

WORLD LEATHER

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

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Suede and the retro revival
Micro-tanneries on farms
Fifty years of the VW Golf



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Cover image: Mexico-based Lebensstück takes its name and its inspiration from leather's innate ability to make products that will last a lifetime.

CREDIT: LEBENSSTÜCK



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GERMANY Price increases and the loss of key contracts have led car seat producer Recaro Automotive to go into administration. Recaro Automotive said it had encountered “significant financial difficulties” in recent years owing to cost-rises and the loss of important contracts. It said these cost-pressures had held it back from developing new product offerings and that this had been a factor, too. It said it expects restructuring efforts to be successful.

UK Luxury automotive group Bentley Motors sold 5,476 vehicles in the first six months of 2024, a fall of 23% compared to the same period last year. These sales brought in revenues of just under €1.4 billion, which is down by 17% year on year. There were double-digit falls in the number of vehicles it shipped to all of its markets around the world. There was a decline of 38% in the UK. The company secured sales of 428 cars in its home market over the six-month period.

ITALY Tuscan leather manufacturer Conceria Antiba recently welcomed a group of Bulgari employees to its tannery in Ponte A Egola. The Rome-based luxury group arranged for the leathergoods-focused representatives of its retail staff in all parts of the world to make the behind-the-scenes visit. Conceria Antiba said it had found the visit to be an excellent opportunity to present the business and explain the leather manufacturing process to a group of people from outside its usual circles.

KENYA The Kenyan government is planning to restart leathergoods production in prisons. Local media have reported that a plan is in place for Kamiti and Kitengela prisons. Options include public-private partnerships to fund materials, tools and training to make the plan work. The government has said it views the idea as a means of earning revenue while offenders learn skills that will help them become self-reliant when their sentences are up.

YEMEN Global sea-freight service provider AP Moller-Maersk has said the tensions and violence in the Red Sea are still “creating challenges for supply chains”. Maersk ships are continuing to divert around Africa via the Cape of Good Hope. He said: “These disruptions, and the impact they are having on your business, is not something that I, nor any colleagues at Maersk, take lightly.” Disruption has extended beyond Far East-Europe routes to the entire ocean network, Maersk said.

MAURITANIA The International Monetary Fund (IMF) has said in a report that the development of the leather sector in Mauritania will be an important part of a growth plan for the north-west African country. Since 2016, the IMF has been working to help Mauritania formulate and put into effect by 2030 a “strategy for accelerated growth and shared prosperity”. It said recently that Mauritania’s government and its technical and finance partners will make the leather sector an important part of the strategy.

BOTSWANA A proposed online university, the Southern African Development Community (SADC) University of Transformation, has earmarked the leather sector as one of its primary areas for research and investment. A working group has developed guidelines for selecting centres of excellence and centres of specialisation that will be affiliated to the proposed university. The 16-state SADC has its headquarters in Gaborone, Botswana

ZIMBABWE A financial institution based in Nigeria says it has earmarked \$400 million for industrialisation projects in Zimbabwe. African Export-Import Bank said the money will be available to help companies based in Zimbabwe to carry out industrialisation project across Africa. A government minister, Mangaliso Ncube, said this investment would tie in with a programme that is already under way in the country. Projects in the leather value chain are part of this.

JAPAN The Japan Leather and Leathergoods Industries Association (JLIA) has announced a new campaign for putting across the message about leather's sustainability to consumers. The new idea, Thinking Leather Action, will reward the contestant that creates "the most excitement" by talking to the public about the sustainability of leather during shoeshine sessions linked to the Show Shine Championship programme.

US Tannin Corporation and Marden Wild of Canada have acquired Whittemore-Wright Company, a prominent producer of tanning oils with 117 years of history. The acquisition is expected to enhance the companies' product portfolios and global market reach. The transition is anticipated to be smooth, with a focus on maintaining product quality and customer service.

- Footwear group Designer Brands Inc launched its own charitable foundation in early August. Early funding activities have included a donation of \$50,000 to Girls On The Run, a non-profit organisation that provides life skills lessons to girls. The group's senior vice-president for human resources, Amy Jo Donohew, said the foundation would focus on three areas of impact: empowerment, inclusion, and local communities.

VIETNAM The Vietnam Leather, Footwear and Handbag Association (LEFASO) forecasts that export revenue in the sector will reach \$26-27 billion in 2024, following strong performance this year. In the first six months, exports exceeded \$6.5 billion, a 5.7% increase over last year. LEFASO said a focus on making products for the markets in the US, EU, Japan, Korea and China had been successful and that this focus could expand.

AUSTRALIA Promotions body Meat & Livestock Australia (MLA) has begun its search for nominations for a cattle producer to sit on its board committee for a three-year term. The role of the selection committee is to take part in the selection process for members of the association's board of directors. The committee has nine members.

ECUADOR Footwear manufacturing group Buestán has said a back-to-school collection that it is bringing to market involved its largest investment since the covid-19 pandemic. It added that coming back strongly from covid-19 to produce a collection of good-quality leather shoes for children also shows its firm commitment to shoe production in Ecuador. It pointed out that many manufacturers in the country closed their doors during the pandemic and have not been able to reopen.

ARGENTINA Meat companies in Argentina have expressed hope of an upturn in exports of beef to China after the government said it intended to remove quotas. President of a packers' consortium ABC, Mario Ravettino, welcomed the announcement but warned that the competition to win export contracts in China was fierce. Official figures show that Argentina slaughtered just over 6.5 million head of cattle in the first half of 2024, down by 10.6% year on year.

PERU Peru's ministry for production ran a circular economy workshop at the end of June specifically for small- and medium-sized manufacturers. The ministry reached out to companies in the leather and footwear manufacturing industries to invite them to take part. It has linked learning about the circular economy to a national procurement programme.



Feltre acquires stake in Wega

Specialist tannery technology provider Feltre has acquired a stake in Wega, a well-established manufacturer of leather measuring machines. This partnership aims to leverage shared values of reliability, innovation, and a long-standing history of success between the two companies, fostering new possibilities and important synergies.

The collaboration is expected to yield cutting-edge technological solutions, enhancing efficiency and quality in production processes. The two parties also state that their combined expertise will lead to the development of machines that optimise every stage of leather processing.

Both companies are committed to investing in technological advancement, a core aspect of Feltre's mission, to deliver more robust and innovative machines.

Feltre and Wega will showcase their new solutions at the September Simac Tanning Tech fair in Milan, where attendees can learn more about the advancements and see the latest innovations in action.

Tailor-made solutions

Leather chemicals group Zschimmer & Schwarz has given further detail of the products it will have on display at the 2024 All China Leather Exhibition, which takes place in Shanghai from September 3-5.

Zschimmer & Schwarz and its subsidiary Samia have said they will use the event as a platform for presenting "tailor-made solutions for the entire leather production process" to leather manufacturers from all parts of China and the wider region.

One highlight will be its expanded S-Range, which makes use of a high proportion of bio-based raw materials to help tanners make their production of leather more sustainable.

Also on display will be a new range of bisphenol-free retanning agents, plus Samia's specialities for leather finishing, including pigment pastes, dyes, resins, auxiliaries for water-based systems and finishing agents.

Advanced leather cutting solutions by Zünd

At the Simac trade show in Milan, Zünd is showcasing innovative solutions for digital leather and textile cutting. Highlights include the compact Zünd G3 cutter and interactive nesting with mixed-reality glasses, emphasising advancements towards the Smart Factory.

The Zünd G3 cutter, designed for the leather-processing industry, features a 227x280 cm working area. This allows for



Next step for Stahl in Japan

Chemicals group Stahl has opened a new laboratory in Japan, locating it in the Kanagawa Science Park near Tokyo.

This facility, which covers 500 square-metres, marks "a significant next step" in Japan, the company said. It said it looked forward to using the laboratory "to co-innovate with customers" there.

The senior vice-president for global design at Nissan Motor Corporation, Alfonso Albaisa, was the guest speaker at the opening ceremony and shared what Stahl chief executive, Martijn Heijbroek (*pictured*), described as "visionary ideas" about the future of car interiors.

"He set an inspiring tone for our journey ahead," Mr Heijbroek said.

efficient nesting, cutting, and removal of parts. The system supports a front-to-back workflow, facilitating simultaneous loading, cutting, and parts removal, thereby enhancing productivity. It operates with Mind production software and can accommodate three tools.

Interactive nesting, demonstrated with augmented reality glasses, allows for precise parts placement using software-aided and manual methods. This technology is particularly effective on materials with treated, shiny surfaces. Zünd's partnership with Mindhive Global aims to advance automated leather grading.

Counter-argument from Equitan

Tanning technology provider Equitan will introduce its latest innovation, the Equi-Counter, at the Tanning Tech exhibition in September. This automated leather counting device is designed to improve efficiency and accuracy in leather production.

The Equi-Counter automates the counting process, eliminating the need for manual counting with a mechanical counter. It counts leather pieces per batch, per shift, or until reset, and is suitable for staking machines and other setups. The device features a specialised sensor that detects leather on any type of belt,

regardless of colour.

The Equi-Counter's user-friendly interface allows for easy monitoring and resetting of counts.

Leather chemicals companies prepare for ACLE

Leather chemicals manufacturers that will exhibit at the All China Leather Exhibition in Shanghai in September include companies from Europe and North America, as well as companies from China and other parts of Asia.

European leather chemicals suppliers that will be at ACLE 2024 from September 3-5 will include Cromogenia, Stahl, Zschimmer & Schwarz, Fenice, Trumpler, Alpa and TFL.

Asian participants will include Sichuan Tingjiang New Material, D&A Edge Polymer, Sichuan Decision and Fooyee Chemicals, while those from North America will include Buckman and Lowenstein.

Seaweed solution for methane one step closer

An initiative for reducing enteric methane from ruminant livestock has submitted a bid for official recognition from the Australian Carbon Credit Units (ACCU) scheme.

The idea behind the initiative is to use native Australian seaweeds as additives to

improve feed efficiency for cattle. Initial tests using asparagopsis, a species of the red macro algae, showed that the additive enabled them to conserve energy that was previously being lost as methane.

In 2020, Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO) launched a start-up company called FutureFeed, with partners including promotional body Meat and Livestock Australia, to take the idea forward.

Since then, FutureFeed has carried out laboratory and field trials, published the results of its research in a series of papers in peer-reviewed journals, and won a number of major awards.

In mid-July 2024, FutureFeed was one of a number of organisations that submitted a formal expression of interest to its method for reducing methane accepted by Australia's Emissions Reductions Assurance Committee (ERAC). The committee has the task of choosing ideas that the country will prioritise in its bid to reduce greenhouse gas emissions.

This follows an announcement in May this year from the minister for climate change and energy, Chris Bowen, outlining the process the government will follow to add new ideas to the ACCU scheme.

FutureFeed's head of carbon and sustainability, Louise Robb, said: "We are pleased that we have been able to submit a very competitive expression of interest for a new feed additive method for livestock, and we are hopeful of getting through the first round."

If the bid is successful, FutureFeed and its partners are likely to spend a further two years finalising the method that farmers will use to give the seaweed-based feed additives to their herds to achieve important reductions in on-farm emissions.

Fossil-fuel-free production

Leather manufacturing group Sadesa has said it is now able to produce leather at its facility in Thailand without burning fossil fuels.

It has invested heavily in solar energy at the plant, which is in Kabin Buri district, 150 kilometres east of Bangkok. It now has solar panels covering an area of more than 1,600 square-metres there to generate clean electricity.

In addition, Sadesa now generates thermal energy at the tannery by using biomass boilers to burn rice husks, a renewable waste product of the food industry.

In this way, the company insists it is able to produce more than 10 million square-feet of leather at the site without using fossil fuels.

Respin closer to commercialisation

Finland-based Spinnova and Ecco Investment Corporation have signed a letter of intent (LOI) regarding the plans for their 50-50 joint venture company Respin Oy. Development work on Respin leather waste-based fibre has shown good results, said the partners.

Ecco has successfully made a prototype shoe, which includes fibre from the Respin pilot line produced using Spinnova technology. A product launch by Ecco is expected to take place before the end of the first quarter of 2025.

Both parties are committed to scaling up operations and commercialising Respin. Tuomas Oijala, Spinnova's CEO, said: "I am proud of the progress we have made with Respin's fibre quality, which now meets commercial requirements and demonstrates the versatility of the Spinnova technology, which can use multiple different feedstocks, including protein-based leather waste."

Thomas Gøgsig, Ecco's chief commercial officer, added: "We are optimistic about the fibre quality reached at Respin and see a clear potential using the fibre in our future products."

Renewed commitment to sustainability

Leather chemicals group TFL will work with service provider Chem-MAP, part of the Eurofins group, to achieve recertification of its products under the Zero Discharge of Hazardous Chemicals (ZDHC) initiative.

TFL said working with Chem-MAP would ensure that its products are independently tested and certified "for full safety and sustainability compliance".

This will be the second time TFL has sought recertification since its acquisition of the Lanxess organic leather chemical division in 2021.

Global head of research and development at TFL, Dr Jens Fennen, commented: "With this recertification, we are strengthening our commitment to sustainable practices and transparency. Our customers and partners can be confident that we are continuously working to develop and provide safe and environmentally friendly solutions."

Indian factory certified

The ATC India factory in Pondicherry has obtained ISO 9001 certification, marking its adherence to international standards for quality management.

This certification process, initiated a year ago, involved a thorough review of the factory's organisation and management practices. The ISO 9001 standard provides

a framework for continuous improvement in management systems.

Improvements such as increased staff involvement, optimised processes, and enhanced overall performance were noted during the certification process.

Following this achievement, ATC India is now considering the implementation of the ISO 45001 standard.

Appeal of polypropylene

Rio Grande do Sul-based tanning technology developer Luvison has announced the addition of polypropylene drums to the range of products it offers.

It said it had made the move after deciding that polypropylene drums would offer leather manufacturers greater flexibility owing to the range of processes for which they can be used and the ease with which they can be cleaned.

Luvison said it was responding to growth in leather production in Brazil. The company also exports its technology to Peru, Colombia, Uruguay, Argentina, Paraguay, Bolivia, Venezuela and Italy.

Footwear is 'ripe for disruption'

Seven brands and retail groups are to work with innovation hub Fashion for Good to make the footwear supply chain more circular. The partners have recognised the role that leather can play in this.

They have said this initiative will build on work that Amsterdam-based Fashion for Good is already doing to scout and validate start-ups that are offering innovative ideas aimed at helping textile and apparel groups make their supply chains more sustainable.

On Running, PVH Corp, Inditex, adidas, Reformation, Target and Zalando are the companies that will take part in this new programme. The partners have said they will address "key intervention points needed to drive footwear circularity".

Because it identifies industry-wide collaboration as "vital to overcome the various roadblocks we face in this space", Fashion for Good has issued a call for action, asking "all relevant innovators" to apply to join in the movement.

It said that around 23.9 billion pairs of shoes are produced globally each year and that these are often made using more than 40 different components. "The vast majority of discarded footwear ends up in landfills," Fashion for Good said. It added that it wanted to work with its seven partners and with start-ups who join the programme to accelerate innovation and "lay the foundation for footwear circularity".

This effort will span four work streams across the supply chain. The first of these is to identify sustainable footwear materials. 



Change of CEO at Burberry

Luxury brand Burberry has announced that chief executive, **Jonathan Akeroyd**, has left the company. It made the announcement in parallel with releasing disappointing results for the first quarter of 2024.

It has appointed **Joshua Schulman** as its new chief executive. To take up the new role, Mr Schulman will relocate to London from New York. His tenure at Burberry began in mid July. Mr Schulman was chief executive of Michael Kors between 2021 and 2022. Before that, he led Coach. He has worked in London before and was chief executive of Jimmy Choo from 2007 until 2012.

Creative director appointment at Sergio Rossi

High-end footwear brand Sergio Rossi has appointed **Paul Andrew** as its new creative director.

Paul Andrew is the former creative director of Salvatore Ferragamo; he has also worked alongside **Donna Karan**, **Calvin Klein**, **Narciso Rodríguez** and **Alexander McQueen**.

He first launched a footwear label of his own in 2012 and circled back to own-brand work after leaving Ferragamo in 2021.

In 2022 he created headlines when he said mushroom-based alternatives to leather that he had tried would not work in the type of shoes he wanted to make because they were not yet durable enough for footwear uppers.

Largest ever group of apprentices to start at Rolls-Royce

Automotive manufacturer Rolls-Royce Motor Cars has recruited the largest-ever number of new apprentices.

It launched its apprenticeship programme in 2006 with 11 young people starting work at the company's production site at Goodwood in the south of England. When the 2024 cohort arrived to begin work in August, there were 32 people in the group.

In advance of starting, all 32 of the new apprentices, plus their families, attended an event at Rolls-Royce at the end of July.

Human resources director, **Mark Adams**, said: "This event, which was inspired by feedback from current apprentices, aims to make the transition easier for our new intake, by giving them a chance to familiarise themselves with the home of Rolls-Royce at Goodwood and get to know us a little better before their official start date in August."

He said it was also important to involve family members because their support will be an important factor in the new apprentices' success.



Legal expert will be Kering's new Americas president

Luxury group Kering has appointed **Ewa Abrams** as the president of its business in the Americas from this August.

She succeeds **Laurent Claquin** in the role; Mr Claquin became the group's chief brand officer on July 1.

Until now, Ewa Abrams has been Kering's general counsel in the Americas; she joined the group in 2018, after a 17-year career at Tiffany & Co.

She has also contributed substantially to education, serving as an adjunct professor of law at Fordham University in New York City since 2016.

Ministers show support

The ninth Pakistan Footwear Material and Machinery Show opened in Lahore on August 11. Commerce minister, **Abdul Aleem Khan**, and commerce minister, **Jam Kamal**, presided over the opening of the event.

Both ministers highlighted the importance to Pakistan of fostering international business relationships, especially with China.

Senior representatives of six prominent Chinese footwear industry associations were in attendance.

Pakistan's footwear industry saw a 22%

Stark warning

Leather industry bodies including UNIC, Assocalzaturifici, Assopellettieri and the Associazione Italiana Pellicceria took part in a wider meeting between Italy's fashion sector and the government's minister for business and 'Made in Italy', **Adolfo Urso** on August 6.

