





Methodology for Transformative co-creation innovation labs (TRAIN labs)

Deliverable 1.5.1























PROJECT DETAILS	
Project Acronym	BLUE ECOSYSTEM
Project Full Title	Transformative co-creation innovation labs for the Blue Sustainable Economy
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Project Mission	Strengthening an innovative sustainable economy
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DELIVERABLE DETAILS	
Deliverable	D1.5.1
Description	The deliverable explains the overall methodology to involve quintuple helix stakeholders in the acceleration process and the definition of a call for participation from the identification of priorities to the definition of rules and tendering procedures.
Activity 1.5 "Transformative co- creation innovation labs (Blue TRAIN labs) co-design methodology)	ART-ER
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Abstract

This document presents the **Methodology for Transformative Co-Creation Innovation Labs (TRAIN Labs)**, developed and tested during the first year of project activities.

The methodology was initially designed following co-design principles and is based on a robust theoretical framework on transformative innovation in the Blue Sustainable Economy. It was subsequently refined and tested through regional co-design workshops held across multiple Mediterranean territories (Balearic Islands, Emilia-Romagna, Sud Paca-Occitanie, Zadar County, Alentejo, Attica, Albania, and Cyprus). These workshops engaged stakeholders in defining challenges, identifying priorities, and co-creating solutions for a sustainable Blue Economy. They brought together quintuple helix actors (industry, government, academia, civil society, and environmental organizations) to foster innovation and transnational collaboration. A short report for each co-design workshop is presented.

This deliverable provides a detailed, step-by-step guide to setting up a TRAIN Lab for the Blue Sustainable Economy. TRAIN Labs are regional accelerator hubs established within the BLUE ECOSYSTEM project to foster co-creation, sustainability, and innovation in the Mediterranean's Blue Economy. Their setup follows a structured, multi-phase approach, engaging quintuple helix stakeholders in designing and implementing transformative solutions.

Key Elements of TRAIN Lab Set-Up:

- Vision & Methodology:
 - Address complex Blue Economy challenges through co-design, stakeholder engagement, and policy alignment.
 - Build on existing frameworks (e.g., RIS3, Mission-Oriented Innovation, EU Blue Growth Strategies).
- Stakeholder Engagement:
 - o Establish a multi-stakeholder ecosystem for co-creation.
 - o Conduct local workshops to align regional priorities with transnational goals.
- Transformative Portfolio of Missions:
 - Define key regional challenges and opportunities using the Blue Transformative Challenges Matrix.
 - Align with EU initiatives (e.g., Mission Restore our Ocean and Waters, SDGs).
- Co-Design & Capacity Building:
 - Implement collaborative workshops for problem identification and solution development.
 - o Develop training programs and capacity-building initiatives.
- Call for Solutions & Acceleration:
 - Launch territorial calls for transformative solutions.
 - Provide mentorship, technical assistance, and feasibility studies for selected projects.

This document serves as a **key reference** for setting up TRAIN Labs, **identifying challenges and missions**, and **facilitating the translation of these objectives into the local context**.

Environmental issues

Each of the planned activities is:

 \checkmark carried out reducing as much as possible the project carbon footprints (ex. limiting travels)

✓ wastepaper – all partners are limiting the hard copies of the project documents, as well as carrying hard copies of the working documents with them at the meetings

✓ making use of (green) public transports

 \checkmark considering environmental issues as an added value in every activity the project will carry out.

 \checkmark aligned with the Programme carbon footprint reduction initiative and counted into the calculator to be compensated.

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1. INTRODUCTION

1.1. SCOPE OF THE ACTIVITY

The Mediterranean region, with its rich marine and coastal resources, is at the forefront of the Blue Economy's transformative potential. However, it also faces complex challenges, including environmental degradation, economic disparities, and governance fragmentation. This report seeks to provide a structured approach to navigating these challenges and leveraging opportunities through participatory processes.

MISSION 1 - Strengthening a sustainable and innovative economy, seeks to improve innovation capacities in the Mediterranean territories, so as to strengthen and consolidate the knowledge society. Activities carried out under this mission will increase the capacity of public and private organisations to implement and coordinate regional innovation strategies and strengthen the competitiveness of SMEs by accelerating the transition towards a circular economy; and sustainable.

Specifically BLUE ECOSYSTEM will test innovative methodologies focused on supporting territory decision-making processes through knowledge production in the blue sustainable economy field, building on existing results.

The project considers the needs of the quintuple helix stakeholders to enhance innovation and research capacities through a transformative and territorial co-creation approach with the setting of regional accelerator laboratories (the so-called TRAIN labs) in the Balearic Islands, Emilia-Romagna, Région Sud-Occitanie, Zadar County, Alentejo, Attica, Albania.

A subsequent match process at the Mediterranean level will identify transnational challenges and opportunities for the solution acceleration.

This report addresses the potential, challenges and transformative opportunities of the Blue Economy (BE) in the Mediterranean (MED) region, as outlined under **Objective 1: Blue Transformation Challenges at the MED Level** and **Objective 2: Territorial Co-Design of the Transformative Portfolio of Missions and Transformative Innovation (TRAIN) Labs.**

1.2. OBJECTIVES

The focus of the project is the blue economy, understood as all sectoral and cross-sectoral economic activities based on or related to the oceans, seas and coasts. Each participating region analyses the challenges of the blue economy in its territory (such as blue biotechnologies, marine renewable energies, fishing and aquaculture, ports, shipbuilding, marine robotics, coastal and maritime tourism...) and involves stakeholders of the quintuple helix (industry, government, civil society, academia and environment -represented by conservation associations, NGO's-) towards innovative, sustainable & inclusive solutions, that will be shared to solve Mediterranean challenges.

Objective 1: RE-defined challenges and missions in local context - Deliverable Methodology for Transformative co-creation innovation labs (TRAIN labs)

This activity is dedicated to the shared development of a co-design methodology for the TRAIN labs. The activity consists in the organisation of one collaborative workshop for each pilot region

(Balearic Island, Emilia-Romagna, Sud Paca- Occitanie, Zadar County, Alentejo, Attica, Albania, Cyprus) to re-define challenges and missions within the local context and to co-create the principles for a call for participation (WP2) by identifying the key concepts and elements to inform specific sections of the call. Through the process of the co-creation workshop, participants will be given the opportunity to:

- consult on the identified challenges and missions and facilitate in translating those objectives within the local context;
- co-design criteria for the call of participation, inclusive of indicators for evaluation;
- form a shared perspective of what success looks like;
- learn new perspectives and knowledge of the mission; and
- form new relationships.

Objective 2: Local Workshops and Co-Creation/co-design:

- consult on the identified challenges and missions and facilitate in translating those objectives within the local context;
- co-design criteria for the call of participation, inclusive of indicators for evaluation;
- shared perspective of what success looks like;
- learn new perspectives and knowledge of the mission.

1.3. GLOSSARY

TRAIN Lab: transformative innovation labs and regional hubs for co-creation, sustainability, and innovation.

Transformative Innovation: a systemic approach to innovation, leveraging co-design and cocreation to develop sustainable and inclusive solutions that drive economic, social, and environmental transformation.

Mission: a strategic initiative to tackle complex challenges through a shared vision and collaborative, transformative solutions.

Challenges: a specific, complex issue in **blue sustainable economy** where urgent actions are required to rebalancing economic growth with marine ecosystem health, particularly in the face of **climate change, overexploitation, and pollution**.

Solution: an action or a set of coordination actions designed to address complex challenges which may involve integrated governance, innovative technologies, and multi-stakeholder collaboration.

Acceleration: the process to facilitate the applicability and feasibility of the selected solutions which involves *Quintuple Helix* stakeholders, including government, academia, industry, civil society, and the natural environment, ensuring a holistic approach to innovation and development.

Co-Design: an approach that seeks to involve all the actors involved in the conception, definition of challenges and structuring of priority actions to be implemented to achieve a given objective.

Portfolio of Missions: a strategic framework designed to foster a shared vision for advancing BLUE ECOSYSTEM missions at the regional scale.

Quintuple Helix: The Quintuple Helix innovation model focuses on the interactions among five key elements of society: academia, industry, government, culture, and the environment--with particular respect to harnessing knowledge to promote social, political, and economic.

Call for Solution: a call launched in collaboration with each territorial partner to find Blue Transformative Innovation Solutions.

Common Report Template: a model document shared between all partners to report the methodology and results obtained during local workshops.

Mission Challenge Starting Paper: a preliminary document produced to analyse the regional context and guide the identification of key action areas, providing a basis for the co-design process.

1. TRAIN LAB SETTING UP

2.1. TRANSFORMATIVE INNOVATION LAB - CO-DESIGN AND CO-CREATION PRINCIPLES AND MODELS

We live in an interconnected world where increased connectivity has made society highly complex. Major global challenges like climate change, pollution, and social inequalities require urgent, comprehensive responses from all societal sectors. Traditional linear approaches are insufficient; instead, dynamic efficiency and sustainable alternatives are needed. It's crucial to support initiatives from communities of practice to address these challenges and align stakeholders for impactful solutions.

