Project idea form - small projects

Version 2.1

Registration no. (filled in by MA/JS only) _____

Project Idea Form

Date of submission 04/06/2025

1. Project idea identification

Project idea name	REsilient VALue CHAINS from FOOD WASTE: advancing functional foods, animal feed, and bioeconomy innovation in the Baltic sea region
Short name of the project	REVALCHAIN-BSR
Previous calls	yes ◉ no ○
Short name of the previous project	CEForestry
Seed money support	yes ○ no ◉

2. Programme priority

	3. Climate-neutral societies

3. Programme objective

	3.1. Circular economy

4. Potential lead applicant

Name of the organisation (original)	Kauno technologijos universitetas
Name of the organisation (English)	Kaunas University of Technology
Website	https://en.ktu.edu

Country	LT
Type of Partner	Higher education and research institution

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Which organisation(s) in the planned partnership take part in a project within the Interreg Baltic Sea Region Programme for the first time? Please list the respective partners.

Memelio Fermentuotas (Lithuania) – Small and Medium-sized Enterprise (SME)

5.1 Specific challenge to be adressed

Across the Baltic Sea Region (BSR), large volumes of nutrient-rich side streams from the bakery and berry processing industries remain underutilized. This presents a clear opportunity to develop value-added products such as functional foods and animal feed, supporting a more sustainable food system. However, small and medium-sized enterprises (SMEs) in rural areas often lack the integration, technology, and knowledge required to effectively valorize these resources.
Bakery waste can be repurposed into functional ingredients. Berry by-products can enhance both the nutritional value and sensory appeal of foods, aligning sustainability goals with consumer demand for healthier options. These examples demonstrate the untapped potential of side streams and the importance of shifting towards a circular economy in the food sector.
Despite this potential, key barriers persist. Many SMEs do not have access to affordable, scalable processing technologies or the capacity to collaborate with research institutions. There is often limited data available on the quantity, seasonality, and quality of side streams, making it difficult for

businesses to plan and invest. Balancing environmental goals with economic feasibility remains a challenge for both food producers and feed manufacturers.
To address these gaps, stronger collaboration is needed between industry, research, and the public sector. Public institutions and policymakers play a critical role in supporting regional strategies and enabling frameworks that facilitate circular bioeconomy practices. By fostering innovation, knowledge sharing, and supportive policies, stakeholders can unlock the hidden value of food production side streams and transform them into profitable, sustainable solutions.
The main target groups facing this challenge include:
1. SMEs in the food and feed sectors – in need of practical tools and models for waste valorization;
2. Food processors in the bakery and berry industries – seeking new revenue streams and lower disposal costs;
3. Policymakers – requiring data and insights to build supportive bioeconomy frameworks;
4. Research and innovation institutions – essential for transferring knowledge and piloting new technologies;
5. Consumers and society – whose preferences drive demand for sustainable and ethical products.
The project will connect science, policy, and practice to help SMEs valorize food waste and drive a green transition in the BSR.

5.2 Focus of the call

The project will support the cohesive development of small places, rural areas, and economically challenged regions in the Baltic Sea Region by enabling local actors to transform underused bakery and berry side streams into valuable resources. These streams are often produced in rural regions where small and medium-sized enterprises (SMEs) lack the tools, knowledge, and technologies to innovate sustainably.

By introducing scalable, low-cost biomass processing technologies, the project will equip rural SMEs with practical solutions to create functional foods and animal feed products, adding value locally while reducing waste. It will foster new economic opportunities, contribute to job creation, and support income diversification in less-industrialized areas.

The project will also promote cross-sector cooperation between local food producers, researchers, and policymakers, encouraging knowledge transfer and building innovation capacity in peripheral communities. Through the development of circular business models tailored to regional needs, the project will help bridge urban-rural disparities and ensure that rural areas become active participants in the green and digital transition.

In doing so, the project will align with the Interreg Baltic Sea Region Programme's objective to foster cohesion and resilience across the region's diverse territories.

6. Transnational relevance

The challenge of food side stream underutilization is shared across the Baltic Sea Region (BSR), where bakery and berry production generate significant waste that remains largely untapped for higher-value applications. Although countries in the region face similar problems, solutions remain fragmented due

to differences in policy frameworks, technological readiness, business models, and access to innovation.

Transnational cooperation is essential to bring together diverse expertise, infrastructure, and perspectives. By working collaboratively, the project partners will be able to:
1) Compare and harmonize data on side stream availability, seasonality, and nutritional content across BSR countries;
2) Share and test a variety of biomass processing technologies and functional product development approaches;
3) Co-create adaptable circular business models suited to the socio-economic realities of different rural and urban contexts;
4) Identify shared policy and regulatory challenges, and propose unified recommendations for bioeconomy adoption.

Involving SMEs, research institutions, and policymakers from several countries will ensure that solutions are scalable, interoperable, and widely replicable. Cross-border learning will foster innovation transfer and avoid duplication of efforts. Furthermore, addressing these challenges jointly will strengthen regional cohesion and support a common transition toward a circular, resource-efficient economy in the BSR.
Only through transnational collaboration can the project achieve impact at scale and ensure long-term sustainability of the developed solutions.