This was the fifth time the so-called Fashion Roundtable has met since it was set up to discuss ways in which the government can help the fashion sector in the face of "the systemic crisis that has gripped fashion production" since the latter part of 2023.

After the meeting, Assopellettieri president, **Claudia Sequi**, highlighted the importance of working with the government at a time when business is difficult for member companies. She said inflation and increases in interest rates had left many companies facing "a cash-flow crisis".

Ms Sequi explained that the sector encompasses around 11,500 companies in Italy, with combined revenues of about €33 billion per year. "We are going through a complex period," she said, "and we are having to face up to situations many of us have never seen before."

She added that some companies are genuinely at risk of having to close down. She said: "Without government intervention we are at risk of being unable to keep the system going. This means we are at risk of losing skills, tens of thousands of jobs and the high quality of our products. And, as a final consequence, we risk losing Made in Italy."

fall in footwear export revenues from July 2023 to June 2024, to \$162 million. Exports of leather footwear contributed \$125 million to the total.

Learn from Italy, entrepreneur says

Paris-based footwear entrepreneur **Philippe Zorzetto** has said only 1% of the shoes and boots that consumers in France buy now are locally made.

He said there had been a time when French shoe factories, operated by brands including Clergerie, Charles Jourdan and Stéphane Kelian, had led the global footwear industry. "Then our country began to dream of a factory-free economy and sold its manufacturing to Asia."

He said he was committed to continue manufacturing in France the shoe collections of his own-name brand, which he set up in 2008. In addition, he said he believed there can be a wider footwear revival there, especially if French companies set out to emulate their neighbours in Italy, who, he said, had succeeded in preserving their high-end footwear manufacturing sector.

He added: "It's more important than ever for us to preserve our creativity and our savoir-faire. We have to offer consumers high-quality products that are imbued with beautiful values and bring benefits to all."

Student wins award for sustainable fashion

De Montfort University (DMU) fashion student **Funmi Ogundimu** has won the prestigious Skin Innovation Award from the Worshipful Company of Curriers for her final collection.

She impressed judges with her designs, which used leather from an old family sofa and demonstrated creativity and a strong emphasis on sustainability.

The Curriers, a historic livery company dating back to 1272, visited the university for the first time to evaluate student work this year. Miss Funmi received a £1,000 (€1200) prize from Master Currier, **Ian Michel**, who praised her understanding of leather and innovative reuse of the material, highlighting her commitment to circularity. Miss Funmi is set to graduate this September.

New appointments at IULTCS

The International Union of Leather Technologists and Chemists Societies (IULTCS) has announced the appointment of four new commission chairs. They will be instrumental in shaping future initiatives, fostering collaborations and driving positive

changes within IULTCS.

The newly appointed commission chairs are: **Tiziana Gambicorti** for chemicals, **Daniele Bacchi** for the environment, **Kim Sena** for sustainability, and **Dr Volker Rabe** for research.

Changing of the guard at Cartier

Switzerland-based luxury group Richemont has announced **Louis Ferla** as the new chief executive of one of its brands, Cartier. He will join in September, moving from another part of the group, watch brand Vacheron Constantin.

Mr Ferla will take over the reins at Cartier from **Cyrille Vigneron**, who is to retire. Mr Vigneron will remain connected to the brand, taking up the role of chairman at Cartier's culture and philanthropy arm. He will work with Mr Ferla to make the change of chief executive as smooth as possible.

Women entrepreneurs urged to follow Silvina's example

Uruguay's industry ministry is inviting women entrepreneurs across the country to submit bids for funding under a its Women in Business programme.

After a successful 2023 programme, in

which leathergoods brand Trendy Cueros was one of the winners, the ministry is running the programme again this year. Companies had until August 15 to submit their entries.

The ministry is looking for good examples of women setting up and running businesses that reinforce economic independence and that create jobs for women.

In last year's programme, Trendy Cueros founder, **Silvina Santillán**, received a prize of around \$3,000 for her work in setting up the Montevideo-based leathergoods brand. The company designs, manufactures and sells bags and other leathergoods.

Ms Santillán said women artisans were at the heart of what she was trying to do. She said she would use the money to help her build up brand identity.

Stahl automotive promotion

Leather chemicals group Stahl has appointed **Wouter Vermeulen** as its new regional market manager for the automotive seat and trim segment for Europe and India. Before this, Mr Vermeulen had worked as Stahl's application laboratory manager for this market segment for almost ten years. 

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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.

12 August 2024

Bata India Q1 profit soars

09 August 2024

Capri Holdings reports decline, brands struggle

08 August 2024

Export growth for Italy

07 August 2024

China mandates pre-registration for US exports

06 August 2024

Extra funding could boost US beef exports
Low-impact, high-performance, scalable leather has a big role to play

05 August 2024

Tyson expects operating loss for its beef business this year
Dr Martens steps into softness

02 August 2024

New website showcases Italian tanning sustainability
Ferragamo operating income drops 41% in Q2

01 August 2024

Growth for Stahl in first half of 2024
Accolades for Zenda

31 July 2024

Ferragamo returns to Florence for new campaign
Emerging designers named for next edition of Micam

30 July 2024

Strong first half for Prada Group

29 July 2024

Birkenstock kickstarts fresh European expansion

26 July 2024

Fourteenth Loewe store opens in South Korea

Louis Vuitton's leather elegance for Paris 2024

Ugg sales boost Deckers' strong quarter

25 July 2024

Hermès and its employees reap the rewards of a strong model
British Pasture Leather readies black leather from regenerative farms
Kering faces steep sales decline

24 July 2024

Desirability, quality and craftsmanship boost LVMH

Tough times for Pakistani leather sector
Manifesto commitment from Gruppo Dani
Leathersellers grants for UK industry apprenticeships

23 July 2024

July success on the road for Brazilian leather
Australian beef exports surge globally

22 July 2024

Birkenstock sets sights on Asia growth
State to boost Calcutta Leather Complex

19 July 2024

Bottega Veneta enhances craft commitment with new role
Laura Burdese to lead Bulgari leathergoods

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Adriano Serafini, chief executive of GSC.

CREDIT: GSC



A catalyst for progress

The chief executive of Italian chemicals group GSC, Adriano Serafini, shares his views on recent developments in leather chemicals, regulatory requirements, consolidation in the sector and the situation in the global leather industry.

You talked in your most recent sustainability report of the importance of showing courage. Why is courage necessary?

We put this emphasis on courage because we believe it is an essential quality for anyone facing up to the complex and constantly evolving challenges of our time. If we are to take bold and innovative actions, we need courage, especially if these actions bring with them risks or uncertainties. It is through courage that we can push beyond traditional boundaries, bring meaningful change and create a lasting, positive impact.

Which characteristics indicate a lack of courage?

A lack of courage in organisations can manifest itself through risk aversion. Companies that avoid making risky decisions or investing in innovation out of fear of failure demonstrate a lack of courage, in my opinion. They do not openly communicate their goals or their progress towards them. They can appear to avoid addressing problems, be resistant to change and unwilling or unable to adapt to new circumstances or respond to emerging challenges. They

focus exclusively on immediate results, without considering the long-term impact of their actions.

What are the characteristics that you observe in companies or other organisations that are courageous?

The distinctive characteristics of companies that show courage include having a long-term vision. They tend to be organisations that look beyond immediate results. They plan for the future and invest in sustainable, innovative initiatives that may not bear fruit immediately but are crucial for long-term success. I would say they also embrace innovation. Courageous companies are not afraid to experiment and try new ideas, explore new technologies, new business models, and sustainable practices, even when there is no certainty of success. They also show transparency and accountability. They are open and honest about their goals, the challenges they face and the results they achieve. They are accountable for their actions and they commit to continuous improvement. Finally, I would say courageous companies show resilience. An ability to adapt and recover from set-backs is a fundamental component of this.

What examples would you say show these qualities in your own organisation?

GSC has approved the most significant investment plan in its history. By 2025, we will have in place a new laboratory covering a total of approximately 5,200 square-metres. By 2026, new production facilities occupying approximately 12,000 square-metres will be ready. Ultimately, courage is a catalyst for progress and innovation. We have decided to prepare for future challenges by investing significantly to satisfy our customers, stay close to them and provide an ever-improving service. This is in the DNA of our company.

In addition to broad, general demands (for greater performance or greater sustainability, for example), what are some of the specific aspects of leather production in which leather manufacturers are looking for improvement today, based on your dialogue with them?

Our dialogue with tanneries is ongoing. Various specific needs emerge from this, in addition to general demands for performance and sustainability. Traceability and supply chain transparency are among the most relevant aspects. Tanneries are increasingly interested in ensuring complete traceability of their supply chain. They want to be able to demonstrate the origin of the hides they use and make sure that each stage of production adheres to strict standards. This is not only to meet the demands of end consumers but also to help build trust and credibility in the market. On the technology front, we are witnessing a growing demand for advanced technologies that can improve leather quality and make production processes more efficient. This includes the use of innovative tanning techniques that reduce the use of harmful substances, enhance the durability of the final product and minimise waste. Leather manufacturers are seeking specific

solutions to reduce their environmental impact. This includes the adoption of greener tanning processes. The use of renewable energy to power production plants is also becoming increasingly relevant. These aspects are becoming increasingly fundamental to remaining competitive in a rapidly evolving market.

What lies ahead in terms of regulatory requirements? Will new regulations always come along?

We can expect them to continue evolving in line with growing environmental awareness and social pressures. Regulations tend to reflect current concerns, so with the increasing focus on sustainability, safety and health, it is likely we will see new laws and regulations covering environmental sustainability, worker safety and supply chain traceability and transparency.

What response to this has there been in recent months from GSC specifically?

Sustainability is the main driver of all new projects in our company. Recent examples include olive mill wastewater (OMW) tanning technology, tanning agents with low bisphenol content, Polygiene LeatherCote, which is a product line that blocks the growth of viruses and bacteria, bio-based leather chemicals, pigments for metal-free leather, a solvent content reduction project, and the Green Organic Agents for Sustainable Tanneries (GOAST) project, which is part of the wider LIFE programme.

How do these projects fit into the wider activity of the leather chemicals sector?

Leather chemical manufacturers are actively adapting to the regulatory changes. I would say there are several key trends. One of these is that companies are investing



In the years ahead, according to the GSC chief executive, leather chemicals manufacturers will increasingly need to offer "tailor-made formulations" to meet the needs of tanners.

CREDIT: GSC



significantly in research and development to manufacture new chemicals that work well and comply with future regulations. This includes researching greener and safer alternatives to chemicals in use previously. To return to the example of OMW, it has allowed us to use olive mill wastewater to develop a range of revolutionary products. This by-product of olive pressing is known to be a highly contaminating because of its acidity and phytotoxic properties. It requires treatment before disposal. But it also has extraordinary antioxidant properties and natural tanning agents, making it suitable for leather chemical products.

What other trends have you observed?

Many manufacturers are collaborating with institutes and other companies to innovate and find sustainable solutions. Sharing knowledge and resources is crucial for meeting regulatory challenges. In our case, the OMW technology resulted from a European project developed in collaboration with universities and other enterprises. At the same time, manufacturers are adopting transparent practices and obtaining international certification to demonstrate commitment to regulatory compliance and sustainability. Besides various certifications under international standards and for greenhouse gas reductions, companies have completed lifecycle analysis (LCA) exercises for a number of leather chemical products and are investing significant time and energy in expanding this.

Will leather chemical manufacturers always try to respond to changes in regulations, or is it possible that the time will come when you reach a limit on the changes you can make to your product ranges while still maintaining their effectiveness?

I think it is realistic to consider that there are limits to the changes that can be made to product ranges without compromising their effectiveness. Finding chemical substitutes that are equally effective and safe can be complex and costly. Small- and medium-sized enterprises may find it particularly challenging to bear these costs. Maintaining a steady pace of innovation to meet evolving regulations requires significant resources. Regulations will continue to evolve and we chemists will strive to meet new requirements. However, it is likely that we will reach a point where modifications need to be carefully balanced to maintain product effectiveness.

The panorama of the global leather chemicals sector has changed completely in the last ten years. What are the main consequences of the consolidation that has taken place?

The global leather chemicals sector has undergone significant consolidation, with mergers, acquisitions, and strategic partnerships reducing the number of independent players and strengthening the position of several large groups. This consolidation has had positive consequences. The main ones are operational efficiency, increased investment capacity, greater regulatory compliance, greater market presence and more diverse portfolios. Mergers and acquisitions have led to synergies, allowing companies to reduce costs and improve efficiency. Economies of scale have enabled large groups to invest more in research and development and innovate more quickly. With a stronger

“Over time, the truth will emerge and leather will regain its prominence.”

financial position, groups can invest in advanced technologies, sustainable processes, and new products. This has accelerated the adoption of sustainable practices and the development of safer and more environmentally friendly chemicals. Chemicals groups can negotiate better terms with suppliers and customers and gain better access to high-quality raw materials.

What do you, as the chief executive of a leading leather chemicals group, imagine this sector will look like in the next five or ten years?

What I envisage is that the sector will continue to evolve rapidly. I can offer some predictions as to how it might develop. Sustainability will continue to be a fundamental driver. We will see increased investment in research and development to create chemicals that are not only effective but also environmentally friendly. Technologies such as green chemistry, biopolymers, and chrome-free tanning processes will become increasingly common. The use of digital and automation technologies will also become more widespread. For example, I expect the use of big data and artificial intelligence to optimise operations and predict market trends. This will be key to remaining competitive. At the same time, the demand for customised and flexible solutions will increase. Leather chemicals manufacturers will need to offer tailor-made formulations to meet specific customer needs, responding quickly to changing market trends. Collaboration between companies, research institutes, and universities will be essential in addressing future challenges. Emerging markets, particularly in Asia and Latin America, will continue to grow and play a significant role in the sector. Companies will need to adapt their strategies to serve these regions, taking into account local regulations and consumer preferences. At GSC, I would say one of our main added values is the ability to grow while maintaining the flexibility, responsiveness, and high expertise typical of a family-run Italian company.

We often talk about the leather industry as though it were one entity, but it seems very different, from one region of the world to another. What are your expectations for some of the different regions in the years ahead?

The leather industry is indeed a highly diverse sector, varying significantly across different regions of the world and market segments. Each geographic region has its own unique dynamics, challenges, and opportunities. Asia, particularly China and India, will remain a growth engine for the leather industry. The expanding middle classes and increasing demand for high-quality leather products in domestic markets there will support this trend. Asian manufacturers are investing more in advanced and sustainable technologies to improve production efficiency and reduce environmental impact. Regulations will become



more stringent, pushing companies there to enhance their sustainability practices. Europe will continue to lead in adopting sustainable practices and producing eco-friendly leather. The European Union is implementing rigorous environmental regulations that will positively influence the industry. European companies will focus on innovation and quality, maintaining their reputation for high-end products. There will be growing demand for sustainably tanned and high-quality leather. Europe will remain a key market for luxury leather products, with strong demand for fashion items, accessories and high-end footwear. North American companies will continue to invest in advanced technologies and automation to improve efficiency and reduce production costs. Consumers there are becoming increasingly aware of environmental issues, driving companies to adopt more sustainable and transparent practices. The demand for durable and high-performance leather for the outdoor and sports industry there is expected to grow. Countries like Brazil and Argentina will continue to be significant leather producers, benefiting from the availability of local raw materials. Latin America, too, will face significant challenges in improving environmental practices and in complying with increasingly stringent international regulations. Despite these challenges, Latin America also has substantial growth potential, particularly in fashion and accessories.

And for the different market segments?

In fashion and luxury, something we can expect to see is an increase in demand for craftsmanship and customisation. High-end consumers will increasingly demand personalised, handcrafted products. The ability to offer unique and bespoke items will be a competitive advantage. Again, sustainability will be a fundamental element, with consumers expecting transparency and social responsibility from luxury brands. The automotive sector will continue to seek innovative materials that combine aesthetics, comfort, and sustainability. Regulations regarding emissions and sustainability will influence material choices, pushing towards more eco-friendly solutions. Even so, synthetic materials are likely to gain traction. In furniture, the demand for leather will focus on durability, comfort, and ease of maintenance. Manufacturers will need to innovate in design to remain competitive in a demanding market. In the footwear and accessories segments, material performance and sustainability will be key factors. There will be increasing demand for leathers that offer durability, comfort, and a lower ecological footprint.

What do you think the focus on alternative materials that you mention will mean for the leather industry?

Producers will continue to explore new materials and processing techniques. They will say they are doing this to satisfy the demands of today's consumers. The leather industry does not enjoy a strong reputation among many younger-generation people, who think of it as being less natural than synthetic materials. We believe that, over time, the truth will emerge and leather will regain its prominence. The leather industry landscape will continue to be diverse and dynamic. Sustainability, technological innovation and the ability to meet specific consumer needs will be key factors for future success. 🌱

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Pastoralism: sustainable and nature-positive production

Mascha Kaddori
Vétérinaires Sans Frontières Germany

Pastoralism, the practice of raising livestock by moving herds in search of grazing lands, is one of the oldest and most sustainable agricultural systems in the world. It is the cultural backbone of longstanding civilisations. Globally, pastoralists - who include nomadic, semi-nomadic, and transhumant communities - manage vast tracts of rangelands, maintaining ecological balance and supporting biodiversity while tending to around one billion animals. These communities are found in about 75% of all countries worldwide across diverse regions, including Africa, the Middle East, Central Asia, South America, and even Europe, each adapting to local environmental conditions where crop cultivation is usually limited.

Pastoralists are not a homogenous group; their lifestyles and livestock vary greatly depending on geographical and climatic conditions. For instance, you will find camel-keeping in the deserts of Rajasthan and Gujarat in the west of India; Mongolian herders relying on sheep, goats, and yaks; high-mountain llama and alpaca production for wool, meat, and leather in South America; the Bedouins in the Middle East and the Tuareg in the Sahara Desert mainly managing camels; and Scandinavian herders migrating with their reindeer in the tundra. This diversity reflects the adaptability and resilience of pastoral systems, which are tailored to optimise the use of available natural resources.

