

Training programme and materials

Under review

D5.1

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D5.1

Training programme and materials

DELIVERABLE TYPE

Report

MONTH AND DATE OF DELIVERY

Month 27, November 2024

WORK PACKAGE

WP5

LEADER

FBCD

DISSEMINATION LEVEL

Public

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DOI / ISBN

10.5281/zenodo.14353832

Programme	Contract Number	Duration	Start
Horizon Europe	101060537	36 Months	September 2022

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Revision History

Version	Date	Reviewer	Modifications
0.1	24/11/2024	Anni Simonsen	First draft
0.2	11/12/2024	Ilaria Bientinesi	Modifications
0.3	14/12/2024	Concetta Messina	M. Modification
1.0	31/12/2024	Ilaria Bientinesi	Final draft and submissions

The information and views set out in this report are those of the author(s) and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting on their behalf.

Table of Abbreviations and Acronyms

Abbreviation	Meaning
FBP	Fish by-products
FBCD	Food and Bio Cluster Denmark
FCP	Fish co-products
UNIPA	University of Palermo
EMÜ	EESTI MAULIKOOL (EMU), Estonian University of Life Science
UiA	University of Agder
APRE	Agenzia per la Promozione della Ricerca Europea
DoA	Description of Action
TRL	Technological Readiness Level

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1 Executive Summary

BlueRev aims to enhance the blue bio-based sector in three pilot regions across Europe: Denmark, Italy, and Estonia. The project focuses on creating tailored value chains, from utilizing co-products as feedstock to processing them into final products. This initiative seeks to revitalize local communities both socially and territorially, while also contributing to positive environmental and social impacts.

The objectives of WP5 are to support the overall project by developing and implementing a training programme aimed at increasing skilled job opportunities and small-scale establishments in the bio-based sector. This includes enhancing innovative communication for small businesses and business-to-consumers.

The training programme is focused on three pillars:

- Focuses on developing skilled jobs and small-scale establishments in the bioeconomy.
- Comprises four modules with a minimum of 13 lessons.
- Targets producer associations and master's and PhD students, reaching 100-200 participants.

The expected impact is:

- Increase opportunities for skilled jobs and small-scale establishments in the bioeconomy.
- Support local and regional rural development and economy.
- Raise awareness of bio-based options among authorities and communities.

1.1 Aim of the report

The current report aims to describe how to reach the specific objective “SO6: To carry out a training programme to increase skilled jobs opportunities and small-scale establishments in the bio-based sector and to support the development of communication of innovation for small businesses and business-to-consumers”.

This report provides:

- paragraph 2: the general overview of the training programme, with the target audience and the methodological approach to redefining the training contents, taking into consideration the lessons learned in previous project work
- paragraph 3: the detailed program of the courses, for each module
- paragraph 4: the guidance for the setup and delivery of the training
- paragraph 5: the template of the report to capture the activities performed

- paragraph 6: the training format and repository, aiming to collect and further exploit the knowledge

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2 Introduction

The BlueRev project is designed to support the revitalization of local communities in Europe by fostering innovative practices in the blue bio-based sector. Focusing on three pilot regions—Denmark/Greenland, Italy, and Estonia — BlueRev aims to tailor value chains that span the valorization of co-products, feedstock processing, and conversion into final products. Through this approach, the project seeks to generate territorial and social revitalization while contributing to positive environmental and social impacts.

Central to BlueRev's impact strategy is its comprehensive training program, which is designed to address the skills gap and empower local actors in the bioeconomy. With a strong focus on inclusivity and accessibility, the program comprises four training modules delivered over at least 13 lessons, targeting key participants such as associations of producers, enterprises, master's and PhD students, and other relevant stakeholders. By engaging 100–200 participants, the program ensures a broad reach and creates opportunities for knowledge dissemination.

The training program leverages online formats, recorded sessions, and publicly accessible training materials to maximize accessibility and long-term impact. This approach aligns with BlueRev's broader mission to raise awareness of bio-based options, enhance rural development, and support local and regional economies by fostering skilled jobs and small-scale bioeconomy establishments.

Through these efforts, BlueRev contributes to the sustainable transformation of local communities, demonstrating the potential for replicable solutions across Europe.

2.1 Methodological Approach

The draft of the training and coaching programme is described in the Description of Action (DoA). The activities are led by UNIPA, in collaboration with EMÜ, UIA, APRE and other partners, as reported in Table 1.

The training and coaching program has been updated according to input/feedback collected during the workshops previously performed in the project (WP3 and WP4), as foreseen in the DoA. The following paragraphs describe the findings of the work performed in WP3 and WP4 related to the training needs and upskilling requirements, connected with the specific activities of local communities.

2.1.1 Findings related to training from previous project work

In the previous work performed with BlueRev stakeholders (co-creation workshops and interviews), several feedbacks highlighted the need for development approaches including vocational training to support economic diversification.

