before 2025.

BPS is used as a raw material/monomer in the manufacture of synthetic tanning agents, or syntans, and residues of the

raw material can be present in the commercial product. Those residues do not have any impact on the performance, and until recently did not have any impact on hazard classification of the syntan.

With the regulatory situation changing, development projects have started to reduce the concentration of the residues in order to match disclosure levels and impurity thresholds. First results of those developments have been introduced to the market, and more is under way to safeguard the use of syntans in the tanning and retanning process.

Implication for the syntans

Syntans are a group of water-soluble polymers that consist of condensation products from formaldehyde with aromatic sulfonic acids and optionally other aromatic compounds and nitrogen-based substances. The introduction of syntans came about a century ago, and since then have been developed and improved over several generations. Currently, the annual consumption is in the same order of magnitude as chrome tanning salts or vegetable tanning agents.

From an application point of view, raw materials such as phenol, cresol or sulfone which carry a hydroxy-group, are responsible for the tanning effect, sulfonic acids are responsible for dispersing properties, and nitrogen-based substances mainly for filling. One of the major strengths of syntans over vegetable tanning agents is their lighter colour and better fastness values, which are dependent on the type of raw material used, with sulfone being highest and cresol towards the lower end.

Although being polymeric, the molecular weight of the syntans is not as high as, for example, polyacrylates, and therefore less reactive monomers can be found as residues in the final formulation. Past minimisation efforts have been focused on those residues with a high acute toxicity profile, such as formaldehyde and naphthalene. BPS and the



BPS and the intermediate BPF in phenol-based syntans is the latest addition to the technical challenges. Technical progress is to be expected, but a threshold of "zero" would mean the elimination of those products that have true tanning capacity from the range of syntans.

CREDIT: WTP



intermediate BPF in phenol-based syntans are the latest additions to the technical challenges.

As for the other residues, technical progress is to be expected, but a threshold of “zero” would mean the elimination of those products that actually tan from the range of syntans.

Implication for analytics

Bisphenol A is an extensively investigated substance for which a number of different analytical processes do exist. Depending on the concentration and the matrix in which it is contained, ranging from surface water to blood samples, different technologies can be applied.

To transfer the testing procedures to other closely-related bisphenols is a process of limited complexity as long as the matrix is simple. For water soluble syntans, HPLC (high performance liquid chromatography) analysis with UV detection can be applied. It shows that quantification of BPF is generally more complex than BPS, as can be seen from two typical chromatograms (figures 1 and 2).

An investigation recently performed at TeGeWa, the association of manufacturers of process and performance chemicals, among its members and associated companies identifies that currently, for syntans with tanning ability, the residual content of BPF is most likely in the range of 0.1 to < 1.0%, whereas for BPS a range from 0.3 to < 3.0% is most relevant.

It has to be noted that not all chemical suppliers are already fully aware of the implications that recent changes in the hazard classification have resulted in, and therefore the residual content of BPS and/or BPF is not always correctly disclosed on the SDS, the safety data sheet, or included in the product's hazard rating. In case of doubt, it is advisable to contact the supplier and/or have an analysis performed.

Implication for the tanner

Like other phenolic compounds, the syntan raw materials do exhaust to the leather during the crusting process but do not covalently bind to the collagen matrix. Sweat migration will only cause a very minor portion to become available at the leather surface, but an analytical extraction process is capable of solubilising the substances for later detection. This, however, is more complex than the analysis of syntan

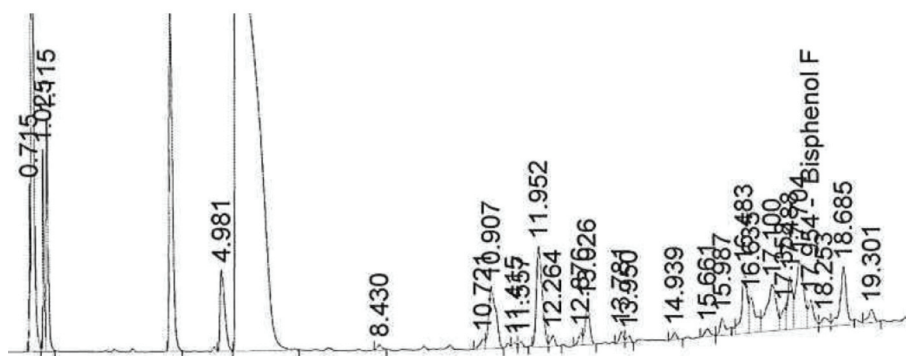


Figure 1. Fingerprint-range of the HPLC-UV chromatogram of a typical phenol-based syntan.

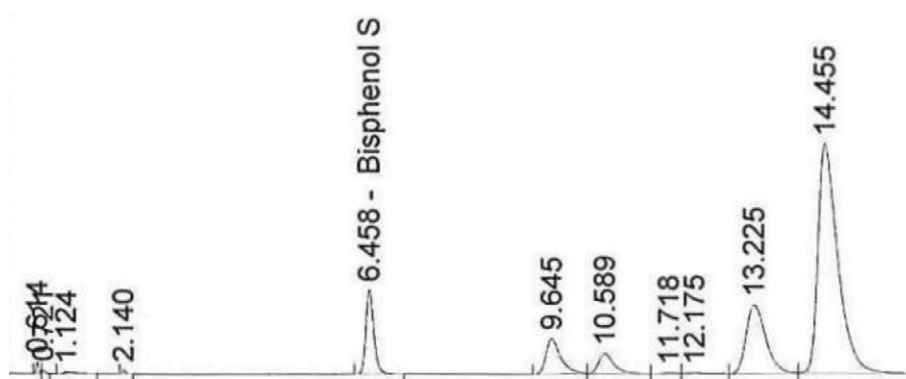


Figure 2. Fingerprint-range of the HPLC-UV chromatogram of a typical sulfone-based syntan.

solutions, as the leather extract can contain a wide variety of substances, such as dyestuffs, that could interfere with their detection.

Studies done so far indicate that roughly 80% of the residual bisphenol contained in the syntan will exhaust to the leather during the tanning/retanning process and can be analytically recovered from there. The value does not change over storage or use as the syntans are stable, non-volatile chemicals, and no additional bisphenol is liberated during analysis by hydrolysis or similar processes.

Work is ongoing at CEN/IUC to develop a validated test method for both bisphenol in syntans as well as from leathers.

Studies performed by various institutions have found detectable amounts of bisphenol in the majority of leathers. The analytical values do conform to the recipe that would be expected for different leather articles. Combinations of bisphenols can be found, as the syntans can be applied as a mix, and are generally selected for performance, and not for their raw material base. In chrome tanned fashion leathers, concentrations

typically are in the range of up to a few hundred milligrams per kilogram of leather, while chrome-free automotive leathers can show concentrations that exceed 1,000 mg/kg.

Within the regulatory evaluation of BPS, a risk assessment has been performed and accepted by the competent authorities that demonstrates that there is no relevant risk for workers, consumers or the environment if syntans are used for leather manufacture, as described in the technical and safety documentation that accompanies the products.

Outlook

TFL is confident that the ongoing research will result in new and improved types of syntans that will combine the required technical properties with reduced contents of bisphenol S and bisphenol F to eventually comply to the expected threshold concentrations for BPs in chemicals and consumer products. Obviously, the task is most challenging where high amounts of strongly tanning syntans are required, as, for example, for chrome-free automotive leathers or firm, heavily retanned shoe, bag and belt articles. ☺

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Sea buckthorn plants in China.
CREDIT: SHUTTERSTOCK

Plant-based tannins from marginalised land

Projects to grow plants for tanning extracts in previously uncultivated locations are proving successful. Silvateam and Smit & Zoon are two companies currently involved in projects in different parts of the world that are putting desert areas to profitable use, each yielding social benefits.

Vegetable tanning, the process of making leather with the extracted tannins from plant-based materials, is one of the oldest forms of the process. Earlier this year, following three years of trials, Smit & Zoon and specialist consultancy firm SN Botanicals, joined by social venture partner Enviu, introduced Desert Spring. This project involves extracting tanning material from the leaves of the sea buckthorn, with claimed enhanced sustainability credentials.

The Sea Buckthorn plant, *Hippophae rhamnoides*, also known as the sandthorn or sallowberry, has been used for culinary and medicinal use, possibly for as long as vegetable tanning itself, so it is of some surprise that after so many centuries, the tanning properties of the plant are only coming to light now.

As one of the names suggests, the plant is a specialist at thriving in poor conditions. Pim Wilgenburg, project manager for Smit & Zoon, calls the sea buckthorn an interesting plant.

"It is a large shrub that does not need much water, so it grows well in very poor soil. It grows well in dunes or on land that would otherwise turn into desert."

Root routes

One of the special characteristics of the plant is its root system. In much the same way as legumes function symbiotically with nitrogen fixing bacteria, the sea buckthorn has similar nitrogen-fixing nodules in the roots. This fixation enables the plant to improve and enrich the soils in which it is planted.

Much has been said regarding the sustainability of the leather industry. One aspect is that it uses hides and skins from animals that are able to graze on marginal lands and, in many cases, this is the only food production possible on the land in question. This is usually a reference to fields and hillsides where grass grows, but where fruit or vegetables for



human consumption would not flourish.

In bringing this new material to market, the joint venture team for Desert Spring are showing that marginal lands can also be of use and importance for the future of sustainable and circular tanning materials. The sustainability of vegetable tanning materials through carefully managed coppicing or regulated forestry management systems such as the PEFC programme is nothing new. With the lead times involved, or more precisely, the growing and maturing times associated with the more “traditional” vegetable tanning materials, with typical times to reach harvest measured in years or even decades, the sea buckthorn offers a much quicker return.