As also reported in the document <u>TRANSFORMATIVE INNOVATION LAB</u> - <u>Transformative innovation labs and shared agendas (RIS3CAT 2030)</u>, stakeholders' first step in creating a shared agenda is to agree on a common vision of the future and commit resources and efforts towards it. This vision unites stakeholders without defining specific objectives or actions. Shared agendas address societal challenges systemically and multi-level, aiming to transform socio-technical systems for more sustainable, inclusive, and resilient development. They build on existing initiatives, connect stakeholders, align efforts, and reinforce initiatives to generate viable alternatives for desired transformations.

Experimentation is a central element in shared agendas, we need social innovation labs to experiment with new ways of addressing social and environmental challenges as a society.

There is no single definition of a social innovation lab, and there are many different types. The concept is used as a term that encompasses a whole range of approaches and processes that are based on experimentation aimed at addressing societal challenges.

Social innovation labs may be established by public administrations, universities, non-profit organisations or other types of organisations, and can be articulated in different ways. Every social innovation lab is unique, as its characteristics are largely determined by its environment. Studies pinpoint three key contextual variables that define the nature of a social innovation lab:

- the field of the challenge to be addressed (e.g., education, environment, health, equality, etc.);
- the approach to social innovation (e.g., centred on the person, the system or on public services);
- the space and tools (e.g., technical specialisation, available resources, timeframe, governance, support team and so on).

Social innovation labs are crucial for transforming territories towards sustainable, inclusive, resilient, and fair development, requiring collaboration among multiple stakeholders. These labs build shared future visions, diagnoses, and develop possible solutions. Transformative innovation labs focus on transformation and contribute to shared agendas by experimenting with alternative technologies and social practices. Operating in complex environments, they manage tensions, conflicts, and dilemmas. We can identify six characteristics that are key to enabling labs to manage these tensions and effectively promote transformative change (see Figure 1).

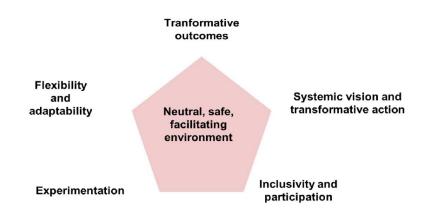


Figure 1 - Main characteristics of transformative innovation labs.

The Train-Labs try to find solutions to new and old problems in alliance with all actors concerned in a co-creative manner.

The document TRANSFORMATIVE INNOVATION LAB - Transformative innovation labs and shared agendas (RIS3CAT 2030) was studied and presented during the Med Innovation Camp in Barcelona (28 and 29 May) as a guide for the start of TRAIN-LAB (link to the PPT presented by ART-ER on Train-Lab). Experts in the S3 intelligent specialization strategy, policy makers and partners of Interreg Euro-ProjectsMed discussed the opportunities offered by innovative ways of looking at transformative innovation policies in the Mediterranean and sought further input on the development of the Transformative innovation labs, one of the main activities that will be offered by the Dialogue4Innovation project in the coming years. Governments can accelerate systemic transitions to innovative policies through S3 and can be stimulated by cooperative projects.

At this point, the introduction of design methodologies and tools is emerging as a valuable approach to deal with urgent challenges, as design has already been recognised as key to operationalizing co-creation. The Co-design effectively supports co-creation to move from the ideation of new solutions and policies to their implementation. Starting with an initial phase of understanding all parties involved over to a joint ideating of new products, services or solutions an experimental stage of prototyping helps to adapt and refine the ideas. This goes hand in hand with verifying the solution for its practicability and a repeated restart until the solution is finalized.

The aim is to create innovative solutions in order to conquer new and old problems and to tackle the structural problem of managing the implementation phase of policies. However, there is a lack of consistent and suitable definitions and frameworks on how to effectively create an environment where co-creation can unfold its full potential. It is a challenge to find appropriate ways to align relevant dimensions of co-creation and the inherent repositories of knowledge from different characters as well as mind-sets and concepts that come to light in the process.

The SISCODE project, as reported in the article "CO-DESIGN FOR SOCIETY IN INNOVATION", has established ten transnational co-creation laboratories from three co-creation networks (ENoLL, international network of fab labs and Ecsite). The laboratories have been experimenting with design methodologies to bridge the gap between the conception and implementation of solutions and policies. These experiments aimed to make RRI (responsible research and innovation) more feasible by introducing design methodologies in the organisational,

institutional and policy areas. Combining the design process with a learning framework, the workshops have created a space for knowledge creation for different actors and politicians who can experience co-creation.

While the project <u>TerritoRRIa</u> focused on supporting governments through the promotion of RRI and specifically territorial RRI, as a way to support territory-making processes through R&I knowledge production.

In this context, co-design brings forth the human experience – not only that of users but of any actor in the product-service ecosystem – as a rich (and primary) resource for problem-solving, whose exploration and exploitation can lead to the development of solutions (products, services, policies, legal frameworks, etc.) that truly resonate with and respond to the needs of users (i.e. citizens, secondary users – e.g. caretakers, family members, etc.–, front line staff, etc.). The codesign has been recognized by the EU as an important means towards developing better policies and more meaningful impact.

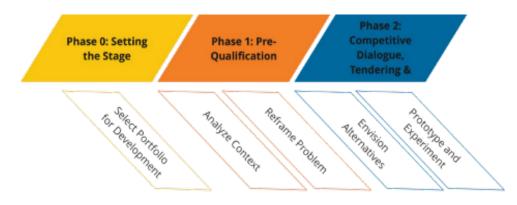


Figure 2 - Co-created, 2-stage regional grant scheme process.

Phase 0: Setting the Stage

The first phase of the tendering process aims to gather stakeholders to co-design a regional grant scheme. This phase involves organizing a co-creation workshop to define the portfolio of actions and create the call for participation, ensuring it addresses the territory's real needs. The goal is to include diverse knowledge and perspectives, empowering the region and its actors to build innovation capacity. The process ends with a co-created call for a two-stage tender, including criteria from the workshop and technical aspects. A shared learning space will also be created for knowledge sharing.

Define Portfolio for Development Co-creation Workshop

The Define Portfolio for Development Co-creation Workshop focuses on defining a portfolio of actions under a mission. Objectives include reviewing the mission, deliberating on actions, mapping projects, and issuing a call for participation. Relevant actors (e.g., technical staff, industry, academia, civil society) will participate in the co-design workshop. Preparation involves mapping actors, understanding the challenge, and organizing activities. The workshop includes activities like focusing on the mission, using frameworks, and co-creating criteria for the call. The process ends with a co-created call for participation and a shared learning space for knowledge exchange.

Phase 1: Pre-Qualification

The Pre-Qualification phase follows the initial planning stage in the tendering process. Selected participants form tendering parties to produce final bids during the competitive dialogue phase. This phase, lasting about 4 weeks, includes 2-3 networking co-creation workshops to clarify the context, mission, and challenges, and to develop initial evaluation indicators. Participants benefit from collective knowledge and perspectives. The region provides a list of design principles and a shared co-creation space. Workshops aim to test assumptions, create shared understanding, and establish initial ideas on impact evaluation.

• Analyse Contest

The "Analyze the Context" Co-Creation Workshop helps participants map the mission's context, fostering collaboration and effective resource use. It is the first formal collaboration moment for future parties to meet potential partners. Participants should leave with a better understanding of the context, challenges, and new relationships, ideally forming tender parties between workshops. Preparation includes revisiting actor mapping, organizing "lightning talks," and providing informational resources. The workshop includes activities like mapping strategic and operative playgrounds and conducting a PESTEL analysis. Participants will engage in activities to understand context, interact with stakeholders, and analyse policy environments. The session concludes with a summary, debriefing, and next steps.

Reframe problem

The second "networking" co-creation workshop aims to help participants better define and reframe the problem. Re-framing contextualizes missions to local needs, maintaining motivation and addressing real benefits. Participants leave with a better understanding of the mission and contribute toward its goals, submitting an initial idea card for the competitive dialogue phase. The workshop involves activities like abstraction laddering to reframe problems and creating idea cards for problem-solving. The final workshop, "Finding Metrics," helps parties think about monitoring and evaluating impact, resulting in a theory of change and corresponding indicators.

Phase 2: Competitive Dialogue, Tendering and Contract Award

In this phase, selected parties refine their proposals through five co-creation workshops over 10-12 weeks. These workshops allow parties to refine solutions, test market configurations, define value propositions, and negotiate success metrics collaboratively. The region provides a space for iterative solution building and feedback sharing. Workshops focus on topics like personas, customer journeys, service infrastructure, business models, and impact design. At the end, parties submit final bids based on refined solutions. The region assesses these bids according to predefined criteria and awards contracts. Mechanisms for systematic evaluation, knowledge sharing, and celebrating failure are also provided.

• Envision Alternatives

The workshop series aims to help parties refine their initial solutions presented in the Idea Card. Each workshop focuses on different solution aspects and includes ecosystem actors for direct evaluation. The process involves iterative improvement and understanding testing. By the series' end, parties will submit their final bids, potentially including a Service Blueprint as a working prototype. Suggested workshop topics include user personas, customer journey mapping,

service infrastructure, feasibility design, and impact design. Each workshop includes diverse actors from the ecosystem.