For example (the full description in D4.1):

- In Saaremaa (Estonia), the Living Lab model has played a key role in advancing the blue bioeconomy by fostering collaboration among local stakeholders. Central to this approach is the establishment of a specialized laboratory at the local college in Kuressaare, designed to support local businesses through research and the development of marine resource valorization, particularly macroalgae. A critical aspect of this model is its emphasis on education and training, which are vital for building a skilled workforce and enhancing local capacity. A new bachelor's program on sustainable technologies for the blue economy was opened in 2024, a significant step for enhancing local skills and labour development. By offering training opportunities for lab technicians and PhD students, the Living Lab addresses immediate research needs and contributes to long-term workforce development. The feedback from the stakeholders in the BlueRev workshops held in Saaremaa in 2023 and 2024 revealed a need for increased information and communication with the local community and public sector about the opportunities and challenges of the blue bioeconomy. Additionally, there was a need for increased support and skill development to effectively utilize local resources and the community for various types of innovative projects, including social innovation initiatives.
- In Greenland, community-driven workshops and training initiatives play a pivotal role in fostering a circular economy mindset, equipping local producers with the knowledge and skills to utilize marine resources sustainably. The emphasis on training within this model is especially significant, as it provides local businesses with the tools to adopt socially responsible practices while building workforce capacity. By aligning community-specific needs with circular economy principles, this approach empowers stakeholders to drive sustainable development and strengthens Greenland's blue bioeconomy.
- In Denmark and Greenland, workforce shortages pose a significant challenge to the blue bioeconomy, where skilled labor for sustainable resource management is in short supply. Training and education play a pivotal role in tackling these shortages. Enhanced programs focusing on upskilling local workers and fostering career growth within the blue bioeconomy can strengthen labor capacity while promoting regional sustainability. Future research should investigate factors influencing labor mobility, retention, and skill development to design more effective workforce interventions.
- In Sicily, the University of Palermo, in collaboration with local cooperatives and small-to-medium enterprises (SMEs), orchestrates a network of stakeholders committed to advancing the blue bioeconomy through sustainable practices, centred on waste minimization and high-value by-product creation. The circular economy mindset empowers local communities and fosters ownership over the sustainable business models being implemented, enabling local professionals to work in their territory without leaving. Therefore, training becomes a critical requirement to enhance their skills, support innovation, and build capacity for sustainable economic growth. Thanks to UNIPA participation, a significant

contribution to curricula creation for the blue growth sector will be made, targeting master, PhD students and also enterprises, and showing opportunities for diverse sectors related to FBP and FCP, as food, feed, gastronomy, pharmaceuticals and marine biobased production.

2.1.2 Contents of the training related to previous project work

The extensive stakeholder engagement conducted through co-creation workshops and interviews across multiple European regions, described in the paragraph above, has demonstrated a clear need for comprehensive training programs to support blue bioeconomy development and address specific needs identified across the sector.

Training programs should integrate both technical and practical components. A multi-faceted training approach is recommended, focusing on three key areas:

- (1) technical laboratory skills and research capabilities, as demonstrated by the Kuressaare college model, to support innovation in marine resource valorization;
- (2) sustainable resource management and circular economy practices, following the Greenland example of community-specific training; and
- (3) sector-specific skills development, as illustrated by Sicily's focus on circular economy training for low-value fish utilization.

These training programs should be designed to address regional workforce shortages while promoting local economic resilience and sustainable development, ultimately enabling professionals to build careers within their local territories.

For producers and industry stakeholders (fishermen, processors, and collectors), training content focuses on practical skills essential for business development and resource optimization, as evidenced by the need identified in Sicily's case study. This includes specialized instruction in fish by-product characterization and selection (Module 1, Table 1), addressing the sector's need for sustainable resource utilization.

For the academic and research community, particularly master and PhD students, advanced technical training in bioactive compound extraction and valorization (Module 2, Table 1) directly responds to the workforce development needs highlighted in the Saaremaa Living Lab model and by UNIPA (Module 2, Table 1)

The integration of sustainable development principles into business operations (Module 3, Table 1) aligns with the circular economy mindset emphasized in the Greenland case study and in Estonian workshops, targeting both students and industry professionals to bridge the gap between academic knowledge and practical implementation.

Finally, addressing the market development needs identified across regions, particularly in Sicily (Module 4, Table 1) focuses on consumer communication strategies for small businesses, enabling them to market their sustainable products and services effectively. This comprehensive training program directly addresses the workforce shortages and skill development needs identified in the territories while promoting local economic diversification through targeted capacity building.

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3 The Training Programme

3.1 The Training Programme

The initial draft of the Training Programme was characterised by the 4 modules described in Table 1.

The development and implementation of the comprehensive training programme are led by the leader of Task 5.2, UNIPA, in close collaboration with EMÜ, UIA, and APRE and with contributions from all other project partners.

