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

Deliverable 1.5.1

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PROJECT DETAILS	
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Activity 1.5 "Transformative co-creation innovation labs (Blue TRAIN labs) co-design methodology)	ART-ER
Authors	Bianca Calvaresi, Francesca Lioce, Stefano Valentini, Chrysa Efstratiou, Antonia Giannakourou, Jordi Juarez
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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, GREECE, 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:
  - Establish a multi-stakeholder ecosystem for co-creation.
  - 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.
  - 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:

✓ 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

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

✓ 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, GREECE, 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) – A 3-step approach for defining a portfolio of local transformative missions.

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, GREECE, 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.

1.2.1. GLOSSARY

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

Transformative Change: a process of deep, structural, and durable change in a complex system (social, ecological, economic, political, etc.), such that the system's form, functioning, relationships, norms, power structures, and feedback mechanisms are reconfigured. Rather than incremental tweaks, it implies a shift to a qualitatively different state or way of operating.

Transformative Innovation: a systemic approach to innovation, leveraging co-design and co-creation 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.

2. TREND ANALYSIS OF THE EURO-MEDITERRANEAN BLUE ECONOMY

To better understand the **sectors with the greatest potential to drive innovation**, this analysis examines the evolution of the Euro-Mediterranean Blue Economy using **official data from the EU Blue Economy Observatory Dashboard** (https://blue-economy-observatory.ec.europa.eu/). This source provides a harmonized and reliable dataset, ensuring comparability across countries and sectors, and offering a robust basis for evidence-based policymaking and strategic planning. Trends in **Gross Value Added (GVA) across EU Mediterranean countries between 2009 and 2022** (Figure 1) reveal notable fluctuations: after a period of decline from 2012 to 2014, the sector steadily recovered, reaching a peak of **€108.6 billion in 2018**[1]. In the same year, when considering data from all EU Member States, the **total Blue Economy GVA amounted to approximately €196.9 billion**, underlining the Mediterranean's substantial share in Europe's overall economic performance.

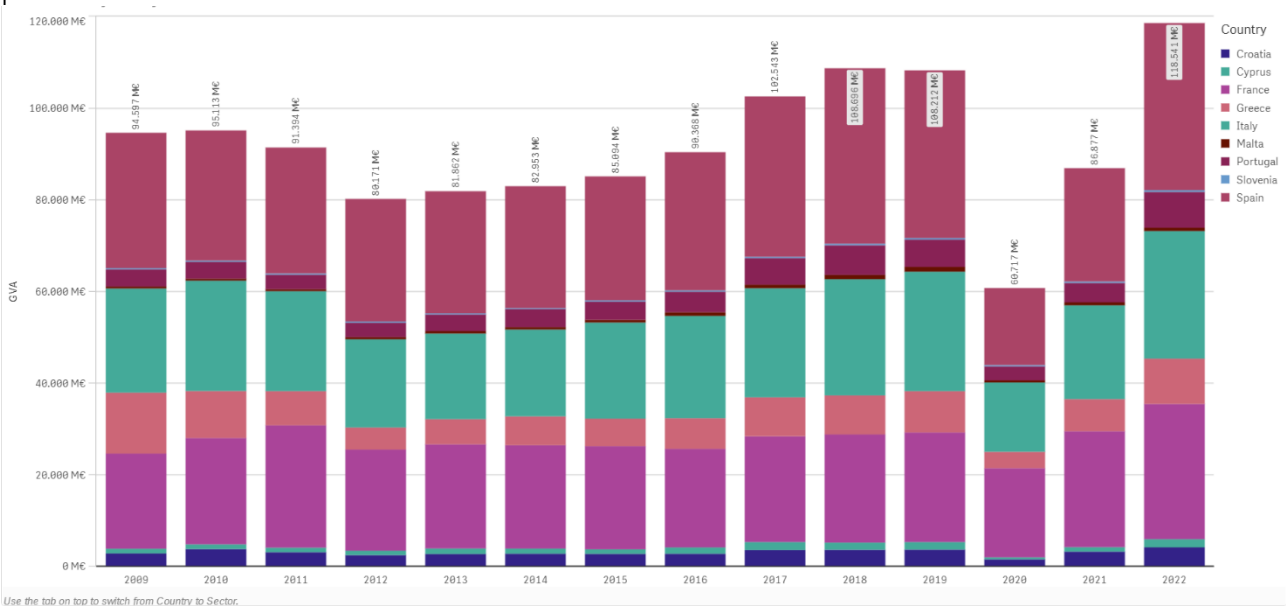

Figure-1 Blue Economy GVA over time by Euro-Med country – Source: ***EU Blue Economy Observatory Dashboard*** *(https://blue-economy-observatory.ec.europa.eu/)*

The **COVID-19 pandemic** had a severe impact, with GVA falling sharply to **€66.9 billion in 2020**. By 2022, however, the sector had fully rebounded, recording its highest value in the series at approximately **€118.5 billion**. This rebound was largely driven by the recovery of **coastal and maritime tourism**, the single largest component of the Mediterranean Blue Economy, alongside renewed growth in other sectors.

The trajectory highlights both the sector's resilience and its **structural vulnerability to external shocks**, particularly in tourism. It also underscores the strategic importance of diversifying toward more **resilient and sustainable activities**, including **renewable energy, digitalized maritime transport, and the blue bioeconomy**, in order to reduce future risk exposure.

Important note! In terms of country contributions, **Spain, Italy, and France** consistently account for the largest shares of Mediterranean Blue Economy GVA, followed by **Greece and Portugal**, while **Cyprus, Malta, Slovenia, and Croatia** contribute smaller but steady amounts.

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[1] *Blue Economy GVA over time by Euro-Med country – Source: EU Blue Economy Observatory Dashboard*.

However, it is important to note that in the cases of **Spain and France**, these figures also include Blue Economy activities occurring in the **Atlantic basins**, not exclusively in the Mediterranean. Moreover, data for **non-EU Mediterranean countries such as Albania and Montenegro are not included**, leaving an incomplete picture of the region's overall Blue Economy potential. This highlights the need for a **deeper, region-specific analysis** to better capture the true economic contribution of Mediterranean regions within and beyond the EU.

Established Sectors of the Euro-Mediterranean Blue Economy

According to **2022 data** (Figure 2), coastal and maritime tourism in the **nine Euro-Med countries identified above** is by far the leading sector, generating **€62.8 billion in GVA**—more than three times the value of the next largest sector, **living resources (€20.7 billion)**. Other notable contributors include **port activities (€12.5 billion)**, **shipbuilding and repair (€11.1 billion)**, and **maritime transport (€9.9 billion)**. By contrast, **non-living resources (€1.5 billion)** account for only a small share of the total, while **renewable energy has not yet made a measurable contribution**, as offshore wind, wave, and other marine renewable technologies remain at the pilot or demonstration stage and are not yet deployed at commercial scale.