Prototype and Experiment

At the end of the second phase, parties are notified to submit final bids of co-created solutions. The region sets a submission deadline and assesses bids based on criteria and regulations. Diverse actors may be involved in decision-making, similar to Participatory Budgeting. The region should provide mechanisms for systematic evaluation, knowledge sharing, and learning from failures. A final event may be organized to present winners and gain support from the Quintuple Helix. Specifically, these new programming and innovative processing techniques were adopted in the <u>BLUE BIO MED Project</u>.

The blue bioeconomy in the Mediterranean needs better governance of innovation policies, with a transnational approach focused on achieving the 2030 Agenda for Sustainable Development (SDG) through innovation. BLUE BIO MED aimed to fill the transnational governance frameworks active in the Mediterranean area (e.g. UfM, UNEP-MAP, EUSAIR, WestMed, Bluemed Initiative, etc.) with territorial policy making - regional/ national. The project has been an open platform for a co- and inclusive design with the wider innovation community promoting a MED Bottom-up Innovation Alliance for the blue bioeconomy to streamline multiple efforts and initiatives in the Mediterranean. The BLUE BIO MED Project supported the launch of the Alliance to strengthen Mediterranean leadership in transforming innovation in the blue economy.

The experience and knowledge gained from the BLU BIO MED Project (also Mistral and B-Blue) are capitalized by the Blue Ecosystem project, which aims to test innovative methodologies that, Taking into account the territorial peculiarities of the areas involved in the partnership, the experiences of the organizations present, to create enabling conditions to promote concretely a more sustainable and resilient blue economy in the Mediterranean area.

BLU BIO MED first, and Blue Ecosystem later, through the launch of transformative co-creation innovation laboratories (TRAIN laboratories) have started and are starting a transnational "open innovation" path in the MED area to address complex challenges in the reference area, to identify opportunities and joint transnational actions to help overcome them.

The use of the TRAIN Lab methodology, supported by mutual learning initiatives of the BLUE ECOMATCH programme will enable a change in the mentality of stakeholders, adopting a 5a-helix approach and involving the main actors of the blue economy, towards a wider use of codesigned innovations and cutting-edge technologies, also to foster the adoption of more sustainable business models, the development of new skills, the overcoming of institutional and cultural barriers that hinder the development of advanced innovation in the various sectors of the Blue Economy.

2.2. TRANSFORMATIVE PORTFOLIO OF MISSIONS

The concept of a Transformative Portfolio of Missions and Challenges refers to a strategic framework designed to foster a shared vision for advancing BLUE ECOSYSTEM missions at the regional scale. This process involves co-designing and co-creating innovation labs across participating territories to strengthen their capacity to engage in transformative innovation projects. Leveraging the Blue Transformative Challenges Matrix—a strategic tool derived from key policy analyses such as SRIA Blue Med, RIS3 strategies, the MISTRAL Blue Book, and regional

action plans (e.g., Balearic Islands, Emilia-Romagna, Sud PACA-Occitanie, Zadar County, Alentejo, Attica, and Albania)—the portfolio identifies priorities and actionable opportunities for sustainable innovation in the Mediterranean blue economy.

This effort is rooted in a comprehensive assessment of competitive advantages, regional challenges, and the alignment with overarching EU objectives, such as the Mission Restore our Ocean and Waters. By synthesizing insights from critical policy documents, thematic strategies, and territorial action plans, the portfolio aims to catalyze the adoption of cross-sectoral innovations and emerging technologies to transform business models and promote sustainable development within the blue economy.

The participatory nature of this methodology ensures the integration of diverse regional perspectives through collaborative workshops, resulting in a roadmap for impactful territorial and social transformation. This roadmap not only aligns with regional and transnational priorities but also supports targeted actions and fosters opportunities for innovation through mechanisms such as transnational calls.

An overview of key factors driving innovation in the associated regions is provided, with a focus on both established and emerging Blue Economy sectors, as well as the key challenges aligned with regional strategic priorities. Figure 1 illustrates the established and emerging sectors identified by the EU Blue Economy Observatory, offering a broad view of the sectors driving innovation across all regions involved in the BLUE ECOSYSTEM project.

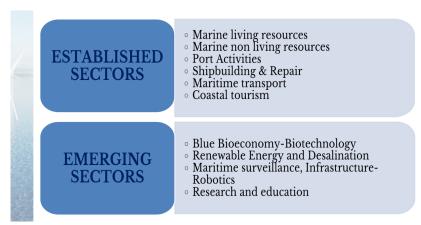


Figure 3 - Established and Emerging BE sectors in the EU, source: EU Blue Economy Observatory.

Figure 2 provides an overview of the key challenges identified across the participating regions, which are aligned with the RIS3 framework. These challenges highlight regional priorities for transforming the Blue Economy, addressing market, environmental, and innovation factors.

Albania (Durrës)

- 1. **Marine Resource Management**: Overexploitation of marine resources, depletion of fish stocks and marine habitats.
- 2. **Pollution and Waste Management**: Pollution from coastal tourism, increased waste, and environmental degradation in tourist-heavy areas.
- 3. Sustainable Tourism: Pollution from coastal tourism.
- 4. **Resource and Waste Management**: Need for improved recycling and waste processing infrastructure.

Croatia (Zadar)

- 1. Marine Resource Management: Food and bioeconomics fisheries.
- 2. Sustainable Tourism: Sustainable tourism.
- 3. Pollution and Waste Management: Sustainable environment.
- 4. Maritime and Coastal Infrastructure: Sea traffic.

Cyprus

- 1. Marine Resource Management: Aquaculture and fisheries.
- 2. **Sustainable Tourism**: Coastal and maritime tourism.
- 3. Innovation and Biotechnology: Marine biotechnology.
- 4. Maritime and Coastal Infrastructure: Maritime and shipping ecosystem.

Greece

- 1. **Marine Resource Management**: Fisheries and aquaculture in the agro-food chain.
- 2. **Pollution and Waste Management**: Marine pollution, environment protection, and circular economy.
- 3. Sustainable Tourism: Tourism culture creative industries.
- 4. Innovation and Biotechnology: Aquatic biotechnology.
- 5. **Sustainable Economic Development**: Sustainable energy.
- 6. Maritime and Coastal Infrastructure: Transport and supply chain.

Portugal (Alentejo)

- 1. **Sustainable Economic Development**: Sustainable bioeconomy.
- 2. Sustainable Tourism: Tourism and hospitality services.
- 3. Maritime and Coastal Infrastructure: Mobility and logistics.

Spain (Balearic Islands)

- 1. Sustainable Tourism: Tourism Cultural and Creative Industries Hospitality services.
- 2. **Marine Resource Management**: Biodiversity protection.
- 3. Pollution and Waste Management: Marine litter, circular economy.
- 4. Sustainable Economic Development: Marine renewables,

Italy (Emilia-Romagna)

- Marine Resource Management: Blue bio-economy and biotechnology.
- 2. **Sustainable Tourism**: Coastal zone and Tourism 2.0.
- 3. **Innovation and Biotechnology**: Blue bio-economy and marine manufacturing.
- 4. Sustainable Economic Development: Renewable energy sources.

France (Occitanie)

- 1. **Marine Resource Management**: Restore coastal environment to improve attractiveness.
- 2. **Pollution and Waste Management**: Decrease ship pollution.
- 3. Sustainable Tourism: Develop new sustainable offers.
- 4. **Climate Adaptation**: Adaptation to climate change.

Figure 4 - Key Challenges in the study regions aligned with RIS3 framework.

Building on these insights, the following section summarizes the key Blue Economy sectors and challenges, drawing on data collected from project partners, the EU Blue Economy Observatory, and regional strategic documents. This provides valuable insights into opportunities for innovation and sustainable development within the Blue Economy. For further details, please refer to the <u>Blue Economy Starting Paper</u> and to the report "<u>Driving the Transition to a Sustainable and Resilient Blue Economy in Mediterranean Regions. A Transformative Portfolio of Missions"</u>.

The construction of the Transformative Portfolio of Mission was built through analyzing strategic policy documents, ensuring a comprehensive approach to fostering sustainable innovation in the Mediterranean Blue Economy.

• Marine living resources [Factsheet]

Marine living resources in Mediterranean regions are vital for local economies and ecosystems, driven by market demands and sustainability goals. Regions like Attica and Croatia focus on aquaculture innovations, with significant contributions to national seafood production. Occitanie and PACA emphasize shellfish farming and biodiversity conservation, while Emilia-Romagna and Alentejo advance circular and sustainable aquaculture practices. The Balearic Islands highlight the economic impact of recreational fishing alongside aquaculture. Cyprus and Albania aim to expand exports and balance biodiversity conservation. Across all regions, technological advancements, resource efficiency, and climate resilience are key to addressing environmental challenges and promoting sustainable growth.