Training Programme draft

MODULE 1

UNIPA

Training directed to increase small-scale establishments in the bioeconomy

Topic:

Best practices for characterisation and selection of fish by-products (FBP) and fish-co-products (FCP) from fishery, aquaculture and processing plants, to be applied at industrial level (3 lessons).

Target participants:

Associations of producers (fishermen, fish processors, algae growers/collectors/processors).

MODULE 2

UNIPA

Training/coaching programme to increase skilled job opportunities.

Topic 1:

Methods for extraction of bioactive compounds from FBP and FCP from pilot to industrial scale (3 lessons).

Topic 2:

Valorisation of bioactive compounds from FBP and FCP in cosmetics, nutraceuticals and pharmaceuticals (3 lessons).

Target participants:

<p>Master and PhD students in chemistry, biochemistry, marine biotechnology.</p>
<p>MODULE 3</p> <p>EMÜ, UiA</p> <p>Training directed to increase small-scale establishments in the bioeconomy and to increase skilled job opportunities.</p> <p>Topic:</p> <p>Business development tools that students/employees in all disciplines can utilise to work systematically with operationalisation of the UN Sustainable Development Goals in their ideas and start-ups (3 lessons).</p> <p>Target participants:</p> <ul style="list-style-type: none"> • Master and PhD students in agro-food technology, economy, bioeconomy • Associations of producers (fishermen, fish processors, algae growers/collectors/processors).
<p>MODULE 4</p> <p>APRE</p> <p>Training directed to increase small-scale establishments in the bioeconomy</p> <p>Topic:</p> <p>Empowering small businesses with the knowledge, tools and practical examples of how to effectively communicate when addressing consumers (4 webinars).</p> <p>Target participants:</p> <p>Associations of producers (fishermen, fish processors, algae growers/collectors/processors).</p>

Table 1: Training Programme draft

The draft was further elaborated to fulfil the territories' requirements, as arising from the co-creation workshops and the interviews performed.

Details of each course are given below.

The final number of participants along with the material used and further details related to specific contents, will be described in deliverable D5.3.

3.1.1 UNIPA Training

The training course held by UNIPA will introduce the adoption of solutions for the sustainable use of marine resources and by-products, in line with the SDG 2030 agenda, circular economy principles and the green deal, to promote the concept of sustainable consumption and “turning waste into profit”.

The training course, directed to students, master students, PhD students and enterprises, will explore the close relationship between circularity and sustainability, starting from the sustainable use of aquatic resources, valorisation of by-products and importance for the local economy, with potential in the sectors dedicated to the production of ingredients for food, feed, pharmaceuticals and cosmeceuticals, to support sustainable blue growth.

A general overview of Mediterranean fishery and aquaculture value chains, producing fish by-products (FBP) and fish co-products (FCP) will be presented and, thanks to the specific experience of UNIPA, some protocols, set-up at high technological readiness level (TRL), will be shared: extraction of bioactive molecules, such as antioxidants (polyphenols and carotenoids) production of omega-3 fatty acids enriched fish oil, chitin, chitosan, protein hydrolyzates, with advanced and green technologies.

General aims

The training courses aim to transfer to target trainees, the knowledge of circular economy principles and the possibility of increasing the sustainability of marine resources by focusing on non-food resources and processing waste, as FBP and FCP. UNIPA will present specific methodologies and procedures, set-up in its laboratory, for the production of marine bioactive compounds and ingredients (fish oil enriched in omega-3, chitin, chitosan, astaxanthin, polyphenols), functional foods from specific value chains and biomasses (shrimps from fishery, fish from aquaculture, processing industry). The training will transfer the knowledge on these aspects, which will be useful to education entities for curricula creation in the blue sector, to research and development entities to acquire these methodologies for ingredients production, to enterprises to adopt circular economy practices, and to new entrepreneurs to develop new industries dedicated to marine biobased production, according to the European Green Deal.

The training developed by UNIPA is divided in two main blocks, targeted for different audiences; each block is organized in modules, that comprise several lessons,

This structure was planned in order to divide the topics and specific applications in relation to the target audience.

- 1) Training directed to increase small-scale establishments in the bioeconomy.
- 2) Training/coaching programme to increase skilled job opportunities.

Training contents

TRAINING DIRECTED TO INCREASE SMALL-SCALE ESTABLISHMENTS IN THE BIOECONOMY:

This training is targeted mainly at the productive sector interested in exploiting marine by-products to develop new productive lines in the blue biobased sector: enterprises of the seafood sectors, associations of producers, fishermen, fish processors, algae producers/processors or new investors interested in the blue biotech. The general aim is to transfer the best practices for characterisation and selection of FBP and FCP from fishery, aquaculture and processing plant, to be applied at industrial level.

