

WORLD LEATHER

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

June / July 2022 | [Published 27th June 2022]

Volume 35, Number 3



Leather Leaders: India's Sanjay Leekha
Nothing to Hide turns its focus to water
Frank Mitloehner explains methane (again)
Els & Co drives positive change



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Cover image: With 800 hand stitches, a cartridge bag, crafted in veg-tan leather and lined in suede, one of the Els & Co designs that customers are content to wait weeks for. The company hand dyes all its leather and applies a special beeswax mixture to create a classic finish. CREDIT: ELS & CO.



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- World Leather is published 6 times per year by World Trades Publishing, 36 Crosby Road North, Liverpool L22 4QQ, UK. Price UK £80, ROW: £135 per year (six issues).

Graphic origination by WTP. Print by Bishops Printers, Walton Road, Portsmouth, Hampshire PO6 1TR, England. All rights reserved. ISSN 0894-3087

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SPAIN Louis Vuitton is continuing to invest in handbag production in Spain, specifically in Catalonia. It has established a new production site at Campllong, close to the city of Girona. This takes the number of factories in the region to five. Louis Vuitton also has production facilities in Barberà del Vallès and Santa Perpètua de Mogoda. These factories are just to the north of Barcelona.

US For the third month in the first four months of this year, April's beef exports from the US had a value of more than \$1 billion. The US Meat Export Federation (USMEF) said April was a "huge month for beef exports". In volume terms, US packers exported just under 125,000 tonnes of beef, up by 3% on the same month in 2021. This is the fifth-largest monthly volume on record. Revenues of \$1.05 billion for the month meant growth of 33% year on year and were only slightly lower than the record figure of \$1.07 billion that the industry posted this March.

UK Leathergoods brand Mulberry has set up a new partnership with London-based rental platform HURR, allowing customers in the UK, for the first time, to rent bags such as the brand's Alexa and Bayswater styles. The brand said its tie-up with HURR is the latest step in its sustainability journey and adds to its existing circularity offering.

UNITED ARAB EMIRATES Event organiser Informa Markets Asia has taken enough encouragement from the success of the special edition of APLF it ran in Dubai in March this year to pick the same venue for its March 2023 event. It said Dubai had proved to be a good venue because of the facilities available in the city, and because of ease of travel, light covid restrictions, the high-quality, modern exhibition centre and the positive environment for business meetings.

KYRGYZSTAN Pakistan is working to forge alliances with regional partners with a view to establishing international cooperation for its leather sector. Industry leaders from Kyrgyzstan recently met with two groups of Pakistani companies to evaluate the possibility of economic cooperation, with particular attention on the needs of the leather supply chain. Pakistan invested only \$1.5 million in imports of raw hides and skins from Kyrgyzstan in 2021.

ARGENTINA The authorities in the province of Santa Fe in north-eastern Argentina have initiated a process for bringing together meat packers and tanners to establish a traceability certification for hides and meat. The aim is to certify that the products come from animals raised in a deforestation-free environment. A new traceability system will guarantee that the entire production process, from the birth of the calf to the processing of the meat and hides, have been subject to high standards of environmental care.

URUGUAY Export promotion agency Uruguay XXI has said earnings from shipments of leather and leather products from the South American country reached \$53 million in the first four months of this year. It said this figure represented an increase of 23% compared to the January-April period in 2021. Exports of finished leather contributed \$14 million towards the total, an increase of 33% year on year.

BRAZIL SECEX, Brazil's trade promotions body, has revealed that the country's leather exports for May declined in value by 8.5% compared to the same month in 2021, reaching \$109.2 million. In volume terms, exports fell by 26.2% to 11.2 million square-metres, compared to May 2021. The cumulative total so far this year is \$551.8 million in terms of the value, down by 1.6%, and 60.2 million square-metres in volume, down by 21.9% compared to the same period last year.

CHINA China's leather industry recorded steady expansion in the first four months of this year, according to data from the ministry of industry and information technology. The combined operating income of major manufacturers of footwear and leather reached \$52.5 billion, a year-on-year increase of 7.9%, the ministry said. Subsequent restrictions imposed to control the spread of covid-19 are likely to have affected results in the months that followed.

THAILAND The organisers of the APLF exhibition have announced that a special edition of the fair will take place in Bangkok this October, 19-21. APLF event director, Grace Lee, said this special edition will have the specific aim of attracting leather buyers from the ten member states of the Association of Southeast Asian Nations (ASEAN). The ten countries are: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

JAPAN A fund jointly managed by Japanese fashion group World and the Development Bank of Japan, the W&D Design Limited Partnership (W&D Design Fund), has added to its leathergoods portfolio by bringing local brand Toff and Loadstone into its orbit. This latest addition will see the company join fellow leathergoods brands Hirofu and Hiroko Hayashi, also controlled by the fund. All three source their leather from Italy and Japan, local media stated, and together will bring in sales of more than ¥3 billion (\$23.2 million) combined.



PAKISTAN Official figures from Pakistan's Bureau of Statistics show export revenues of \$900 million for the country's leather industry in the first 11 months of the current financial year, July 2021 to May 2022. This represents growth of 18% year on year. Tanners exported 14.5 million square-metres of finished leather over these 11 months, earning export revenues of more than \$190 million, growth of 40% in volume and of 31.5% in value year on year.

AUSTRALIA The Australian Bureau of Statistics (ABS) has released official livestock slaughter figures for the first quarter of 2022. In the course of the quarter, 1.3 million head of cattle went to slaughter, a fall of 5.8% compared to the same quarter last year. Red meat industry organisation Meat and Livestock Australia (MLA) pointed out that average cattle carcase weights for the quarter were up by 3.4% year on year at 324.4 kilos per head.



VIETNAM The Vietnamese leather and footwear industry has released positive figures for its performance in the first five months of this year, giving indications of a recovery since covid-19 restrictions led to widespread disruption in the manufacturing sector in mid-2021. Between January and May 2022, Vietnamese footwear exports reached \$9.4 billion in value, an increase of 11.4% year on year. The US was the main importer of shoes made in Vietnam with a share of 40%, followed by Europe with 25%. Export of leathergoods over the same period reached \$1.7 billion in value, an increase of 22.1%.

NEW ZEALAND The government in New Zealand is proposing new legislation to tax cow and sheep burps in an effort to combat greenhouse gas emissions. With 10 million cattle and 26 million sheep, New Zealand's agricultural sector faces a substantial extra cost if the proposed new tax comes into force in 2025. Incentives are planned for farmers to use feed additives in animals' diets so as to reduce methane emissions. Another solution is the use of face masks for cows that trap methane

Project under way to improve natural tannins

Leather chemicals manufacturer Silvateam is working with a series of partners in Italy on a project to develop chemically modified natural tannins (CMNTs) to produce leather.

Aims of the project are to make adjustments to the ways in which natural tannins are usually prepared for use in leather manufacturing to achieve lower chemical hazards, sustainable costs, reduced waste and improved circularity compared to conventional tanning processes that use chrome, synthetic tannins or aldehydes.

They have said the process will use natural tannins from sources such as chestnut and quebracho. These tannins will go through an intense filtration process. This will result in concentrated purified natural tannins, with residue material that is not suitable for use in tanning going for use as additives to animal feed.

The concentrated, purified natural tannins then go through a chemical reaction to produce the CMNTs for tanners to use. Off-cuts and trimmings from hides tanned using CMNTs will be suitable for use in agriculture as organic fertiliser.

The partners have also referred to the resulting products as 'innovative modified natural tannins, giving rise to the project's name, IM-TAN. Work on IM-TAN began in September last year and will run for three years. It has the support of the European Union's LIFE programme.

Partners include Conceria Incas, Centro Ricerche per la Chimica Fine, Aquarno and Crossing S.r.l.

'Lightest-ever' leather on show

Leather manufacturer Muirhead unveiled its lightest ever leather at the 2022 Aircraft Interiors Expo. The event took place in Hamburg in mid-June.

Muirhead, part of the Scottish leather group, has presented lightweight properties as one of the key characteristics of its aviation leather. Its Sateen aviation leather, for example, weighs 750 grammes per square-metre at a substance of 1 millimetre.

Now, the company has said it has continued its efforts to reduce weight, without cutting corners. To create an even lighter high-performance, full-substance leather, its innovation team has had "to rethink the entire process", Muirhead explained.

It added that this included careful selection of specific hides, "pioneering new tanning techniques", and rigorous testing to make sure the leather meets aviation safety standards.

Digital ID goes into Mulberry bags

Leathergoods brand Mulberry has announced a new project to add digital identification technology to all of the bags in its Mulberry Exchange collection, which consists of vintage, pre-loved bags. Each bag will be connected to a digital ID, powered by retail enterprise software platform EON.

Mulberry said this new programme will support its circular-economy ambitions and, specifically, a manifesto it announced in 2021 called 'Made To Last', under which it has committed to transforming its business to a regenerative and circular supply chain model.

It has said it wants to connect all products digitally by 2025 and adopt the "circular product data protocol" that the Sustainable Markets Initiative (SMI) announced at the end of 2021 as part of a new fashion taskforce. SMI was launched in 2020 by Charles, Prince of Wales. Mulberry is the first of the brands taking part in the SMI fashion taskforce to present "digitised products".

Creative design project launched at Ecco Leather

The leather manufacturing division of footwear group Ecco has launched a new design initiative called At Kollektive.

For this, Ecco Leather has brought together a group of designers to create original items from leather to illustrate qualities such as versatility and longevity.

The designers include Natacha Ramsay-Levi, Isaac Reina, Kostas Murkudis and Bianca Saunders, and architect Bernard Dubois.

The At Kollektive project will cover multiple applications in which leather can be used, including footwear, interiors, furniture, accessories, bags, and small leathergoods. Items the group creates will have a limited production run to avoid waste and retain items' exclusivity.

The first designs from At Kollektive were showcased at Paris Fashion Week in late June.

Skills project concludes in Brussels

Skills4Smart TCLF, a four-and-a-half-year project that aims, with funding from Europe's Erasmus+ programme, to "upskill and reskill" people working in the textiles, clothing, leather, and footwear (TCLF) sectors in many European countries, has now concluded.

A final conference for the project took place in Brussels in mid-June to present the results.

Twenty-two project partners conducted

in-depth analysis of employment and skills in the TCLF sectors in the EU and have presented a framework for building "a solid sectoral skills strategy". They said the strategy is "grounded in facts and data". There is also a step-by-step guide on how to move from analysis to action.

Secretary general of leather industry body COTANCE, Gustavo Gonzalez-Quijano, said the project was a "precursor for what will be done in the future" regarding skills and training in these sectors.

High-performance upholstery finish

JBS Couros has launched a finish called JEVO, that it says adds durability to leather, specifically for the upholstery sector.

Guilherme Motta, president of JBS Couros, said: "The EVO range has double the resistance in relation to regular leather. Moreover, it does not exhibit the hard, plasticised aspect of similar products on the market."

Six leathers for outdoor shoes added to Responsibly Raised

Leather manufacturing group PrimeAsia has launched a new collection for brands and manufacturers making outdoor footwear.

It has called the new collection Outdoor RR because the six performance leathers that make it up all comply with PrimeAsia's Responsibly Raised programme.

The group launched Responsibly Raised in 2019, with a view to building up collaboration with stakeholders in the supply chain, all the way to farm level, to promote the responsible use and conservation of natural resources, fair labour conditions and sound animal welfare.

All the wet blue hides PrimeAsia sources for Responsibly Raised are physically stamped to make it possible to trace hides back to the farms the cattle came from.

By 2030, the group will increase these levels of traceability to make 100% of hides sourced in Latin America, and 90% of all the hides it sources globally, traceable back to farms.

The leathers in Outdoor RR all have what PrimeAsia has called "a strong casual influence" and a proprietary water-resistant finish called Life-Shield.

Stahl publishes new ESG report

Leather chemicals producer Stahl has published a new environmental, social and corporate governance (ESG) report, outlining its sustainable development ambitions and highlighting its achievements over the last year.

Stahl introduced an ESG roadmap last year, setting out commitments and targets

for the next ten years. Achievements so far include a 15% reduction in CO₂ emissions from Stahl's own operations. The company also pointed to its gold rating for sustainability from EcoVadis, a Paris-based evidence-based assessment platform that reviews the performance of organisations in meeting sustainability targets.

On presenting the report, Stahl's chief executive, Maarten Heijbroek, said: "In my first full year as CEO, I have been impressed by the progress Stahl has made. The company's ambitious ESG roadmap continues to drive our efforts toward more responsible chemistry and transparency throughout the supply chain."

Industry first for Gruppo Dani

Leather manufacturer Gruppo Dani has been awarded ISO 50001 certification for energy management. This covers its four factories in Italy and is a first for the Italian tanning industry.

The certification was awarded by DNV, an international testing, certification and technical advisory service to the energy value chain, including renewables, oil and gas, and energy management.

The DNV audit certified the compliance of the energy management system of the complete leather-making cycle at Gruppo Dani, from raw to finished.

Indian tanner adopts Qualus polymer bead technology

Tanning technology from Qualus is now in use in India. The company's polymer bead-based system was already in use in tanneries in other countries, including Mexico and Italy, but now Ram Leather has become the first leather manufacturer in India to use the technology.

Qualus has said that placing its polymer beads in tanning drums can help tanners make savings of up to 40% in water usage. As a result, there is also less effluent discharge. The beads are easy to separate from the hides for cleaning and reuse.

Ranipet-based Ram Leathers, part of the BKK group, is a leading producer of leather for shoe uppers. It has chosen to use the Qualus technology after completing successfully a series of trials, achieving what it has described as a significant reduction in the volume of water needed in the retanning process.

Commitment to CSR essential for long-term success

Tanning group ISA TanTec has published a new corporate social responsibility report, covering its activity across two years, 2020 and 2021.

In the report, the Macau-based group gives a breakdown on progress it made over this period at its production facilities in China, Vietnam and the US. It covers a range of subjects, including the group's systems and strategies for sustainable operational management, chemical management, employment and human rights, supply chain management and environmental protection.

The report also contains a detailed account of how the group managed the challenges presented by covid-19 in the two years in question.

Chief executive, Uwe Hutzler, said: "Since 2020, it has been a challenging time for everyone in the world. We encountered a significant drop in the business in 2020 when lockdowns in the main markets started. Extensive contingency plans allowed us to maintain operations and ongoing business relationships on the supply chain side."

He said the new report shows that ISA TanTec views its commitment to corporate social responsibility as "essential to our long-term success".



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Tanning group CEO says entrepreneurship is alive and well

The chief executive of Gruppo Mastrotto, **Chiara Mastrotto**, was invited to be one of the speakers at an event in Padua on June 22.

Local business organisations and the *Corriere del Veneto* newspaper organised the event, which sought to explore the question of whether Veneto is “still a land of entrepreneurs”.

Ms Mastrotto said she was certain entrepreneurship was alive and well in the region. But she said: “It is our responsibility as entrepreneurs and as businesses to build up our capacity to innovate in ways that are in keeping with economic, environmental and social sustainability.”

She said the Gruppo Mastrotto leather manufacturing group sought to do this through sustainable industrial processes, which she said took considerable investment and teamwork. “This is what running a business today is about,” she said. “It’s important not to be satisfied with what you have already achieved and to keep setting yourself new goals.”

WWF’s Maurício Bauer takes JBS job

Meat and leather producer JBS has appointed **Maurício Bauer** as corporate sustainability officer for JBS Brasil. Mr Bauer was previously the Washington DC-based senior director of the beef and leather supply chains for campaign group the World Wildlife Fund (WWF).

JBS said that Mr Bauer’s focus in his new role would be to head up the company’s sustainability strategy in the group’s home country, aligned to its global sustainability goals.

Maurício Bauer studied agronomy and veterinary medicine in Brazil before moving to the US. He has been a frequent speaker at leather industry events in recent years and has been instrumental in setting up a number of projects in which WWF and other campaign groups have worked with leather industry bodies to tackle deforestation and its links to leather supply chains.