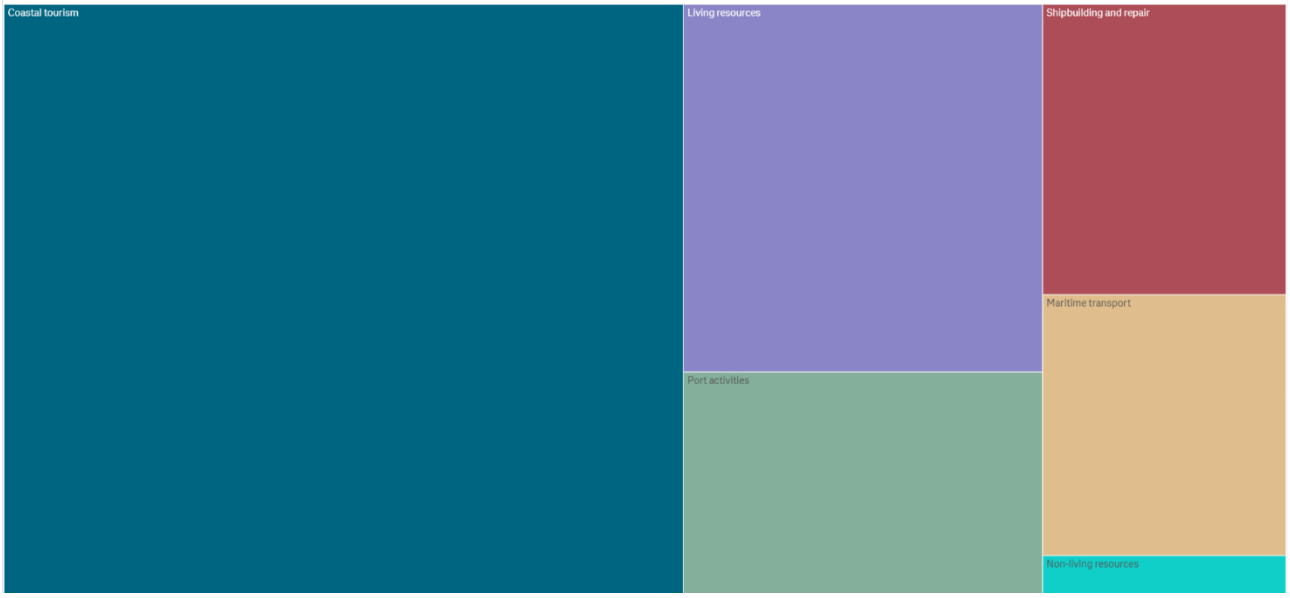


Figure-2 GVA in Euro-Med countries by sector - Year 2022 – Source: ***EU Blue Economy Observatory Dashboard*** *(https://blue-economy-observatory.ec.europa.eu/)*

1. Coastal Tourism

As mentioned before, coastal tourism is the largest contributor to the Mediterranean Blue Economy. In 2022, the sector generated €37.7 billion in GVA, nearly half of the EU's total coastal tourism GVA of €82 billion, and provided employment for more than one million people. However, its heavy reliance on seasonal peaks, coupled with vulnerabilities such as geopolitical instability, environmental degradation, and competing land-use pressures, makes it highly exposed to external shocks.

Coastal tourism in regions such as Cyprus, Occitanie, Emilia-Romagna, and the Balearic Islands is increasingly driven by market demands and environmental factors, with an emphasis on digitalization and sustainable practices. Key trends shaping this transition include the deployment of AI, IoT, and Big Data for tourism and environmental management, alongside the implementation of Nature-Based Solutions to protect and restore marine ecosystems. These regions also face structural challenges—from geopolitical tensions to land-use conflicts—

underscoring the urgency of innovative and collaborative approaches to ensure sustainable growth and long-term resilience.

To safeguard its long-term contribution, the sector must transition toward eco-tourism models, digital visitor management systems, and diversified year-round offerings. Such an approach would sustain the sector's economic weight while reducing its ecological footprint and strengthening its resilience.

Between 2009 and 2012, the Mediterranean Blue Economy entered a period of contraction, with average annual GVA declining from €5.9 billion in 2009 to €4.3 billion in 2012, a clear reflection of the pressures stemming from the global financial crisis. From 2013 to 2015, the economy stabilized at around €4.4–4.5 billion, signaling a phase of slow but steady recovery. A strong growth phase followed in 2016–2019, when GVA rose sharply, peaking at €6.8 billion in 2018 before moderating slightly to €6.6 billion in 2019. The onset of the COVID-19 pandemic in 2020 triggered a dramatic collapse to just €2.1 billion, driven largely by the shutdown of tourism and disruptions in maritime transport. In 2021, partial recovery lifted GVA to €4.2 billion, though still below pre-pandemic levels. By 2022, however, the sector surged to €7.0 billion, the highest value in the entire series, reflecting not only the rebound of coastal and maritime tourism but also renewed strength across other Blue Economy sectors.

Average GVA by Country (2009–2022)

- **Spain**: ~€18.0 billion per year – the largest contributor to the Mediterranean Blue Economy, with dominance in tourism and maritime transport.
- **France**: ~€9.0 billion per year – second largest, driven by strong port activities, shipbuilding, and tourism.
- **Italy**: ~€7.6 billion per year – a major pillar with a diversified portfolio across living resources, shipbuilding, and transport.
- **Greece**: ~€5.2 billion per year – significant in fisheries, aquaculture, and tourism, though marked by fluctuations.
- **Portugal**: ~€2.7 billion per year – a medium-scale but steadily growing contributor, largely shaped by port activities and logistics.
- **Croatia**: ~€2.3 billion per year – smaller overall, but with important contributions from tourism and shipbuilding.
- **Cyprus**: ~€0.9 billion per year – modest in size, yet strategically relevant for shipping and offshore services.
- **Malta**: ~€0.35 billion per year – small in absolute terms, but valuable in niche sectors such as ship repair and logistics.
- **Slovenia**: ~€0.06 billion per year – the smallest average contribution, reflecting its limited coastline and maritime capacity.