The increasing pressure on natural resources has resulted in an urgent need to optimize the utilization of the by-products of the food supply chains. The reduction of food loss and waste, as well as their valorization, is crucial to achieving the “zero waste” goal.

FBP and FCP from fisheries, aquaculture and processing include a variety of tissues and organs that differs for yield, composition and properties. Heads, viscera, skin, bones and scales, that account for a significant percentage in the total fish weight (up to the 55%), are recognized as valuable source of bioactive compounds that can be exploited for many industrial applications. Furthermore, fish composition is affected by many factors, as physiological, ecological and productive, that must be considered before to plan a systematic utilization of FBP and FCP at industrial level.

Module 1: Best practices for characterisation and selection of fish by-products (FBP) and co-products (FCP) from fishery, aquaculture and processing plant, to be applied at industrial level.

This module includes the description of the valorization of by-products originated from the most important local value chains: fishery, aquaculture and fish processing.

Topic 1: FBP and FCP from fishery, effects of intrinsic (species, growth phase and health/nutritional status) and extrinsic factors (season, geographic origin, processing) on yield, quality and composition of BP and possibilities for valorization. The lesson focus on a specific case study related to the valorization of one of the most important shrimp species in Sicily: pink shrimps, *Parapenaeus longirostris* and highlights shrimp waste composition, which is mainly made up of the exoskeleton and cephalothorax (from 50 to 70%) and the possibility to obtain extraction of astaxantin, bioactive peptides, chitin, and chitosan, whose quantities depend on the species and processing conditions (Messina et al 2021 a).

Topic 2: BP and FCP from aquaculture (species, quality, and composition) and possibilities for valorization.

Aquaculture covers a prominent role in satisfying the global demand for fish products and do to the increasing request of filleted fish, the contribution of this industry to the production of by-products is significant and must be properly managed . About 30% of the total marine aquaculture production in Sicily (around 2.000 t/year) is minimally processed (gilled, gutted, and fillet) and marketed at local markets or in large-scale distribution. The training emphasizes that by-products from processed farmed fish are obtained from a highly controlled processing chain, with a high organoleptic quality and a high content of omega-3 polyunsaturated fatty acids (PUFA) that are the most important components for fish oils production. The lesson focuses on a specific case study developed by UNIPA, on valorization of seabream viscera to produce fish oil rich in omega-3, thanks to green technologies. At regional level, in facts, farmed seabass and seabream processing guarantees a production of 36/40 t/year of viscera, that could guarantee a standard biomass for fish oil production (Messina et al, 2021b)-Topic 3: FBP and FCP from processing sector : yield, composition and quality and possibilities for valorization.

Fish processing and its significant expansion has led to increasing amounts of side stream (about 60% of processed fish. The worldwide production of fishery wastes has many implications on the environmental and economic sustainable management and protection of marine resources. Processing side streams are an optimal resource for fish oil extraction, which composition varies considerably depending on the species and fishery season. The lesson focuses on one of the most representative fish species in the sector in Sicily, tuna, whose processing yields a standard and significant percentage of FBP and FCP, which lends itself to systematic valorisation through the extraction of bioactive components (Messina et al., 2022).

TRAINING/COACHING PROGRAMME TO INCREASE SKILLED JOB OPPORTUNITIES:

This training was targeted at master students and PhD students, in order to contribute to curricula creation for the blue sector, according to the European mission for ocean's request and taking into account the role of UNIPA as a high education entity. UNIPA will refer to students from the same University and related international network (FORTHEM Alliance among Universities) This training is developed in two modules, each comprising lessons on specific topics.

Module 2: Methods for extraction of bioactive compounds from FBP and FCP from pilot to industrial scale (3 lessons)

The module focuses on conventional extraction methods by solvents, to green technologies as supercritical fluids extraction (SFE) and comparison of yield, quality and bioactivities of the fraction/compounds extracted.

- extraction of nitrogenic and proteic components, production of protein hydrolysates by enzymatic hydrolysis.
- extraction of fish oils and enrichment in omega-3 polyunsaturated fatty acids (PUFA) by short path distillation (SPD): chemical and biochemical analyses, gas chromatography.
- extraction of carotenoids and polyphenols by traditional methods and SFE; chemical and biochemical analyses, high-pressure liquid chromatography (HPLC).

Module 3: Valorisation of bioactive compounds from FBP and FCP in cosmetics, nutraceuticals and pharmaceuticals (3 lessons)

- Utilization of enriched fish oil from FBP in pharmaceuticals, nutraceuticals and feed sector: some specific case studies will show the possibility to use the extracted bioactive molecules obtained from FBP and FCP in diverse biobased production, thanks to the protocols setup and tested by UNIPA (Arena et al, 2023)
- valorization of polyphenols from marine plants by-products in cosmaceutic sector: this lecture highlights the possibility to combine research with development of marine biobased products and shows the process setup in the lab that goes from the extraction of the bioactive compounds, to the testi of the same components in vitro , to support antiageing properties for the cosmaceutic sector (Messina et al 2021c)
- valorization of carotenoids obtained by shrimps, crabs and other marine BP in pharmaceutical and aquafeeds. UNIPA will share the case study related to the finalization of the protocols to extract bioactive compounds from shrimps and crabs by SFE and the application in vitro to verify their availability at cellular levels, fundamental to evaluate pharmaceuticals and nutraceutical production (Arena et al., 2024).

