



Silvateam’s facility at San Michele Mondovì, surrounded by forests and the snow-capped Alps. Silvateam believes LCA results should reflect the local situation when it comes to calculating impact.

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## For the long haul



There is an intriguing touch of irony in the unhurried approach that leather chemicals group Silvateam is adopting in its work on lifecycle analysis (LCA). Director of the group’s leather business unit, Antonio Battaglia, says it is only really in the last year or so that some urgency has come into the leather industry’s LCA conversation. A pick-up in the pace led specialist consultancy Spin 360 to host a dedicated workshop on the subject at the September 2022 edition of Lineapelle. Earlier that month, the same topic came up during a number of conversations at the Sustainable Leather Forum in Paris. During one of these, Antonio Battaglia’s fellow Silvateam director (and brother) Michele made it clear that LCA is a continuous improvement process. He says it is important for all of the actors in the industry to start measuring impact so that they can all improve the accuracy of their numbers and take actions to reduce their carbon footprint. At present, he insists, only primary data can be taken as trustworthy. Data from non-primary sources must be used with caution. There can be major errors inside those numbers, he warns, and at the moment any decisions companies take based on LCA assessments that use non-primary data could even, potentially, increase their carbon emissions.

Antonio Battaglia confirms that the group is taking a long-term, 360-degree view. His brother’s specific focus is on a different (although connected) project for the company’s animal nutrition business unit, a project to examine the effect on upstream carbon emissions of using quebracho

*Leather chemicals group Silvateam began its work on collecting lifecycle analysis (LCA) data for its tanning agents in 2015. It believes it still has years of LCA work ahead of it.*

and chestnut extracts in cattle feed. The connection with the leather business unit is that companies with a high level of control over the whole supply chain (animal, hide, leather, leather products) will be able to use the data that emerges from this project to produce a low-emission or even carbon-positive leather in the near future. He sums this up by saying that giving cattle carefully produced tannin-based feed will help produce hides that have a much lower impact. This, too, is part of taking the long view. “Real, trusted numbers are important,” he says, “and we definitely want them for the future.”

### Science-based

It is in this insistence on there being no need to race to the LCA finish-line (if there is one) that the irony occurs. Silvateam’s foundation work on lifecycle analysis began as long ago as 2015, which means it had a head-start on most

of its peers. According to the founder of Spin 360, Federico Brugnoli, Silvateam has been a pioneer of LCA in leather chemicals, taking up the challenge at a time, he says, when there was little evidence of the potential returns. “It is important to underline that this approach was always science-based,” Mr Brugnoli says, “and driven by the need to understand more about the role that data can play.” He says that it is essential to capture accurate data relating to the sourcing of raw materials, which in Silvateam’s case means extracts from chestnut, quebracho and tara. Capturing data on the way these extracts work with other products in the tannery is the second part of this task. Having this data is becoming increasingly important, the Spin 360 founder says, at strategic and at commercial levels. He insists the relationship that his organisation has built up with the research and development and senior management teams at Silvateam bear this out.

“We were pioneers,” Antonio Battaglia agrees, “because we were the first to register an LCA process for tanning agents and we used it to carry out analyses of four of our products. Four products may seem like not many, but those four products accounted for something like 50% of our sales in the leather industry. There was hardly anyone in the leather manufacturing world looking at LCA at the time and we put the work we had done in a drawer. Then, more recently, leather manufacturers did start to become interested but many were using numbers based on averages and less qualitative proxies and we realised that there would be a lot of interest in our numbers because they are based on real, primary data.”

Work to build on the original four LCA studies began right away and now Silvateam has completed analysis of 50 of its top products, accounting for 90% of its sales. The plan now is to complete LCA exercises for another 30 or 40 Silvateam products in the next year. Day-to-day, month-to-month, this takes up a substantial number of work hours, but the company continues to work with Spin 360 to take the project forward. Together, they have developed a tool for its Ecotan technologies, which are in use among tanners producing leather for automotive, footwear and fashion. The Ecotan concept means using only natural products to make leather and finished leather products, with specialist partners



*Tannin in powder form extracted from a renewable resource, chestnut.*

ready take the material back at the end of a product’s useful life for use in fertiliser. This makes the idea “truly circular”, Silvateam has said. With the new tool, it will now be able to calculate the impact of the whole range. “This is for the technology,” Mr Battaglia insists. “It is not the final number because the tanners will each have their own final numbers based on the work that they do in their tanneries, but they can use our data to help them calculate those numbers and also as a benchmark.”