• Marine non-living resources [Factsheet]

Coastal Mediterranean regions, contributing 17% of the European total with a GVA of 700 million euros in 2021, are rich in mineral resources. Italy alone contributes 87% of this amount. The sector is driven by market demand for oil, gas, and energy solutions, alongside strict environmental regulations. Key focuses include sustainable offshore services in Cyprus, industrial-environmental balance in Occitanie, decarbonization in Emilia-Romagna, and environmental soundness in the Balearic Islands. Attica advances energy storage and pollution control, while Albania and Croatia develop sustainable strategies, promoting technological advancements and sustainability.

Port Activities [Factsheet]

Port activities in Mediterranean regions are driven by both market and environmental factors. Economically, Cyprus and Attica focus on maritime tourism and shipbuilding, while Occitanie, Emilia-Romagna, and the Balearic Islands emphasize digital transformation and ecological transitions. Albania and Croatia aim to enhance port infrastructure through European integration. Environmentally, goals like carbon neutrality, invasive species management, and pollution control drive the adoption of innovative technologies. Strategic ports like Piraeus and Alentejo, with strong renewable energy ties, further promote sustainable development and technological advancements.

• Shipbuilding & Repair [Factsheet]

Approximately 30% of employees in the shipbuilding and repair sector are based in the Mediterranean regions, contributing 30% of the GVA for this industry in Europe. Innovation is driven by market demands for digital transformation and environmental factors like emissions reduction and waste management. Cyprus and the Balearic Islands focus on digital collaboration, while Occitanie and Emilia-Romagna emphasize eco-design and energy efficiency. Attica leverages its strategic port position for marine renewable energy. Environmental regulations drive the adoption of greener technologies, with Albania and Croatia addressing pollution control and resource management. The sector continuously innovates to meet modernization and sustainability needs.

• Maritime transport [Factsheet]

The Mediterranean regions contribute around 13% of the GVA for the maritime transport industry in Europe and 30% in employment, with Italy, France, Greece, and Spain accounting for over 90% of this GVA. Market demands for digital transformation and environmental imperatives, such as reducing ship pollution and promoting green technologies, drive innovation in the sector. Regions like Occitanie and Attica lead in adopting sustainable practices to meet global standards and address regional challenges.

• Coastal tourism [Factsheet]

The EU-Mediterranean regions contribute over 50% of the GVA in the EU coastal tourism sector, supported by a workforce of over 700,000. Coastal tourism in regions like Cyprus, Occitanie, Emilia-Romagna, and the Balearic Islands is driven by market demands and environmental factors, emphasizing digitalization and sustainable practices. Key trends include the use of AI, IoT, and Big Data for tourism and environmental management, and the implementation of Nature-Based Solutions to protect and restore marine ecosystems. These regions face challenges like geopolitical tensions, environmental sustainability, and land-use conflicts, highlighting the need for innovative and collaborative solutions to ensure sustainable growth and resilience in coastal tourism.

Blue Bioeconomy-Biotechnology [Factsheet]

Blue Biotechnology in the Euro-Mediterranean countries is in its early stages, with the Mediterranean plant sector providing crucial raw materials. Aquaculture drives biotechnological development, focusing on animal health, reducing chemical use, and treating organic wastewater. Regions like Emilia-Romagna innovate in marine biotechnology using circular economy principles, while the Balearic Islands and Attica balance economic growth with environmental conservation. Occitanie and Cyprus emphasize smart specialization and targeted training. The blue bioeconomy is driven by market demands and environmental imperatives, focusing on sustainable practices, research investment, and regulatory support.

• Renewable Energy and Desalination [Factsheet]

Despite its potential, Blue Energy in the Mediterranean has not yet achieved commercial deployment, but the renewable energy sector generates a GVA of about 3.5 billion euros. Innovation, especially in offshore wind, is driven by energy security, economic development, and EU regulations like "REPowerEU" and "Fit for 55." Environmental goals include reducing emissions and minimizing marine impact. Regions like Cyprus, Emilia-Romagna, Occitanie, and Attica are integrating renewable energy with traditional marine industries. Desalination, crucial for arid islands, is emphasized in the strategies of Cyprus and the Balearic Islands to mitigate environmental impacts.

Maritime surveillance, Infrastructure-Robotics [Factsheet]

The maritime surveillance, infrastructure, and robotics sector in the EU-Mediterranean regions is driven by market demands and environmental considerations. Market factors include international regulation compliance, maritime safety, and technology integration. Environmental factors focus on reducing pollution and promoting sustainability. Regions

like Cyprus, Occitanie, and Emilia-Romagna innovate in navigation systems and marine robotics, while the Balearic Islands and Attica use surveillance for tourism and safety. Albania and Croatia emphasize sustainable practices, and Alentejo integrates renewable energy and surveillance systems, balancing growth with sustainability.



This overview of market dynamics and environmental factors influencing economic activities in the Mediterranean area highlights the interactions between economic performance and sustainability, providing useful information on the drivers of innovation in the blue economy.

This exploration lays the foundations for understanding the critical factors that promote sustainable growth and innovation in different sectors involved in the blue Mediterranean economy.

Each partner, starting from an overview of the key challenges identified in their region, should highlight the challenges directly linked to regional priorities for blue economy transformation, addressing market, environmental and innovation factors.

Pre-selecting regional priorities restricts the scope of approach to create greater focus on selected themes, avoiding "going off topic".

The declination of the themes is an important starting point, especially for stakeholder engagement.

2.3. STAKEHOLDERS' ENGAGEMENT

Stakeholder engagement is critical to the success of the **BLUE ECOSYSTEM** project. The initiative requires the active participation of a broad spectrum of stakeholders, including **industry**, **research institutions**, **civil society**, **start-ups**, and **policymakers**. Stakeholder engagement in the co-design and co-creation of products and services is essential, ensuring that societal needs are central to the development of innovative solutions. By involving all relevant actors, this process fosters equity, provides equal opportunities for all citizens, and is crucial for tackling the complex challenges of building a sustainable blue economy. The following section provides a summary of the stakeholder engagement strategy within the Blue Ecosystem Project. For a more detailed description, please refer to <u>Deliverable D.1.3.1</u>. "Stakeholder engagement strategy".

A clear methodology will be employed to reach the right stakeholders, provide updates, and facilitate active participation. Each project partner is responsible for ensuring the involvement of these stakeholders in the implementation of the project, with the CPMR-IMC coordinating the transnational aspect and ensuring synergies with other relevant initiatives. Effective dissemination, advocacy, and communication will play key roles in sharing the project's results and ensuring that stakeholders remain informed throughout its lifespan.

Each session of co-design must have a variety of stakeholders, linked by the same themes but operating differently and according to different interests and objectives, so as to make the dialogue and discussion sessions effective for defining challenges.

As written above and according to the <u>Deliverable D.1.3.1.</u> "Stakeholder engagement strategy", the stakeholders engagement must respect selection steps:

• Identification of relevant stakeholders: stakeholders are categorized within the quintuple helix model, including industry, government, civil society, academia, and environmental groups. For this strategy, based on the Application Form of the project, a literature review has

been carried out to better understand what kind of stakeholders should be included

in each category of the quintuple helix:

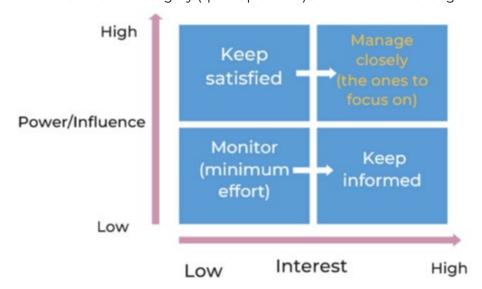
- 1) Industry and businesses (including R&D and innovation entities);
- 2) Institutional (Local & regional authorities, transnational strategies, initiatives & projects);
- 3) Civil society (citizens/residents/civil society associations);
- 4) Academia;
- 5) Environment (represented by conservation associations, NGO's).
- Creation of a stakeholder map: the project involves creating a stakeholder map at the regional level to identify key stakeholders in regions such as Balearic Island, Emilia-Romagna, Région Sud Occitanie, Zadar County, Alentejo, Attica, Albania, and Cyprus. This activity is closely linked to the Blue Transformation challenges at the Mediterranean level and the priority matrix.

At the transnational level, the CPMR (Conference of Peripheral Maritime Regions) has identified key stakeholders mainly at the institutional level, including regional governments, transnational strategies, initiatives, and other relevant projects due to the nature of the organization.

Institutional (Regional authorities, transnational strategies, initiatives & projects)

- Union for the Mediterranean (UfM)
- UNEP-MAP
- EU strategy for the Adriatic and Ionian region (EUSAIR)
- Western Mediterranean (WestMED) initiative
- Conference of Peripheral Maritime Regions
- Bologna Charter
- Blue Mediterranean Partnership
- SwitchMed initiative
- EU Interreg Euro-MED Programme
 - Dialogue4innovation ISEC HUB
- Blue Economy Stakeholder Platform (MedBESP) UfM
- The S3 thematic platform for sustainable blue economy
- HORIZON Programme
 - o Blue Mission MED
 - o PREP4BLUE
- Prioritization of stakeholder: each partner should follow an internal stakeholder
 prioritization process to understand the appropriate actions for each group. Mendelow's
 matrix is a useful tool for this, with the horizontal axis representing stakeholders' interest
 in the project and the vertical axis representing their power. The categories are:
 - o Low interest, low influence: keep them informed.
 - o High interest, low influence: involve and consult with them.
 - o Low interest, high influence: engage powerful key stakeholders.
 - o High interest, high influence: collaborate with these partners.

