

WORLD LEATHER

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

August / September 2022 | [Published 31st August 2022]

Volume 35, Number 4



Leathergoods and the Golden Ratio
The science behind leather's CrVI concerns
Leather Leaders: Stephen Sothmann
35 years of World Leather



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



Cover image: The Phiori bag from Paris-based brand Phi 1.618. Specialist techniques and knowledge were required to put the pleats in the leather in just the right places. Fold them out and you would have an oblong reflecting the Golden Ratio, 1.618. CREDIT: PHI 1.618.



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World Leather at 35

Then and now. The cover of the first World Leather, published in 1987, and, 35 years on, the cover of this current issue.

CREDIT: WTP

World Leather rolled off the presses for the first time in 1987, making this year its thirty-fifth year of continuous coverage of the global leather industry. Chief executive of World Trades Publishing, the company that has always owned and run the magazine, Simon Yarwood, says he is delighted to have reached this milestone and looks back with pride on the title's pioneering coverage of the international leather sector. "We have achieved plenty of firsts," he says, "and there are more to come."



World Trades Publishing chief executive, Simon Yarwood. Right: Ray Wilson

CREDIT: WTP

As the magazine celebrates its thirty-fifth birthday, we look back at its long list of achievements and pay tribute to the people involved.

Rich heritage

He points out that the magazine has an even longer heritage and stronger ties to the industry than this anniversary suggests. In fact, this legacy dates back to the first decade of the twentieth century. Until he launched his publishing business, founder, the late Ray Wilson, had run his family's industrial machinery



company in Liverpool. Edward Wilson & Son was incorporated in 1909 and earned renown for innovations including an automatic tanning machine in the 1920s. By the 1980s, however, the decline of the domestic leather manufacturing industry in the UK had begun severely to affect demand for locally made machinery.

On the other side of the Atlantic, a publication called American Shoemaking launched in 1901. In time, the company that ran it, Shoe Trades Publishing, launched other titles, including The Leather Manufacturer and World Footwear. Company president, John Moynihan, had met and liked Ray Wilson and when Shoe Trades Publishing began to look to expand beyond the borders of the US, it wanted Ray Wilson to become involved. A fruitful partnership began.

At first, the focus was on World Footwear, with Ray Wilson running sales for that magazine (now wholly part of the World Trades Publishing stable) outside the US market on Shoe Trades' behalf. A year later, a reciprocal arrangement came into place with Shoe Trades running sales in the US market for a new title that Mr Wilson had launched just in time for the 1987 edition of the Semaine Internationale du Cuir exhibition in Paris. The title was *World Leather*. It was new to the market, but it had 164 years' worth of industry knowledge behind it.

Fresh faces

World Trades Publishing chose carefully when putting a permanent editorial team together and relied at first on receiving a helping hand from industry veterans such as Iain Howie and Bob Higham. In time for the 1993 edition of APLF in Hong Kong, it unveiled a line-up that was to remain in place for the rest of the century and beyond. With more than 30 years in publishing and editing, David Buirski became the editor at this time and stayed in the role until 2005. His involvement with *World Leather* continues to this day because he is now consultant editor, contributing articles and keeping a watchful eye on the planning and execution of every issue.

Others whose names appeared beside David's on the masthead in 1993 were Dr Hubert Wachsmann as consultant editor, Richard Daniels as technical editor, and Walter Landmann as business development manager.

Machinery expertise

Walter Landmann, who died in April 2022, enjoyed deserved industry-wide recognition as an expert in tanning machinery. He had already been a close associate of Ray Wilson's for many years when *World Leather* launched and had contributed articles about machinery innovation to the magazine from the outset. With the 1993 changes, though, he became a more closely integrated part of the editorial team and remained so until stepping down in 2017. His partnership with Richard Daniels was particularly strong.

As a formidable double-act, they published a number of



WORLD LEATHER
THE BI-MONTHLY MAGAZINE FOR THE LEATHER INDUSTRY WORLDWIDE

'WORLD LEATHER' STRENGTHENS EDITORIAL TEAM

David Buirski B.A. M.CAM LL.B
Editor
Previously Editor of 'Textile Horizons International', with more than 30 years of experience in publishing, editing and writing, David Buirski becomes Editor of 'World Leather' starting with the January issue. Trained as a barrister, his first involvement with the world of leather goes back to the early 1950s when it became more fashion and colour conscious and he has maintained his links with the industry ever since.

Dr. Hubert Wachsmann
Consultant Editor
Until recently head of Ciba-Geigy Leather Division; past president of the International Union of Leather Technologists and Chemists Societies; chemistry graduate; has worked at the Max Planck Institute, Munich and taught at the Hünthausen Leather College before joining a major German tannery.

Richard Daniels FSLTC
Technical Editor
A leading tannery consultant with world-wide experience including Europe, Africa, India and SE Asia; formerly Technical Director with a UK tannery group; a frequent contributor to 'World Leather'. His areas of specialisation also cover effluent treatment and environmental issues as well as raw stock improvement.

Walter Landmann CEng FIEE
Business Development Manager
Has been Technical Consultant to 'World Leather' since 1987; now widens the scope of his activities to help with the business and development aspects of the magazine; a professional engineer and manager he brings some 25 years of experience gained in the development, manufacture and world-wide marketing of a wide range of tannery machines.

Please note that, from 1 April 1993, World Leather's Editorial Office will move to our Main Office at PO Box 6, 36 Crosby Road North, Liverpool L22 0QN, UK (Tel: 051 928 9288; Fax: 051 928 4190).

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MEET US IN HONG KONG '93 AT OUR STAND H21, LEVEL 7

Clockwise: David Buirski, Hubert Wachsmann, Walter Landmann and Richard Daniels presented as World Leather's new team in time for the 1993 edition of the APLF exhibition.

CREDIT: WTP

books that are still in print and still in demand among the leather manufacturers of the world. Walter's *The Machines In The Tannery*, first published in 2003, with a second edition appearing in 2013, soon became the definitive guide to the contribution creative engineers and machine designers have made to the leather industry. He also worked with Richard Daniels on a more general guide, *The Framework for Leather Manufacture*, which we published in 2011 and revised in 2019.

Green visions

Richard Daniels had had decades of hands-on experience of leather making in UK tanneries, rising to the role of 'works manager' (equivalent to 'technical director' today) at Stimpson Perkins in Northampton, before developing his own consultancy business. He insightfully called his consultancy GreenTech, long before most in the leather sector, and most other sectors for that matter, had begun to journey towards what we now call a green transition. During this time, Richard also worked for the United Nations International Development Organisation and derived great satisfaction from the projects he took part in, particularly in Africa and Asia.

After joining *World Leather*, he faithfully reported on bright ideas that leather manufacturers around the world had come up with, but never stopped developing his own initiatives, too. In 1995, using space in his own garden, he carried out initial tests to see what effect reed-beds could have in cleaning up tannery effluent.



Christine Anscombe and Richard Daniels in 2016.

CREDIT: WTP



This idea, simple in its brilliance and brilliant in its simplicity, is now in place at a number of major leather manufacturing facilities around the world.

After stepping down as the magazine's technical editor at the end of 2016, Richard Daniels continued to share his knowledge of the leather industry and his ideas about its future with a wide range of people. He had long been one of the tutors at the University of Northampton's Institute for Creative Leather Technologies and, free from the time-pressure of magazine deadlines, now extended this to universities elsewhere, most notably China. In 2021, he published a new guide, 'Making Leather, An Overview of Manufacture', and immediately made it available free of charge to anyone who wanted to use it. He said he had enjoyed a career that had lasted 55 years, and counting, and wanted "to give something back".

Global perspective

Consultant editor, Dr Hubert Wachsmann, was a big-name signing, too. He joined the magazine soon after retiring from the position of head of the leather division of chemicals manufacturer Ciba-Geigy, stepping down shortly before the merger that made that company part of TFL. He was elected president of the International Union of Leather Technologists and Chemists Societies in 1989 and made forging links with the rapidly emerging Asian leather industry a key focus of his tenure. Dr Wachsmann died in 2019.

According to David Buirski, the visionary stance that Hubert Wachsmann took over the rise of the leather industry in Asia was in keeping with the outward-looking mindset that *World Leather* had embraced from its very beginnings. "Other magazines covering the industry had started out as national titles, covering local matters, and had to adapt to the changes that have made the leather sector truly global," Mr Buirski says. "*World Leather* was different. It was always international, always for the whole of the industry, and that has made an immense difference." In keeping with this, he looks back with particular satisfaction at a special publication the team created in 1999 focusing on the global furniture industry and its use of leather. From the end of that year, he also recalls with pride the last *World Leather* of the century, which looked forward to what the leather sector faced in the new millennium.

Early in that millennium, in 2002, Ray Wilson died suddenly at the age of 57. It was at this time that Simon Yarwood moved from a sales role to become chief executive. He had already forged a strong sales network, working closely with Jenny Pickman in France, Cristina Sala in Italy, Friedemann Stehr in Germany, and Jim Haggerty in the US, all of whom were important cogs in the *World Leather* operation for years. Jim Haggerty, a veteran of the leather industry in the US, retired in 2016. The American Leather Chemists Association (ALCA) marked the occasion at its annual convention that year by awarding Mr Haggerty two prestigious accolades, the Alsop Award for outstanding contributions to the leather industry, and the Fred O'Flaherty Service Award for making a significant contribution to the association itself.

The magazine also received, and continues to receive, invaluable support in the international arena from Nirani Rathi



World Leather editor since 2007, Stephen Tierney.

CREDIT: WTP

in Indonesia and Abdul Rab Siddiqi in Pakistan. The same was true of Alan Abrahams in Hong Kong and Roobik Khodabakhshian in Iran, who died in 2019 and 2018 respectively.

New century, new initiatives

In those first years of the century, other important changes that took place included launching *leatherbiz.com*, the industry's first, oldest and best online news resource. Leatherbiz also offers an exclusive electronic newsletter, Market Intelligence. During those years, David Buirski handed over editorship of the magazine to well known industry figure Mike Redwood. In 2007, with specialist knowledge in the global supply chain, current editor Stephen Tierney took over.

Soon afterwards, the magazine launched a series of one-day conferences under the title of Beast to Beauty, working in partnership with Christine Anscombe, now at research and testing provider SATRA, and the late Amanda Michel, who together ran a specialist training organisation called Leather Wise.

Tannery of the Year

Before the end of the decade, the team had devised and begun to roll out the Tannery of the Year competition and awards programme, which aimed to carry on *World Leather's* long tradition of boots-on-the-ground reporting of what was really happening in tanneries on every continent. The competition also set out to provide a platform for leather manufacturers to publicise and celebrate successes they had achieved in environmental management and in corporate social responsibility, with many of their stories receiving an airing for the first time.



Tannery of the Year, one of many industry initiatives the magazine has launched in the course of its first 35 years.

CREDIT: WTP

Nothing To Hide

In 2014, we launched the Nothing To Hide series of essays, to provide accurate background information on the whole leather value chain. There are 15 essays in the series, which we are now in the process of updating for the 2020s. They have always been free to read, free to share and free to quote for anyone seeking to learn more

about how the leather industry works.

At the end of 2018, the former technical director of leather manufacturer Clayton of Chesterfield, Matthew Abbott, joined the *World Leather* team as commercial manager and technical editor.

Leather and the Circular Economy

In 2020, the team launched a major new section in the magazine, *Leather and the Circular Economy*, with the aim of making it clear to people inside and outside the industry that leather fits perfectly into the circular economy discourse. Articles cover thought leadership, to flesh this argument out, and case studies, or 'circular stories', that demonstrate that circular-economy practice is already widespread in the global leather sector. In just the first two-and-a-half years of this project, the magazine has published a total of 88 *Leather and the Circular Economy* articles, with many more to come.

"It's been a pleasure and an honour for *World Leather* to cover such an interesting and special industry for 35 years," Simon Yarwood says. "We are grateful for all the support we have had down the years from our readers, friends and advertisers in helping us reach this milestone. It will be equally fascinating to see what the coming years bring for us all. Here's to the next 35 years and beyond." 🍷

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FRANCE An abattoir in the small French town of Saint-Céré has passed a final audit carried out by the country's hides and skins federation, SGCP. The facility is confident it can now look forward to receiving orders for calfskins and other raw materials from tanners supplying France's major luxury brands. Its efforts to win SGCP approval have included renovation and refurbishment at the abattoir and training of the workforce in removing hides and skins with minimum damage.

UK Leather and leather products producer Pittards has completed the acquisition of accessories brand Hill & Friends. Co-founders Emma Hill and Georgia Fendley, both former directors of Mulberry, launched the London-based brand in 2015. Ms Hill will join Pittards as a consultant. Pittards said it was pleased to add the brand to its growing portfolio and that Hill & Friends had a proven pedigree and a loyal customer base, while also offering potential for international growth.

SPAIN Exports from the Spanish leather industry brought in revenues of almost €160 million in the first quarter of 2022. Finished leather contributed more than €100 million to the total, raw hides more than €40 million and semi-finished leather around €19 million. Over the three-month period, tanners and finished product manufacturers imported hides and leather with a combined value of €110 million, giving a positive balance of trade of €50 million.

THE NETHERLANDS Ecco Leather has hosted the 2022 edition of its now famous annual workshop for designers, Hot-Shop. This was the fifteenth time the footwear brand's in-house leather manufacturer had hosted creative talent from across the world at its tannery in the Netherlands. Talks, presentations, demonstrations and hands-on sessions were all part of an event that aimed to expand the designers' knowledge of and love for leather. Those taking part were also invited to "reimagine" leather.

TURKEY According to the president of the Turkish Leather Industrialists' Association, Burak Uyguner, approximately one million animals were slaughtered for Eid-al-Adha celebrations across the country in July. Mr Uyguner said the holiday was an important time for the leather industry, generating in only a few days what he estimated to be almost \$30 million worth of raw material, which, after processing, would generate added value of just under \$300 million.

ARGENTINA Automotive group Chery is to build an electric car plant in Argentina and invest in a tannery there. Chery has confirmed that it is planning to make the new plant a hub of planned expansion in South and Central America. The new factory, which will have the capacity to produce 50,000 vehicles per year, is likely to be built in Santa Fe province. The second part of Chery's plan is to invest in a tannery in the province of La Rioja to produce the leather for the cars.

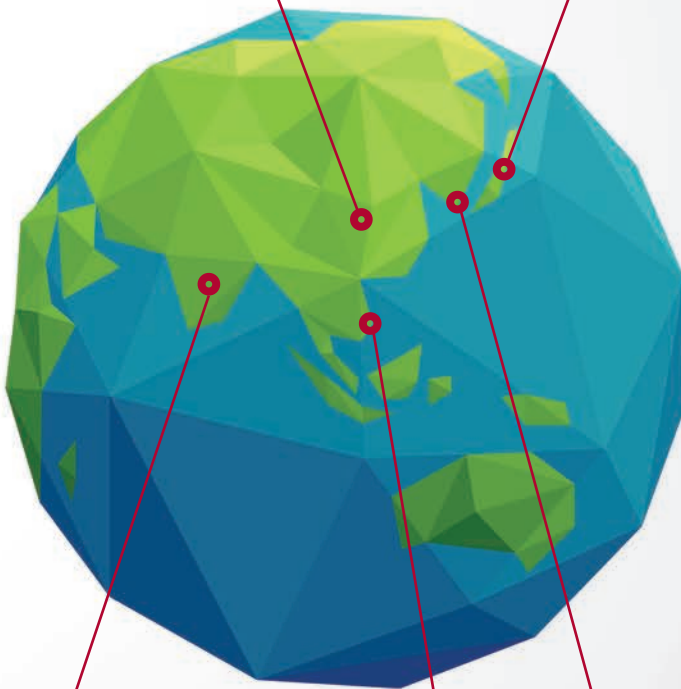
ZIMBABWE A project to stimulate job creation, build market links for leathergoods, and work to improve the environmental impact of leather processing has been launched. The Support to Industrialisation and Productive Sectors (SIPS) project is aimed at promoting green innovative solutions, specifically targeting small- and medium-sized enterprises in the leather industry in Zimbabwe and Tanzania.

KENYA A tannery that will be Kenya's largest is ready to step up production. Construction of the facility, located in the Ewaso Ngiro area, began in 2018, with finance for the project coming from the Kenyan government through a local development authority. It has reached an agreement for the Kenya Meat Commission to supply hides in bulk and has said it will now be able to produce 800,000 square-feet of leather per year, compared to a figure of around 64,000 at the moment.

CHINA China's central government has issued new guidelines to encourage manufacturers to invest in innovation, improve their competitiveness and lift people out of unemployment. Official data has shown an increase in investment in a variety of manufacturing sectors in the first four months of 2022, with the leather industry one of those singled out for particular praise.

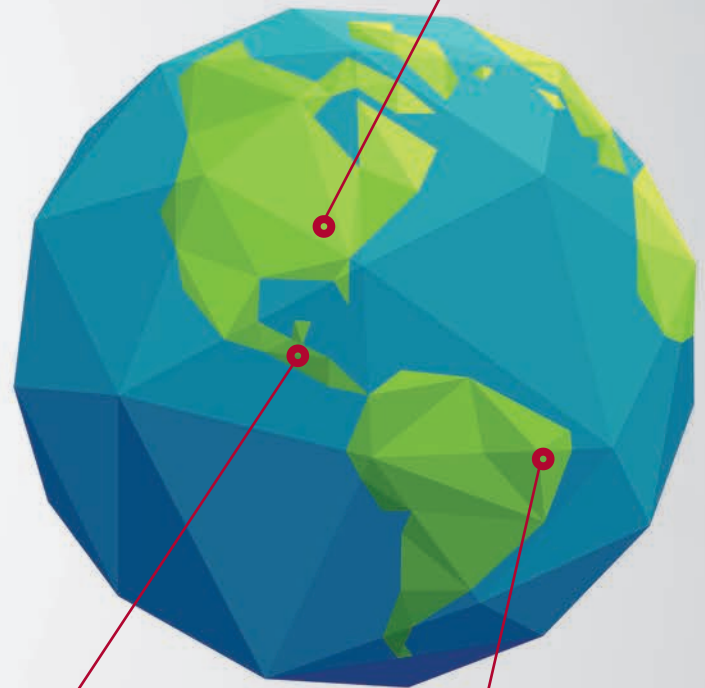
JAPAN Overseas promotions body the US Meat Export Federation (USMEF) is hoping to host upwards of 200 people at a trade seminar in Tokyo on September 16. USMEF is celebrating the 45th anniversary of the opening of its office in Japan and said it wanted to run the trade seminar to celebrate this milestone. Chief executive, Dan Halstrom, said the event would give USMEF a chance to "remind people of the strength of US beef, pork and lamb".

US Figures for the first six months of 2022 show that packers, tanners and traders in the US exported 15.9 million hides over the period, bringing in export revenues of just under \$680 million. Compared to the same period in 2021, these figures represent a decline in volume of 3.6%, but a 4.6% increase in value. China remained the biggest buyer of wet-salted hides from the US, taking delivery of 7.75 million, but this was down by 15% year on year. Italian tanners were the biggest buyers of wet blue from the US, importing almost 685,000 pieces, an increase in volume of 34%.



INDIA India's Council for Leather Export (CLE) has reported export earnings for the industry of \$1.4 billion for the first three months of the current financial year (April-June 2022), growth of 42% year on year. Leather footwear exports contributed \$614.4 million to the total, up by nearly 45%, while the figure for leathergoods was \$353 million, an increase of 44%. Shipments of finished leather were almost flat at \$118.7 million. Exports of leather garments had a value of \$90.3 million, up by 44%.

VIETNAM Leather manufacturing group PrimeAsia is to run a pilot project to try out polymer-bead tanning technology from Qualus. It has set itself a target of reducing its overall water usage by 30% by the end of 2023. It also wants to reduce its energy usage by 15% in the same timeframe. Qualus claims that its Sferes technology can reduce water usage in tanneries by up to 40% and chemical use by 15%. Trials of the technology will take place at PrimeAsia's facility at Ba Ria-Vung Tau where it produces more than 6 million square-feet of finished leather per month.



GUATEMALA The XXIV Latin American Footwear Forum took place in Guatemala City in August. Sustainability in the footwear industry was the central theme. Industry bodies from all over the region took part, including the host country's national association, Grecaza, CIC from Argentina, Abicalçados from Brazil, Fedecal from Chile, Acicam from Colombia and CICEG from Mexico. Other countries represented included Ecuador, Peru, Uruguay, Venezuela, El Salvador and Nicaragua.

BRAZIL National tanning industry body, CICB, hosted a forum dedicated to the automotive leather segment on August 18. The event, a first for CICB, took place in São Paulo. CICB said on announcing the event that it viewed automotive leather as a segment with ample potential for growth and further development in Brazil.

SOUTH KOREA The International Union of Leather Technologists and Chemists Societies (IULTCS) has announced two new members from South Korea. The Korean Tanners' Association has joined as an associate member, and leather manufacturer Whanam Leather has joined as a supporting member. IULTCS president, Jean-Pierre Gualino, welcomed the new member organisations, saying the industry's scientific community would become stronger with their participation.

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ICT: leather production in Europe could become 'impossible'

The International Council of Tanners (ICT) has warned that leather production in the European Union would become "nearly impossible" if proposed changes to regulations on the use of key chemicals come into effect.

Regulatory compliance with regard to environmental, worker and consumer protection and the promotion of best practice, are of paramount importance to the international leather community, ICT said. It added that its member associations fully support rigorous regulation to ensure that leather is manufactured to best science-based standards.

However, it said new restrictions currently under consideration on chromium (VI), glutaraldehyde and bisphenol S and F would come with collateral damage to industrial sectors such as leather.

It said the proposed restrictions would mean that, globally, the manufacture of leather for the EU market would be seriously impacted, and in the EU, producing leather would become nearly impossible.

It called on EU authorities to forgo a "one-size-fits-all" approach to deciding limit values for chemicals, particularly if the impact on domestic and international manufacture and trade has not been thoroughly assessed.

"It should be noted that hides and skins will still be produced as by-products of the meat and dairy industries," ICT said, "and valuable raw materials would simply become waste."

Stahl looks to build biotech links

Leather chemicals group Stahl has joined CLIB, a network for companies working in the biotechnology sector.

CLIB's aim is to provide opportunities for its members to work with partners to incorporate biotechnology into their efforts to foster sustainability. Stahl said its membership of the network underlined its commitment to open innovation and to working with partners across value chains to reduce its carbon emissions.

It said it would seek to connect with like-minded companies to explore opportunities for increasing the use of bio-based and bio-derived solutions in its products.

It added that it also hopes to add value to other members of the network by providing a route to market for biotechnology solutions.

Alpa-GSC move to enhance Italian leather chemicals sector

Two Italian leather chemicals groups, GSC and Alpa, have announced "a historic collaboration" to improve the



Leather craft wins cultural heritage status in Uruguay

The practice of creating artisan products, particularly those related to horse-riding, from raw hide, typical of the region around Lavalleja in Uruguay, has won cultural heritage status from the South American country's government.

The minister of education and culture, Pablo de Silveira, presided at a ceremony in Lavalleja in July to mark the occasion.

