

Authors: **Katarzyna Rull Quesada**
Date: **23 April 2025**

D8.10 Expression of interest for S3 Thematic Platform



This project has received funding from the Bio-based Industries Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under grant agreement N° 101023306





D8.10 Expression of interest for S3 Thematic Platform

Technical References

Project Acronym	UNLOCK
Project Title	Unlocking a new feather bioeconomy for keratin-based agricultural products.
Project Coordinator	Sarah Montes, CIDETEC
Project Duration	48 months

Deliverable No.	D8.10
Dissemination level ¹	Public
Type of deliverable	Report
Work Package	WP8
Task	Task 8.4 New feather-based bioeconomy clusters development and PanEuropean dissemination roadshows
Lead beneficiary	Fundacja UNIMOS
Contributing beneficiary(ies)	CIDETEC, G!E
Due date of deliverable	April 2025
Actual submission date	23 April 2025

¹ PU = Public

PP = Restricted to other programme participants (including the Commission Services)

RE = Restricted to a group specified by the consortium (including the Commission Services)

CO = Confidential, only for members of the consortium (including the Commission Services)

Document history

V	Date	Beneficiary	Author
1	22 April 2025	UNIMOS	Katarzyna Rull Quesada, Anna Bialik
2	23 April 2025	CIDETEC	S. Montes (revision)



This project has received funding from the Bio-based Industries Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under grant agreement N° 101023306



D8.10 Expression of interest for S3 Thematic Platform

Summary

The UNLOCK project aims at unlocking a feather bioeconomy for keratin-based agricultural products. The overall objective is to contribute to replacing fossil-based raw materials with biobased, renewable material by valorizing current underused by-products of poultry processing.

This deliverable includes description of the expression of interest for developing Pan-European feather valorisation platform to ensure that UNLOCK concept, solutions and legacy will be disseminated at wider level after the project ends. As part of the UNLOCK new feather-based bioeconomy clusters development and Pan-European dissemination roadshows, development of the feather-valorization platform under S3P Agri-Food Platform has been foreseen to support the uptake of UNLOCK developments, support further dissemination, replication and cross-sector connections building in bio-based economy. This deliverable contains the background, methodology and process of building Pan-European feather-valorization platform within the framework of Smart Specialisation Community of Practice (S3 CoP) with special focus put on ensuring potential collaborations for all the UNLOCK partners, treatment technologies and end-products. Comprehensive analysis of thematic, regional and interregional focus of already existing partnerships, their vision, activities, actors involved, governance structures, potential gaps and overlaps have been included with the view of creating the most appropriate collaboration space for UNLOCK further replication. The Smart Specialisation Community of Practice (S3 CoP) and S3 Thematic Platforms and Thematic Smart Specialisation Partnerships have been deeply analysed in terms of to create the most appropriate collaboration space that would be in line with UNLOCK mapping, clustering and dissemination activities, while ensuring possibilities for wider outreach and further uptake of UNLOCK legacy. The design, engagement and definition of the partnership under the S3P Agri-Food thematic partnership “Ingredients for Circular Economy” (I4CE), together with its operationalization has been described and included in submitted the expression of interest.

This deliverable is strongly connected with UNLOCK clustering activities (D8.11), online matchmaking (D8.9), pilot participative workshops (D8.12) and framed within the UNLOCK stakeholders and project mapping (D8.3), being in line with exploitation and business cases development (WP7) and based on the outcomes from the analytical works performed in WP2. This approach of setting Pan-European feather valorization platform in innovation ecosystem will build a bridge to strengthening the circularity in agriculture and to contribute to the uptake of UNLOCK innovations, building novel bio-based value chains and triggering new, joint and interregional projects and other collaborations.





D8.10 Expression of interest for S3 Thematic Platform

Disclaimer

Any dissemination of results must indicate that it reflects only the author's view and that the Funding Agency and the European Commission are not responsible for any use that may be made of the information it contains.





D8.10 Expression of interest for S3 Thematic Platform

Table of Contents

TECHNICAL REFERENCES	2
DOCUMENT HISTORY	2
SUMMARY	3
DISCLAIMER	4
TABLE OF CONTENTS	5
1. INTRODUCTION	6
2. OBJECTIVES	7
3. APPROACH AND METHODOLOGY	8
4. PAN-EUROPEAN FEATHER VALORIZATION PLATFORM	10
5. CONCLUSIONS	14





D8.10 Expression of interest for S3 Thematic Platform

1. Introduction

The European poultry sector produces 3.6 million tons of waste feathers annually, mainly valorised in low added value products. In line with EU Bioeconomy strategy, the UNLOCK project aims to transform this waste into valuable raw material to create a new sustainable value chain.