The prioritization of stakeholders depends on the type of pre-identified regional challenge (e.g., marine ecosystems, blue biotechnologies, marine renewable energies, fishing and aquaculture, ports, shipbuilding, marine robotics, coastal and maritime tourism). Regional project partners can assign 1-4 stakeholders for each category (quintuple helix) and for each challenge.



• **Guidelines to identify stakeholders' needs and interests**: each regional partner must consider the regional challenges related to the Blue Economy and, as a result, evaluate the needs and interests of the involved stakeholders. The document "Stakeholder engagement guidelines" of the Horizon project "PREP4BLUE" provides some examples:

Industry and businesses, including R&D and innovation entities

NEEDS	INTERESTS
 Clarity on regulations. Support for sustainable practices. Financial incentives or support. 	 ➤ Profitability and brand reputation. ➤ Sustainability ➤ Market Demand.

Institutional (Local & regional authorities, transnational strategies, initiatives & projects)

NEEDS	INTERESTS
 Need for adequate data for decision-making. Need for Funding. Need for legislative support International cooperation. 	 ➤ Economic growth. ➤ Environmental conservation. ➤ Social well-being.

Civil society (citizens/residents/civil society associations)

NEEDS	INTERESTS
 Awareness and Education. Assurance of Well-being and Health. Sustainable Resources. Representation 	 ➤ Livelihood ➤ Cultural Preservation. ➤ Sustainable Resources for Future ➤ Generations. ➤ Health

Academia

NEEDS	INTERESTS
 Funding for Research Open Channels of Communication with Policymakers (and beyond). Access to Sites and Data. 	 Scientific discovery. Conservation. Evidence-Based Policymaking. Publication and recognition.

Environment (represented by conservation associations, NGO's)

NEEDS	INTERESTS
 Funding Collaborations and partnerships: Access to sites and data. Advocacy support 	 Environmental conservation. Community upliftment. Policy influence.

• Communication, Dissemination & Advocacy activities: have a twofold objective:

a) to involve and stimulate the quintuple helix stakeholders to be part of BLUE ECOSYSTEM project, raising their awareness on the opportunities, at multiple level, of the TRAIN LAB methodology and, more in general, of participatory approaches proposed by the project.

b) to mainstream both horizontally (to the Blue Economy sectors to change the behaviours) and vertically (to policymakers and institutions to change the rules) the project activities, methodologies and approaches towards a wide innovation.

For this Programming period, the communication activities are integrated into each of the work packages. BLUE ECOSYSTEM is divided into 3 WPs and each of them has already defined communication objectives:

WP1 (from January 2024 to September 2026): Involve and stimulate the quintuple helix (industry, academia, civil society, governments, and environment) to be part of the project, raising knowledge and awareness on the opportunities, at multiple levels.

WP2 (from January 2025 to September 2026): Ensure the broad horizontal mainstreaming of results and the lesson learned by the Territorial Transformative Innovation solution experience. This is conducted with the involvement of quintuple helix stakeholders to stimulate the adoption of similar innovative paths and the establishment of a mindset oriented to innovation, overcoming current cultural barriers.

WP3 (from January 2024 to September 2026): Foster an effective, swift, and wide uptake and replication of the project approaches by user communities, via fit-for-purpose and appealing outreach activities. Moreover, it aims at empowering policy level and more widely all the 5 helix stakeholders on TRAIN lab methodology for a cascading large-scale replication and adoption of the methodology in the blue economy.

The communication strategy has three objectives, aligned with the Work Packages and project timeline:

2. Awareness

- **Why?** To increase visibility and awareness of the project.
- **When?** January 2024 to September 2026. As results are obtained, focus will shift to advocacy and dissemination.
- **How?** Through social media publications by the project and partners, and participation in relevant events at regional and transnational levels.

3. Exchange

- **Why?** To encourage participation, cooperation, and best practices exchange with pre-identified target groups at local, regional, and transnational levels.
- **When?** January 2025 to September 2026, primarily during the testing period, shifting to advocacy and dissemination towards the end of the project.
- **How?** Through regional workshops, bilateral meetings with stakeholders, addressing the specific challenges of each region.

4. Dissemination & Advocacy

- **Why?** To inform policy decisions, disseminate and utilize key results, ensure long-term sustainability, and develop new projects and activities.
- **When?** As relevant results and outcomes are available, likely from June 2025 to September 2026.
- **How?** Through social media publications, participation in relevant events, and presenting project results, including a final event.

2.4. LOCAL WORKSHOPS

2.4.1. Introduction

The main goal of the co-design workshop is to define the challenges and priority actions to be implemented at regional level through the involvement and collaboration of stakeholders in co-design and co-creation activities, thereby determining the key sectors to focus on.

This innovative methodology engages stakeholders alongside the design team, aiming to stimulate the creation of innovative ideas that unify the needs and requirements of all parties into a single challenge. Through dialogue and collaboration among participants with diverse expertise, it is possible to achieve a holistic understanding of the context and the challenges to be addressed. This approach ensures the identification of more sustainable and enduring priority actions, while simultaneously promoting the dissemination of technology transfer models necessary for local development.

Specifically, the GOAL's concern:

- Creation of a common language, a uniform level of knowledge, understanding and shared vision among participants regarding the blue sustainable economy;
- Developing a shared vision on a common mission and discussing complex challenges;
- Facilitation of a dialogue on innovation in the blue sustainable economy (technical innovation; innovation governance (innovation through cooperation); knowledge-related innovation);
- Creation of new networks with stakeholders to develop solutions and participate in the acceleration process.

Before the co-design workshop, it could be useful to produce a preliminary document (eg. Mission Challenge Starting Paper) in order to define the key actions and to facilitate the discussion.

This document aims to identify the challenges of the blue economy for the partner region within the framework of the themes previously identified by the partners.

The report should summarise and frame the themes of the key challenges in the study regions aligned with the RIS3 framework.

MAIN ELEMENTS:

- Introduction to the *KEY CHALLENGES* of the Partner Region regarding the Blue Economy and respective in-depth discussions.
- Introduction to the stakeholders engagement and presentation of the *PRIORITIES OF REGION*:
 - Short description of the domain;
 - Short description of the expertise;
 - Major Projects;
 - Available Infrastructure;
 - Collaborations with entreprises;
 - Start-ups;
 - International Smart Specialisation Platform Collaborations;
 - Regional Stakeholders.
- Identification of CHALLENGES to develop in the co-design workshop with the stakeholder
 - Co-design session
 - Map co-participation session model (e.g. Canva model, Miro..)
 - Key questions
 - Identification of challenges and priorities actions.

2.4.2. Stakeholder Panel Composition

The stakeholder panel will consist of the stakeholders previously identified and interested in participating in the workshop. Even at this stage, it is important, as far as possible, to have a representative group of stakeholders from each section of the *Quintuple Helix*, so as to ensure a balanced discussion on all aspects of the issues at hand.

2.4.3. Methodology

To effectively organize a co-design workshop, it should be structured around specific themes, allowing for the involvement of relevant stakeholders for each area. This approach facilitates a focused and comprehensive analysis of each sector's unique challenges and priority actions.

For each session, stakeholders with expertise and interest in the relevant theme should be invited to participate. This ensures that the discussions are informed and comprehensive, leveraging the diverse knowledge and perspectives of all participants.

To facilitate the discussion and ensure a thorough analysis, a canvas divided into sections can be used as a guide. An example of such a canvas may include the following sections (Fig. 1):

- 1. Context analysis concerning the main issues encountered;
- 2. Analysis of negative impacts of the identified issues;
- 3. Background analysis;
- 4. Limitations of previously undertaken actions;
- 5. Main challenges;
- 6. Priority actions;
- 7. Stakeholders involved and to be involved;
- 8. Available/necessary resources.

This structured framework provides a solid foundation for guiding discussions, effectively gathering participants' insights and fostering a comprehensive understanding of the relevant issues. It ensures that all critical aspects are thoroughly examined and facilitates the identification of key challenges and priority actions in each sector.



Figure 5 - CANVAS Model to be adapted for co-design sessions at Ecomondo.

Each section of the Canva template has potential key questions/guides that can be used to guide or invite stakeholders to important reflections.

It is necessary to think in advance of questions to be used by co-design so as to bring participants to a winning reflection.

Below is a brief description of possible inputs and questions to be followed in order to bring the participants to a co-designed conclusion.

1. Context and 2. Problem definition

- What are the main critical points you identify?
- What are the negative impacts of identified criticalities?
- How do these critical issues affect the different stakeholders (environment, economy, community, etc.)?
- What local data, research or knowledge can we rely on to better understand the problem?
- Are there external factors (climate change, political changes, global markets) that make these issues more critical?

3. Background

- What has already been done? What actions have already been taken?
- Are there any existing initiatives or projects we can build on or learn from?
- What past collaborations have worked, and what can we learn from them?