He described the traditional craft, known in the region as 'guasquería', as something that was closely linked to the country's history and its way of life.

"Working with leather in this way is an art," the minister said. "You can see it in the braided reins people make here, and in lots of things that you can find in rural regions and, luckily, also in the city these days. These are traditions that have enormous value."

distribution of their products and strengthen customer service and support in the Veneto tanning district.

Lombardy-based Alpa supplies chemicals for the footwear and leathergoods sectors, while Veneto-based GSC specialises in chemicals for the automotive and upholstery leather sectors.

Under the new agreement, GSC will provide logistical and technical support to tanners in and around Arzignano who use Alpa products. The two groups have said this will lead to further synergies, including joint purchasing of raw materials to achieve critical mass and stability of supply in the context of "unstable market trends".

Alpa chief executive, Gloria Gualtieri, said at the time of the announcement: "This is essentially a matter of combining forces while keeping our respective identities and specialisms distinct. For Alpa customers in the Veneto district, there will be no change from the past, but they will have benefits in terms of speed of response."

For his part, GSC president, Adriano Serafini, said: "Cooperation conceived in this way gives us the chance to be flexible and to deal with a company that has a background and experience similar to ours. It is an opportunity to renew ourselves, face common problems and enhance the Italian chemical industry."

Tanning by-products to go into TFL retanning chemicals

Leather chemicals group TFL is preparing to deliver a presentation at the 2022 IULTCS EuroCongress on a range of retanning products it has developed from tannery by-products. It has described the use of tanning by-products to make the chemicals as an economically and environmentally effective way to recycle residues from the leather manufacturing process.

One of the benefits it foresees is that this will eliminate the cost of removing the by-products and transporting them for a third party to recycle or dispose of them.

TFL's chief executive, Dr Wolfgang Schütt, said it was important, even in challenging times, not to lose sight of the importance of technology, research and innovation as drivers of the leather industry. He said the practice of using by-products from leather manufacture to make retanning chemicals would further improve the quality, safety and environmental compatibility of customers' products and processes.

"We love leather," he said, "and it's very important for us to raise awareness of leather as a natural and sustainable material."

The 2022 IULTCS EuroCongress takes place in Vicenza from September 18-20. TFL is one of the sponsors of the event.

IULTCS announces new sponsor for leather scientist grant

Packer and wet blue producer Tyson Foods will become the sponsor of the Young Leather Scientist Grant in 2023. The International Union of Leather Technologists' and Chemists' Societies (IULTCS) offers this grant annually for research projects that address industry needs.

Tyson's vice-president for hides and tanneries, Mike Larson, said: "We're pleased to support innovative leather research to help the industry continue to learn, understand and advance. We're involved in the first step in the leather-making process and are committed to producing high-quality hides in a sustainable and responsible way."

IULTCS president, Jean-Pierre Gualino, commented: "Without good-quality raw material we cannot produce good-quality leather. We hope that we can attract young scientists who will direct their studies at understanding more fully how best to utilise this valuable commodity in a sustainable way."

LCA 'firsts' for Scottish Leather Group

Scottish Leather Group published a new Environmental, social and governance (ESG) report this July.

On releasing the report, the leather manufacturing group pointed out that it includes, in full, data from independently verified lifecycle analysis (LCA) exercises that its Muirhead and Bridge of Weir companies have carried out.

According to Scottish Leather Group, Muirhead is the first high-performance leather manufacturer in the world, and Bridge of Weir the first automotive leather manufacturer in the world to publish independently verified LCAs.

Dr Warren Bowden, the group's head of innovation and sustainability, said LCA was "a powerful carbon accounting tool for measuring how responsible our consumption of raw materials and our production of leather is". He added that publishing LCA data would enable "a true and fair comparison against the impact of other products and materials".

Brazil to have new footwear fair

National footwear industry body Abicalçados has announced that it will launch a new twice-yearly footwear event in 2023.

The new exhibition, the Brazilian Footwear Show, will launch in Porto Alegre on November 21-23, 2023. A second edition will follow from May 22-24, 2024, this time with São Paulo as the host city.

Abicalçados intends to maintain this rhythm, with the Porto Alegre event giving footwear manufacturers a chance to present collections for the following year's autumn-winter (the middle of the calendar year in Brazil, of course), and the São Paulo edition providing a platform for spring-summer footwear.

It will work with the Brazilian subsidiary of exhibition organiser Messe Nürnberg to plan and run the exhibition.

Executive president of Abicalçados, Haroldo Ferreira, said the industry body had carried out surveys of business leaders in the footwear and retail sectors to learn their opinions on holding in-person events in the post-pandemic world and to quiz them on ideal locations and dates.

He said one of the ideas to have emerged from these discussions was that the cost of exhibiting should be "extremely competitive", and he insisted it would be 30% cheaper for exhibitors to take part in the Brazilian Footwear Show compared to similar fairs.

Partners must speed up on sustainability, Burberry says

Leathergoods brand Burberry has received approval from the Science Based Targets initiative (SBTi) for its net-zero emissions target. This initiative has been working since 2015 to help companies set targets that are in line with climate science and with the Paris Agreement goals (to limit the global temperature increase to 1.5°C above pre-industrial levels by 2050).

Burberry's validation confirms that the company has set goals for reaching net-zero emissions by 2040 that are based on the latest climate science and in line with the Paris Agreement.

It has committed to reducing its scope 1 and scope 2 emissions by 95% by 2023, with 2017 as a base year. It has also committed to reducing scope 3 emissions by 46.2% by 2030 from a 2019 base.

It has said it will at least maintain scope 1 and scope 2 emissions at 95% below 2017 levels until 2040. And by 2040, it will achieve scope 3 emissions that are 90% below 2019 levels.

Scopes 1 and 2 cover emissions generated from Burberry's own operations, such as electricity and gas in stores, manufacturing hubs and offices. Scope 3 refers to emissions in Burberry's extended supply chain, such as energy usage by manufacturing and material sourcing partners.

Burberry is currently carbon-neutral across its own operations globally; all the electricity it uses is from renewable sources and it claims that almost every product it

makes has a social or environmental benefit. Over the past five years, its community programmes have had a positive impact on more than one million people.

Vice-president of corporate responsibility, Caroline Laurie, said receiving SBTi approval for these targets gave Burberry confidence that the steps it is taking "will have the necessary impact and bring about lasting change". She added: "We are committed to continue working with our suppliers and partners to accelerate the adoption of more sustainable practices."

More than 1,000 certifications for LWG

Multi-stakeholder body the Leather Working Group (LWG) has said more than 1,000 leather manufacturers around the world have now obtained LWG certification. It said this confirms those manufacturers' commitment to making leather responsibly.

As of July 2022, a total of 1,040 sites have been audited by an LWG-approved auditor and awarded one of four ratings (audited, bronze, silver, or gold) by complying with the requirements of a global audit standard.

Commenting on reaching this milestone, LWG head, Christina Trautmann, said: "It's great to see so many leather manufacturers getting involved and joining our community, as it is crucial for making the goal of a fully responsible leather supply chain a reality. This collective of companies working together will drive positive action at scale and amplify our impact."

A first for ISA TanTec

Leather manufacturing group Isa TanTec has partnered with Land To Market, a programme set up by non-profit organisation The Savory Institute to help consumers choose products verified to have come from regenerative agriculture projects.

Land To Market uses a protocol called Ecological Outcome Verification (EOV), which The Savory Institute developed with Michigan State University, Texas A&M, Ovis 21, The Nature Conservancy and others to provide buyers with assurances that they could choose products from farms that work to improve the soil, water, air and biodiversity.

ISA TanTec has worked with Land To Market to certify that some of the hides it sources in the US come from regenerative cattle farms. The tanning group said this new partnership will strengthen its existing commitments to transparency, traceability and accountability. It is Land To Market's first partner in the tanning industry. 🌱



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No cutting corners: Hermès CEO puts his foot down

The chief executive of high-end leathergoods brand, **Axel Dumas**, has defended the policy of making its famous handbags to meet demand, rather than increasing production quickly to build up stock.

On presenting Hermès's results for the first six months of this year, Mr Dumas faced questions from financial analysts about a growth-rate of 12% year on year for its leathergoods division. The leather business unit brought in more than €2.3 billion of overall revenues for the six-month period of just under €5.5 billion, more than 40% of the total and by far the company's biggest product category.

But, with higher growth for other categories, including 55% for watches and 36% for ready-to-wear, analysts wanted to know if Mr Dumas was worried about the leather division's comparatively conservative advance.

"We have read some analysts' notes commenting on this," Mr Dumas said, "and they talk almost as though there were a conspiracy and that we don't produce more [leathergoods] on purpose. It's not true. When we produce, it is with one idea in mind: quality. If we were unable to achieve the quality we need owing to a lack of the beautiful materials we use, I would simply prefer not to produce. That's crystal clear."

He pointed out that Hermès will open five new leather workshops in the coming five years, but said that the increase in production capacity this will bring will, necessarily, be gradual and limited because the company will not compromise on the quality of the materials it uses or on the quality of the craftsmanship of its workers. It will not use lower-quality leather or workers who have not completed their training for the sake of speeding up production, the chief executive insisted.

"I am proud of the results in leather," Mr Dumas said, "but for quite some time, demand has gone beyond supply. We try to produce to cover demand, but it has to be without any compromise on authenticity. It takes 15 hours of manual labour to make one of our bags. It has to be done by hand. We are not investing in machinery or cutting corners in any way. We are keeping that quality. That's what helps us stay resilient; it is what gives us our strength. This is part of the magic of Hermès products."

Richemont resists proposal to have ex-Bulgari CEO on the board

The chairman of the board of luxury group Richemont, **Johann Rupert**, has written to shareholders ahead of its annual general



Changes at the top at Zschimmer & Schwarz

Leather chemicals supplier Zschimmer & Schwarz has announced that **Dr Christoph Riemer** will join the company on August 1 as part of the senior management team and will take over as chief executive on January 1.

Dr Riemer will join from Wacker Chemie, where he is vice-president and head of the Munich-based company's polymers business in Europe. Earlier in his career, he held positions at Süd-Chemie and McKinsey.

He will replace **Wolfgang Novak**, who will leave his position of managing director of Zschimmer & Schwarz at the end of this year.

General manager, **Dr Martin Haberl**, will remain in post to help Zschimmer & Schwarz manage the transition effectively, but will retire midway through 2023. Chief finance officer, **Dietmar Clausen**, will become general manager.

Dr Riemer said he wanted to promote "a culture where entrepreneurial behaviour is given top priority, openness to ideas and other perspectives, transparent and hierarchy-free communication and a spirit of cooperation that allows mistakes and learns from them".

meeting on September 7 to urge them not to allow the former chief executive of Bulgari, **Francesco Trapani**, to be elected to the Richemont board.

Investment group Bluebell has said it wants to use its shareholding in Richemont to have Mr Trapani elected to the board to represent the interests of holders of 'A' shares.

In his letter, Mr Rupert acknowledged that Bluebell is entitled under Swiss law to seek this election, but he said: "Richemont's board has never sought to elect one specific director to represent the holders of its 'A' shares because it considers that directors must act in the interest of all shareholders and not only of one class of them."

He went on to say that if there has to be a representative of 'A' shares on the board, current directors would prefer this representative to be someone else. They have proposed an alternative candidate, **Wendy Luhabe**, who has extensive boardroom experience in Europe and South Africa.

"Mr Trapani is not independent," Johann Rupert said. "He has a long history of close relationship with the LVMH group and its main shareholder. He was the CEO of Bulgari when it agreed to be acquired by LVMH in 2011. He then served as CEO of LVMH's watches and jewellery division from 2011 to 2014, was on LVMH's board from 2011 to 2016 and an advisor to LVMH's CEO from 2014 through 2016. Mr Trapani resigned from Tiffany's board in November 2019, the day after the merger agreement was executed with LVMH. LVMH is one of our company's key competitors."

Acting president takes the reins at Assocalzaturifici

The senior vice-president of Italian footwear manufacturers' association Assocalzaturifici, **Giovanna Ceolini**, will serve as acting president following the resignation from the post of **Siro Badon**. He stepped down at the end of July owing to pressure of work at his own shoe business.

Ms Ceolini has accepted the appointment, which is in keeping with the Assocalzaturifici articles of association, and has said that, in addition to taking care of administrative matters, she will quickly set up an appointment commission to find a longer-term replacement for Mr Badon.

She will also steer the organisation through the Micam exhibition in Milan from September 18-20.

"We are preparing for an outstanding edition of Micam," Ms Ceolini said, "one that will confirm the event's status as an essential business opportunity and economic driver for the entire footwear industry."

Japan's special demands suit Gucci, CEO says

The chief executive of Gucci, **Marco Bizzari**, has said during a visit to Japan that luxury products have built-in sustainability because they often last a long time and are passed from one generation to the next.

In an interview he gave to Forbes Japan, Mr Bizzari said there was something special about the Japanese market that makes Gucci particularly suited to it.

He expressed the view that Japanese consumers placed a high value on high-quality, traditional products, but that younger consumers in particular want fashionable products. But he said he saw no conflict between these two requirements, legacy and fashionability.

He said that to have products that preserved traditional qualities and craftsmanship while still presenting a high level of fashionability was "exactly in line with current Gucci strategy".

Rino Mastrotto joins SSIP board

Italian Leather Research Association (SSIP) has appointed former ICT president and head of the Rino Mastrotto tanning group, **Rino Mastrotto**, as a new member of the board of directors.

SSIP president, **Graziano Balducci**, said Mr Mastrotto's experience would strengthen SSIP in its work.

Longchamp: Ready-to-wear helps bring leathergoods to life

The chief executive of Longchamp, **Jean Cassegrain**, has said the brand's move into shoes and ready-to-wear is complementary to its leathergoods heritage.

Speaking to media in Malaysia during a tour of Asia, Mr Cassegrain said recently that the world has changed. He said that 30 years ago, making leathergoods was one business and launching ready-to-wear collections was a completely separate business.

"Now the two have merged," Mr Cassegrain said, "and we must recognise that. We want to be part of that as well."

He said that offering customers footwear and apparel, in addition to leathergoods, was helping Longchamp bring its leathergoods collections to life. He said it helped tell the story of the brand.

Kindness of late tanner comes to light

The founder of the Conceria Tirrena in Civitanova in the Italian region of Le Marche, the late **Romano Giordani**, left money in his will to help older people in his home village.

Mr Giordani, who founded the tannery in 1953, died in January at the age of 91. His will became public in late July and revealed that the leather manufacturer had left €600,000 for a specific purpose. He wanted the money to go towards helping needy people over the age of 75 in the village of Torre San Patrizio, 20 kilometres from Civitanova.

Discussions are now under way among the village authorities in Torre San Patrizio, which has a population of around 2,000, to work out who qualifies for a share of Mr Giordani's generosity.

Half a century of service

Celebrating a milestone of service, **Robert Painter**, laboratory supervisor at Pittards, received a long service award and certificate of appreciation for his 50-year work anniversary.

He joined the company as a lab technician in 1972 and despite lending his experience to various parts of the tannery over the years, it is the laboratory that he calls home and continues to work at the forefront of innovation.

Commenting on social media, Pittards CEO, **Reg Hankey**, thanked Mr Painter for his hard work, dedication, loyalty and energy throughout the years.

Award for leather chemicals company

Catalan business organisation Foment del Treball Nacional has included leather chemicals developer Cromogenia Units among the recipients of the 2022 Carles Ferrer Salat awards.

It presents the awards each year to recognise business excellence. This year's ceremony was the fifteenth. Cromogenia was the winner in the international business category.

On receiving the award, chief executive, **Álex Cabestany**, said the accolade had come at a particularly welcome time because Cromogenia is about to celebrate 80 years in business.

Board changes at Leather Naturally

Following a member vote, industry campaign group, Leather Naturally have announced changes to the management board and supervisory council.

In a change to her position as head of the communication team, **Debbie Burton** (director of marketing at Pittards) was elected to chair of the management board and replaces **Egbert Dikkers**.

For the position of chair for the supervisory council, **James Lang** (director at Scottish Leather Group) was elected and replaces **Jon Clark**.

Moving from an advisory role to the communications team, **Claudia Spahr** (head of PR and communications for TFL) was elected to the position of management board communications team leader.

In the final vote, **Chad Jensen** (senior vice president of the beef division of Tyson Fresh Meats) was re-elected to the

supervisory council for a second term.

In accepting the role as management board chair, Debbie Burton commented, "Perhaps this is a good time to reflect on how far we've travelled and the resource that Leather Naturally has become for designers, consumers, journalists and educators. The industry is pulling together to counter the mistruths about leather and there is a sense that people are starting to look beyond simplistic and greenwashing headlines. There's a long way to go, for every win, another frustrating article is around the corner, but it feels like a moment of opportunity and I'm both pleased and proud to represent the management board in this new role."

The management board thanked the outgoing chairs for their passion, energy and dedication particularly in navigating the more recent challenging years.

Elvis's leather look lives again

A new biopic on Elvis has just been released by director **Baz Luhrmann**, starring **Austin Butler** as 'The King' and **Tom Hanks** as his long-time manager Colonel Tom Parker.

In addition to the narrative, culture, and nostalgia in the movie, something that stands out are the fashions and costumes.

The climax of Elvis as a performer was, arguably, in his return as a rock-and-roller in his 1968 'Comeback Special'. The Luhrmann film tells how, on December 3 that year, NBC aired this special show and how Elvis took matters into his own hands and sang rock-and-roll, rather than the Christmas carols expected by his furious manager.

To cap it all Elvis appeared on stage dressed from head to toe in black leather. The outfit was originally created by designer **Bill Belew**. For the 2022 film, the outfit was recreated for Butler, but fabricated from bovine leather, whereas the original 1968 outfit was made from horse leather. Elvis' decision to wear leather on this occasion took him back to his roots and continued the inherent rebel-streak synonymous with leather jackets.

City role

The chief executive of furniture leather specialist Moore & Giles, **Sackett Wood**, has been appointed by the city of Lynchburg, Virginia, to serve on its Economic Development Authority, the city's "incentive arm".

Its role is to bring investment and development opportunities to Lynchburg and to "elevate its economic development profile". A native of Lynchburg, Mr Wood will serve on the authority for the next four years. 🌟

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

15/08/2022

Leather offers clarity for consumers
Cattle slaughter and beef exports increase in Brazil

11/08/2022

JBS announces closure of six plants

10/08/2022

Meat packers strike in Uruguay
Deforestation regulations should exclude leather, ICT says
Milestones for PrimeAsia

09/08/2022

Tod's could return to private ownership
Domestic demand dominates Courovale's production
Demand for beef remains strong, Tyson says

08/08/2022

US celebrates South Korea decision on beef
Labour shortage in Guanajuato
Tibet company sees benefits from Zeology project

05/08/2022

Last call for online Real Leather, Stay Different votes
Cruise-ship company turns to Poltrona Frau

04/08/2022

Shoe production shift not all bad news for China
Leathersellers Company announces result of charity appeal

03/08/2022

Traditions alive and kicking as SB Foot celebrates 150 years
Prada outpaces predictions

02/08/2022

China-Uruguay free trade agreement under discussion
US feedlot placements down in July
ACLE 2022 postponed until December

01/08/2022

Edition 100 of Lineapelle takes shape
Product reparability a source of pride for Hermès
Strong first half for Lectra

29/07/2022

US auto sales slide, but electric vehicles hit new record
Shake-up on the cards at luxury group

28/07/2022

Dead cattle in Kansas pose environmental problems
Registration for New Zealand conference open

27/07/2022

Record profitability for LVMH leathergoods brands
Assocalzaturifici announces president's sudden departure

26/07/2022

LeatherFest invigorates Guimarães
Ethiopia faces challenges in leather sector
European acquisition ambitions for Capri

25/07/2022

Automotive portfolio ready to hit the road at GSC
Strong regional support for APLF ASEAN
US shoe brand celebrates a centenary of sustainability

22/07/2022

Domestic shift for Krümenauer
Microplastics found in farm animals
Theft endangers tannery investment

21/07/2022

Spanish eyes on expansion in Japan and the UK
Design drives change, Inspiramais consultant says
Canadian study finds cattle can help in the battle against wildfires

20/07/2022

Hope of Leather Labs boost at Inspiramais

19/07/2022

China and Vietnam dominate US footwear imports
Major tanners present at Inspiramais

18/07/2022

Recovery for leather and footwear production in Spain
Growth in other markets compensates for lower Richemont sales in Asia
China auto sales recover in June
New York fair ends on a positive note

15/07/2022

Paraguay projects could contribute to LWG change
Encouragement for Burberry despite China challenge

14/07/2022

Disease impacts cattle hides in Pakistan
IULTCS EuroCongress confirms speakers
Strong recovery in retail, according to Dr Martens

13/07/2022

CEOs push congress on clean energy
Equality campaigners praise tannery for high number of women workers
Tanning industry body celebrates anniversary

12/07/2022

China lockdowns push US hide export volumes down
Plan to reduce livestock numbers sparks protests

The problem with chromium (VI) detection

The debate about chromium (VI) limits continues. The European Chemicals Agency believes the permissible limit in tanned leather should fall from 3ppm to 1ppm. Dr William Wise and Dr Stefan Davis at ICLT have researched the subject and its feasibility. Their detailed findings are presented here.

The questions surrounding the possible presence of chromium (VI) in leather have been discussed by the leather supply chain for decades. There are those in the industry claiming it should not be an issue while apparently erroneous results provide doubters with evidence that there was an issue; but both surely cannot be true, can they?

From a chemistry perspective the presence of any large amount of chromium (VI) in leathers manufactured to an appropriate pH seems unlikely. Chromium (III) and chromium (VI) are in a permanent state of equilibrium – it is impossible to have one without the other. However, external influences, such as pH, can have a dramatic impact on the position of the equilibrium. In addition, the presence of oxidising and reducing compounds in the chemical vicinity of the chromium species will also impact on any presence of chromium (VI). Leather scientists have questioned the substantial presence of chromium (VI) in leather, since a protein environment is one that should readily reduce the chromium (VI) species back to chromium (III).

With this in mind and following on from a round table discussion at the 2016 SLTC conference, researchers at the Institute for Creative Leather Technologies (ICLT) embarked on a project to see if the incorporation of more highly reducing compounds into a leather could further suppress chromium (VI) formation. However, a major issue was quickly found: the values returned from testing (following methodology in BS EN ISO 17075) were inconsistent, had large error associated and thus were unable to detect small changes in the prevalence of chromium (VI).

The research immediately took a diversion and focused on the test method. This change in direction coincided with a consultation released by the European Chemicals Agency (ECHA) on skin sensitisers. The consultation proposed that the limit of chromium (VI) in leather be reduced from 3ppm to 1ppm, bringing the leather industry in line with the textile industry.