UNLOCK is led by CIDETEC and driven by a well-balanced consortium of 15 partners that covers the whole value chain, from feedstock and supply chain analysis to processes, end-product fabrication and sustainability assessments.

The main objective of the UNLOCK project is the design and demonstration of an economically and environmentally sustainable supply-chain for a feather-based bioeconomy which will generate innovative bio-based functional materials for agricultural applications.

The initiative is working on the creation of bio-based products for agriculture, such as:

- Seed trays
- Mulch films
- Hydroponic foams
- Nonwoven geotextiles

And to do it, is using three different technologies for feather treatment:

- Mechanical grinding
- Steam explosion
- Microbial fermentation.

This project has received funding from the Bio-based Industries Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under grant agreement N° 101023306.





D8.10 Expression of interest for S3 Thematic Platform

2. Objectives

In order to ensure that UNLOCK concept, solutions and legacy will be disseminated at wider level after the project ends, there is a need to create a interregional collaboration space where UNLOCK partners, technologies and solutions can be further developed in line with regional priorities (RIS3) and at Pan-European level.

Taking into consideration that the UNLOCK project has organized extensive and interconnected Pan-European dissemination roadshows to launch of cross-border network of feather-based bioeconomy clusters in Poland, Spain and France in in a staged process, stakeholder cross-sectoral communities in target regions and at European level have been engaged in bottom-up, participatory and synergistic methodology of cluster development.

Main objectives :

- To create a solid cross-sectoral, cross-border and cross-industry bridge and Pan-European collaboration space to ensure further developing feather-based bioeconomy beyond the UNLOCK project.
- To establish a business and innovation ecosystem between agri-food and packaging companies and clusters, as well as other innovation actors (high-tech enterprises, R&D organizations, regional agencies. regional governments and/or other relevant actors) involved in the development of feather-based economy to facilitate further development of new joint, interregional projects and facilitate new, cross-sector interconnections in the bio-based economy.
- To jointly explore new possibilities for funding, learning and partnerships opportunities based on UNLOCK developments.
- To enable and raise awareness of the UNLOCK project and their developments, especially in terms of further update and post-project cooperations.
- To facilitate further cross-fertilization with projects and initiatives related to circularity, sustainable innovations and bioeconomy developments to discover new areas for collaborations.
- To connect UNLOCK partners and participants with industry experts, potential investors, and other stakeholders in the bio-based sector, facilitating future partnerships and collaborations.

To achieve it, different S3 Platforms and partnerships have been analysed in terms of thematic, regional and interregional focus of already existing partnerships, their vision, activities, actors involved and governance structures.



3. Approach and methodology

Since the very beginning, UNLOCK project used synergic, multilevel and complementary approach for stakeholders mapping, engagement and building synergies at regional and Pan-European level. This approach and perspective (Figure 1) have been selected to create a basis for wider platform that would contribute to support innovations in processing feathers, its applications, technology transfer and deployment in the manufacturing industries after the end of the project.



Figure 1. UNLOCK stakeholders mapping, empowerment and synergy building.

In this process, two main approaches were applied:

- Quadruple Helix (4H) Innovation Framework – where academia (R&D, universities), government (local, regional, European policy makers), industry (SME, start-ups, large companies) and users/civil society collaborate with each other to create or discover new knowledge, technology, products and services along the biotech innovation process.
- Cross-cluster cross-fertilisation via European Cluster Strategic Partnerships (ESCP) and other EU and non-EU instruments – based on cross-sectoral focus based on capacity-building, facilitation of learning exchanges, mobilisation of knowledge flows, promotion of digital and circular innovations and international expansion. It was leveraged by connections and links between ESCP, H2020 INNOSUP projects and other BBI JU initiatives.



D8.10 Expression of interest for S3 Thematic Platform

The process was based on continuous trust, engagement and relationship building, as well as creating interlinkages between UNLOCK partners and stakeholders to foster multilevel cluster cooperation for feather-based bioeconomy development in form of new Pan-European feather valorization platform focused on further cross-sectoral and cross-border collaboration projects, contributing to the replication and deployment of UNLOCK's concept after the end of the project.