2. Marine Living Resources

Marine living resources form a backbone of the nine EU-Mediterranean economies mentioned above. In 2022, the sector generated €20.7 billion in GVA, representing more than half of the EU total of €37.7 billion, and supported the livelihoods of over 397,000 people. Growth is driven by rising consumer demand for healthy, sustainable seafood and by innovations in aquaculture technologies. However, the sector faces mounting pressures from biodiversity loss, invasive species, and the accelerating impacts of climate change. These challenges underscore that sustainability is not optional but essential to safeguard the sector's long-term viability and its contribution to Mediterranean food security and coastal economies.

Between 2009 and 2012, average GVA levels in the Mediterranean Marine living resources sector fluctuated between €1.67 and €1.79 billion, reflecting the lingering effects of the global financial

crisis and its dampening impact on maritime sectors. From 2013 to 2015, the region experienced a gradual recovery, with averages climbing steadily to €1.89 billion by 2015. The period 2016 to 2019 marked a phase of robust growth, supported by strong performance in tourism, transport, and port activities, with annual averages peaking at €2.16 billion in 2019. The onset of the COVID-19 pandemic in 2020 reversed this trajectory, causing a sharp contraction to €2.00 billion, primarily due to the collapse of coastal and maritime tourism. However, by 2021–2022, the sector had not only recovered but achieved record growth, with averages reaching €2.30 billion in 2022, the highest in the time series, underscoring both the sector's resilience and its dependence on tourism-driven dynamics.

Average GVA by Country (2009–2022)

- **Spain**: ~€5.56 billion per year – the largest contributor to the Mediterranean Blue Economy, consistently leading the region.
- **France**: ~€5.17 billion per year – second largest, with stable growth and strong port and shipbuilding activities.
- **Italy**: ~€4.70 billion per year – a major pillar, with diversified contributions across transport, tourism, and living resources.
- **Portugal**: ~€1.25 billion per year – a medium-scale but steadily growing contributor, largely driven by port activities and tourism.
- **Greece**: ~€556 million per year – marked by fluctuations but significant in fisheries, aquaculture, and tourism.
- **Croatia**: ~€177 million per year – smaller overall, but tourism and shipbuilding remain important.
- **Cyprus**: ~€54 million per year – a modest contribution, constrained by scale but strategically important for shipping and offshore services.
- **Malta**: ~€51 million per year – small in absolute terms, but important in niche sectors such as ship repair and logistics.
- **Slovenia**: ~€50 million per year – the smallest average contribution, reflecting its limited coastline and maritime capacity.

3. Port Activities

In 2022, the GVA generated by port activities in the nine EU Mediterranean countries amounted to €15.48 billion. This figure highlights the sector's central role in the regional Blue Economy, although it represents less than half of the €33.04 billion GVA recorded at the EU level. Employment patterns follow a similar distribution: Mediterranean ports directly supported around 125,000 jobs in 2022, compared to 336,000 jobs across the EU as a whole. This underlines the disproportionate weight of Mediterranean ports in shaping regional employment and connectivity, even as the sector remains highly sensitive to external shocks such as the COVID-19 pandemic and ongoing geopolitical instability.

When examining contributions by country, Spain (€3.6B), France (€4.9B), and Italy (€2.6B) clearly dominate, together accounting for more than two-thirds of the Mediterranean total. Greece (€580M), Portugal (€346M), and Croatia (€146M) follow, while Malta (€126M), Slovenia (€168M), and Cyprus (€87M) provide smaller but locally significant shares.

At the same time, the sector is evolving rapidly in response to sustainability imperatives. Investments are being directed toward combating invasive species, reducing pollution, and developing green port technologies, which will shape competitiveness in the coming decades. These shifts reflect a broader trend toward aligning port operations with the EU's Green Deal and carbon-neutrality goals, ensuring that Mediterranean ports remain both globally competitive and environmentally responsible.

Between 2009 and 2012, the average GVA of Mediterranean port activities fluctuated between €1.16 and €1.22 billion, reflecting the lingering pressures of the post-financial crisis period. During 2013–2015, the sector stabilized at around €1.15–1.21 billion, indicating a slow and cautious recovery. From 2016 to 2019, average values held steady near €1.20 billion, showing modest growth before the onset of the COVID-19 pandemic. In 2020, the average sharply declined to €1.14 billion, capturing the devastating impact of global travel restrictions. A partial rebound followed in 2021, with the average returning to €1.20 billion, though still below potential. By 2022, the sector experienced a strong resurgence, with the average GVA rising to €1.39 billion—the highest in the observed period—driven primarily by the rapid recovery of coastal tourism across the Mediterranean.

Average GVA by Country (2009–2022)

- **Spain**: ~€3.34 billion per year – the largest contributor, reflecting its dominant role in coastal and maritime tourism.
- **France**: ~€4.22 billion per year – second largest, driven by strong coastal tourism and diversified maritime activities.
- **Italy**: ~€2.12 billion per year – a major player with steady contributions from tourism, transport, and living resources.
- **Greece**: ~€549 million per year – significant in fisheries, aquaculture, and tourism, though more volatile.
- **Portugal**: ~€335 million per year – a medium-scale contributor, strongly linked to tourism and port activities.
- **Croatia**: ~€125 million per year – smaller, but with important reliance on coastal tourism.
- **Slovenia**: ~€138 million per year – modest, reflecting its short coastline but stable contribution.
- **Malta**: ~€117 million per year – small in scale but relevant in tourism and maritime services.
- **Cyprus**: ~€83 million per year – modest contribution, with strong tourism dependency.

4. Shipbuilding and Repair

In 2022, shipbuilding and repair in the nine EU Mediterranean countries generated €11.07 billion in Gross Value Added (GVA), employing approximately 120,000 people. This underscores the sector's weight as both an economic and employment engine in the region.

When compared to the EU total of €19.91 billion GVA and 262,000 jobs, the Mediterranean accounts for more than half of the EU's GVA (56%) and workforce (46%) in shipbuilding and repair. This concentration illustrates the strategic role of the Mediterranean basin, particularly as home to leading shipyards in France, Italy, and Spain, which together dominate the sector.

The figures also highlight the sector's structural importance: not only is it a high-value industrial activity with strong spillovers into innovation, but it also represents a core employment base for coastal communities. However, the heavy reliance on large Mediterranean economies means the sector is somewhat unevenly distributed, with smaller countries like Malta, Cyprus, Portugal, and Slovenia contributing niche but vital repair and service capacities.

Looking ahead, the challenge will be to consolidate this Mediterranean leadership while accelerating the shift toward eco-design, digital shipbuilding, and low-emission vessels. These transformations are key to aligning the sector with EU climate objectives, while sustaining its strong economic and employment base.