**Quantity and quality**

As an example of the important developments to have come already from this work on Ecotan, Mr Battaglia points to the difference that changes to upstream activity can make to overall impact. “Our range is mostly based on natural tannins,” he says, “and they have all the advantages that bio-products can offer. But it’s also true that tanners have, typically, needed to use a greater volume of these tanning products than the volumes they would use in a standard chrome or aluminium tanning process. Using more volume has a greater impact from an LCA point of view.” There is, of course, a strong argument for presenting leather tanned in this way, which may well be in use for 100 years, as an



*Silvateam states specialist partners will take the Ecotan material back at the end of a product’s useful life for use in fertiliser, making the products “truly circular”.*



*The Ecotan concept means using only natural products to make leather and finished leather products.*



Specialist consultancy Spin 360 has worked with Silvateam to develop a dedicated LCA tool for calculating the impact of all the products in the Ecotan range.



The trees in the managed forests around Silvateam's facility in San Michele Mondovì in Italy renew themselves.

important means of storing some of the biogenic carbon that the plants themselves stored. However, LCA is more concerned with immediate impacts, such as energy use. He explains that LCA has allowed the company to address this and find ways of lowering the impact of the energy supply involved in producing its tanning agents.

In 2022, it completed a project to use 100% biomass as the source of energy at its factory for quebracho extraction in La Escondida in Argentina, achieving an excess of 80 gigawatt-hours per year of green energy, which the company has been able to sell to the grid. The company has started a similar project at its facility for chestnut extraction at San Michele Mondovì in northern Italy. The second project will be complete in 2025. This green energy transition is one of a series of steps it has taken to be able to reduce even further the environmental impact of using Ecotan products, he says.

Future frontiers that Silvateam hopes to cross focus on the renewability and unique biodiversity of its raw materials, and on its water use. The leather business unit director says there is "a strong feeling" inside the company that it should receive credit for using completely renewable raw materials, preserving the health and biodiversity of the forests and their ecosystem services. The trees renew themselves; everything grows back, absorbing carbon in the process. On the subject of water, he says he is confident there will be developments in LCA practice on this too. He finds it surprising that water consumption in places where there are serious water shortages is assigned the same impact as consumption in parts of the world where water is plentiful. San Michele Mondovì, for example, which is surrounded by forests and is within easy reach of the Maritime Alps, certainly falls into the second category, even if there are certainly concerns about water availability in other parts of Italy. "Water is super-abundant there," Mr Battaglia says of the location of the Silvateam plant. "How can it be fair to claim water use in our facility there has the same impact as water use in, say, California?"

What Silvateam wants is to offer Ecotan not just as a technology, but as a supply chain package, with the guarantee of certification and sound LCA data behind it. Leather manufacturers will benefit from this, he argues, because they will have behind them "a supplier that is ready

*"Brands have an interest in making sure the numbers are right"*

ANTONIO BATTAGLIA

to prove that what we say is true". Brands can visit the forests the raw materials come from if they want, he says. They can see the documentation from the Programme for the Endorsement of Forest Certification (PEFC); they can talk to the team that manages the forest. "They can have the whole package," he continues, "the tannery, us, Spin 360, our raw material suppliers and our partners who recycle leather trimmings into fertiliser."

#### Bricks in place

Patience at the plant-based tannin producer remains unshakeable; it is happy to keep investing in advanced solutions for leather and the other industries it serves and to measuring and improving their environmental impact. Mr Battaglia says this approach is, in itself, important for the image of the company and an important selling point. He thinks it is unfair to say that fashion brands and their sourcing teams are always short-termist or unwilling to appreciate that progress in sustainability takes time. For him, Silvateam's LCA work between 2015 and now has been about building a foundation, about putting "bricks in place to build something trustworthy", with the strong conviction that this trustworthiness will, in time, become an asset of great importance. At the same time, he insists that companies in the fashion industry are now much more competent in this arena than in the recent past. He says: "Five years ago, that was all there was, plus some claims that had nothing behind them. More recently, automotive companies have been taking important steps and their counterparts in fashion have been evaluating this and are now preparing to change too. We are not yet where we want to be, but compared to five years ago, those companies have definitely made progress and they have a lot of well prepared, qualified people now, people who know what they are talking about and are putting a lot more boots on the ground." 