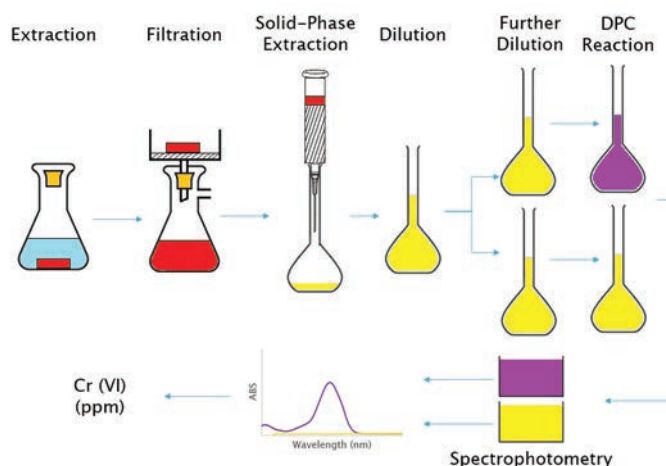
Upon examination of the data provided in the appendix of the standard method, it was clear that although 3ppm was the existing limit it was also the detection limit for the methods

being used. It is normal for the detection limit of a test method to be below that of the 'legal limit' – not equivalent. Furthermore, this data also proved that the current methods are not suitable to test for lower amounts of chromium (VI) in leather as per ECHA's proposal.

But why? Ion chromatography, as used in part 2 of BS EN ISO 17075, is a highly accurate analytical machine for which detection of something at 3ppm would normally be well within its capability. Indeed, 3ppm should be within reach for the colorimetric method used in part 1 of BS EN ISO 17075. The key, as highlighted in *Figure 1*, was in the successive dilutions of the extraction media.

The consequence of the dilutions is that the colorimetric and the chromatographic methods were both detecting substantially lower concentrations of chromium (VI) than might have been present in the leather. At 3ppm chromium (VI) in the extraction solution the resultant concentration for the solutions being analysed is just 0.0096ppm chromium (VI) (colorimetric) and 0.061ppm (chromatographic). These concentrations equate to sub-micromolar or close to sub-micromolar concentrations; dropping the detection to

Figure 1: a schematic of the successive dilutions for BS EN ISO 17075-1



1ppm worsens the situation further. It is generally accepted that the limit of detection for modern photometric analysis, such as the detector in ion chromatography or colorimetry, is 1 μ M.

With evidence that the current test methods are not reliable below the existing 3ppm chromium (VI) limit, the results from ICLT's research helped to support the argument against ECHA's proposal in its consultation document on skin sensitisers. The argument against reduction of the limit was successful but in ECHA's eyes this position should be considered temporary.

Research has continued at ICLT to address possible routes of improvement for the existing methods. Issues around the suitability of the colorimetric method continued; Wise and Davis, backed up by peer reviewed data, have publicly recommended that the colorimetric method be removed as a formal test method. Its accuracy is sufficient to act as an in-house quality assurance check, but not as a legally binding method of validating chromium (VI) content in leather.

The chromatographic methodology can detect chromium (VI) at 3ppm, nevertheless recommendations for improving the method, including how the peaks on the chromatogram are analysed, have been made. Even if these methodological changes are accepted and adopted, the methodology is still not capable of detecting a limit any lower than the existing 3ppm.

It should also be accepted that the chromatographic test methods still have an error value – this should be acknowledged in the test method, with results not being treated as absolute but rather providing a range. There is precedent in other standards for detecting chromium (VI), such as BS EN ISO 62321-7-1:2015, that "inconclusive" be added to the list of possible outcomes. Wise and Davis have suggested the same be true for BS EN ISO 17075-2 whereby if the error bars of a result straddle the legal limit it is deemed "inconclusive".

In order to achieve a detection limit of less than 3ppm in the leather it is necessary to move away from any analytical technique that has a photometric detector. Wise and Davis have proposed that Liquid Chromatography – Inductively Coupled Plasma – Mass Spectrometry (LC-ICP-MS) as a promising target. It should allow a considerably lower level of chromium (VI) to be detected – well within the range of the diluted

extraction media in the existing methods. Following on from the published research by Wise and Davis, other institutions around the globe are exploring the validity of completely new methodologies (e.g. LC-ICP-MS) for detecting chromium (VI) at much lower concentrations. ©

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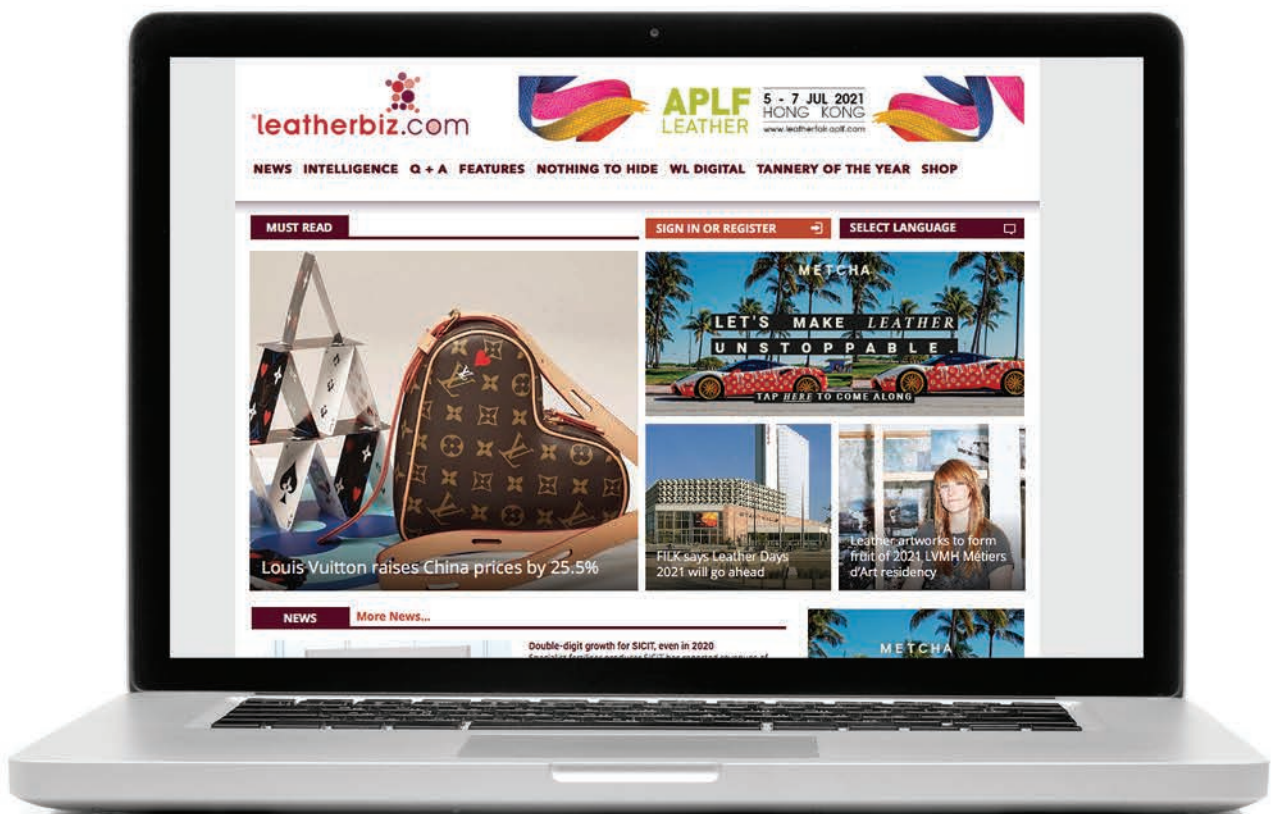




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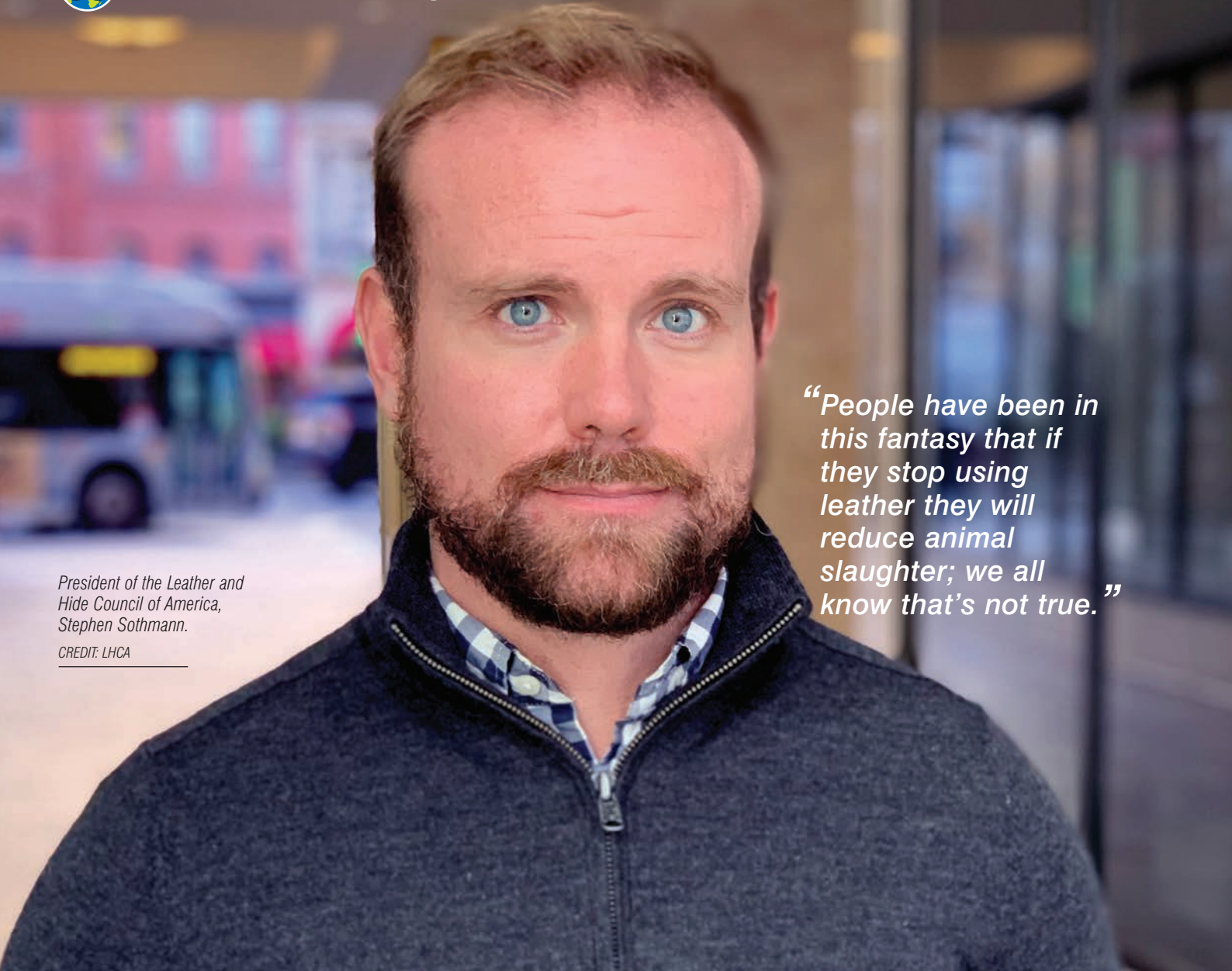


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President of the Leather and Hide Council of America, Stephen Sothmann.

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“People have been in this fantasy that if they stop using leather they will reduce animal slaughter; we all know that’s not true.”

United front must continue

As discussions develop around sustainable materials, the president of the Leather and Hide Council of America says the leather industry has “a wonderful opportunity” to capitalise.

It is more than eight years since you took up the presidency of the US Hide, Skins and Leather Association, one of the organisations that merged to launch the Leather and Hide Council of America (LHCA) at the start of 2020. In those eight or so years, what have been the biggest changes for the leather and hide sector in the US?

The biggest one is fairly obvious: the hide crash in 2014 and 2015. I think that redefined the industry for a lot of people. It was at that point that everybody realised we actually are in a ‘rising tide–lowering tide’ situation with

everybody else in the industry. I joined at the end of 2011 and that was the tail-end of that feeling that leather always sells itself, that no hide goes unused and the hubris, almost, of where the industry was at that point. I think 2014 was the apex of that and 2015 was the reality check. Another big change was the merger that led to the launch of the Leather and Hide Council of America. And then there’s the last two years, in which we’ve also seen substantial change in the way the hide industry functions. I think it’s a lot more co-operative and that there is a willingness to do what’s necessary to tackle the big problems together.

What are the most important changes you have observed in the global leather industry in that time?

I think the crash in 2015 redefined the leather industry for a lot of people in a lot of different departments. To focus a little more on these last two-and-a-half years, I think the global industry has done a complete about-face in how it works more collaboratively than it did previously. Really, this is one of those weird by-products of the lockdowns. Just the fact of everyone meeting via Zoom and other face-to-face communications tools, I think that has changed the way the international organisations work together. We never used to have that face-to-face co-operation. For years, there was Hong Kong and Shanghai and that was it.

How would you describe the impact that LHCA's 'Real Leather, Stay Different' competition has made since its introduction?

It has been a little bit of a surprise how well it has worked. It didn't help that we launched it just before a global pandemic, but when you see a full, completed, start-to-finish competition, in Taiwan for example, it's wonderful what it's been able to do, educating an entire generation of design students. It has delivered the content we were looking for, feeding into a lot of our social media channels and sets a good base for where the industry will be in the future. From that perspective, it has been wonderful and now we just need to make more people aware of it so that we can expand it further. At the moment, we have the UK, Taiwan, China, the Nordics and the international final for 2022 will be in September in London. We have put together a toolbox of how to run a Real Leather, Stay Different competition and we can hand it out to partners and they can decide which tools to use.

In 2019, LHCA began calculating the number of US hides that seem certain to have gone to waste. It must have been disappointing for you to find that 5.5 million hides went to waste in 2019 and a further 4.8 million in 2020, but what are the ways in which being able to put a number on this problem has helped LHCA present its pro-leather arguments to legislators, brands and consumers?

It has been extremely helpful to have this talking point, and it's not just a talking point either. It has been helpful with brands more than anybody, and with some fashion media outlets. A lot of them have been in this fantasy that if they stop using leather they will reduce animal slaughter. We all know that's not true, but we had to put some numbers behind it. It's changed the narrative and helped our argument quite a bit. Interestingly, when we first did it, it was the leather industry that pushed back most on it, asking us to show where the 5.5 million hides were. But it's not the big guys; it's the small guys doing ten, 15 or 20 head per day who now don't have anywhere to send the hides, so they go into landfill. Multiply that across the US and the number becomes big. The methodology is really simple. We know US slaughter numbers from the US Department of Agriculture. We know US exports from customs data, and we took a historical view of what percentage of hides didn't get exported. That gave us a pretty good understanding of how many hides, historically, had stayed in the US, probably for domestic consumption. That ended up being around 5% of slaughter. Is it a perfect number? No, but it's probably the best we can do.

Do you know the number of US hides that went to waste in 2021?

We haven't looked at it yet. We know that our exports were higher in 2021 and I think we are going to be closer to that 5% number for domestic consumption. Anecdotally, we still received calls from the small operators who wanted to know what to do with the hides they had, saying they did not know where to go with them. Those calls still come in every week, but the number of wasted hides looks like being a lot lower than in 2020; a lot more of the hides made their way into the supply chain.

What led to the start of LHCA's dialogue with the Sustainable Apparel Coalition (SAC) about the Higg Materials Sustainability Index (MSI)?

It was a chart that somebody on the alternative materials side pulled from 2017, listing the impact for all the material types, based on the MSI. Cow leather was double, triple, quadruple everything else on the list. It was around 2019 when I saw this and I realised it was one of the major drivers of the

market situation we were facing at that point and the substitution of leather that was happening. I wasn't the only one who saw it: the wool industry, the silk industry, every other natural material that is out there was seeing the same chart and experiencing the same problem as we were. When the wool industry first and then the silk industry said they wanted the scores for their materials to be retired from the MSI, we decided to jump on the bandwagon and say the score for leather should be retired as well. We shot across the bow of the Sustainable Apparel Coalition and then they reached out and said let's have a dialogue about how we can make this better. So we entered into a dialogue. It wasn't totally one-sided and they shared a lot of information with us, but the more they shared, the more frustrated we became, frankly. When you meet the people at the SAC, though, you can see that they care, that they are good people and they very much want to be on the right side of history with this, but they have been working with a framework and a toolkit that were not fit for purpose. Reading between the lines in their statements, I think they realised this but, when they did, they were already backed into a corner at that point and didn't know how to get out of it. I think the Norwegian Consumer Authority development [it demanded in June that a clothing brand, Norrøna, stop using the Higg MSI as a basis for sustainability claims about some of its garments] could be one of the straws that broke the camel's back for them. This could be when they realised this is no longer a PR issue.

You have said publicly that LHCA worked with New York Times reporter Hiroko Tabuchi in the build-up to her June 12 article about the Higg MSI. How would you sum up the importance of that breakthrough, of having a prominent journalist on a prominent newspaper take interest and write a fair account of the dispute between the leather industry and the SAC?

Yes, there were a couple straws that broke the camel's back and I think The New York Times was a big straw. There was an article a couple weeks before that by [non-profit news organisation] The Intercept that said much the same thing, but I don't think The Intercept was

a big enough outlet. The New York Times is the outlet that really drives it home, and I think you pair that with the regulatory loss they suffered. I think it forced their hand at that point. LCAs are complex vehicles. You cannot compare LCAs unless they have exactly the same structure and exactly the same conditions, and that's what they, the SAC, are attempting to do. It's like saying, 'I'm going to explain physics in a very easy way to consumers'. Physics is complex. There's a lot to it. Another big problem they have is that they don't own their data. They are basically leasing their data from one of the big datahouses. And they have a problem with transparency because they are contracted for the data and they can't release it. I just think that the fundamental structure of how they are built is a problem. The purpose is in a good place; the purpose makes sense but how they built it was a house of cards to begin with.

What was your reaction when the SAC announced on June 27 that it was “pausing its consumer-facing transparency programme”?

I'm happy that they have taken this on themselves. This is what we wanted all along. When we reached out to them and put out our manifesto [a joint manifesto signed by more than 30 leather industry organisations around the world and published in late October 2021] it was to retire the score until they had all the data. That's exactly what they've said they're going to do: retire or pause the score until they have the right data and the right structure. I'm happy to see that they've taken it upon themselves to get here. We've been ready the entire time to make sure they have the right data and that they are accurately representing the industry. We will be right there with them to do that as well. There is a little bit of *schadenfreude*. I try not to dwell on that for too long because we still have a lot of work to do. That's the next step. We have opened a door, that's all. Now we have to walk through it and give them what they need.

What do you think will happen next with the Higg MSI and the SAC?

A number of parties are having conversations [with the SAC]; LHCA is not the only one. The Leather Working Group has engaged, so has Leather Naturally. Many people are trying to figure out this situation of working out how we get primary data and information into this system. I would encourage industry members to engage, but I would say they should try to work through the existing channels as opposed to ploughing your own. There is a fair amount of work that has already been done there. That has opened up a little bit of dialogue and that, I think, will benefit everybody, including individual companies. They [the SAC] are not going anywhere. I think they do occupy an important position in the apparel industry, in the fashion industry. They, I think, need to have a little bit of a 'Come to Jesus' moment on the transparency, on the underlying data, on the framework and the structure of the entire system. I think they have a bit of an issue monetising some of this. That might be a step they also need to rethink because I don't think people are going to trust a private company on some of these aspects. They have a lot of thinking to do. I think they can make this work; they just have to open themselves up to a lot more input and scrutiny.



Finished leather samples on display at Lineapelle in Milan. Italy has consistently been one of the biggest export markets for wet blue from the US.

CREDIT: LINEAPELLE

What are your ambitions for the leather industry in the US and globally in the time ahead when, let's hope, covid-19 and war are behind us?

The US industry is in a situation where our success is the global leather industry's success. So it's hard for me to decouple them in some ways but I think we have a wonderful opportunity. As discussions develop around sustainable materials, circular materials and materials that will not be with us forever, I think the leather industry has a wonderful opportunity to capitalise on that. So I want to see that happen in the next, whatever the time frame is, two-to-three years. I think the Higg Index and the action the industry took around that was a wonderful model of how we get that done. We started two-and-a-half years ago, we brought all the players together that needed to be at the table and we all set our sights on the target. And we got to where we needed to get to go with it. I think we need to use that as a model and replicate it in other areas as well. We started with the United Nations Climate Change Conference (COP26) last year as an example, and I think there's a lot of work to be done there and that there are plenty of others. So I want to see that template that we've developed copied and pasted and replicated in other areas. 🌐

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Executive summary

For years, Dr Gunter Pauli's main aim has been to find ingenious entrepreneurial ideas that use, in the most sustainable way possible, resources that we already have around us.

Projects that Dr Pauli has worked on have created millions of jobs, with a critical added bonus of circulating the money from workers' wages within local communities, often in poor parts of the world. He says these examples merely "scratch the surface" of what is possible in the Blue Economy.

There is great potential in "regenerating a culture of artisans" all over the world, he argues, using easily accessible natural materials to create value.

The leather industry is part of this picture and can proudly point to its long-standing history of making use of waste from another industry (the meat sector), adding very high levels of value to it to create a beautiful, desirable and highly versatile material. It creates jobs and alleviates a potentially serious waste management problem at the same time. It is one of the most circular industries on the planet. 🌱

Valuable leather scraps at the Krumenauer tannery in Brazil.

ALL PHOTO CREDITS: WTP

About this essay

We first published essay eleven in the Nothing To Hide series in the October-November 2015 issue of *World Leather*. Its focus was on the work of Dr Gunter Pauli, founder of Zero Emissions Research and Initiatives and author of 'The Blue Economy' and 'The New Blue Economy'. Dr Pauli says he chose to put 'Blue' in the title because "green is no longer enough". It paved a path towards the Leather and the Circular Economy section that we launched in the magazine in 2020.



Nothing to Hide: Leather and the circular economy

When we published the original essay eleven in the Nothing to Hide series, in the October-November 2015 issue of World Leather, it was one of the first references there had been in the magazine to the circular economy. It went on to inspire a whole new section devoted to this subject, which, since 2020, has so far generated 88 detailed articles, with many more to come.

Dr Gunter Pauli sees renewable resources everywhere and continually puts his weight behind business ideas that will create jobs without depleting the planet's resources. His vision has helped tanners articulate their own powerful story of taking leftover material from another industry and using it to create something versatile, durable, renewable and beautiful: leather.

His inventiveness became evident as soon as Dr Gunter Pauli's university days were over. His first big breakthrough was at Ecover, now a global brand with a wide range of 'green' detergents and part of the SC Johnson & Son group. Dr Pauli helped to rescue the brand from financial difficulties in the 1980s and left an eye-catching environmental legacy, including one of the greenest buildings in Belgium, staff bonuses for commuting by bicycle and a workers' agreement to wear company-provided Patagonia baselayer clothes in winter to keep energy bills down. Green thinking has never really been enough for Dr Pauli and in 1994 he set up Zero Emissions Research and Initiatives (ZERI), a diverse group of thinkers, but also of doers. ZERI is a network of researchers, searching constantly for what the founder calls "very pragmatic solutions to things that we know can be solved now".