Learning outcomes

The contents will provide students with a comprehensive understanding of the fundamental principles and advanced methodologies associated with marine bio-based production . By the end of the course, students will acquire the technical knowledge and practical skills necessary to analyze, optimize, and innovate within the fields of circular economy, biomasses valorization by bioactive compounds extraction, and technology

transfer. The interdisciplinary approach ensures that learners can integrate these concepts into real-world applications, fostering sustainable development and innovation.

- **Introduction to Circular Economy Principles**
 - Starting from the analysis of the green deal strategy, the students will be trained on the fundamental concepts of linear and circular economy, focusing on marine resources, sustainable utilization, consumption, , waste minimization and sustainable production models.
 - Analysis of strategies for designing closed-loop systems in industrial and community settings.
- **Extraction and Characterization of Marine Bioactive compounds**
 - Detailed overview of the most important sources of marine by-products: fishery, aquaculture and fish processing sector.
 - Discussion of environmentally sustainable extraction techniques, including solvent-free and green chemistry approaches.
 - Advanced techniques in the chemical and physical analysis of organic substances using laboratory instrumentation such as High-Performance Liquid Chromatography (HPLC), Gas Chromatography (GC), and Gas Chromatography-Mass Spectrometry (GC-MS).
 - Emphasis on the interpretation of analytical data to ensure accuracy and reproducibility in research and industrial applications.
- **Technology Transfer in Industrial Facilities**
 - Industrial scale-up from laboratory , with a focus on process optimization and quality of bio-based products.
 - Case studies on the implementation of bio-based innovations in industrial plants and their impact on sustainability metrics.

3.1.2 EMU Training

EMU has developed a training program on sustainable innovation in the blue bioeconomy with a focus on social, governance and business innovations. The trainings will provide an introduction to the topics of sustainability and innovations in the blue bioeconomy; its challenges/problems, collaboration and innovative solutions in the blue bioeconomy sector in a regional context. The participants will acquire knowledge of various principles, policies, models, resources, collaboration, sustainability indicators, best practices, innovation and blue bioeconomy trends, and practical experience through

the exercises on developing blue biobased business models, governance models and social innovation projects.

The training program is intended for students and small-scale establishments. It is divided into 5 modules and 11 lessons.

The modules can be combined into a full course or can be adjusted for standalone training events. In the fall of 2024, EMU combined the modules into a course “Sustainable innovation in blue bioeconomy for rural development” for students. In 2025, the course will continue, and separate training in the pilot region will use the individual modules.

The modules developed are:

- Blue bioeconomy: concept, drivers and Sustainable Development Goals
- Maritime planning and policy context for the blue bioeconomy
- Innovation in blue bioeconomy
- Collaboration models for sustainable blue bioeconomy in a rural context
- Social and governance innovations in the blue bioeconomy

Module 1. Blue bioeconomy: concept, drivers and Sustainable Development Goals

Aim: the module introduces the main concepts and definitions related to the blue bioeconomy, its drivers and trends, Sustainable Development Goals and the European Union Green Deal.

Module 2. Maritime planning and policy context for blue bioeconomy

Aim: to provide an overview of maritime spatial planning, related policy, international and regional strategies and agreements that direct blue bioeconomy development.

Module 3. Innovation in blue bioeconomy

Aim: to introduce different types of innovations in blue bioeconomy and business models and to provide students/trainees with practical experience in developing a blue bioeconomy-related business idea using strategic business management tools such as the business model canvas to develop value creation thinking.

Module 4. Collaboration models for sustainable blue bioeconomy in a rural context

Aim: to introduce the main principles of collaboration and the role of private, public, and non-profit sectors in the blue bioeconomy development in rural areas, sustainable blue bioeconomy collaboration models for rural communities and best practices for collaboration and partnerships for innovations in blue bioeconomy.

Module 5: Social and governance innovations in blue bioeconomy

Aim: to examine innovation ecosystems and introduce the social and governance innovation options in the blue bioeconomy context, and develop skills for creating a social innovation project supporting local communities

Learning outcomes :

The training will provide participants with transversal skills including entrepreneurship, critical thinking, creative thinking, critical information gathering, teamwork, verbal and written expression, and value creation thinking.