Role in the markets

In the global, national, and local markets, pastoralists play a crucial role. Their livestock and related products, such as meat, milk, wool, and leather, are essential commodities that sustain millions of people worldwide, contributing to food security and economic resilience in rural areas. For example, they provide about 10% of the world's meat production, especially in the world's poorest regions. At the local level, pastoralists support rural economies and food security, providing livelihoods for countless families and communities. On another scale, products derived from pastoralist systems contribute



Pastoralism, centred on herding and managing livestock, is a traditional production system and the cultural backbone of ancient nomadic and semi-nomadic civilizations in open landscapes.

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significantly to national and international trade as the urban demand for meat and dairy products, as well as wool and leather products, is constantly increasing.

Environmental sustainability

Rangeland harbours 35% of the global biodiversity hotspots, providing habitat for threatened species. Living on these rangelands, pastoralists' way of living is based on being able to adapt to changing environmental factors and using land in fragile ecosystems. Their lifestyle is inherently connected to natural ecosystems and therefore they are dependent on ensuring and maintaining its stability. Traditionally, they have minimal reliance on external inputs such as chemical fertilisers or pesticides. This low-input system reduces environmental pollution. At the same time, pastoralism offers numerous ecosystem services, including:

1. Biodiversity conservation: By rotating grazing areas, pastoralists reduce localised pressure on the land, allowing ecosystems to recover. They support plant diversity and prevent the overgrowth of dominant species, thereby improving wildlife habitats.



2. Soil fertility: Livestock manure acts as a natural fertiliser, enhancing soil health and productivity for both cultivated areas and the natural environment.
3. Carbon sequestration: Healthy rangeland ecosystems capture and store substantial amounts of carbon, mitigating climate change. Pastoralists are part of the ecosystem through their form of pastureland use and ensure its health.
4. Spiritual values: Many pastoral societies view certain landscapes as sacred, with elaborate rituals and traditional rules governing their use. Livestock are not merely economic assets but also hold ceremonial and symbolic importance.

A focus on East Africa

Pastoralists exhibit remarkable adaptability to local conditions. In eastern Africa, for example, pastoralists have developed strategies to cope with arid and semi-arid environments, which are characterised by low rainfall and high temperatures. Communities have developed sophisticated knowledge systems to adapt to changing factors, and their mobility allows them to respond to droughts, floods, and seasonal variations, reducing the risk of land degradation. The availability and duration of nutrients for livestock (grass, shrubs, tree leaves, and pods) across the rangelands are highly variable and unpredictable, arising not only because of irregular rainfall patterns but also due to variations in topography, soil composition, plant species, and even the growth cycle stages of individual plants.

Eastern African pastoralists are specialised dryland producers and, in this manner, they "work with variability" rather than against it. With their production strategies, they actively seek to take advantage of the variable distribution of resources to enhance productivity, thereby building resilience in contexts of high variability. Strategic mobility is the most obvious strategy to track scarce water and grazing resources. Another one is the breeding of livestock that are well-adapted to local conditions, such as more drought-resistant cattle. Additionally, increased resistance against specific vector-borne diseases has been promoted through traditional knowledge and breeding methods.

Vétérinaires Sans Frontières (VSF) Germany is a key player in supporting pastoralist communities at the Horn of Africa. With our projects, we enable these people to lead a self-determined life and to protect and promote their traditional way of living in unison with their animals and the environment. Over time, our commitment has grown beyond our initial focus on animal health. We pursue holistic development cooperation and humanitarian aid, and in response to the multiple challenges pastoralists face, we advocate for a wide range of approaches that positively impact the lives of East Africa's rural population.

Our commitment has long since grown beyond the initial focus on animal health. These include food security, food hygiene, veterinary medicine, animal welfare, One Health, WASH (water, sanitation, and hygiene), income security, education, women empowerment, environmental protection, climate change adaptation, and peacebuilding.

- Food security: VSF Germany implements programmes to enhance food security through livestock distribution and improved animal husbandry practices.



- Food hygiene: Training in food hygiene practices ensures that pastoralists produce and consume safe and nutritious food, reducing the risk of foodborne diseases.
- Veterinary medicine: Providing veterinary services, vaccinations, and training ensures healthy livestock, which is crucial for the well-being and economic stability of pastoral communities.
- Animal welfare: The pastoral livestock management we promote in our projects ensures species-appropriate conditions for the farm animals.
- One Health: The One Health approach is at the core of our work and emphasises the interconnectedness of human, animal, and environmental health.
- WASH: Awareness campaigns and workshops aim to improve hygiene conditions in households, as well as food hygiene. Access to soap and washing facilities, as well as the imparting of knowledge on the hygienic handling of food, are aimed at preventing the transmission of infectious diseases.
- Income security: We support pastoralists in diversifying their sources of income to be able to farm more independently of unpredictable influences.
- Education: We enable people as well as authorities to solve challenges themselves – even after a project has ended. Through training courses, people are taught skills that can be used to cover basic needs and provide (more) income for their own families in the long term.
- Women empowerment: An essential pillar of women's advancement is access to education. Women receive training in income-generating activities and basic business skills. It is important to involve all community members in this process so that such social changes are supported by all.
- Environmental protection: Good pasture management and organic farming protect against flooding by significantly increasing the soil's ability to store water.

Youth in Sudan are trained in leather tanning through a 10-day programme with support from the animal production department. They receive theory and practical sessions along with a start-up kit including tanning materials, protective gear, and tools.

- Climate change adaptation: Adapting pasture management to climatic change, rehabilitating rangelands after overuse, and building management systems that enable disaster preparedness, management, and “early recovery”.
- Peacebuilding: Scarce natural resources, such as pasture and water as well as widespread poverty, are major causes of violent conflict in East Africa. We are mitigating the potential for conflict, facilitating conflict resolution, and promoting peaceful coexistence among different community groups.

Promoting leather tanning as an income-generating activity

VSF Germany's recent initiatives, such as training youth in leather tanning, demonstrate how income-generating activities can sustain pastoral livelihoods while adding value to their resources.

In Sudan, youth groups were formed in consultation with the local animal production department and the target communities. We provided them with a 10-day training course on leather tanning. This training empowers young people with skills to process hides and skins into marketable leather products, adding value to the livestock and, by generating additional income, enhancing economic resilience.

Each of these interventions is tailored to meet the specific needs of the communities we serve, ensuring a comprehensive and sustainable approach to development. By addressing the diverse aspects of pastoral life, we aim to build resilient, self-sufficient communities capable of thriving in the face of adversity. 🌱

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The Sound of Leather: FILK Freiberg Leatherdays 2024

After hosting the event in its home territory of Freiberg last year, the conference was invited to Salzburg for its 2024 edition by the Austrian leather association, VOLT.

Some 200 delegates convened for the annual FILK Freiberg Leatherdays conference. The attendees included representatives from across the leather supply chain, including tanners, chemical companies, and machinery manufacturers, as well as participants from the automotive industry, fashion sector, various institutes and research associations. During the conference, a total of 25 presentations were delivered, covering a diverse array of topics. Key themes that emerged included biobased chemistry, biodegradability, and Life Cycle Assessment (LCA). Some of the presentation topics will be published in more detail in this and future issues of *World Leather*; below is a summary of some of the presentations.

Pastoralism

Mascha Kaddori, a veterinarian with Vétérinaires Sans Frontières Germany (VSFG) and a policy advisor for One Health and Scientific Affairs, delivered the keynote presentation on Pastoralism. This traditional agricultural practice involves the herding and breeding of livestock such as cattle, sheep, goats, and camels. Pastoralists typically migrate seasonally to access fresh pastures and water sources, embodying a nomadic or semi-nomadic lifestyle prevalent in regions such as East Africa, Central Asia, and the Middle East.

The practice sustains subsistence economies, preserves rich cultural traditions, and embodies extensive environmental knowledge. Key features include communal land ownership, the use of 'mobile' herds, and the breeding of locally adapted livestock. Known for its resilience and its role in maintaining ecological stability, pastoralism

Home to Mozart and the Sound of Music, Salzburg was the host city for the 2024 FILK Freiberg Leatherdays. CREDIT: WTP





significantly contributes to food production in impoverished regions and fosters biodiversity through rotational grazing practices that prevent the dominance of particular plant species.

Beyond its agricultural aspects, it represents a profound way of life, culture, and identity for various communities. Each ethnic group possesses unique seasonal migration patterns, distinctive uses of animals and their products, culinary traditions such as the consumption of unprocessed blood, and social hierarchies linked to livestock ownership.

Moreover, it provides critical ecosystem services including carbon sequestration and soil formation. However, it faces challenges from climate change impacts, disputes over land rights, pressures from modernisation, and conflicts over resources. Despite these challenges, pastoralism still remains indispensable for biodiversity conservation and sustainable land management practices worldwide.

Quick tests for Chrome VI

Dr Sebastien Bagot from AQC, the Swiss-based international association of leather bracelet manufacturers for the watch industry, discussed the rapid testing of leather to detect chrome (VI).

The detection of hexavalent chromium exceeding 3mg/kg in leather presents a significant challenge for the industry during legal compliance testing. To facilitate quick decision-making and responsiveness, the AQC developed a rapid test kit for members to identify chromium (VI) levels above 3mg/kg. The kit includes all pre-made reagents and requires only basic equipment: a simple rotator and a scale to weigh 1 gram of leather. The test provides results in three-and-a-quarter hours.

Based on the colorimetric method using diphenylcarbazine, it includes an adsorption device to eliminate leather dyes during the extraction step. The reliability of the test kit was evaluated in 2022, where it demonstrated strong performance, with a Positive Predictive Value (PPV) of 94.4% and a Negative Predictive Value (NPV) of 98.4%.

Dr Bagot noted, however, that the kit was not intended to provide official proof of compliance and that any sample testing positive with the kit should undergo further testing in an accredited laboratory using the ISO method before decisions regarding rejection or complaints are made.



This year's VGCT Annual Prize was awarded to Dr Martin Kleban from TFL in recognition of his long-standing dedication to the VGCT and the leather industry. His expertise in regulatory requirements and scientific knowledge have made him a highly valued advisor, significantly enhancing the reputation of leather. Dr Kleban is pictured with VGCT Chairwoman Dr Kerstin Schulte (centre) and VDL Managing Director Andreas Meyer (right).

CREDIT: FILK

UNIDO guidelines

Ivan Kral, from the United Nations Industrial Development Organisation (UNIDO), discussed the development of guidelines for evaluating the environmental impact of leather. The leather industry, which relies on by-products from the meat industry, is one of the world's largest industrial sectors. These guidelines are essential as consumers are increasingly seeking products with minimal environmental impact. UNIDO is working with stakeholders to create comprehensive guidelines that address various aspects such as the use of leather as a renewable natural material, technical performance, durability, lifespan, and the need for comprehensive data and sources. These guidelines aim to establish a standardised methodology for comparing the environmental footprints of different materials. For more details, please see article on work UNIDO is doing in *World Leather* June-July 2024.

Assessing environmental footprints

Jordi Escabros from Trumpler presented on the topic of environmental impact identification, focusing on Life Cycle Assessment

(LCA) as a tool for identifying various impacts associated with chemical production, use, and disposal.

Trumpler is using LCAs to quantify and mitigate environmental impacts. These assessments help understand the ecological footprint of leather production and align with global initiatives such as the United Nations Sustainable Development Goals (SDGs).

The company's LCAs have identified key environmental stressors related to leather retanning products, including raw materials and packaging production. This identification helps target areas for intervention to minimise environmental burdens. It is also developing low-carbon footprint solutions, including bio-based chemicals from renewable raw materials.

LCAs extend beyond measurement; they address planetary boundaries and global ecosystem longevity. By quantifying impacts such as climate change, ozone depletion, acidification, eutrophication, depletion of abiotic resources, and water use, Trumpler aims to establish benchmarks for environmentally responsible practices in the leather industry.

This initiative reflects a trend towards transparency and accountability in



balancing economic growth and environmental stewardship. By presenting findings on thirteen leather retanning products, the company aims to encourage broader industry adoption of sustainable practices, contributing to a more resilient future.

Biodegradation studies

Alberto Vico from INESCOP shared findings from a study that focused on the biodegradability of leather as part of the "Compost-Leather-Able II" project. This project supports the European Union's Green Deal Leather initiative, which aims to make the leather industry more sustainable.

Starting in 2025, the European Union will require member states to manage organic waste properly, including leather, rather than sending it to landfill. One promising method for managing leather waste is composting, due to the beneficial effects of amino acids in hides and skins on plants. For leather to be compostable, it must meet specific requirements related to its chemical composition, heavy metals content, and ecotoxicity. The study also examined the impact of finishing products on the composting process and the final compost.

Preliminary findings indicate that leather with biobased finishes shows higher levels of biodegradation and compostability compared to leather with conventional finishes. However, not all biobased products were composted. The study investigated the degradation of individually impregnated finishing products on leather, finding that vegetable resins, protein binders, and pigments exhibited high levels of compostability. Based on these results, leathers produced using alternative tanning methods to chrome (such as zeolite, titanium, and phenols) and finished with biodegradable formulations were studied.

The properties of these leathers were characterised in terms of biodegradation (ISO 20136 and ISO 14855-1), ecotoxicity (OECD 208); various analytical techniques were used to analyse degradation products and surfaces (FTIR, LDIR, SEM, etc.). Notably, 58 leather types, finished with biodegradable products, indicated at least partial mineralisation of such products, and no toxic migration of chemicals to the compost was observed that would affect ecotoxicity.



Around 200 delegates gathered for the annual FILK Freiberg Leatherdays conference, representing tanners, chemical companies, machinery makers, the automotive industry, fashion, and research institutes.

CREDIT: FILK

Overall, the study suggests that composting could be a viable solution for managing leather waste, in line with new circular economy regulations.

Individual identification

In a pre-recorded video, Joe Gibson introduced the Gibson Bass Stamper, a tool designed for quickly and permanently marking hides, skins, and drop splits. It uses a hydraulic system to create marks with letters, numbers, or codes. Each digit is made with seven cutters for permanent markings, with customers able to choose between 3 and 9 digits based on their needs.

The device is powered by a programmable logic controller (PLC) that manages the stamping process, with software customised to user requirements. Marks can be generated internally (such as sequential numbers, dates, or lot numbers) or received from an external source via an Ethernet connection. The stamping process takes about one second per mark.

The stamper is compact and durable, made from brass and stainless steel, and designed for use in tanneries and abattoirs and features an easily accessible touchscreen control. The tool is said to aid in a range of scenarios from individual identification

for compliance and legislative requirements, inventory, and stock control to preventing product substitution in the supply chain, enhancing contract processing, and collecting data to improve hide quality. By improving traceability and management, it aims to help reduce waste, contributing to sustainability in the leather industry.

Award presentation

On the first day of the conference, the VGCT presented two awards: the Promotional Award and the Annual Award. The Promotional Award is given to foster young talent and includes a €500 prize. This year's winner was Elias Sattler, recognised as the best in his year in apprenticeship training to become a specialist in leather production and tanning equipment, which he completed at Zschimmer & Schwarz.

The Annual Award, honoured with a medal, was given to Dr Martin Kleban in recognition of his long-standing commitment to the VGCT and the leather industry. With his professional expertise in regulatory requirements and his scientific knowledge, he is a recognised advisor and supporter of the industry, significantly contributing to the reputation of leather 🌟



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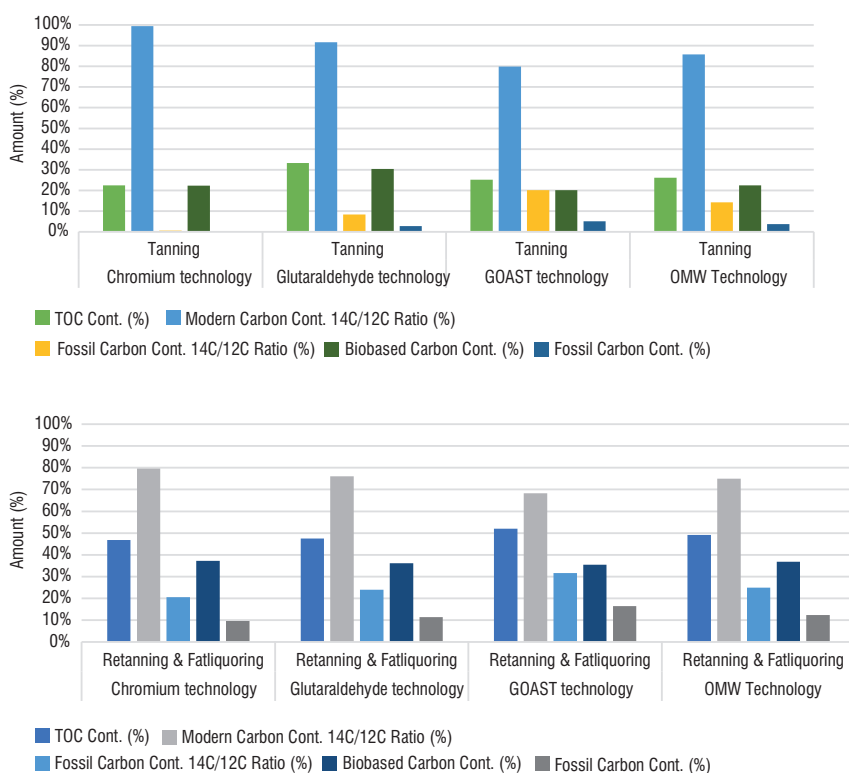
The necessity for bio-based retanning and fatliquoring processes

At the 12th FILK Freiberg Leather Days, Dr Riccardo Pasquale from GSC, Italy discussed sustainability in the leather industry, focusing on the use of bio-based retanning materials. The leather industry is shifting towards sustainability due to environmental concerns and market demands. Retanning and fatliquoring, critical steps in leather manufacturing, can incorporate elevated levels of bio-based carbon, such as olive oil mill wastewater (OMW), to help mitigate climate change. The study also highlights modern carbon assessment techniques, like 14C/12C ratio analysis, to accurately measure bio-based carbon content in leather and chemicals.