On announcing one such project with the Leather Working Group at the end of last year, Mr Bauer said it was an “important step towards achieving zero-deforestation supply chains for leather”.

Leather industry leader leaves post

The chief executive of Wollsdorf Leather, **Andreas Kindermann**, has left the role this month. Mr Kindermann, a former president of European leather industry body COTANCE, said he would either work in consultancy in the years ahead or accept a

new management position.

He has spent 14 years at Wollsdorf Leather and has led its transition from being an Austria-based company to a global player, opening new production facilities in Croatia, China, Mexico and a logistics centre in the US.

In Mr Kindermann’s time as chief executive, the company became the fourth winner of the Tannery of the Year Award, in 2014.

He said he was sure Wollsdorf Leather would continue to be a leading global partner for its customers in automotive and aviation.

Additional role for Conseil National du Cuir president

The president of France’s Conseil National du Cuir, **Frank Boehly**, has been chosen to lead a wider creative sector body, France Industries Créatives.

He will take up this new role alongside his presidency of the leather industry body.

France Industries Créatives seeks to represent the interests of a wide range of sectors, including wood, watch-making, garment making and leather, with a desire to preserve high levels of savoir-faire, something that they all have in common.

A round of presidential and legislative elections concluded in France on June 19. In his initial remarks as the president of France Industries Créatives, Mr Boehly said: “I call on the new government and all recently elected members of parliament to help us sustain our companies by making it easier for small businesses to be competitive, by favouring job creation and by valuing the artisan savoir-faire that has made ‘Made in France’ a prestigious label throughout the world.”

LHCA’s role in New York Times article on Higg Index

The president of the Leather and Hide Council of America (LHCA), **Stephen Sothmann**, has revealed that the organisation put substantial effort into convincing New York Times reporter **Hiroko Tabuchi** to run an article about the raw deal that leather and other materials receive in the Higg Materials Sustainability Index (MSI).

Ms Tabuchi’s article, which appeared in the newspaper on June 12, generated intense debate in the arena of sustainable fashion and drew a formal response from the Sustainable Apparel Coalition, which set up the Higg MSI in 2011.

“We worked with this reporter for over a year to get this story told,” Mr Sothmann said, “and we hope it will spur more thoughtful conversations about sustainability in the fashion world.” In further comments, he insisted there is no validity in

presenting the substitution of leather with alternative materials, especially those made from fossil fuels, as a sustainable move.

“At its core,” Mr Sothmann said, “the leather industry is a recycling industry, taking a natural, inevitable by-product of food production and turning it into a usable, durable, and sustainable material that looks good too.”

He thanked the *New York Times* for taking “a deep look into the issues facing the industry”, including competition from plastic, and for highlighting “the unfortunate reality of perfectly good hides and skins being wastefully sent to landfills”.

Royal visitor for Roccamore

During a royal tour of Aarhus in early June, **Queen Margrethe II of Denmark** included a visit to the boutique of footwear and leathers goods brand Roccamore.

Founder, **Frederikke Antonie Schmidt**, was able to show the royal visitor some shoes from her current collection and share details with her of the Traceability collection that Roccamore developed last year in partnership with another Danish company, Spoor.

Launched in 2021, the Traceability collection used Danish hides supplied by Spoor, with each one laser-identified to capture details about its origin, all the way back to the farm. Each shoe in the collection had a quick-response code printed on the inside, making it possible for consumers to find out details of the individual animal from which the leather came.

Frederikke Antonie Schmidt described Queen Margrethe II as an inspiration.

UK industry gathers for London event

Representatives of all segments of the leather sector in the UK gathered in London on June 9 for the 2022 Leather Industry Dinner, hosted by the Worshipful Company of Leathersellers.

The immediate past-Master of Leathersellers, and former chairman of Scottish Leather Group, **Jonathan Muirhead**, welcomed guests to the event and said he was confident the industry would emerge strongly in the months ahead from the current challenges the global market presents. He expressed hope that finished product brands would be encouraged to buy more leather from the UK.

Mr Muirhead then paid tribute to **Jessica Aiers**, whose last task as business development manager at industry body Leather UK was to organise the event.

He pointed out that in her five years promoting the leather industry in the UK she had attracted enough new members to

Leather UK to double its membership. He also praised the volume and quality of the output she had achieved on the industry's behalf on social media and carried out important work on an influential survey of consumer attitudes, publishing the results at the start of this year.

UNIC's mission to Brussels

A delegation of senior representatives of Italy's national tanning industry association, UNIC, made a formal visit to the headquarters of the European Commission in Brussels this June.

UNIC president, **Fabrizio Nuti**, led the delegation, accompanied by vice-presidents **Rino Mastrotto** and **Piero Rosati**, board member **Roberto Lupi**, and by the current president of European leather industry body, COTANCE, **Manuel Ríos**.

An Italian member of the European Parliament, **Luisa Regimenti**, visited leather industry representatives in Santa Croce in Tuscany in May and invited industry leaders to travel to Brussels to repay the visit.

The high-level delegation presented the challenges facing tanners in Italy and throughout Europe, including the economic problems caused by rising costs.

Porsche director pays tribute to Pasubio

The procurement director of automotive brand Porsche, **Barbara Frenkel**, has paid tribute to leather supplier Pasubio during a visit to Italy. She said Italy was an important market for Porsche, delivering 6,200 new vehicles in 2021.

Ms Frenkel said the company had around 150 suppliers across Italy, "mostly long-term and trusting partnerships that work extremely well". Pasubio was one of a small number of suppliers she visited. She said she was impressed by the suppliers' commitment to innovation and passion for what they do.

She also gave the keynote speech at an event organised in Milan by a German-Italian business group.

'Discovery' event takes place in Paris

Leather and footwear research and testing organisation CTC hosted an information event in Paris in June. It was part of a series of events CTC has held for fashion and design professionals in the French capital, with Rue de Cléry 64 as the

venue. This has led to the series being called Découverte 64 (Discovery 64).

French leather industry initiative Au-Delà du Cuir (ADC) has its headquarters at Rue de Cléry 64.

At the event, two leather experts from the CTC, **Thierry Poncet** and **Nathalie Hustache**, led the discussion and answered questions. They said their aim was to dispel superficial ideas or misconceptions about leather, clarifying where it comes from, how it is made and what its applications are.

Cordwainers Footwear Awards

A footwear design student at De Montfort University in Leicester, **Sam Lilley**, has won first prize at the 2022 Cordwainers Footwear Awards. He was presented with the award at packed ceremony in London on June 9. He said he aimed to bring a love of illustration and a fascination with graffiti into his footwear designs.

The Worshipful Company of Cordwainers said it was delighted to have been able to hold the awards as a live event again this year, especially as the company is celebrating its 750th anniversary in this year. 🌟



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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.

23/06/2022

AIACC to hold public event to celebrate leather

22/06/2022

Real Leather, Stay Different heads to Scandinavia
Call for US to repeal China shoe tariffs

21/06/2022

UITIC announcement expected in late June

20/06/2022

SUVs hold their own, but China's vehicle production falls by nearly 10%
TFL supports footwear training in Germany

17/06/2022

US consumers care about plastic waste

16/06/2022

Bentley part of the furniture in Milan
Production in full swing at Spanish leathergoods brand's own tannery
Pangea proud to support design festival

14/06/2022

Bottega Veneta puts the emphasis on product durability

13/06/2022

NYT weighs in on Higg MSI treatment of leather
Argentine leather workers agree salary increase

10/06/2022

Kansas labelling law to protect genuine meat

09/06/2022

Italian footwear sector renews its plea for help
Avoid microplastics, choose leather, VDL urges
Pre-loved is the ideal starting point for Mulberry digital project

08/06/2022

Successful Zoology workshop at Jiaying University
Gucci unveils ESG initiatives in southern Italy
China still the top buyer of US wet-salted hides; Italy dominates wet blue

07/06/2022

Small fall in EU cattle population
Boost for Italian brands in the US with launch of Altagamma Club New York
Easing of restrictions in China take pressure off luxury brands
Morgan to hold motor festival in Malvern again

06/06/2022

ESG progress for Richemont
New partnership to heighten leather sustainability standards

01/06/2022

Milestone for Gruppo Mastrotto as it achieves carbon neutrality

31/05/2022

PFMA welcomes Pakistan's ban on imported footwear
Leather designs go digital through Real Leather Stay Different partnership
Major handbag sale to be Christie's first in Italy

30/05/2022

China coaches industry in RCEP competitiveness
Workers in Tuscany seal agreement with Gucci
New Artcurial handbag event set for Monte Carlo

27/05/2022

Shang Xia goes street
US red meat exports 'remarkably resilient'

26/05/2022

LHCA announces judging panel for UK competition
Hermès celebrates 20 years at Belley

25/05/2022

Accredited tanneries only for Mulberry by 2023
Mexico reduces its imports of European footwear
ISA TanTec creates mushroom-based material
Sixth-generation Hermès chief joins Exor board

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PrimeAsia goes further on hide traceability
LWG opens door to first Chinese car brand
Lineapelle-backed materials collection on global tour
California approves supplement that cuts cows' methane emissions

23/05/2022

China car sales plunge due to covid policy
Jacquemus appoints first external CEO

20/05/2022

Reebok refocuses on Classic Leather designs
Bordeaux breakthrough for leathergoods brand
Richemont up 44% YOY, PVC-free by 2023

19/05/2022

Italy's tanners want voices heard at European level
A strong ten months for leather in Pakistan
JBS Couros opens showroom in China
Red Dragonfly shoes acquired by museum

18/05/2022

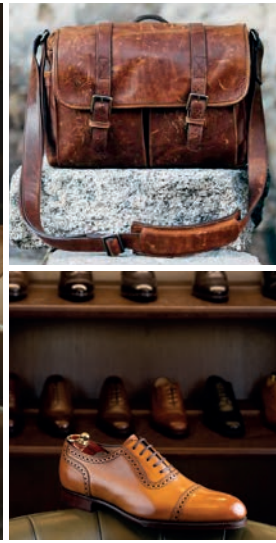
Footwear firms urged to build partnerships
Disappointing news for car sales as supply chain issues drag on
Free leathergoods care incentive for Hainan shoppers
Investment in leathergoods pays off for Burberry

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China: April figures show the economic cost of zero-covid
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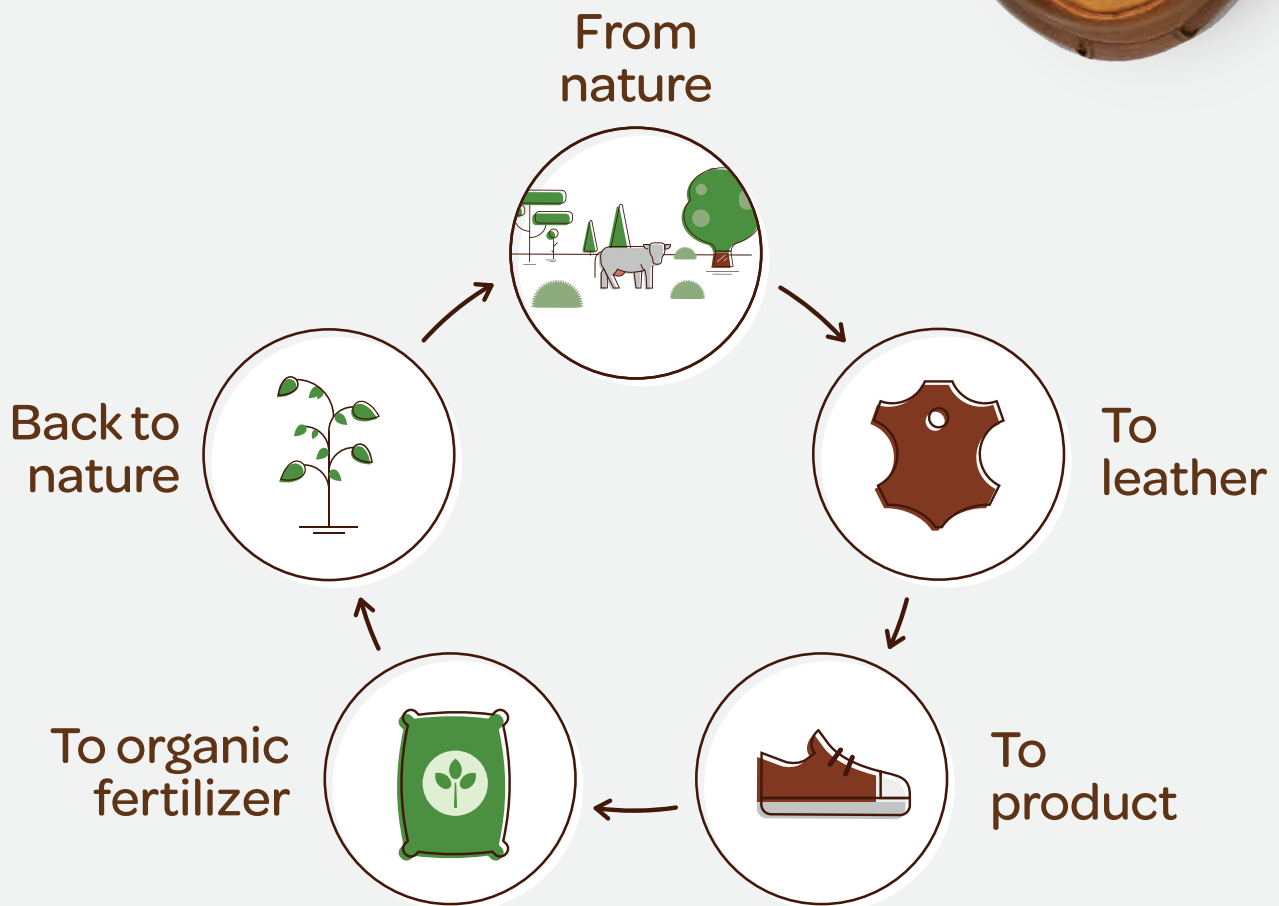
- Over 31 Million Cattle Hides and Wet Blue Products Produced Each Year
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This tanning technology uses patent pending tannin based products and has been developed thanks to a partnership between Silvateam, Biofin, Fertilizzanti Certaldo and some of the world's best tanneries.

Council for Leather Exports president, Sanjay Leekha, says that, with the pandemic “nearly under control”, he is confident of further substantial growth for the Indian leather industry this year.

CREDIT: APLF

“We are becoming more interesting for US customers because of the volumes they require. The larger brands are all looking at India now.”



Double-digit growth (again)

Official figures from India’s Council for Leather Exports (CLE) show the industry there is likely to have achieved export revenue growth of around 33% in the financial year that ended this March, taking total revenues to around \$5 billion. CLE president, Sanjay Leekha, says he is confident India’s leather industry can achieve further growth in the years ahead.

You talked recently about the importance of the leather industry in India adding value and skilling up its people. What is the perception in India of the leather industry and of the people who work in it?

See, traditionally, 50 years ago, leather was more of a traditional industry. People from certain segments of society would work in the industry, but as the industry grew and became more about value-added, I think it started employing people from across all segments of society. Today the industry employs people from every possible religion, every possible section of society and from every possible financial level of society. I would say it provides a level playing field for almost everybody in India.

We have seen news of campaigns, in some Indian states more than others, to have leather production stopped. How seriously should we in the outside world take those reports?

We are a democratic country and we take pride in our democracy. I would say that, although, one of our major religions, Hinduism, does have issues with cow slaughter, it does not really translate into any direct issues with how the industry runs. There are, of course, laws that monitor how animals are treated, including how animals are slaughtered, and we have to abide by them.

The numbers you have cited recently for leather-sector exports from India are impressive. Something that caught the eye in particular is that you said exports to the US surpassed \$1 billion for the first time in financial year 2021-2022. What do you think led to that growth?

Yes, we reached \$1 billion in exports to the US in the financial year that ended on March 31. This has gone up from something like \$600 million the year before. Substantial growth has happened. I think that there is scope for substantial further growth. The reason for that is that our scale

of operations is getting bigger. This means we are becoming more interesting for US customers, because of the volumes they require. The larger brands are all looking at India now, the US brands for sure. Handbag brands, footwear brands, they are all looking at India. That is what is helping this growth. I think our next big period of growth will come from the US.