While implementing UNLOCK clustering activities, the linkage with RIS3 smart specialization have been actively investigated with the view of creating a Pan-European feather valorization platform under the Agri-Food Thematic Platform that would enable maximization of the dissemination of UNLOCK results among targeted audiences, tailoring it to the specific interest of potential adopters.

Until 2020, the management of the S3 Thematic Platforms was in charge of the Joint Research Centre (JRC) and after it was transferred to the DG Regional and Urban Policy. The collaboration has evolved becoming Smart Specialisation Strategies Community of Practice (S3 CoP) ¹ that is defined as the central node on guidance, networking, support and peer-learning on S3, covering its conceptual development and its implementation. Based on the decade-long experience, the new approach of the S3 CoP have been shaped and aimed at reaching out to all quadruple-helix stakeholders interested in Smart Specialisation and creating a space for learning and advancing together, while providing practitioners with a broad set of strategic services.

The S3 Thematic Platforms related to Agri-Food, Energy, Industrial Modernisation launched in 2015 have been included in the new context and proving the structure to support the creation of an interregional collaborative network of strategic Thematic Smart Specialisation Partnerships (TSSPs) and enable these partnerships to work together in shared smart specialisation areas.² One of them is the Agri-Food Platform with thematic smart specialisation partnerships where regions initiate and explore new agri-food value chains, develop interregional investment projects, interregional collaboration projects and / or work to align smart specialisation strategies among them. Interregional collaboration may include exchange of practices and experiences, alignment of policies, design of co-investment projects leading to the development of interregional investment projects, interregional collaboration projects, the alignment of smart specialisation strategies between various regions, among others.

¹ https://ec.europa.eu/regional_policy/policy/communities-and-networks/s3-community-of-practice_en

² https://ec.europa.eu/regional_policy/policy/communities-and-networks/s3-community-of-practice/thematic_platforms_en





D8.10 Expression of interest for S3 Thematic Platform

4. Pan-European feather valorization platform

With a view of preparing foundations for the UNLOCK uptake activities and continuing boosting feather-based bioeconomy through setting up of the Pan-European Platform, the following existing S3 partnerships have been deeply analysed:

- Food for positive health impact
- Food packaging
- High Tech Farming
- Ingredients for a Circular Economy (I4CE)
- Plant-based food innovation
- Smart Sensors for Agri-food
- Traceability and Big Data in the agri-food value chain

The analysis included the following elements to be considered before setting up a new partnership³:

- Regions interested in joining the specific partnership or organisations with a mandate from the regional authority;
- link with the underlying Smart specialisation strategy (S3) of the participating regions;
- relevance of the proposed thematic area for agri-food, energy, industrial modernisation and the sustainable blue economy in an EU policy context;
- a clear interregional scope, including the involvement of various regions across Europe (including less developed and outermost regions) outlining the scope and definition as well as the complementarities among participating regions and actors for the indicated activities;
- whether there is a community supporting the partnership such as cluster organisations, European-level networks, co-programmed European Partnerships, co-funded European Partnerships or Institutionalised European Partnerships (EIT KIC, Joint undertaking);
- not being covered in an existing partnership.

The analysis was crossed with the work performed by UNLOCK partners related to the sectoral supply chain analyses in the targeted regions (WP2) and setting the basis for the feather economy with designing the novel value chains (WP3). In addition, the design of business cases and development of market uptake activities (WP7) together

³ https://ec.europa.eu/regional_policy/policy/communities-and-networks/s3-community-of-practice/call_partnerships_en

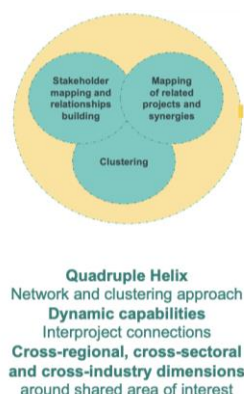




D8.10 Expression of interest for S3 Thematic Platform

with stakeholders mapping, engagement and synergy building with clustering activities (WP8) have been considered with the view of defining partnership, strategic vision, objectives, action axes and interregional cooperation activities beyond UNLOCK financing. Moreover, bilateral /multilateral online matchmakings with specific collaboration topic on S3 took place and Pan-European virtual brokerage and networking meetings at regional and cross-regional level were also performed.

The above mentioned analysis have been done simultaneously with the dynamically evolving UNLOCK implementation, including clustering and dissemination framework reaching most of the stakeholders identified in the Stakeholders and projects mapping (D8.3) and was done with the feedback gathered during nine UNLOCK regional events (workshops, roadshows and dissemination events) organized in Poland, Spain and France that reached more than 280 participants, as well as at Pan-European level within BIC Consortium and CBE JU Info Days in 2024 and 2025, as well as European Cluster Conference 2024 that gathered S3 Platforms, European Cluster Strategic Partnerships, Euroclusters and representatives of other European clusters.