7. Specific aims to be adressed

Building trust that could lead to further cooperation initiatives
The project will foster mutual trust and long-term cooperation among SMEs, research institutions, and public sector actors across the Baltic Sea Region through joint pilot development, transnational knowledge exchange, and stakeholder workshops. By involving diverse actors in co-creation processes - from biomass valorization to market and regulatory roadmapping - the project will strengthen cross-sectoral networks and lay the foundation for future collaborative initiatives in the circular bioeconomy, particularly in functional food and sustainable feed innovation.
Initiating and keeping networks that are important for the BSR
The project will initiate and maintain transnational networks among producers, researchers, and policymakers to support food side stream valorization across the BSR. A survey on bioeconomy solution uptake and related challenges will enhance community ties and facilitate knowledge exchange within and between countries. The results will reveal shared barriers and opportunities, enabling collaboration on common issues and informing policymakers about legislative bottlenecks affecting bioeconomy innovation.
Bringing the Programme closer to the citizens
The project will promote citizen engagement by demonstrating how local food waste can be transformed into valuable products, such as functional foods and sustainable animal feed. Educational materials, local pilot activities, and community events will raise awareness of circular bioeconomy practices. Involving local SMEs and rural communities will showcase tangible benefits for citizens - such

as job creation, reduced waste, and healthier food options - thus making the Programme more visible, relatable, and impactful at the local level.

Allowing a swift response to unpredictable and urgent challenges

The project will promote flexible and locally adaptable valorization pathways for food side streams to enhance resilience in rural and regional economies. It will offer local and regionally based (BSR) cross-border collaboration opportunities, enabling communities to become more self-sufficient and reduce reliance on external inputs by sourcing locally available resources. The project will facilitate transnational knowledge exchange and best practice sharing, allowing swift adaptation to supply disruptions, resource shortages, or climate-related challenges. This approach will improve preparedness and sustainability across the Baltic Sea Region.

8. Target groups

The project will actively engage a diverse range of target groups across the Baltic Sea Region that are directly affected by and have the competence to address challenges related to the valorization of food industry side streams.

At the regional and national policy level, key stakeholders will include ministries responsible for agriculture, environment, economy, health, and innovation, such as the Ministry of Agriculture and Forestry (FIN), Ministry of Agriculture (LT), Ministry of Health (LT), Ministry of Environment (LT), Ministry of Economy and Innovation (LT), Ministry of Agriculture (LV) and Ministry of Agriculture and Rural Development (PL). These entities will support policy alignment and facilitate regulatory frameworks for bioeconomy solutions.

Industry and business clusters will be engaged to foster innovation and market uptake. Examples include Biocluster Finland, World Bioeconomy Association, PA Bioeconomy (BSR), and national food processing companies such as Memelio fermentuotas (LT). These companies will participate in developing and testing functional food and animal feed prototypes.

Consumer organizations and regulatory bodies, including the State Food and Veterinary Service and the Institute of Consumer Rights (LT), will be involved to ensure consumer acceptance and compliance with safety standards.

Biological agriculture organization (LV) will be engaged for cross-sector collaboration on food production stream utilization.

Together, these target groups will actively participate in project activities, including data collection, technology evaluation, pilot testing, and dissemination, ensuring that project outputs are relevant, applicable, and scalable across the BSR.

	Please use the drop-down list to define up to five target groups that you will involve through your project's activities.	Please define a field of responsibility or an economic sector of the selected target group	Specify the countries and regions that the representatives of this target group come from.

1.	National public authority	The Ministry of Economy and Innovation is responsible for economic policy, innovation, SME support, and promoting sustainable growth through digitalization, circular economy, and investment strategies	Lithuania
2.	Business support organisation	Biocluster Finland promotes bioeconomy innovation by connecting companies, researchers, and public actors to develop sustainable solutions and boost competitiveness in the bio-based sector	Finland
3.	Small and medium enterprise	Memelio Fermentuotas focuses on producing fermented bio-based products, advancing sustainable biotechnology, and collaborating with research institutions to develop innovative, eco-friendly products	Lithuania
4.	National public authority	The Institute of Consumer Rights protects consumer interests in Lithuania by promoting awareness, advocating for fair practices, and supporting sustainable, safe, and transparent food consumption	Lithuania

5.	Small and medium enterprise	Pharmeco Ltd is SME dealing with juice production and will support developments on berry and fruit pomace processing	Latvia

9. Contribution to the EU Strategy for the Baltic Sea Region

Please indicate if your project idea has the potential to contribute to the implementation of the Action Plan of the EU Strategy for the Baltic Sea Region (https://eusbsr.eu/implementation/).

yes ◉ no ◯

Please select which policy area(s) of the EUSBSR your project idea contributes to most.

PA Bio-economy

The MA/JS may share your project idea form with the respective policy area coordinator(s) of the EUSBSR. You can find contacts of PACs at the EUSBSR website (https://eusbsr.eu/contact-us/).

☐ If you disagree, please tick here.