Will India be able to maintain this growth in the US if trade relations between the US and China improve?

The China Plus One strategy, through which companies attempt to avoid concentrating their business interests too heavily in China, gives us an opportunity. It's up to us to perform well and take advantage of that opportunity. That is really something that is quite individual. Some of the players in the industry will be able to take advantage, some may not. This started before China Plus One, really. It started when President Donald Trump put a 25% tariff on some leather products from China. People sitting in corporate boardrooms in the US probably decided that their dependence on China was way too big; their whole survival was at stake and they started looking at India. One thing that went slightly against us at that time was the fact that the US Generalized System of Preferences that we were benefiting from was removed [in 2019]. That had some impact and negated some of the advantages we had with the China tariffs, but all the same I think that, in terms of numbers, it was a 6%-10% duty benefit that was withdrawn, which is substantial, but it was not in line with what China was being put through, so we managed to survive it. After that, with the pandemic and disruption to the supply chain everywhere, that further pushed the situation. We as a country still have a substantial advantage now and I'd really like to see this going forward.

Why is the Council for Leather Exports enthusiastic about the growth of non-leather shoes?

There may appear to be a contradiction. The Council for Leather Exports represents the footwear industry as well as the leather industry. In footwear, there has been more stress on leather footwear, but with changing trends, the same factories are converting some of their capacity to non-leather. Also the expertise of manufacturers who



Indian leather manufacturers are of particular interest to US customers at the moment, CLE has stated, because India offers an alternative to China and can produce the high volumes US buyers require.

CREDIT: APLF

make leather shoes is being deployed to set up new factories for non-leather footwear. I personally see that the non-leather footwear sector has a huge potential to grow.

CLE's focus is on exports, of course, but how does the domestic market look to you?

We are currently estimating the domestic market to have a value of about \$12 billion per year and a large chunk of that comes from footwear. And on the footwear front, with a population of 1.35 billion and a per-capita consumption of approximately two pairs per annum, we are looking at substantial production being acquired by local consumers. Now, when we look at a slightly growing economy, and more disposable income with that, I see that, if the per-capita consumption were to increase even by half a pair or one pair, you're talking about a large number of additional shoes that are going to be required. These shoes will need to be produced locally because the government has been trying to put in systems that will help us become less dependent on low-cost imports. That's the direction India is moving in. We have certain quality standards, which means we are developing the quality of the shoes being sold in the country, whether

from domestic production or imports. They all have to be of a certain level of quality. I think this will help the industry in the long term, help it to become more dependable, more reliable and producing better quality.

How optimistic are CLE members about this new financial year, 2022-2023? What is your reading of the situation?

With the pandemic now nearly under control, the leather industry in India is very aggressive about growing, about further investment, and about building additional capacity. I think most of the large players you could speak to will tell you that their order books are quite full. In the current financial year, April 2022-March 2023, we expect what could be game-changing kinds of numbers. I cannot give you a specific number but what we are looking at is double-digit growth again, which in the current scenario is fairly good. 🌟

Sanjay Leekha is the managing director of Alpine Apparels, which produces handbags, shoes, belts, gloves and small leathergoods at its production facilities in Faridabad, near New Delhi.

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Nothing to Hide: Management of water-use in tanneries

Executive summary

Considerable efforts have been undertaken by the tanning industry in recent years to obtain a better understanding of its own water footprint through collection, evaluation and benchmarking of water consumption data. Recent data shows vast improvements have already taken place.

Tanneries adhere to legal requirements or recommendations on water usage and the vast majority are working hard to cut use for several reasons, including their own quests for sustainable production, customer demands and cost effectiveness. Across the world, new legislation that requires tanneries either to operate their own effluent plants or, if they are in clusters, connect to common treatment facilities is in force or coming into force.

This essay outlines how the 'reduce, reuse, recycle' philosophy is being adopted for many reasons and with excellent results, with machinery and chemical companies launching innovations on a regular basis to help tanners adhere to their goals. 🌱

Wastewater treated at onsite effluent treatment plants: through the process of dissolved air flotation, biological treatment, adsorption and clarifying, the resultant end of pipe effluent can be discharged to municipal facilities for further treatment.

ALL PHOTO CREDITS: WTP

About this essay

We first published essay ten in the Nothing To Hide series in the August-September 2015 issue of *World Leather*. Its author was Jutta Knoedler, then general manager of I-T-G Environmental Technology, a consultancy group in Germany. She began auditing the environmental performance of tanneries in 1991 and is still a globally respected authority. She has carried out audits for the Leather Working Group (LWG) and for Energy Controlled Leather (ECO2L). She has also carried out research projects for the European Union, German Federal Ministry for Environment, the German Leather Association and the Research Association for Leather. She has received awards for ground-breaking technical and scientific work for waste management in tanneries (from VGCT, the German association of leather chemists), for improving energy efficiency (Deutsche Energie-Agentur, the German Energy Agency) and for energy conservation and pollution reduction in tanneries (from the China Leather Industry Association).



Nothing to Hide: Reducing water use in tanneries

This essay seeks to explain how far the leather industry has come in terms of water reduction in recent years. The original version, which industry consultant Jutta Knoedler contributed to the Nothing To Hide series, first appeared in World Leather, August-September 2015. Much of the original data remains current but we have worked with the founder of the Sustainable Leather Foundation, Deborah Taylor, to update as much of the information as possible.

A natural resource, water is essential for life. Responsible consumption of water is a key priority for ensuring that an adequate, safe, clean supply is available for health, the environment and industry. Finding new and innovative ways to reduce pollution loads in industrial wastewater, improving the cleaning and treatment of wastewater to enable more recycling, and reducing the amount of water that is used to begin with, are all necessary components for future social and economic development within a more sustainable model.

According to UN-Water¹, it is estimated that, globally, more than 80% of wastewater is released into the environment without adequate treatment. By the 2020s, the annual amount of water used across all sectors was approximately 4,600,000 million m³; 69% used in agriculture, 19% in industry and 12% in domestic use

(Above:) Ecco Dritan process – The technology was the fruit of five years' research and development activity, which had as its starting point a question about the possibility of tanning without water in a world of increasing water scarcity.

(UN/FAQ/Aquastat). Experts estimate that by 2050 total water consumption will rise by between 20% and 30% to as much as 6,000,000 million m³.

As stated in the original Nothing To Hide essay ten from Jutta Knoedler, the tanning industry is one of the main industries with a high-water consumption. This century-old statement can be read in nearly every thesis about water usage in tanneries. But does this indicate the industry has done nothing over the past few decades to

reduce the amount of water it uses?

The leather value chain uses water at many stages of production and the amount used depends upon the type of tanning method adopted. For many years, leather technologists and experts have looked at ways to minimise the amount of water used, while at the same time finding better methods of treatment and recycling.

Water use is linked to other sustainability risks within leather manufacturing, such as use of chemicals and water pollution. If the amount of water used in the tanning process is reduced, you can also reduce the amount of chemicals that are needed and this, in turn, will reduce the amount of residual chemicals and pollutants to be treated. Wastewater treatment is a key priority for the industry for two reasons: first so that any wastewater returned to the environment is free from harmful chemicals and other pollutants and, second, so that there is the opportunity for recycling the same water back into tannery production or for irrigation use.

The leather industry has been actively working on water use minimisation for many years, however, up-to-date figures are not readily available. Where figures are available, The Sustainable Leather Foundation (SLF) records water usage metrics (alongside other sustainability criteria) and enables accurate, real-time information on trends and outcomes of new technology and process adoption. Using a benchmark average based on Leather Working Group award bandings, the only available data set that the industry had been assessed against previously², SLF took the bronze bandings (as per July 2021) for the various categories of leather manufacture to provide a consistent starting point with current industry norms.

While SLF's 'Transparency Dashboard' is still only one year old at the time of publishing this update, it already lists 27 tanneries and of those 27, the water usage data has consistently fallen well under the average benchmark that is being used currently³.

Although the sample size is small, the range of facilities has a geographic spread that includes Argentina, Bangladesh, Brazil, Germany, India, Italy, Pakistan and Turkey and no single facility recorded a consumption level higher than the average benchmark data.

This data is also backed up by recent

Panel 1: Water usage to produce 1m² of finished leather

	Raw to Tanned	Raw to Crust	Raw to Finished	Tanned to Crust	Tanned to Finished	Crust to Finished
	l/m ²	l/m ²	l/m ²	l/m ²	l/m ²	l/m ²
Average Benchmark	146	270	297	63	134.1	10.8
Average Actuals	No data yet	109	148	29	48	8.6

Data from Sustainable Leather Foundation's Transparency Dashboard³ – June 2022

publications by the Italian national tanning industry association, UNIC, and the representative body of the European Leather Industry, COTANCE. In its 2021 sustainability report, UNIC reported that since 2003, water consumption among Italy's leather manufacturing companies had dropped by 18% and that on average, 113 litres of water was required to produce one square-metre of finished leather. Similarly, in its Social and Environmental Report 2020, COTANCE reported that between 2016-2018, European tanneries consumed an average of 0.121 cubic metres (121 litres) of water to produce one square-metre of finished leather; this was 7% less than the average amount reported for the years 2010 and 2011.

Signs of hope

The huge global water use figure does not mean that the world is running out of water, but critically, water is not always available when and where it is needed. Therefore, different areas have different regulations. A high proportion of leather production is still located in developing or low- and middle-income areas such as China, India and Latin America. It is assumed that the water consumption here is higher than in developed areas, but improvements are being evidenced. From the 2011-2013 data, the weighted average of the water amount with specific consumption data for bovine tanneries (raw hide to finished leather) was calculated to be approximately 250 litres per square-metre of



Reverse osmosis filtration systems used by tanneries allow for more wastewater to be reused in processing or discharged to municipal facilities and in some cases directly back to the watercourse should the quality be sufficient.

Panel 2: Examples of technology driven improvements

Dritan system by Ecco	With reports of saving up to 20 litres of water per hide tanned.
Qualus polymer bead system	To save up to 30% water load and chemicals in the retanning drum.
Electro-Oxidation (EO) and Coagulation EC) based Zero Liquid Discharge (ZLD) trials	Conducted by the Central Leather Research Institute in Chennai. Results have been positive and licence approvals are imminent.

finished leather. What this indicates is that current water consumption is far less than it was a decade ago when the last meaningful statistics were published and this demonstrates the efficacy of the improvement and development that leather manufacturers are working on, both in process and also in recovery methods.

The tanning industry has a complex structure in terms of materials, processes, and manufacturing practices. Therefore, every tannery must develop a management system adapted to its specific needs in terms of production and location. However, some general solutions can still be reviewed by every tannery and recommendations should be applied in the 'reduce, reuse, recycle' model.

- Measure and monitor water use in inflow, effluent, different production areas and equipment
- Understand, calculate, and benchmark the water footprint of the tannery
- Use water-efficient production processes such as low float-length (for example use 85% instead of 100%) and fewer washing processes
- Use of fresh hides, which reduces the need to remove salt and improves wastewater
- Install water-efficient machines (good-quality drums and machines for splitting, samming)
- Investigate technology-driven improvements (see Panel 2)
- Use high-pressure cleaners and cleaning machines for floors, drums and equipment
- Reuse and recycle water, for instance washing water, cooling water, split-flow water
 - Reuse water and chemicals (such as sulfides and lime in liming splits)
 - Split-flow water reuse, instead of recycling final treated mixed water

- Have a material-overlapping view for innovative and sustainable treatment technologies for water reuse and recycling; use methods with low energy consumption, low chemical use, less sludge and lower air emissions (not all water recycling methods are sustainable).

- Consider active content in liquid products and optimise chemical consumption (no overdosing), use biodegradable chemicals.

There are excellent reasons for tanners to reduce water consumption: as part of their own quest for sustainable production, to meet legal directives, cleaner production demands and

customer requirements, or to reduce costs.

As more facilities measure, understand and register their data through auditing platforms, such as SLF, LWG and with regional and global industry bodies, the true data can be evidenced to support the sustainable efforts of the industry. This transparent approach will also enable brands, retailers and campaign organisations to deliver credible, consumer-facing information that can be evidenced. 🌐

References:

1. <https://www.unwater.org/>
2. www.leatherworkinggroup.com
3. <https://sustainableleatherfoundation.com/SLF-Dashboard/>

Panel 3: Historical data - Water use for raw hide to finished bovine leather (2011-2013)

Area/ Country	% heavy leather bovine (2011) 275 million m ² /year	% light leather bovine (2011) 1,314 million m ²	Estimated spec. water consumption avg. (m ² /t)	Estimated spec. water consumption avg. (l/m ²)	Heavy and light leather production (million m ² /year)	Estimated total water consumption avg. (million m ² /year)
Europe	12.6	16.6	25	167	253	42.1
China	37	16.5	45	300	319	95.6
Bangladesh	0.05	0.8	50	333	11	3.5
India	1.9	4.9	28	187	70	13.0
Pakistan	0.3	1.5	50	333	21	6.8
Latin America	19.5	26.1	28	187	397	74.0
Former USSR	6.8	10.6	40	267	158	42.1
Others	21.85	23	50	333	362	120.8
Estimated total water consumption worldwide (bovine) raw hide-finished leather (2011):					398	mio m ² /year
Estimated total water consumption worldwide (bovine) raw hide-finished leather (2011):					250	l/m ² finish leather
Estimated total water consumption worldwide (bovine) raw hide-finished leather (2011):					38	m ³ /t raw hide

A photograph of three lion cubs climbing a large, dark, textured tree trunk in a savanna environment. One cub is at the top, another in the middle, and a third at the bottom. The background is a blurred green landscape.

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Photo: G. Maitan

Trying to make sense of global warming information surrounding methane and CO₂ equivalents, plus acronyms such as GWP (Global warming potential), can be very confusing. At the JBS/Silvateam methane forum in São Paulo in May, Professor Dr Peer Ederer, from Global Food and Agribusiness Network, explained the physics of methane and CO₂ equivalents. The calculation that methane is 28 times more potent than CO₂ may not be relevant to agriculture and cattle.

Don't just blame the cows - unravelling the mystery of GWP28

Global warming is an issue that we are all very much aware of. Greenhouse gases, the term rather than the individual components, is commonplace but what does it really mean? In simplistic terms, energy from the sun, in the form of light waves, heats up the surface of the earth and as a result, infrared energy waves are emitted back to space. Some of this energy passes through our atmosphere, but some is retained by an insulating “blanket” of gases that keeps Earth at a stable and habitable temperature. Without it, Earth's temperature would be around -20°C. Whilst this greenhouse effect is needed, understanding how the individual gases differ in their warming potential is crucial and, for the leather industry, specifically methane.