The topics discussed will include:

- concept of the blue bioeconomy, the background of the sector, and the main trends, Sustainable Development Goals and the European Green Deal, and their development priorities in the blue bioeconomy context
- knowledge of international agreements, planning policy and main principles of legislation in the blue bioeconomy development at the global, European Union (EU) and national level
- definition of innovation drivers and strategies for sustainable value creation, including different types of business model canvases
- concepts of partnerships, networks and collaboration at global, regional and local level between private, public and non-profit sectors in sustainable blue bioeconomy development, including sustainable collaboration models for blue bioeconomy stakeholder's, enterprises or organisations in rural areas
- understanding of governance challenges and social innovations for blue growth

3.1.3 APRE Training

APRE will develop four webinars on “How to effectively communicate innovation in the bioeconomy sector when addressing consumers”. This series of webinars will aim to introduce small enterprises, including associations of producers such as fishermen, fish processors, and algae growers/collectors/processors, to the bioeconomy and the blue bioeconomy. Participants will gain insights into effective communication strategies and practical tools that can enhance their engagement with consumers. By using real-world examples also from the different hubs within the project, the training will provide a well-rounded view of how innovation in the bioeconomy sector should be properly communicated and how challenges to effective communication should be dealt with.

The overall objectives are:

- To provide participants with an understanding of bioeconomy and its relevance to their business.

- To demonstrate effective communication strategies through real-world examples from different European hubs.
- To equip small enterprises with practical tools and techniques for engaging consumers on topics related to the blue bioeconomy.
- To recognise the importance of fair and transparent communication
- To foster a collaborative environment for sharing experiences and best practices among bioeconomy stakeholders.

The training programme will be divided into four modules, each building on the previous one to give participants a comprehensive understanding of blue bioeconomy practices and communication strategies.

Module 1: Introduction to the concepts of communication and innovation in the bioeconomy sector

This introductory module covers the fundamental concepts of the bioeconomy, including its importance, scope, and relevance to small enterprises, with specific focus to the blue bioeconomy. It also explains the importance of communication and the difference between greenwashing and transparent communication.

Module 2: Creating an effective communication plan

This module provides guidance on how to write a great communication plan and be able to send the right message at the right time and to the right people. Concrete examples will be provided to participants to give them an overview of what organizations do to successfully communicate their activities and innovations.

Module 3: Practical Examples from the BlueRev Hubs

This module highlights examples from the unique blue bioeconomy projects in the BlueRev pilot regions. Participants will see examples of how Italian producers have addressed consumer awareness and promoted sustainable practices; they will learn about how Estonian enterprises have integrated local traditions with modern practices to appeal to consumers; they will also see the innovative communication and marketing approaches used in the Danish Hub.

Module 4: Challenges to effective communication in the bioeconomy and the EU effort

The final module explores the current challenges to a proper communication of innovations in the (blue) bioeconomy sector and explains what the EU is doing to support the bioeconomy and how it is enhancing the knowledge base for policymaking on the bioeconomy.

By the end of the course, participants will be able to:

- Explain the main concepts and significance of bioeconomy, with a focus on the blue sector.
- Identify effective communication strategies used by bioeconomy enterprises.
- Apply practical tools and examples to their communication efforts when addressing consumers.
- Analyze and adapt successful blue bioeconomy practices from Italian, Estonian, and Danish/Greenland hubs to their local contexts.
- Develop a communication plan that highlights sustainability, tradition, and innovation in their products and services.

The training will take place between September 2024 and June 2025.

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4 Guidelines for Training Preparation

UNIPA has provided a guideline for internal project use to support the partners and to standardize the Training Programme.

Guidelines for training preparation

Before and during the event

- Add the title of the training in the platform with all necessary info
- Prepare QR code for registration and information consent with title, place, day and time to send almost one week before and to advertise by web to all BlueRev consortium
- Send at least a couple of weeks before the training date, the information to LOBA with the overview of the training, the target and all the required information to publicise it in the website/ social, if possible.
- Collect physical signatures on a paper sheet with the BlueRev logo for training in presence
- If the training is done in hybrid mode, start the recording at the beginning
- Prepare PowerPoint to present and to upload after the training in the platform
- Collect photos during the event (and if possible small video)
- Prepare a satisfaction questionnaire to send after training, based on the given format and adapted to the topic. the google module format: <https://forms.office.com/e/x5PpUB1LGg>
- Ask APRE support if needed and always inform APRE

After the training

- Collect the participant list from the QR
- Send to all participants the satisfaction questionnaire
- Send a short report for dissemination of the results into social media
- Upload pictures in the shared folder, list of participants and physical signatures (following the GDPR rules)
- Prepare a couple of slides to describe the results, with the topic of training, number of participants and photo, to create a synthetic report of the training that you can implement time by time, to show at each consortium meeting and to put after in the final report
- Fill the report template given (see *par 5- Reporting of Activities of Training*)
- Manage the recorded training and cut it into the final version to upload the “clean” version to the platform (with the support of LOBA)

5 Reporting of Activities of Training

This chapter provides the template to capture the activities performed during the training, to have a comprehensive overview of the required steps, utilizing a structured template for consistency and clarity. It outlines the case study's context, key methodologies, and expected outcomes while summarizing the team's efforts and the findings derived from the training activities. The report template is given in Table 2

1. Introduction

Please, include in this section a short introduction of the purpose and scope of the training activities.