In 2009, he put many of the group's early solutions into the first edition of a book entitled 'The Blue Economy', highlighting innovations that he believed could generate 100 million jobs in ten years. A follow-up edition, 'The New Blue Economy', appeared later. He calls it blue

(Above:) For as long as people on earth want to eat meat, the leather industry will be a fine example of how the circular economy can work.

because it goes beyond green. He said at the time of the original essay eleven that he had fallen short of his original plan, having generated from the first round of ideas "only" three million jobs (and \$4 billion in investments) from 200 projects.

Underpinning all of these is the idea of using as fully as possible, but always in the most sustainable way, the materials and resources we have to hand. For as long as people on earth want to eat meat, the leather industry will have a strong claim to be a fine example of how the circular economy (or the blue economy) can work, taking another industry's waste material and adding high levels of value to it, while creating good, honest work for thousands of people around the world.

Brainwashing

In December 1997, following the third United Nations Climate Change Conference (COP3), Gunter Pauli was given the task of drawing up a business model that would be in keeping with the Kyoto Protocol, the treaty that came out of COP3 committing governments to reducing greenhouse gas emissions. "When I made my presentation, there were four people in the room, me included," he says. "You can change

technologies and processes, but what is really required is a change in the business model and no one then was interested in changing the business model. We were brainwashing all these MBAs to think in exactly the same way: core business with core competence, lower marginal costs, high productivity, low labour costs, just-in-time and economies of scale and, of course, great supply chain management. That's what we've all been doing for 30 or 40 years and the result is that we have massive youth unemployment and communities that are dying because everything is globalised."

Job generation

He says that what is required is a new logic. Companies must add value, so much value that they will "outcompete everyone", but not on cost. The Blue Economy books highlight 200 projects that have already been implemented and Dr Pauli insists this is only scratching the surface. He feels a truly green economy ("one that is good for the world and good for business") has struggled to break through in more established economic environments because green products are often too expensive. "What is good for us should be cheap or free," he insists. "What kind of economy is it if what's good for us is expensive and what's bad for us is cheap? This is madness, but this is also why business schools never invite me to give talks to their students, and they're right not to because I exist to upset their way of doing things."

The cheapest raw material in the world

Examples of the projects he has been involved in include Novamont. This company, based in Novara in northern Italy, has set itself the mission of developing materials and biochemicals through the integration of chemistry and agriculture, by starting up state-of-the-art biorefineries in agricultural communities. It wants farmers to be able to make the most efficient use possible of all their resources throughout the entire lifecycle, generating social, economic and environmental benefits.

Novamont refers to its biorefineries as "third generation", which means they are dedicated to the generation of high-added-value products from biomass. One of these facilities is at Porto Torres in the north of Sardinia. It is on the site



Dr Gunter Pauli, the environmental entrepreneur behind the Blue Economy initiative.

CREDIT: Christian Doppler Foundation

of a former petrochemical plant that was processing two million tonnes of petroleum per year to produce 700,000 tonnes of chemicals. "That's not resource-efficient," Dr Pauli, one-time chairman of Novamont, says. "Instead, we decided to use thistles. There are 360,000 tonnes of thistles in Sardinia alone because the European Union has been paying farmers there not to farm and what you get when you don't farm is weeds, including thistles. The thistle is the cheapest raw material in the world: you don't have to plant it, you don't have to use pesticides; the only thing you have to do is harvest it. Shale gas will never compete with us. Petroleum is a joke for us."

Novamont's thistles are yielding lubricants, natural herbicides that have a commercial value, but also polymers. Waste from the thistle-refining operations is 20% of volume, but, unlike the waste output from most chemical factories, it can all go into animal feed. The company has now taken over six former petrochemical plants in different parts of Italy; it is raising the investment it needs to transform them all into third-generation biorefineries that will bring benefits to all, while employing people at unionised European chemicals industry rates. Its costs are a tenth of those of other industrial biotechnology companies.

What can happen in a circular economy

Coffee is another passion: not drinking it so

much but rather using the waste to farm mushrooms. ZERI has helped set up 3,000 farms producing mushrooms in coffee waste. The network's founder says he thinks this is a failure. "We should have 500,000 of these farms," he insists. "Nestlé produces millions of tonnes of waste from its instant coffee production. That would make millions of tonnes of mushrooms." Nestlé could generate 600,000 jobs from this, he continues.

He is an admirer of Singtex, a Taiwanese technical textiles manufacturer that launched S-Café in 2009, a yarn that includes recycled coffee grounds, which the company says imbues textiles spun from the yarn with odour-control, quick-drying and UV protection functionality. ZERI projects that S.Café has inspired include coffee-enhanced nylon 6 for carpets to make rooms odour-free, because the coffee absorbs bad odours. It's also going into polyurethane in refrigerators to make refrigerators that absorb odours and into paint to make paint that scatters UV. Adidas, Puma and Patagonia are big brands that have switched on to the possibilities here, he says, of putting coffee-enhanced yarns into their clothing and possibly footwear. Automotive companies can do something similar with their car interiors, he believes.

These are all examples of what can happen in a circular economy. ZERI continues its work on plenty of others.

Change the world

Dr Pauli admires many of the products that the leather industry contributes to, calling bags, for example, humankind's greatest invention ever. Not because bags now constitute an industry worth billions, but because having bags fashioned from animal hides in which to store food enabled our early ancestors to collect and transport (hands free) 15 times more food than it is possible to eat in one day.

He likes silk, too, and wants to push global production to one million tonnes per year from current levels that are closer, he claims, to 100,000 tonnes (up-to-date figures are hard to come by but during the United Nations Year of Natural Fibres in 2009, it said global production levels had been at 100,000 tonnes in 2000 but had risen to 150,000 in 2006). "This has nothing to do with Hermès or fashion," he points out. He admires silk's renewability and natural antimicrobial properties and bemoans

its substitution by synthetic materials derived from petrochemicals.

"We need artisans," he says. "Sometimes people say there is no demand any more for what artisans can do, but let's generate demand. It is just a question of communicating. Let's regenerate a culture of artisans using natural materials. Consumers can be transformed into agents for change."

Much of what Dr Pauli said at the time of the original essay foretold what the European Commission laid out in a 24-page document to explain a set of policy initiatives it is calling The European Green Deal, which has the aim of "resetting" the organisation's commitment to tackling climate and environment-related challenges. The document, published at the end of 2019, describes such an undertaking as "this generation's defining task".

It wants the European Union (EU) to continue to be a prosperous body and for its economy to grow, but it wants this growth to become "decoupled" from the use of new resources. Renewable resources and the reuse of resources already in circulation will be fine, as long as they can be produced or recovered in sustainable ways.

This is what the future looks like: using what we can grow and recover to make the products we use to live, keeping things for a long time, repairing them when we need to, passing them on for someone else to use when we no longer want them and, eventually, taking the product back and recovering the materials it was made from and giving these a second, third, fourth, or even fiftieth life. Materials must go round in circles; as little as possible must go to waste.

Global questions

These are global questions, of course, which the European Commission acknowledges. It says in the document that the EU will "use its influence, expertise and financial resources" to convince companies and governments around the world to join it on a sustainable path. As "the world's largest single market", the EU believes it can set standards that will apply across global value chains.

The European Commission believes a move to a circular economy is an essential part of its plan. It says it could take 25 years to transform supply chains from the linear model of make-sell-use-throw away and instead make them circular, with manufacturers taking by-



Materials must go round in circles; as little as possible must go to waste.

CREDIT: WTP

products from each other to keep adding value, with little or nothing going to waste. But it insists that action needs to take place now so that, by the target date of 2050, we can have sustainable ways of making and consuming things.

In the document, the European Commission says it wants to support and accelerate industry's transition to the circular economy and the Green Deal contains a new circular economy action plan. Part of this will be to take action to stimulate markets, inside and outside the EU, for circular products, encouraging the companies that make these products to create new, green jobs, which is also the main motivation for Dr Pauli's Blue Economy initiatives. It will support the circular design of all products and will prioritise reducing and reusing materials ahead of recycling them.

This circular economy action plan will also include measures to encourage consumers to choose reusable, durable and repairable products, handing a competitive advantage to companies whose products or materials meet that description. It says new business models based on renting and sharing goods will play a role "as long as they are truly sustainable and affordable". The Commission says it will tackle false green claims, vowing that companies engaging in green-washing will end up red-faced, named and shamed.

Public authorities, including the EU institutions, are to lead by example and ensure that their procurement is green. Legislation and guidance on green public purchasing will follow. Billions of euros are at stake here. Companies that verifiably meet the green criteria will be the ones winning the contracts.

The value of waste

It has much to say about waste, making it

clear that if waste cannot be avoided, "its economic value must be recovered and its impact on the environment and on climate change avoided or minimised". Here, too, there will be new legislation, including targets and measures for tackling waste generation. In parallel, the Green Deal document makes clear that "companies should benefit from a robust and integrated single market for secondary raw materials and by-products".

It will be obvious to readers of this magazine that, in leather, the European Commission already has in front of its nose a clear example of a production sector that can already meet all of its circular economy requirements. Leather and the circular economy are a perfect match. And yet, the December 2019 document explaining The European Green Deal makes no mention of leather.

We can say on the one hand that this is disappointing but it comes as no surprise, in truth. It was for this reason that *World Leather* decided to begin the 2020s with its new Leather and the Circular Economy section. This provides a platform for tanners, leather chemical companies and finished product manufacturers to share opinions and experiences on this subject. For millennia, skilled people have been taking a by-product from meat production and, rather than let it go to waste, have turned it into a material whose versatility, durability, naturalness, sensuality, renewability and beauty knows no parallel. To use leather in shoes, furniture, automotive, aviation and other forms of transport, interior design, handbags or apparel is to choose a raw material that might otherwise have gone to waste. It is a material that you can repair and recover for reuse at the end of a product's useful life, preventing waste (once more) and avoiding the need to extract new resources for the products we buy. It is the circular economy material par excellence and it is time more people realised that.

Our Leather and the Circular Economy section includes two types of articles: some covering the thought leadership on the circular economy that people across the leather industry are demonstrating, others covering case studies from companies that make or use leather to showcase their circular stories. The aim is to keep publicising examples of the leather industry's circular economy credentials. 🌱



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Bacterial species involved in leather biodegradation

M. Bonilla Espadas, M. Bertazzo, F. Arán Aís, E. Orgilés Calpena

Bacterial species identification could pave the way for improved leather biodegradation. Understanding bacterial activity but, more importantly, which specific bacteria are more prevalent in the process has been the subject of a research project carried out by Spanish research and innovation centre, INESCOP.

Currently an increasing number of consumers are changing their patterns of consumption and use increasingly more sustainable products in their everyday life¹. There is growing demand for products that are manufactured by ethical and transparent brands concerning the materials and environmental impact involved in their production. In March this year, the European Commission adopted a proposal for a directive on “Empowering Consumers for the Green Transition” that aims to ensure consumers get adequate information on durability, reparability and recyclability before purchasing a product.

On the other hand, within the Green Deal, governmental demands over consumer goods, landfill legislation and chemical restrictions have been gradually intensified in Europe². The EU Commission's 2030 strategy for Textiles³ aims to create a greener, more competitive sector; textile products placed on the market must be durable, repairable, recyclable, free of hazardous substances and produced in respect of the environment. This strategy also aims to prevent and mitigate environmental damage through the ‘Polluter-pays’ principle, where the costs of waste management is to be carried by the original waste producer or by the current or previous waste holders.

All these aspects have pushed the leather industry into developing alternative greener materials and production processes that promote faster and more eco-friendly degradation of leather at the end of its useful life.

Innovative test methods are now required so companies can evaluate and continue improving the biodegradability/compostability characteristics of their sustainable-by-design leather formulations. In this context INESCOP has developed a fully automated smart technology, based on International Standard ISO 20136:2020⁴, that is capable of estimating the degradation potential of leather in just 28 days.

This methodology uses a complex consortium of microorganisms present in tannery and urban wastewaters as the inoculum. Leather samples are ground up to increase contact surface area and placed into a conical flask containing the inoculum, deionised water and a minimal growth medium. Leather is left as the only carbon source for microorganisms to feed on, and therefore biodegradability percentage is measured through the quantification of CO₂ generation during leather degradation.

INESCOP, within the BIOREQ II project, funded by IVACE⁵ and ERDF Funds, has carried out a series of

comparative assays to identify and analyse how the microbial community varies during leather biodegradation and identify which microorganisms have a predominant role in this task. The objective of the investigation is to work towards the development of new bioremediation strategies and material/chemical revalorisation processes in the leather industry.

Through the sequencing of the 16S rRNA subunit in bacteria, commonly used in bacteria identification⁶, a bacterial taxonomic profile has been achieved for the initial inoculum used in the assay. This bacterial community is expected to vary in species percentage (higher rate of bacterial proliferation) as biodegradation stages (initial, exponential, and stationary) take place during the assay. This is because only certain microorganisms will be able to adapt to the extreme environment of minimal nutrients and presence of chemicals from tanned leather. Species that have a high presence are therefore actively replicating and therefore capable of effectively biodegrading tanned leather.

Figure 1. Biodegradability curve for different leather samples and the biodegradation stages occurring as the ISO 20136 assay proceeds.

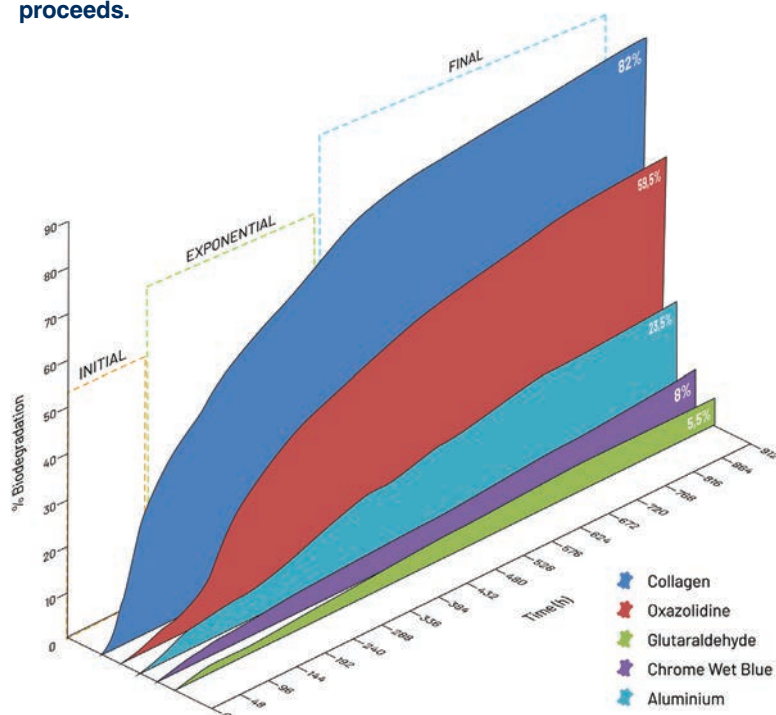
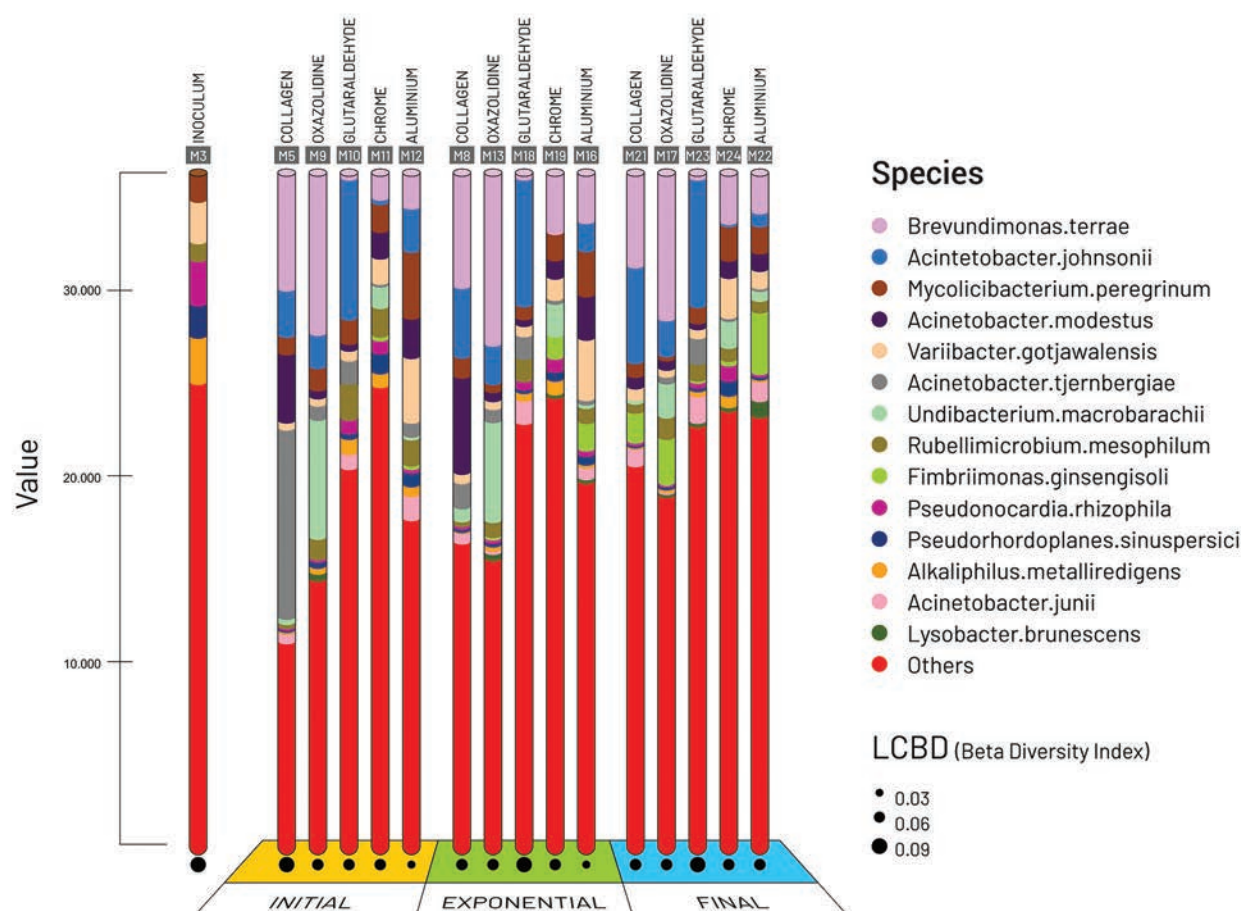


Figure 2. Bacterial species proportionality at different biodegradation stages for alternative tanned leather samples.

More than 2,500 microorganisms have been found to be present in the initial inoculum but only around 20 to be of interest due to high rates of proliferation. Figure 2 shows which bacterial species are predominantly present at each phase of the biodegradability curve (ISO 20136 as shown in Figure 1). *Acinetobacter johnsonii*, *Brevundimonas terrae* and *Mycolicibacterium peregrinum* have been generally identified as the most dominant species for almost all leather samples along the biodegradation process.

These findings confirm leather biodegradation to be a collaborative process involving a substantial number of microorganisms that use interchangeably leather as their only carbon resource to replicate. Identification of these specific microorganisms would enable an optimisation and homogenisation of ISO 20136, resulting in a standardised assay as well as shorter assay times. This would also lead to the development of new bioremediation strategies involving the use of microbial consortium or recombinant microorganisms for any type of leather degradation, as well as material/chemical revalorisation processes. These objectives are in line with those established by the EU and the Sustainable Development Goals⁷, working towards a greener production of leather goods and a cleaner environment. 🌱

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New Generation Of Leather



United Chemicals

Investing in analysis

There is much to be said about forging ahead in difficult times – just ask Disney, Revlon or Parker Brothers, the makers of Monopoly – all founded during the Great Depression, not to mention the National Health Service (NHS) in the UK that came into being at the end of the second world war. Whilst these are extremes cases in relation to the leather industry, similar strong mindedness has been key for the directors at Muirhead, part of the Scottish Leather Group, in their continued efforts to stay one step ahead of the competition with the installation of a new fire resistance test laboratory.

In recent announcements, Muirhead has unveiled its new state-of-the-art calorimeter for public transport passenger seating – visually it resembles a small transport container but essentially is a square metal box with a high-tech interior. What this £250,000 investment actually means though is long term investment in new product development and supply chain improvements for the company's rail and rolling stock customers.

Think upholstery leather and you probably visualise sofas and chairs but the world of upholstery also encompasses mass transit leathers – those found in trains, buses, coaches and trams. What many may not appreciate is that the technical specification for these leathers is quite different to those found in a domestic setting, and it is the ability to test the leathers to these specifications that will be aided by the new lab.

Using a multi-gas analyser, the calorimeter can analyse for six different gases, four simultaneously, giving measurements for oxygen, carbon dioxide, carbon monoxide, nitrous oxide, methane, and moisture. With advanced controls for temperature and humidity, real-life scenarios can be played out to reflect how the leathers will respond to any given atmospheric condition.

Prior to the investment, the tannery was forced to send leathers away in bulk every few months to be tested, taking anywhere up to 8 weeks for results to be returned.

With the new facility, these results are now available within hours. The many benefits this brings include the ability to reduce development time, as all product safety testing can now be done on-site, in combination with its sophisticated bench laboratory where other physical and chemical tests are carried out – including smaller-scale fire and smoke density analysis. Whilst ventures of this kind are usually gauged by return on investment or payback periods, this is of secondary importance, as was explained by Kevin Smith, Head of Mass Transit at Muirhead: "With testing being carried out 24 hours a day five days a week, in the state-of-the-art testing facilities, to get the payback of the fire resistance lab, it would take six to eight years. So, we are investing for the long term; we are in it for the long haul."

With a primary focus on rail applications, the new facility enables heat release analysis on full mock-ups of passenger seat configurations to find full leather solutions which include customer specific combinations of foam, seat pitch, any



More than just a box. While visually unremarkable, the public transport passenger seating calorimeter is a state-of-the-art testing facility that works to ensure the safety of all passengers travelling on leather upholstered seating in mass transit vehicles.



Khalil Safadi, laboratory manager at Muirhead.

applicable fire barrier, etc., but also to test the different innovative foam types coming to the market, a particular benefit to operators looking to refurbish or upgrade fleet interiors. With the technicians trained to recreate real life burn scenarios, from smouldering cigarettes through to acts of vandalism, this level of testing is essential to understand how the leather (and other components) not only burn but also identifies what substances are released. Since 2013, all materials being applied in rolling stock must comply with European standard EN 45545-2 that focuses on flammability, flame dispersion and, specifically, the development of smoke, gas and its density and toxicity to guarantee passenger safety. The main aspect to mass transit safety is escape time. In a scenario where there may be hundreds of people in a vehicle, should the

worst happen, mitigating against harmful gases and smoke should the leather combust is fundamental. "Essentially, we are measuring and prolonging the escape time from the vehicle. If something happened to a rail carriage, we need to know that the contents of that vehicle are as low combustion as possible," said Khalil Safadi, laboratory manager at the tannery. ☺

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The “Silent Killer” – hydrogen sulphide gas

PART 1: One positive consequence of the covid pandemic has been the increased interest for e-learning. In recent months, UNIDO has re-released and updated its free access guidance “How to deal with Hydrogen Sulphide gas in tanneries and effluent treatment plants”.