A little background

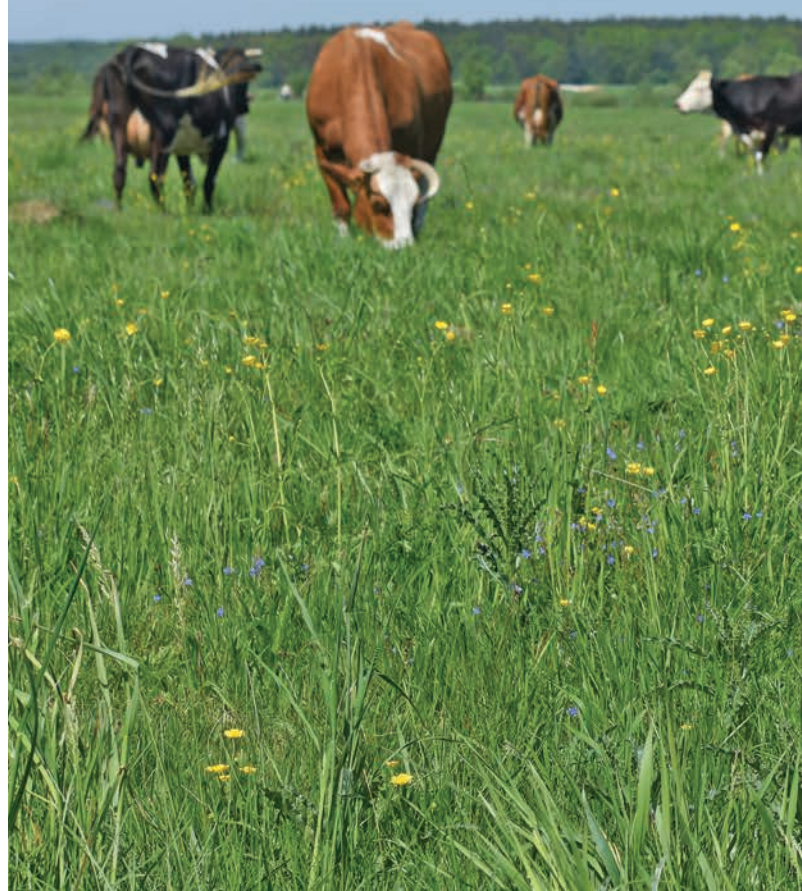
For almost 2,000 years, global atmospheric methane concentration levels, based on studies of Antarctic ice-core data, were consistent at around 650–700 parts per billion (ppb). In the 1700s, the levels began to increase, slowly at first until the middle of the 1800s. By the 1900s the rate of increase was exponential. Often quoted as pre-industrialisation and post-industrialisation, clearly there is an issue with methane in our atmosphere.

In his talk, Dr Ederer was not there to point the finger at anyone – particularly not the cows. Methane and agriculture are difficult topics and it is important that we understand exactly what is happening so that the right policy choices can be made. In a confusing world, even the “experts” do not always agree, get it right or even publish easy to understand information. To back this, he pointed out that even the United States Government website of its Environmental Protection Agency (EPA) states that methane as a gas exists in the atmosphere for 12 years and has a GWP of 25. Yet on the same website, it goes on to claim that methane has a GWP of 28–36 and on average lasts about a decade.

Perturbation life

To understand the difference in warming effect between carbon dioxide and methane, a set of complex equations is used. Whilst it is common to see a factor of 28 used, where does this number come from?

Dr Ederer explained that it comes from the difference in radiative efficiency of the different gases, this being the measure of the “greenhouse strength” of the individual gas and is measured in watts per square metre per part



per billion (Wm²ppb⁻¹). In this case, methane has a value of 0.000363 Wm²ppb⁻¹ and carbon dioxide 0.0000137 Wm²ppb⁻¹.

Those with a keen eye will see that this only equates to a factor of 26, which in the context of parts per billion is correct but when calibrated for weight, for which methane is lighter by a factor of 2.75 and with some additional calculated effects, a figure of 119 is obtained. Therefore, the atmospheric heating effect of one kilogram of methane is 119 times more than a corresponding kilogram of CO₂.

As was explained, 119 is still very different from 28 and this is where “perturbation lifetime” comes into effect. Perturbation lifetime, not to be confused with half-life, or average life, is the breakdown in heating effect of the gas over time and when measured theoretically over a 100-year



period, the cumulative heat effects between methane and carbon dioxide are measured to be different by a factor of 28. To clarify, Dr Ederer stated that this was purely a statistical number and had no reference to how long methane remains in the atmosphere.

More questions

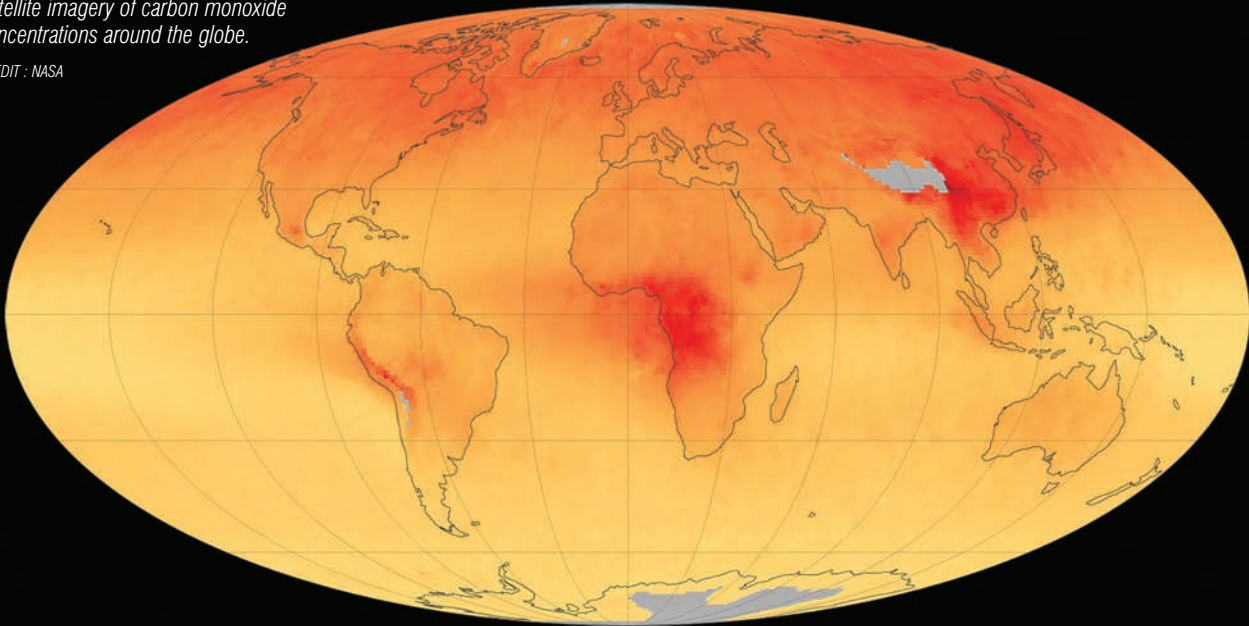
So, what is the natural lifetime of methane in the troposphere? According to this presentation, and other scientific research, it is less than 100 days. Other studies, including the EPA website, claim 12 years. Clearly, this natural lifetime is being affected by other factors, as, if after 100 days the methane was destroyed, the current global discussions would not be taking place!

In a video created by NASA, covering a three-year period

from 2016-2018, global data mapping using satellite imagery analysing methane in the atmosphere was shown. Until recently, very little was known regarding where or how much methane was in the atmosphere. From the video, clouds of methane gas were shown to be hanging over both highly populated areas but also in unexpected areas, such as the Western Congo and the Amazon, regions of high vegetation where seasonal flooding creates an oxygen depleted environment. Methane is subsequently formed and emitted. Most of the methane was present in the Northern Hemisphere, this being due to the abundance of land in that region, however, once in the atmosphere, high altitude winds can blow it far from the source of emission making tracking difficult. Dr Ederer also suggested that the overall data made the concept of high methane emissions being equal to high

Satellite imagery of carbon monoxide concentrations around the globe.

CREDIT: NASA



methane concentrations fundamentally flawed as a conceptual model and that there is a great deal of confusion about how methane operates in the atmosphere, even as shown by the experts.

The atmospheric detergent

In many instances, nature tries to maintain balance. Many kilometres above the surface of Earth, in the troposphere and stratosphere, there are “sinks” comprised of hydroxyl radicals (OH), highly reactive oxidants that are considered the cleaning detergents of the atmosphere. Existing for less than one second, this radical acts to “neutralise” and control the concentration of volatile gases. In theory, the hydroxyls would react with the methane to form water and a methyl radical (CH₃) – going on to form formaldehyde that is readily broken down by sunlight in less than 8 hours, and creating more hydroxyl radicals in the process.

Unfortunately, these reactions are not performed “in a vacuum” and as nature would dictate, other more readily accepting chemistries take preference. In the atmosphere, carbon monoxide (CO) reacts far more easily than methane and, as such, where there is an abundance of carbon monoxide, the methane is left untouched and left to degrade in the higher atmosphere, a reaction that takes a much longer time. In evidence of these claims, a graphic was shown of the global carbon monoxide concentrations showing “hotspots” above the Congo but also China. In explanation of the Congo, this was partially as a result from forest fires but also due to global winds having carried carbon monoxide from Latin America, bumping up against the central African highlands.

In concluding his presentation, Dr Ederer said that it appears as if rising atmospheric concentrations of methane are mostly caused indirectly by regional forest burning and coal power stations, via carbon monoxide emissions and not by cattle herds and agriculture. In that case, reducing methane from the agricultural sector might have little or no positive impact on global warming. 🌐



CREDIT: PEER EDERER

Professor Dr Peer Ederer, who directs the Global Food and Agribusiness Network (goalsciences.org), made it easier for the non-scientist to understand how calculations are made regarding methane and carbon monoxide with regard to climate change and greenhouse gas emissions. The network has the aim of making it easier, too, for influencers and decision makers to access accurate science and data on livestock.



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124 years on and SLTC goes hybrid

The UK's Society of Leather Technologists and Chemists (SLTC) held its 124th annual conference in Northampton in late April. For the first time, the conference was held as a hybrid event with delegates attending in person at the University of Northampton campus, whilst simultaneously streaming the event with delegates as far away as Brazil, South Africa, and Vietnam. [It seems that the pandemic might have had at least one positive effect.]

The Wolstenholme memorial lecture, entitled "Leather – the passion and the opportunity", was given by Master Saddler Suzie Fletcher. A familiar face to anyone who watches the BBC's Repair Shop, her life has revolved around leather from an early age, and she discussed the passion and opportunity that working with leather has given her. From starting out making leather outfits for her dolls, to early attempts at repairing her old and broken saddle, she formally learned design, pattern making and shoe manufacture at the Cordwainers college in London, moving on to apprenticeships under several Master saddlers – including (at the time) the appointed harness maker to HM Queen Elizabeth.

Spending 22 years in America, as a highly regarded saddle maker and repairer, was not her initial plan but, as she explained, following opportunities as they presented themselves rather than sticking to a rigid plan has led to her meeting incredible people and sharing experiences on what has been a winding path through her career.

Ms Fletcher returned to England to set up her own workshop and continued her specialism in the design and function of saddles, working on ergonomics, specifically looking at the female rider. Even today there are very few saddles that are designed for the female form where biomechanics are essential in connecting the rider with the horse.

The five presentations in the technical programme mainly centred around sustainability in the industry, and started with a case study for creating a more sustainable tannery. Presented online by Lindelwe Sibanda and Arnold Britten from Zambezi Tanners, based in Bulawayo, Zimbabwe, the presentation gave insight into the work carried out to create the right systems and processes for the expected international standards, with an overview of where they started, where they are and where they are going to move towards a more sustainable future.

Continuing the sustainability theme, Dirik von Behr from Royal Smit and Zoon presented the "Golden rules for tanning with Zeology", taking a more technical look at how tanners must be prepared to "go the extra mile" with this new tanning technology. Not quite as forgiving a tanning material, zeology works best on well soaked and limed pelts where the opening up operation of the fibre bundles could possibly result in looser leather as compared to that for chrome tanning. The modified zeolite product must be activated in the process after which the hydrothermal stability of the collagen structure is increased, through a pH dependant reaction whereby the fibres become coated in a sheath of zeolite.

Dr Michael Meyer discussed the dissemination of the work FILK conducted back in 2021 investigating the comparison between shoe upper leather and various other artificial alternatives. (See *World Leather* Feb/Mar 2021). The



Master saddler Suzie Fletcher receiving her presenter's Certificate from SLTC President John Hubbard following the Wolstenholme Memorial lecture.

CREDIT: WTP

implications of increased demands for due diligence and proposed EU legislation was detailed by Deborah Taylor from the Sustainable Leather Foundation.

Challenges, risks, and opportunities for leather and alternative materials

A panel discussion, this was chaired by Dr Christine Anscombe from SATRA, with representatives from ISA TanTec, Vancouros, Sustainable Leather Foundation and FILK taking part. Their conclusions included:

- Where tanneries are involved, the non-leather materials ought to be called "additional" as the leathers manufactured are already a sustainable choice.
- Additional materials should be seen as a replacement to plastic and not leather.
- Tanners need to be more proactive in presenting the benefits of leather – such as explaining to OEMs that combining leather with other natural materials could increase the bio-based content of a vehicle or that using leather may reduce or eliminate the need for other materials – such as foam backings where vinyls are preferred – and therefore benefit in costs.
- In the automotive sector more spend is being put into technology – cost cutting at the expense of leather.
- Consumer education is key.
- Further investigative work on alternative materials must be used to shine a light on the attributes that leather has. Spurious claims need to be confronted.
- Don't panic: leather is not going away but get behind the local and national bodies to add weight to their message.

The Axel Landmann certificate – given to recognise outstanding contribution to the industry – was awarded to Dr Clive Jackson-Moss, founder and owner of the International School of Tanning Technology (ISTT), South Africa.

Dr William Wise from the Institute for Creative Leather Technologies (ICLT) succeeds Matthew Abbott, *World Leather's* technical editor, as vice-president of SLTC. 🌐



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Temperature

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A REVOLUTIONARY DRYING TECHNOLOGY

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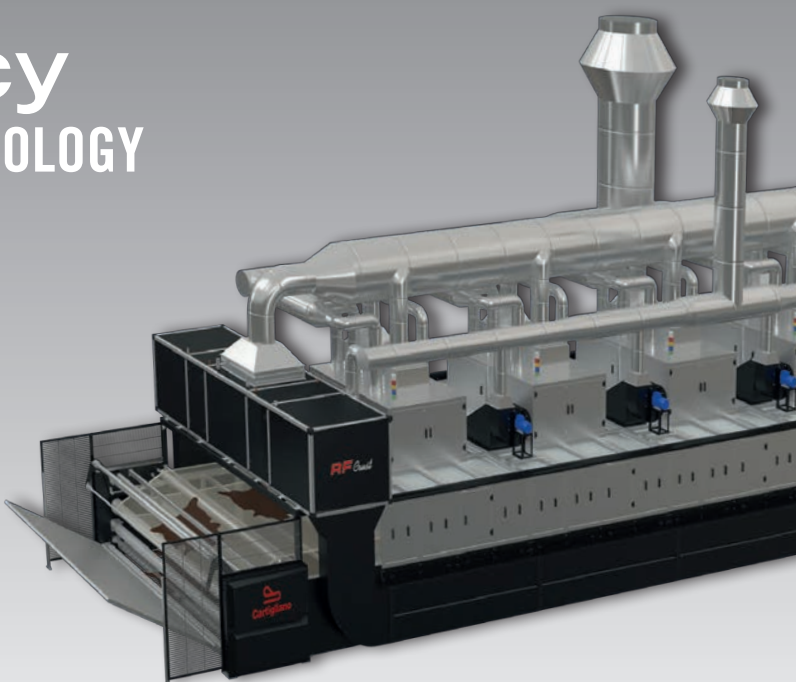
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Leatherdays focuses on bio-content and data

The 10th Freiberg Leatherdays conference, organised by the German Leather Technicians and Chemists Association (VGCT) and the FILK Freiberg Institute, took place in mid-May in the eastern German town of Chemnitz. The hybrid event attracted delegates from 16 countries over the two days of the conference, 75 in person and 50 online, and included representatives from as far afield as India and Uruguay.

With the current international focus on energy, sustainability, biodegradability and circularity, it was no surprise that the programme included presentations covering these topics. It is realised that it is essential that the leather industry promotes itself as a socially responsible and sustainable industry.

"We need to reach consumers, brands, influencers and fashion people with our message," said Dr Luis Zugno. Speaking on behalf of Leather Naturally, he detailed its new guide to 'Modern Cow leather processing', freely available online in an easy-to-follow style. It has been produced with the collaboration of dozens of experts and companies, including this magazine.

It covers hide properties, leather processing, chemical management, test methods and leather types, as well as sustainability, biodegradability and water treatment and is intended to be used as an education tool, go to reference or to help anyone who may need it to understand how modern,

regulated and safe leather making is practised today.