Growing in areas that are either of poor nutrient quality or where the surrounding environment is not conducive to crops, the sea buckthorn plants are extremely hardy. The berries are rich in vitamin C, richer than citrus fruits, and benefit from being pruned as this stimulates further growth. For the project, Smit and Zoon is using a mixture of wild grown forests and organic plantations in China.

Leave no leaves

It is from the leaves of the plant that the project partners have developed a new tanning agent, leaving local communities to continue to make use of the berries. To date over 20,000 kilos of leaves have been harvested and, in line with the partners’ visions, the triple bottom line impact is being validated through the creation of social impact in rural China. Desert Spring is fighting soil erosion in areas in danger of desertification and producing tanning agents that will help produce high-quality leather that is free of metals and glutaraldehydes. A limited edition product line is planned with partner brands in the near future.

Positive Peru project

In another arid area on the other side of the world, Silvateam has also established a successful tannin-producing operation, growing tara trees, *Caesalpinia spinosa*. Its farm between the Peruvian city of Ica and the Pacific Ocean, one of two plantations it has in the country, now has 115,000 tara trees, even though the area is surrounded by desert.

Pods from the plants dry in the strong sun and are

ground on site to produce powdered tannin. Silvateam says the farm’s use of conventional fertiliser is minimal. Tara is native to Peru and tolerates dry climates and nutrient-poor soil; the second tara plantation the leather chemicals company has is much further north near Huánuco, at an altitude of 2,500 metres in the Andean Cordillera, where the climate is also arid.

Water is available

At the Ica farm, a micro-irrigation system is in use to make the best possible use of the water available. It is a system that Silvateam developed in partnership with research teams from the University of Lima. The company is also engaged in a knowledge-transfer programme to help other farms in the communities improve their use of water. Grinding the endosperm of the seeds from the plant also results in an in-demand product, a gum comprised of polysaccharides that provides a versatile, natural food additive. All of this means Silvateam’s investment in these two farms provides a sustainable income for 170 employees and their families.

Eco-business opportunities

Peru’s ministry of agriculture said in a 2019 report that tara production represents one of the country’s top 20 environmental business opportunities. By the ministry’s calculations, Peru commanded an 80% share of the global export market for the product. Its figures for the previous year show all-time record numbers for volume of gum and powder produced, 29,221 tonnes, and export revenues, \$50.6 million. It lists Silvateam at the top of its list of exporters of tara powder, with 26% of the total in 2018. The ministry has an action plan for the sustainable development of tara, which includes an increase in the number of tara farms, such as the ones Silvateam has set up.

The success of the Peru project so far is a source of considerable pride for Antonio Battaglia, the director of Silvateam’s leather business unit. He says of the Ica farm: “We have turned a desert into a plantation to produce sustainable tannins and tara gum for the leather and food industries, using fresh water that would otherwise end up in the ocean. This is Silvateam’s contribution to a sustainable global economy in a nutshell.” ☺



Simac Tanning Tech — back live again

*In this article, Technical Editor, **Mat Abbott**, gives his personal overview of the Simac Tanning Tech exhibition held this September.*

Not wanting to be caught foul of any publishing or recording infringements, but in a similar start to a famous song of the early 90s by Sinead O'Connor – it's been (at the time of writing) seven hours and 580 days since we were all last together in the halls of the Milano Fiera Rho. Not quite as catchy as the original I grant you.

With travel restrictions and quarantine consequences in place for many until the last minute, the thought of being in attendance was for many months just that, a thought.

When we waved goodbye to the last Tanning Tech show in February 2020, at the start of the coronavirus outbreak, little did we know what lay ahead. In those subsequent 580 days it seems as though so much has happened but in many other ways, nothing has.

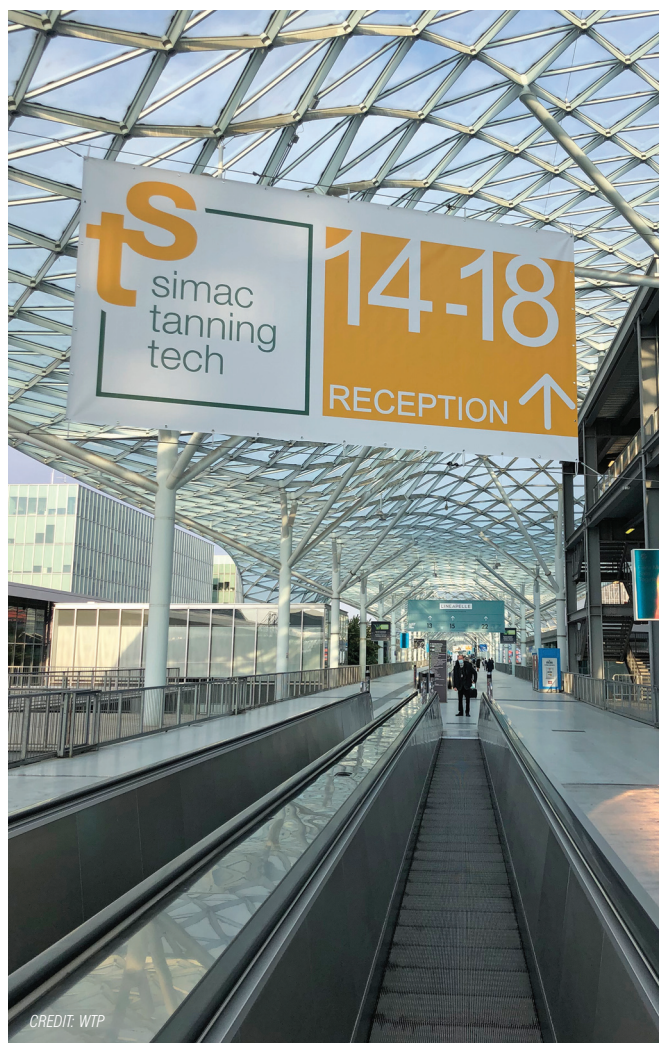
Entering the showground was like meeting an old friend – the long walk from the underground station, the frustration at people that stand on the travelling walkways, the distant mountains out on the horizon but the buzz wasn't there. But it was early. All precautions to deliver as safe an exhibition as possible were in place. Temperature checks and scanning of vaccination status – known as the Green Pass – were carried out prior to the mandatory bag scanning stations and all felt safe.

The usual trek to the exhibition hall was an almost solitary affair on most mornings. While the buzz from previous years was sadly missing, it nevertheless felt good to be back.

The halls used for the tannery machines and, next door, the predominantly footwear-based equipment, were laid out in familiar fashion. The thin carpet did little to cushion against the hard concrete floor but enough to dampen the footsteps, not that it was an issue. It was early in the day.

The first noticeable change was the stands themselves. Other than some minor flourishes, the large stands of old were more subdued, a little less flamboyant. In other ways they were more open and inviting.

It soon became clear that this was not the same show of old. This was the green shoots of recovery. Exhibitors and visitors alike taking a chance, betting on a future that no one really knows for sure what will happen. To be part of that future was to be visible, present, and accepting of whatever came along. In that respect, the rewards were there to be reaped. That is not to say that there was a full consensus of positive opinion. Some machinery manufacturers expressed the view that it was too soon to restart an exhibition when half the world – the half that still has a large part to play in the expanding market – are unable to travel and that the Italian associations had essentially created a large local show. Another felt that the timing was wrong, with preparations needing to be made in August in order to build the machinery to show. That said, even with these negatives, the reasons for



being there far outweighed all other thoughts and a show of solidarity was the winning decision.

With just over 200 exhibitors from around 14 countries, the numbers were significantly down on the previous edition by some 40%. As for footfall, the impression was of a much more severe reduction; holding a show in Milan, when travel restrictions and health implications are not at stake, will always attract more casual visitors. Having spent many years previously showing at exhibitions, quality will always surpass quantity, but the feelings of 'booth weariness' interspersed with times of frantic activity were never more clear than this time round with some exhibitors, but time will tell. It would not surprise to learn that actual business was carried out in reasonable quantity.



With a more reserved presence, many of the machinery manufacturers opted not to have machines on their stands but rather to offer space to sit and discuss business. Where the stands did include machines, these were much smaller than the full-on displays of previous years with only small drums, compact machines or 'mock-ups' on show.

Talk at the show was one of cautious optimism. Current issues of increasing freight costs impacting on all levels of manufacture and availability of supply was a very definite reason for some gaining more market share. From a personal point of view, tanners are quite loyal customers. Having gone through trials and customer assessments with product, the

reason for moving away from a supplier mainly comes down to one of two things: price or availability. With prices on the rise in all aspects of life, this currently would not be seen as a reason to jump ship, so availability, or lack thereof, would be the main reason for the move. It would be wrong to assume that those not showing only did so for this reason, but it was clear that those who were present claimed to have reasonable availability and were happy to tell anyone willing to listen.

As a return to normal, the show was a success. The optimist in me felt that there was still a mostly positive vibe. People met, business was undoubtedly done and the passage of

Focus on the exhibits



CREDIT: WTP

Mec Man, a relative newcomer to the industry, founded as recently as 2003, was one of the only exhibitors to have a vacuum dryer on display. Although only showcasing their small MecPack model, for laboratories and small-scale manufacturers, its flagship product is the MecMan Giant 9.0 – the only vacuum dryer in the world that is designed to process three full hides per table with up to six tables in total.