Originally released in 2016, it has since trained 5,000 workers from more than 60 countries on how to guard against the dangers. In this first part of a two-part series, World Leather looks at the risks, who could be affected and how to minimise the formation of this “silent killer”.

One of the biggest safety risks in tanneries and effluent treatment plants is the evolution of hydrogen sulphide (H_2S). A colourless, invisible gas that is heavier than air and has a strong, unpleasant odour in low concentration, characteristically identified as that of rotten eggs, it can be found in and around poorly managed or maintained tanneries and effluent treatment plants. Even at low levels of exposure, the gas can induce headaches and nausea, as well as causing possible damage to the eyes. At higher levels, death can be rapid and, globally, countless deaths attributable to the build-up of sulphide in sewage systems have been recorded.

In tanneries, the sulphide content in their effluent results from the use of sodium sulphide (Na_2S) and sodium hydrosulphide ($NaHS$), and from the breakdown of hair in the unhairing process. When the pH of the effluent drops below 9.5, hydrogen sulphide evolves from the effluent: the lower the pH, the higher the rate of evolution. For this reason, strict segregation of beamhouse and tanyard waste streams is a must, as well as early removal of sulphide in beamhouse effluent, usually by catalytic oxidation. Being a flammable gas, mixtures of hydrogen sulphide and air could explode violently and, since the

vapours are heavier than air, they can accumulate in depressions or spread over the ground.

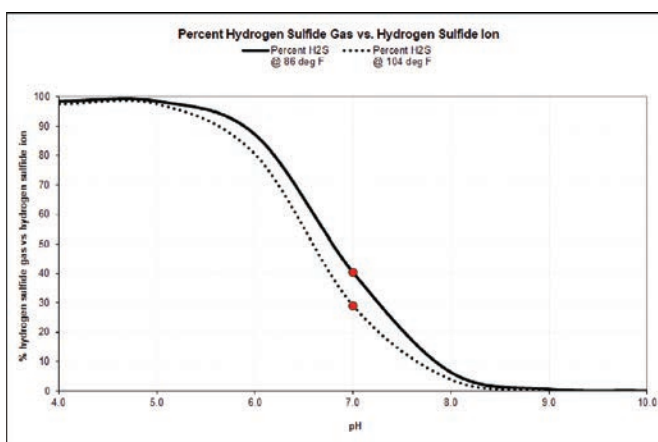
Poisoning effects

The effects on those who absorb the gas through accidental inhalation range from drowsiness, neural problems, loss of consciousness and, in the most severe cases, death. The characteristics of the gas enable one to smell it so long as it is in very low concentration, without having an adverse effect on personal health. Poisoning only occurs at higher concentrations and at these levels the inability to smell it often leads to the wrong assumption that no gas is present.

Table 1 shows the symptoms and effects at specific concentrations in the air (in parts per million) and relevant exposure time. The symptoms may vary depending on the concentration of the gas in the atmosphere, duration of exposure, health condition of the person exposed, smoking habits plus other factors.

Table 1: Health effects of hydrogen sulphide gas inhalation at various concentrations

Exposure in ppm	Time	Effect on unprotected person
0.03	No limit	No effect
0.03-2.0	Odour	threshold
10	Up to 8 hours	No effect
10-20		Threshold for eye irritation
20-200		Headache, nausea, general weakness, pain in legs
200-500	1 minute	Irritation of nose and throat, vertigo, blurring of vision, loss of consciousness lasting a few minutes
500-900	1 minute	Profound coma, muscular spasm – twitching convulsions, disorientation after recovery
900 and over	1 minute	Instant coma and death



Hydrogen sulphide gas at a glance

Chemical name	Hydrogen sulphide
Formula	H ₂ S
Physical state	Colourless gas, with characteristic odour of rotten eggs in low concentrations
Physical danger	The gas is heavier than air and may travel along the ground; distant ignition possible.
Chemical danger	Heating may cause violent combustion or explosions. The gas decomposes on burning producing toxic gas including sulphur dioxide. Reacts violently with strong oxidants, causing fire and explosion hazard. Attacks many metals and some plastics.
Routes of exposure	The substance can be absorbed into the body by inhalation
Inhalation risk	A harmful concentration of this gas in the air will be reached very quickly on loss of containment
Occupational exposure limits	10 ppm over eight hours (as TWA) 15 ppm over 15 min (as STEL)
Effects of short-term exposure	The gas irritates the eyes and the respiratory tract. Inhalation of the gas may cause lung oedema and affect the central nervous system. Exposure may result in coma and death. Some effects may be delayed.
Physical properties	Boiling point: -60°C Melting point: -85°C Relative vapour density (air=1): 1.19 Flash point: Flammable gas Auto-ignition temp.: 260°C Explosive limits (vol% in air): 4.3-46%
Environmental data	The substance is very toxic to aquatic organisms

A concentration of 15 ppm is internationally acknowledged as the short-term exposure limit (STEL), also indicating the maximum permissible exposure level in the work environment. However, the American Conference of Governmental Industrial Hygienists (ACGIH) changed their recommended threshold limit values (TLVs) for airborne hydrogen sulphide (H₂S) exposure. In 2010, the ACGIH adopted a TLV-TWA* of 1 ppm, and a TLV-STEL of 5 ppm for H₂S.

In the United States the ACGIH TLV is not a regulatory limit, but these guidelines have been developed from scientific data gathered by ACGIH over several years on the health effects of H₂S exposure and represent exposures that "all workers may be repeatedly exposed, day after day, over a working lifetime, without adverse health effects".

Locations for hydrogen sulphide formation

The liberation and presence of hydrogen sulphide gas is likely in the following locations in tanneries and effluent treatment plants:

In Tanneries:

- Drainage and sewage pits where effluent from liming, deliming and pickling stages may be mixed (e.g., tannery internal pretreatment system).
- In drums, paddles or pits during pickling, when acid is added to inadequately delimed hides and skins still containing sulphide from the liming stage.
- In drums, paddles or pits that are used for liming, deliming as well as pickling.
- In chemical stores due to intermixing of incompatible chemicals, mainly acids with sodium sulphide flakes (due to poor handling and storage practices, chemical accident e.g. acid spills).
- Reaction of liming liquors, or other liquors containing sulphide, with acidic liquors (e.g. acids, pickle, tanning) can cause a hazardous release of hydrogen sulphide.

In effluent treatment plants:

- Any manhole and opening of the collection and conveyance system.
- Receiving sumps and filter screen chambers.
- Anaerobic tanks and lagoons.
- Valve chambers and any other pits.
- Any tank containing some sludge, even if nearly empty.

In the other locations in tanneries or effluent treatment plants, H₂S gas concentration is usually in the non-dangerous range.

Who is at risk

Any worker engaged in cleaning of pits or the maintenance of collection and conveyance systems, receiving sumps, screen chambers, etc., falls into the high-risk group for exposure to H₂S gas. Any other person in a tannery or effluent treatment plant in the risk locations may be exposed to a higher concentration of H₂S gas. More seriously, unaware and unprotected rescuers of persons who may have accidentally fallen into a tank or pit in an effluent treatment plant could be at risk.

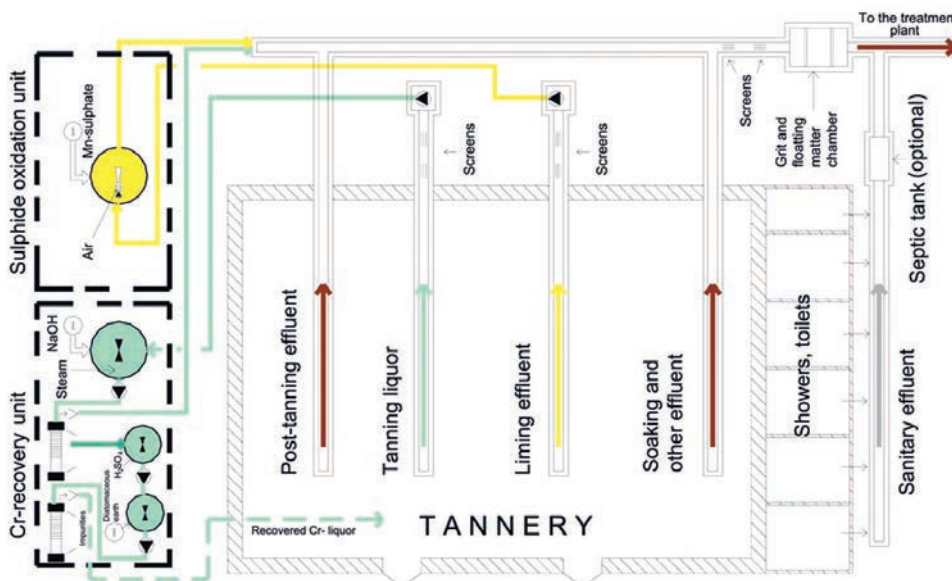
Preventative Measures

Detection and monitoring in high-risk areas will always form a crucial part of sensible tannery management, as too will proper storage facilities for the complete separation of sulphide-containing materials from acidic ones, thus avoiding accidental mixing. In processing, floats from liming and deliming operations (alkaline) must be separated from those of pickling and tanning (acidic) and identified risk areas should be always well ventilated to dilute the concentration of H₂S gas. It is also recommended to reduce or carefully time the discharge of sulphate containing waste streams from processes such as pickling and chrome tanning.

Floats segregation: Hydrogen sulphide gas is very often evolved by the mixing of highly alkaline (pH 10+) sulphide

containing liming liquors/ wastewater, with acidic (pH 3–8) tannery effluents, especially in deep channels and pits and at higher concentrations when the typical (warning!) smell is not so pronounced. Strict segregation of alkaline and acidic streams to ensure that the pH does not fall below 9.5 is essential. Hydrogen sulphide gas is quite easily eliminated from sulphide-containing wastewater by catalytic oxidation using manganese sulphate as a catalyst, converting the sulphide into mostly sulphate, before being mixed with acid effluent or being discharged to the main mixing tank which generally has a pH of 8.5–9. It is useful to recall once again the properties of hydrogen sulphide gas, still by far the most frequent killer in tannery accidents, mainly in inadequately ventilated spaces and especially in pits and channels.

In part 2 we turn to safe work practice, accidental release measures and how to be prepared. 🌐



Layout of in-house segregation of streams, including chrome recycling and oxidation of sulphides in liming effluent.

*Threshold Limit Value – Time-Weighted Average (TLV-TWA): the time-weighted average concentration of a hazardous substance in the air, averaged over an 8-hour workday and a 40-hour workweek, to which it is believed that workers may be repeatedly exposed, day after day, for a working lifetime without adverse effects.

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BEET and ECO₂L 2.0

Andreas Meyer, Managing Director, VDL Germany

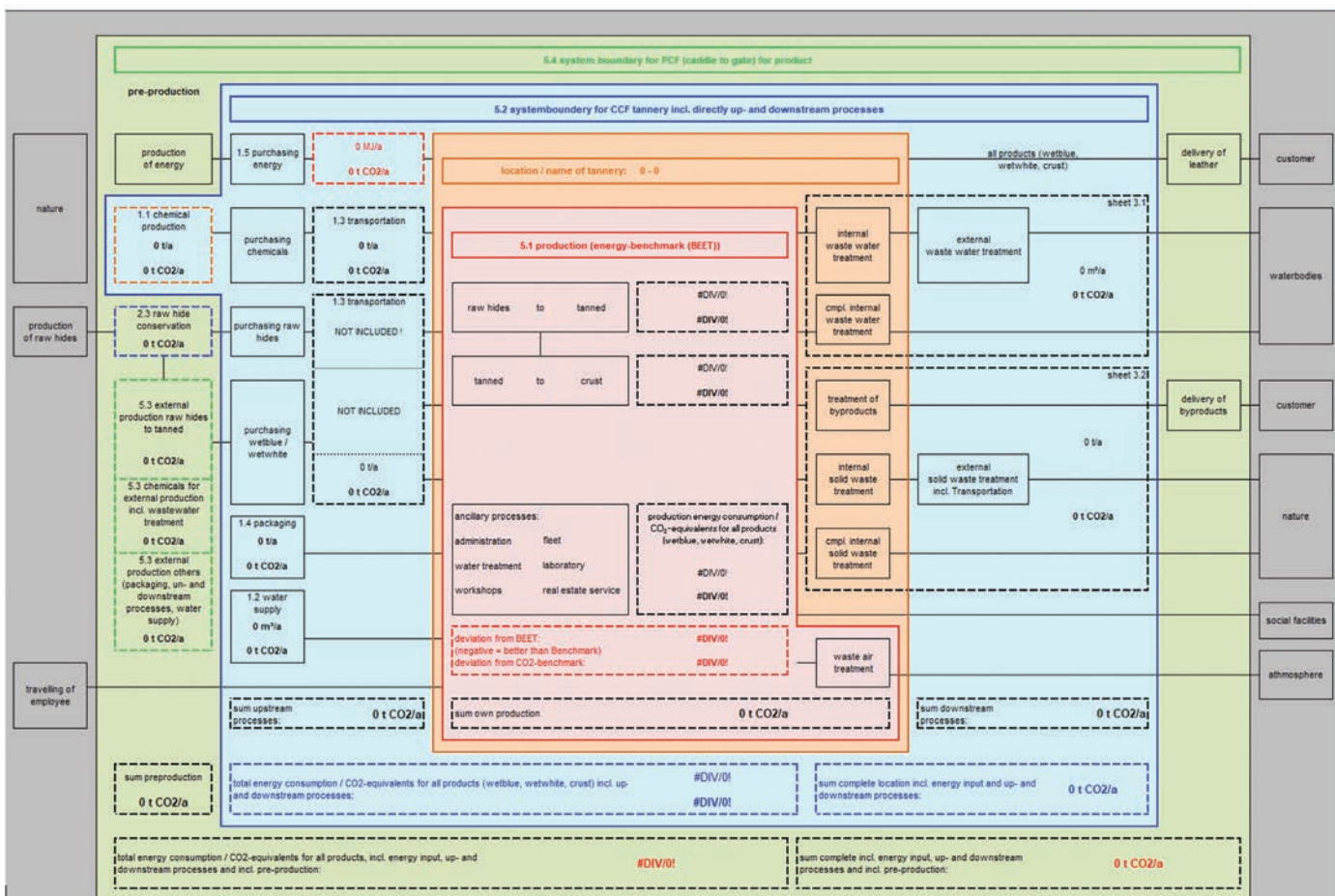
Developed by members of VDL, the German Leather Federation, the new ECO₂L 2.0 calculation tool can be used to determine the product carbon footprint (PCF) in a tannery whilst at the same time being used in preparation for an audit to obtain the ECO₂L certificate. The new calculator, version 2.0, is based on the previous ECO₂L tool, which was used to determine the corporate carbon footprint (CCF) and also assessed the company's internal energy use in comparison to the energy benchmark BEET (Best Energy Efficiency for Tanning) measured in MJ/m².

The previous ECO₂L tool was the world's first calculation and auditing model to determine the energy efficiency and CO₂ emissions of a tannery at its site. Since its introduction in 2012, a large number of companies have gained an overview of how energy efficient they already are and where there is still room for improvement. Currently, more

than 25 tanneries, representing 13 countries ranging from those in Europe to China, Uruguay and Indonesia (amongst others) successfully perform to the requirements of the auditing regime and proudly display the certificate of achievement.

Today, CO₂ product assessment is becoming increasingly

Figure 1. Tool boundaries



Green – System boundaries PCF for leather, cradle to gate. Blue – System boundaries CCF Tannery. Red/orange – energy benchmark BEET

Figure 2 – Audit preparation form. This form, along with others, covers the full leather production at the specific site.

content			publisher:		VDL		KEY		OWN	own production
name of tannery:			developed by:		I-T-G		PRE		external pre-production by suppliers	
country:							POST		external post-production by customers	
date of audit:										

operations	sold products	category	tick only one for audited tannery	raw hide to tanned	tanned to crust	crust to finished leather	
only tanning	only tanned	A		OWN	POST	POST	only results for tanned leather, no results for crust and finished leather possible
only retanning	only crust	B		PRE	OWN	POST	only results for crust, no results for finished leather possible
tanning and retanning	only crust	C1		OWN	OWN	POST	only results for crust, no results for finished leather possible
tanning and retanning	mixed - tanned and crust	C2		OWN	OWN	POST	only results for mixed production, no results for single steps or finished leather possible
only finishing	only finished leather	D		PRE	PRE	OWN	only results for finished leather, no results for single steps possible
retanning and finishing	only finished leather	E1		PRE	OWN	OWN	only results for finished leather, no results for single steps possible
retanning and finishing	mixed - crust and finished leather	E2		PRE	OWN	OWN	only results for mixed production, no results for single steps or finished leather possible
"full-tanner", tanning, retanning and finishing	only finished leather	F1		OWN	OWN	OWN	only results for finished leather, no results for single steps possible
"full-tanner", tanning, retanning and finishing	mixed - tanned, crust, finished leather	F2		OWN	OWN	OWN	only results for mixed production, no results for single steps or finished leather possible
special case trader, no production		G	not possible	PRE	PRE	PRE	not included in ECO ₂ L !

To prepare for the audit, the ECO₂L 2.0 preparation tool is downloadable from the VDL website homepage where all necessary data can be collected before the audit and made available to the auditor. All fields with a yellow background are to be filled in with data.

important within the entire production and supply chains, as well as a discussion point between customers and end consumers, certainly when it comes to comparative assessments with other materials. A standardised determination of a company's CO₂ emissions, associated with leather production, is also demanded by customers and can be seen as a tool that helps to make one's own efforts in sustainable production visible.

The new calculation tool therefore supplements proven elements from the earlier version and consistently extends the previous determinations to all upstream and downstream processes. On this basis, the CO₂ emissions associated with leather production are determined in a comprehensible and thus comparable manner.

The aim of the calculation programme ECO₂L 2.0 is to determine the product carbon footprint (PCF) within defined system limits and according to DIN EN 16887:2017 and the product category rules (PCR). The result is that the CO₂ emissions or the CO₂ emission equivalents are determined as the product carbon footprint (PCF) for leather production. In addition, the actual specific energy consumption of the company at the site, within defined system boundaries, is calculated and compared with the energy benchmark BEET (best energy efficiency for tanning) for the respective leather production. If the benchmark BEET is reached or is under the benchmark, the tannery receives the ECO₂L 2.0 certificate and can thus document its energy-efficient production.

ECO₂L 2.0 always determines the BEET and PCF of the audited company

- on the basis of the data for the last 12 months preceding the current quarter.
- the recording period for the production data, the associated chemical and energy and water consumption and all other company data must be identical.

Data

ECO₂L 2.0 determines a CO₂ benchmark for the company-specific production processes at the site in relation to the manufactured product mix on the basis of the data from the previous audits. This benchmark then serves as the basis for

comparing the company-specific and site-specific CO₂ emissions. Currently, however, the decisive factor for awarding the new ECO₂L 2.0 label remains the company's energy efficiency in comparison to the BEET energy benchmark. The principle behind this is that a product with a good ecological footprint can only be truly sustainable if it has been produced in an energy-efficient way. The data can also be used by companies to being able to document CO₂-neutral production with the help of offset measures.

Prerequisites

The prerequisites for awarding the new ECO₂L label to a tannery are:

- Calculation of the actual specific energy consumption of the company at the site,
- Calculation of the site-specific, international standard "Best Energy Efficiency for Tanning" (BEET) for the production type and quantity used,
- Calculation of the percentage deviation of the actual energy consumption from the BEET,
- No exceeding of the actual specific energy consumption of the company compared to BEET,
- Calculation of the Product Carbon Footprint (PCF) according to ECO₂L 2.0 based on DIN EN 16887.

Certification

The calculations are carried out on the basis of the data provided by the company and after verification by an appointed auditor using the calculation programme. The data subsequently determined is then subjected to peer review by a neutral body (FILK), ensuring that the data has been recorded conclusively and in accordance with the specifications.

If all these requirements are met, the certificate is awarded, certifying the energy consumption as well as the product carbon footprint for the manufactured product mix.

The certification is associated with the right to use the ECO₂L label for three years for promotional purposes for that audited location and the proven product mix. After a three year period, the certificate is reviewed. 🔄

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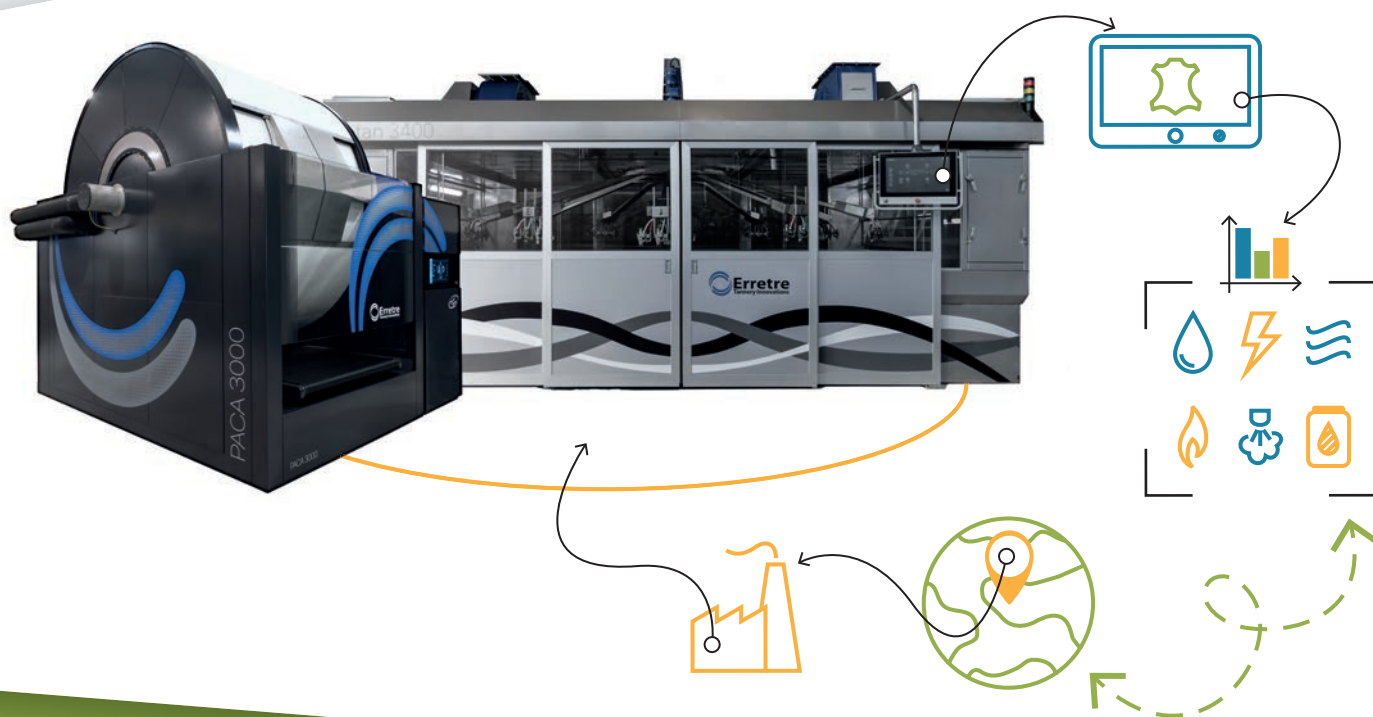
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Signposts for the future of automotive leather

Andreas Kindermann, Leather Industry Consultant

The automotive industry and leather have a long-term relationship. In 2011, for Mercedes, I made a cushion tanned and dyed in exactly the same way as it was done 125 years ago for the first model that was patented by Carl Benz in 1886. For more than 130 years, leather has been a core material used for interiors in the automotive industry but recently it has been blacklisted by several car manufacturers. Does that mean that leather is outdated as they would want us or their woke consumers to believe? Why is leather being blamed on the basis of facts that are obviously wrong? Possibly designers and specifiers prefer to base their arguments on 'alternative facts' so that they can justify their decisions to appeal to the vocal environmentalist or animal rights lobbies.