It should certainly provide buyers of apparel as well as bloggers, vloggers and journalists with the knowledge to write accurately about the industry.

Ultrasonic enhanced embossing of leather

An overview of an ongoing research project into the embossing of leather was presented by Dr Ulrike Straßburger from FILK. The reasons for embossing leather vary from aesthetic requirements, adjustment of natural irregularities to personalisation of leather products. Conventional methods of embossing, and the manufacturing of the necessary embossing tools, need significant expenditure in terms of financial costs but also energy. The FILK study is investigating how the use of ultrasonic enhanced embossing can reduce these costs, particularly where leather types or finishes are too sensitive to undergo the conventional process.

Using a sonotrode (an ultrasound-excited stamp) and thermal camera, it was shown that the ultrasound enhancement triggers warming (+55°C) within a leather sample in less than one second; this warming is attributed to transformation of vibrational energy into friction within the sample. After 750 milliseconds, heat transfer towards the outer surface of the leather is seen, creating a homogenous distribution within the sample.

With ultrasonic embossing, lower mechanical and thermal loads are expected for the embossed material, but also for the embossing tools. The lower demands on the embossing tools make it possible to use cheaper materials (plastics) and alternative additive manufacturing technologies. Further focus objectives of the study include changes in the embossing parameters as a result of the ultrasonic effect, durability of the plastic tools, economic considerations for the use of ultrasound plus defining the maximum resolutions for individual motifs that can be printed and embossed.

Leather biodegradation

As the leather industry is pushed towards greater investment in high quality, durable, biodegradable and compostable leather, made with fewer contaminating tanning agents, there is a need for time and cost effective evaluation methodologies and requirements for compostable leather standards. Manuela Bonilla Espadas from the R&D department at INESCOP, illustrated how it has developed a fully automated smart technology based on ISO 20136:2017 (Determination of degradability by microorganisms) that is capable of estimating leather biodegradation potential in just 28 days. The aim is to identify and analyse how the microbial community initially present in an inoculum (tannery/sewage wastewater) and changes as the biodegradation of leather progresses, enabling the identification of species that are predominantly biodegrading individual leather samples at different stages of the assay.

The findings from the project show leather biodegradation to be a collaborative process involving a considerable number of microorganisms utilising collagen, interchangeably, as the only carbon source available. Identification of these specific microorganisms would enable



Congress hall in Chemnitz housed the 10th FILK Freiberg Leatherdays event.

ALL CREDITS : FILK

an optimisation and homogenisation of the inoculum used in ISO 20136, as well as development of new bio-remediation strategies for any type of leather degradation, involving the use of selective microbial groups or even recombinant microorganisms. These objectives are in line with those established by the EU and the Sustainable Development Goals, working towards a greener production of leather goods and a cleaner environment.

Biomass challenge

Dr Jochen Ammen from Stahl has set about addressing the challenges to reach a high bio-mass content in chrome-free leathers. Whilst collagen has a bio-mass content of 100%, resultant leathers, through the treatment with various chemicals, from beamhouse to finishing, will have a reduced biomass content, depending on the chemicals used. Conventional chrome tanned leathers, by the very nature of the tannage, maintain a higher content in comparison to chrome-free leathers where the organic content is higher. Through vegetable retannage and use of natural fats, bio-content can be improved but many modern leather articles have these combined with oil-based products for improved performance.

In the examples given, Dr Ammen showed how a conventional chrome-free tanned leather can have 95% biomass content, with this dropping to 83% and 76% in crust and finished leather respectively. Through the implementation of selected products, it was shown that a 47% decrease in fossil carbon was possible in the crust stage (retan and fatliquor), to achieve 92% bio-mass content, but more challenging was the finishing where many products are still oil based. Through an approach using products of partially bio-based starting material in conjunction with an optimised crust, an improved figure of 88% biomass was achieved.

Repetition is no bad thing

Michael Franken from TFL also spoke about bio-content in leather finishes. Leather finishes, in many cases, are perceived as purely synthetic, but finishing products may contain far more bio-based materials than expected. Natural waxes, starch, animal protein and cellulose are to be found in auxiliaries, polymer binders, protein binders and nitrocellulose lacquers and it is quite possible to achieve close to 100% bio content where aesthetics rather than performance are the predominant requirement.

From the leather finishers' point of

view, the ability to calculate the bio content of finishes is now possible using the TFL bio calculator. In an example shown, a shoe upper finish formulation was entered into the calculator, taking into account application rates, and a bio content of 65% was achievable. In contrast, a conventional high performance automotive leather formulation was shown as a “worst case scenario”, giving a 5% bio content — however, with the replacement of a polyurethane dispersion and crosslinker with higher bio-based alternatives, a 35% bio content could be achieved, and improvements are ongoing where new technologies make use of biomaterials without sacrificing performance.

Life cycle assessment of biopolymers

The avoidance of petroleum derivatives and their replacement with bio-based alternatives was the subject of a presentation by Olga Ballus from Cromogenia. In conventional manufacture of acrylic resins, the extraction and refinement stages prior to monomer conversion to acrylic acid are the most environmentally damaging. Through a Life Cycle Assessment (LCA), the environmental impact of two new biopolymers has been investigated, where fossil-based raw materials were replaced with protein derivatives or polysaccharides. The new protein-based biopolymer, applied as a retanning agent and compared to a standard acrylic resin, gave a leather that was slightly fuller and firmer and had increased tensile strength. Light and heat fastness results were comparable. The results from the LCA, a cradle to gate analysis, showed that for environmental impact categorisation, when measured against 19 impact categories, the protein biopolymer saw an improvement in 17 of the categories, the equivalent to a 47% improvement in carbon footprint. For the polysaccharide-based product, however, the results were less encouraging as improvements were only seen in four of the categorisations, mostly due to the cultivation requirement of sugar, which has a high environmental footprint. Compared to a standard acrylic resin though, it still achieves a 9% improvement on carbon footprint.

Sustainability metrics and automation

Dr Federico Brugnoli from SPIN360 has a solid background in LCAs for the leather industry, with current projects working to produce 232 leather and 115 leather chemical LCAs. Addressing one of the most important topics for the entire leather value chain, namely sustainability and the minimisation of environmental impacts of leather making, Dr Brugnoli also considers the urgent need of tanneries to differentiate themselves on the market through sustainability messages and applying a LCA-based approach.

Explaining the methodology, a detailed data collection is carried out, covering supply chain configuration (raw materials, transport, etc.) and process data. From this, specific indicators are obtained for both environmental aspects and environmental impacts, followed by what is described as the most important part of the work – the data interpretation and simulation. At this stage, identification of hotspots, simulation of possible improvements and definition of strategies can be formulated, giving a cycle of continual improvement based on data. Showing examples of the SPIN360 specific software for tannery process assessment, technicians can input process formulations from which several evaluations, plus costings are made. It also allows for



Dr Michael Meyer receives VGCT Award

Dr Dietrich Tegtmeier, chair of the VGCT, and Dr Haiko Schulz, managing director of FILK, welcomed the return to the Chemnitz congress hall for the hybrid conference. Ahead of the start to the technical programme, Dr Tegtmeier presented the annual VGCT award to renowned collagen expert Dr Michael Meyer (right) from FILK, in recognition for his research work but also for his instrumental heading of the IULTCS conference scientific committee. In accepting the award, Dr Meyer thanked the VGCT as well as his colleagues past and present saying, “you cannot go it alone, you need good and committed people around you”.

input of separate technical evaluation (such as physical testing data). One innovative aspect of the software is a “what if” simulation that runs through impact changes and indicates certain process parameters to be altered. Further work is planned to integrate the LCA simulator with artificial intelligence and a newly patented “Smart Drum”.

Leather shaving waste

Circularity of leather has been a strong feature in *World Leather* for many years. Furthering the circular nature at the conference was a presentation by Bernd Wacker from eco-sofifibre regarding a novel production for upcycling the shaving wastes from wet white leather – although this is not exhaustive as wet blue and vegetable tanned shavings can also be used. The small-scale production currently creates a foam-like material with similar properties to polyurethane foams but without the reliance on petrochemical-based raw materials and their associated disposal issues. Whilst not a true “foam” the spongy material could be used to replace many different products on the market, from mattress fillers to car interior components. The focus from the company at present is to supply sheet material for sound absorption and, being made from a natural raw material, does not necessitate certain certification as other construction materials would. Where certification is sought, it has already been granted the Oeko-tex leather standard for use in wall coverings and baby articles. Future upscaling will see production reaching ten tonnes per month in 2023, rising to 100 tonnes per month after industrial scaling in 2025; target markets will include cushioning for footwear, clothing, and bags plus automotive components. 🌱

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

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



Independent cells



Automation in workstations



Better air flow distribution



Distance between leathers optimized

With a young and dynamic research and development team, GSC have the long term future in their sights.

ALL CREDITS: GSC

GSC – Research and development in chemical supply

In pursuing ambitious environmental goals, one of the most important departments is certainly R&D. In recent months, many companies have proudly presented their sustainability reports, including GSC group and with it, position themselves to offer high quality products with tailor-made services to meet customer needs for today and the future.

Chemicals not only need to be stable and provide a solid performance, but they must also be easily processable and, more importantly, reproducible. In the first instance, laboratory work is carried out to prepare samples of just a few hundred grams up to a few kilograms. In doing so, technicians can explore new raw materials and different solutions. Following this, subject to appropriate trials, scaling-up can be effectively implemented by means of preliminary and intermediate productions up to testing in a pilot plant, where larger volumes can be produced, and end results analysed.

Significant Numbers

In presenting its sustainability report in February (see *World Leather*, Feb/Mar 2022), GSC provided some insight and data on the company's R&D beliefs and how longevity is being built on within the company. At 41, Adriano Serafini is arguably one of the younger CEOs in the industry, but clearly sees that investment, no matter what the current situation, is paramount. He tells *World Leather*: "Others may have contracted this expense and preferred the logic of synergies and cost cutting. The future is very unpredictable in light of these last years of pandemic and war but, however, we

always think to take into great consideration the expenditure in research as it is in our DNA.”

To back this, the figures speak for themselves – with 33% of the workforce dedicated to the research department and with 10% of all expenditure allocated to it, over 50 new products were developed during the reporting period of 2019-2020, and it is clear to see that this is major investment in GSC’s “Three pillars of Research and Development”:

- Supporting creativity while respecting the environment to implement new products
- Controlling incoming raw materials and production processes to ensure the quality and consistency of each product
- Performing physical/chemical tests in assistance and/or collaboration with customers.

This last point, in their opinion, is key and distinguishes the group from many competitors.

Physical tests

In addition to machines that are now in common use, such as the Veslic for colour fastness, flexometer for flex resistance, and dynamometer for strength tests, it is equipped with specific instrumentation for customer requirements.

The Martindale Abrasion Test is used to test the wear resistance of leather. It is used for the automotive sector, where the breaking strength, pilling, colour changes, and weight loss of the material subjected to wear are analysed.

The Stick Slip Test is used to measure how much noise two materials will generate when they come into contact with one another, which is also known as “the squeak effect”. The testing equipment records the result based on the levels of friction between them.

Chemical tests

Collaboration with customers on qualitative and quantitative determinations of substances, from leather or chemical auxiliaries, with the aim of potentially reducing their content for increasingly high performance and environmentally friendly leather, is of great importance. The variety of analytical instruments makes the analytical laboratory one of the most innovative and complete in the sector. Some of the main analyses that the laboratory can



Adriano Seraffini, as CEO, heads up the family orientated business to be a recognised global leader in the leather chemicals market.



Among other equipment is a 4K Microscope, one of the first of a new deep resolution generation, allowing detailed analysis of defects, but also providing a complete investigative tool, enabling problem solving and control of the finishing, layer by layer.

provide are aimed at tracking and quantifying aldehydes and biocides using liquid chromatography (HPLC). The determination of aldehydes is carried out on samples of leather or finished products – a parameter dictated by regulations governing their use, so continuous and precise monitoring of what is present in the products is crucial. For this reason, GSC currently registers nine substances within the REACH regulations. In time to come, this may well rise, especially if REACH regulations are applied to polymers, which currently fall outside the requirements for evaluation.

Another issue where the content of the products needs to be monitored is volatile organic substances. (See *World Leather*, Aug/Sept 2021). The so-called VOCs are continuously analysed by the laboratory, using gas chromatography to determine which compounds may be emitted from the products, and to find a correlation with the compounds emitted from the finished leather.

Chemical Stability

Predicting the stability of the product over time, to ensure customer satisfaction and that a product has remained unchanged over time also comes under the strict supervision of the R&D department. A complete characterisation of product stability can be carried out using the proprietary Turbiscan instrumentation. This technique makes it possible to study the chemical and physical variations of the product under analysis, subjected to variable temperature conditions to simulate the shipping conditions they would undergo during transport. ☺



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

Cooling role for cattle farms

Professor Frank Mitloehner, an air-quality specialist in the department of animal science at University of California, Davis, doesn't much like it when critics accuse him of glossing over the greenhouse gas (GHG) emissions challenge that methane (CH₄) represents. He likes it even less when they accuse him of greenwashing, as he made clear at the 'Methane Forum In Livestock' event that packer and tanning group JBS and leather chemicals group Silvateam hosted in São Paulo in May, where he was one of the keynote speakers.

"I don't want anyone to think I'm saying that methane doesn't matter," Professor Mitloehner insists. "It does matter. It is a potent greenhouse gas whose impact we are working hard to reduce."

Blanket coverage

Going back to GHG basics, he explains that these gases form a blanket over the atmosphere and retain the heat that comes from the sun, heat that we need to make it possible to grow the food we eat and to live. "Without greenhouse gases, life on earth would not be possible," he says. "But the problem is that human activity is putting out too many greenhouse gases and the blanket is becoming too thick, and that means too much heat from the sun is being retained."

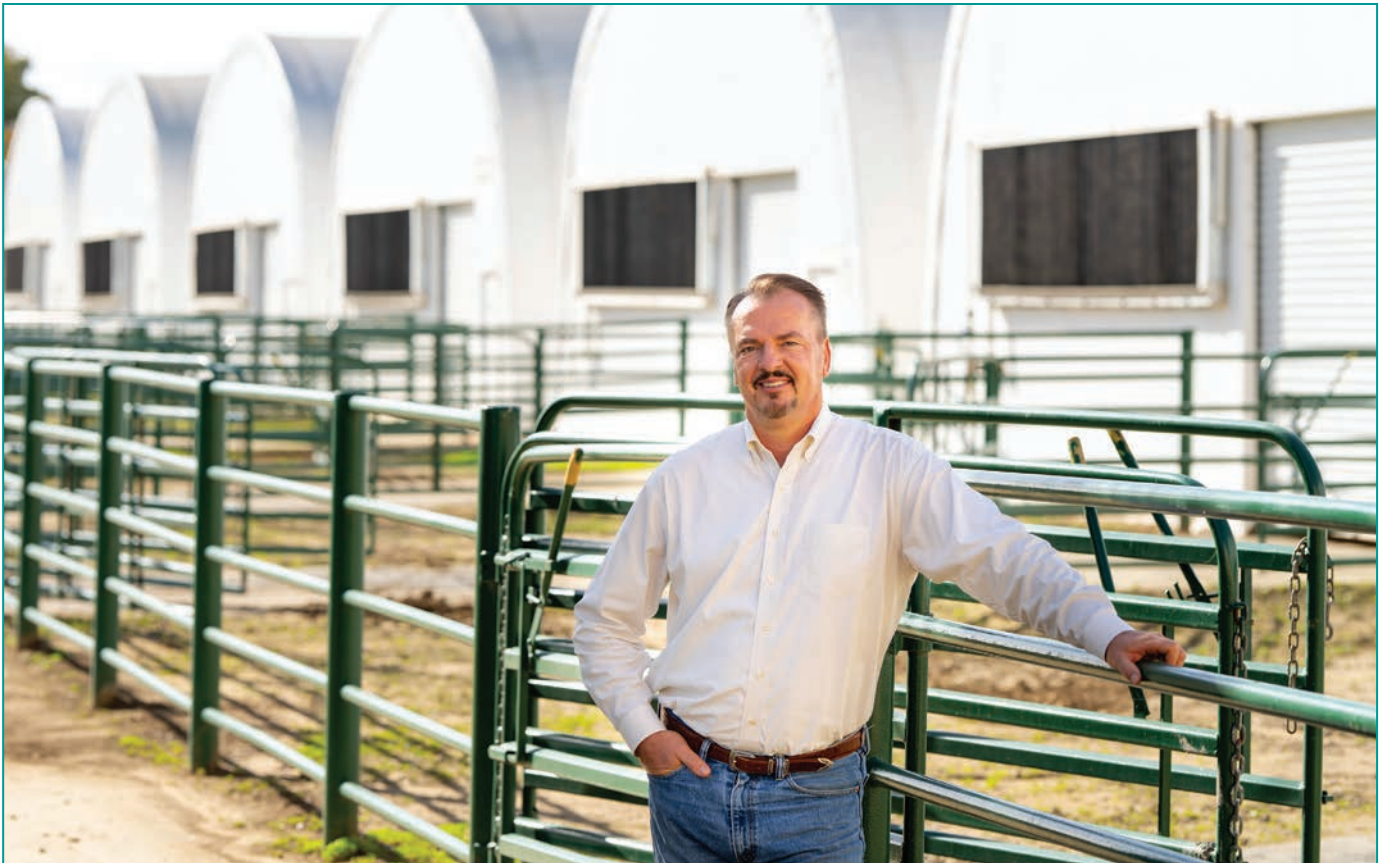
Most climate scientists accept that the most important greenhouse gas is carbon dioxide (CO₂), according to the professor. Even so, there are people (some of them quite

An aggressive reduction in methane emissions from beef and dairy herds is achievable, Professor Mitloehner argues, taking cattle farming beyond climate neutrality and setting it up to help offset emissions from other sectors.

loud) who are not keen on the livestock, meat and leather sectors and who want the climate-change debate to concentrate much more on methane instead. Comparisons can be tricky, made no less tricky by the matrix called GWP 100. The letters stand for 'global warming potential' and the number comes from the time period over which the matrix aims to measure the warming effect of different gases.