Between 2009 and 2012, the shipbuilding and repair sector in the Mediterranean averaged €1.55–1.73 billion, reflecting the strain of the post-financial crisis but also a baseline of stable industrial demand. In the period 2013–2015, activity stabilized at around €1.53–1.58 billion, signaling a slow

but steady recovery. A strong growth phase emerged between 2016 and 2019, with averages rising to €1.95–2.26 billion and peaking at €2.63 billion in 2018 and €2.97 billion in 2019, reflecting renewed investment and global demand. The onset of the COVID-19 pandemic in 2020 caused a moderate decline to €2.09 billion, as restrictions disrupted shipyards, supply chains, and repair operations. By 2021, however, the sector staged a robust rebound, reaching €2.82 billion, largely driven by renewed demand and strong performance in France and Italy. Finally, in 2022, the sector surged to its highest value in the series at €3.66 billion, powered by major shipbuilding activity in France and Italy, alongside significant recovery in Spain and Greece, cementing the Mediterranean's role as a global hub for shipbuilding and repair.

Average GVA by Country (2009–2022)

- **France**: ~€2.95 billion per year – the clear leader, with steady growth and a sharp rise post-2020, peaking at €5.15 billion in 2022.
- **Italy**: ~€2.21 billion per year – second largest, showing consistent expansion, reaching €3.77 billion in 2022.
- **Spain**: ~€1.17 billion per year – strong but volatile, with fluctuations around €800M–1.4B, showing resilience but less steep growth compared to France and Italy.
- **Greece**: ~€257 million per year – smaller in absolute terms, but strategically important for repair and niche construction, with modest recovery after 2020.
- **Croatia**: ~€165 million per year – stable mid-scale contribution, with a rebound in 2022 (€167M).
- **Portugal**: ~€111 million per year – consistent medium contributor, averaging ~€100M–€150M, rising to €185M in 2022.
- **Cyprus**: ~€46 million per year – small but gradually growing role, with 2022 values (€98M) showing a strong increase.
- **Malta**: ~€21 million per year – small but steady, supporting local ship repair services, peaking at €51M in 2022.
- **Slovenia**: ~€18 million per year – the smallest contributor, stable with little variation, ~€20–30M in recent years.

5. Maritime Transport

In 2022, maritime transport activities in the nine EU-Mediterranean countries generated a combined Gross Value Added (GVA) of €9.95 billion, directly supporting approximately 122,000 jobs. While this underscores the sector's structural importance to the regional Blue Economy, the Mediterranean contribution remains considerably smaller when compared to the EU total of €61.84 billion GVA and 309,000 jobs. This means the Mediterranean accounts for roughly 16% of EU maritime transport GVA and about 40% of its employment, highlighting both the sector's economic weight and its labor-intensive character in the region. Italy (€5.3B), France (€1.67B), Spain (€1.16B), and Greece (€1.05B) dominate Mediterranean performance, together accounting for more than 90% of regional GVA. Smaller but significant contributions also come from Croatia, Portugal, Cyprus, Malta, and Slovenia, which serve as strategic nodes for regional connectivity despite their more modest economic weight.

Between 2009 and 2012, maritime transport GVA in the EU-Mediterranean countries fluctuated between ~€1.1 and €1.7 billion, reflecting the lingering effects of the financial crisis but maintaining overall stability. From 2013 to 2015, recovery was modest, with averages stabilizing between €1.5 and €1.8 billion as Italy, France, and Greece consolidated their leading positions. The period 2016–2019 marked a strong growth phase, with annual averages climbing above €2.0 billion and peaking at nearly €2.4 billion in 2019, driven largely by Italian shipping expansion and

Greece's gradual rebound. In 2020, the onset of the COVID-19 pandemic caused a dramatic contraction, reducing average GVA to ~€1.1 billion due to strict restrictions on passenger transport and declining cargo flows. A partial recovery followed in 2021, when averages rose to ~€1.5 billion, though still below pre-pandemic levels. By 2022, the sector had fully rebounded, reaching its highest recorded average of ~€2.1 billion, led by Italy (€5.3B) and supported by strong recovery in Spain and Greece.The 2022 figures confirm a strong post-pandemic rebound, yet they also reveal a structural gap with northern EU hubs, emphasizing the need for investments in green fuels, port electrification, and digitalized logistics to boost competitiveness and sustainability.

Current policy and investment priorities are increasingly centred on the decarbonization of maritime transport, the adoption of green fuels such as hydrogen and advanced biofuels, and the deployment of smart logistics systems designed to enhance efficiency, reduce congestion, and lower emissions.

Average GVA by Country (2009–2022):

Italy: ~€3.9 billion per year – by far the largest contributor, consistently leading the region with strong ship operations and logistics hubs.

- **France:** ~€2.0 billion per year – second largest, with stable port-linked transport and ferry operations.
- **Spain:** ~€880 million per year – a significant player, particularly in passenger and short-sea shipping.
- **Greece:** ~€950 million per year – important given its strategic role in passenger shipping and cargo flows across the Aegean and Eastern Mediterranean.
- **Croatia:** ~€225 million per year – relatively smaller but with steady ferry-based passenger transport.
- **Portugal:** ~€90 million per year – modest, reflecting that most of its major transport activity is Atlantic-facing.
- **Cyprus:** ~€70 million per year – important in global shipping services, though GVA is relatively small in the dataset due to its scale.
- **Malta:** ~€55 million per year – small in absolute numbers but strategically important due to its role as a transshipment hub.
- **Slovenia:** ~€15 million per year – the smallest contributor, reflecting its single-port scale.

6. Marine Non-Living Resources

In 2022, marine non-living resources in the nine Euro-Mediterranean countries analyzed generated a Gross Value Added (GVA) of €1.494 billion, employing around 9,000 people. This represents only a fraction of the EU total of €10.724 billion and 15,000 jobs, highlighting the relatively smaller but still strategic role of this sector in the Mediterranean. The sector is primarily driven by market demand for oil, gas, and energy solutions, yet its growth and operations are heavily shaped by strict environmental regulations that constrain large-scale exploitation.

Between 2009 and 2011, the marine non-living resources sector in the Euro-Mediterranean countries maintained relative stability, with average GVA ranging between €274–288 million, despite the lingering effects of the financial crisis. During 2012–2014, the sector contracted, with averages falling to around €205–244 million, reflecting both reduced extraction activity and increasing regulatory pressures. The period 2015–2017 was marked by fluctuations, averaging €246–266 million, as investment cycles and market demand shifted. In 2018–2019, the sector stabilized again, with averages near €280 million, suggesting a short-lived recovery. However,

between 2020 and 2022, average GVA declined once more to about €246–250 million, as stricter environmental regulations and the absence of new large-scale projects limited further expansion.