The automotive industry is currently in a turmoil facing significant changes. Autonomous driving is increasing production costs and once Level 5 is achieved, where full autonomy is achieved and drivers are optional, the consumer's purchasing attitudes will change. Using the car without driving will make characteristics such as acceleration and engine power less important. When you last used a taxi, did you think about how much horsepower the car had? Entertainment and comfort will become more important. In addition to this, as actual driving will become less attractive, the main aim will not be owning a car but just using it and, with this, a flexible transportation solution becomes more important.

If you go on vacation in wintertime with the family, a 4WD SUV is perfect, while a summer weekend for two requires a nice convertible. Car sharing companies, that offer models on demand, will shift the focus to interiors based on ease of cleaning and durability. For this trend, leather is the perfect solution. The haptic of a leather interior can provide comfort and a premium touch to the vehicle and it is both durable and easy to clean. However, it is important to make the quality engineers aware that increasing specifications for leather has started a development that makes leather feel more like an artificial material. While using electronic gadgets in the car, people do like to have natural surfaces. In addition, the craftsmanship of the car manufacturers must be improved to

treat leather correctly. The uniqueness of leather can add value to the car Interior and make it distinguishable from its competitors.

The second trend is the replacement of combustion engines with electric alternatives. Car manufacturers have had a group target averaging 95g CO₂ equivalent per km for 2021 (it may vary depending on car weight) and this will be further reduced in the future. If this target is not achieved, a penalty, per car sold, will have to be paid. This can be avoided by adding electric cars to the range of models, as they count as zero CO₂, although their production may create even higher CO₂ emissions. Furthermore, governments are heavily subsidising the purchase of zero-emission cars. Therefore, both the customer (through subsidies) and car companies (CO₂ targets) have a shared goal in electric cars in the future.

At present, 30 brands already offer electric cars, with 69 models available. As an additional "gimmick" they offer extra power compared to combustion engines. For example, from one of the German premium brands, electric engines start at 265 HPE and its combustion engines start at an equivalent 150HPE. Car companies are selling electric cars with the benefit of more power and faster acceleration. These models offer a combination of extra power, entertainment and a limitless number of assistance systems and their target customers are early adopters. This group is defined by the interest in new trends, technology and in addition environmental awareness. Therefore, the vegan argument is now being used by automotive companies to boost their car sales. The extra costs in car production for electronic gadgets are typically around €5,000 and these costs need to be saved by the OEMs. The combination of cost savings and the vegan trend of early adopters is a threat to leather in electric cars and is why producers are using recycled plastic materials in their interiors.

Key arguments for leather

The key arguments for leather are upcycling, durability, recycling and sustainability. Leather is the oldest upcycling product; no animal is killed because we need leather. The tannery converts waste, that would go to landfill, through a



About the author

With more than 15 years of experience working in the leather industry, specifically meeting the demands of major car manufacturers, Andreas Kindermann gives World Leather readers his insight to the future of leather as a preferred automotive interior material against plant-based and synthetic alternatives that struggle to match the genuine article.

transition process into a unique material. This process is old but not outdated and with recent developments it is more than ready for the future. Modern tanneries, those favoured by the OEMs, combine chemistry and processes in a sustainable way to ensure that the material produced meets 100% of the customer requirements and expectations. In addition, leather is durable and after usage can be recycled into other products.

If consumers blame our industry citing bad examples, we need to improve and address these and show that there are also countless good examples. Personally, I have recently started my own consulting business to support tanneries all around the world with modern principles in production. As costs and quality are important, my aim is to support the implementation of smart factories and take advantage of the latest production technologies. Those tanneries that combine perfect tanning processes with efficiency will remain.

Car companies want to sell their cars with a unique selling proposition (USP). In the future, the sale of the car will not generate the profit but instead it will be generated from using the car. The increasing connectivity in cars allows new commercial transactions, such as on demand fees for navigational systems or seat heating built into the car. Paying for optional use items/upgrades will reduce the sales price but increase the revenues over the lifetime of the car. Leather is increasing the perception of the car by adding a sustainable, durable and unique surface at low costs. If the car is sold because it has leather, it will generate a lifetime revenue stream thereafter.

It seems that some decision makers do not want to listen to such arguments, even if they are valuable to meet their commercial aims, for what must be assumed are personal reasons. That is why public campaigns like Leather Naturally or one4leather are important. We have valuable, tangible arguments for car companies as well as emotional reasons for the consumers that will secure the future of leather in the automotive industry. 🌱

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Halls 14–18 and expectations for Simac Tanning Tech 2022

Simac Tanning Tech returns, after some time, with a permanent September timetable on the horizon. Following the successful, albeit “local” show in 2021, hopes are that the positivity seen then will follow through to the first truly post-covid Milan show.

With thoughts falling on the summer shutdown, some will undoubtedly have one eye on the sun lounger with the other on planning a visit to the Simac Tanning Tech exhibition, September 20-22. The previous edition certainly saw a return to positivity (see *World Leather* Oct/Nov 2021) with exhibitors supporting the reduced sized show and a footfall that showed the importance of returning to as near normal activities as possible. With travel restrictions greatly removed, it is hoped that the 2022 event will build on that momentum. If other international shows, such as the APLF held in Dubai, is anything to go by then there is much to be anticipated for another industry meet up. It is worth noting, too, that Lineapelle runs on the same dates, with Micam and Mipel running September 18-20.

With a show that is billed as having transformed itself into a platform for industry, dedicated to identifying opportunities for the sector in relation to markets, specific issues of technological innovation and sustainability, organisers claim that the main transformation is that up to this point, it was the technologies of the exhibitors present at the fair that prompted future changes in the sector, whereas today technologies are called on to rapidly respond to the continuous and sudden change in market needs. It is a

subject area that will be under the microscope in the continued sessions of the second “Assomac Talks”. Previously giving a platform to technological centres and international institutions, specialised in analytical services and footwear and leather processing tests where each centre presented their latest research and development results, new projects and prospects for the future, this year the talks will concentrate on “the way in which the technology industry for shoes, bags and leather connects with what is happening in the world”, doing so by following three guidelines – ‘What can technology do to respond to the new emerging issues related to Sustainability, Market Speed and Supply Chain Collaboration?’ explains economist Enrico Cietta, and curator of the contents of the initiative.

With the buildup for the show already taking place, Maria Vittoria Brustia, president of Assomac, the organisers of Simac Tanning Tech, sees things in a positive light. “Between pandemics and international tensions, serious economic and social crises and the recent war, there is a need for openness and a need to meet people again. Simac Tanning Tech must be the hub where the entire production world, of which we are part, can find dialogue and business opportunities.” Further underpinning the themes for the show of sustainability and



digitisation of production processes and value chains, she says: "If digital enables sustainability, without partnerships and relationships between the actors of the different production chains, it is very difficult to find solutions that promise sustainability and are consistent and 'sustainable' in front of public opinion." It is clear that leading by example is certainly a priority for Brustia, following the announcement that the International Union of Shoe Industry Technicians (UITIC) will be working in close partnership with Assomac to have the XXI International Footwear Technology Congress in Italy in 2023. The congress will run in parallel with the Simac-Tanning Tech exhibition in Milan and will take place in two host cities: Milan and Vigevano, a city with a long tradition of producing footwear, footwear components and footwear technology.

The programme will include factory visits and a day at Simac-Tanning Tech in addition to talks, presentation, and keynote speeches.

With a solid offering of shows in the same week, SIMAC Tanning Tech should once again be sure of good footfall with Lineapelle running concurrently and the MIPEL and MICAM exhibitions taking place just before. In their spring event, held in March, these shows saw close to 30,000 visitors, at a time when travel restrictions were still very challenging. With the present situation much more relaxed, hopes are high that visitors will extend their stay for the full week, creating what the organisers called "a focal point of excellence" for the leather supply chain.

On the back of what was essentially a local show in 2021, where 200 exhibitors occupied 9,000 square metres of floor space, at the time of writing, the confirmed exhibitor attendance has already surpassed this by 30% with a 40% increased requirement for floor space.

Exhibitor goals

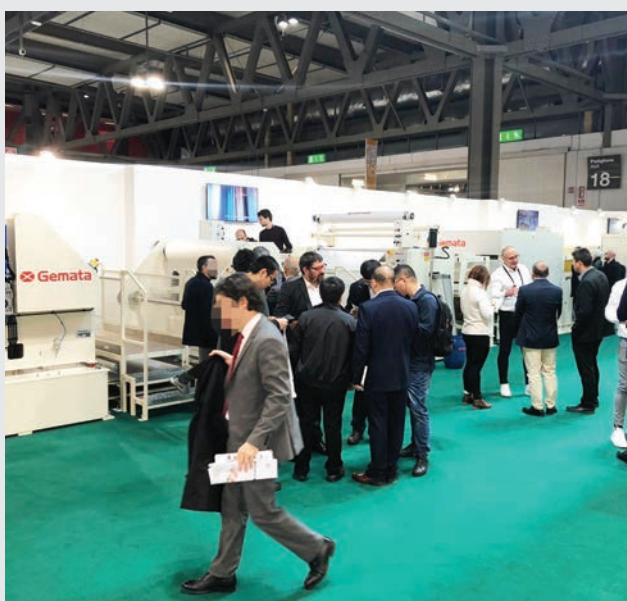
World Leather and *Leatherbiz.com* will, of course, be present with a stand at the show but we have been speaking to some of the exhibitors before the event; In common to all is the positivity that comes from the anticipated face-to-face meetings these in-person events afford. This is a preview of some of their thoughts and what they will be bringing to Milan.

ATC focus on GreenTech



With the feeling that the European leather industry is very much "back on its feet", ATC will be showing a wide variety of new products and processes that are focused on key targets of improved environmental leather processing. The buzz word "GreenTech" is very much central to its extensive R&D efforts and one that the company will be showcasing: ACTAN FCO is a new polymer tanning agent that will allow tanners to make a biodegradable white leather, free of formaldehyde, Bisphenol and metals. Additional benefits include greater salt and acid reduction as it is a pickle-free process. It will also be promoting sulphide free and low sulphide unhairing systems, that have shown huge improvements in BOD/COD in the beamhouse. ATC has not wasted the covid years and has taken major steps forward in R&D where new products with "green" credentials will be the products of the future. **Hall 18 – B34 B36.**

GEMATA takes a thoughtful approach



Gemata takes a more pragmatic view on things to come "The pandemic has not vanished, and other closures cannot be ruled out, especially in China," claims deputy manager, Mauro Pellizzari. "The period is also complicated due to the increase in raw material, energy, and transport costs. So, from the fair, we mostly expect to understand market expectations and trends." With the main goal to consolidate relationships with customers and review those that have been missing for three years, Mr Pellizzari assumes few visitors will be seen from Asia.

On the stand will be the unveiling of its new GREENSTAR rollercoater; designed as a whole hide processor; this machine is available in 3400mm and 3800mm widths but due to space constraints, a 2400mm model will be on show. **Hall 18 - K09 K17 L10 L18.**



BUFFING LINE

ATTIVA

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

ARIOS A

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



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Cartigliano feels the responsibility

With over 60 years of production history, Cartigliano is adept at designing and producing innovative manufacturing solutions for a variety of industries. In recent years, its leather division has concentrated on low temperature and subsequently low energy drying and conditioning technologies, acting responsibly towards environmental impact. During the show, radio frequency drying, low temperature vacuum drying, and treated air injection conditioners (TAIC) will be the discussion points, with the latter two benefiting from the new POWREG technology (power regeneration), a multifunctional unit that works in a closed circuit where up to 35% energy savings are claimed as well as a significant saving of water consumption.

Hall 18 – E19 E27 F20 F28 F19 F27.

Agfa to display new inks

The company is hoping to learn from the industry what they are expecting from inkjet technology and how they can help educate and explain how good performance can be achieved with inkjet printing on leather products. Agfa will be showing products and articles made by customers to show new topcoats and finishes that can be combined with inkjet printing going from matte to glossy finishing plus, new for 2022, a UV ink set for leather decoration, a second-generation ink range free of any CMR category one products and free from skin sensitizers, with a harmonised classification, without compromising on performance. Visitors may also be lucky enough to receive a typical Belgian gift when visiting their booth. **Hall 14 – E29 F30.**



Antara Industry 4.0 from Systemhaus

This participation will be extremely important for the Brazilian company as it will be an opportune moment to establish a relationship with European customers and prospects in a market that it considers important for new business, and taking the opportunity to update them on the work being carried out on Antara i4.0 (Antara Industry 4.0), which corresponds to a set of technological solutions for the optimisation of processes, with the objective of minimising interruptions and improve controls and industrial activities, aiming to increase tanneries productivity and competitiveness. **Hall 18 – H39 H47.**

Hüni Group participates with the motto "Thickness matters"

Hüni will be sharing the stand with partners IM Innovating, Deltaque, and Team Duemila and with a full sales and consulting team. Besides its industry-leading process control equipment, Hüni will also present its new Digitalization and Traceability concepts. It will also exhibit its PPH premium drum to demonstrate the uniqueness of this patented technology. Premium drums are made with the

company's advanced tubular technology (TT) that requires no outside welding of the drum body. For the larger drums, with wall thickness up to 80mm, it is claimed to be unrivalled as this thickness can only be achieved using tubular technology production. It will also be presenting its highly competitive turn-key and tannery engineering concepts.

Hall 18 H19 H25 K20 K26.

Lamebo

An important show in their calendar, TanningTech provides Lamebo with an opportunity to keep the industry informed of the technological offerings available and to gauge reaction and impressions. Investing in efforts to attend, Gabriella Bocca, CEO said, "Although the market is in a strange position, some positive, some not so positive, we hope there is good movement for the future." **Hall 18 E02 E06.**

Persico re-establishing contacts

"We know how important these events are, especially in our sector, and we think this can be the right place to restart, right from where we stopped," said Alberto Nieri, CEO of the company. On show will be the S23 through-feed fleshing machine that was debuted last year. Since it was unveiled, improvements have not only been made with fleshing quality but also with equipping it with a new oleo dynamic control unit to further reduce oil and water consumption. Also on display will be the P27 Dynamic fleshing pump, an improved design and incorporating its "Stop & Go" system which automatically adjusts the control depending on the quantity of fleshings in the hopper, and stopping if it is empty.

Hall 18 C33 C37 D38.

Nick Winters

As part of the Bigard Group, the third largest industrial meat company in Europe (no.1 for beef) with over 15,000 employees and with a turnover in excess of €5 billion processing beef, veal, lamb and pork, the Nick Winters Group is looking forward to exhibiting again in Milan which will be the largest leather fair in the world for the year of 2022. With the acquisition, in late 2021, of a brand-new warehouse based in Montorso Italy (Arzignano) covering 3,000m² to store and select wet blue and wet white hides, the group is looking to scale up its service to the tanning industry. This was a logical step after the purchase of the French CET wet blue tannery in 2019. The Group also has a 4,300m² refrigerated warehouse in Ponte A Egola, Tuscany, mainly for salted hides. **Hall 11 – P27 – P29.**

Heusch

The aim of Heusch's participation at this year's Tanning Tech – under the motto "your safe choice in times of instability" – is to demonstrate its unwavering devotion and commitment to customers and the industry. After two years of lockdowns, flight restrictions and self-isolation it will be the first time to celebrate personal meetings on a large, international scale. Managing Director Thomas H. Schaefer commented: "Our team is extremely happy to meet our customers and partners in Milano. All our team is very much looking forward to thanking the industry for its loyalty and support."

Hall 18 – D39.



Silvateam debuts modified tannins project

First unveiled at Lineapelle in October 2020, Silvateam will once more be showcasing leathers made using its Bio-circular Ecotan technology (see *World Leather* Dec 20/Jan 21). This new class of high performing, metal-free, glutaraldehyde-free leathers can be transformed into fertilisers at the end of their lifecycle, returning to nature the resources initially “taken on loan”. At the end of 2021, Silvateam also introduced a new project regarding tannins: I'm Tan, an acronym of Innovative, Modified natural Tannins. This project is financed by the LIFE program (Reference: LIFE20 ENV/IT/000759), the EU's funding instrument for the environment and climate action.

I'm Tan modifies the ways in which natural tannins are usually prepared for use in leather manufacturing to achieve lower chemical hazards, high bio-carbon content, sustainable costs, reduced waste and improved circularity when compared to conventional tanning processes involving chrome, synthetic tannins or aldehydes. Lineapelle **Hall 15 - U17 V18.**

Hardy



Hoping to see more exhibitors and visitors from Pakistan, China and other southeast Asian regions, Hardy is excited about exhibiting at Simac Tanning Tech 2022 and to see the industry getting ‘back on its feet’ after covid. Its booth will be open for everyone from machine builders to leather makers. Whilst it is understood that it is still difficult for the Chinese leather industry representatives to travel due to covid restrictions, it expects and looks forward to seeing them at exhibitions in the near future. The stand will have Hardy product brochures and many promotional gifts for friends, old and new. **Hall 18 – C23.**

Elitron set to surprise with new systems for next level productivity

The new Visio acquisition table will be a must-see for those seeking to maximise leather hide yield using off-line nesting, optimised by the Opera nesting software. Converting the entire leather hide into a high precision digital file, the recognition of quality areas on the hides,



and with the Elitron Digital Infrared (EDI) pen, it allows the operator to grade holes or defects on the leather but without making a mark. Not only does this save time but it is also far more ergonomic and practical for the operator. Elitron's best-selling Booster cutting system will be taking centre stage. It too has been further upgraded and now comes with the most advanced recognition technology for printed materials and leather. The new Seeker System vision technology is a sophisticated camera and software system that identifies the printed reference points and uses these to synchronise and manage the cutting path with extreme precision, automatically. The company will also be showcasing the new compact Spark cutting system, ideal for prototypes and production requiring a compact working area of 1600 x 800mm. In addition, visitors can also see the Kudos, the innovative cutting system for leather and synthetic roll materials. **Hall 14 – G19 G27 H20 H28**

GSC showcases bio-based technology

GSC Group will present leathers manufactured with bio-based chemicals, with staff on hand to explain the new GSC system. Its commitment towards the environment consists of a combination of actions addressed at the safety and ecological evaluation of its chemicals, the reduction of hazardous products and development of less impacting processes to serve the leather industry. The interest in protecting the environment by not using products made from fossil fuels as raw materials but the utilisation of natural renewable resources has been steadily and rapidly increasing. However, it is still quite debatable whether such chemicals can perform equally to their fossil-fuel counterparts. GSC is going to provide its perspective on bio-based material at the IULTCS EuroCongress being held in the days prior to Tanning Tech, in Vicenza, presenting “GSC Group perspective towards implementation of bio-based chemicals for a greener leather technology” and it will show how bio-based chemicals can eventually replace the fossil-fuels derivatives.

Hall 18 – E41 E43 F42.

TFL consolidation on display

TFL will be present with a stand in the upcoming Lineapelle halls, another company looking forward to welcoming customers, suppliers and industry experts. After a year of consolidation of the former Lanxess OLC business, the new combined TFL product portfolio will be presented with a focus on the new PURE bio-based product offering, harmonised in the TFL PURE range.

Hall 11 – V25-27-29 Z 26-28-30.

Auditing in Leather production

The Sustainable Leather Foundation will be highlighting the next evolution of the Transparency Dashboard fully holistic approach – taking a facility from zero to certified with the outward facing materials now developed – the Partner Profile and QR codes to direct customers to the relevant information. For the Tanning Tech sector specifically, they will be showcasing the first look of the Transparency Dashboard for the machinery companies for which development work is now starting.

Hall 9 – R17. 🌐

5 **BAUCE** Y E A R S 1970 2020

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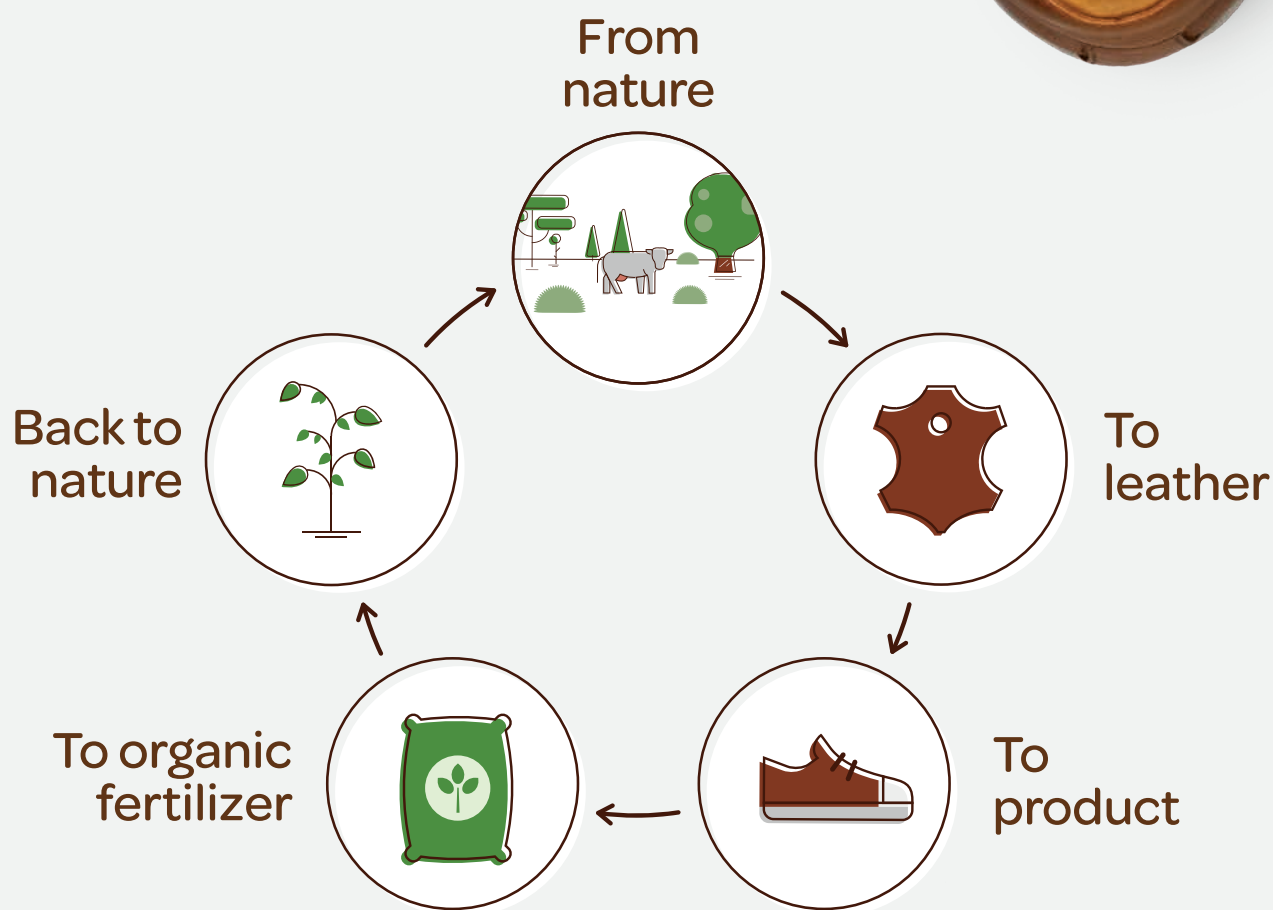
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This tanning technology uses patent pending tannin based products and has been developed thanks to a partnership between Silvateam, Biofin, Fertilizzanti Certaldo and some of the world's best tanneries.