Devil in the detail

GWP 100, which was designed to help policy makers understand how different sectors compare, and has been in use for 30 years, tells us that methane is 28 times more powerful than CO₂ in trapping heat from the sun. "This is



true,” Frank Mitloehner says, “but it leaves out a very important detail, one that helps us understand that methane acts differently. It isn’t as simple as saying that a farm that emits 10 tonnes of methane emits 280 tonnes of CO₂-equivalent. Methane is much more nuanced than other greenhouse gases.”

All sources of CH₄, globally, produce around 560 teragrams per year. One teragram is equal to 1 billion kilos. This, the professor insists, is where most reporting about methane stops, but it ought not to be. There are sinks for methane, the greatest of which is from chemical reactions that occur in the atmosphere. “There are so-called radicals,” he explains, “and when they meet methane, they destroy it.”

Another important carbon sink is soil carbon capture, which refers to plants pulling carbon from the atmosphere and storing most of it below ground, in their roots. Thanks to these two sinks, around 550 of the 560 teragrams of methane produced are destroyed. If you subtract one from the other, you end up with a net amount of 10 teragrams of methane. Frank Mitloehner calls this “still a number that we need aggressively to reduce”, but one that is grossly different from just looking at the volume of methane produced.

Destroyed, in this discussion, means that the methane is no longer methane; it becomes something else: CO₂ and water. How long does this take? About a decade, which means methane has a very different lifespan compared to CO₂. The professor talks in terms of half-life: 10 years for CH₄; 1,000 years for CO₂, illustrating clearly, he says that they are different types of gas. So different that CH₄ represents an opportunity to collect and use valuable energy, an opportunity, he points out, that dairy farmers in his home state, California, are already grabbing by the horns. More on this below.

Frank Mitloehner at the University of California, Davis.

Credit: UC Davis

No new carbon

Another constant theme in Frank Mitloehner’s narrative is that a constant cattle herd size will add no new carbon to the atmosphere. Ruminants recycle carbon. This starts with photosynthesis, which converts CO₂ from the atmosphere into carbohydrates in the form of cellulose or starch. The methane that the ruminants emit into the atmosphere is carbon that used to be in the atmosphere anyway in a different form; it was CO₂ and now, for ten years, it is CH₄. It is what he calls “a short-lived cycle”. If the herd size stays the same, this methane will cause no additional warming to the planet.

The same is not true of carbon from fossil fuels. “Practically all the fossil carbon,” the professor continues, “was underground until relatively recently, until human beings began to extract it and burn it. This is not a short-lived cycle; it’s a one-way street. What took thousands of millions of years to accumulate, we have taken out at record speed. That’s why we see increases in CO₂ levels, year after year. This matters because, once we put the CO₂ into the air, it’s there for 1,000 years.”

An analogy he likes centres on a person who lives 20 kilometres from work and travels to and from there by car. Every day, on every trip, throughout that person’s working life, new CO₂ goes into the atmosphere and stays there for a millennium. “The driver keeps adding to existing stock of carbon,” he explains. “That’s why CO₂ is called a stock gas. Currently, methane is treated as though it were a stock gas too, as if every time an animal belches it were adding new,



additional carbon to the atmosphere, but it isn't. CH₄ is not a stock gas. It is a flow gas because it's not just produced, it's also destroyed."

Overflow

Another example he gives is of a fossil fuel-fired power-plant. If it runs with a constant output for 30 years, it will keep emitting CO₂ and keep causing additional warming. If, after 30 years, the power-plant is decommissioned, there will be no further emissions from it and no further additional warming, but the warming effect that the emissions from the facility built up over three decades will remain for a millennium; it will plateau, but it will not go down, unlike the warming effect caused by methane, which will last a decade.

Lastly, he likens GHGs to a bathtub. In the case of CO₂, the tap is running and the bathtub has no plughole to drain water away and, therefore, the volume can only increase. With CH₄, the tap is running, but there is a plughole to remove some of the water from the bathtub and for it to flow into the drain. If the water comes out of the tap at the same rate as it drains away, the volume in the tub will remain constant.

He says once more that this does not mean that CH₄ is "unimportant". It is important, just different, the professor insists. But GWP 100 mischaracterises it, with the professor of geosystem science in the school of geography and the environment at the University of Oxford, Myles Allen, calculating that GWP 100 overblows methane's impact by a factor of four, if the source of the methane is constant. Professor Allen, a lead author of reports for the United Nations' Intergovernmental Panel on Climate Change (IPCC), has come up with his own matrix, GWP*, which takes the same values and interprets them in a different way to focus on "warming-equivalent emissions".

Professor Mitloehner's conclusion is that there is a keen need for measuring GHGs in a way that is fit for purpose, measurements that "do the job well". He is in no doubt that GWP 100 fails to fulfil this criterion, and says, exasperatedly: "And yet it's GWP 100 that people have been using for beef and for dairy for the last 30 years."

Faster removal

To return to the bathtub analogy, he points out that there are, as mentioned above, moves afoot to remove methane



Angus cattle on pasture land in the US.

Credit: US Department of Agriculture/Scott Bauer

at a quicker rate than a cattle herd of consistent size can emit the gas. In California, there is a new law, Assembly Bill 197, that mandates by 2030 a reduction of 40% in methane levels compared to 1990. "Farmers went wild at first," the professor says, "but the legislators have made it clear that they want to help them find solutions too, which is to say provide funding for developments that will aggressively reduce methane levels."

This is already bearing fruit, he explains. The solutions to have come to light so far focus on manure; solutions focusing on methane from enteric fermentation will follow. For manure, anaerobic digestors have allowed farmers to build up covered "carbon lagoons", in which 60% of the gas is CH₄. The trapped gas is being converted into renewable natural gas that is being used as a partial replacement for diesel, with the farmers receiving rich rewards for this work. "Some of the farmers have said they are now making a half or a third of their income through this," Frank Mitloehner says.

After only a couple of years, this has already led to a 25% reduction in methane emissions from the California dairy industry. When reductions in methane from enteric fermentation follow, the dairy industry will achieve the 40% target, Professor Mitloehner insists, adding that teams at the University of California, Davis, have already experimented with dozens of different feed additives too. He has been encouraged by the results so far:

two-thirds of the feed additives have done nothing to alter methane levels from belching, but between five and ten of the additives tested by researchers at the university have resulted in reductions.

Climate neutrality and beyond

All of this, he contends, will help the dairy industry achieve climate neutrality, reducing methane by an impressive enough level to achieve what climate scientists call 'negative warming', also known as cooling. And the professor says dairy farmers can go even further, providing offsets for the warming caused by other greenhouse gases. "After reaching climate neutrality, the farmers will be able to claim additional carbon credits that they can sell to other sectors, including the fossil fuel sector," he continues. "This is already happening; I have seen Shell, BP, BMW and others buy credits from dairy farmers."

He points out that food waste and food loss remain the biggest contributors to the wider food system's overall carbon footprint, with a share of 40% of the total. But while it is not true that reducing methane will "save the world from climate catastrophe", the beef and dairy sectors are correct to be as committed as they are to lowering methane emissions from cattle. He concludes: "I am very bullish about this. We can use the best science available and aggressively reduce methane. The fossil fuel industry cannot do what we can do." 🌱

CROMOGENIA, CARING FOR A BETTER FUTURE

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

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

BISPHENOL-FREE XL RANGE

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

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

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

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- Bisphenol-free
- High biomass content

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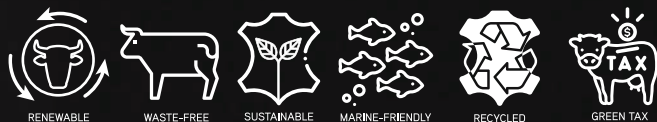
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Leather's ties to the UN continue



At the start of the century, the United Nations (UN) launched an initiative to promote responsible business practice, calling it the UN Global Compact. It describes this as a group of organisations that are devoted to learning, to dialogue and to partnership as ways of expanding sustainable and socially responsible policies among businesses. It insists it is “more of a guide dog than a watchdog”.

More than 15,000 companies around the world and 4,000 non-business organisations are now involved in the initiative, leading the UN to describe it as the largest corporate sustainability initiative in the world. Participating companies have committed to ten clearly defined principles to support corporate sustainability, with these principles coming from established UN treaties on human rights, labour, environment and anti-corruption. Company leaders need to commit to bringing these principles into all aspects of a business, to share progress transparently and to support wider UN initiatives, including the 17 Sustainable Development Goals the organisation set up in 2015.

Building on the leather industry's efforts to raise its voice at the COP26 Climate Change Conference last year, it is now playing an active part in another United Nations initiative, the world's largest corporate sustainability initiative.

Act locally

Local networks have developed in many parts of the world to help advance the ten principles at country level. And building on the efforts that many in the industry went to last year to raise leather's profile at the UN, most memorably at the time of the COP26 Climate Change Conference, it is interesting to note that the industry is now taking part in UN

Leather at Scottish Leather Group's Bridge of Weir tannery. Hides, a by-product from meat and dairy, represent one of the biggest elements of the group's scope-three emissions.

Credit: Scottish Leather Group

Global Compact discussions at local network level.

The UK network recently hosted a discussion about the ways in which companies are working to reduce carbon emissions in the wider value chain, also known as scope-three emissions. Under widely adopted standards developed by the Greenhouse Gas Protocol, scope one refers to an organisation's direct greenhouse gas emissions, scope two to the emissions from the energy the organisation consumes in its own operations, and scope three to indirect emissions throughout the rest of its value chain.

Within scope three, there are 15 categories and the recent UK discussion limited itself to examining two of these in close detail, categories 5 and 12. Category 5 looks at emissions from waste generated in a company's operations, including from solid waste and wastewater. Category 12's focus is on emissions from the disposal and treatment of products sold by the reporting company at the end of their life. Dr Warren Bowden, head of innovation and sustainability at Scottish Leather Group (SLG), was one of the speakers. He explained that SLG has been a signatory to the Global Compact for several years already and has the ten principles "baked into the activities that we do on a day-to-day basis".

He began his presentation in a familiar place, sharing with the other business leaders engaging with the UN Global Compact at the event SLG's claim that it produces the lowest-carbon leather in the world. "We've been on our journey for about 20 years," he said, "towards sustainability and, more recently, circularity in all our manufacturing."

He said at the outset that he realised leather manufacturing probably did not fit very well, in some people's minds, with sustainable business. "But when you get into the nitty-gritty," Dr Bowden told the audience, "it is arguably one of the most sustainable materials on the planet. Humans have been making it for tens of thousands of years, long before the climate crisis, so do please keep that in mind when you are postulating about this."

Upstream complications

Calculating emissions from the upstream carbon footprint of hides is complex and often controversial. Many of those advocating alternatives to leather insist a double-digit percentage



Global network. United Nations secretary-general, António Guterres (left) at a board meeting of the UN Global Compact in 2022, with the symbols of the Sustainable Development Goals in the foreground.

Credit: United Nations

share of the emissions from a cow throughout its life should be attributed to finished leather, even though people pushing synthetics instead usually ascribe no share of emissions from fossil fuel extraction to the polymers and plastics they prefer.

Nevertheless, raw material is still one of the biggest elements of SLG's scope-three emissions. "The hides are a waste or a by-product from agriculture," Dr Bowden explained, "but only about 10% or 11% of that raw material becomes leather. This means that 90% of the raw material coming in is waste, so it's clear we have a huge waste issue."

SLG has baseline data going back to 2004, which allows it to pinpoint that the volume of waste accruing from its operations can reach 44,000 tonnes per year. "What we chose to do," the head of innovation and sustainability said, "and this was before anyone was talking about circularity, was to convert waste into heat for direct use in our own factory and into bio-oils and waste-derived oils, which we sell."

He pointed out that SLG is able to use waste to produce a volume of energy that would heat 5,000 homes, if it were not needed to make leather. It is also possible to find uses for the residual waste components left over from that. Collagen for the food sector is perhaps

the most obvious example; this is used to make gelatin, which is present in many foods. Finding uses for this residual waste has helped the group reduce its scope-three emissions by around 90% compared to the baseline year, Dr Bowden said.

The practice, which SLG has patented, has led to a decrease in direct emissions from SLG's production and in emissions from all the fossil fuel-based energy that it once had to buy in. In other words, this strategy has also helped the group reduce scope-one as well as scope-two emissions, to the extent that SLG is now able to present itself as having "an almost carbon-positive position" with regard to emissions from its own operations. "There is a significant reduction in the overall scope emissions by avoiding fossil fuel," Dr Bowden said, "which is interesting. Then there is avoiding waste disposal in scope three, which is even more interesting."

A delicate balance

Focusing more closely on scope three again, Dr Bowden pointed out that it is not only about solid waste that leaves in a skip. He said that, as part of its circularity philosophy, SLG wanted to secure its own source of water. The answer was on its doorstep, a private loch on the grounds of its tanneries at



Scottish Leather Group's head of innovation and sustainability, Dr Warren Bowden.

Credit: Scottish Leather Group

Bridge of Weir in Renfrewshire. "We borrow water from the loch," he explained, "and put it back, through our own treatment plant, after production. Being based in the west of Scotland, we have plenty of rain, but we don't actually consume any water. We discharge what we take in."

To be able to present all of this information in what he called "a transparent and factual way", he explained that the group decided to adopt lifecycle analysis (LCA), accounting for all supply chain inputs and, therefore, covering scopes one, two and three. "We work with different types of hides," he said, "so there is a range of data, but, in the middle, we typically have a figure in our LCA of 8 kilos of CO₂-equivalent per square-metre of finished leather. That's for all scopes. It essentially creates the entire corporate footprint. It's a delicate balance, getting all of this right." He added that the SLG data is "an order of magnitude below" what is commonly presented on some of the public platforms in terms of carbon emissions for leather.