CREDIT: WTP

A regular exhibitor, Baucé are no strangers to Tanning Tech. With expertise in through-feed sampling machines, on display was their latest offering. The MVC-4S Versus DR. A new four-cylinder bladed system, this E-power machine employs electric motors instead of hydraulics. Using inverter motors, the energy savings are increased while the environmental impacts are reduced.



CREDIT: WTP

In the last two years, Bergi have exhibited the Supervario T 3200, a machine specifically aimed at upholstery and car interior processes equipped with a gantry roller change. The Superstar T 3200 can be considered the 'twin sister' of the Supervario. Equipped with an automatic rotary roller changer and typically equipped with one ironing, one sandblasted and one embossing roller, the Superstar T 3200 has the advantage of a larger footprint at the pressure point than other models built to date, which guarantees better grain definition. In addition, when used in the ironing phase, it provides better plating of the grain, as the roller base is larger than on a conventional machine.



CREDIT: ATC

Despite the pandemic, the ATC team has been very active over the past 18 months to develop new sustainable technologies. More specifically, offering a new unhairing system, its Zero Sulfide Process (ZSP) allows tanners to avoid the use of sulfide leading to greater improvements in the effluent quality, hide quality, reduced odour during unhairing, and a totally 'green' system.



time that seemed so long since the last show took place, disappeared with little notice. The future was very much in focus. As for the future of the Simac Tanning Tech show, the September time slot has now been agreed and, whilst it might not be an ideal time for everyone, aligning it with the timing of the other shows such as MICAM, MIPEL and Lineapelle makes total sense. Consolidating travel to make as much use of time should prove to be a successful strategy.

On leaving the show, no mass exodus was witnessed on any day, but a steady trickle made their way to the exits. Again, no mad rush for ticket machines for the trains or standing room only on the carriages of the metro. By the time the metro got closer to the city, and the carriages started to fill, I was reminded of a tip given to me by an old colleague – if you want to gauge the current climate for leather, look at the shoes. I'm happy to report that there seemed to be more leather than I could remember but perhaps that's the eternal optimist in me. 🌍



Tanning technology provider Equitan showed several new products. In keeping with Industry 4.0, the Equi-Data Wi-Fi is a redesigned digital thickness gauge. With an improved new shape, the carbon frame reduces flexibility and improves measurement stability. The device can be used with or without managing software.



Classing itself as an innovative start-up offering versatile, economic and efficient machines, Rotacoat is a relative newcomer to Tanning Tech and was one of a handful showing whole hide roller coaters – this one being its J1 3400. A versatile machine capable of reverse and synchro work, the J1 range is aimed at finishing just about any leather type you can think of, from fine leather at 0.4mm up to heavier leathers for footwear and leather goods.



GER Elettronica was showing, amongst other technology, its latest introduction for leather finishing. The BE Spray is the first integrated system for real time control of the spraying process. Incorporating three distinct technologies, the BE Spray consists of the I.Control – essentially the brain of the system that monitors and controls the spraying operation; IRIS for colour identification and control (as reported in *World Leather* April/May 2019 after the last Tanning Tech exhibition). The final innovation used in the system is the patented I.Gun. This technology uses high frequency cameras to actively monitor the performance of the plume from the spray guns. With the user-set parameters, the operator can be instantly alerted to any issue of under performance by any of the spray guns in real time leading to reduced down time and improved quality.



One of the few stands to have a drum on display was that of Pajusco Technologie, exhibiting its Asterix drum. Internally, the drums are described as being fitted with 'A' shelves due to their shape and said to maximise mechanical action. Each one has its own dedicated function. Externally the new innovations on the drum include the load cells in the frame to allow inline weighing without the need for separate scales. Further advances in the incorporated technology are geared towards scheduled maintenance needs where Pajusco has introduced sensors on the mounting brackets of the motors to help identify any early signs of movement that could put strain on the drum gear ring, belts or even the motor mounting bolts. Display of the wi-fi enabled remote control system was also featured, showing that drums could be controlled and monitored from any distance. Using wi-fi the system can even be operated from a different country and is enabled to send SMS or email alarms.

New Generation Of Leather



United Chemicals



Leather and the circular economy



Leather uses renewable raw materials



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



The material is long-lasting



Leather products are eminently repairable



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



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



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



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



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



Leather manufacturing supports green employment commitments

Credit: WTP/Flaticon

A COP26 call to arms

The International Council of Tanners, the Leather and Hide Council of America and Leather Naturally published a joint manifesto ahead of the United Nations Climate Change Conference (COP26) in Glasgow (October 31 to November 12). In the manifesto, the leather industry bodies issue a call for COP26 to recognise four key points.

It should acknowledge “the cyclical, climate-efficient nature of natural fibres and the potential these materials have for helping to reduce the climate impacts of consumer products”. COP26 should also encourage the use of natural materials wherever feasible and reduce unnecessary reliance on fossil-fuel-based alternatives.

In addition, the conference should give support to lifecycle assessment (LCA) methodologies that “accurately account for the environmental impact of fossil-fuel based materials, including end-of-life properties”. Finally, the manifesto calls on COP26 to promote long-lasting products that can be used many times, repaired and refurbished, and last for years.

Leather fulfils all of these criteria perfectly, as the nearly 70 in-depth features *World Leather* has published in its Leather and the Circular Economy section in the last two years make abundantly clear.

United front

The signatories of the manifesto have called on leather industry organisations around the world to endorse their call to arms and have said they hope bodies representing other

Leather industry bodies have joined forces to ask the COP26 summit to recognise the benefits of using leather and other natural materials instead of allowing brands and consumers to develop an “unnecessary reliance” on synthetic alternatives.

natural materials will add their voices as well.

They asked organisations such as national leather industry associations to communicate support of the manifesto to the COP26 delegations that their governments are sending to Glasgow, to politicians taking part in the conference, to media outlets covering the event, to other individuals or organisations that have a voice in “the debate on a circular and responsible society”, and on social media. They envisage an intense, industry-wide communication effort over the course of COP26 and the weeks that follow.

For all natural materials to present a united front would add weight to the message. A world that favours natural, renewable, recyclable, repairable, biodegradable materials



that have a sustainability track-record spanning millennia, is possible. No complex inventions, intellectual property wars, patent lawyers or greenwashing campaigns are necessary. Natural materials are all around us and we already have the knowledge and technology required to turn them into clothes, shoes, accessories, furniture and car interiors. But Big Synthetic has deep pockets, a loud mouth and boundless enthusiasm for campaigns to convince brands and consumers that fibres from fossil fuels are, somehow (if you ignore inconvenient details such as greenhouse gas emissions and ocean plastic pollution), better for the planet.

Everything we consume has an environmental impact, of course, but consumer choices do not all have the same impact. Non-profit organisation The Woolmark Company works with Australia's 60,000 woolgrowers to certify Australian wool, championing the fibre's eco-credentials. As befits an Australian organisation, it rarely holds back when it has something to say. In the weeks leading up to COP26 The Woolmark Company has urged shoppers to "say no to fossil-fuel fashion" in a new guide to "conscious consumption". The organisers of COP26 have made it clear that a major objective will be to use the summit to "secure global net-zero by mid-century and keep 1.5 degrees in reach". This is a reference to the Paris Agreement, reached at COP21 in 2015, which sets a goal of limiting global warming to below 2°C compared to pre-industrial levels.

One-way ticket to landfill

The Woolmark Company wades right into this, saying: "Greenhouse gas emissions from plastic's lifecycle threaten the ability to keep [to] 1.5 degrees, and with more than 65 million tonnes of plastic produced for textile fibres each year, there's a high chance it's clogging your wardrobe." It goes on to say that people should, instead, choose natural fibres "that don't cost the earth", and that a fibre that grows on an animal's back can only ever be described as "100% natural and renewable". It refers to these as fibres that have "a positive lifecycle" because it's easier to save them from landfill and incineration by putting them to use in a new product and integrating them into the circular economy. And it adds: "A T-shirt made from recycled plastic water bottles may sound like the sustainable choice, but it actually prevents [the fibres] from being continually recycled into more water bottles, and so the T-shirt is a one-way ticket to landfill."

COP26 and leather

Determination in the leather industry to play a part at COP26 began long before the October manifesto. The host city's chamber of commerce launched an initiative called Circular Glasgow in 2018, which describes itself as "a growing network of businesses embracing the circular opportunity". Scottish Leather Group (SLG) is a leading participant and Circular Glasgow has described SLG as



A leather industry representative at COP26, Dr Warren Bowden.

Credit: Scottish Leather Group

being "transformational in its sector" owing to its success in reducing the average carbon intensity of its leather from 10.9 kilos of CO₂-equivalent per hide in 2003 to 1.1 kilos in 2020. It achieved this 90% reduction through a series of measures that include switching to 100% renewable electricity and developing its own waste-to-energy plant.

Speaking about these initiatives, SLG's head of innovation and sustainability, Dr Warren Bowden, says that it was a "desire to close the circularity gap" that

The main event. The Scottish Event Campus in Glasgow, the venue for COP26.

Credit: Shutterstock/Richard Brew



drove the group on. It has ceased to think and work in a linear way and instead considers waste to be a resource. “Circularity is about converting what someone else doesn’t want and making something from it,” he says. “There is a finite amount of resource on the planet. We as a society, including us in the leather sector, have to look at the resources we have and use them, and use circular thinking to keep those resources alive, reusing them, recovering them and remanufacturing them.”