Concept	Country/ activity	UNLOCK Collaborative workshop	Pan-European and networking events	UNLOCK Roadshow	Pan-European and networking events	UNLOCK Dissemination Events
New feather-based bioeconomy clusters	Poland	UNLOCK Cross-sectoral workshop - Warsaw, Poland 29 February 2024	European Cluster Conference 2024 Brussels, Belgium 8 May 2024	Poultry Fair and BioAgro Fair - Warsaw, Poland 13-15 October 2024	BIO-BOOST Final Conference Brussels, Belgium 23 January 2025	Bioeconomy Conference and CBE JU - Warsaw, Poland 06 March 2025
	France	UNLOCK Cross-sectoral workshop Reims, France 20-21 March 2024	UNLOCK Networking Event Warsaw, Poland 15 October 2024	Bio360 Nantes, France 5-6 February 2025	SIA Pro / Salon D'Agriculture Paris, France 23-25 February 2025	
	Spain	UNLOCK Cross-sectoral workshop Granada, Spain July-August 2024	UNLOCK Networking Event Brussels, Belgium 23 October 2024	Expo AgriTech 4.0 Malaga, Spain 26-28 November 2024	BIC Matchmaking Event Brussels, Belgium 11 February 2025	Foro Transfiere Malaga, Spain 12-14 March 2025
	Starting month	M34		M40		M46

Figure 2. UNLOCK clustering activities.

As a result of the above-mentioned activities, the S3 Agrifood partnership Ingredients for Circular Economy (I4CE) has been selected for in-depth analysis, especially in terms of not overlapping already existing partnership and building synergies that would maximize UNLOCK project impact, ensure wider outreach and further uptake of UNLOCK legacy.

The I4CE interregional partnership is composed mainly by agri-food clusters to represent companies (mainly SMEs), researchers, innovators, economic developers, who are specialised in the agri-food sector. It is focused on the production of innovative ingredients (nutritional, technical, functional), produced from bio-based raw materials (conventional, unconventional, new) or through new techniques valorising side





D8.10 Expression of interest for S3 Thematic Platform

streams (by-products/co-products) intended for food processing industry and non-food applications.

The goal of the S3 I4CE partnerships is referred to foster innovation and sustainability in the agri-food sector, strengthening the circularity by looking for new promising alternative ingredients and/or valorising side streams from the agri-food value chain into valuable ingredients for food, feed and other relevant sectors. The I4CE is also focused on accelerating the development and commercialisation of novel and/or improved nutritional, technical and functional ingredients, while fostering cross-technology integration, cross-sectoral applications and circularity.

In relation to the interregional collaboration and RIS3 synergies, the shared smart specialization of the I4CE interregional partnership include, among others agri-food supply chains of the future, including nutritional and functional ingredients.

The organizations involved in the I4CE include clusters and partners from Spain, France, Belgium, Italy, Lithuania, Greece and The Netherlands and some of them are members of Bio-Based Consortium (BIC Consortium). The organizations are clusters, have the mandate of their regions and collaborate with academia and civil society (ngo). The partnership is led by Wagralim and Flanders FOOD. It is composed by regular members (clusters or regional authorities/organizations and associated organizations, established office, Chair and Vice-Chair, Steering Committee and Board.

Having in consideration all the elements mentioned above, especially alignment with the UNLOCK project, its concept and clustering strategy, as well as UNLOCK's call topic (BBI-2020-SO1-D1) *"Resolve supply-chain hurdles for turning residual waste streams into functional molecules for food and/or non-food market applications"* and the fact that almost all UNLOCK target regions are already engaged in the interregional partnership, the process of building of the new Pan-European feather valorisation platform under S3 Agri-Food Platform would be feasible by including the Mazovia region from Poland within the partnership and developing Pan-European feather-valorization platform as a subtheme/focus area, while defining its strategic vision, objectives, action axes and interregional cooperation activities. To formalize the setting, the letter of support for UNLOCK project partner from Mazovia regional government have been obtained to formally present the expression of interest to join the S3P Agri-Food thematic partnership "Ingredients for Circular Economy" and create Pan-European feather valorization platform under the innovation and ecosystem ecosystem to guarantee UNLOCK activities and its further replication after the project ends.