Wastewater from olive oil production is one of the most harmful agro-industrial effluents due to its high organic load, phenolic compounds, and other toxic substances. Characterised by high levels of sugars, organic acids, tannins, pectins, and phenolic compounds, OMW presents challenges due to its high Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), and acidity. These factors contribute to water pollution, soil degradation, and harm to aquatic life. However, the leather industry can utilise phenolic compounds in olive mill wastewater as natural tannins in leather tanning, offering a sustainable method of managing this effluent.

Retanning and fatliquoring are pivotal stages in leather production, significantly affecting the quality and characteristics of the final product. These processes involve the application of various chemicals to enhance the leather's durability, flexibility, and aesthetic appeal. However, they are also associated with the highest usage of chemicals in the entire leather production process. The extensive use of chemicals in traditional retanning and fatliquoring poses significant environmental and safety challenges. One promising approach to help mitigate the environmental impact of retanning and fatliquoring is with the use of bio-based carbon chemicals. This involves using renewable and sustainable sources of carbon, which can significantly reduce the carbon footprint of the leather production process. OMW technology in conjunction with suitable enriched bio-based retanning chemicals are potential candidates for more sustainable leather manufacturing.

Figure 1 Bio-based carbon content determination tanned (top) and retanned and fatliquored leather (bottom) according to UNI EN 16640 – where TOC refers to Total Organic Content and GOAST technology stands for Green Organic Agents for Sustainable Tanneries – see World Leather Dec21/Jan22



Enriched bio-based carbon technology

By replacing traditional chemicals with bio-based alternatives derived from OMW, the industry can significantly reduce its reliance on non-renewable resources. This shift not only contributes to climate change mitigation by reducing greenhouse gas emissions but also promotes the adoption of less environmentally harmful technologies. The use of OMW as a bio-based carbon

source exemplifies how the leather industry can innovate and move towards sustainability while maintaining product quality.

To ensure the effectiveness and sustainability of bio-based processes, accurate assessment of bio-based carbon content is essential. Modern carbon assessment techniques, including 14C/12C ratio analysis and radioactive methods such as UNI EN 16640 (Fig. 1) and ASTM D6866, play a



crucial role in this evaluation. These methods allow for accurate determination of the proportion of modern (bio-based) carbon versus fossil-derived carbon in leather and chemicals. Internal assessments via EN 16785-2, using spreadsheets and calculations, further refine these estimates, providing a detailed comparison of different tanning technologies.

Comparative analysis of tanning technologies

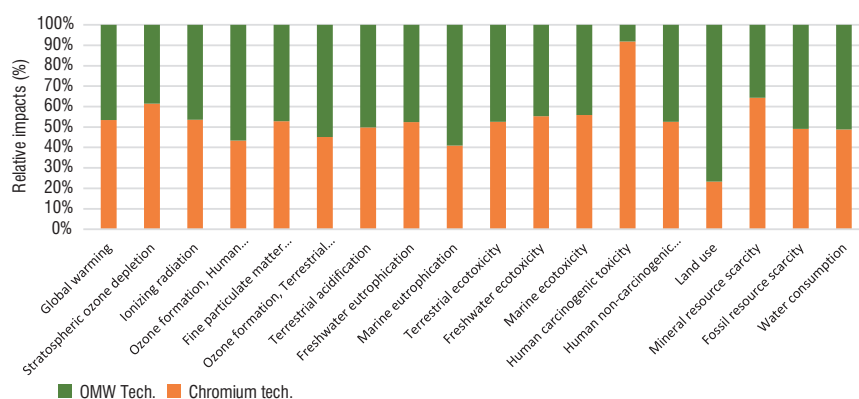
In a comprehensive study, four different leather tanning technologies were compared, focusing on nappa leather for automotive applications. The technologies were evaluated based on their bio-based carbon content, environmental impact, and effectiveness. The comparison aimed to identify which technology had the highest carbon content and to assess the accuracy of expected results versus real modern carbon content. This precise estimation is critical for verifying the sustainability claims of various tanning methods and ensuring that bio-based alternatives provide genuine environmental benefits. While using bio-based derived materials, such as olive oil mill wastewater, for retanning and fatliquoring offers clear benefits, safety remains a significant concern. Previous Life Cycle Assessments (LCAs) have shown potential environmental advantages of OMW (Fig. 2), but they have not thoroughly addressed safety implications. To address these concerns, further research and primary data collection are needed to model and evaluate the safety aspects of bio-based retanning and fatliquoring processes.

It is crucial to implement a Safe and Sustainable by Design framework to ensure that the shift to bio-based carbon technology does not compromise worker safety or product quality. This framework involves thorough testing and assessment of bio-based chemicals to ensure they meet the appropriate safety standards. By adopting such a framework, the leather industry can strike a balance between sustainability and safety, ensuring that the benefits of bio-based retanning and fatliquoring are fully realised.

End-of-Life considerations

Another essential aspect of sustainable leather production is considering the end-of-life scenarios for

Figure 2 Overall impact category assessment for chromium and OMW technologies



Impact category	Unit	Chromium tech.	OMW Tech.
Global warming	kg CO ₂ eq	5.33001	4.45695
Stratospheric ozone depletion	kg CFC11 eq	0.00001	0.00001
Ionizing radiation	kBq Co-60 eq	0.33829	0.27980
Ozone formation, Human health	kg NO _x eq	0.01110	0.01389
Fine particulate matter formation	kg PM _{2.5} eq	0.00744	0.00640
Ozone formation, Terrestrial ecosystems	kg NO _x eq	0.01281	0.01462
Terrestrial acidification	kg SO ₂ eq	0.01758	0.01775
Freshwater eutrophication	kg P eq	0.00135	0.00119
Marine eutrophication	kg N eq	0.00035	0.00049
Terrestrial ecotoxicity	kg 1.4-DCB	16.2945	14.2153
Freshwater ecotoxicity	kg 1.4-DCB	0.20265	0.15270
Marine ecotoxicity	kg 1.4-DCB	0.26841	0.19637
Human carcinogenic toxicity	kg 1.4-DCB	2.42682	0.19981
Human non-carcinogenic toxicity	kg 1.4-DCB	3.85158	3.37730
Land use	m ² a crop eq	0.22448	0.70056
Mineral resource scarcity	kg Cu eq	0.02462	0.01284
Fossil resource scarcity	kg oil eq	1.49198	1.57002
Water consumption	m ³	0.12877	0.13759

leather products. Sustainable retanning and fatliquoring processes should not only focus on reducing environmental impact during production but also consider the disposal and recyclability of leather products. Bio-based chemicals used in retanning and fatliquoring should be designed to facilitate the biodegradability or recyclability of leather, further minimising the environmental footprint of the industry.

Retanning and fatliquoring are crucial stages in the leather production process with significant environmental and safety implications. The adoption of advanced bio-based carbon technology holds promise for enhancing sustainable leather production. While the

environmental benefits of OMW are clear, ensuring the safety and sustainability of these processes requires comprehensive research, primary data collection, and the implementation of a Safe and Sustainable by Design framework. Modern carbon assessment techniques, including 14C/12C ratio analysis and radioactive methods, provide more accurate measurements of bio-based carbon content, essential for verifying sustainability claims. By addressing these challenges, the leather industry can move toward a more sustainable future, producing high-quality leather with a reduced environmental footprint.



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High bio-based condensates as syntan alternatives

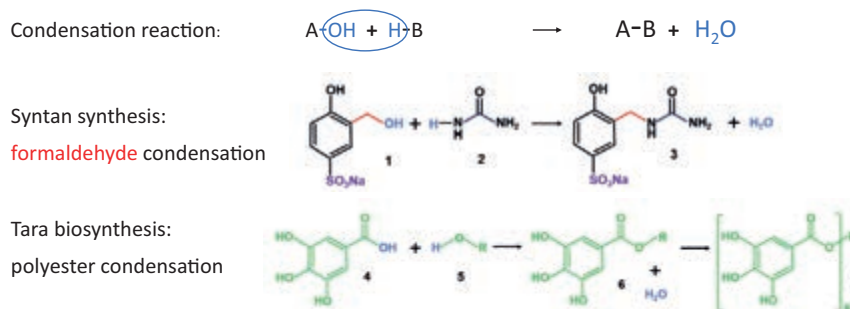
Dr Jochen Ammenn
Stahl, Germany

At the 2024 Filk Leatherdays conference in Salzburg, research about new advancements in leather making was highlighted. It was presented that traditional syntans, derived from toxic phenol and formaldehyde, can be replaced by new condensates created from dicarboxylic esters and renewable aromatic aldehydes in retanning. Vanillin, a non-toxic substance from paper industry by-products, is a key ingredient. These new condensates are fully water-soluble and could potentially match or exceed the performance of current syntans and vegetable tanning agents, without using formaldehyde or forming bisphenols. The synthesis process is straightforward and relies on primarily renewable materials.

In the leather making process, the retanning step is crucial for determining important properties of the leather such as fullness, softness, grain tightness, fastness properties, and tear strength. The main classes of retanning agents are phenol formaldehyde condensates, melamine urea formaldehyde condensates, polymers, and vegetable tanning agents. The phenol formaldehyde condensate, or syntans may pose problems such as the presence of residual monomers like phenol and formaldehyde, or undesired side products as bisphenol S and bisphenol F¹.

Melamine urea formaldehyde condensates frequently release formaldehyde slowly. While polyacrylate polymers offer good lightfastness properties, they do not provide much flexibility in terms of softness and fullness. Vegetable tanning agents can improve these haptic properties but may not perform as well concerning lightfastness. As a result, syntans, which are used to replace vegetable tanning agents, are popular. However, syntans are made from fossil-based and toxic materials such as phenol and formaldehyde. This has led to research into retanning agents made from less toxic and renewable materials. New condensates made from renewable and non-toxic sources show promise, offering effective retanning for leather without the problems associated with formaldehyde, phenol, and bisphenols.

Figure 1



Condensation reactions for retanning

Condensation is a common type of reaction in organic chemistry, where a new molecule is formed, and a molecule of water is released. In *Figure 1* (top), the OH-group from molecule A-OH, along with a hydrogen from molecule H-B, combine to form water, while molecule parts A and B form a new molecule A-B.

An initial step in the synthesis of syntans is classified as a condensation reaction. In the example in *Figure 1* (centre), formaldehyde has been added to a phenolic moiety to form a CH₂-OH group, with the CH₂ part depicted in red in molecule **1**. This CH₂-OH group is highly reactive and can form water with a hydrogen molecule from urea **2**, resulting in the formation of a new molecule **3**, which is a building block for syntans. This reaction is then repeated to form longer chains for the synthesis of a syntan.

Condensation is also observed in nature, such as in the biosynthesis of tara **7**, where gallic acid **4** is esterified with alcohol **5**, forming an ester **6** and releasing water. This reaction is repeated five times to form a polyester **7** with six gallic acid moieties², made possible by the fact that alcohol **5** is a polyol with six OH-groups. The green structures in *Figure 1* represent renewable building blocks, and the biosynthesis of tara **7** has led to the exploration of syntan replacements based on polyesters with renewable building blocks.

Esterification reactions for retanning

To explore alternatives to formaldehyde condensations, tara-like condensations were studied through reactions of phenolic acids **8** (*Figure 2*) with polyols also named polyalcohols. The chosen polyols were bio-based, such as glycerine **9** and sorbitol **10**.

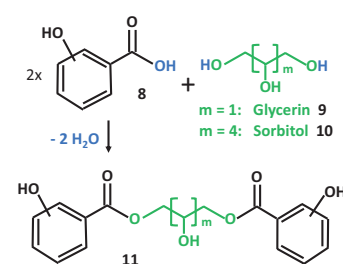


Glycerine, also known as glycerol **9**, is commonly found in nature and is used in the synthesis and metabolism of fats. It is a by-product of biodiesel production. Sorbitol **10** is naturally occurring in fruits like apples and pears and is industrially obtained through the reduction of a sugar. It is commonly used as a food additive. For the phenolic acids, fossil-based building blocks were initially used due to their availability. The reaction involved combining polyol and phenolic acids in a 1:2 ratio in the presence of catalytic amounts of a strong acid at temperatures ranging from 110–150°C. The water formed during the reaction was continuously distilled off.

The chemistry work was safe and simple, and it was mostly carried out by internship school students. No issues were faced with harmful substances such as phenol, formaldehyde, or bisphenols. The formed esters **11** were obtained as oils that partially crystallised and were applied as such. When condensed with sorbitol ($m = 4$), three structures were obtained. The molecule **12** depicted in the table in Figure 2 in the top row was made from salicylic acid and sorbitol. Salicylic acid is commonly found in the bark of the willow tree and is the starting material for acetylsalicylic acid, also known as Aspirin. The second entry **13**, started from 4-hydroxybenzoic acid, and for the bottom entry **14** of the table, gallic acid **4** was used, as in the biosynthesis of tara **7**.

For leather application, a standard retanning procedure was used where wet blue leather was neutralised to a pH of 4.5 and treated with eight per cent of the retanning agent in a new float. After three hours, the float was drained, and the leather was washed with water. Following this, the leather was hang-dried at room temperature without vacuum and then mechanically treated by staking. The fullness and softness of the retanned leathers were determined by touch and the lightfastness of the leather was determined according to ISO 105-B02 in a sun tester. All three molecules showed promising results as retanning agents. Fullness was good and comparable to the results achieved by retanning the wet blue leather with a syntan. The fastness properties were better than leather retanned with a syntan and similar to leather made with polyacrylates for all three entries. However, softness was significantly less compared to leather retanned with a

Figure 2



Structure	Solubility
	31 g / L
	54 g / L
	> 100 g / L (entirely)

syntan or a polyacrylate, especially for the first two molecules. The solubility of the first two molecules (**12** and **13**) was found to be a major problem, as some material stuck to the drum and was not available for retanning. With this chemistry, it was difficult to esterify more than two aromatic moieties and to come closer to the structure of tara **7**, which has six aromatic moieties. Therefore, a search for a better chemistry to resolve issues, increase solubility, and achieve better softness in application was initiated.

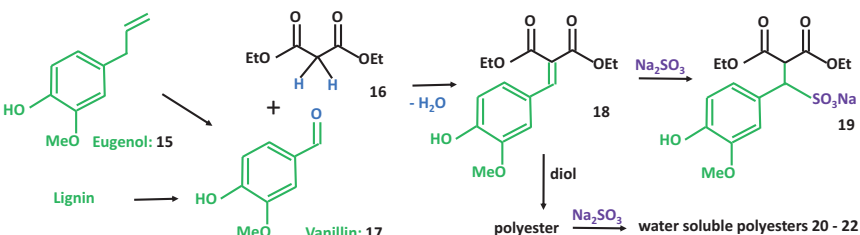
Aldehyde condensation with malonic esters and subsequent reactions to obtain novel water-soluble retanning agents

The so-called Knoevenagel reaction is a special case of a condensation reaction. Here, a malonic ester **16** (Figure 3) and an aldehyde or ketone are condensed. One of the examples published in the first paper in 1904 was the condensation of diethylmalonate **16** with vanillin **17**³. The resulting condensate **18**, shown in the centre of Figure 3, has an activated double bond, ready for a subsequent reaction to incorporate a solubilising group such as a sulfonic acid group. This reaction can be easily carried out with condensate **18** in water and one equivalent of sodium sulfite (Na_2SO_3) to provide an entirely

water-soluble molecule **19**. This reaction is a so-called hetero-Michael reaction⁴. Sodium sulfite is a food additive commonly used to stabilise wines. The condensation product **18** is a diester with one aromatic moiety, enabling the formation of the desired longer condensates with more aromatic moieties by conversion into a polyester via transesterification with diols and subsequent treatment with sodium sulfite.

Vanillin **17** is a flavouring ingredient. The top quality of vanillin is obtained from vanilla beans. Most of the vanillin is obtained by converting eugenol **15** to vanillin through an oxidative reaction. Eugenol **15** is a natural product available in higher quantities and at lower costs than vanillin. However, eugenol **15** is mainly obtained from cloves, which are also a nutritional source among spices. Beyond the principles of green chemistry, it is important to avoid competing with nutritional sources in renewable chemistry. Therefore, it is significant that vanillin can be obtained from non-nutritional sources like lignin, a waste product from the paper industry and available in large quantities. Vanillin can be retrieved from lignin either by pyrolysis or via electrochemical processes⁵. The name of malonic ester is derived from the Latin word for apple,

Figure 3



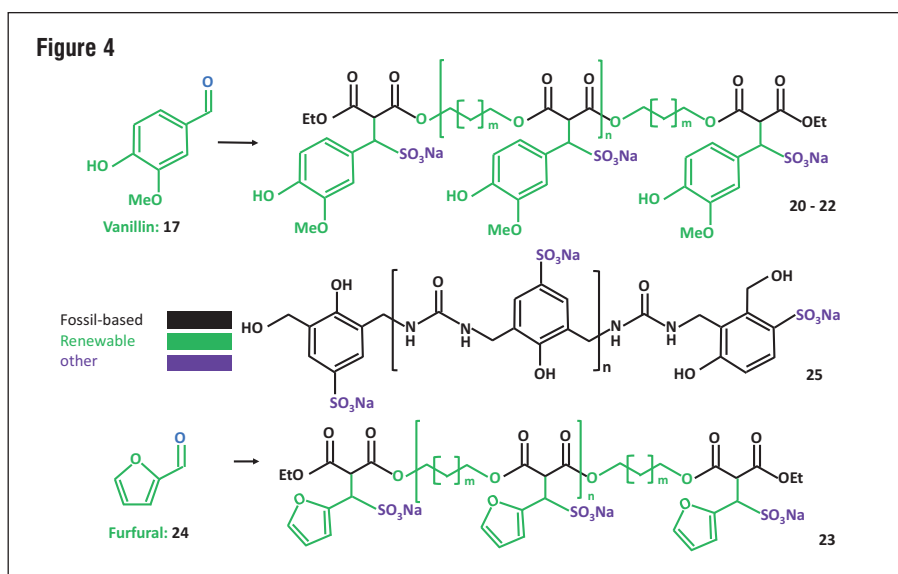


malus, but in fact, the commercially available malonic esters are fossil-based. The structures in Figure 3 depicted in green are renewable.