Overall, the Mediterranean's marine non-living resources sector, though modest in scale, represents a strategic lever for innovation and sustainability, with opportunities to align resource exploitation with Europe's broader climate neutrality and energy resilience objectives.

Average GVA by Country (2009–2022)

- **Italy**: ~€1.19 billion per year – by far the dominant contributor, reflecting its extensive offshore resource base.
- **Spain**: ~€459 million per year – the second-largest, with steady output from mineral and offshore activities.
- **France**: ~€35 million per year – modest but stable contribution.
- **Greece**: ~€45 million per year – limited but consistent activity.
- **Croatia**: ~€53 million per year – relatively small, with fluctuations.
- **Cyprus**: ~€15 million per year – niche role, linked to scale.
- **Malta**: ~€28 million per year – small but stable.
- **Portugal**: ~€4 million per year – marginal contributor.
- **Slovenia**: ~€3.5 million per year – the smallest, reflecting very limited capacity.

Emerging Sectors

In addition to the established sectors of the Blue Economy, several emerging domains are gaining momentum in the Euro-Mediterranean context. While they are not yet fully commercialized and lack consolidated economic data, these activities are strategically important as drivers of innovation, sustainability, and resilience. Their integration into Blue Economy frameworks reflects forward-looking investment priorities and alignment with EU agendas such as the Green Deal, Mission: Restore Our Oceans and Waters, and the EU Industrial Strategy.

1. Marine Renewable Energy (MRE)

Marine Renewable Energy (MRE) is one of the most promising frontiers for the Mediterranean, particularly through **offshore wind energy**, which is expected to play a transformative role in the coming decades. Other ocean energy sources—including **wave, tidal, and thermal gradient technologies**—are being explored but remain in earlier stages of development. Pilot projects across regions such as Occitanie, GREECE, and Emilia-Romagna are testing the feasibility of MRE under Mediterranean conditions, where environmental sensitivities and competing coastal uses present unique challenges. Despite the lack of large-scale deployment, MRE aligns closely with the EU's **decarbonization and energy security objectives**, and represents a cornerstone of future Mediterranean energy transition strategies.

2. Maritime Defence, Security, and Surveillance

The **maritime defence and security sector** is expanding rapidly, propelled by both geopolitical concerns and civilian applications. Technological innovation is at the heart of this evolution, with growing emphasis on **surveillance systems, dual-use robotics, and autonomous platforms**. These developments enhance not only naval defence capacities but also **maritime safety, border control, and environmental monitoring**. By strengthening situational awareness and response capabilities, this sector is poised to become a vital enabler of regional security and resilience in increasingly complex maritime domains.

3. Desalination and Water Security

Desalination is becoming a **critical solution to water scarcity** in Mediterranean regions, particularly on islands such as Cyprus, the Balearics, and the Cyclades, as well as arid coastal areas like Alentejo. Innovation efforts increasingly focus on **integrating desalination plants with renewable energy sources** to reduce their carbon footprint and operational costs. Beyond technological progress, desalination also aligns with the EU's **decarbonization and adaptation strategies**, ensuring water security in the face of climate change, population growth, and competing land–water demands.

4. Blue Bioeconomy and Biotechnology

The **blue bioeconomy and marine biotechnology** sectors represent high-potential avenues for diversification and sustainability. Mediterranean actors are leveraging marine resources to develop **pharmaceuticals, nutraceuticals, cosmetics, and bio-based materials**, while also creating new **circular value chains** by valorizing fisheries and aquaculture by-products. Beyond economic diversification, biotechnology offers pathways for **nature-based solutions** to address water and sediment remediation, enhance aquaculture sustainability, and improve wastewater reuse. However, the sector faces **regulatory challenges** in the commercialization of marine-derived products and the approval of novel marine-based installations. Overcoming these bottlenecks will be key to unlocking its full potential.

5. Maritime Surveillance, Defense, Infrastructure, and Robotics

Maritime surveillance, infrastructure, and robotics are advancing at an unprecedented pace, driven by regulatory demands and breakthroughs in digital and engineering technologies. Emerging solutions include **AI-enabled ecosystem monitoring, electric and hybrid vessels, unmanned aerial and underwater vehicles, and smart navigation systems**. These technologies not only improve **safety, compliance, and logistics efficiency** but also provide practical tools for addressing some of the Mediterranean's most pressing challenges: managing heavy tourism flows, monitoring pollution, and enhancing marine conservation efforts. As these technologies mature, they are expected to become critical components of Mediterranean Blue Economy strategies.

A key priority for enhancing the monitoring and sustainable management of the marine environment is the integration of civil marine research infrastructures with defence and security capabilities. Such a dual-use approach ensures more efficient use of resources, reduces duplication of monitoring systems, and expands coverage in areas where civilian infrastructure alone may be insufficient. By linking oceanographic observatories, research vessels, and sensor networks with defence surveillance systems, Mediterranean countries can improve their capacity to track biodiversity, detect pollution, monitor fishing activities, and respond to emerging threats. This integration not only strengthens environmental governance but also contributes to development of sustainable energy infrastructures, maritime safety, resilience against illegal activities, and preparedness for climate-related risks.

3. THE BLUE TRANSFORMATIVE CHALLENGES MATRIX: A FRAMEWORK FOR POLICY AND INNOVATION ALIGNMENT

The Blue Transformative Challenges Matrix (Table 1), developed by the BLUE ECOSYSTEM partners and validated through regional co-creation workshops, is designed as a strategic tool to structure and guide the transformation of the Euro-Mediterranean Blue Economy. It provides a systemic framework that links regional priorities with broader European objectives by aligning Smart Specialisation Strategies (S3) with key EU sustainability frameworks, including the European Green Deal, the EU Biodiversity Strategy 2030, the Nature Restoration Law, and the objectives of the EU Mission: Restore Our Ocean and Waters.

Operationally, the Matrix is structured around **five interrelated dimensions** that ensure a comprehensive and mission-oriented approach:

- **Economic Domains**: identifying the strategic sectors of the Blue Economy (e.g., tourism, aquaculture, renewable energy) where transformative change can be leveraged.
- **Sustainability Missions**: aligning sectoral opportunities with societal challenges such as climate neutrality, biodiversity protection, and circular economy transitions.
- **Correlated Sectors and Mission Objectives**: mapping how interlinked sectors jointly contribute to addressing mission goals, fostering cross-sectoral synergies.
- **Priorities and Impact**: specifying the strategic areas where investments and interventions can generate the highest social, economic, and environmental value.
- **Innovation Actions**: integrating **technological, social, financial, and governance innovations** required to enable transformation, from digital monitoring tools to new business models and participatory governance structures.