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

Circularity is in leather's DNA

Representatives of Europe's leather, footwear, textiles and clothing industries issued a joint statement in July to present a series of demands to the European Commission. The organisations, including the leather industry's representative body in the European Union, COTANCE, said their aim was to help ensure "a successful, green and digital transition" for the EU fashion ecosystem. This is something that the Commission called for in a document it published earlier this year.

These demands include funding to support the transition, campaigns to raise consumer awareness of sustainable products, for EU Member States to encourage sustainable production in Europe through green public procurement, for initiatives to attract new workers to the sector and improve the skills of current workers, and for steps to ensure a level playing field in the global market.

The best example

COTANCE secretary general, Gustavo González-Quijano, said: "Leather is the best example of a circular-economy product, as it is the result of recycling an unavoidable residue of meat production. In carrying out this recycling activity, European tanners create wealth and jobs for an entire value chain." He went on to insist that what the Commission describes as a green transition of Europe's fashion industries and, in fact, its entire economy, is already synonymous with the way the leather industry works and has done for

The representative body of the leather industry in the European Union, COTANCE, says the 'green transition' the European Commission has called on the wider fashion industry to carry out is in the leather sector's DNA.

thousands of years. "It's in our DNA," Mr González-Quijano said. He added that leather production can and will become even more sustainable in the future, but said this needs to happen hand in hand with regulators and stakeholders.

What the powers that be have in mind when they talk about a green transition is a move away from the 'produce-buy-discard' economic model that dominated the final decades of the last century and the opening decades of this one. People who live in the wealthier parts of the world regard those decades as economically successful because so many of us have become so much more prosperous, at least on the surface, than their parents or grandparents were. That this prosperity has come at an environmental cost we may not, in the end, be able to make good is still a relatively new idea and an unpopular one in



many government and business arenas, where growth still seems to be the only goal worth attaining.

A different kind of growth

In the new document, the European Commission sought to follow up on its Circular Economy Action Plan of 2020. This new paper is directed specifically at Europe's "textile ecosystem", which, the Commission makes clear, refers to the textile, clothing, leather and footwear (TCLF) industries. It says it wants these industries to grow, but for it to put the old growth model behind it and achieve instead growth that is "sustainable, climate-neutral, energy- and resource-efficient, respectful of nature, and built around a clean and circular economy."

The document, which has the title 'EU Strategy for Sustainable and Circular Textiles' describes TCLF as "a product value chain" with an urgent need to make the transition to sustainable and circular production, consumption and business models, but also as one with strong potential to make this change. Businesses, consumers and public authorities across the EU are already focusing on increasing the sustainability and circularity of clothing, footwear and other fashion products, the document says, but the transition is slow and TCLF's environmental and climate footprint remains high.

War on waste

Its vision for speeding up change and making the transition happen includes familiar, if still highly welcome, ideas. Brands and manufacturers are urged to make sure durability is designed into their products and for the goods they sell to be

Frans Timmermans, first vice-president of the European Commission, Virginijus Sinkevičius, European Commissioner for the Environment, Oceans and Fisheries, and Thierry Breton, European Commissioner for the Internal Market, at a press conference on the circular economy in Brussels this March.

CREDIT: European Commission.

easy to repair when they break, easy to reuse, to rent out or to sell second-hand to keep them in use and out of landfill. New EU rules will ensure that consumers are provided at the point of sale with durability guarantees and reparability scores.

It says it wants large companies to disclose the number of products they discard and destroy, and suggests that the Commission intends to put in place a ban on destroying perfectly usable products that companies have not been able to sell.

Microplastic measures

Another of the areas that needs rapid improvement is the "source of serious and growing concern" that microplastic pollution from synthetic fibres represents. Clearly, if we used fewer synthetic fibres, there would be less microplastic pollution, and the document goes on to make this point later. Measures it suggests for immediately addressing the microplastics crisis include some less obvious changes, though, including the application of special coatings during the manufacturing process, pre-washing of finished products at industrial manufacturing plants, altering the design of washing-machines and making detergents milder.

This is like rotating the ceiling to replace a light-bulb. It is

reminiscent of the Midwest settlers in Marilynne Robinson's *Gilead*, whose attempt to dig an unneeded tunnel across the main street of their small town leads to a large horse falling into the hole and becoming stuck. Unable to release the animal or to think of a good explanation for having a stranded, half-buried horse in the middle of the road, the settlers opt to move the entire town away from the horse instead.

To be fair, the document also says the promotion of innovative materials should be part of the solution. It is difficult to know if the Commission would class a material that has been in use for millennia as innovative, but at least brands that choose leather for their products can take comfort from the fact that they are adding nothing to the considerable burden that washing-machine and detergent manufacturers seem likely to face.

Value-add

Moving on, the document says there is significant potential for the TCLF sectors to reduce waste and make sure any waste that does accrue creates further value. As Gustavo González-Quijano has pointed out, creating value from material that would otherwise go to waste is the starting point for the entire leather industry. The industry, like all others, creates waste too and efforts must continue to find good uses for that waste. Making producers responsible for the waste that their products create is essential for decoupling waste-generation from growth, it says, and it points out that the Commission has launched a study into the viability of setting mandatory targets for preparing waste for reuse and recycling as part of a wider review of waste legislation in the EU, likely to take place 2024.

Take responsibility

"Companies should become the champions of this



Leather producers in Europe have asked for support to help them cement leather's circular credentials even further.

Credit: Première Vision.

paradigm shift," the paper concludes. "Those who have built their business models over the last two decades by capitalising on bringing increasing numbers of fashion lines and micro-collections to market at an ever-increasing pace, are strongly encouraged to internalise circularity principles and business models, reduce the number of collections per year, take responsibility and act to minimise their carbon and environmental footprints."

Leather manufacturers in Europe and in most of the rest of the world know this. Theirs is, after all, the best example there is of a circular-economy product. If the European Commission could find a way to meet the reasonable demands that COTANCE and its partner organisations have presented, it would help producers of leather improve further and communicate their positive circular message more effectively to the buying public. 🌱

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Leather industry hopes rose when Norway's consumer authority helped shine a bright light on the Higg MSI. The secretary of the International Council of Tanners has described the index as "fatally flawed".
Credit: Krumenauer/WTP

The Higg takes a hit

The Sustainable Apparel Coalition (SAC) has announced that it is temporarily halting its use of data from its Higg Materials Sustainability Index (MSI) as a "consumer-facing transparency programme". It has taken almost two years, but this more or less meets an earlier request from the leather industry; it asked that the SAC suspend the generic score it applies to leather and take time to consider newer, more accurate data for calculating leather's environmental impact.

Launched in 2012, the Higg Index aims to help brands, retailers and manufacturers assess the sustainability of materials for use in footwear, garments and other consumer products. It encourages brands to use the index to compare materials and choose the fibres with the best MSI score. A statement from leather industry organisations in 2020 said that an update to the index, published in August that year,

The leather industry has been waiting in hope for almost two years for the Sustainable Apparel Coalition to suspend the score it has devised for leather in its Higg Materials Sustainability Index. There was little sign of progress until, unexpectedly, the Norwegian Consumer Authority joined the fray.

had used “inappropriate methodologies” and “out-of-date, unrepresentative, inaccurate and incomplete data”, which led to leather being burdened with a disproportionately high MSI score.

Leading leather industry bodies, including the International Council of Tanners, the International Union of Leather Technologists’ and Chemists’ Societies, The Leather and Hide Council of America, and leather’s representative body in the European Union, COTANCE, insisted that the MSI was treating leather unfairly. Senior industry figures said they were certain this unfair treatment had resulted in some brands choosing synthetic materials instead of leather.

No change has come yet for the general score the index gives for leather, but large leather manufacturing groups, including PrimeAsia, Sadesa and JBS Couros, have been able to secure a lower score for their own products by amassing large amounts of data and engaging directly with the SAC to achieve company-specific improved scores.

Midway through 2022, help came from a perhaps unlikely source, the Norwegian Consumer Authority. Between February and June this year, the Norwegian Consumer Authority was in dialogue with the SAC and with one of its brand members, Oslo-based outdoor apparel brand Norrøna, inviting them to offer a convincing explanation of a claim Norrøna had made. The brand used data from the Higg MSI to present organic T-shirts in its range as more sustainable than garments made from standard cotton.

Water consumption is the impact category that shows the most significant reduction in environmental impact for organic cotton compared to conventional cotton, the authority said, and Norrøna had presented to its customers an estimated saving of 87%.

In a typically Norwegian understated way, it explained: “As far as we understand it, the real reason behind the substantial reduction in water consumption in global average numbers is because organic cotton farms, typically, are located in places with more rainfall compared to most conventional cotton farms. Thus, the real reason behind the reduction in water consumption is not because organic cotton farms always require less water compared to conventional cotton farms, but rather because of variations in rainfall in the regions where the respective cotton farms are located.”

It was one thing to say that, on average, across the globe, organic cotton offered some advantages, but a different matter altogether to tell the public that these global averages apply to specific garments from specific companies.

Based on this, with the likely impression on the average consumer in mind, it concluded: “The stated reductions in environmental impact of a specific organic cotton T-shirt compared to an equivalent T-shirt made from conventional cotton are, in our opinion, an oversimplified, inaccurate and imprecise depiction of the specific product’s true environmental performance.”

Norrøna and the SAC willingly entered into discussion with the consumer authority but failed to provide any satisfactory justification for the claims. In June, the consumer authority ruled that Norrøna could no longer include these claims in its product descriptions and marketing campaigns, and gave the brand until mid-August to change or remove them. Misleading consumers in marketing messages was in contravention of the Nordic country’s Marketing Control Act, it insisted, and it pointed out that these actions could



Leather manufacturing at one of JBS Couros’ tanneries. The group is one of three to have secured a company-specific score for its leather on the Higg MSI.

Credit: JBS Couros.

potentially break the law in other countries, too.

It was far from finished. Turning its scrutiny to the SAC directly, it said that if its member companies, as in this case Norrøna, use data from the Higg MSI as the basis for misleading marketing messages, the SAC could face “possible liability as an accessory”. It told the San Francisco-based organisation: “We would like to remind you that, besides the traders marketing a product, the SAC has a separate responsibility for any marketing that uses the Higg MSI or Higg MSI data. The SAC should take steps to ensure that the use of the Higg MSI by traders complies with the rules of the Marketing Control Act.”

It suggested that the SAC should not allow partners to use the Higg MSI for consumer-facing marketing purposes. It suggested the organisation should inform all members that the index should not be used for this purpose. It issued a further reminder to the SAC that it has the authority to impose economic sanctions on any organisation with proven liability as an accessory. It was this reminder that led to the SAC’s announcement at the end of June that it was temporarily halting its use of data from the Higg MSI as a “consumer-facing transparency programme”.

Chief executive, Amina Razvi, said the organisation remained “fully committed to the use of standardised data to empower better decision-making”, but added that additional challenges arose from translating data from a lifecycle assessment exercise, which is typically what feeds the Higg MSI, into information for consumers. She said the SAC would work with its partners to figure out the best way of doing this translation work and, afterwards, reactivate the programme.

Reacting to the SAC announcement, the secretary to the International Council of Tanners, Dr Kerry Senior, said that leather and other natural fibres had suffered harm to their reputations in the eyes of brands and consumers. He added: “The damage can’t be undone but at least it is now evident that it [the MSI] is a fatally flawed metric. If the failings are true in Norway, they are true everywhere else.”

He expressed hoped that this interruption to the Higg MSI would lead to a shift and said he hoped “a system that properly and fully represents the environmental impact of materials” would come in its wake. 🌱



Loewe has introduced a range of basket-bag styles with leather strips.

CREDIT: Loewe.



Loewe and the basket-cases



A new project from Loewe shows the important role leather can play in giving new life to old things, in this case baskets of different shapes and sizes. With the title ‘Weave, Restore, Renew’, the Madrid-based brand commissioned artisans in different parts of Spain to use ancient techniques in leathercraft and basket-weaving to restore abandoned objects. The designers used strips of surplus leather from Loewe’s accessories production to create a series of objects that went on display at the 2022 Salone del Mobile in Milan. It has now made some of the basket-bag styles that emerged from the project into a new collection for its customers to purchase.

Loewe says it wanted to showcase the beauty that repaired objects can have, taking inspiration from *kintsugi*, the Japanese art of repairing pottery. Among the notions that *kintsugi* gently puts across is that there is no need to throw something away if it no longer looks brand new. If imperfections are still visible after repair, the viewer should interpret these as a valid part of the object’s noble past; an effective repair can make it usable again and endow it with a new and different beauty.

Sustainable centrepieces

For Weave, Restore, Renew, Loewe’s starting point was a series of antique woven baskets from around the world, which artisans Idoia Cuesta, Juan Manuel Marcilla Marín, Belén Martínez and Santiago Besteiro restored. They used

Leathergoods brand Loewe used the 2022 Salone del Mobile in Milan as a platform for ‘Weave, Restore, Renew’, a project that breathes new life into old objects and materials.

leather to refurbish raffia, wicker and straw weaves in the baskets. In this way, they created some of the centrepieces of the display that the brand presented in Milan and embodied the conviction of creative director, Jonathan Anderson, that craft must be sustainable to be authentic.

Barcelona-based Belén Martínez says she enjoyed working on the project because it struck her as being in complete contrast to the way much of modern life happens. “Everything now seems to be about immediacy,” she says, “with everyone putting on display what they are doing at any given moment. This was a lovely project because, for most of the time, we were out of sight, working away, calmly and without any stress, as though on something secret, a treasure.”

For her part, Idoia Cuesta, a textile designer and leather artisan based in a small town near Lugo in the far north-west of Spain, says she enjoyed working on her contribution to the



concept because of the opportunity it gave her to bring an abandoned object back to life. "Because a basket has had a life," she explains. "It has been used in different situations and different places. This project has been an opportunity to have an object like that in my hands and be able to see where the damage is, look after it, pamper it and repair it."

Skills that survive

Ms Cuesta has combined basket-weaving techniques and her skill with leather to produce designs for Loewe in the recent past. She took part in a 2019 project that invited basket-weavers from a variety of traditions to incorporate thin strips of Loewe leather into their work. She said she loved the initiative, which involved basketry experts from Japan and Ireland, as well as from Spain. "Basket-weaving is spread throughout all the countries of the world," she said at the time. "The fibres people use may change, but I think the techniques have been passed on from generation to generation and have survived."

Following this, Jonathan Anderson picked out something Idoia Cuesta created as one of the highlights of the Loewe spring-summer 2021 collection: a braided top made from strands of calfskin. "The basket became the top, the top became the basket," the creative director said, adding that he found it interesting that basket-weaving techniques that had been around for generation after generation could still



For a project the brand called 'Weave, Restore, Renew', it invited four craftspeople to use strips of surplus leather from its accessories production to restore discarded baskets of different shapes and sizes.

CREDIT: Loewe.

help create such a contemporary effect.

Life is a dream

Returning to 2022, Santiago Besteiro is another designer who is based in a small, rural community in Galicia. Leathergoods is his specialism and he, too, had worked with Loewe before. He applies what he calls a contemporary perspective to his work with leather and creates pieces that he claims owe much to sculpture, all of which came in useful for repairing an old, abandoned basket.

For the Weave, Restore, Renew project, though, he says the most

important 'tool' he had to have at his disposal was his imagination. The basket he worked on as part of the project was in the shape of a large, elongated oval. "I had to think about how an artisan had created this basket," he says, "and the task was to rethink the work of that other person." Using strips of leather to repair the basket involved "finding a solution that wasn't written down anywhere and that no one had taught me before". To do this, Mr Besteiro says it was essential for him to give free rein to his imagination.

The fourth of the basket-repairers, Juan Manuel Marcilla Marín, echoed this thought. "If I don't find myself dreaming about a piece I have to design, I cannot make it," he says. Less used to leather, Mr Marcilla works in Lezuza, a village in Albacete in La Mancha. He is an artisan weaver, working mostly with wicker, but leather also featured in his contribution to the Salone del Mobile exhibition.

What happened in Milan was a continuation of the initial basket-weaving project from 2019. Loewe says it wanted to introduce "the nuances of a new material" to practitioners of the skills and techniques involved in basket-making craft, some of whom had not used the new material before. This new material is, of course, leather, which has shown itself once again in these basket-case initiatives at Loewe to work wonderfully with other natural materials, to lend longevity to products and to allow designers to turn their dreams into reality. 🌱



Loewe's special display for the 2022 edition of the Salone del Mobile in Milan.

Credit: Loewe



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Limited-edition bags from Phi 1.618. The Paris-based brand uses leather from high-end French tanners, but only sources hides that are surplus to the requirements of the most prominent luxury brands.

Credit: Phi 1.618.



Numbers game



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SMEs



GREEN JOBS

Paris-based leathergoods brand Phi 1.618 launched in 2019 at the hands of former international media lawyer, Juliette Angeletti. In spite of covid-19 lockdowns, the company has already managed to build up an enthusiastic following and applies a special nickname, 'Les Phidèles', to its most faithful customers. Numbers are growing and, for this brand, numbers matter, although not exclusively in the way they usually do for businesses.

The start-up is committed to environmental responsibility and selects for its products unused, surplus full-grain hides from tanners that supply much bigger luxury brands. All of this leather and all of the brand's finished products are made in France. "This aspect is very important for me," Ms Angeletti says, "because French know-how is so well known around the world. I am not speaking about me, but about the master artisans that we have here; they are really incredible."

She may not put herself at those exalted levels, but Juliette Angeletti is also a qualified artisan, having completed a Certificate d'Aptitude Professionnelle (CAP) diploma in 2018 while she was still working for a digital media company, devoting much of her spare time to it, taking classes and putting herself through a gruelling, practical final exam in which she had 12 hours over one-and-a-half days in which to create and construct a leather product. "I've always been creative since I was a child," she explains. I was always drawing or painting, and later I took up Japanese embroidery and sewed many of my own clothes. Making things with my

Former lawyer Juliette Angeletti has found designing handbags to be the perfect way of combining her fascination with the Golden Ratio, her love of traditional French craft skills, and her commitment to upcycling and environmentally responsible production.

hands was always very important. Then I came to leather because I love bags and accessories. I decided to do the CAP and become an official artisan." In no time at all, this led to the launch of Phi 1.618.

The brand has a base at La Caserne, an accelerator programme near Paris's Gare de l'Est and Gare du Nord that aims to help new, artisan manufacturers become part of the leathergoods and fashion scene, with the emphasis on eco-responsible production. The set-up, which opened in 2021, encourages interaction among the companies that have established themselves there and with the public. Allowing shoppers to see how artisans work gives an interesting, added



dimension to the project, Ms Angeletti argues. The city authorities decided this was a good way to give new life to a large, renovated former fire-station. "There are 40 of us at the moment," she explains. "We are being incubated together, like in a greenhouse."

She goes on to point out that 15 of the 40 companies work with leather and have a fully equipped, shared workshop on the site of La Caserne, established with the support of luxury group Kering. The start-ups that are focused on apparel and other fashion segments have a separate workshop with different machines. All of the start-ups are there for a three-year residence period. "We share our successes and also our problems with each other. We are all from different backgrounds and are all at different stages in our development and we try to find solutions together," she says. "I feel very lucky to be part of it."

Pursuit of perfection

Ms Angeletti's inspiration for her name of the brand is the Phi Golden Ratio, which ancient Greek thinkers believed gave the most aesthetically pleasing shapes, principally a rectangle with sides in the proportion of approximately eight:five, but often with triangles, circles and other shapes embedded into it. She has worked this into the design of her bags, belts and bracelets.

The name points to precision and perfection, she explains, a perfection that is often present in the world around us. She continues: "The forms and shapes I want to use have been in nature for millions of years. The ratio, 1.618, is also called The Divine Proportion, and using it to make these products means the forms are natural. It's not a question of fashion; I am not a fan of fast fashion." The shapes and proportions she incorporates into her products are intended to create an overall look that will last a long time because they will always be pleasing to the eye. Over centuries, scholars have spoken of the influence of The Golden Ratio on a large number of famous artists including Leonardo Da Vinci, Botticelli, Salvador Dalí, Piet Mondrian and Albert Gleizes. Famous composers, including JS Bach, Mozart, Debussy, Bartok and Satie, are said to have incorporated the same idea into pieces of music they wrote. It is also an important component of the art of feng shui, which purports to aid harmony between individuals and their immediate surroundings.



Huge playground

Her determination to keep to the proportions of the Golden Ratio presents Juliette Angeletti with what she describes as a constraint in terms of the products she can design and create, but because the Golden Ratio is present in many objects we contemplate and admire frequently, her scope is still extensive enough. "In fact it is a huge playground," she says, "because the Golden Ratio is everywhere. You can see it in the heart of sunflowers, in the gaps between leaves on the branch of a tree, in the nautilus seashell, in the Parthenon in Athens, the Egyptian pyramids and in Gothic cathedrals."

From the world of art, her favourite representative paintings include Botticelli's *Spring*, specifically the figures of The Three Graces who are among the subjects, the same painter's *Birth of Venus*, Leonardo da Vinci's *Vitruvian Man*, and Dalí's *Sacrament of the Last Supper*. "It's also part of us," she points out, "because many people's forearms are 1.618 times longer than their hands, and the Golden Ratio is also present in our DNA formations."