1.1. Case study context

Please, detail the background and relevance of the specific case study addressed in the training activities.

1.2. Dates

Please, list the timeline during which the training activities and associated reporting took place.

1.3. Overview of the methodology used.

Please, explain the approach used in the training, including the eventual feedback forms or exams.

1.4. Expected outcomes

Please, describe the anticipated results and objectives the training aimed to achieve.

1.5. Team members

Please, provide a summary of the individuals or groups involved in conducting and reporting the training.

2. Outcomes

Please, summarize the key results achieved through the training activities, aligning them with the expected outcomes outlined in the introduction.

3. Activities

Please, detail the specific tasks and exercises carried out during the training sessions, providing a clear timeline and description of each activity.

4. Findings and recommendations

Please, highlight the key insights gathered from the training and offers actionable recommendations based on the outcomes and findings.

5. Material used

Please, list the resources, tools, and documents utilized during the training sessions to ensure consistency and effectiveness; Include the link to the webtool where the material can be found; Include the ppts or other supporting material used.

Table 2: The reporting template

Under review

6 The Training Format and Repository

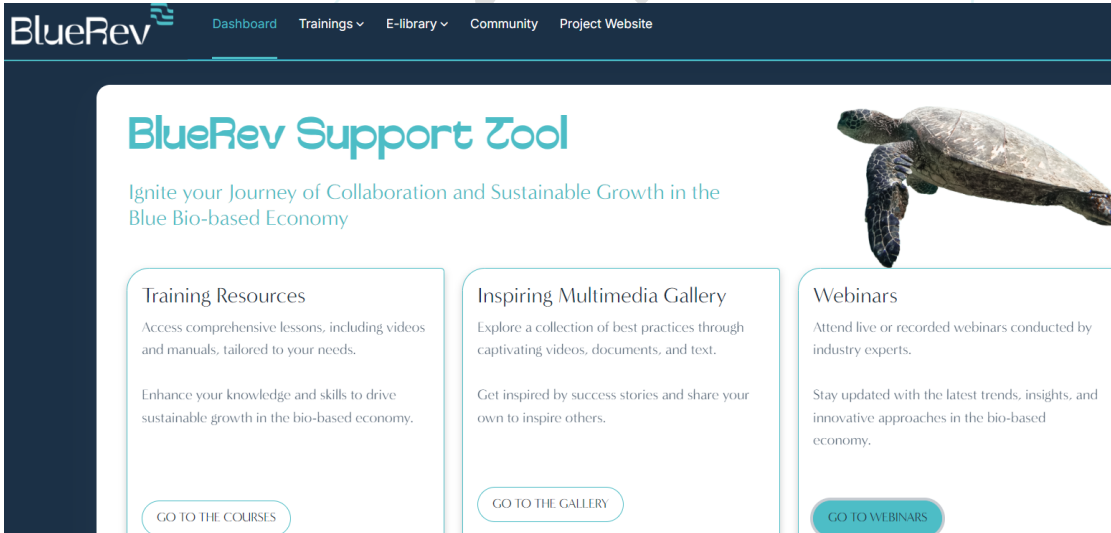
The training programme will be delivered through two primary formats: online webinars and on-site/hybrid classroom lectures conducted at educational institutions.

All training sessions will be recorded to ensure long-term accessibility and reference value. In cases where the recording quality of on-site sessions does not meet minimum standards, the material will be re-recorded in a more controlled environment to ensure optimal clarity and educational value.

This approach offers flexibility and accessibility, accommodating the diverse needs of participants, including e.g. students, industry professionals, and members of industry associations, allowing them to access training materials at their convenience and from any location.

The recordings of the training will be available through the project website to all registered users. These materials can be found in two locations within the platform: either by navigating to the "BlueRev Support Tool" and selecting the "Webinars" tab or by clicking on "Webinars" directly from the Dashboard (Figure 1). This dual-access approach ensures easy navigation and accessibility for all users, regardless of their technical expertise.

<https://support-tool.BlueRevproject.eu/>



The screenshot shows the BlueRev Support Tool website. The header includes the BlueRev logo and navigation links: Dashboard, Trainings, E-library, Community, and Project Website. The main content area features the title "BlueRev Support Tool" and a tagline: "Ignite your Journey of Collaboration and Sustainable Growth in the Blue Bio-based Economy". There is an image of a sea turtle. Below the tagline are three main sections: "Training Resources" (with a "GO TO THE COURSES" button), "Inspiring Multimedia Gallery" (with a "GO TO THE GALLERY" button), and "Webinars" (with a "GO TO WEBINARS" button). Each section contains a brief description of the content available.