By combining these dimensions, the Matrix establishes the **foundation for a mission-oriented roadmap**. This roadmap supports the transition towards a **sustainable, resilient, and innovative Euro-Mediterranean Blue Economy**, capable of addressing urgent regional challenges while contributing to Europe's long-term ecological and economic ambitions.

Figure 3 - Blue Transformative Challenges Matrix

				Innovation Actions			
Economic Domain	**Correlated Sector(s)**	**Mission Ocean Objectives Addressed**	**Priorities/ Impact**	*Technological*	*Social*	*Financial*	*Governance*
Bioeconomy – Agrofood	Marine Living Resources, Marine Bio-Based Solutions.	Protect biodiversity, Carbon neutrality.	▪ Sustainable feed /use of alternative protein sources and pigments. ▪Rearing of new/emerging species for the expansion of Euro-Med aquaculture. ▪Sustainability standards and certification. ▪Address gaps in Illegal, Unreported, and Unregulated (IUU) Fishing. ▪Environmental footprint of aquaculture & fisheries. ▪Recycle/reuse gear and packaging materials. Biodegradable gear to enhance food security and ecosystem health. ▪Reduction of waste, sustainable, recycling/valorization of fishery and aquaculture by-products.	Sustainable aquaculture systems, biodegradable gear.	Community-led sustainable aquaculture practices.	Subsidies for sustainable feed, biodegradable gear R&D.	Regulations on sustainable aquaculture and gear usage.
Environment - Sustainable innovation - Ecosystem restoration, climate change mitigation	Marine Living Resources, Infrastructure and Robotics, Maritime Surveillance.	Protect biodiversity, Prevent pollution.	▪Improved monitoring and management systems, bioindicators and early warning systems. ▪Marine Protected Area (MPA) Management Tools: Use of satellite monitoring, drones, and AI to enhance the management and enforcement of MPAs. ▪Support regenerative aquaculture and bioremediation. ▪Innovative technologies such as marine gardening, artificial reefs and recreational fisheries. Opportunities in animal, algae and plant breeding. ▪Technologies for the prevention/removal of plastics and CoECs. ▪Habitat restoration, marine litter clean-up, and citizen engagement.	Advanced systems for monitoring, bioremediation, and ecological restoration.	Community involvement in habitat restoration and clean-up efforts.	Grants for ecological restoration and pollution mitigation.	Policies for strengthening marine protected areas and restoration efforts.
Energy	Marine Non-Living Resources, Renewable Energy and Desalination.	Carbon neutrality.	▪Expand offshore wind/solar farms and energy storage for transition to MRE. ▪Cold Ironing in reducing shipping emissions. ▪Multipurpose use of marine space. Multi-purpose platforms for food, energy and water production. ▪Combine space and activities with tourism. Integration of renewable energy and low trophic aquaculture. ▪Low impact desalination plants using renewable energy to address water scarcity.	Renewable energy technologies (wind, wave, solar, storage).	Public awareness on renewable energy transition.	Incentives for renewable energy infrastructure.	Renewable energy targets, carbon-neutral policies.
Materials and manufacturing systems	Marine Bio-Based Solutions, Infrastructure and Robotics.	Circular economy, Pollution prevention.	▪Develop bio-based materials, eco-friendly paints, solvents, and metals. ▪Promote recycling/upcycling of marine litter, and foster a circular economy. Reception facilities for recycling. ▪Sustainability standards and certification ▪Minimize the environmental consequences of undersea/submarine cabling and equipment.	Bio-based materials, recycling technologies.	Education on circular economy practices.	Funding for circular economy and bio-based materials.	Legislation on bio-based product usage.
Transport and logistics	Port Activities and Maritime Transport.	Carbon neutrality, Pollution prevention.	▪Adopt alternative fuels, electrify ports. ▪Integrate smart technologies for sustainable logistics (e.g. autonomous ships development of unmanned vessels). ▪Green ship technology innovations in ship design and propulsion systems to reduce emissions/fuel consumption and promote material recycling.	Alternative fuels, smart logistics systems, green ship design material recycling.	Stakeholder collaboration for low-emission transport.	Funding support for green ports and alternative energy solutions.	Emissions standards for transport and ports.
Public Health	Marine Living Resources, Marine Bioeconomy/ Biotechnology.	Protect biodiversity, Circular economy.	▪Advance marine-derived pharmaceuticals, nutraceuticals, cosmetics, feed, algal biofuels, compounds for sustainable agriculture, and genomics linking conservation of marine resources with public health and sustainability. ▪Marine derived organic antimicrobial, antifouling agents.	Blue biotechnologies, genomic advancements, waste	Awareness campaigns on marine biodiversity and blue	Funding support for marine-derived products.	Policies on marine bio-based innovation and

			▪Biobased materials such as bioplastics.	valorization.	biotechnology benefits.		genomics.
Cultural and creative industry Social innovation	Coastal Tourism, Marine Living Resources.	Protect biodiversity, Prevent pollution.	▪Eco-tourism to promote conservation and awareness of marine environments. ▪Specific forms of sustainable marine tourism (e.g. cruise, yachting, diving tourism), support and upgrading of areas of cultural and environmental interest (marine parks and marine and coastal fauna observatories). ▪Citizen science protocols to collect data.	Digital platforms, green certifications.	Community-based eco-tourism models.	Funding support for local eco-tourism projects.	Regulations on eco-tourism and certifications.

Cross-cutting areas							
				Innovation Actions			
Economic Domain	**Correlated Sector (s)**	**Objectives Addressed**	**Priorities/ Impact**	*Technological*	*Social*	*Financial*	*Governance*
ICT-Digital transformation	All	Protect biodiversity, Carbon neutrality.	▪Intelligent monitoring, data transmission systems, predictive forecasting techniques and early warning systems, to enhance resource management and reduce environmental impact. ▪Precision technologies and "tele-management" for biosecurity. ▪"Smart" Ports: digital technologies to optimize port operations, reduce congestion, and minimize environmental impact.	AI, IoT, real-time monitoring systems.	Community-led science programs for environmental monitoring.	Strategic investment in digital marine systems.	Regulatory frameworks for open data sharing in marine conservation.
Social innovation (closely related to cultural and creative industry)	All	Protect biodiversity, Prevent pollution.	▪ Campaign strategies for the protection of the environment. Educational activities to engage public to balance economic growth with conservation. ▪Cross sectoral consultations to minimize social obstacles and increase social acceptance (e.g. tourism, aquaculture, sustainable zoning of production sites) ▪Encourage community-based eco-tourism, citizen science, green certifications ▪Reskilling/Upskilling, new job opportunities, new business models ▪ Socio Ecological System Approach (SES), understanding that marine environment and marine industries form a dynamic system, for ecosystem-based management policies.	Digital twins, AI-driven IoT, risk prediction models, real-time monitoring systems.	Community-based eco-tourism models.	Grants for local eco-tourism projects.	Regulations on eco-tourism and certifications.