The desired longer condensates were formed with more than two aromatic moieties by converting the diester **18** from Figure 3 into polyesters through transesterification with diols such as 1,6-hexanediol ($m=4$) or 1,5-pentanediol ($m=3$). These diols can be sourced from renewable materials. The resulting polyesters can be made water-soluble by reacting them with sodium sulfite, as shown in the reactions on the right side of Figure 3. The polyester structures **20-22**, obtained from condensation with vanillin **17**, diethylmalonate **16**, renewable diols, and sodium sulfite, are depicted in the top row of Figure 4 and compared to the syntan's structure **25** shown below. It was evident that the structures are similar and could be overlaid, with most of the phenolic OH-groups of both structures, which are relevant for interaction with collagen, in similar positions. The assumption of similar biological activity based on this structural similarity was confirmed by application results in retanning leather.

The components within the structure are shown in different colours: renewable carbon parts are shown in green, fossil-based carbon components in black, and other sources in violet. Since sulfites do not contain any carbon, neither renewable nor fossil-based, they are depicted as "other". The novel condensates **20-22** have a bio-based carbon content of about seventy per cent, while syntan **25**

Figure 4



is entirely made from fossil-based carbon. In addition to the condensation reaction with vanillin **17**, it was also possible to condense malonic ester **16** with furfural **24**. Furfural is obtained from sugarcane bagasse, a fibrous waste material remaining at the end of sugar production. Furfural also occurs naturally during the coffee roasting process and is measured by nutrition scientists to determine the degree of roasting. After polyester formation with diols and reaction with sodium sulfite, this condensation chemistry with furfural can be converted into a water-soluble polyester **23**, as shown in the lower row of Figure 4, ready for application on leather. The structures of all examples were confirmed via proton nuclear magnetic resonance spectra (^1H NMR)⁶.

Application results of novel condensates as retanning agents

For the application of the novel condensates, the procedures and measurements described above were used. However, for softness, a more advanced method, ISO 17235, was used. In this method, a steel cylinder of defined mass is pressed with a defined speed into a piece of leather, and the resulting area increase of the leather is measured. Larger numbers indicate a bigger area increase, reflecting more softness of the leathers, comparing the novel condensates to the phenolic syntan **25**, tara **7**, and mimosa. Tara belongs to the class of hydrolysable tannins since it is an ester that can be hydrolysed under basic conditions. It shows better lightfastness properties than most other vegetable tanning

Table 1

Retanning agent	Chemistry of aromatic moiety [Ar = ?] or class of tanning agent	Sources of diol [m = ?]	Size of Structure [n = ?]	Softness ISO 17235 (1-5; larger number equal better softness)	Fullness haptic (1-5; larger number equal better fullness)	Lightfastness ISO 105-B02 (1-5; larger number indicate more lightfastness)	Formaldehyde analysis ISO 27587 (emission)
19	Vanillin	none	Monomer	2,3	2	4	not detectable
20	Vanillin	Hexandiol ($m=4$)	Dimer ($n=0$)	2,4	3	4	not detectable
21	Vanillin	Hexandiol ($m=4$)	Tetramer ($n=2$)	2,5	3-4	3-4	not detectable
22	Vanillin	Pentandiol ($m=3$)	Pentamer ($n=3$)	2,2	2	3	not detectable
23	Furfural	Pentandiol ($m=3$)	Pentamer ($n=3$)	2,2	1-2	3	not detectable
Syntan 25	Phenolic Syntan		~Decamer ($n=8$) in structure 25	2,2	2	3	5 ppm
Mimosa	Hydrolysable Tannin			2,3	1	1	not detectable
Tara 7	Non-Hydrolysable Tannin		Hexamer as in structure 7	2,3	2	2-3	not detectable

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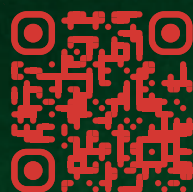


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agents. Another class of tannin is non-hydrolysable or condensed tannins. Here, mimosa is a common representative, obtained from the bark of the acacia tree, but it allows only for leathers with low lightfastness. The syntan **25** is phenolic based with good lightfastness properties and low molecular weight. The molecular weight corresponds to a decamar [$n=8$] in Figure 4, meaning a chain with ten aromatic moieties. Tests for residual monomeric formaldehyde in the products were also carried out, via an emission test as defined in ISO 27587 but only found detectable quantities for the phenolic syntan **25**. The results of the retanned leathers are summarised in Table 1.

Structure **19** is the sulfited condensate from Figure 3 before polyester formation and can be considered a monomer concerning the aromatic moieties. It already shows good results in retanning, with the aromatic moiety deriving from vanillin. The softness is slightly better compared to the leather made with the phenolic syntan **25** and equal to leathers made with mimosa or tara **7**. The lightfastness is better than all three comparisons.

If the vanillic condensate **18** is treated with half an equivalent of 1,6-hexanediol [$m=4$] and subsequently sulfited, dimeric ester **20** is formed [$n=0$]. When the same procedure is carried out with 0.75 equivalents of 1,6-hexanediol [$m=4$], tetrameric polyester **21** is obtained [$n=2$]. Both polyesters on leather show better softness, fullness, and lightfastness than the phenolic syntan **25** and the two vegetable tanning agents. If the vanillic condensate **18** from Figure 3 is treated with 0.8 equivalents of 1,5-pentanediol [$m=3$] and subsequently sulfited, pentameric polyester **22** is formed [$n=3$]. Here, the chain between the aromatic moieties is a bit shorter, and the whole polycondensate is slightly larger than in structure **21** since it has one more aromatic moiety. Softness is reduced compared to leathers made with structures **20** and **21** and is in the range of the phenolic syntan **25** and less than achieved with the vegetable tanning agents. Fullness is as good as that achieved with the phenolic syntan **25** or tara **7**.

A condensation product of furfural **24** and diethylmalonate **16** was treated with 1,5-pentanediol [$m=3$] and subsequently sulfited to obtain pentameric polyester **23** [$n=3$]. Here, the fullness decreased compared to structures **20**, **21**, and **22** but is still between mimosa and tara. Softness is in the range of that achieved with the phenolic syntan **25** and a bit less than with the vegetable tanning agents.

With structures **20** and **21**, when applied to leather they outperformed leathers made with phenolic syntan, mimosa, and tara concerning softness, fullness, and lightfastness. Advantageously, the novel condensates of the present invention are free of formaldehyde, bisphenols cannot be formed in the synthesis and, additionally, the bio-based carbon content of the novel condensates was up to seventy per cent.

Conclusion

Renewable aromatic aldehydes react with diethylmalonate to form a diester, which is then converted into polyester through transesterification with diols. A subsequent Michael addition with sulfites yields water-soluble condensates with excellent retanning properties. These condensates produce fuller and softer leathers compared to those treated with a phenolic syntan, mimosa,



Dr Jochen Ammenn presenting the research on syntan alternatives at the 2024 FILK conference.

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or tara. Additionally, the lightfastness is significantly improved. This chemistry involves a robust, simple three-step procedure and shows no issues with harmful substances such as phenol, formaldehyde, or bisphenols. The resulting polycondensates have a bio-carbon content of up to seventy percent. 🌱

References

1. Ammenn, J.; *Bisphenol Reduction in Syntans and Examples for Extraction and Migration of Bisphenols from leather Articles*, JALCA, Vol. 119, p. 231, 2024.
2. Garro, J.; Galves, B.; Riedl, B.; Conner, A.; *Analytical Studies on Tara Tannin*, *Holzforschung*, vol. 51, p. 235, 1997.
3. Knoevenagel, E.; Friedrich, A.; *Condensation von Vanillin mit Acetessigester und Analogen*, *Chemische Berichte*, Vol. 37, p. 4447, 1904.
4. Michael, A.; *Über die Addition von Natriumacetessig- und Natriummalonsäureäthern zu den Äthern ungesättigter Säuren*, *Journal für Praktische*, Vol. 35, p. 349, 1887.
5. Waldvogel, S.; *Guter Geschmack aus Holz*, *Nachrichten aus der Chemie*, Vol. 68, p. 42, 2020.
6. Ammenn, J.; *Condensates, a Process for their Manufacture and their Use as Re-tanning Agents*, WO 2023 022595.

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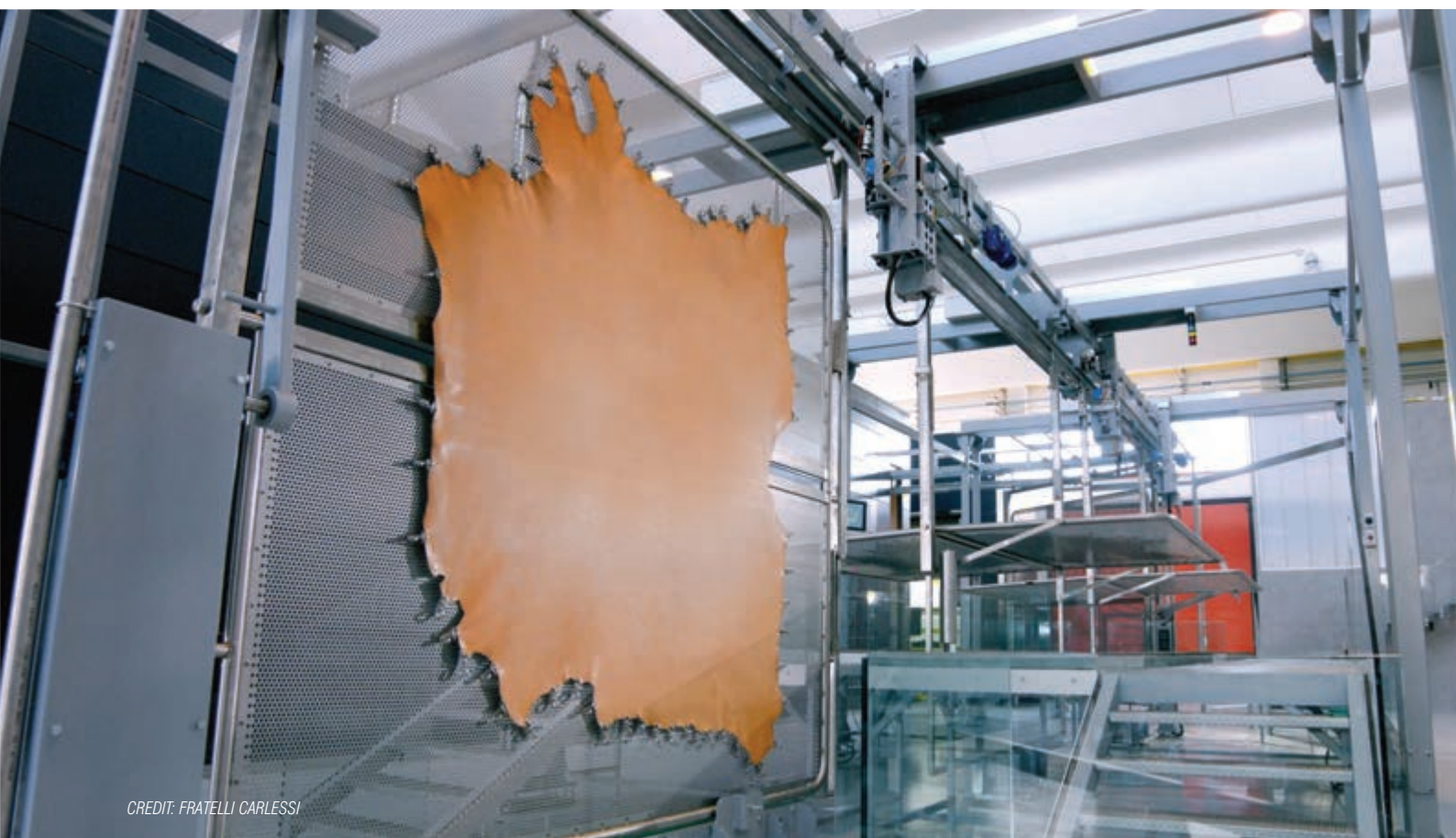


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Refining leather drying: CRC's tailored innovation

The objective of the leather making process is to enhance both the quality and reproducibility of leather while respecting traditional craftsmanship. Fratelli Carlessi aims to address this challenge through the optimisation of leather treatment using its advanced Cell Rotary Conditioner (CRC) dryers. This technological innovation seeks to improve leather quality by effectively managing its natural complexity.

Leather is more than just a material, derived from a living structure that varies dramatically from one part of the animal's body to another. Made up of three main layers – the epidermis, dermis, and subcutaneous tissue – each section presents its unique challenges during the treatment phase.

The epidermis, the outermost layer of the skin, is composed mainly of keratin, and plays a crucial role in protecting against fluid loss and external agents. It comprises several layers: basal, spinous, granular, shiny, and corneous.

Located under the epidermis, the dermis is the most important part for leather and is divided into the papillary layer and the reticular layer. The first is rich in cells and fine fibres that influence the organoleptic and commercial characteristics of the leather. The second is made up of

bundles of coarse fibres which determine the physical resistance of the leather.

The deepest layer, subcutaneous tissue, consists mainly of fat and connective tissue, and acts as a protective and insulating buffer.

The challenges of different leather morphologies

Different parts of the hide not only vary in thickness and density, but also in their resistance and response to drying and conditioning processes. For example, the neck region, which is often more wrinkled and less homogeneous, requires different treatment compared to the more uniform and resistant rump leather. Dryers must therefore be sensitive to these differences, adjusting humidity, temperature, and applying tension specifically for each area.



The directional properties of leather, such as tensile strength and stretchability, are influenced by the direction of the fibres. The hide is most extensible perpendicular to the backbone. This fibre orientation contributes to directional resistances that indicate where the leather is more or less stretchable. These properties are crucial and must be maintained during processing to ensure a high-quality end product.

Dryer innovation

The objective of CRC Dryers is to transform leather processing by introducing advanced innovation. Unlike traditional dryers that apply uniform tension, the CRC dryers feature a variable tension system that “listens” and adjusts to the specific directional and morphological characteristics of each hide, providing tailored treatment for optimal results.

Independent cell frames

The dryers use an independent cell system that dynamically adapts to the directional and morphological characteristics of the hide. This adaptability avoids excessive tension in sensitive areas, eliminating the risk of tearing or weakening the material. Unlike traditional systems that are limited to a vertical and static opening, or those with a vertical/horizontal opening that pulls the leather, even in sensitive areas such as the belly, CRC dryers offer a system that opens according to the direction that the leather itself allows. This innovative approach aims to avoid compromising the thinner and more sensitive areas of the leather.

The importance of precise control in drying

Precise control of moisture and temperature is essential for the effective treatment of leather. Water is a critical component of leather, and its removal must be managed with extreme care to avoid damage such as shrinkage or excessive drying, which can compromise flexibility and strength. The dryers are designed to manage these variables so that water is removed evenly, respecting the unique nature of each hide.

Optimising yield and quality

The patented system regulates the stretching and relaxing of the hides throughout the drying cycle to achieve maximum surface yield and protect the quality of the semi-finished product. The cell rotary conditioners aim to optimise the drying process for each type of leather, reducing the risk of damage and improving the yield utilising technology that ensures superior quality and optimum product consistency, and enhancing the natural characteristics of the material.

In addition, the technology focuses on promoting sustainability. By reducing energy consumption and minimising production waste, these dryers support a more ecological and economical process. This not only helps tanneries decrease their environmental impact but also enhances the efficiency and profitability of their operations.

Fratelli Carlessi's CRC dryers introduce a significant innovation that acknowledges the natural complexity of leather with a commitment to sustainability. By setting new standards, each piece of leather should achieve its highest aesthetic and functional potential while being produced responsibly and sustainably. 🌱

Figure 1: Cross-section of skin

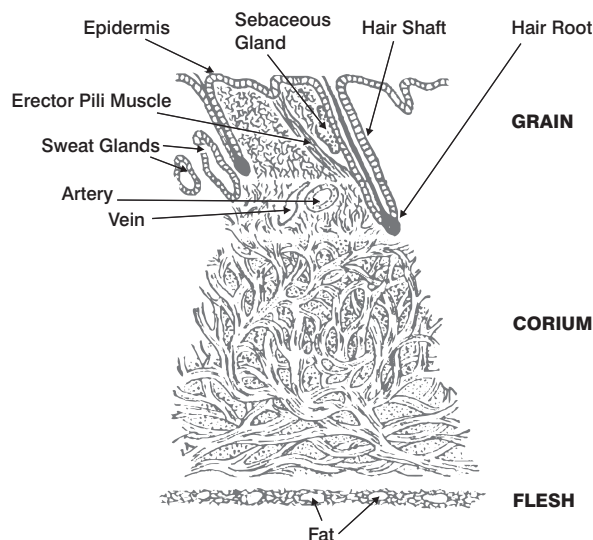


Figure 2: The direction of fibre-run

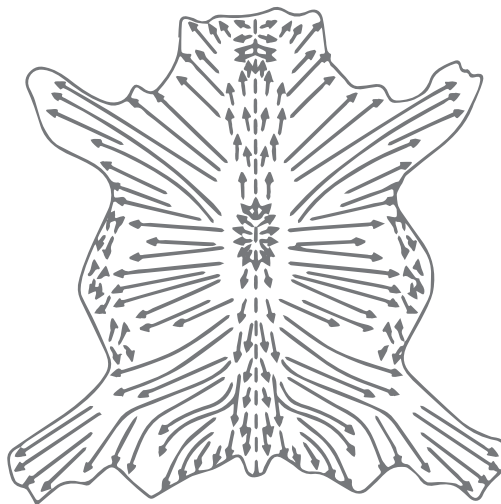
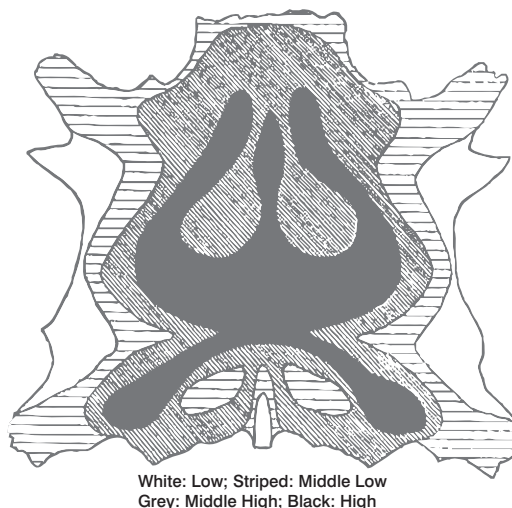


Figure 3: Variation in strength and stretch of typical calfskin



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Automated loose grain detection with AI

Brevetti Corium

In addressing the complexity of fully characterising hide quality through automated means, including the detection of potential loose grain areas, a fundamental inquiry emerges: Can advanced technology achieve comprehensive evaluation in leather processing? It necessitates a thorough examination of recent advances, particularly focusing on the innovative G52 machine developed by Brevetti Corium, and the capabilities and limitations of automated inspection systems in assessing finished leather, with a specific emphasis on the intricate challenge of loose grain detection.