D8.10 Expression of interest for S3 Thematic Platform

With this approach, the main objective of the feather-valorization platform is to guarantee the continuation of the UNLOCK concept, activities and its further replication after the project ends.

To do so, holistic approach (Figure 4) has been designed to support UNLOCK partners in uptake use UNLOCK legacy – including treatment technologies and end-products – within wide quadruple helix stakeholders (S3 Agri-Food Platform partnership), while identifying appropriate funding opportunities at regional, national and European level and creating paths for further research, innovation and project interregional collaborations aligned to market needs.

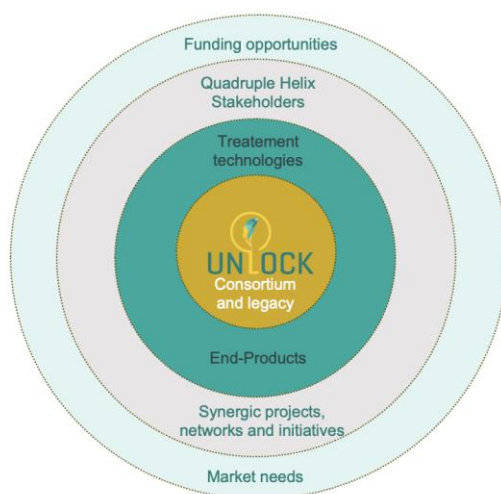


Figure 4. S3 approach for beyond the UNLOCK project.

The following strategic action axes has been identified for further collaborations and include:

- Axis # 1. Support the uptake UNLOCK solutions
- Axis # 2. Clustering for partnerships and interconnections
- Axis # 3. Identify and seize funding opportunities
- Axis # 4. Excellence, skills and competence building
- Axis # 5. Exploring, experimenting and co-creating

The first one is related to supporting the further uptake of UNLOCK solutions in Pan-European S3 Community of Practice platform to disseminate UNLOCK results beyond project, including facilitation of post-project commercial developments of UNLOCK's results. The second one is connected to keep boosting synergies between ongoing and future European projects and networks with which UNLOCK has already established cooperation links and executed joint activities during the implementation



D8.10 Expression of interest for S3 Thematic Platform

of the project. The third axis is related to screening funding opportunities, especially CBE, Horizon Europe and cascade funding, to finance further interregional collaboration projects and initiatives. The fourth axis is linked to the idea of replication of participative workshops based on UNLOCK cases, digital and agile methodologies to raise awareness on circular agriculture and increase excellence, skills and competence building. The last fifth axis is oriented on conducting pilots, experiments and collaborative initiatives working with UNLOCK developments on the ground with cross-sectoral, cross-industry and/or cross-regional approaches.

In addition to the process of establishing collaboration platform with I4CE partnership, invitation to take part in the setting up of a new S3 platform related to biosolutions for agriculture has been extended to AgroBioCluster by the coordinator of I4CE established office. The expression of interest of the new partnership is also covering UNLOCK target countries, such as France and Spain and would make strong interconnections between partners, thematic and cooperation areas building additional linkages and collaboration bridges for further developments of UNLOCK activities, especially in terms of application of UNLOCK end-products.

This dual approach would maximize project impacts, back up the exploitation plan and set a fertile and dynamic space for further cross-sectoral and cross-border collaboration projects for both UNLOCK treatment technologies, end-products and development of novel bio-based value chains.

5. Conclusions

The process of creating feather valorization platform and developing new feather-based bioeconomy clusters regionally and at Pan-European level has been highly dynamic, iterative and interactive. It included outcomes and learnings from the UNLOCK implementation activities, being framed within the UNLOCK stakeholders and project mapping and strongly connected with clustering and dissemination events, online matchmaking, pilot participative workshops and interproject synergy building. The process also included the outcomes from the analysis of sectoral supply chain in the targeted regions and the design of novel value chains. The approach of setting Pan-European feather valorization platform has been thought to create a multilevel platform within wider, synergic and complementary business and innovation ecosystem operating in the field of circular economy to enable further cooperation opportunities for UNLOCK partners and their developments, especially in terms of UNLOCK business models, implementation of the exploitation roadmaps and





D8.10 Expression of interest for S3 Thematic Platform

replication activities, as well as to ensure continuation of clustering activities and identification of future research and development project. It will also support the new UNLOCK bio-based value chains development and will serve as a multilevel space with interlinked paths to support wider deployment of UNLOCK's concept after the end of the project.