4. Identification of limits

- What limits do you identify within these actions?
- What obstacles (political, social, financial, environmental) prevent the proper implementation of the projects/plans in place?
- What has not yet been done?
- Is flexibility of action guaranteed in the face of unforeseen challenges (e.g., economic changes, natural disasters)?
- Have there been conflicts or imbalances between the parties concerned, if any?

5. Challenges to be faced

- What are the main challenges?
- What is our long-term vision for addressing this marine environmental challenge?
- How do we prioritize ecological health, economic viability, and social equity?
- What specific, measurable objectives can we co-create to align all stakeholders toward that vision?
- What are potential solutions or interventions that we can co-create to address the challenges?
- How can we ensure these solutions are sustainable both environmentally and economically?
- What trade-offs might arise, and how can we manage them?
- How can we use technology or traditional knowledge to address the issue effectively?

6. Priority actions to be implemented

- What actions are needed to address the identified challenges?
- What commitments are we willing to make today to address marine environmental challenges?
- How do we build resilience in local communities and ecosystems to future environmental changes?
- How can we ensure long-term stakeholder engagement and ownership of the solutions?
- How can we scale successful solutions to other regions or contexts?
- When should we reconvene to assess progress and realign objectives, if necessary?

7. Identification of stakeholders and roles

- Who are the key stakeholders involved in these challenges (e.g., fishermen, environmental agencies, tourism sector, indigenous communities)?
- What roles do these stakeholders currently play in marine resource management or environmental protection?
- How do different stakeholders perceive the challenge?
- What are the goals, motivations, and constraints of each stakeholder?
- What unique strengths or resources can each stakeholder bring to the solution?
- Where do we see opportunities for partnerships between government, industry, and community groups?
- How can we align diverse interests to generate innovative solutions?

8. Resources to be found

- What resources (financial, technical, human) are needed to implement the chosen solutions?
- Where to find resources? (funds, EU projects..)
- How do we ensure participation and ownership of solutions by all stakeholders?
- What are the steps for testing and piloting solutions in real-world settings?
- What timelines are realistic for different phases of implementation?

During a co-design session, the role of the moderator is crucial for facilitating the collaboration process and stimulating stakeholders' reflection. Here's how the activity can be conducted:

- 1. **Introduction and Session Purpose**: The moderator begins with a brief introduction explaining the purpose of the co-design session and the importance of active participation from all attendees. This helps create a welcoming and collaborative environment.
- 2. **Guided Questions/key to Stimulate**: The moderator must stimulate participants with questions or ideas for reflection in order to activate a participatory dialogue between stakeholders.
- 3. **Writing Ideas on Post-its**: After presenting the guiding questions, the moderator invites stakeholders to reflect and write their ideas, conclusions, or proposals on post-its. This moment of personal reflection is essential for gathering a variety of viewpoints and ideas.
- 4. **Posting the Ideas on the Canva Model**: Once stakeholders have written their ideas, they are invited to post the post-its on a printed Canva model placed on a wall. The Canva model is divided into different sections, each representing a specific aspect of the project. This helps visualize and organize the ideas in a structured way.
- 5. **Discussion and Synthesis of Ideas**: The moderator then leads a collective discussion where the posted ideas are examined and discussed. This moment is crucial for synthesizing ideas, identifying common themes, and developing collaborative strategies. The moderator ensures that everyone has the opportunity to express their opinions and that the debate remains focused and productive.
- 6. **Closing the Session**: Finally, the moderator summarizes the key points that emerged during the discussion and outlines the next steps to be taken. They thank the stakeholders for their active participation and encourage them to continue collaborating in the future.

2.4.4. Outcome

After the co-design sessions with stakeholders, post-its and minutes for each thematic day should be collected. Next, report the concluding points in an ordered and subdivided manner for each section of the Canva model. This process allows for the identification of challenges and priority actions at regional level.

The aim of these sessions is to create tangible innovation, giving rise to new ideas that would probably never have emerged with traditional methodologies. Co-design stimulates stakeholder engagement, creativity and teamwork. It also enables new products to be developed, problems solved and existing processes optimised. The solutions generated are not imposed, but are the result of a bottom-up process. In short, it creates value.

At the end of the working sessions, it is necessary to proceed with the elaboration and prototyping of the identified challenges in order to ensure the feasibility and effectiveness of the actions to be undertaken. The use of co-design allows users to define functionalities and

interactions, allowing them to understand what the focus of future strategies and which channels should be to exploit.

Once we have gathered all the sketches and notions accumulated during the days of shared work, we can process the data and information to structure a paper that can respond to the needs of the participants.

After the co-participation phase in defining objectives, goals and actions, it is necessary to analyse and give meaning to the data collected. By bringing together all the data, observations and stories, we identify common themes and relationships. This activity is one of the most difficult moments in the process because it takes time to analyse the context, the process and the various points of view to give the right meaning to the observations.

You need to choose and coordinate the most important insights by answering questions such as:

- What does this information mean? What makes it new and interesting?
- What are the areas of opportunity?
- What are the challenges in these areas?
- What are the priority actions in these areas?

Some key activities include:

- Map all the data.
- Make all the data collected accessible and visible.
- Organize and analyse common themes.
- Identify key insights (how and why).
- Definition title of the challenge and any acronym (also describing the territorial challenges)
- Define and select needs and create a brief for generating ideas.

The process ends with the drafting of a document, the Starting Paper, which can contain all the information collected during the co-design phase.

EXPECTED OUTCOMES answer these questions:

- What is the blue challenge for a sustainable economy that you want to propose and in which sectors should measures be taken to address it?
- What kind of changes and transformations do you expect for your community and territory in facing the Challenge?
- What contribution do you expect from the transformational territorial innovation path in this direction?
- During the process, are other parts needed?
- Indicate the type of organisation (public, private, association, company, parish, school, etc.) and, if already known, the name of the organisation. Why do you think their participation in the process is useful? How do you plan to involve them/ why do you think they will participate.
- What resources (financial, technical, human) are needed to implement the solutions chosen?
- What are the testing and experimentation phases of the solutions in real contexts? And what are the realistic time frames for the different implementation phases?

- How can we ensure long term stakeholder involvement and ownership of solutions?
- How to build the resilience of local communities and ecosystems to future environmental changes?
- How can we extend successful solutions to other regions or contexts?
- What are the next steps for each stakeholder group after the workshop?
- How can we maintain momentum and communication between stakeholders after the workshop?
- What commitments are we prepared to take today to address marine environmental challenges?
- When should we meet again to assess progress and realign targets if necessary?
- > The implemented Co-Design workshop (short abstract from Partner's Common Report Template)

EMILIA-ROMAGNA

The local workshop in Emilia-Romagna took place during the Ecomondo Fair (5th-8th November 2024, Rimini) and aimed to identify key regional challenges and priority actions across three thematic areas: Blue Bioeconomy, Marine Manufacture, and Coast and Tourism 2.0. Over three days, stakeholders engaged in co-design and co-creation activities to align wiTh the broader Smart Specialisation Strategy (S3) of the Emilia-Romagna Region.

The choice of stakeholders and issues to be addressed was facilitated by the development of the Regional Strategic Forum on the Blue Economy, which had already brought together the parties of Emilia-Romagna interested in the themes blue.

The workshop facilitated collaborative discussions through a structured approach using a Canvas and key questions to guide dialogues. Each session focused on defining challenges and priority actions with participants contributing their insights via post-it notes. The data collected was meticulously organized and analyzed, culminating in the Mission Challenge Starting Paper. This document outlines the key challenges, opportunities, and strategic actions required to support sustainable growth in the marine and coastal sectors, thus aligning with the region's environmental objectives.

The participatory approach of the workshop ensured active engagement from a diverse range of stakeholders, fostering innovative ideas and solutions to address the most pressing issues within each sector.



CYPRUS

In the framework of the Blue Ecosystem project, Chrysalis LEAP undertook the task of identifying the challenges and stakeholders in Cyprus.

This report outlines the process and methodology used to identify the challenges and the process

of selecting the theme for the local workshop. It also describes the process of identifying the stakeholders that will be engaged throughout the project and the number and typology of stakeholders engaged through the workshop.

Additionally, the report provides an in-depth description of the local workshop "Visualising Cyprus' Water Management Strategies: Leveraging AI and Digital Technology," organised in Cyprus on December 3rd. The workshop focused on addressing the pressing challenge of water scarcity in Cyprus, a critical issue exacerbated by climate change. The event brought together a diverse group of stakeholders representing all five groups of the Quintuple Helix: Academia, Industry, Government, Society, and the Environment. The workshop featured a panel discussion that explored the impact of climate change on water scarcity, followed by expert presentations on innovative water management tools and a hand-on co-design workshop.





Finally, the report explores in detail how the co-design workshop engaged participants in dialogue and exchange of opinions to collaboratively visualise future strategies for managing water resources amidst climate change.