The G52 is an automatic inspection machine designed to detect and classify defects on finished leather hides, which are traditionally detected through visual inspection. This machine allows for automatic visual inspection at an industrial level, with a processing time of 14 seconds per hide. It consists of an infeed module that spreads the hides to be inspected without any wrinkles or hollows. The hides are then taken over by a special vacuum system, kept stretched, and conveyed in front of inspection cameras to ensure optimal optical capture. High-resolution cameras with telecentric lenses capture metric pictures with a resolution of up to 40 µm per pixel.

Both the grain side and flesh side of the leather are inspected simultaneously using different light angles. With

the onboard AI models, the machine provides a real-time digital map of every processed skin, containing comprehensive information regarding any defect present on the hide, from tiny, localised ones such as insect bites, warble holes, or veins, to more widespread ones like loose grain or rough areas. This digital map, cataloguing defects by type, criticality, and size according to the customer defect book, provides complete traceability for each individual hide and minimises waste by allowing cutting templates to be precisely positioned on detected defects. Consequently, each hide processed by the G52 is 'ready to cut' on all automatic cutting machines.

From the images acquired on the grain side (Fig.1), most of the moderately severe loose grain areas are easily identified by



AI. A post-processing step in the elaboration pipeline can decide to filter out or merge the detected spots using area, density, or other acceptance criteria according to the preset customer rules. Additionally, via the inspection machine, one can detect looseness in skins, especially in the flank area, through flesh side inspection. The dedicated AI model in this area can easily discern differences in hair length/density and contribute significantly to grain inspection. Subsequently, the data contribution in post-processing refines the final output, providing a clear definition of loose grain areas on the digital map of every skin.

Automated manipulation

In accordance with the German Association of the Automotive Industry (Verband der Automobilindustrie, VDA) and its VDA 230-205 standard, multiple inspection points are sampled in each inspected skin to identify loose grain areas. The VDA loose grain Module is designed to function independently or integrate seamlessly with the G52 machine. This is achieved through several inspection points, each comprising a half-pipe provided with a vacuum, a camera, and a dedicated lighting system. The skin under inspection moves continuously over the sampling points, without stopping and at a processing speed of up to 25m/min. At each inspection point, the leather adheres to the pipe surface for a short duration through the application of vacuum. Subsequently, a high-resolution image is captured and analysed by dedicated deep learning AI models to categorise it according to VDA degrees 1 to 5 for that specific piece of leather. The result for every sampling point is then added to the digital leather map, which contains all characteristics of the hide, including other defects spotted by the previous G52 machine inspection.

The combination of loose grain detection on the G52 (Fig.2), using grain and flesh side inspection, and through the VDA Module allows for full characterisation of the leather through a fast, reliable, and objective industrial process. Every processed skin is then 'ready to cut' on all automatic cutting machines.

The future of automatic inspection in the leather sector is here (Fig.3); now, it is just a matter of embracing the technology and letting it support the industry in terms of quality and repeatability. 🌐

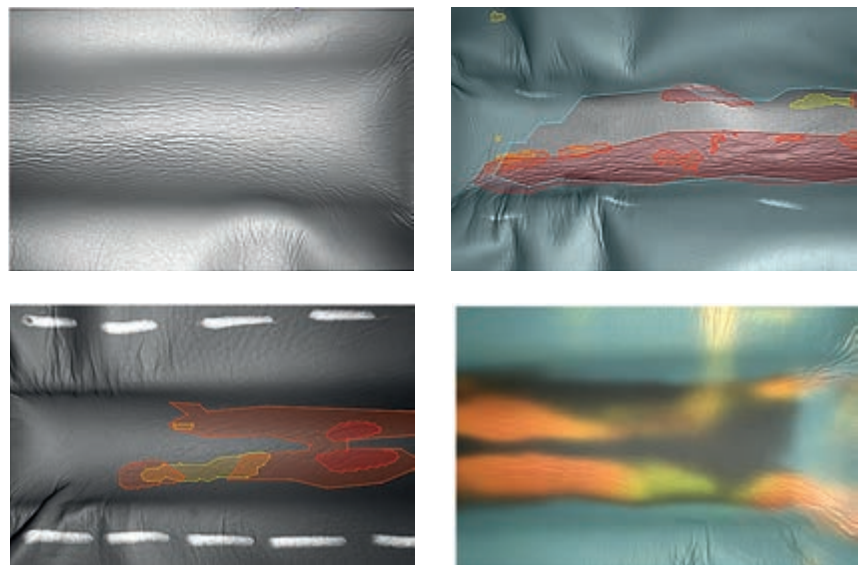
Figure 1



Loose Grain detection on flesh side (different hair density).

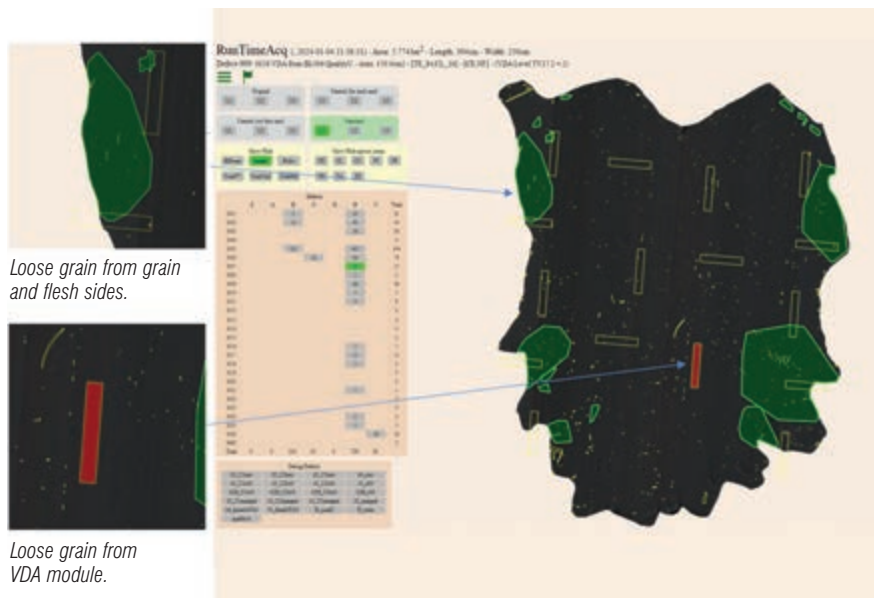
Loose Grain detection on grain side.

Figure 2



Half pipe looseness inspection performed automatically with a vacuum.

Figure 3



Loose grain from grain and flesh sides.

Loose grain from VDA module.

Compiled data for the inspected leather allows for "ready-to-cut" operations on automated cutting and nesting systems.



FROM THIS



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SHIFT TO BIOCIRCULAR

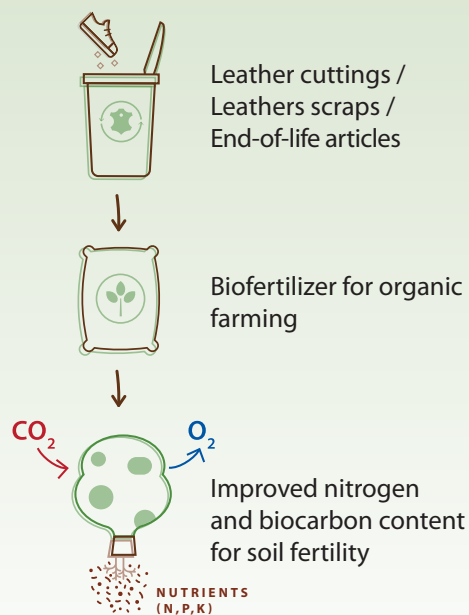
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Leather and the circular economy



Leather uses renewable raw materials



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



The material is long-lasting



Leather products are eminently repairable



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



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



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



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



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



Leather manufacturing supports green employment commitments

Credit: WTP/Flaticon

A key for tackling hunger

When the United Nations (UN) launched its famous Sustainable Development Goals (SDGs) in 2015, goal number two was one of those that received the most attention. Goal two has a completely unambiguous aim: zero hunger by 2030. It talks of ending all forms of malnutrition by that date and includes commitments to prioritising the needs of children under five, the nutritional needs of adolescent girls, of pregnant and breast-feeding women and older people. Alas, it now looks certain that meeting it will remain out of reach.

Since 1999, the UN's Food and Agriculture Organisation (FAO) has published, with a group of partner agencies, an annual State of Food Security and Nutrition in the World (SOFI) report. It launched SOFI 2024 in Brazil in July during a meeting of the finance ministers of the G20 group of most-developed economies. The SOFI report made for sobering reading.

It stated that, last year, 733 million people across the world faced hunger. This is the mid-point between the FAO's lowest and highest estimates. It equates to one person in 11 globally; the figure for Africa is one person in five. Frequent and severe price inflation, conflicts in various parts of the world and economic downturns were the main reasons FAO offered for the numbers still being so high. It mentioned climate as another factor affecting Africa in particular.

With hundreds of millions of people still facing hunger, the livestock sector deserves greater recognition for providing the foods from which we can best obtain and easily digest key nutrients.

Off track

Ten years ago, immediately before the launch of the SDGs, the number of people facing undernourishment was just under 540 million, making the 2023 figure worse by 35%. There were slight ups and downs across the years of the second half of the last decade, culminating in a figure of 581.3 million people in 2019. In the 2020s, however, the numbers have become much higher.

There was a sharp rise when the pandemic hit, FAO says, and undernourishment has now persisted at nearly the same level for the last three years. With regard to meeting SDG2, "the world is far off track", the agency adds.

“We need people to have access to a minimum-cost healthy diet.”

MÁXIMO TORERO

Pessimistic projection

FAO chief economist, Dr Máximo Torero, shares a projection that in 2030 there will still be 582 million in the world who are chronically undernourished; a return to 2019 levels but still far indeed from zero hunger. “We need to change,” he says. “We only have six years left and we want to get as close as possible to the target. That means accelerating the process of moving people out of hunger.”

He explains that Africa remains the region that is most affected by hunger, but suggests that improvements in South America may offer hope. In South America, Dr Torero explains, governments are now spending “significant amounts of money” on social protection programmes. These allow governments to carry out what he calls “efficient, targeted interventions” in the face of incidents of food insecurity, making sure help quickly reaches the people who need it most, moving them away from hunger. Brazil, Colombia, Peru and Chile are all countries that are good at this, he says. Across South America, more than 5 million people have been able to put chronic hunger behind them in the last three years.

“We have not observed this social protection in Africa,” the FAO chief economist continues. “And Africa is the region with the biggest number of countries in food crisis.” The three main drivers of this are conflict, climate and economic downturns, in that order. Africa is also the region in which access to finance is the most difficult. Many countries there are also in debt crisis, he says, and this means their governments are unable to put in place policies that will accelerate the eradication of hunger.

Healthy diet at minimum cost

Money also plays a major part in stopping people from accessing not just food, but the right food to have a healthy diet. “What we mean by this is a diet that is diverse and has all the macro- and micro-nutrients that we need to avoid problems of chronic undernourishment. This diet is also necessary for people to avoid problems of excess weight or obesity.” At the moment, by Dr Torero’s reckoning, there are 2.8 billion people in the world who do not have sufficient access to the most important nutrients because the foods that contain them are unaffordable.

“This figure, 2.8 billion people, is extremely high and it has not improved relative to previous years,” he insists. “We need people to have access to a minimum-cost healthy diet. We need to change the paradigm of countries where the prices are so high that they don’t allow people to consume what they need.”

Access to nutrients

Meat and milk are among the foods that can make all the difference in the world in helping people overcome hunger. Since 2020, an interdisciplinary scientific consortium of academics has been presenting information about the importance for human nutrition of animal protein on an



Chief economist of the UN’s Food and Agriculture Organisation, Dr Máximo Torero.

Credit: FAO/Riccardo De Luca

online platform called Aleph 2020. They describe the website as “a dynamic white paper” and as “an imperfect work in progress”. It is ‘pro bono’; it receives no funding and offers no financial incentive to the people who share information on the platform.

The founder of this information resource, Frédéric Leroy, is a professor in food science and biotechnology at the Vrije Universiteit Brussel in Belgium. He is also one of the initiators of the Dublin Declaration, a pledge that scientists at a meeting in the Irish capital in October 2022 signed. In doing so, they committed themselves to supporting and contributing to efforts to show scientifically that livestock farming brings benefits to society. Within a year, more than 1,000 figures from the global scientific community had signed the pledge. By July 2024, the figure had risen to 1,210.

Aleph’s founding principles are similar to those that the Dublin Declaration espouses. The name Aleph comes from: Animal source foods, Livestock, Ethics, Planet, and Health. The team behind the platform says its motivation came from dismay at the way some, especially people in the urban centres of high-income countries, had come to regard animal source foods. A symbol of strength, health and generosity since ancient times, consumption of meat is “increasingly represented as unethical and harmful to our health and the planet”, the platform says.

Not all calories are equal

Going from ‘pro bono’ to ‘cui bono’, or who stands to gain, it adds that prominent, well funded bodies that now advocate a diet without animal source foods, or with only very low amounts of them, are making “astonishing claims”. These claims are counter-intuitive, the Aleph team says, based on scientific foundations that are being misinterpreted or presented out of context. It presents ten arguments for including “more nuance” in the debate.

For this article, in which the focus is not on boardrooms or stock exchanges or Ted Talks or social media likes, but on the stark reality of the effects of ongoing undernourishment on millions of children, women and men, we shall explore one of the ten.

In keeping with Dr Máximo Torero's point about the importance of access to an affordable and available healthy diet, Aleph argues that not all calories are equal. Calorific efficiency and adequate essential nutrition are sometimes different things. It states its case clearly: "Protein and key micronutrient levels are crucial for optimal health, and many of these key essential nutrients are best obtained from animal source foods." It says 'best obtained' because of the digestibility of the amino acids, zinc, calcium, iodine, vitamins B12, A, and D, and other nutrients these foods contain.

Carbon tunnel-vision

Aleph is highly critical of a tendency among many anti-meat campaigners to present climate impact as the main reason for a move away from livestock, meat and dairy products. Nutrient-dense foods have an environmental footprint; all foods do. Aleph's position is that the greater the nutritional value of food products, the greater the offset of their environmental impact should be.

"Using CO₂-equivalent per kilo of protein is not a suitable basis for comparing foods with different nutritional profiles," the platform insists. "Applying such metrics in dietary scenarios aimed at reducing climate impact may compromise micronutrient supply and promote ultra-processed food solutions, both of which are harmful for health. Dietary policies aimed at reducing greenhouse gas emissions should never be nutritionally harmful or incomplete."

An incomplete focus of this kind, which Aleph has referred to as "carbon tunnel-vision", can logically lead to



Carbon tunnel-vision has led some campaigners to take positions that Professor Frédéric Leroy has described as nonsense.

Credit: Shutterstock/Alexandros Michailidis

the conclusion that sugar, seed-oils and starch would be our best dietary bets, while meat and milk would be at the opposite end of the spectrum. This is not quoted on the Aleph platform, but Professor Frédéric Leroy has described this position as nonsense. 🐷

Children helping to manage livestock in South Sudan.

Credit: FAO/Eduardo Soteras





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Red-backed perforations in the seats of the Golf GTI Heartbeat.

All credits: Volkswagen AG

Fifty years on the road



RENEWABLE



LONG-LASTING



SUSTAINABLE

According to its manufacturer, Volkswagen, the Golf is “Europe’s most successful car of all time”. This year, the model is celebrating its fiftieth anniversary. It has made its mark as a compact family car but also in motorsports, perhaps most notably in the mid-1980s, with Swedish rally driver Kenneth Eriksson behind the wheel of a second-generation Golf GTI. It has gone through eight generations now and is still in production today.

The claim about the Golf being Europe’s most successful car comes from the figures; more than 37 million of them came off Volkswagen production lines between 1974 and July 2024. This means the company has delivered around 2,000 of these vehicles every day since launch. In terms of numbers, it overtook the its famous Beetle in 2002.

New generation

The 2024 version of the Golf launched in July and is available in five-door hatch or five-door estate body styles, with engine options that include petrol, diesel, hybrid and plug-in variants. When it comes to the interiors of these cars, much of the discussion in 2024 is about the ‘infotainment’ system, the artificial intelligence-enabled voice assistant program and the smart parking technology.

Materials still matter too, though, and leather still features in the newest Golf, albeit often limited to the steering-wheel and the gearshift. Across the 50-year history of the model, however, there have been plenty of leather highlights.

Some of the most eye-catching examples of Volkswagen’s creativity in producing the Golf for 50 years have involved leather.

Spice Girls

This is particularly true of the sporty side of the Golf family and there were many eye-catching uses of leather on display at a special exhibition that Volkswagen set up at its production site in Osnabrück to celebrate the anniversary. On show was a selection of sporty models of the car that have appeared in the course of the last 50 years.

In 1996, Volkswagen was celebrating another anniversary, 20 years of the Golf GTI. To mark the occasion, the company produced a special-edition of the car with features that it tied in with girl group The Spice Girls, whose first chart successes also occurred in 1996. These customisations included picking out the GTI letters in red and decorative red stitching in many parts of the interior. The Spice Girls were fond of leather; each chose a different leather outfit at a famous performance at the Europe MTV Music Awards in Stockholm in 2000. In the car at the Osnabrück exhibition, there was a golf-ball-shaped gearshift knob split horizontally, with the upper half finished



“Fifty years of the Golf. Volkswagen says it is Europe’s most commercially successful car ever.”

in black leather and the lower half in aluminium. The dimpled golf-ball gear-stick knob has appeared a number of times in the car’s 50-year history.