In a new light

Dr Bowden has spoken in the past about experiencing “an industrial epiphany” around circularity and, in keeping with the nature of epiphanies, this made him see things in a new light. “The way the leather industry was working at the time was in a linear manufacturing system that was not a sustainable way forward,” he explains. “We had to start considering waste as a resource, and not just hides coming from the meat sector, but the waste coming out of our own production processes, too. Historically, that waste would have gone into the ground rather than into productive usage. We realised we had to change that because it wasn’t a future-proof way of manufacturing. What that produced was circularity in leather manufacturing. We are able to take back those by-products and use them to produce oils, proteins for food production or other novel products.”



SLG installed its own thermal energy plant in 2009, helping it stake a claim as the producer of the lowest-carbon leather on the planet. Credit: Scottish Leather Group

Lowest of the low

Its 2020 figure of average carbon intensity of 1.1 kilos of CO₂-equivalent per hide is the result of analysis SLG carried out to meet a requirement called Streamlined Energy and Carbon Reporting (SECR). The UK government brought this into effect in 2019 to oblige manufacturing companies to disclose information about energy use and carbon emissions. It includes scope-one and scope-two emissions, the first covering all direct greenhouse gas emissions from the company’s own

operations and the second the greenhouse gas emissions generated in producing the electricity the company consumes.

For many years, SLG has presented its offering as low-carbon leather, but the improvements it has achieved in recent years and its commitment to circularity have led it to adopt a new strapline proclaiming its range to be the world’s ‘lowest-carbon leather’. Dr Bowden says: “It’s the right time now to present our leather in this way, simply because of our supply chain, because we source hides responsibly, because of our own circular manufacturing process and what we do with the material. It’s long been the case that we’ve been quite reserved in presenting our low-carbon offering. What we’re saying now is that we are able to produce the lowest-carbon leather on the planet.”

This leadership helped earn SLG the opportunity to take part in COP26 and drive home the messages in the manifesto and present its own circular story so far. Glasgow Chamber of Commerce is hosting an event it calls ‘Climate Chamber Mission’ over two days during the summit. This will be an international trade and knowledge exchange that will take place at the start of COP26. One of the sessions will have the title ‘The role of sustainability and circular economy in international trade’ and one of the speakers will be Warren Bowden. 🌱



What, The Woolmark Company would like to know, could be more natural and renewable than a fibre that grows on an animal’s back? Credit: Shutterstock

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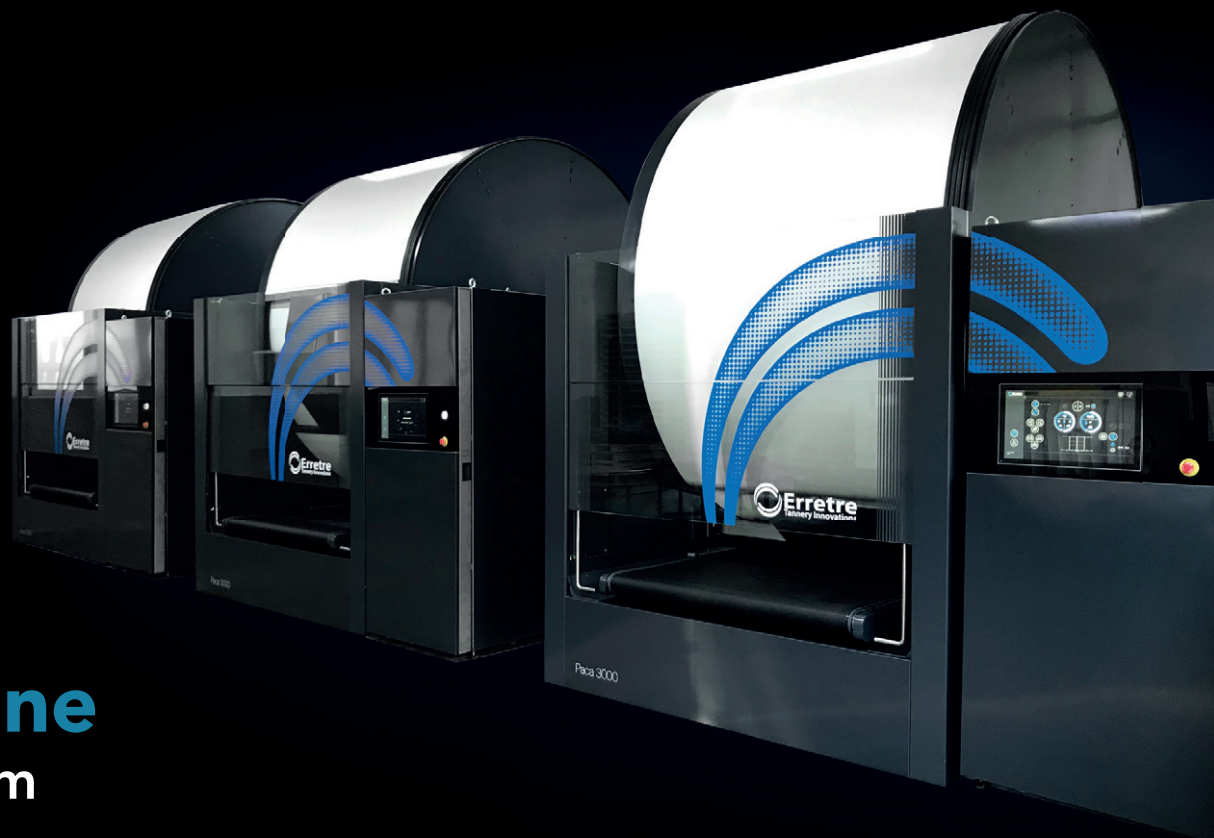
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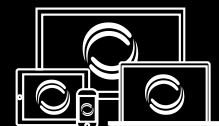
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MycoWorks was founded by two artists in San Francisco.

Credit: Alyssa Duncan / MycoWorks

The highs and lows of harvest



“Hermès’ engagement with use of Sylvania is quite limited to partial use in one man’s bag design,” New York-based head of communications at luxury goods house Hermès, Peter Malachi, tells *World Leather* over email. True. Considering the clamour since Sylvania’s unveiling this past March, though, one would be forgiven for thinking otherwise. So, what is Sylvania – and why has it got some in the leather industry (and beyond) a little shrill?

Under the microscope

Sylvania started life inside a lab in Emeryville, roughly 10 miles or 16 kilometres from San Francisco. Though exclusive to Hermès of Paris and tanned and finished in the label’s French leatherworking ateliers, the new material has deep roots in Californian startup MycoWorks’ patented Fine Mycelium biotechnology. The brand’s Victoria bag, to which Mr Malachi refers above, is the first object to have been (partly) made with Fine Mycelium, according to MycoWorks. As its name would suggest, Fine Mycelium is derived from mycelium, sometimes described as a network of filament fungal threads which can grow, or ‘fruit’, to form mushrooms. In short, Sylvania is a variation of this proprietary biomaterial.

Given Hermès’s substantial leathergoods heritage,

Long considered the last word in luxury, reports that Hermès had moved in on mycelium earlier this year suddenly added a certain sheen to the biomaterial which, for many, had not been there before. World Leather unpicks the fungal threads.

journalists have been quick to stir the pot, fast to paint a picture of luxury’s supposed shift away from leather to ‘shrooms (some even, handily, describing this as a “boom”). Yet, other materials incorporated in this version of the Victoria include the brand’s own H plume canvas and, significantly, Evercalf calfskin. Hence, the bag is by design not anti-leather and, as confirmed to the press at the time of Sylvania’s initial reveal, leather has not been and will not be replaced by the house. Rather, Hermès has only since signalled that it very

much remains a key ingredient. In fact, the brand's public strategy for Sylvania has been markedly more conservative in its approach than that of MycoWorks, which displays its technical association with the house prominently on the homepage of its website.

"We are not communicating specifically on our use of new materials or third-party production suppliers," Mr Malachi explains to us. "New materials [such as Sylvania] are a consistent and continued focus of our innovation department, which is engaged in testing and exploring new material technologies across all Hermès collections." The brand's 'experiments' are not limited to leather or leathergoods, then. As if to further allay any sprouting concerns from among the leather industry, information provided by MycoWorks' public relations team is similarly firm. Its materials are expressly not "mushroom leather", "vegan leather" or "plant-based leather", the company says. Separately, it adds that it does not consider Fine Mycelium a replacement, but instead a "completely new material with its own characteristics".

The meaning of mycelium

Precisely what mycelium-derived materials are and are not, and what they are imagined to be, seems to be the cause of abject squeamishness for some. Sincere bewilderment for others. Yet, it is little wonder, as the terminology, for one, is not uniform and could even be said to inspire misinformation. For every Reishi (a MycoWorks-made material formed from Fine Mycelium) there is a Mylo or a Mylea, for example, each of which differs from the other in terms of the language used to describe it. Nobody from Mylo or its parent Bolt Threads, also headquartered in Emeryville, was available to comment for this article, whereas Mycotech Lab, the Indonesian startup behind "tempeh-inspired" and mycelium-derived Mylea, did not respond to our request for comment. Tellingly, though, Bolt Threads' website describes Mylo as "a sustainable alternative to leather". On its own site, Mycotech calls Mylea "the mycelium leather".

Even an article published early last autumn in scientific journal *Nature Sustainability*, part of the widely respected Nature group of publications, suggested that mycelium is not only "leather-like", but also a substitute. Interestingly, the same text cited a 2019



Reishi, made using MycoWorks' Fine Mycelium technology, is available in both "smooth natural" and "black emboss" finishes.