4. THE TRANSFORMATIVE PORTFOLIO: TAILORING MISSIONS TO LOCAL NEEDS THROUGH TRAIN LABS

The **Transformative Portfolio of Missions** provides the overarching **strategic direction** for advancing a sustainable and resilient Euro-Mediterranean Blue Economy. It establishes shared priorities across the region while ensuring alignment with European sustainability objectives.

To ensure these missions are **anchored in local realities**, a dedicated portfolio of Mission for the **Euro-Mediterranean, bridging innovation and Investment for balancing economic growth and the protection of the marine environment** is being shaped through the **TRAIN Labs**. This approach embeds **marine protection into Smart Specialisation Strategies (S3)**, thereby linking territorial priorities with EU-wide sustainability frameworks such as the European Green Deal, the Biodiversity Strategy 2030, and the Mission: Restore Our Oceans and Waters. TRAIN Labs function as **co-creation spaces**, where policymakers, researchers, businesses, civil society, and local communities collaborate to translate mission objectives into **concrete, place-based actions**. Rather than applying a uniform, top-down model, they adapt missions to the **environmental, socio-economic, and cultural conditions** of each region.

By connecting regional actors across multiple sectors, TRAIN Labs **accelerate the uptake of new technologies and practices**, foster **cross-sectoral synergies**—for instance, linking energy transition with tourism or aquaculture with digital monitoring—and establish platforms for **knowledge exchange and peer learning** across Mediterranean regions.

Beyond regional adaptation, TRAIN Labs also reinforce **transnational collaboration**. While each lab responds to local needs, they are interconnected, forming a **networked ecosystem** that facilitates the exchange of best practices, data, and lessons learned. This network ensures that innovations piloted in one territory—such as eco-tourism models in the Balearic Islands, desalination solutions in Cyprus, or waste valorization practices in Zadar—can be adapted and replicated across the wider Mediterranean.

In this way, the **Transformative Portfolio of Missions defines the vision and strategic priorities**, while the **TRAIN Labs operationalize this vision**. Together, they provide the mechanisms for territorial adaptation, innovation uptake, and collaborative delivery—forming a comprehensive, mission-oriented framework for building a **sustainable, resilient, and competitive Euro-Mediterranean Blue Economy**.

4.1. TRAIN LAB SETTING UP - 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[2].

As also reported in the document TRANSFORMATIVE INNOVATION LAB - Transformative innovation labs and shared agendas (RIS3CAT 2030), stakeholders' first step in creating a shared agenda is to agree on a common vision of the future and commit resources and efforts towards

[2] ARPAE, "Blue Economy" - *ECOSCIENZA, n. 2 2024*.

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).

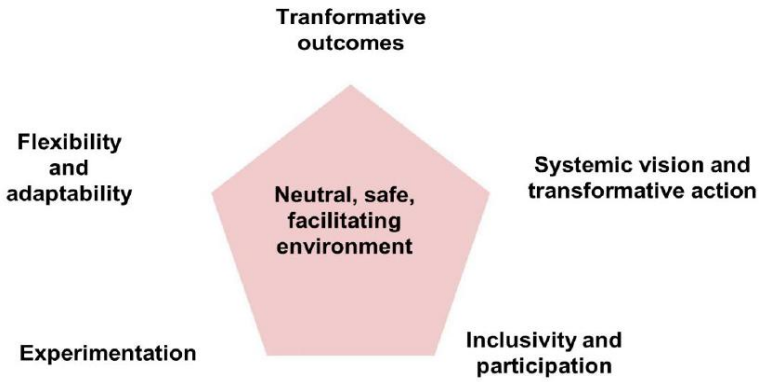


Figure 4 - Main characteristics of transformative innovation labs.

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 TerritoRRIa 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 co-design has been recognized by the EU as an important means towards developing better policies and more meaningful impact.

Figure 5 - 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 re-frame 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 BLUE BIO MED Project.

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.

From the first, BlueMed promoted a shared vision for the Mediterranean Blue Economy by strengthening dialogue between science, policy, and society. It delivered a Strategic Research and Innovation Agenda (SRIA), mapped regional priorities, and launched pilot actions on marine litter and governance—now integrated into BLUE ECOSYSTEM to support transformative, multi-actor approaches.

After, 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 an alliance to strengthen leadership: Mediterranean Alliance for the Sustainable Blue Economy - Media-SBB, an informal coalition of organizations and a community of people beyond the duration of the project, which generated the S3 thematic platform (MasBEE).

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.

Specifically, the MISTRAL project was a key milestone in building a transnational innovation ecosystem for the Mediterranean Blue Economy. Among the results achieved, the knowledge and tools that will be capitalized for further exploitation will be a) Blue Growth Book "that collects the assessment and on the most relevant drivers and opportunities in the Mediterranean Blue Economy"; b) Matchmaking event toolkit and Business Plan Competition toolkit that have been both very successful and can be further adopted; c) the thematic Regional Action Plans (Balearic Island, Emilia-Romagna, Sud Paca-Occitanie, Zadar County, Alentejo, GREECE, Albania) that indicate strategic elements in the territories concerned and d) Final MISTRAL recommendation with relevant inputs for transferability of successful activities as well as for a better governance of the area. Finally, the project consolidated a cooperation network of regions, research centers, and enterprises, now actively engaged in BLUE ECOSYSTEM to promote transformative and sustainable solutions for the Blue Economy.

The B-Blue project provided key tools to strengthen the Blue Bioeconomy ecosystem in the Mediterranean. Among the main results: the creation of a transnational network of marine biotech actors, the establishment of regional hubs to support knowledge transfer and collaborative innovation, and the analysis of emerging value chains in Blue Biotechnology. B-Blue also developed digital matchmaking tools to foster collaboration between research and industry, and contributed to the foundation of the Mediterranean Innovation Alliance (MedIA), now integrated into BLUE ECOSYSTEM to promote multi-actor approaches and more effective regional policies for the blue bioeconomy.

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 co-designed 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.

4.2 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 Deliverable D.1.3.1. "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 Deliverable D.1.3.1. "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, Greece, Albania, and Cyprus. This activity is closely linked to the Blue Transformation challenges at the Mediterranean level and the priority matrix.