10. Partnership

Our partnership consists of leading universities, research institutions, SMEs, and industry associations across the Baltic Sea Region (BSR), bringing together multidisciplinary expertise in bioeconomy, biomass processing, and circular economy business development.

Kaunas University of Technology (KTU, Lithuania) – Research Institution
Role: Lead partner, project coordination, pilot-scale research on functional food prototypes, fermentation product preparation, circular business model development, and regulatory guidance.

University of Latvia (LU, Latvia) – Research Institution
Role: Leading in-depth survey of SMEs and policymakers to identify barriers and enablers in circular bioeconomy innovation.

Umeå University (UMU, Sweden) – Research Institution
Role: Development and optimization of fermentation processes for bakery side-streams.

Natural Resources Institute Finland (LUKE, Finland) – Research Institution
Role: Adapting semi solid-state fermentation and extrusion technologies to valorize bakery and berry side streams into functional foods and ingredients.

Lithuanian University of Health Sciences (LSMU, Lithuania) – Research Institution
Role: Implementation of animal pilot studies through student theses, mostly internally funded.

Memelio Fermentuotas (Lithuania) – Small and Medium-sized Enterprise (SME)
Role: Participating in fermentation pilot studies, contributing practical insights from SME practice. Newcomer to Interreg BSR Programme

GreenBack (Poland) – Business Support Organisation
Role: Market analysis, economic modelling, SME and policymaker surveys.

Mineral and Energy Economy Research Institute of the Polish Academy of Sciences (MEERI, Poland)
Role: Analyze the opportunities for developing circular economy business model, identification of key stakeholders, evaluation of social acceptance.

Centria University of Applied Sciences (Centria, Finland) – Research Institution
Role: Integration of results into sustainable business models and support for market deployment.

This partnership spans five countries (LT, LV, SE, PL, FI), covering diverse socio-economic and regulatory contexts in the BSR. It ensures that the project outcomes will be relevant, scalable, and transferable across different national and regional settings.

11. Workplan

Work Package 1: Valorization of Food Industry Side Streams through Circular Bioeconomy Solutions
Main Objective:
To increase the value of surplus bakery and berry production side streams by integrating bioeconomy principles and developing functional food and animal feed products. The project aims to establish a circular business model based on sustainable resource use, biotechnology, and cross-sector collaboration across the Baltic Sea Region (BSR).
Main Activities and Outputs:
1. Mapping of Food Side Streams:
Partners will collect and analyze data on the availability, quantity, seasonality, and nutritional value of surplus bakery and berry residues in the participating BSR countries. This will help identify the most promising raw materials for further valorization.
2. Biomass Processing Technology Evaluation:
Existing biomass processing methods (e.g., fermentation) will be reviewed and assessed for their suitability to convert selected side streams into valuable ingredients for food and feed. Fermentation will be explored as a key biotechnological approach to valorize bakery residues by producing functional compounds that can enhance the nutritional and functional properties of fermented beverages and animal feed.
3. Development of Functional Food and Animal Feed Prototypes (Pilot):
Pilot-scale solutions will be tested to create innovative prototypes such as fermented beverages and nutritionally enriched animal feeds. These products will be analyzed for their nutritional and functional

properties.
4. Market and Policy Analysis:
Market research will be carried out to assess demand, trends, and regulatory challenges for functional foods and feeds. Surveys among SMEs and policymakers in all partner countries will identify key barriers and enablers for adopting bioeconomy solutions. A cost-benefit and economic model will be developed to support decision-making.
5. Circular Business Model Development:
Results from all activities will be integrated into a sustainable business model aimed at resource efficiency and waste minimization. Recommendations will be prepared for SMEs, industry stakeholders, and policymakers, focusing on bio-based innovation uptake and market deployment.
Target Group Involvement:
SMEs in the food and feed sectors will be involved in piloting, validating, and co-developing solutions. Universities and research institutions will facilitate technological and regulatory support. National ministries, food authorities, and consumer protection agencies will help ensure policy relevance and long-term sustainability.
Use of Outcomes:
The final outputs - validated product prototypes, processing guidelines, market insights, and a circular business model - will be used by SMEs, R&D centers, and policy institutions across the BSR. These tools will support sustainable innovation and help align industry practices with circular economy goals.

12. Planned budget

ERDF budget (planned expenditure of partners from the EU)	EUR 500,000.00
Norwegian budget (planned expenditure of partners from Norway)	*EUR XXX*
Total budget (including preparatory costs)	**EUR 500,000.00**

13. Project consultation

Please indicate if you wish to have a consultation (online meeting) with the MA/JS to discuss your project idea

yes ◉ no ◯

14. Questions to the MA/JS

Questions related to the content of the planned project	*(max.1.000 characters incl. spaces)*
Questions related to budgeting and expenditure	*(max.1.000 characters incl. spaces)*

Any other questions	*(max. 1.000 characters incl. spaces)*

15. Additional information

(max. 1.000 characters incl. spaces)

Your account in BAMOS+

Please remember that to officially submit your application you need to access our electronic data exchange system BAMOS+. More information about the process of applying for your account in BAMOS+ you will find here:
https://interreg-baltic.eu/gateway/bamos-account