Credit: Jesse Green, courtesy of MycoWorks



MycoWorks's Fine Mycelium process "engineers" mycelium as it grows, meaning that sheets are made to order for weight, shape and thickness. Credit: Laura Gutierrez / MycoWorks

Master of Science thesis from Massachusetts Institute of Technology as its source for the statement that plastics such as polyvinyl chloride (PVC) and polyurethane (PU) are more environmentally friendly than bovine leather, which perhaps throws some of its other assertions into question. Approximately one month after this study was published, on October 24, 2020, a major Italian leather law came

into force. As then president of the country's national tanning industry association, UNIC, Gianni Russo, told *World Leather* in the run-up to this action, the law provides stakeholders with a "legal weapon" to help prevent the presentation of synthetic alternatives as leather.

Italy is of course especially renowned for its leather artistry, but this unambiguous movement towards



Fine Mycelium-made Reishi products are expected to reach the market by the end of this year. Credits: Pol Rebaque/MycoWorks

protecting the nobility of leather throws issues surrounding the language used to describe what is and is not real leather elsewhere in the world into stark relief. Might the presently perpetuated terminology for some mycelium materials be further muddying the waters? Managing director of Belgium-based mycelium technology provider Mycelia, Kasper Moreaux, does not think so. He tells us that he is “very comfortable” with the term “vegan leather” being used to describe materials made with Mycelia’s biotechnology. “It is just what it is,” he says.

Growing dissonance

Mr Moreaux was not at liberty to disclose the names of brands or businesses currently engaged in using Mycelia’s technology, but he did express that his own company is “very involved”. Notably, he praises the beauty of authentic leather and states that he does not believe that the material will ever lose its charm – or that it will ever “fully” be replaced. However, he does predict that this may happen partially, as part of what he calls a small revolution in materials. On the one hand, Mr Moreaux depicts the drive to swap petrochemical-derived synthetics for mycelium-made biomaterials as his industry’s focal point, yet, on the other, he tells us that as a species we are currently using too much of the earth’s surface for cows. He is not alone in framing the use of leather through a meat and dairy lens.

Former Hermès chief executive, Patrick Thomas, the first and only non-family-member manager of the house, joined the boards of both MycoWorks and Swiss luxury group Richemont over the summer. Although Mr Thomas has reportedly not had any direct involvement with Hermès since retiring from his role there in 2014, the media was again quick to stress his old links back to the brand as part of a wider leather-versus-mycelium narrative, particularly following the news of his MycoWorks appointment. Intriguingly, Mr Thomas told *Vogue Business* at the time that he believes there will be an additional luxury category reserved for mycelium-

derived (and other non-animal) materials going forward, “particularly [one made up of] young women who don’t want to eat meat”.

Mr Thomas not only believes this consumer group already exists, but that it could be responsible for growing the mycelium market to at least 10% of the luxury goods industry over the next 20 years. The technology is certainly there, according to Mr Moreaux, for those who can make the “considerable” investment. At the moment, only around five or six players currently possess the know-how needed, he tells us, but mycelium is “very scalable”. MycoWorks agrees, attributing what it describes as the inherent scalability of the process behind growing and harvesting its Fine Mycelium to its closed-tray system. If true, then perhaps enough demand and satisfactory technology is there to make a viable bio-business out of mycelium for those with appropriate resources. But the terminology for marketing these materials is patently not ready.

Nothing new under the sun

The argument for why non-leather products should not be portrayed as “leather” or even “leather-like” has been well-established in the pages of this magazine. Just as some have observed a growing interest in mycelium products, others have taken note of a trend towards the leather industry demanding respect for the unique qualities, properties and values of the time-honoured natural by-product in which it trades. To a certain extent, some stakeholders have taken notice of this. However, to suggest that leather should or could be substituted, while praising the leather industry’s artisans for their work – something that MycoWorks is doing in Spain, asking them to work with non-leather materials in a similar way – remains problematic.

There is a need to replace petroleum-based synthetics, just not at the expense of leather’s reputation. What is not leather, is simply not leather. ☺



MycoWorks partner Curtidos Badia typically takes care of finishing Reishi in Barcelona. Credit: Jesse Green, courtesy of MycoWorks

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Leather is available to us because livestock farmers raise animals to supply meat and dairy companies. It is demand for food rather than the desire for leather that leads to those animals going to slaughter. Leather is an afterthought, and the numbers prove it.

Stats prove animals-for-leather claims are false



Almost all the leather in the world comes from the by-products of the meat and dairy industries and the hides and skins would go to waste if tanners were not here to turn them into something more useful and desirable. It is however, still common to read and hear comments that deny the truth of this from people who oppose leather.

Famously, designer Stella McCartney once quipped on the subject of leather: "They say it's a by-product. Well, I haven't eaten lizard lately." This is Ms McCartney some way short of peak form in terms of clear-thinking and rhetoric, but the sentiment behind her conflated argument is plain to see day after day in the marketing output of companies that want to make a positive impression on animal-focused, anti-meat and anti-leather campaign groups and consumers.

Exotics are separate

There are separate debates around the use of exotic skins. The high value of the leather that these skins can produce sets them apart from raw material from cattle, sheep and goats, even though the meat from the animals that supply exotic skins is also in demand.

There are two main strands to the sustainability arguments for exotic leather. The first is that this material's high economic value means it can provide life-changing help to low-income communities in Africa, Australia, Asia and many parts of the Americas. The second is about conservation. Programmes that rely on selling exotic skins for funding are responsible for raising reptile or animal numbers when they go too low and for lowering them when they reach high

Correlation does not imply causation. We have leather because of cattle in fields, but...

Credit: Corey Moffet/USDA





enough levels to become a threat to communities or crops.

While brands such as Chanel and retail groups including Nordstrom and Selfridges have taken a specific stance against exotic leather in recent times, they have provoked a reaction from the International Union for Conservation of Nature (IUCN). This organisation has said that science proves there is more to the exotic leather discussion than many commentators may realise. Dr Daniel Natusch from IUCN has commented: "Science has shown, perhaps counter-intuitively, that luxury brands have an important role to play in conserving reptile species and the habitats they rely on. Ignoring science risks jeopardising successful management systems around the world."

Facts and figures

This article has another focus. Facts and figures that prove the dependence of the vast majority of leather companies on meat and milk are available for everyone to read and digest in a report from Italy this autumn. The report in question is the presentation by Italy's main tanning industry body, UNIC, of the leather sector's results for 2020.

Italian tanners' reputation for working wonders with raw material of all kinds is deserved and undeniable. However, output from the industry in Italy in 2020 was completely dominated by finished leather made from cattle hides. In the report UNIC says that bovine leather commanded a 77% share of the 97.3 million square-metres of finished leather that constituted the country's total output for the year. Tanners across Italy produced 75 million square-metres of finished bovine leather in 2020; this does not include sole leather for footwear.

Sheep leather was the second-biggest category with a production of 8.5 million square-metres, followed by goatskin, which contributed 6.7 million square-metres to the total, and calfskin, which reached 6.6 million square-metres. This gives those sources a share of 8.7%, 6.9% and 6.8% respectively. Leather from exotic skins, listed by UNIC under "other animals", accounted for the rest, with a volume of 400,000 square-metres. This means 99.4% of all the leather Italian tanners produced in 2020 was from cattle, sheep and goats.

Total revenues from this volume of finished leather were just under €3.5 billion. Bovine leather contributed 75% of the total with €2.6 billion, earning tanners



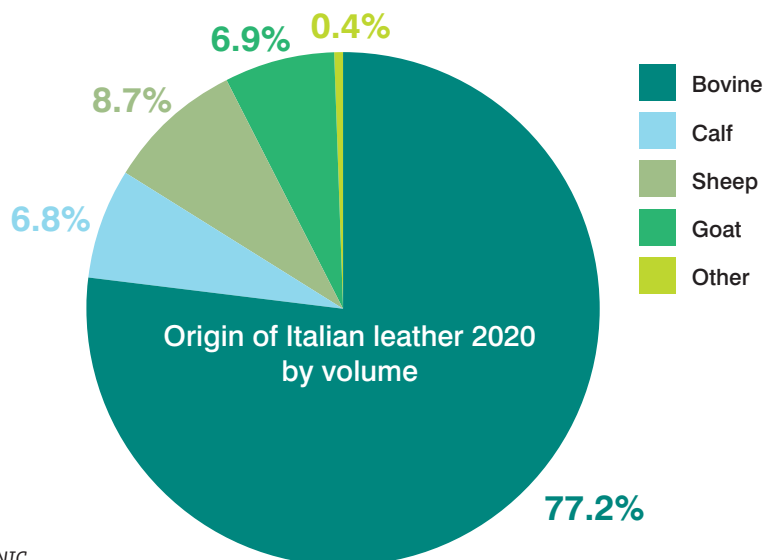
an average of €34.80 per square-metre. Sheep leather and goat leather were cheaper, averaging €28.51 and €28.15 per square-metre, respectively. Calf leather was more expensive, averaging €50.16 per square-metre.

No one-off

Last year was a far from typical period, for Italian tanners the same as for most in the industry, but figures from 2019 confirm the overwhelming preponderance of bovine, sheep and goat in the materials leather manufacturers use. Pre-covid, unsurprisingly, most values were higher than in 2020. Tanners produced 116.3 million square-metres of finished leather in 2019, again not including soling leather.

Bovine hides made 87.3 million square-metres, followed by sheepskins with 10.1 million, goatskins with 9.8 million and calfskins with 8.6 million. Skin from 'other animals' contributed only 500,000 square-metres to the total. This means cattle had a share of 75%, sheep 8.7%, goats, 8.4% and calves 7.4%. Together, these sources account for 99.5% of all the finished leather Italy produced in 2019.