The art of sourcing leather

To bring the conversation back to leather and bags, she explains that she picks out every single hide she uses, and she is very particular about how she goes about this. Nevertheless, she has had to work hard to gain access to the material she wants and sourcing leather still takes up a large amount of her time. She says she enjoys it. "It's a very closed world," she explains, "but I now have access to the exceptionally high-quality tanners

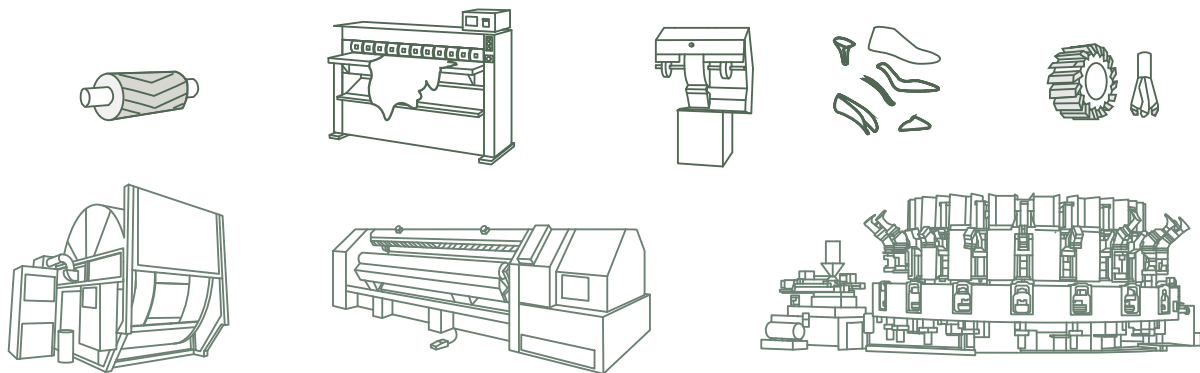
Spring, with The Three Graces on the left, demonstrating Botticelli's love of the Golden Ratio.

Credit: Paolo Gallo/Shutterstock

that the major French brands use. They make the highest-quality leather there is." Here is how this came about. Ms Angeletti put huge effort into building up trust with these tanners and with the buyers of leather of some of the major brands. After about a year, they accepted that she presented no threat to them, that copying anyone else's product styles formed no part of her plan and that she was acting in good faith.

She holds many of these more established brands in high esteem. In particular, she admires the levels of quality and attention to detail that are on show in bags by Hermès and Delvaux and, although she says these brands are working at levels "far above mine", her appreciation of the work that goes into their bags is real and her interest is keen. She likes the fact that, while these brands do introduce new collections regularly, iconic items such as Hermès's Kelly and Birkin bags continue to be produced year after year.

Her bridge-building work has paid off. The leather manufacturers are now content to let Phi 1.618 source material in this way, snapping up the excess from the articles the brands they work for have specified for previous collections. If there is a downside, it is that the start-up brand has to make do with material and colours that are left over after the big brands have consumed as much as they want. "I can go and choose what I



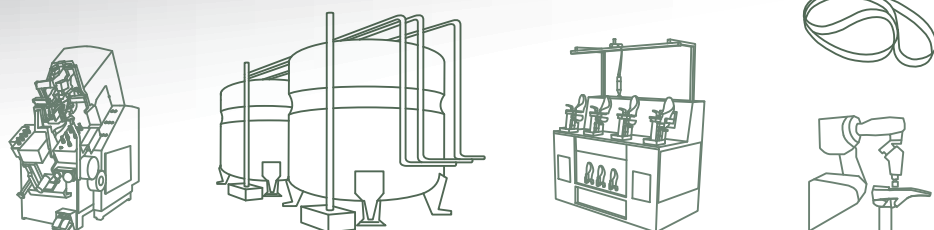
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want,” Ms Angeletti says, “but it has to be from what they have extra.” She explains that if a big leathergoods brand decides it wants 1,000 hides of a particular specification in a particular colour, the tanner will often process more than 1,000, mostly to give something of a buffer in case of follow-up orders. If, in time, these hides remain unused, Phi 1.618 is able to buy them if it wishes.

Limited edition

Whether it wants to or not depends on the material’s suitability for the brand’s own needs and its customers’ preferences. She is under no contractual obligation to buy any specific volume. However, she does need to use this system to try to find the leather she needs for every bag she makes; she is not in a position to dictate to the tanners what they should produce and she finds herself working with a list of items to search for among the leather manufacturers’ leftovers. Some of the time, though, she is able to rely on the tanners to know what she is looking for and call her when the leather becomes available; the relationships she has built up are strong enough for that, and she believes that one of the reasons for her close connection to these tanners is that they recognise her as someone who is an ardent supporter of leather.

“I have access to this leather, then, but only in small quantities per colour,” the founder says. “This means my bags are very limited-edition, and they are all numbered. That’s interesting for clients, though, because it means they are very unlikely to find anyone in their local area with the same bag.” This, she argues, is also part of a commitment to environmental responsibility. There will not be new Phi 1.618 collections every six months, and although the brand will try to introduce new colours from time to time to offer Les Phidèles an opportunity to vary their look, the expectation is that they will demonstrate their fidelity by keeping and using the bags for a long time.

A different design

In terms of design, the lawyer-turned-leathergoods-entrepreneur knew she wanted “something different” from a standard tote bag. She likes her styles to be plain, with no metal or wood detail on show. She says it’s important for her to have designs that are “the purest possible” and for the viewer’s eye not to be distracted from the leather. The Golden Ratio features, of course. The Philo bag, for example, is round,



Phi 1.618 founder, Juliette Angeletti, develops her own designs and prototypes, but outsources production to an independent atelier in the Centre-Val de Loire region of France.

Credit: Phi 1.618.

but takes its inspiration from Da Vinci’s Vitruvian Man. More rectangular bags, such as the Phiori, have pleats [see front cover]. If you unfold all of the pleats in a Phiori bag, you will end up with a leather rectangle. And if you measure the width and the height and divide the higher number by the lower, you will, of course, end up with 1.618. The idea of incorporating pleats pleased Juliette Angeletti, but she soon realised that placing pleats in a piece of leather, in exactly the right positions, was a specialist job, “an art that I did not know”.

She drew what she wanted and used heated tools to attempt to put pleats into leather on her own, only to find the material had gone flat again by morning. She approached a master of origami, the Japanese practice of paper-folding, Paris-based Junior Fritz Jacquet. Using paper, Mr Jacquet was able to create in three dimensions what she had drawn. “It worked with paper,” she explains. “It allowed me to see how the volumes played out, but it still wouldn’t work with leather.”

Her next port of call was to another artisan, a master pleat-maker, Karen Grigorian, who works with many of the Paris-based luxury houses to apply pleats to a wide range of objects in a variety of materials. Ms Angeletti showed him her drawings and the paper model of the yet-to-be-realised Phiori bag. Then it occurred to her that perhaps the best way to solve the conundrum would be to have the two master craftsmen work together. It worked and the result was a first prototype of the Phiori.

The brand’s name comes from the Phi Golden Ratio, which ancient Greek thinkers believed gave the most aesthetically pleasing shapes: often a rectangle, but frequently with triangles, circles and other shapes embedded into it.

Credit: Phi 1.618.



Reliable feedback

Usually without having to call in experts from other crafts, and taking advantage of the facilities available at La Caserne, she constructs a first prototype for any bag she is thinking of creating and examines it carefully to find ways of making it better. This leads to a second prototype, which she gives to friends and some of Les Phidèles to see if they see things that need further improvement. She incorporates their feedback into a third prototype, which is usually the last one and the version that goes into production.

This leads us to the next chapter of the Phi 1.618 story. Production of the brand's bags takes place in a small independent leathersgoods workshop in the Centre-Val de Loire region of France, about 200 kilometres south-west of the capital. "This is my usual workshop," Ms Angeletti says, "and it is exceptional. I am very lucky to work with it."

Strong relationship-building here too allowed her to be part of the transformation of the recommendations and advice of Mr Jacquet and Mr Grigorian into the finished Phiori. Mr Grigorian, for example, insisted that it was worth trying to use lambskin in this project because he had always found it easiest to pleat. But it was too small for the Phi 1.618 design. Then he suggested deer, which was too soft. What worked in the end was calfskin of a thickness of between 0.8 and 1 millimetre. "It cannot be thinner or thicker than this," the brand's founder says. "Otherwise it does not work. So, here the sourcing is very important again."

This experience has served only to make her commitment to sourcing leather and manufacturing her bags in France

even stronger. She says she always knew this would cost and she calculates that her production set-up is probably twice as expensive as it would be to have something similar in Italy, three times more expensive compared to Portugal and as much as eight or even ten times more expensive than it would have been to set up a production flow with partners in North Africa. She believes it will pay off.

Shop talk

Famous Parisian department store Printemps has been sufficiently impressed by the development at La Caserne to have planned a special section for 12 of the leathersgoods brands that are part of the accelerator programme to sell in store what they make. This will come about later this year. Juliette Angeletti, who had contacts at Printemps, was instrumental in setting this up. She says Printemps will take this further and make a similar arrangement for La Caserne's fashion start-ups, too, from the start of 2023. For some time, there has been plenty of interest at Printemps in vintage products, including vintage leathersgoods. The project with Phi 1.618 and the other La Caserne brands introduces a new dimension: upcycling.

In addition, the brand has its own boutique in the rue du Bac in central Paris and has stockists in four other cities in France, two in Italy, two in the US and one in Japan. It also has its own online sales operation, but online-only is not the way forward for it. Juliette Angeletti wants shoppers to have the chance to see her products in real life and for these to make an impression and resonate in exactly the same way as other objects created in keeping with the Golden Ratio do. ☺

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Givenchy's collection includes pieces made with leather offcuts laminated for a "luxe" look.

Credit: Givenchy

Fashion shows go big on upcycled leather



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RECYCLED

Brands big and small have relished the post-pandemic return of in-person catwalks and 'tableaux vivants' this year. In July, at a particularly eye-catching event at the start of the new défilé season, the fashion and leathersgoods houses of luxury group LVMH strutted their visions of what is next for men's fashion. Fendi, Givenchy, Louis Vuitton, Dior, Loewe, Kenzo and Céline put on spring-summer 2023 Fashion Week shows in Milan and Paris that were full of colourful leathers, unconventional forms, and unexpected pairings. (Is that a mobile phone case fused onto your yellow leather jacket? Why, yes, it is.) This imaginative spirit, which also incorporated the innovative use of upcycled materials, gives a glimpse of what we can hope to see more of in 2023.

At the start of the summer, a leading topic of conversation among fashion-watchers across Europe, following Fashion Week shows in Milan and Paris, was the creative use of leather in spring-summer 2023 collections.



Loewe's leather jackets with tech relics attached is "a fusion of the organic and the fabricated."

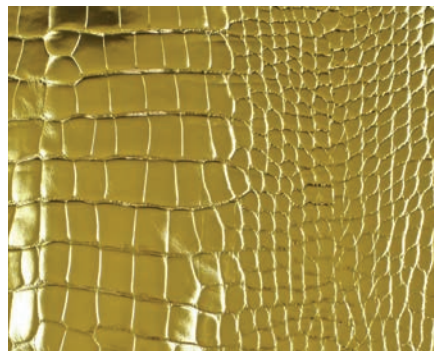
Credit: Loewe

Williams weaves in leather offcuts

Givenchy's show stood out as a debut of sorts for the luxury brand's relatively new creative director, Matthew M Williams. This was his first men's-only ready-to-wear show; Mr Williams was appointed to the role during the tumultuous summer of 2020. The pandemic meant his early collections for the brand were revealed digitally, and then last year his first live show featured both women's and menswear. This July's show, held at École Militaire in Paris, was thought to be an important indicator of what is ahead for the luxury house: it looks promising both for leather and for upcycling.

The vibe of the show was a natural extension of what the world has seen from Mr Williams prior to his joining Givenchy. An American who grew up in California, Mr Williams replaced British designer Clare Waight Keller who held the role for three years and was known for a romantic, feminine style (she also designed Meghan Markle's dress when she married the UK's Prince Harry in 2018). Matthew M Williams, on the

other hand, is associated with a more functional, edgy style; his own brand, 1017 ALYX 9SM, which he founded in 2015, describes itself as '[marrying] luxury streetwear with high fashion and leatherwear, taking cues from California and NYC skate, punk and club subcultures'. In addition to his founding of Alyx, the 36-year-old has worked with numerous celebrities, including fashion icons Lady Gaga and



Laminating leather can achieve a vast array of finishes.

Credit: BuyLeatherOnline Italy

Kanye West. As for his environmental credentials, Mr Williams' ALYX Visual diffusion collection, from 2018, was made entirely from upcycled cotton from pre-used clothing. He also unveiled a blockchain-powered pilot programme in 2019 to help address supply chain transparency.

There was much that was worthy of a closer look in his Givenchy collection for spring-summer 2023, including a jacket that had the appearance of nylon but was actually a lightweight leather, and other pieces with which the designer investigates "the societal uniforms of his native America to create a contemporary wardrobe, applying the savoir-faire of the Paris ateliers".

One of his most stand-out pieces was a jacket featuring leather offcuts. "The play of fabrics also includes pieces made from a patchwork of upcycled leather offcuts," says LVMH, "laminated for a super-luxe look."

Givenchy doesn't provide details about the origin and nature of the offcuts, but *World Leather* spoke to Tommaso Ciardi, project manager of BuyLeatherOnline (a



wholesale supplier of leathers from the Badalassi, Tempesti, and Walpier tanneries in Tuscany) about the process and what type of leather Mr Williams may have used.

According to Mr Ciardi, lamination, which typically takes one or two days, is usually done on lambskins or on bovine leather, in particular calf sides. “Chrome-tanned or synthetic-tanned leather, with low thickness, is the most suitable,” he says, but “it is also possible to produce it on veg-tan.”

While it is not clear from Givenchy’s description at what point the offcuts became laminated, it’s likely that the pieces used in the collection were the remnants of laminated leather, rather than unfinished scraps that were then laminated. “It is not possible — or convenient — to finish small pieces like scraps,” Mr Ciardi points out.

Laminated leather has been around for decades, Mr Ciardi points out, and is popular because of its versatility. His company describes uses that range from leather finishes that are “subtle if opaque and neutral in colour” to “aggressive, flashy and lively”.

Mr Williams’ incorporation of thoughtful details like the patchwork of laminated offcuts makes sense for a designer who has spoken frequently about his focus on technique, craftsmanship, and sustainable fabrication. He has masterfully repurposed in a way that is both useful and beautiful what otherwise might have ended up in a trash heap.

LV and Loewe play with leather

For the group’s Louis Vuitton brand, the show was in many ways an homage to the spirit of the late Virgil Abloh, the brand’s artistic director who died in November 2021 at the age of 41 after an unpublicised battle with cancer. Though LV paid tribute to Mr Abloh at a planned show that was held only days after his death (with the family’s blessing), this spring-summer 2023 collection was an opportunity to celebrate his legacy and the brand’s next chapter. “It explores the relationship between imagination and reality and brings together creative minds into the ecosystem that welcomed Virgil Abloh in 2018,” according to the brand, “and that strives for creatorship, craftsmanship and showmanship.”

Among the inventive uses of leather at the LV show were what appeared to be jaunty folded paper hats donned by the runway models, though in this case the childhood staple had been recreated with white and black leather. Leather was also prominent in the colourful bold imagery, often cartoon-like, whether appearing as part of accessories, decorations or the clothing itself — for example, patent leather suits were given an irreverent crackly appearance.

Another of LVMH’s fashion houses, Loewe, sought to fuse nature and technology with a unique leather jacket, which hit just below the knee and was presented in a variety of colours. The monochromatic piece looked sleek and simple from a distance. However, up close it became clear that a number of techy objects — such as earphones, a pen drive, and a phone case — had been affixed to the leather, each in the same colour as the jacket so they appeared to have become one. Admittedly the leather jacket was a tad upstaged by shoes, tops and jeans that literally had grass growing from them, but that’s for another magazine to explore.



Louis Vuitton’s playful show featured “paper” hats made from white leather.

Credit: Louis Vuitton

A focus on upcycling

It’s also worth mentioning that Louis Vuitton highlighted its green ambitions, saying the collection’s accessories, bags, and shoes “redefine the Upcycling Ideology, while keeping a playful stance”. The Upcycling Ideology, as described by Virgil Abloh, “seeks to de-programme our minds from the images of obsolescence that lead to overload, overproduction and waste”. Mr Abloh wrote in last summer’s show notes that the Upcycling Ideology was to be “a permanent part of the Louis Vuitton men’s collections.”

As for Mr Williams, we can expect a continuation of upcycled materials in his collections, too. Though he is still only two years into his time with Givenchy, LVMH chief executive, Sidney Toledano, has said of the designer: “His singular vision of modernity will be a great opportunity for Givenchy to write its new chapter with strength and success.” It seems fair to expect, then, that his tenure will last for years to come.

With the sustainability-minded Mr Williams at the creative helm for Givenchy and the embedding of an upcycling ethos at Louis Vuitton, we can also expect to see more from LVMH in the area of repurposed leather. 🌱

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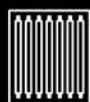


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Hit for six

There are millions of people around the world who appreciate the perfection in a cricket ball. What happens to a ball during a game can be critical to over a billion people worldwide, from New Zealand, Australia and South Africa in the southern hemisphere to Pakistan, India, and England in the northern hemisphere, as well as among the Caribbean nations. Players and fans are found in the Netherlands and Ireland, as well as unlikely places like Israel, the tiny island of Corfu and Afghanistan.

While the Baseball World Series is only played between teams, well, in the US and one in Canada, the World Cricket Cup has been competed for by 20 nations. In fact, some 100 countries are affiliated to the International Cricket Council (ICC).

Survival

The rules of the game can be confusing to the uninitiated, but suffice to say the ball needs to survive for at least the 480 times that it is bowled, at speeds up to about 100mph (160kmh) to a batsman some 22 yards (20+m) away, before it is considered that it has suffered enough after having been hit along the ground, in the air, or even out of the ground or stadium for distances up to some 160 yards (150m). If a batsman hits the ball over the boundary without it touching the ground, he scores six runs — which is where the expression 'hit for six' originates. No bowler likes being hit for six.

As we have indicated, the rules of the game can sound odd but the principles are simple: the team that scores the most runs wins the games. (We will ignore the fact that international matches can last five days and end in a draw!) The weight and size of the bat, traditionally made from willow wood, can vary. The specifications for the ball, however, are strictly regulated.

What makes the perfect cricket ball

The cricket balls used for top matches are covered in leather, but not just any leather and it can take up to eight months to produce each one. There are very few companies that are able to manufacture the balls to the standards set by the ICC. One of the oldest is Dukes. Founded in 1760, with possible history dating back a further 250 years, the production was to be founded next door to the Duke family home in Penhurst, Kent, where six saddlers were employed to stitch the leather balls. Over time and with various mergers, by 1986, the Dukes name continued but today the balls are now made by The British Cricketball Company, under the directorship of Dilip Jajodia, previous sales director for Dukes.

Very little is known about the tannage of the original leather, but a patent filed in 1897 by Dukes makes reference to chrome tanned leather for covers. A production very much in its infancy (chrome tanning originated in the early 1800s) it was probably used to replace the abundant availability of thick and heavy vegetable tanned leather used by local cobblers and saddle makers. This chrome tanned leather was likely to be hard and thin and perfect for cricket balls. That said, with historical reference to "white" leathers being used as far back as the 1850s, and a history dating back even further, it wasn't until 1981 that the British Standards Specification for Test and County cricket balls stipulated that aluminium (alum) tanned leather be used. It also specifies that the ball should weigh between 5.5 and 5.75 ounces (155.9g and 163g) and have a circumference of 22.4 to 22.9 cm. Further aspects to the ball, although not a legal stipulation, is that better quality balls have 80 stitches for the circumference of one seam; lower quality balls have around 50 due to the thicker thread used.



For the games played in England, the ball must be totally hand stitched. Firmly clamped together to create a raised seam, the ball is meticulously hand stitched to give the classic seam.

Making the grade

Selected from pale coloured heavy cattle hides, with dark haired varieties being rejected as the pigmentation adversely affects the aesthetics of the finished ball, the hides are trimmed into butts – this being the prime part of the hide – without shoulders or bellies, and tannage is carried out using aluminium salts to create a pure white leather. In this uncoloured state, some productions could continue to create a white ball (or many of the other fashionable colours) with a pigmented surface but for the classic red ball, the leather is cut down the spine to form two “bends” and dyed to a pale but vibrant red colour (think old British telephone box) and dried out. In this dried state it is ready for the ball manufacturer.

With the fibre structure nearest the spine being the most consistent, the bends are cut into six-inch strips, the one nearest the spine being classified for best balls and with subsequent grading out towards the belly edge for the remaining strips – with a bend being roughly 26 inches wide (and 48 inches long), approximately 4 strips would be obtained per bend. The leather strips are then moistened and manually manipulated in a staking type operation to soften the fibres, taking out as much natural stretch as possible and finally re-dried under tension, then split to a level thickness. Depending on the ball to be made, this would be between 2.5 and 3.5mm. With each ball made from four quarters, covering a twine wrapped cork filler, there are actually two seams on a ball, one clearly visible with the classic six rows of waxed thread visible around the circumference – used expertly by the bowlers to good effect to aid spin and unpredictable bounce. The other seam is internal and invisible, running perpendicular to the visible one. For the English ball, all this must be hand stitched,



Cricket balls in the final stages of production, having a hand applied coat of polish.

a labour-intensive process that takes expertise and time to get right, something that between 1986 and 2005 was carried out at Dukes premises in Walthamstow, London. The majority of the operation is now conducted in Pakistan with only the final stages of the operation taking place in the UK.

Once the ball is “closed”, the seam is hammered flat and then the whole ball is immersed in wax – historically this was buck (deer) fat, but latterly this has been replaced with a synthetic alternative. The final operations see the ball pressed to shape, and the familiar gold foil “branding” applied – identifying the manufacturer, ball weight and club/county level for which it can be used.

One of the reasons for the wax dipping is to add some water resistance to the leather. Aluminium tanned leathers are notoriously hygroscopic – they absorb water readily. Being full aniline and very lightly finished, the ball, once it has been played through the outfield a few times, will start to lose the protection of the outer finish and whilst the wicket will be desert dry, the somewhat lush grass of the outfield may be moist. Without the added water repellence from the fat, the leather would soon start to absorb excess water and subsequently soften and potentially go out of shape.

Another property this adds is the ability to polish and shine the ball. Whether this was ever intentional is unknown but, by polishing one side of the ball, leaving the other rough, allows the ball to move in the air – in the direction the smooth side is pointing as this side will effectively move more quickly through the air; this is referred to as the swing and depending on how the bowler holds the ball can be an out swinger or an inswinger.

With little changed in the ball design or technology over the last 100 years, it is a wonder, in the modern game with bats designed for optimum performance and the batters trained as athletes, just how the ball survives, but judging by the recent international test matches, the sound of leather on willow will survive many more innings. 🏏

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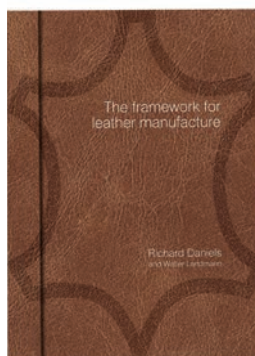
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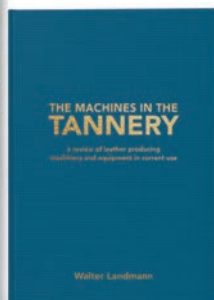
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