Epiphany moment

Chair of the discussion, the executive director of the UN Global Compact Network UK, Steve Kenzie, described the Scottish Leather Group's numbers as "an epiphany". He said some might find it "quite shocking" that this level of leadership could come from the leather sector. This seems like a tacit admission that negative assumptions about leather abound in the wider business community.

Fellow panellist, Kim McCann, who is global head of sustainability in the consumer and manufacturing business practices at PA Consulting, reacted with enthusiasm. She said SLG offered a good example to many other companies. She continued: "I find it interesting that the top questions we see

about scope three are on how companies should measure and report what they are doing. My plea to the audience is to stop looking 'down and in' at that level of detail. Stop worrying about that too much. Look 'up and out' and see what is the right thing to do first, and then worry about how it's accounted for. Regulations will continue to evolve, but Warren has shown from what Scottish Leather Group has done, you have to get in there and do the right things."

Doing the right things, she suggested, includes using resources in the best way and seeing how people throughout the operation can help bring about improvement. It also means working closely with suppliers, whom she also calls "waste providers", to find radical new ways of working that will bring about reductions in emissions across the board. She added: "Companies can no longer say to suppliers: 'I pay your bills; you will do as I say'. Building innovative solutions together is the right way."

Achievable targets

SLG has a target to be zero-waste-to-landfill by 2025 and also to have scope-one and scope-two carbon emissions of zero by the same time. Warren Bowden said at the UN Global Compact event that decisions the group has taken in recent years make both of these targets achievable. "We have had to do a lot of this ourselves," he said, "with no funding. We even helped write some of the legislation around this in Scotland because we were the first to do some of these things."

He added that the group had also worked hard to create its LCA and that only in the last two years has it felt ready to present the data from it. "We and many other tanners are doing this now," he concluded. "It is taking off and others will follow what we have done." 🌱

UN Global Compact Principles

- 1 Respect the protection of internationally proclaimed human rights
- 2 Make sure your business is not complicit in human rights abuses
- 3 Uphold the freedom of association and the effective recognition of the right to collective bargaining
- 4 Help eliminate all forms of forced and compulsory labour
- 5 Help abolish child labour
- 6 Help eliminate discrimination in employment and occupation
- 7 Support a precautionary approach to environmental challenges
- 8 Undertake initiatives to promote greater environmental responsibility
- 9 Encourage the development and diffusion of environmentally friendly technologies
- 10 Work against corruption in all its forms, including extortion and bribery

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Círculo Fortuny president, Xandra Falcó, at the event in the Real Academia de Bellas Artes de San Fernando in Madrid at which she launched a new project to preserve artisan skills in Spain.

Credit: Círculo Fortuny



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Artisan producers of leathersgoods, shoes and other items in Spain make up more than 35% of the country's overall manufacturing footprint, but contribute only 4.9% of manufacturing's share of the country's gross domestic product.

These figures come from a new study compiled by consultancy group KPMG, commissioned by Círculo Fortuny, an organisation that represents all segments of the luxury sector in Spain. Círculo Fortuny unveiled the report at an awards event it held in Madrid in May to give recognition to master artisans from across the land. At the same time, it launched a new project to help Spanish artisan manufacturers develop their businesses in ways that will give them and the craftsmanship skills of which they are custodians a healthy future.

Hallmark of high-end products

In the KPMG study, 'Artisanship in Spain: the hallmark of high-end products', the consultancy firm said there were 64,000 companies making artisan products in Spain, employing a total of 213,000 people. Collectively, these

The artisans of the future have a glass ceiling that they must remove if they are to receive the support, training and qualifications their talents deserve. Spain's Círculo Fortuny has launched a new project to help make this happen.

companies achieved a turnover of more than €6 billion in 2019, the most recent year referenced in the report. Despite being from before the covid-19 pandemic, KPMG said the 2019 total showed a decline of 5% compared to the figure for 2015.

It identified an over-complex certification system for artisan products across the country as one of the barriers to growth, pointing to different criteria in different regions for

classifying businesses as artisan manufacturers. There are even differences in the rules for deciding which producers are allowed to use titles such as ‘artisan’ and ‘master artisan’ when describing themselves. “These differences are in contrast to the situation in countries such as France or Germany,” the report said, “where there is a common framework, which in turn makes collective planning and action easier.”

Strong storytelling on a plate

KPMG partner Enrique Porta said on presenting the report that, in spite of its vulnerability, there are characteristics that set Spanish artisanship apart and that these represent “a great opportunity for a strong future”. Mr Porta’s view is that the ability of artisan manufacturers to add value is something bigger luxury brands can tap into. He insists that ‘handmade in Spain’ is synonymous with high-quality products, along with a commitment to social responsibility and a culture that “fuses history with creativity and design”. This, he says, allows big brands to tell a strong story about the products they offer, describing this as an essential element of their efforts to stand out.

Following the release of the report, KPMG and Círculo Fortuny have called on institutions, public bodies and business groups to support artisanship by, for example, setting up training opportunities for small producers to become “more professional” and learn how to operate in the digital world. “This would help advance the development of those producers,” Mr Porta says, “at the same time as safeguarding and preserving a part of Spain’s cultural heritage and reinforcing a value proposition that sets Spain apart.”

Artisan priorities

He goes on to talk about a cultural heritage that has been enriched over centuries and that now, in the 2020s, opens up a series of wider economic opportunities. “We need to grab those opportunities and push forward with them,” he says. This is what the new project will seek to encourage and Mr Porta says the team behind it has identified six priorities.

Master artisans must be given the time, space, tools and rewards to train new generations of workers. Their work and their skills need to become higher profile and earn the attention they deserve. There needs to be public support for this, financially and at policy level. Helping artisan manufacturers take advantage of digital technology is another of the priorities that Mr Porta points to. “This will be a way of letting the whole world see the quality of these companies’ products,” he adds. “It will be a way of connecting to a new generation of customers, people spread throughout the world who have a desire to buy Spanish artisan products.”

Sustainability is another of the key points of focus for the project. Here, Mr Porta says artisan skills and sustainability are “constituent” and that the makers of artisan products and campaigners for sustainability “have the same way of understanding life”. Finally, another driver for the project will be a strategy for fomenting cultural tourism, in which visits to local artisans to see them working and get to know (and buy) their products will play what the KPMG partner calls a fundamental role.

International icons

Círculo Fortuny is enthusiastic in its support of these ideas and used the event in Madrid to echo KPMG’s calls for greater appreciation of the importance of artisan manufacture and



KPMG partner, Enrique Porta, says ‘handmade in Spain’ is synonymous with high-quality, a commitment to social responsibility and a culture that “fuses history with creativity and design”.

Credit: Círculo Fortuny

investment in its future. And in addition to presenting a series of ‘master artisan’ awards, it claimed the date, May 11, as High Craftsmanship Day. President of the luxury industry body, Xandra Falcó, says she was delighted that Spain’s national fine arts academy, the Real Academia de Bellas Artes de San Fernando, was able to host the event. “This is the home of artisan work in Spain,” she told the audience. “In 1773, King Philip VI turned this building into a school for teaching crafts that have art at their centre and excellence as their objective. Goya and Picasso are among the people who learned their trade in these rooms.”

She is proud of Círculo Fortuny, which her father, Carlos Falcó, the Marquis of Griñón, founded in 2011 (on May 11). He named the organisation after another famous painter (and photographer and designer), Mariano Fortuny y Madrazo, who was born in Granada in 1871 (on May 11). Its membership now comprises 67 high-end brands and institutions from all parts of Spain, including leathergoods brand Loewe, footwear brand Magnanni and interior design and furniture brand Gastón y Daniela. Wine producers, jewellery manufacturers, porcelain producers and even a number of exclusive hotels and resorts are members, too. “They are firms and institutions whose creativity has made them into international icons,” the organisation’s president says.

She is proud, too, of Círculo Fortuny’s membership of ECCIA, the European Cultural and Creative Industries Alliance. This wider group is made up of Comité Colbert from France, Walpole from the UK, Meisterkreis from Germany, Altagamma from Italy and Gustaf III Kommitté from Sweden, as well as the Spanish organisation. Together, ECCIA members represent more than 600 high-end brands and institutions. The luxury sector is of great relevance in Europe, Xandra Falcó insists, because it accounts for 4% of Europe’s gross domestic product and 10% of its export revenues.



Development director for LVMH's Métiers d'Excellence programme, Alexandre Boquel.

Credit: Círculo Fortuny

European luxury represents 72% of the turnover of high-end brands and services worldwide, with combined annual revenues of €800 billion.

Turning her focus back to Spain in particular, she continues: "Our brands, the members of Círculo Fortuny, all have their roots in the hands of an artisan, someone who started out in a small workshop, studio or vineyard. Those artisans used their hands to give shape to extraordinary products, often using centuries-old techniques to do so. Their products have stood the test of time; they represent our cultural heritage." But she goes on to warn that many of these trades are now at risk of disappearing. One reason is that many of the companies involved are unable to hand over to new generations of artisans because of a lack of recruits, meaning it could soon become impossible for them to continue to manufacture their products on home soil, using time-honoured techniques and traditional raw materials.

Meaningful employment

Luxury group LVMH, the parent company of Círculo Fortuny member Loewe, has been aware of these challenges for some time. An initiative it has set up called Métiers d'Excellence is running for the eighth year in succession in 2022. This concept, whose name translates as 'Professions of Excellence', consists of a series of events at which artisans from the group's many brands present their trades to young people as routes to meaningful, long-term employment. The early part of the 2022 programme included live demonstrations and information sessions in five French cities in March and April. When the dust from this settled, LVMH's development director for Métiers d'Excellence, Alexandre Boquel, travelled to Madrid to take part in the presentation

event for the KPMG study, the awards and the launch of the new Spanish project.

Mr Boquel calculates that France could be losing as many as 10,000 experienced artisans each year, and LVMH itself says it would like to recruit 1,200 new-generation craftspeople. Entire professions can fade away, he warns, something that he calls a catastrophe because "losing these professions is to lose a part of your identity". He believes that a key aspect of reversing this should be building up contacts with schools and working as directly as possible with young people aged 12 or 13. "They don't know what craft is," he explains. "If you ask typical young people of that age how many professions they can name, they often can't think of more than seven, and two of those are likely to be 'footballer' and 'Instagram influencer'. In the world of craft alone, we have 300 different professions."

Shine a light

Commissioning the KPMG study, launching the 'master artisan' awards and the new project are all initiatives that have the same objective as LVMH's in running the Métiers d'Excellence. Círculo Fortuny says it wants to shine a new light on artisan workers and on their traditional skills. "Our aim is to give them their visibility back," Xandra Falcó says, "to build their prestige back up, help them build up their design capacity and their business management skills, attract new talent, create products that will prove attractive to the most exacting international customers, all while creating much-needed employment in parts of the country that are becoming depopulated."

On this point, Alexandre Boquel says he thinks the "eco-systems for forming new artisans" have become too complex. "What younger recruits need," he explains, "is accompaniment and orientation so that they can find for themselves the best ways to learn." Craft goes beyond manuals and instructions, he insists; it is something that is in the DNA of all luxury brands. These brands, household names today, are seldom the result of business people coming up with an idea and taking it to market. He says Loewe is a good example of what usually happens. The name of an entrepreneur from Germany was the one the company adopted at its formal launch in



Some objects are useful. Some are beautiful. Objects that are both useful and beautiful are sublime.

Credit: Loewe

A photograph of two elephants in a savanna setting, with a dense spray of water droplets or dust particles in the air around them, creating a 'spray storm' effect. The elephants are dark brown with visible tusks. The background is a lush green field with tall grass.

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A leathersgoods artisan at work in Loewe's workshop in Getafe.

Credit: Loewe

1846 [it is the oldest leathersgoods brand in the LVMH group], but this was only possible, Mr Boquel explains, because Enrique (Heinrich) Loewe met and was welcomed among a group of already active, skilled leather artisans in Madrid.

Alexandre Boquel joined the luxury group 20 years ago and says now that, with an engineering background, he had little consciousness at the time of the importance of craft. "The first trip I made in my new role was to Loewe's factory in Getafe, near Madrid," he says. "I will always remember that one of the first things that happened that day was that the people working there invited me to feel the leather they were using. I could see how passionate they were about what they were doing, and they were able to pass their passion on to me."

He says this experience allowed him to feel why craft is so important, leaving him to conclude that craft brings uniqueness, creativity and a high level of value to high-end brands. Crafts and skills can and must evolve, he adds, but they need protecting. "Without craftsmanship, no brand, not Louis Vuitton, not Loewe, would have anywhere to go," he concludes.

Sustainable by definition

Xandra Falcó explains that the aim of the new project is to help artisan operators old and new survive, thrive and be companies that Spain can be proud of in the future. Objects created by master artisans have what she calls "an aura". These objects are imbued with emotion and passion, she continues,

"capable of transmitting unique sensations and the particular landscapes of the places they come from in a way that industrially produced objects will never be able to achieve". Handcrafted objects of this kind, she adds, are sustainable by definition because makers want their products to endure for as long possible.

"We want this project to make an enormous difference," the Círculo Fortuny president insists. "We know providing our high craftsmanship with the protection it needs is a huge task and we would like institutions and individuals everywhere to add their weight to it."

Glass ceiling

A fellow member of the organisation's board, Fernando Caruncho, a designer of gardens of worldwide renown, is in no doubt that the biggest change the project needs to bring about is in the field of training and education. He heads up the Círculo Fortuny's commission for new talent. The need is urgent, he argues, for education departments, at central, regional and provincial government level to provide training and qualifications for young people who want to work with their hands and help preserve the skills and artisan traditions of their forebears. Far too much of the authorities' focus is on ushering young people straight from high school into undergraduate degrees, in a country where unemployment rates among the under-25s was consistently above 40% in 2020 and was still at 28.9% in April 2022.

"There is a glass ceiling between these two educational worlds," Mr Caruncho insists, "and we have to make it disappear once and for all, giving craftsmanship its true value. Craftsmanship is about producing things that are beyond beautiful." What he means by this is that some objects are useful and some are beautiful, but it is also possible, even in 2022, to find products, of which artisan shoes and bags and other things made from leather are good examples, that are useful and beautiful at the same time. Leather can even confer on them the amazing ability to become even more beautiful as time goes by. "When what is beautiful is useful, and what is useful is beautiful," Mr Caruncho concludes, "what you have is an object that is sublime." 🌟



An artisan leathersgoods workshop in Ubrique. Credit: José R Pizarro/Shutterstock



UNIC's 2021 sustainability report says Italian tanners have reduced energy consumption by 8% in the last year.

Credit: Gruppo Dani

Italy: committed to circularity



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It is clear from its 2021 sustainability report that the Italian national tanning industry association, UNIC, was already putting the difficulties presented by the covid-19 pandemic behind it by the end of last year and was looking ahead to a sustainable, circular future for the industry.

UNIC publishes a sustainability report in late spring each year. It is perhaps inevitable that these reports should have a lag in some of the statistics they quote. In this case, the 2021 sustainability report makes many references to the industry's performance in 2020, which, especially in terms of economic results, was gravely affected by the pandemic. However, the forward-looking ideas and strategy it highlights are from 2021. The challenges presented by covid were still in evidence at that time, but optimism, buoyed by the success of vaccination programmes and the emergence of well funded recovery plans, was on the way back.

Signs of the times

UNIC frames the circularity section of the new report in this context. It celebrates being one of more than 30 signatories of the Leather Manifesto that industry bodies from across the world presented in the build-up to the United Nations Climate Change Conference (COP26) in Glasgow in November. UNIC says it was happy to be a promoter of a

Italy's national tanning industry association, UNIC, recently published its sustainability report for 2021. As it did in 2020, UNIC devotes an entire section of the new report to the commitment of Italian leather manufacturers to circularity and environmental responsibility.

document that drew attention to the important role of natural materials in the fight against climate change.

The organisation was also happy to support the work of the Sustainable Markets Initiative (SMI) coalition, founded by Charles, Prince of Wales. In 2021, the prince published a document he called Terra Carta, a charter to put the earth at the heart of business. The document provides a roadmap to 2030 for businesses to move towards a sustainable future. UNIC is a signatory to Terra Carta too.