The total value for finished leather in 2019 was just under €4.5 billion (not including sole leather), with bovine hides contributing 72.4%, sheep 7.5%, goats 7.3% and calfskins 10.2%. These figures blow any 'animals are raised for leather' arguments out of the water. 🐮

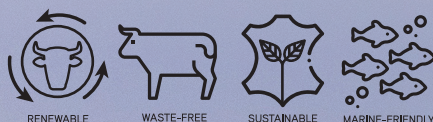


CREDIT: UNIC



The big carmakers are accelerating their electric vehicles programmes, but the contradiction in the desire to move away from fossil fuels for power yet use more fossil fuel-based synthetics in the interiors seems to be lost on some companies. The challenge is to close that knowledge gap.

Charging ahead



The pandemic has acted as a catalyst for increased sustainability initiatives in many industries, as the forced break gave people time to rethink and spend more energy on research and development. The car industry has been no different; its move towards electric vehicles (EVs) has accelerated, with manufacturers seemingly in a race now to produce a wide range of models, refine their technology and secure market share. Consumer thinking, too, has been altered, and companies are reporting rising demand for electric and hybrid vehicles.

The European Commission has proposed that by 2030, carbon dioxide (CO₂) emissions from new cars should be 55% less than 2021 levels. China has introduced stringent fuel economy regulations and US president, Joe Biden, has set out plans “to drive the electric vehicle future forward,

outcompete China, and tackle the climate crisis”. An important part of this is an executive order that half of all new vehicles sold in 2030 will be zero-emission.

As well as policy support, the price of batteries has fallen and there has been investment in charging infrastructure. This combination is reflected in the numbers: passenger EV sales are projected to increase sharply, rising from 3 million in 2020 (about 1% of vehicles) to 14 million in 2025 and 66 million in 2040, according to BloombergNEF. Globally, EVs will represent more than two-thirds of passenger vehicle sales in 2040.

EV adoption varies widely by geography. China is broadly leading, partly in terms of the developments but mainly in terms of adoption, as it is the largest car market. Europe’s vehicle CO₂ regulations mean it is not far behind. In Germany,



EVs are expected to make up 40% of total sales by 2025, while China will hit around a quarter by then, according to Bloomberg. The US market is expected to pick up by the mid-2020s while rest of the world will be slower as regulatory support is limited and consumers will still favour the lower-cost combustion engines.

But what about the interiors? Companies are touting the 'sustainable material choices' in their new designs: reused plastic, FSC-certified wood and mats made from recycled fishing nets at BMW (although it does still promote olive-tanned leather); American red gum tree wood (only used if a tree falls naturally); 'leather alternative' Nordico, made from forestry by-products, recycled corks and plastic bottles, at Volvo (see separate article); and Range Rover says some models can be upgraded with wool and recycled plastic-based Kvadrat.

As well as 'novel' materials, synthetics abound. If the goal is to reduce fossil fuel dependence and carbon emissions, would it not make sense to increase the amount of leather used? This contradiction is something Stephen Sothmann, president of the Leather and Hide Council of America (LHCA), wishes was clearer.

"Carmakers are free to provide consumers with a variety of options in materials, and I think that freedom of choice should be encouraged, but they also need to be transparent and fact-based in their marketing claims," he tells *World Leather*. "Reducing leather consumption in automobiles will have absolutely zero impact on animal welfare or cattle production globally. None. It will only add to increased waste as unused hides are sent to landfills. I challenge the OEMs to provide a cogent economic argument proving otherwise."

LHCA estimates 300 million cattle hides accrue from the meat and dairy sectors across the globe each year and 60% of

this is used to make leather. This means 120 million hides a year are "just thrown away", material from which tanners could make 560 million square-metres of leather.

Mr Sothmann believes that, rather than address this, some of these companies are disguising their money decisions. "If they choose not to offer leather, they need to stop hiding behind false claims of sustainability when they are in fact making pure economic decisions. It is an unfortunate fact that plastic is often cheaper to use than natural materials, when the true cost of plastic's environmental impact is not properly accounted for."

Egbert Dickers, sustainability manager at chemicals group Smit & Zoon, goes a step further: "What is going wrong with society that we step into the trap set up by brands like Volvo and Tesla and others to move away from natural materials (like leather in car seats) and use synthetic materials made from fossil fuel instead?" he asks. "Keep the carbon in the ground and use natural materials that are readily available!"

Secondary materials

BMW is planning to put ten million all-electric vehicles on the road by 2030, when half of its sales will be electric. BMW chairman, Oliver Zipse, is hanging his hat on 'circularity': "We must turn the narrative around – from a taken-for-granted, unquestioned use of primary materials to the primacy of secondary materials."

Mr Zipse reiterated the goal of reducing carbon dioxide emissions across vehicles' lifecycles by at least 40% by 2030. "How companies are dealing with CO₂ emissions has become a major factor when it comes to judging corporate action," he says. The leather industry's representative body in the European Union (COTANCE) is revisiting the argument that tanners' share of the upstream carbon footprint of their raw



General Motors will invest \$35 billion before 2025 in electric and autonomous vehicles and launch more than 30 EVs globally.

Credit: General Motors



BMW and Mini will have sold more than 1 million electrified vehicles by the end of this year.

Credit: BMW

material should be zero as farmers have no way of knowing if their hides will be used – this, or getting leather universally accepted as a circular material, would be a breakthrough for automotive sector players.

While on the surface, Mr Zipse's statement appears to support the use of leather (as a byproduct), it is phasing out leather from its Mini brand. Of its new Mini Vision Urbanaut concept, it says, "the absence of leather and chrome underline the sustainability of the visionary concept".

The secretary to the International Council of Tanners, Dr Kerry Senior, calls this "deeply disappointing" as leather is the "original circular material". "Leather is a recycled product that valorises a renewable, biodegradable waste into a beautiful, functional material." He also says that leather interiors hold a strong appeal for consumers, with research in the US finding that 69% of car buyers prefer leather upholstery in the interior, while 54% of buyers of new Minis in the UK in 2020 chose leather upholstery.

Leather demand

Laurie Busch, vice-president of global design at US-based tanning group Pangea, agrees. "There are many studies that indicate the end consumer appreciates real leather and is willing to pay for it," she tells us. Carmakers want to send a clear message to their consumers that their EVs are new. "Designers are challenged to convey that message through material

selection," she adds. "I think there is misunderstanding and misinformation about material origin, material content, CO2 footprint, how data is gathered and what data is reported. And then there are regulations."

For the carmakers, the road ahead might still be bumpy. The European Automobile Manufacturers' Association (ACEA) says there is a serious lack of electric charging points along the road networks in most EU member states. Its findings show that 10 countries do not even have one charger for every 100 kilometre of key roads.

However, legislation on internal

combustion engines (the UK will ban petrol and diesel cars from 2035, Norway from 2025) will be a major driving force, the race to highlight leather as a more sustainable option will become all the more intense for an automotive leather sector vying to keep its place in the hearts and minds of customers.

There is evidence that the message is getting through at consumer level. "I know leather holds a luxury status in consumers' minds. Consumer education comes down to communication regarding what we make, why we make it and the impact of diverting millions of hides from landfills every year," says Ms Busch.

It might also be getting through to the car groups and OEMs. Mr Sothmann says the reactions to him speaking out on this subject have been "strong but encouraging". "Many people are still willing to listen to reason and fact-based arguments even when inundated with false information."

"We are further engaging the automakers on this topic to begin educating them about the truth about leather production. The fact is, automakers, much like fashion brands, are typically very far removed from agriculture and food production systems and therefore susceptible to a lot of misinformation around these topics. Our next step is to try and close that knowledge gap."

After trying to close the gap, it will be up to the carmakers to show strength, coherence and transparency in their selections. 🌱



Bentley's Hybrid range expands with the addition of the Flying Spur.

Credit: Bentley

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Volvo's first electric-only car, the C40 Recharge.

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Industry's angry reaction to Volvo



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RECYCLED

We give a full account of the leather industry's reasons for welcoming the automotive industry's shift towards electric vehicles (EVs) elsewhere in this issue of *World Leather*. Car manufacturers who want consumers to give up fossil fuels as a means of powering their vehicles ought also to encourage a move away from fossil fuel-based materials in their interiors. Anything else would be, at best, incoherent and, at worst, hypocritical.

A number of examples of this incoherence (let's give them the benefit of the doubt) has come to light in recent times. None has provoked as much reaction as announcements from Volvo. It is not synthetics the Swedish car company is rejecting, but leather.

This March, 2021, Volvo presented the C40 Recharge, its first electric-only car, a car with no leather in the interior, which Volvo justified by claiming it was "taking a stance for animal welfare". This prompted a response from the secretary of the International Council of Tanners, Dr Kerry Senior, who said: "Not using leather will change nothing with regard to livestock rearing or animal welfare. It will see increasing numbers of hides simply being thrown away and a proliferation of synthetic materials that are mostly derived from unsustainable fossil-fuels."

At the time, *World Leather* asked Volvo to explain what

Announcements from automotive company Volvo that it is ending its use of leather has prompted an unusually fierce, but justifiable, response from the industry.

connection it saw between "a stance for animal welfare" and its decision to stop using leather. It told us to expect a further announcement and this came in September, when Volvo announced that it will eliminate leather from all of its cars by 2030. It repeated its claim that this would, somehow, help improve animal welfare. It added references to the "negative environmental impacts of cattle farming, including deforestation".