ALENTEJO

The first co-design workshop took place on December 18th in Odemira/Alentejo. This event had the main objective of engage regional stakeholders in a collaborative process to identify the challenges and opportunities in Blue Economy in Alentejo region and define a common vision and a roadmap to address regional challenges to promote innovation. The event began with a contextualization of the Blue Economy in Europe, explaining the path taken so far, indicating the contributions of other projects such as MISTRAL and ATLA AZUL, and referring to the importance of the framework in RIS3 and the National Plan for the Sea. This was followed by a presentation of the BLUE ECOSYSTEM project and an introduction to the matrix of challenges and opportunities for the Sustainable Blue Economy, which served as the basis for the discussion that followed. During the working session, stakeholders primarily focused on debating three key challenges aligned with RIS3:

- Sustainable economic development: sustainable bioeconomy (with a greater focus on fisheries);
- Sustainable tourism: tourism and hospitality services;
- Maritime and coastal infrastructures: mobility and logistics.

At the end of the session, one additional topic had been suggested for future discussions – Sustainable Energy.

The following topics were also discussed: existing Blue Economy projects in Alentejo; the importance of funding for resource enhancement and Action Plan implementation; capacity building and literacy; gaps in legislation; co-management of resources and the importance of shared management with a bottom-up model.





BALEARIC ISLANDS

On November 28, a workshop was held at the Balearic Islands Port Authority to foster innovation and transformative territorial co-creation aligned with the S3 2021-2027 strategy and the 2030–2050 Agendas. The event focused on three key areas: Coastal and Maritime Tourism (addressing mass tourism's environmental impact, water scarcity, and recreational boating), Marine Renewable Energies (adoption of sustainable energy sources), and Maritime Fishing (generational renewal and vessel electrification).

The workshop, attended by 19 participants, addressed critical challenges and threats faced by the Balearic Islands while exploring potential solutions and fostering awareness of Blue Economy opportunities. Supported by the Directorate General of Innovation and Digital Transformation, the session aimed to define regional priorities for the Blue Economy.

Working groups tackled three core areas: identifying challenges, outlining priority actions, and mapping stakeholders and their roles. The event concluded with a summary of key findings and identified challenges, paving the way for sustainable regional development initiatives.







ATTICA

As part of Deliverable 1.5.1, Greece contributed to the establishment of the Transformative Co-Creation Innovation Labs (TRAIN) methodology, which focuses on advancing sustainable practices and innovation in the blue economy. This deliverable encapsulates efforts to design actionable strategies for addressing key challenges in transitioning to a sustainable blue economy within the framework of Smart Specialization Strategies (S3).

Key Insights and Methodology

The approach leverages the Blue Transformative Challenge Matrix (D1.2.1) and S3 priorities to identify challenges and opportunities across economic domains, focusing on areas such as bioeconomy, environmental sustainability, ICT, public health, and energy. A hybrid local workshop was held in Athens, engaging 89 participants from 57 organizations, representing the quintuple helix of industry, academia, civil society, government, and environmental groups. The workshop methodology emphasized stakeholder engagement, collaborative dialogue, and capacity building.

Key Focus Areas

- 1. Bioeconomy Agrofood: Promoting biodiversity, sustainability, and carbon neutrality through advanced aquaculture practices and certifications.
- 2. Environment Innovation and Ecosystem Restoration: Developing waste management systems, addressing pollutants, and enhancing biodiversity preservation through nature-based solutions.
- 3. ICT Digital Transformation: Leveraging AI, IoT, and digital twins for efficient coastal zone monitoring and management.
- 4. Public Health: Advancing marine-derived pharmaceutical products, functional foods, dietary supplements, and cosmetics.
- 5. Energy: Integrating marine renewable energy into maritime activities to reduce emissions.

The workshop identified Transformative Innovation Missions (TIMs) as a foundation for the TRAIN Labs:

- Scaling up Integrated Multi-Trophic Aquaculture (IMTA).
- Expanding waste collection technologies for rivers and estuaries.
- Advancing technologies for monitoring, bioremediation, and restoration.
- Utilizing Artificial Intelligence (AI) and modern tools for smarter coastal zone management.
- Developing marine-based pharma-nutra-cosme-ceuticals and functional products.
- Promoting Marine Renewable Energy (MRE) in maritime transport.

Outcomes and Next Steps to advance the development and deployment of innovations.

The workshop provided a cohesive vision for Greece's transition to a sustainable blue economy by defining TIMs, addressing stakeholder priorities, and identifying synergies with ongoing projects such as 2B-BLUE and BlueMissionMed. The next phase involves extending these efforts regionally, using detailed territorial mappings to create localized strategies for economic and environmental resilience.

Greece's contribution to Deliverable 1.5.1 highlights a structured roadmap for achieving sustainability and innovation in the blue economy. By integrating advanced technologies,

fostering multi-sectoral collaboration, and aligning with EU directives, this initiative lays a strong foundation for regional and national development through the TRAIN Labs framework.





ZADAR COUNTY

The workshop on "Shaping the Future of the Blue Economy" took place on December 17, 2024, in Zadar under the EU's Interreg Euro-MED program. The event brought together stakeholders from the Zadar County Blue Economy sectors to discuss the region's challenges and opportunities. The Mediterranean's Blue Economy encompasses vital maritime industries driving environmental, economic, and technological advancements. The workshop addressed key topics such as sustainable environmental protection in tourism, maritime and coastal infrastructure development, and the management of marine resources like aquaculture and fisheries.

Participants were introduced to the Blue Ecosystems project, which highlighted regional contributions to the Blue Economy, such as maritime transport, coastal tourism, fisheries, shipbuilding, renewable energy, and blue biotechnology. The Mediterranean region's importance in the EU's Blue Economy was emphasized, with over 50% of the EU's Blue Economy GDP derived from maritime tourism and significant roles played by countries like Italy, Croatia, Spain, and France.

The workshop featured group discussions aimed at identifying sector-specific challenges, the involvement of stakeholders, and potential solutions. Key challenges included environmental degradation from tourism, outdated maritime infrastructure, overfishing, and climate change impacts on marine resources. Solutions proposed involved digitalization, sustainable practices, cross-border collaboration, and innovative technologies to enhance the Blue Economy's resilience.



SUD PACA

On December 2, 2024, Pole Mer Méditerranée organized a co-design workshop focusing on the environmental footprint of the nautical industry in Sète, Occitanie Region. This workshop brought together a diverse group of stakeholders, including SMEs, public institutions, ports, and associations, to collaboratively identify and address sustainability challenges across the lifecycle of nautical activities. Participants engaged in discussions structured around four key phases: design, construction, operation, and end-of-life management of vessels.

Central to the workshop was a tailored questionnaire distributed during the event, which captured insights from the 15 participants. Key findings highlighted pressing environmental concerns, such as water pollution, user-generated waste, and ecosystem degradation. High-priority solutions identified included raising user awareness and promoting eco-design principles, while challenges like education gaps, transitioning to low-impact propulsion systems, and improving port waste management were flagged as critical areas for action.

The workshop also introduced the upcoming TRAIN Labs, set to launch in 2025, which will develop actionable solutions targeting the identified challenges. With 10 participants expressing strong interest in continuing collaboration through the TRAIN Labs, the workshop demonstrated a solid foundation for advancing innovation and sustainability within the nautical sector.







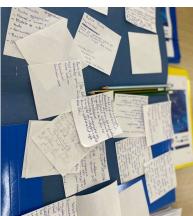
ALBANIA

On December 20, 2024, the "Workshop for Addressing Skill Gaps in the Blue Economy Sector" was held at the University "Aleksandër Moisiu" in Durrës, Albania. This event gathered diverse stakeholders, including academia, industry leaders, and NGOs, to collaboratively address challenges in the Blue Economy. The workshop focused on identifying skill gaps, fostering interdisciplinary collaboration, and aligning local practices with global sustainability standards.

Key challenges highlighted during the workshop included technological proficiency gaps, limited awareness of sustainability policies, and the lack of platforms for cross-sector collaboration. To address these, participants co-designed actionable solutions that culminated in the "Blue Ecosystem Training Program." This initiative prioritizes practical, industry-relevant training, promotes sustained stakeholder engagement, and incorporates interdisciplinary and region-specific approaches.

The workshop's outcomes emphasize the importance of bridging theoretical knowledge with practical applications and fostering dialogue across sectors to drive innovation and sustainability. The proposed program adopts a hybrid model, ensuring accessibility and contextual relevance while supporting continuous refinement through stakeholder feedback. This co-design process underscores the transformative potential of collaborative platforms in building a resilient and inclusive Blue Economy.





3. CALL FOR SOLUTIONS

In the period January 2025 to June 2025, Activity 2.1 concerns the call for transformative innovation solutions and definition of portfolios. A call will be launched in collaboration with each territorial partner (for the 8 operative partners) to find Blue Transformative Innovation Solutions.

Local stakeholders will be invited to take part in the call setting up Quintuple Helix Partnership (QHP). Co-creation activities will be implemented in each territory in order to favour the creation of QHP answering to the different missions in each territory.

The call will be open for a 3-month period in order to ease the process of QHP establishment through the co-creation process. At least one co-creation workshop will be held in each territory in order to help participants finding right partners, designing innovative solutions and answering in the right way to the call. The results of the call will be assessed and an innovation portfolio for each territory will be identified, through the common methodology developed under WP1.