Ups and downs

The main indicators in the 2021 report are that Italian tanners have reached an energy consumption level of 0.9 tonnes of oil equivalent (TOE) to produce 1,000 square-metres of finished leather, a fall of more than 8% compared to the figure in the previous year's sustainability report. There were slight increases in chemicals and water consumption. The new report gives an average consumption of 2.06 kilos of chemicals to make one square-metre of finished leather in Italy, up by 3.1% on the previous year. For water, the new figure is 113 litres per square-metre, up by 3.2%.

Over a longer period of time, compared to figures for 2003, UNIC said consumption of energy had come down by 30%, water by 18% and chemicals by 9%.

Still on the subject of energy, the 2021 report points out that more than 10% of the energy that Italian tanners consume comes from renewable resources but that, for electricity, renewable energy's share is more than 70%.

Return to nature

Apart from hides, UNIC says, the essential raw material for the leather manufacturing process is water. It points out, however, that the water its tanneries use in the wet phases of production has to have a high level of purity to allow the tanners to work their magic. Most of the water they source is from groundwater reserves and the practice of recycling and reusing water on site is not the norm. What the big tanning clusters in Tuscany and Veneto do have in place is advanced common wastewater treatment plants.

Tanners calculate that 4.8% of the water they use remains in the hide. Some evaporates, but all of the rest going into the treatment plants. Once there, this water is made clean enough to return to the natural environment, with the plants eliminating an average of 99.5% of chromium III, 99.4% of suspended solids, 97.8% of chemical oxygen demand and 96.4% of total nitrogen.

A solid favour

Solid waste from the tanning process also has a place in the circular economy. The report says leather manufacturing processes in Italy produced, on average, 1.46 kilos of solid waste per square-metre of finished leather, including sludge, fleshings, trimmings and shavings. UNIC has found that 97.6% of this waste is non-hazardous. The proportion that is



Finished leather at the Gruppo Dani tannery in Veneto. Credit: Gruppo Dani

hazardous is "mainly packaging residues from dangerous chemicals", the report says. Much of the rest, more than 75% of the total, are by-products of animal origin and these have value. The organic material that comes from leather processing yields hydrolysates, substances that have potential applications in a wide sector of industries, including agriculture, food, construction, cosmetics and pharmaceuticals.

The report pays particular attention to the use of tanning waste in the agriculture sector, most typically as fertiliser. This exemplifies an "ideal closing of the natural materials loop", UNIC says and can play a role in helping the European Commission

fulfil its wider Green Deal programme, which includes its Circular Economy Action Plan and specific projects such as Farm To Fork. Launched in 2020, Farm To Fork aims to reduce the environmental impact of agriculture and primary production while ensuring fair economic returns for farmers.

More broadly, UNIC points to the European Commission's stated Green Deal aim of encouraging manufacturers and consumers to choose to make and buy products that have a long life and are, from the outset, upgradeable, repairable, reusable, recycled and recyclable. Leather, UNIC insists, has "all the required characteristics". 

Main indicators of consumption

Credit: UNIC



0.90

TOE/1000m²
ENERGY CONSUMPTION



2.06

KG/m²
CHEMICALS CONSUMPTION



113

l/m²
WATER CONSUMPTION

Trend consumption indicators (since 2003)



-37%

ENERGY CONSUMPTION



-8%

CHEMICALS CONSUMPTION



-15%

WATER CONSUMPTION



Uniquely textured wall tiles, used as sound absorbers, are manufactured to be flame retardant to European Standard BS EN 13501 and certified by the Oeko-Tex leather standard.

Credit: eco-softfibre



Shaving foam, but not as you know it



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With an estimated equivalent of 500 litres of petroleum, in the form of soft foams, in every European household, it is easy to see just how dependent on fossil fuels our modern-day lives have become. In many cases, these “hidden” fossil fuel products go almost unnoticed but they are present in our mattresses, sofas, cars, children’s toys and many other products. Polyurethane foams (PUR) have become ubiquitous. With respect to the end of life cycle, polyurethane foams must be treated as special waste as they cannot be recycled. They ultimately end up in landfill or go for incineration.

We have seen many examples of leather waste finding its way into new applications in leatherboard, bio-fabricated composites and even fertilisers, but now a German company, eco-softfibre, is claiming to be the first and only manufacturer of a material derived from leather waste that can go up against plastic foams.

Problems with foam

Fully reacted polyurethane foam is classed as chemically inert but can release volatile organic compounds (VOCs) if not manufactured correctly. Of greater concern is one of the

Founded in 2020 in Görlitz in eastern Germany, eco-softfibre produces biodegradable flexible “foams”, upcycled from wet white leather shavings. Their work shows that the leather industry offers a route away from petroleum-based polyurethane foam.

constituents used in its production. Manufactured from the reaction between di-isocyanates and polyols – both derived from crude oil, although some polyols are now made from natural, renewable sources. The risks of isocyanates are well documented and can give rise to asthma, contact dermatitis and even death as was seen in India at the 1984 Bhopal disaster, in which 4,000 people died after a release of Methyl Isocyanate.



Close-up of the eco-softfibre “foam” like material being shown at the FILK Leatherdays event.

Credit: WTP

Not a true foam, the product developed by Görlitz-based eco-softfibre is manufactured from wet white shavings. Founders Bernd Wacker and Wolfgang Coutandin have developed a method of processing wet white shavings into a soft and flexible sheet with almost identical physical properties to those of polyurethane and can be used wherever the plastic foam would be used. Manufactured in varying stiffnesses and densities from 40-80 kg/m³, in a process that currently has the capacity to complete a batch in around seven days, the company hopes to take this production time down to a single shift of around 10 hours. With sheets of between 2 cm and 5 cm thick at the moment, it is also planned to be able to produce mattress sized units up to 15 cm thickness; there is already one application for small yoga blocks at this thickness.

When used as an upholstery filler, recent tests have shown that 60,000 compression flex cycles were achievable, in comparison to 80,000 for PUR, equating to a 12-year lifespan for the leather-based product. Synthetic foams have been in existence for decades and, considering the timescales that are involved, 60,000 flex cycles is an impressive achievement for this newcomer.

Another popular end use is in decorative wall coverings. With every panel being unique, the structured design can be seen as a design contrast against a smooth wall. The design can also influence the surface where the 3D effect allows two functional advantages: first, that the surface area is increased, allowing more absorption of sound, and secondly for better diffusion of sound waves, resulting in better acoustics for the room.

“If it’s good enough for Porsche, its good enough for us.”

BERND WACKER, ECO-SOFTFIBRE

The colour shade can also be selected as the material can be dyed during manufacture. It is also possible to print onto this material, adding extra colour detail or logos to the end product.

After being in production for only two years, eco-softfibre has already picked up a prestigious design award, gaining a special mention at the German Design awards for 2022 for excellent product design. The German Design Awards are the German Design Council's most important prize and among the most recognised international design awards. eco-softfibre hopes this success will help make its work globally visible and give it access to a valuable international network of designers and companies.

In a presentation at the tenth FILK Leatherdays conference in May, Bernd Wacker explained that other tannage types could be used, as could offcuts and trimmings. The start-up's current use of only wet white came about because the founders identified who was using wet white leathers and said: “If it’s good enough for Porsche, its good enough for us.” 



Bernd Wacker discussing the novel upcycled product at the 2022 FILK Leatherdays event in Chemnitz, Germany.

Credit: WTPi

A seven-year-old leathergoods manufacturer, based on the Rustenberg Estate in South Africa, has already made positive changes to the lives of its workers, and already has customers willing to wait months to receive the handmade products they have ordered.

Turning a dream into reality



The South African town of Stellenbosch is recognised by wine enthusiasts around the world. Its first vineyards were planted in 1682 on the 880-hectare Rustenberg Estate, with many more planted by Huguenot refugees from France in 1690; the town itself had been founded in 1679 by the Governor of the Cape Colony, Simon van der Stel, who had the foresight to plant huge numbers of oak trees which still add a tranquil beauty to the city, some 50km east of Cape Town.

Fast forward some 335 years, and the Rustenberg Estate, recognised as a National Heritage site, is still bottling fine wine from 120 of its hectares but its dairy was closed some years ago and part of the land is now left as a conservation area with over 1,000 plant species growing there. The dairy, a beautifully built facility, however, is now home to Els & Co, a small company with big ambitions to be recognised for producing the finest handcrafted leathergoods, especially for those who enjoy the great outdoors and going on safari. In just seven years, it has built up an enviable reputation in markets across Europe and the US.

Signed like a work of art

"I guess it was my collection of vintage and antique shotguns and the leather items that went with them that triggered the idea of creating the Els collection," explains Ivan Volschenk, the company's founder and CEO. "My background is in engineering, design and photography but it was the concept of reawakening the disappearing art of leather craftsmanship, where each piece would be the equivalent of a signed original painting, that really appealed to me."

He has been true to his vision, which goes a long way to understanding and appreciating the sixteen-week wait between placing an order and its delivery. The product range has grown to include items for safari, shooting, furniture and travel as well as luxury items for those who "enjoy wine, whisky and cigars". Once an order is received, it becomes the personal responsibility of the individual craftswoman who will make and take it through every stage of its manufacture. There is no industrial production line and every item carries the initials of the person who made it, just



ALL CREDITS: ELS & CO

as with a painting. “Reaching this level of perfection has not been easy,” says Mr Volschenk.

“In retrospect it might seem like a crazy thing to do. Adapting and converting the old dairy was the easy bit, and turning it into a working atelier. Our biggest challenge when we started was finding the artisans, but what surprised us was the discovery of unimagined latent talent and skills right on our doorstep,” he says.

Not quite the doorstep; many of the women have migrated from Idutywa, a small town in the Eastern Cape, and the birthplace of ex-president Thabo Mbeki, 1,000km away from Stellenbosch, which as a major university centre, offered greater employment opportunities. Back home the women faced high unemployment; 65% of the 11,000 people living in Idutywa have no income and a further 10% earn less than £20 a month. Their stories are inspirational. With little knowledge of the competitive business world, they jumped at the chance to create something special and Ivan Volschenk admits that the key to the success of the company has been their enthusiasm for what they produce



Ethel Jampo-Keni is one of the company's Master Craftswomen and her EJ initials appear on every item that she has made. She is also production manager in charge of the manufacturing section of the studio. Precision working is key to the quality standards of the company, which is why it has invested tens of thousands of hours in training. A single craftswoman is responsible for all stages in the production of a design.

and a willingness to learn new skills.

Tens of thousands of hours have been invested in training a team of some 50 women employees to reach a demanding standard of workmanship, where every hand stitch is perfect. Working with leather was a new experience for all, including the man behind the initiative. After studying at the university, he had settled in Stellenbosch and developed a successful career in photography and design for nearly 25 years.

In the social and economic context of South Africa today, Volschenk realised that it was vital to provide employment opportunities for women. As part of the company's social



Original dairy building on the Rustenberg Farm Estate, about 50km from Cape Town, now home to the Els & Co team.

responsibility programme, the company is in the process of launching a Craftswomen's Trust that will own a significant share in Els & Co, which will further improve the lives of the women involved, helping to lift them and their children out of poverty. The company is also considering setting up its own clinic as attending the local health facility can involve extended waiting times.

Becoming a master craftswoman

Each woman has her own workbench and can make progress on a number of orders at the same time, which means there is a continuous flow of production. The team ensures that there are no wasted hours "watching glue dry", as Ivan Volschenk describes it. The staff are able to improve their grades as their skills develop; after an apprenticeship, they become craftswomen, and it can then take three or four years before reaching senior craftswoman status and, eventually, master craftswoman.

All the leather Els & Co uses is veg-tanned bovine, sourced from three South African tanneries. Three different substrates are used. "We will use leather from other animals if specifically requested by clients, but we prefer bovine," says Mr Volschenk. "It's the same when it comes to the shade we dye [a rich classic brown] and finish for our designs, but if there is a special request

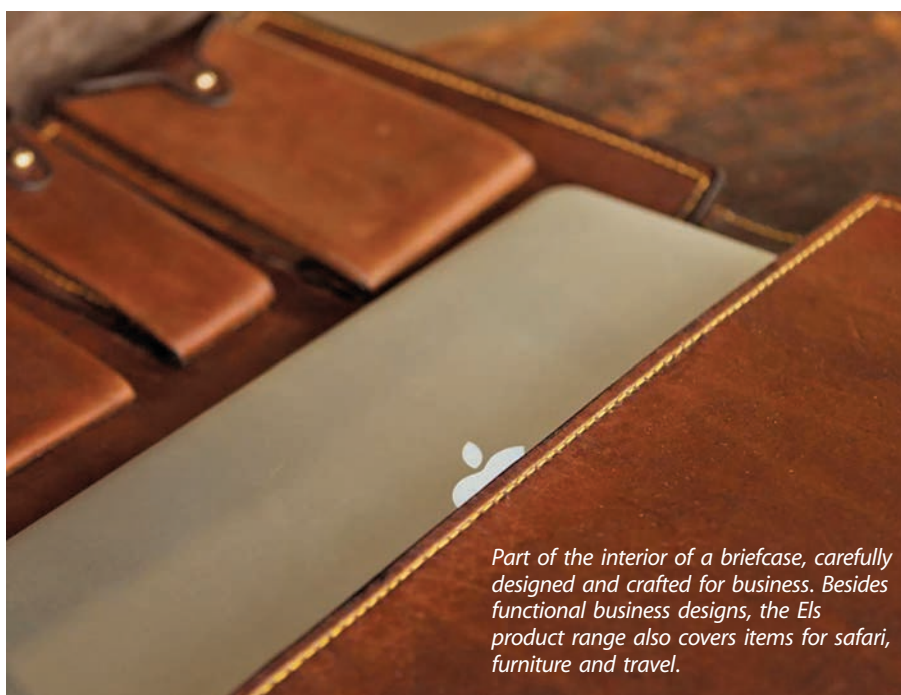
for a different shade we can match that too."

Every item in the collection is "hand made", designed to be both functional and to last for ages, the sort of item that will be passed on to future generations. To achieve that sort of quality, the company sponge-dyes the leather by hand, oiled with Els's own mixture of beeswax and animal fat. The leather is moulded by hand before being hand-stitched. Stitching alone can take a craftswoman several months to master. The beeswax is sourced

locally from an apiary a short distance away from the plant. The brass metal work that items require are sourced abroad from small artisanal foundries and it has now reached the point that the CEO is planning to build his own foundry.

As the collection expanded, Els & Co. had to install its own carpentry shop less than a year ago; woodworking and turning was another skill the team had to acquire. The wood chosen to match the company's leather quality is Ofram, or African limba wood, a dark wood that comes from Ghana, grown in two forests sustainably managed by a German company. It is considered one of the most beautifully figured exotic hardwoods. Some of Mr Volschenk's designs also call for canvas, and he has found a 200-year-old company in the United Kingdom that has been producing the quality of canvas he needs.

Speaking to the chief executive, one is left with the impression that he must have energy to spare, besides being a great motivator of his team. Having a home on the same Rustenberg Estate is a great advantage — no long distance commute to get to the studio — and he still finds time to brew his own ale and plant his own vines, but just as a hobby. He has no intention of challenging the wines that the Estate produces. ☺



Part of the interior of a briefcase, carefully designed and crafted for business. Besides functional business designs, the Els product range also covers items for safari, furniture and travel.

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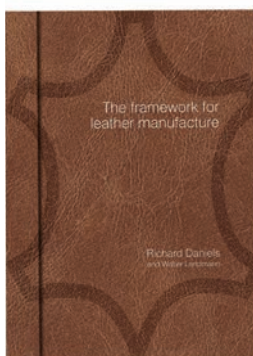
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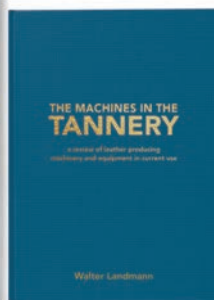
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