Responsibly sourced leather

In our dialogue with the Swedish automotive group, we pointed out that hides will continue to accrue from cattle

slaughter, driven by demand for meat and dairy, whether tanners turn them into leather or not. Volvo's answer was surprising in some ways and unsurprising in others. It started by recognising that the raw hides it has used to make the leather in the interiors of millions of Volvo cars that are on the road today are "responsibly sourced as by-products from the beef industry".

You don't have to know much about where this leather comes from and how the company's long-serving leather suppliers make it in order to know the truth of this. What was surprising was that it went on to say that, in spite of the decades of excellent service it has received from the leather industry and the consistent high quality of the material it has sourced, it now regards leather as being "intertwined with significant sustainability concerns relating to farming, particularly cattle farming". Volvo said it was convinced that its decision to stop using leather would, somehow, "help combat" challenges such as methane emissions from cattle. It did not explain how.

What will change?

Having seen this clumsy link between its own use of "responsibly sourced" leather and greenhouse gas emissions from cattle on farms, it was unsurprising to see Volvo also rope in deforestation. "Agriculture is widely acknowledged as the main driver of global deforestation, with cattle grazing being the main contributor, responsible for 36% of agriculture-linked deforestation between 2001-15, mainly in the Amazon," Volvo told us. "We share this concern about the environmental impact of the wider cattle industry and will therefore transition away from leather."

We asked again what Volvo thought would change if it stops using leather. It said: "As a purpose-driven company,

Volvo wants to address all areas of sustainability and our animal welfare ambition is part of our holistic approach to sustainability. We believe that animal welfare has strong links to many of the United Nations' Sustainable Development Goals. It is also an important ethical issue, a societal value that is strongly supported by the public and consumers globally."

Original article

In its September statement, the automotive company said that, instead of leather, it would offer its customers alternatives such as "high-quality sustainable materials made from bio-based and recycled sources". This led senior figures in the leather industry to point out that no material encapsulates these qualities better than leather. The president of the Leather and Hide Council of America (LHCA), Stephen Sothmann, said in response: "If Volvo wishes to utilise more recycled and bio-based natural materials in its vehicles, it should look no further than the original article, leather."

Instead, Volvo has come up with Nordico, describing it as a new interior material created by the company itself from recycled material that includes plastic bottles, as well as bio-material from sustainable forests in Sweden and Finland and corks recycled from the wine industry. As things stand, part of the animus against plastic is that, while it is possible to recycle bottles into new bottles in the same loop time and time again, taking bottles out of that loop to turn them into textiles can only happen once. Almost all of the textiles available at the moment from recycled bottles are non-recyclable. Two consequences of this are that drinks companies have to use new fossil fuel resources to replace the bottles that leave the loop, and that the textiles, at end of life, will contribute to plastic waste on land and at sea.



Interior of the C40 Recharge. Volvo has said all of its cars will have leather-free interiors by 2030.





Volvo's head of design, Robin Page.

Plastic problems

This is a point that another senior leather industry figure, Andreas Kindermann, the chief executive of specialist automotive leather producer Wollsdorf, picks up in his response to Volvo. He suggests that Volvo is wrong to claim that synthetic materials, based on plastic, are a better option than leather. He points out that plastic contributes greatly to pollution in water, affecting life in the oceans and leading directly to the deaths of millions of aquatic animals, birds and fish.

Undeterred, Volvo presents Nordico as something exclusive and desirable. It has worked with US-based fashion designer Phillip Lim to create a limited-edition weekend bag made from the material. The bags are not available for consumers to buy, but will feature in promotional events for Volvo's EVs. It is a bag "inspired by tomorrow's materials", says Volvo's head of design, Robin Page. The global head of leather industry relations at TFL, Dr Dietrich Tegtmeier, has a different take. He says any material using plastic is, rather, "a throwback to the last millennium", when petroleum-based materials were the subject of high levels of hype. For the director of the leather business unit of another chemical group, Silvateam's Antonio Battaglia, leather is "infinitely more sustainable than any vegan material, most of which is disguised plastic".

Open invitation

Mr Battaglia objects to this "disguise" and to the way brands in general often present their reasons for taking a stance against the use of animal materials in their products, going so far as to suggest that some brands "resort to insults and lies" when telling these stories. "The main lie is that meat and leather are not sustainable," he says. "The main insult has to do with the characterisation of meat, and leather, as unethical." Billions of people eat meat and use

leather, he points out. Hundreds of millions of people are involved in livestock farming and meat production and millions of people are involved in making leather or finished products that are made from leather. Antonio Battaglia takes exception to the suggestion that all of these people act unethically and has said he will buy nothing from any company that propagates this idea.

This chimes with the reaction of Andreas Kindermann. The Wollsdorf chief executive, and immediate past-president of industry representative body COTANCE, says he thinks money is the real reason companies opt for synthetic materials. In Volvo's case, he says he is sure the company has decided to favour synthetic materials for its car interiors because these are cheaper. Rather than admit this to consumers, though, it is dressing its decision up with what he calls "a vegan story". Mr Kindermann has issued an open invitation to members of the Volvo board of directors to visit a tannery and see for themselves how by-products from the meat industry are converted into "a modern, durable and sustainable material".

He agrees that the reaction from the leather industry to Volvo's new campaign has been more intense than usual. "Arguments around animal welfare and the environment are either a matter of not knowing the facts or neglecting the facts," he says. "We believe that such a large company as Volvo must know the facts." It has provoked a fierce reaction because deciding suddenly to ignore those facts, after decades of using leather and putting millions of square-feet of it into its vehicles, it feels like an unfair blow. 🌱

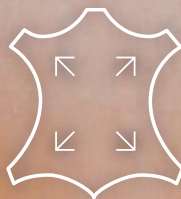


Fashion designer Phillip Lim, pictured here, has used Volvo's Nordico material to produce a limited-edition weekend bag.

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Arequipa's footwear and leather manufacturing traditions are well established.

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Peru pursues progress



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RECYCLED



GREEN JOBS

The United Nations Industrial Development Organisation (UNIDO) has worked with Italy's national tanning industry association (UNIC) to share best practice with tanners in Peru. In June, its Investment and Technology Promotion Office (ITPO) in Rome, part of UNIDO's network of offices promoting investments in new technology around the world, organised an event aimed specifically at promoting good sustainability management among tanners in the leather industry cluster in Arequipa. Speakers representing UNIDO, UNIC and Italy's tanning machinery manufacturers' association, Assomac, all took part.

Fully 1,000 kilometres south of the capital Lima, Arequipa is home to Peru's largest leather cluster. More than 100 footwear manufacturing companies are active there and a group of leather manufacturers also run production operations in the cluster to supply them. To offer all of these companies technical support, Peru's industry ministry runs a leather-specific technical centre, Citeccal, in the city.

Framed by care and commitment

Director of Citeccal Arequipa, Gretel Gutiérrez Calderón, says there is already a clear idea among local companies of what the circular economy is and what part the leather industry can play in the transition towards it. "It's about using

Industry organisations in Italy are sharing advice on the move to circular-economy models with leather and footwear manufacturing companies in Arequipa, Peru.

the industry's waste, adding value to it by turning it into new products that can be sold," she says. "It's a process that will help economic growth, but also one that's framed by care for the environment and by commitment to health and wellbeing."

She explains that a reduction in waste from any manufacturing process will be an important contribution to social development in a place like Arequipa. "This can help us prevent discarded waste from building up close to where people live," she adds. "Waste can cause health problems such as skin or respiratory complaints. The people whose homes are here deserve to have a pleasant and healthy place to live."

Ms Gutiérrez acknowledges that much hard work remains



if the tanners, footwear manufacturers and other companies in Arequipa's leather value chain are to continue to make progress along the circular economy path. She says this involves more than just a process of change in the way they make their products, but a change also in business culture.

There are circular economy projects already happening or in development in Arequipa. Those in place include making dog-chews from tannery waste, specifically from fleshings. Another project uses fat content from fleshing to oil hides. The use shavings in poultry feed is at the testing phase and the Citeccal team is currently assessing another idea to fashion shavings into insoles. Separately, research is also going on to find ways of converting sludge from wastewater treatment into fertiliser.

Fundamental for growth

The director of the ITPO operation in Rome, Diana Battaglia, says she believes that working with UNIC and Assomac will help leather and footwear manufacturers in Arequipa bring these and other circular economy ideas to fruition. She points out that UNIDO is trying to help tanners in a number of countries, including Peru, improve and grow. "It's fundamental for them to adopt circular-economy models in their use of raw materials and in their waste management," she says.

The managing director of Assomac, Roberto Vago, puts a figure on the waste in water and solids that the industry generates, saying that it takes 1,000 kilos of raw material to produce 300 kilos of finished leather. He points out that most of the water that tanneries use is in wet-end processing. "Today, we have the technology to recover that water and reuse it in other production processes," Mr Vago says. Perhaps with the needs of a cluster like Arequipa's in mind, he adds that tanneries can work together to take advantage of many technical advancements. It can be hard, for economic and production volume reasons, for one company to bear all the investment costs, but he says there are good examples of joint-working across the global industry, including in Italy.



Wastewater treatment in Arequipa. Studies are under way to make the sludge from tanning waste available for use in fertiliser. This is one of a series of circular-economy initiatives under way already in the Peruvian city's leather cluster. Credit: David Huamani Bedoya/Shutterstock



A Citeccal technician (left) working with an Arequipa footwear producer. Credit: Citeccal

Sustainability is oxygen

Investment will help leather manufacturers achieve growth, competitive advantage and innovation and development, Ms Battaglia of UNIDO observes. According to UNIC's deputy chief executive, Luca Boltri, tanners in Italy have already experienced these benefits through their commitment to sustainability. He calls sustainability the foundation that growth has to be built on and he says the Italian tanning industry association seeks to share this message with partners in international collaborative projects in Asia and Africa, as well as Latin America. "It's about doing, not just talking," he says. "For us, in Italy, sustainability is like oxygen." Nevertheless, his colleague Fabiana Orlandi, a sustainability specialist at UNIC, says that even Italian tanners are sometimes still a little hesitant to "shout about what we are doing".