A Golf V6 Turbo from 2009 at the exhibition features a full leather interior; other entries include only partial leather seats. A Golf GTI released for the model’s thirtieth anniversary in 2006 did this to particularly good effect, stitching the outline of one famous race-track, Interlagos in São Paulo, into the fabric that accompanied the leather.

Apprenticeship accomplishments

At the time of the model’s fortieth anniversary, in 2014, apprentices at the Volkswagen factory in Wolfsburg created their own commemorative Golf. This car also featured at the exhibition. With the exuberance of youth, the apprentices included a PlayStation with a dedicated screen in the rear of the vehicle, but Volkswagen said they had hand-crafted the interior “with artisanal precision”. This included racing seats and a rear bench upholstered in black leather.

Further demonstrations of the apprentices’ talent, creativity and enthusiasm for leather were on display in Osnabrück. For more than 40 years, fans of the car gathered at a meeting in Austria of GTI enthusiasts, the Wörthersee GTI Meeting (following the restrictions of the covid years, Volkswagen moved it to Wolfsburg in 2023). Special-edition cars created by the apprentices were often among the highlights.



A leather-covered gearshift with a distinctive golf-ball knob in the Golf VII GTI Wolfsburg edition.

One example was a car called the Golf GTI Dark Shine, unveiled at the 2015 Wörthersee GTI Meeting. Named after a Japanese manga superhero, this car featured dark Daytona Grey paint at the front, transitioning to a Yellow Pearl Effect colour towards the rear. The team used leather, alongside microfibre material, to continue this theme in the interior.

Visual marvel

The following year, the apprentices won the admiration of the passionate Wörthersee crowd with the Golf GTI Heartbeat. In this car, the cabin was dominated visually by bucket seats from the Golf GTI Clubsport S. The leather seat centres featured red-backed perforations in the GTI honeycomb pattern.

Covid cancellations meant Wörthersee attendees did not get to see the Golf GTE Skylight, which the apprentices had prepared for the 2020 event. Here, blue dominated the interior. The central applications were in light blue, while the leather seats were in dark blue. Eye-catching features included the light blue illuminated piping on the front seats.

Their 2022 ‘unique study’, the Golf GTE Meteora concept car, suffered the same Wörthersee fate. Volkswagen called the interior, with Recaro Podium carbon bucket seats with leather and microfibre upholstery, “a visual marvel”, blending elements of a racing car and a spaceship. The inclusion of these designs in the special Osnabrück exhibition gave fans a chance to make up for lost time and to celebrate this special anniversary of the car’s launch. 🌟



The contrasting blues of the interior of the Golf GTE Skylight.



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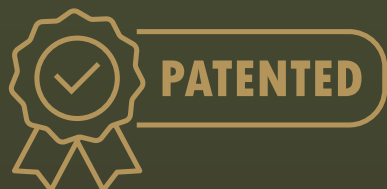
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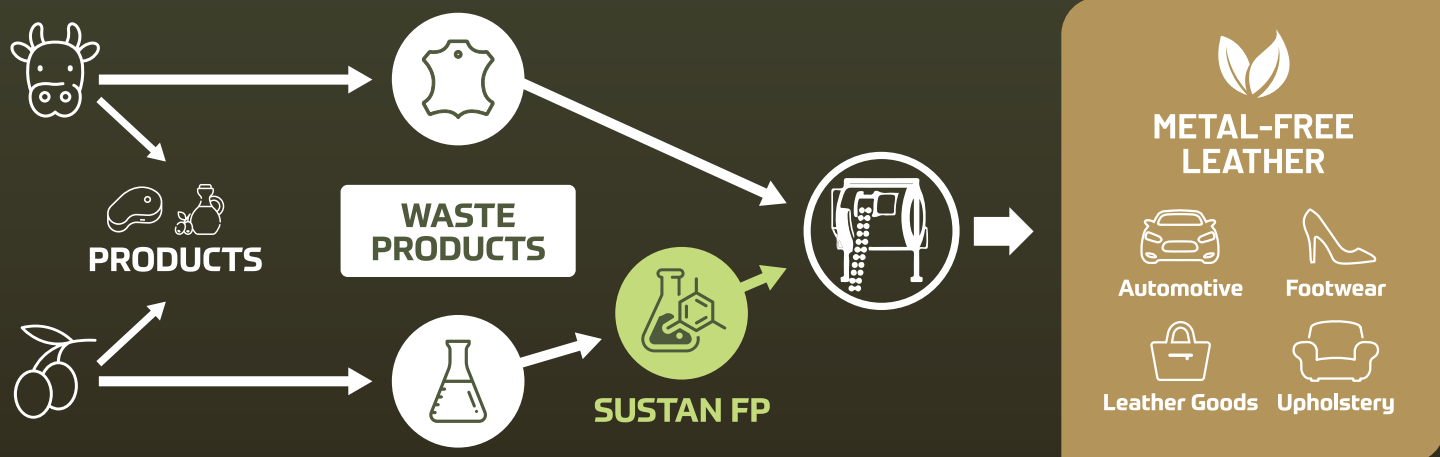
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Innovative diversification



Farmers in the UK are increasingly taking steps to diversify their businesses and some have now begun their own small-scale leather production. The farmers involved have already established a commitment to sustainable and environmentally friendly practices. They feed their livestock exclusively on grass and pasture, keep to high animal welfare standards, offer high-quality meat products and have established an array of conservation projects on their land.

The meat from these farms is celebrated for its unique flavour profile and nutritional benefits, attracting consumers seeking high-quality, grass-fed meat. These products have earned certification by an association called Pasture for Life, which guarantees that the meat comes from animals raised solely on pasture, adding to its desirability. By branching into leather production, these farmers are further broadening their environmentally conscious practices and market offerings.

In a small farm south of Swindon, James and Katie Allen are pioneering a new chapter in sustainable agriculture and traditional craftsmanship. Ten years ago, they began their journey of conservation and regenerative grazing on borrowed land. Today, they own their farm and are venturing into leather production.

Katie Allen has already established Loopy Ewes, a business producing high-end knitwear from the wool of the sheep on the farm. Now, James Allen is setting up a micro-tannery on the property, making use of previously unused sheds. He has been diligently researching and learning leather production, starting with online courses and progressing to hands-on experience.

Mr Allen's journey into tanning began with online courses offered by Matt Richards of Traditional Tanners in the US, who produces various types of leather, including deer, cattle, sheepskins, and buffalo hides. "The online courses were hands-on, as they included workshops where you had to

As part of efforts to expand farming into regenerative practices and conservation projects, a small number of operators in the UK have begun to produce leather from their own hides.

produce pieces of leather—in my case, from sheepskin," Mr Allen explains. "The challenges came with scaling up to cattle hides, particularly fleshing, and adapting formulas from smaller skins to larger cattle hides." To deepen his understanding of leather science, he also completed an online course from the Institute for Creative Leather Technologies (ICLT). More recently, with funding from the British Leather Industry Development Trust, Mr Allen has been provided access to a three-year tannery mentorship programme, with expert guidance from veteran vegetable tanner Barry Knight, from Thomas Ware and Sons.

A significant milestone was a Churchill Fellowship travel scholarship, allowing him to intern at Matt Richards' tannery in the US, gaining invaluable hands-on experience. "By day two, I was running 20 hides through his fleshing machine," Mr Allen says. His intention is to keep learning and, before the end of this year, he plans to attend the Lineapelle exhibition in Milan and visit tanneries in Germany and Italy.

While receiving training, James Allen has been developing a tannery with multiple purposes in mind. The primary aim is to produce high-quality, vegetable-tanned cattle leather, which can be fully traced back to individual cows. This will create an additional source of income for the farm. In addition to this, the tannery will be part of a field-to-fibre education initiative.

Cows grazing peacefully at the Rumming's farm, engaging in regenerative grazing practices that promote soil health and biodiversity.

Credit: Andy Rumming



A stylish sneaker crafted from high-quality leather made from Pasture for Life certified cows, exemplifying sustainable fashion and eco-friendly practices.

Credit: Andy Rumming

The Allens are building a classroom on the farm to host students from fashion and textile programmes, teaching them about sustainable livestock grazing and the entire process from the field to the finished product. The tannery will also support the establishment of other micro-tanneries, providing internships, apprenticeships, and access to expensive equipment.

They are working with a certification body to have their tannery process certified as organic, aiming to be the first tannery in the UK to produce organically certified bovine leather. As part of this initiative, they will also be installing a reedbed system to process the wastewater from the tanning process, demonstrating their commitment to environmental stewardship.

The tannery, initially designed to process 240 hides per year, will be a modular set-up to accommodate potential future expansion. "For us, the tannery has to cover its running costs, including time, but we aren't expecting it to be a big income stream for the farm. It is more a question of helping enable the broader income," Mr Allen explains. This venture aligns with Pasture for Life principles, which are to promote sustainable and regenerative grazing practices. By integrating leather production with conservation efforts, the Allens are creating a holistic model that benefits not only the environment but also the local community and potentially the leather industry as a whole.

Their innovative approach stands as a testament to the potential of combining traditional skills with modern sustainability practices.

Similarly, the Rumming family has been farming cattle along the River Thames at Waterhay near Cirencester and at Lydiard near Swindon for over 60 years. Under Andy Rumming's stewardship, this farm, too, has earned a reputation for high standards of animal welfare and grass-fed diets, producing high-quality beef.

Also certified by Pasture for Life, this farm embraces regenerative farming practices to enhance biodiversity. This approach not only yields top-quality beef but also premium leather from the farm's cattle hides. Andy Rumming has worked with Thomas Ware & Sons, a Bristol-based tannery known for traditional methods and quality craftsmanship, to transform the farm's cattle hides into leather.

The Rumming farm now hosts workshops where participants craft custom sneakers in a single day using traceable leather sourced directly from the farm's cattle. "We

try to farm regeneratively, which means our cattle are building biodiversity rather than wrecking it," Mr Rumming explains, "while producing top-quality beef and leather. We like to do things ourselves, so we have our own on-farm butchery and sell directly to the public. We have taken this model to our cattle hides. We want to transform them into leather products that we can sell directly."

The personalised sneaker workshops have been well received so far. Visitors can select various design elements, including sole colour, leather type, and additional features such as eyelets and laces to create tailor-made shoes. Hands-on activities include leather dyeing, cutting, embossing, burnishing, and hand-sewing, culminating in a personalised product that reflects each person's individual style.

The efforts of the Allens and the Rummings could provide a blueprint for other farmers looking to innovate while maintaining a commitment to sustainable and regenerative agriculture. 🌱



James and Katie Allen of Great Cotmarsh Farm with a striking English Longhorn cow, known for its distinctive horns, white stripe, and red brindle coat. This oldest British beef breed helped make England famous for its fine roast beef.

Credit: James Allen/Great Cotmarsh Farm



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GREEN JOBS

A wood-scented childhood in a small village in Austria led Lisa Dobler to a love of craftsmanship. This led to a love of slow fashion and appreciation of artisan skills. By a roundabout route, this led her to fall in love with Mexico, make her home there and, in 2018, launch her own leathersgoods business, Lebensstück.

She insisted on giving the company a German name, one that means 'product for life', but the business is rooted in the Bajío region of Mexico, with headquarters and one team of artisans in Santiago de Querétaro and a second production site 175 kilometres away in León, Guanajuato. "That's where all the tanners are," she explains, "so it's important for us to have a presence in Guanajuato."

Lebensstück's business model has three main strands: corporate products, bespoke accessories and education activities. For the first, the company has the capacity to produce more than 2,000 items per week. These products can be phone cases, office equipment or leather aprons stamped with a corporate logo. They can also be complimentary products for companies to hand out to their customers.

Jacket tribute

For the second strand, the capacity is around 300 pieces per week. These products involve detailed input from customers and, sometimes, digital rendering and the production of prototypes to make sure the finished product will meet the client's needs in terms of design, colour,

An entrepreneur in Mexico has become a champion of leather's value as a perfect fit for slow fashion and for the circular economy.

finishing and other features. Interesting recent examples include cases for the violinists in the state of Querétaro's philharmonic orchestra and the unlikely challenge of turning a jacket made from elephant hide into cardholders.

Ms Dobler explains: "What happened was that a lady came to us following the death of her father. Among the possessions the gentleman had left behind was a favourite jacket made from elephant leather. There were a large number of grandchildren and, rather than try to decide which of them should inherit the jacket, the customer asked us if we could find a way to use the jacket to give each person a souvenir of their grandfather. We cut the jacket up and made card-holders, stamping the initials of a grandchild on each one of them." Life products: the beloved jacket became something new to mark and celebrate the grandfather's life.

Education activities take place at weekends with the aim of helping consumers understand leather and leather craftsmanship better. As part of this programme, artisans

“The trend is moving away from mass production and the future will be something much more personalised.”

LISA DOBLER

from many different parts of the country have travelled to Querétaro to share their knowledge and demonstrate their skills before an audience in the Lebensstück workshop. “People have a lot of questions,” she says, “and we try to answer them. This is a non-profit activity. It is part of our effort to have a positive social impact. There is no way to do business well without that.” The company’s founder regards this as especially important work owing to a lack of appreciation of leather among consumers, especially younger people. This predicament is afflicting Mexico as much as other parts of the western world, it seems, in spite of the country’s centuries-old connections to producing and working with leather.

Emotional value

Two people out of the total workforce of 21 at present are contributing to the customisation and the education efforts in a specialised way. They carry out repairs to products that customers love and would rather not throw away when a problem develops. In one instance, a man approached Lebensstück and asked if the team there could restore a 40-year-old pair of boots. His intention was not so much to start wearing them again, but to make them look beautiful once more. The boots had pride of place among this customer’s possessions because he bought them with his first wages. He left Mexico as a youth and crossed into the US, picking up work on construction sites; he made his life there, but returned to Mexico recently to run a small supermarket for a time before retiring. The boots are his Lebensstück, his life product.



Austria-born entrepreneur Lisa Dobler has made her home in Mexico and, in the face of misleading marketing about synthetics, wants to contribute to the leather industry’s fightback.

Repair work on bags provides the company with frequent opportunities to explain to the public that synthetic straps have worn away or broken because of the inherent weaknesses in the material, and that replacing them with leather will give new and long-lasting life to the bags they love. Lisa Dobler makes interesting comments about synthetic materials in general, saying that presenting them as a kind of leather, as many brands insist on doing, constitutes a lie, one



The Lebensstück business model spans corporate products, personalised items, repairs and leather education initiatives.

that many younger people in particular seem to fall for. “It’s partly our own fault,” she says. “This should be part of our communications strategy. Some of the tanners I’ve talked to about this insist that they have a business-to-business (B2B) focus and that putting a positive message across to consumers is more the responsibility of companies, including ours, that focus on business-to-consumer (B2C).”

A fight for every sale

She is on good terms with a number of prominent tanneries in Mexico, consulting with them, involving them in her seminar sessions and, of course, sourcing leather from them. She works with León-based Lefarc, Boxmark, Magnus Leather and Pieles Azteca as her main suppliers.

She admires Lefarc’s achievements in water-recycling and its insistence on sourcing the chemicals it uses from Europe. Boxmark’s ties to automotive group Volkswagen mean it must keep to international standards and achieve all the necessary certifications. Similarly, furniture specialist Magnus Leather works to US standards because that is where its main clients are, while Azteca’s varied colours and finishes, along with its success in becoming a supplier to the Mexico stores of a global coffee chain have also impressed her.

If they have common qualities, these leather manufacturers also face common challenges. Ms Dobler sums it up by saying too many millennial consumers, the demographic cohort to which she belongs, have turned away from leather. She calculates that leather manufacturers have invested little in marketing in the last 15 or 20 years “because it seemed there was no need”. Now, however, orders are much thinner on the ground.

“They are having to fight for every customer and for every sale,” she explains. Ideas that give her hope of improvement include a renewed focus on niche, higher-value collections of leather, finding ways of making it economically viable to process much smaller batches, perhaps using vegetable tanning methods. “It seems to me that the trend is moving away from mass production,” she adds, “and that the future will be something much more personalised. Here in Mexico, we have the people, the knowledge, the machinery and everything we need. We just need to work out where to go from here. We need to adapt.”

Counter-argument

This brings us back to the question of speaking up in defence of leather. Ms Dobler says the misinformation and untruthful marketing campaigns of anti-leather advocates are something she feels emotional about and that she is happy to contribute as best she can to the counter-argument. Unlike many leather manufacturing groups, Lebensstück is a newcomer to the industry. Its founder, who worked in project management in the automotive industry earlier in her professional life, talks of a path towards leather that may have been slow, but was also sure and clear.

It is not that Lisa Dobler woke up one morning and realised that she loved leather. She says her realisation was that she loved slow fashion and developed an interest in leather because it is a material that fits perfectly with slow fashion, just as it fits perfectly with the circular economy. She no longer wanted to feel compelled to buy new clothes constantly so as to stay on trend, whether she liked the trends or not.



Leather aprons are a popular product among hairdressers.

Obvious parallels

“I have been a lover of leather since then, which is to say the last ten years,” she says. “I grew up in a very small village in the mountains in Austria, where my father worked as a carpenter. He worked with his hands, designed his products and discussed his ideas in detail with his customers, talking to them about different types of wood, each with different properties, different colour tones and so on, and then producing a draft design on a piece of paper. He would involve us in small ways, letting us help him tidy up his workshop at the weekend, breathe in the smell of the wood and see how he was taking each design idea forward through the different stages of the process.”

The parallels are obvious and she feels the connection strongly, talking of how meaningful it is to work with a material that humanity already has to hand and is renewable, making it into something that is high in quality and will become a product that will last a long time, perhaps a lifetime – a Lebensstück. 🌱



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French company Authentic Material is providing a new materials stream from leathergoods waste, with backers including Chanel and Cuir Invest.