Example MAIN ELEMENTS OF EACH LOCAL CALL:

- ➤ Project "IDEA"
- > Blue Sustainable Economy Territorial Challenge tackled
- ➤ Description of the Solution
- > Innovativeness
- > Development status of the Solution (example TRL if applicable)
- **>** Scalability
- Expected impacts in relation to the Blue Sustainable EconomyChallenge

> Project team

> Financial aspects

The selected solutions must meet the needs expressed in each identified Challenge, ensuring that it is tailored to address the specific requirements and condition of each challenge while allowing for effective management and implementation.

The solutions will be assessed on the basis of evaluation criteria established by each partner and related to:

- **evaluation of the partnership**, including the application of the 5ple helix model to foster collaboration among academia, industry, government, public and the environment, ensuring a holistic approach to sustainability and innovation;
- **quality of the proposed solutions**, with reference to clarity and state of development, planned activities, actors involved, expected outputs;
- **relevance to the topic**, with reference to project objectives, thematic priorities and the specific challenges identified.

The selected solution will benefit from an acceleration process as described below, in the following chapter.

4. ACCELERATION PROCESS

The TRAIN lab acceleration process could take several formats: collective technical workshops, study visits, keynote conferences. They will involve stakeholders from the 5 Helix, putting experts of the sectors at the heart of the event and fostering share of point of view and practices.

Acceleration process will last 3 to 5 months be depending on territorial needs and conditions and will be accompanied through regular meetings with consortium experts and mutual learning. In midterm and at project end an exploratory survey with private sector involved in TRAIN Labs on their availability and propensity towards the adoption of project approaches is conducted at local level with surveys. Results will be analysed and taken as reference for the elaboration of quality assessment of act. 3.1 to generally evaluate the readiness and attitude of the private sector.

Acceleration process – Key point Application Form

What: collective technical workshops, study visits, keynote conferences, feasibility studies, assistance for pilot actions preparation, assistance of transition agendas¹ preparation, etc

A transition agenda for this call is understood as a strategic roadmap towards reaching all objectives and targets of the Mission 'Restore our ocean and waters by 2030' in the applicant communities, with a particular focus on the objectives that are most relevant to the specific community. The roadmaps could cover processes needed to ensure the protection and restoration of marine/coastal/inland waters, biodiversity and ecosystems, the reduction/elimination of pollution and the achievement of decarbonisation and circularity targets, as well as include a plan for a defined number of years concerning the objectives set, covering, for example, expected outcomes, results, impact, ways to achieve them and ways to bring in financing to support the achievement of these objectives.

The transition agenda should indicate how specific results and ideally also their impacts are expected to materialise in order to ensure the actual achievements of the objectives. These agendas would serve as a basis for further planning of follow-up activities by the actors involved, particularly actions to meet the Mission Ocean and Waters objectives/targets, to be subsequently implemented with the financial support of various funds (e.g., EU structural funds/national/regional funds).

Who: they will involve stakeholders from the 5 Helix, putting experts of the sectors at the heart of the event and fostering share of point of view and practices.

How long: will last 3 to 5 months depending on territorial needs and conditions and will be accompanied through regular meetings with consortium experts and mutual learning.

Monitoring: exploratory survey with private sector involved in TRAIN Labs on their availability and propensity towards the adoption of project approaches is conducted at local level with surveys. In connection with **act. 3.1** to generally evaluate the readiness and attitude of the private sector.

The acceleration process is not just about creating a match between industry and academia. It involves *Quintuple Helix* stakeholders, including government, academia, industry, civil society, and the natural environment, ensuring a holistic approach to innovation and development.

This process is designed to tackle complex challenges through innovation, addressing issues that require multi-faceted solutions and collaboration across different sectors. The focus extends to a territorial scale, considering the specific needs and characteristics of the regions involved.

Scalability and transferability are key principles within this process, ensuring that the solutions developed can be adapted and applied in different contexts, thereby maximizing their impact and reach.

→ Acceleration Process Discussion for TRAIN LABS

What is the Added Value? The acceleration process provides a structured approach to solving complex challenges by fostering collaboration among diverse stakeholders. It leverages the expertise and resources of the quintuple helix stakeholders, including government, academia, industry, civil society, and the natural environment, to drive innovation and create impactful solutions. This holistic approach ensures that the solutions are not only innovative but also sustainable and scalable.

Why Should Stakeholders Take Part? Stakeholders should participate to gain access to a wealth of knowledge, resources, and networks. By being involved, they can contribute to and benefit from the collective expertise, innovative ideas, and collaborative efforts. Additionally, participation can lead to the identification of funding opportunities, enhance their visibility in the industry, and support their strategic goals through the development of cutting-edge projects and initiatives.

Which Kind of Activity/Support?

1. Workshops on Project Development Support/Project Ideation:

- Facilitates brainstorming sessions and provides guidance on project planning and ideation.
- Helps stakeholders to conceptualize and develop innovative projects aligned with regional challenges.

2. Mentoring and Assistance:

 Offers mentoring to define a clear pathway to achieve mission objectives, including goal setting, strategic planning, and implementation. • Provides assistance in identifying funding opportunities and resources necessary for project execution.

Output? The expected output of the acceleration process includes:

- A well-defined project proposal that addresses specific regional challenges.
- A local transformative agenda that outlines strategic actions and initiatives for sustainable development.

Envisaged Duration? The duration of the acceleration process will vary depending on the complexity of the projects and challenges addressed. However, a typical timeline might range from several months to a few years, ensuring sufficient time for ideation, development, and implementation.

Other Questions?

- How can stakeholders measure the impact of their projects?
- What criteria will be used to evaluate the success of the acceleration process?
- How can stakeholders sustain the momentum and continue collaboration beyond the project duration?

5. ANNEXES

Below we propose a common report template for the co-design workshops. The aim is to standardize the methodological phases of the co-design session. The steps must necessarily be as follows, while the management methods may vary. In any case, the objectives for each step will be outlined and must have an effective achievement.

With this model we wish to make it clear that the operational steps outlined in our process are to be considered as structural guidelines for the completion of activities. However, please note that the execution procedures may vary depending on the specific circumstances.

CO-DESIGN WORKSHOP (COMMON REPORT TEMPLATE)

1. SHORT ABSTRACT

Short abstract of the co-design workshop (around 1000-1500 characters) - to be included in the Deliverable 1.5.1.

2. Transformative Portfolio of Missions and complex challenges

Describe how you developed your Transformative Portfolio of Missions and complex challenges, including the methodology you used. Please, outline the key challenges identified in your region, emphasizing those directly connected to regional priorities for blue economy transformation. Make sure to address factors related to the market, environment, and innovation. Highlight how pre-selecting regional priorities helped narrow the focus to specific themes, ensuring a more targeted and relevant approach.

3. Stakeholders engagement

Describe here the number and typology of stakeholders engaged and also the strategy for stakeholder engagement. Attention to engage stakeholders from every group of the Quintuple Helix.

4. Local workshop

4.1 Introduction

Write here the title of the workshop, specify where it took place (for example, the city, venue, or if it was held online), and include the dates and duration (e.g., November 10–12, 2024, lasting 3 days).

Please also describe (and/or add the link to the document) any preliminary document produced to analyze the regional context and guide the identification of key action areas, providing a basis for the co-design process (eg. Mission Challenge Starting Paper).

4.2 Stakeholder Panel Composition

Describe the composition of the stakeholder panel, outlining the key participants and their roles or areas of expertise involved in the workshop.

4.3 Methodology

Describe how the co-design workshop process was organized, focusing on how specific themes guided the involvement of relevant participants. Explain how the use of a structured framework, such as a canvas, facilitated focused discussions and comprehensive analysis of challenges and

priority actions for each sector. Also describe the key questions or guides that were used to invite participants to important reflections and how the moderator facilitated the session.

4.4 Outcome

Describe the outcomes of the co-design sessions, focusing on how the collected ideas and insights were organized and analyzed. Explain how the process led to the identification of regional challenges and priority actions, and how the results were used to inform future strategies.

6. REFERENCES

- TRANSFORMATIVE INNOVATION LAB Transformative innovation labs and shared agendas (RIS3CAT 2030)
- <u>Dialogue4Innovation Project</u>
- PPT W1 30 May 2024 KOM Barcelona ART_ER
- Article CO-DESIGN FOR SOCIETY IN INNOVATION
- SISCODE Project
- <u>TerritoRRIa-Annex Policy Design</u>
- BLUE BIO MED Project
- <u>BLUE ECOSYSTEM WP1 HCMR Transformative Portfolio of Missions for MED Driving the Transition to a Sustainable and Resilient Blue Economy in Mediterranean Regions. A Transformative Portfolio of Missions</u>
- <u>Deliverable 1.3.1. STAKEHOLDER ENGAGEMENT DISSEMINATION, ADVOCACY & COMMUNICATION STRATEGY 2024-2026</u>
- <u>JRC Call for expression of interest to participate in the preparatory action for "Innovation</u> for place-based transformation"
- Mission Challenges Starting Paper EMILIA-ROMAGNA REGION