She argues that steps to reduce waste and lower consumption of water, chemicals and energy have helped Italian tanners achieve economic benefits because they have achieved greater efficiency. But she also points to the importance that good environmental management has in presenting a positive image of leather and leathersgoods made in Italy to the outside world. Italy contributes 23% of the total global value of leather production, she claims, and 65% of Europe's. At the same time, 70% of all the finished leather products that Italian manufacturers make leave the European Union. It helps for customers overseas to have a clear impression of the Italian industry as being sustainable, supportive of initiatives such as the United Nations' Sustainable Development Goals and a good fit for the circular-economy model that the world must adopt. 🌱

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Few have the design pedigree of Ramesh Nair, artistic director of French luxury house Joseph Duclos. He is a pivotal part of a new set up for the revived brand, which first made its name as a privileged manufacturer of leather and leathersgoods under Louis XV in 1754.



A journey through time

A long association with the art and craft of what might be considered ultra-luxury has led Kerala-born Ramesh Nair to this moment. Cosily enveloped by art, design and leather history books in the reading area (formerly a dining room) of his Parisian home, Mr Nair generously – and light-heartedly – pauses his schedule to take us on a journey through time.

The art of humility

Though originally trained in clothing design, the now creative lead at “JD”, as he occasionally calls Joseph Duclos, was hand-picked by LVMH chief executive, Bernard Arnault, in 2010 to spearhead the revitalisation of nineteenth-century leathersgoods brand Moynat. This followed almost a decade of work first under Martin Margiela and later Jean Paul Gaultier at Hermès, where Mr Nair worked on ready-to-wear and leathersgoods collections. Known for having been behind the (recently relaunched) Shadow Birkin, collapsible Kelly Flat and Paris-Bombay handbags, plus the Médor clutch, the designer undoubtedly emerged as an innovator within the world of leather craft at Hermès. “I seem to have done a decent job of creating a few models and some of them turned out to be quite decently received,” he tells us modestly.

The first time Mr Nair tried his hand at handbags was at Hermès, which he describes as his first real encounter with leather. Today, there is an entire thread dedicated to his designs on established handbag fan site PurseForum, but the transition into leathersgoods without any formal training wasn’t easy, he says. His ideas were initially met with some misgivings in the Hermès leather workshop, for instance, where superior know-how is prized. “You’re told you don’t understand anything about bag design,” he remembers, adding that one must adopt humility very quickly when working closely with artisans. Prior to Hermès, he notably trained in fashion under Yohji Yamamoto and Christian Lacroix.

Later, at Moynat (not part of LVMH, but rather owned by investment firm Groupe Arnault), where he quickly established his own atelier, Mr Nair harnessed learnings from his Hermès experience to forge a brand reputation for exceptional leather artistry. He was responsible for inventing the Réjane, Pauline, Marie-Louise, Gabrielle, Ballerine, Loulou and Limousine handbags, among other much-loved creations. Indeed, by the look of things, he has been sorely missed by fans of the house since his departure after a decade last year. One even posted to PurseForum in early October: “Anyone besides me missing the old Ramesh designs [for Moynat]? Simplistic, beautiful, user-friendly and well-made. All were hand-sewn, hand-painted and perfect.”



The lines of the Saint-Clair messenger are intended to be reminiscent of the cartridge bags worn by eighteenth-century imperial guards in France.

ALL CREDITS: MARIE LISZKAY FOR JOSEPH DUCLOS



Like a blank canvas

Despite his success at Moynat, Mr Nair “just wanted to get out of the whole [handbag] thing”, telling us that he originally had no intention of designing bags again after leaving, or at least not for a long time. However, on his last day there, he received a call from friend Emmanuelle Voisin, a former Moynat executive who is now general manager of the Joseph Duclos brand. Out of politeness, he entertained the idea of her ‘secret project’, but in all honesty did not think much of moulding a new luxury brand on the reputation of a now-defunct tannery and leathersgoods factory. (Eighteenth-century Toulouse merchant Joseph Duclos’ Manufacture Royale de Lectoure, which received its letters patent in 1754, ceased operations over a century ago. The building at Lectoure, in Nouvelle-Aquitaine in the south-west of France, is now being transformed into a high-end hotel.) “My initial thinking was, why?” he elaborates. “Why would I want to do something with a tannery?”

What truly captured his imagination, though, was the idea of forming a brand almost as if from clay, starting with a base material - in this case, leather - and building upwards into design, craft and, ultimately, finished leathersgoods. He has always been interested in materials, particularly woven textiles, he adds, describing being almost captivated by a fabric’s constituent fibres, structure and properties. In a similar vein, Mr Nair paints his approach to leather artisanship as similar to the fitting

process in apparel design. “A seam doesn’t work, you take a little pinch, you put a needle in it ... you keep working,” he says. To a certain degree, the artisans he is working with at Joseph Duclos, many of whom he worked with previously, have been trained in this way of thinking. Together, they had developed “unique” leather-working techniques at Moynat, and he wanted to ensure the continuation of this artisanship at Joseph Duclos.

Mr Nair has therefore maintained a very close and direct working relationship with leatherworkers over the years, even going so far as to state that he had promised to help several of them through “difficult times” compounded by the covid-19 pandemic. They are leather artisans who have received official training under the Compagnons du Devoir scheme, which has been responsible for passing on expert manual skills to students since the Middle Ages. Bringing in a cross-pollinating aspect from his own fashion education, the designer explains that he pushes Joseph Duclos artisans to try new (and even rediscover or “reinvent”) techniques from other disciplines, which they can then hone as part of their traditional leather-working vocabulary. Further, whereas other leathersgoods designers may render digital drawings or create a relatively fixed design, which is then assembled and refined in a factory, Mr Nair’s own approach is more fluid, adapting and responding to the material itself.



History buff

Working directly with “very specific” tanneries in France, who take around eight months to complete the tanning process for each hide, Mr Nair describes his frequent visits to these facilities as involving “poking around, looking under the tables at what they’ve rejected, asking can we do this, can we do that”, pointing out that he is keen to keep pushing for finer-quality leathers. After working so long with the best, he says, he finds it hard to compromise. Traceability and transparency are paramount to this process, he emphasises, both in terms of the procurement of hides and skins and production methods. Although culturally vegetarian since childhood, during a discussion on ethics and sustainability he praises leather as the ultimate in recycling and upcycling and notes how he only recently rebuffed a mycelium supplier who contacted Joseph Duclos, citing scalability as one issue.

On the concept of leather substitutes, he draws parallels with the rapid spread of the synthetic fibre Terylene in India and beyond during the second half of the twentieth century, describing so-called periodic “revolutions” in materials as nothing more than jumping on a bandwagon. He stresses how during the European lockdowns, he visited many museums in Paris and London, especially, where he kept encountering specimens of stone, iron and leather, dating from before the ancient Egyptian period. “And yet we still have a problem with the ethics [surrounding leather],” he shrugs.

Shown engraved with an inscription from the now-dormant tannery’s letters patent of 1754, the Diane bag can be personalised with a calligraphic message of the buyer’s choice.

Steeped in French heritage, even the closure of the inaugural collection’s Diane bag, also designed by Mr Nair, is pendulum-like in shape, partly inspired by golden braids he observed on eighteenth-century ceremonial military jackets during one of his museum visits. Extending this appreciation for aesthetics, the brand’s financial backer, Monolith Investments chief executive, Franck Dahan, is also a member of the Centre Pompidou’s acquisitions committee.

Jewellery and fragrance are also on the menu at Joseph Duclos, which leads Ramesh Nair to expand the conversation on France’s luxury heritage to the country’s last queen, the legendary Marie Antoinette. With the enthusiastic air of a true history buff, he says: “If I am not mistaken, she used to have perfumed powder inserted into her leather gloves so that her hands wouldn’t smell of [the skin].”

While keeping all these echoes of past glories, the revived Joseph Duclos, which launched in late September via a flagship Parisian boutique located at an exclusive address, 54 Rue du Faubourg Saint-Honoré, as well as online, will now seek to forge a new history. 🌐

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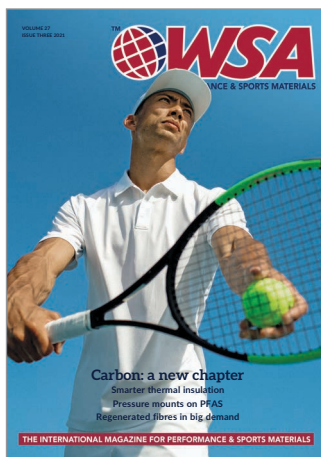
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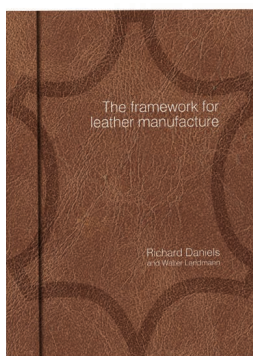
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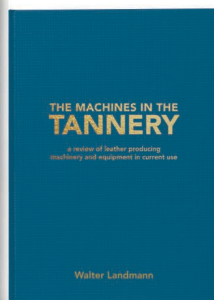
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