Shifting sands



The inspiration for a leather sector start-up company can come from all manner of objects and ideas, but horned handles for traditional knife-making and powder metallurgy for aeronautics must be among the more unusual segues. French entrepreneur Noemie Dumesnil was working in these two areas when she discovered many traditional 'made in France' knives with horn handles used horns sourced from outside the country, as French cows provide insufficient material. The solution was to apply powder metallurgy techniques to horn powder, allowing it to be densified into a new material without binders. This process enabled them to produce knife handles that were entirely 'made in France', including the horn. This research led her to leathergoods makers, who expressed a desire to find a use for their complicated offcuts and waste, for which they were struggling to find a home. "They told us they did not know what to do with this waste. Legislation says they cannot destroy the scraps any more," Ms Dumesnil told *World Leather*.

Leather production generates waste at every stage, from the tannery to the leathergoods workshop. In bag making production, for example, up to 50% of the leather can be discarded, according to Ms Dumesnil, but various tanning processes and the associated chemicals, finishes and dyes make the waste hard to recycle. Authentic Material, established in 2016 by Ms Dumesnil and Vincent Menny, has developed a way to analyse

Polene's Solé bag takes its inspiration from net bags and the traditional technique of macramé. The 'pearls' are made from QILIN from its manufacturer's production waste.

Credit: Polene



and process this waste: everything can be recycled, provided the supplier has separated them by type of tanning.

“To be used as an input, leather must be worked, and grinding a soft material is more complex than it seems,” says Ms Dumesnil. “Mechanical grinders produce a heterogeneous mixture with variable properties. Authentic Material’s leather micronisation technologies provide significant competitive advantages. They guarantee the production of a high-quality powder. Dense and homogeneous, it can be incorporated up to 50% by volume and offers a high-performance material.”

The patented processes turns the pieces of leather into a ‘sand’. From there it can make two materials, aimed different markets. ‘Pheonix’ is produced by heat pressing the powder into molds. It results in a 100% natural material made entirely from recycled materials, with no binders or additives. Applications include jewellery and accessories, interior design and works of art, with “plenty of room for experimentation”. “This range is not meant to recycle big quantities of leather, but is geared towards fine craftsmanship and offering a well-known material in a novel form,” she explains. “From a drawing, Authentic Material can produce leather powder and molds to suit clients’ needs.”

Drop-in replacement

QILIN is a thermoplastic material made from 50% leather waste and 50% bio-sourced or recycled plastic, acting as a ‘more sustainable’ alternative to thermoplastic polyurethane (TPU), polypropylene and other plastics. Delivered in granule form, QILIN is compatible with standard plastics processing technologies – such as coating, injection moulding, thermoforming, calendaring and 3D printing – making it suitable for a wide range of applications. “When we develop a QILIN formula for a client, we ask three questions: what is the brand’s engagement in terms of recyclability and bio-sourcing? What are the project’s mechanical constraints? And what price are they willing to pay? From that base, we build the formula,” explains Ms Dumesnil. The leather powder can also be combined with rubber to make soles for shoes.

The process has been honed to process companies’ leather waste on an industrial scale at Authentic’s facility in the Toulouse region. With lifecycle analysis (LCA) in mind, the company has been mapping its



The company has been granted eight patents for its processes and powder. The leather becomes powder and is then turned into pellets. Credit: Authentic Material

energy consumption so clients can be provided with a transparent and data-driven LCA for its products.

“We are aiming for two major objectives for QILIN: first, to increase the usefulness of natural material, and secondly, to test a wider panel of bio-sourced or recycled polymers and ensure their chemical alliance with our leather powder, without calling for other additives. Our competitive edge is that we work with just those two ingredients, the quality of our leather powder means that we do not need additives. From a commercial perspective, the aim is for QILIN to penetrate more markets and continue to expand in Italy,” she says. “With Pheonix, our goals are more about sales and marketing strategy. The focus is more on France with the major luxury maisons, namely for fashion and lifestyle accessories.”

Chanel’s nod of approval

With incoming European Union legislation, brands will need to consider recycled materials and what happens to their products when they are no longer usable. The European Commission’s proposal aims to bring about a more circular and sustainable management of textile waste, in line with its Strategy for Sustainable and Circular Textiles. In particular, the Commission is proposing to introduce mandatory Extended Producer Responsibility (EPR) schemes for textiles in all EU member states. EPR schemes require producers to take responsibility for the entire lifecycle of their products. Under the proposal, the level of the financial contributions of the producers will be based on the circularity and environmental performance of textile products.

To comply, brands will be increasingly interested in designing circular products and seeking more sustainable processes and materials. Luxury groups are playing a role in bringing some of the “next-generation” or waste-using materials to market in their products – higher margins enable investment in the nascent technologies and processes. As part of a €5 million fundraising round in 2022, Chanel bought a minority stake in Authentic Material, alongside Bpifrance and Cuir Invest (the French leather association’s fund). The money enabled the company to buy machinery and move to the 700 square-metre site near Toulouse. Venture capital firms have also been interested: a previous fundraising enabled the purchase of a €1.5 million specially designed Roctool flexible thermocompression molding platform, resulting in higher production volumes.

These volumes could enable brands and manufacturers to find a more circular route for their waste and offcuts. Finished goods users include French accessories brand Polene, which turned its offcuts into QILIN and made a bag from “leather pearls” threaded onto waxed cotton cording. The bag’s base and handle are covered with stitched smooth leather, reflecting the expertise of artisans in Ubrique, Spain. “They made recycling glamorous and embraced the essence of circularity,” says Ms Dumesnil.

“At Authentic Material, we don’t produce recycled leather; we recycle leather. The nuance is subtle but essential,” she concludes. “We transform leather scraps into new materials that don’t compete with traditional leather, offering an effective solution for managing leather waste.”

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In recent months, a particular style of athletic shoes has experienced a significant resurgence in demand. A look at the material that is helping to make them popular again.

The material behind the retro trend



In the realm of footwear manufacturing, material selection plays a pivotal role in determining the quality, visual appeal, and market acceptance of the final product. Suede and nubuck, boasting similar visual characteristics, stand out as premium options that have experienced a resurgence in the athleisure market, especially through retro-inspired styles introduced by brands including adidas, New Balance, Nike and Puma. The enduring charm of suede and nubuck stems from an aesthetic and performance that are difficult to replicate. Unlike synthetic upper materials, these favourites offer a look and tactile sensation that is inherently distinctive. This individuality adds to their allure, making them sought-after choices for discerning consumers.

An introduction to suede

While many may associate suede with Elvis Presley's rendition of 'Blue Suede Shoes', originally penned by Carl Perkins in 1955, the material's roots lie in Europe. The term 'suede' originates from the French term 'Gantes de Suède', translating as gloves from Sweden, for which craftsmen had mastered a technique to create a velvety texture, known as 'nap', on the reverse side, rather than the grain side, of gloving leather.

In modern manufacturing, bovine suede leather, distinct from nubuck, is often a co-product of the leather-making process. Typically, footwear upper materials like suede or grain leather are expected to be between 1.2 and 2.0 millimetres thick. However, most bovine leathers are heavier and require thickness correction during manufacturing to achieve a uniform grain leather. The excess material, known as the split, for which more detail is explained later, can then be repurposed to create suede by other manufacturers.

Through standard tannery processes, suede leather is crafted from the fibrous middle section of the leather, known technically as the corium, which exhibits a fibrous appearance on both sides. The desired aesthetic, whether a short or long nap, is achieved through a combination of process chemistry and physical processing.

In the case of suede, a rough nap is created through abrasive buffing with sandpaper. Contrastingly, nubuck is produced from grain leather, the upper part retaining the hair follicle pattern.

Buffing the grain results in an exceptionally fine velvety nap, made possible by the unique fibre structure of the grain layer of the leather.

In the competitive realm of suede and nubuck, pigskin nubuck emerges as an intriguing option, esteemed for its luxurious texture. Positioned as a direct competitor to split suede, pigskin nubuck is touted by some manufacturers as offering a superior tactile experience, thereby enhancing the perceived value of footwear made from this material. However, navigating challenges related to cultural and religious sensitivities underscores the importance of exercising awareness and sensitivity in its utilisation. This issue came to the forefront in 2023 when a leading brand had to recall certain products owing to the use of pigskin in its shoes, compounded by a lack of labelling to inform consumers.

Yield goals

Yield is a pivotal factor in the manufacturing process for any industry, and leather production is no exception. However, navigating the landscape of leather manufacturing can be perplexing. It is well known that raw materials (hides) are purchased by weight, undergo processing, and are then converted into materials sold, in most cases, by area. Therefore, it is in the manufacturer's best interest to maximise yield through any available means.

When making suede, tanners use process chemistry and drying techniques tailored to optimise returns while producing a tight fibre suitable for the buffing process and achieving the desired nap. Although a soft leather with excellent yield may initially seem appealing because of its increased surface area, the open fibre structure it creates may not be the most conducive to quality suede.

Understandably, in modern leather manufacturing and its associated supply chain, companies often prioritise yield in their claims. Chemical suppliers pledge yield increases, while machinery companies assure no loss of yield, or even yield gains. However, suede production deviates from this. To achieve the desired nap, some degree of yield loss is not only acceptable but sometimes necessary. It is not uncommon for manufacturers to experience upwards of a 15% shrinkage in area.



Puma's Suede XL is inspired by '90s and early 2000s skateboarding footwear.

CREDIT: PUMA



Grading challenges

For bovine suede and nubuck, grading poses different challenges and these materials require careful assessment to meet quality standards. The selection of premium hides is crucial, as the raw material's inherent characteristics greatly impact the final product's appearance and durability. Nubuck demands a clean grain, as minimal corrections can be made, leaving little room to conceal imperfections such as healed scars, insect bites or more problematic branding marks. This elevates the competition for raw materials, often overlapping with full grain leather productions.

In the case of suede leathers, where grain characteristics hold lesser, if any, significance, the presence of veins becomes a major concern. Again, minimal correction or covering can be applied and in certain circumstances, the presence of veins within the corium structure may not be visible until after thickness alteration. For these reasons, the relationship between the tannery and the supplier is paramount.

Since most suede is derived from splits, its supply is closely tied to fluctuations in the grain leather market. As demand for grain leather varies, the split market encounters challenges in maintaining a consistent supply, highlighting the delicate balance required to sustain an uninterrupted supply chain for bovine suede. Many prefer US-sourced material because of its consistent quality and price stability, though alternative sources exist. These alternatives often struggle to compete on price, reinforcing the dominance of US-sourced material in the market.

Clyde Leather in Scotland is one of the companies supplying suede to top athleisure footwear companies. Managing director, Richard Harris, has told *World Leather* that the biggest and most important issue with suede sourcing now is competition from collagen and gelatine buyers. These buyers pay a premium and purchase the largest volume of split material. He emphasises the need for high-quality raw materials and good tannage to produce consistent suede, noting the technical challenges of maintaining consistent quality when using different sources of raw material and varying splitting techniques.

Regarding suede splits, there exists a notable global price



Adidas Gazelle shoes first introduced in 1966 as a training shoe, have stood the test of time. The suede upper delivers a vintage look.

CREDIT: ADIDAS

disparity in terms of quality and availability. Despite the impact of covid-19, prices for decent suede material have remained relatively stable, experiencing a slight uptick in the early part of 2024 because of increased demand from Asian split tanneries. Industry commentators say this price trend is primarily driven by limited supply rather than by excessive demand, with much of the material, globally, being held in full substance until grain orders are received.

Wet blue splits are categorised into two main types: split in the wet blue and split in the lime. Split in the wet blue is preferred for



The signature New Balance 574 featuring suede upper.

CREDIT: NEW BALANCE



light- to mid-weight suedes, often marketed as drop splits, with top-quality prices currently ranging from \$1.40 to \$1.50 per kilo.

On the other hand, split in the lime refers to heavier material, typically used in automotive applications. Prices for this type of split vary significantly. Northern European material without branding marks or holes, suitable for heavy suedes and leathers, can command prices as high as \$2.90 to \$3.00 per kilo. Argentinian or Uruguayan material, with holes and brands, falls within the price range of \$1.80 to \$2.10 per kilo.

Retro resurgence

Sportswear brands are using retro designs from past decades, tapping into the nostalgia that older consumers feel for classic styles. Simultaneously, these designs are captivating younger generations who are encountering them for the first time. The revival or reimagining of older styles is viewed as a reliable strategy for expanding market presence, similar to the trend among filmmakers of rebooting beloved classics.

Nike, adidas, Puma, and New Balance are among the footwear brands at the forefront of the retro revival, putting suede in the limelight once more, often replacing synthetic alternatives that previously replaced leather.

Puma made history with the introduction of the Puma Suede shoe in 1968. Initially it was known as the Puma Crack, drawing inspiration from a term for a highly skilled individual. This marked the commercial debut of suede sneakers. Other companies were experimenting with suede as an upper material for athletic shoes around the same era, but Puma's unveiling of the Suede Classic remains a seminal moment in sneaker history.

Adidas has contributed to this trend with the introduction of its Gazelle shoe, crafted from kangaroo velour, a type of reverse suede using the flesh side of kangaroo leather. Similarly, Nike left an indelible mark with the Nike Blazer in 1973, featuring suede uppers.

The material's softer, more luxurious texture compared to conventional materials like canvas or grain leather, gives the shoes a stylish and upscale aesthetic. Robustness and flexibility further enhance its appeal. Since suede lacks a grain layer to scuff, any scratches on the material often go unnoticed and can be easily removed with sandpaper if necessary. Its high level of breathability, the result of its uncoated surface, makes it ideal for athletic pursuits, a concept that predates the emergence of 'athleisure'.

Celebrity status

Initially favoured by sports enthusiasts for their performance and the athletes who endorsed them, these shoes have gained widespread appeal in recent times. Good sustainability credentials, strategic collaborations and social media influence have all played crucial roles in this renewed interest. Additionally, the rapid introduction of fashionable colour variations has further propelled their popularity.

Celebrity preference, as opposed to direct collaborations, has played a significant role. Singer Harry Styles' preference for the adidas Gazelle has notably boosted sales of the shoe. During a recent tour, he wore various pairs of the special-edition re:sui including personalised black pairs worn by him and his band. 🌐



Athletic footwear brand Puma has added to its retro shoe collection with the Palermo Moda. The shoe, which it describes as a fresh take on a 1980s classic, has suede and grain leather in the upper.

CREDIT: PUMA

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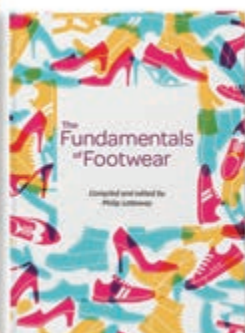
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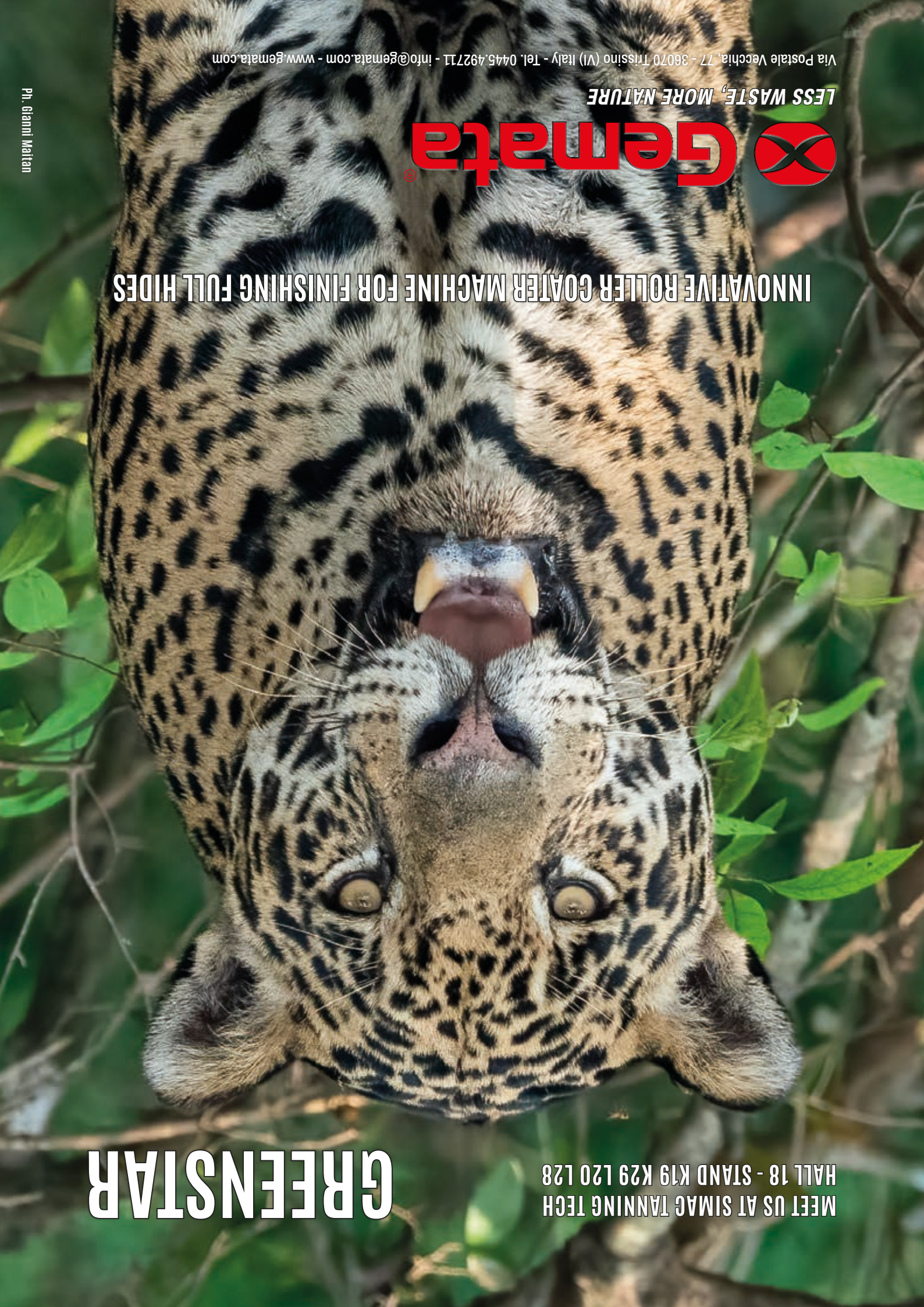
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