



Erasmus+ Project Num. 2024-1-PT01-KA220-VET-000253813

INDEX

WP2 AT A GLANCE.....	P. 2
LISTENING, MEETING, BUILDING....	P. 3
SYMBIOS CORNER.....	P. 4



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From Conversations to Models: how SYMBIOS closed WP2 and opened the door to the Digital Platform

Focus groups, surveys, a transnational meeting in Valencia and two sector models: a year of research on industrial symbiosis in leather and agrifood

When Work Package 2 of SYMBIOS began, the partnership had a clear ambition: to model how industrial symbiosis works in the leather and agrifood sectors and which skills are needed to make it happen. What we lacked was a shared picture of what companies and experts actually think, do and need. Almost a year later, WP2 is complete. In this issue we retrace the journey, from the first conversations to the two Industrial Symbiosis Models that now feed the development of the SYMBIOS platform.

Research on Industrial Symbiosis in Leather and Agrifood: what we did

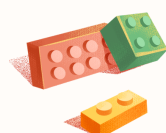
Every good model starts with listening. WP2 followed three steps:



Focus groups (autumn 2025). Held online for both sectors, they brought industry, academia, sector associations and public institutions around the same table. Participants discussed how industrial symbiosis is understood and practised, what holds it back and what could help.



Needs Analysis. It combined surveys and in-depth interviews with companies and academic experts across Europe and beyond.



Industrial Symbiosis Models (WP2.6). Each model describes how industrial symbiosis works in practice and maps the knowledge and skills needed to make it happen.

The Needs Analysis in numbers

30 / 30	30 / 30	9	11
Leather surveys completed	Agrifood surveys completed	Leather in-depth interviews	Agrifood interviews (6 companies, 5 academics)

What we found

- Companies are not starting from zero. Both sectors already monitor, reuse and recover resources on a large scale inside their own walls.
- The real challenge is collaboration between companies. In leather, 70% of respondents already have some form of valorisation partnership, but only 10 companies out of 30 report stable, long-term arrangements. In agrifood, only 9% report a stable partnership.
- The same needs came up in both sectors: clearer and more harmonised regulation on by-products versus waste, standardised data sheets for by-products, digital tools for matching partners, and targeted training.

Want the full picture? Read our article "Needs Analysis for the Leather and Agrifood Sectors" at <https://symbios-project.eu/news-2/>

Thank you: you made WP2 possible

Stakeholders from industry, academia, associations and public institutions took part in the focus groups, surveys and interviews. Their voices come from Italy, Portugal, Spain, Slovenia, Germany, France, the Netherlands, Turkey, the USA, Brazil, Argentina, Uruguay and Vietnam. The models reflect their experience, and we sincerely thank everyone who contributed.

Stakeholders will now be involved in actions such as:

- **Testing the SYMBIOS Digital Platform.** Try the beta version of the MOOC (Massive Open Online Course) in your sector and share your feedback. The MOOC will be revised accordingly.
- **Final presentation events.** Each partner country will host an event to present the validated platform to local companies, trainers and policymakers.

Meeting in Valencia

With the evidence on the table, the partners met in person in Valencia for a Transnational Project Meeting on 6–7 May 2026. After months of online work, sitting together made it possible to compare leather and agrifood results side by side, discuss what the data was telling us, and agree how to turn it into models and into the platform. The meeting also strengthened the personal ties between research centres, universities, training bodies and business associations that make a five-country project like SYMBIOS work.



*Get involved! If you work in leather or agrifood, in training or in policy, we would like to hear from you. Your feedback will help shape the platform.
Contact us through the project website or our social channels.*

Start getting familiar with Industrial Symbiosis

Two sectors, two models

The outcome of WP2 is two sector-specific models. Each has two chapters:

- **Chapter 1 – The symbiotic mechanism.** It covers key concepts, the distinction between outputs, by-products and waste, resources, flows and constraints, the EU and national regulatory framework, cross-sector connections and benchmark cases.
- **Chapter 2 – Knowledge and skills.** It maps what is needed by target group (young graduates, employed workers, managers, and unemployed or disadvantaged people). It analyses existing training offers, gives recommendations for VET providers and policy makers, and aligns with the EQF, ESCO and GreenComp frameworks.

	LEATHER MODEL	AGRIFOOD MODEL
Starting point	Only 20–25% of a hide ends up as leather → the sector lives on cascading use	How to balance circularity and food safety
Key principle / scope	The earlier a co-product is recovered, the higher its value	By-product streams mapped by subsector: whey, brewer's spent grain, fruit pomace
Valorisation routes	Beamhouse stage: food, pharmaceutical, cosmetic uses Finished-leather residues: construction materials	Whey and spent-grain valorisation
Benchmarks	Chrome-free tannery (PT) Plant-based tanning agents from olive residues (DE) Fertiliser producers (IT) Tuscan district (IT)	Kalundborg network Cases from ES, IT and SI: tomato cutin for tinfoil coating, keratin from poultry feathers

Where the two models meet. Hides come from the food chain, and agrifood residues such as olive leaves or grape pomace are now being tested as tanning agents. Both models identify the leather–agrifood corridor as a natural next step for cross-sector matching.

What comes next: WP3

Under WP3, "Development & Testing of the SYMBIOS Digital Platform", the partnership will build a platform with three components:



- **Learning Section:** a free and open MOOC with a general module on industrial symbiosis and sector-specific sections for leather and agrifood.
- **Community Section:** an open space where organisations find best practices and contacts and register the resources they offer and seek. This answers directly the need for digital matching that emerged from the research.
- **Knowledge Hub (new):** a collection of all the materials gathered throughout the project.