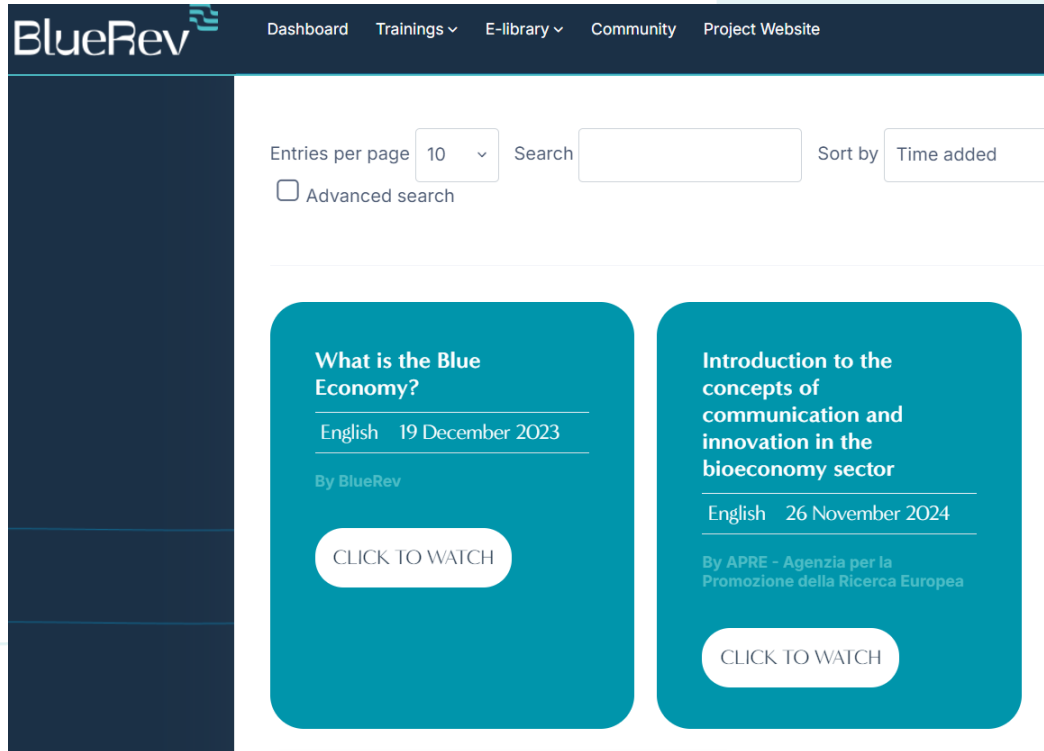


Figure 1: BlueRev support tool

7 Conclusions

The Training Programme is developed by four partners, who are experts within their respective fields and used to communicate with different stakeholders.

The BlueRev training programme represents a strategic initiative to strengthen the blue bio-based sector across the territories targeted by the project (Denmark/Greenland, Italy, and Estonia) and beyond, through targeted capacity building and skills development. By delivering the specialized modules encompassing bioprocessing, resource valorization, sustainable business development, and market communication, the programme directly addresses the critical needs identified through stakeholder engagement across the pilot regions. The training programs will create a bridge between theoretical knowledge and practical implementation in the blue bioeconomy sector.

The program's flexible delivery format, combining online webinars with hybrid classroom sessions, ensures broad accessibility while maintaining high educational standards. This approach, supported by permanently available recorded materials through the BlueRev Support Tool, creates a sustainable resource for continued learning and reference. The careful targeting of both producer associations and advanced students helps build a robust ecosystem of skilled professionals capable of driving innovation in the bio-based sector.

Looking ahead, the training programme is expected to catalyze significant positive changes in the pilot regions. By empowering participants with specialized knowledge and practical skills, it will contribute to the creation of new job opportunities and support the establishment of small-scale bio-based enterprises. Moreover, the programme's focus on sustainable practices and circular economy principles will help raise awareness among local authorities and communities about bio-based alternatives, fostering a more sustainable and resilient blue economy.

The long-term availability of recorded training materials on the BlueRev website represents a valuable legacy of the project, extending its impact well beyond the initial scope. This digital repository of specialized knowledge will serve as an enduring resource, accessible to stakeholders both within and outside the consortium territories. By making these materials freely available to registered users, the programme has the potential to inspire and support blue bioeconomy initiatives across other European regions and beyond, multiplying its impact and contributing to the broader transformation towards a sustainable, bio-based economy.

This comprehensive approach to capacity building aligns perfectly with BlueRev's broader mission of revitalizing local communities while generating positive environmental and social impacts across European coastal regions.

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Bio-based revitalisation
of local communities

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