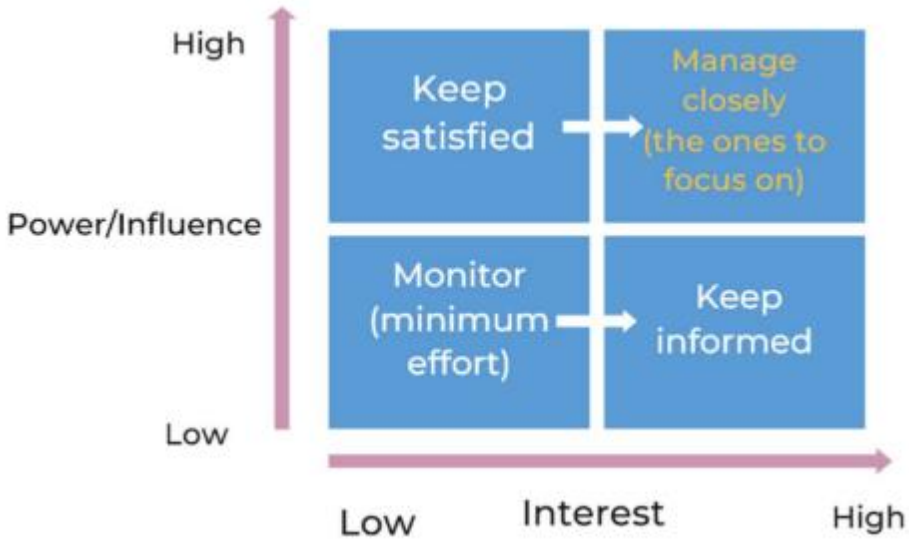
At the transnational level, the CPMR (Conference of Peripheral Maritime Regions) has identified key stakeholders mainly at the institutional level, including regional governments, transnational strategies, initiatives, and other relevant projects due to the nature of the organization.

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
	  ○ Blue Mission MED
	  ○ 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:

  - Low interest, low influence: keep them informed.
  - High interest, low influence: involve and consult with them.
  - Low interest, high influence: engage powerful key stakeholders.
  - 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:

1. **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.
2. **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.
3. **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.

Inclusion of less-powerful stakeholders in the processes

While stakeholder engagement is a central pillar of the BLUE ECOSYSTEM strategy, special attention should be given to the effective inclusion of underrepresented stakeholders such as small-scale fishers, women, seasonal workers, people with disabilities and youth groups. Their participation is crucial to ensure that the co-creation process reflects diverse perspectives and leads to fair, sustainable, and locally relevant solutions.

- **Expanded stakeholder mapping**
    - Explicitly include underrepresented groups in the regional and local stakeholder maps.
    - Use participatory methods (community mapping, interviews, snowball sampling) to identify actors who are not part of formal networks or institutions.
- **Adapted participation mechanisms**
    - Organize specific meetings for underrepresented stakeholders, ensuring that their voices are not overshadowed by more influential stakeholders.
    - Introduce minimum inclusion thresholds (e.g., a share of participants in TRAIN labs) for youth, women, and small-scale actors.
- **Tailored Communication Channels**
    - Complement formal channels (websites, LinkedIn, institutional events) with more accessible tools such as community radio, local associations, WhatsApp groups, and schools/universities.
    - Highlight success stories and testimonials from underrepresented actors in project communication materials to ensure visibility.
    - Provide safe and anonymous feedback mechanisms to allow vulnerable groups to share concerns and ideas freely.

This approach will ensure that the BLUE ECOSYSTEM engagement strategy goes beyond formal stakeholder involvement and actively creates the conditions for equitable participation, strengthening the inclusiveness, legitimacy, and long-term impact of the project.

4.3 LOCAL WORKSHOPS

4.3.1 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.

4.3.2 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.

4.3.3 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.

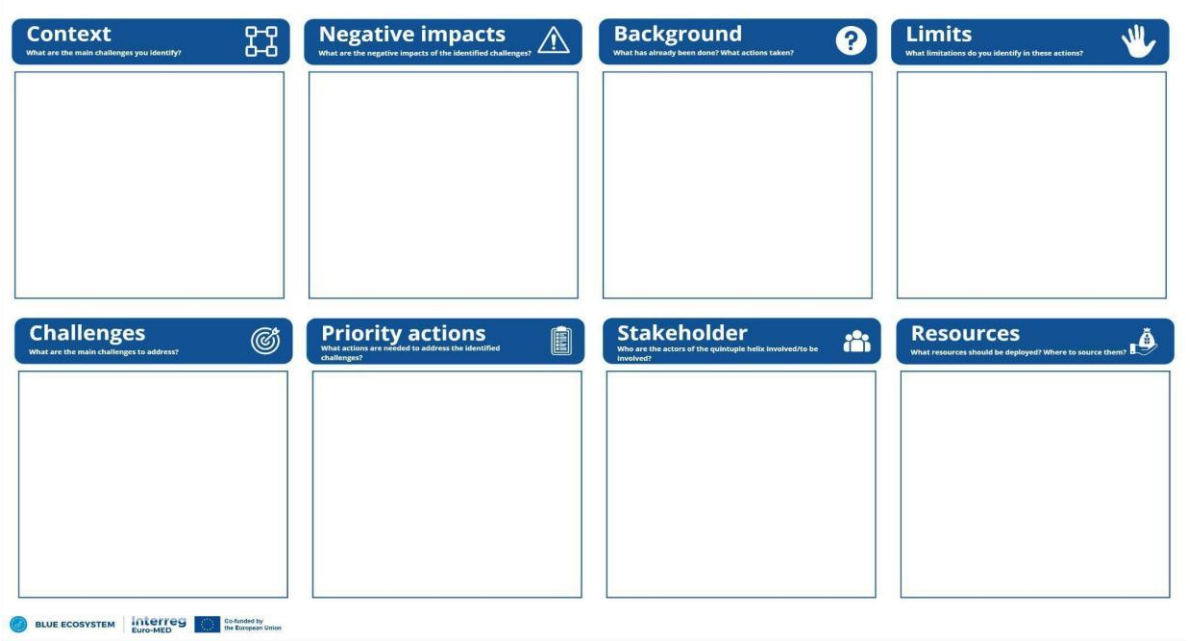


Figure 6 - CANVAS Model to be adapted for co-design sessions at Ecomondo.

The canvas illustrated above is available in Annex 1.

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.

4.3.4 OUTCOME

In the TRAIN Labs, stakeholder engagement through co-design methodologies is a key step in developing shared policy proposals aimed at fostering a sustainable blue economy. To ensure the validation of qualitative inputs gathered during workshops and their transformation into coherent statements of intent, we propose a replicable methodological model structured in three main phases.
The first phase involves the structured collection of contributions using visual tools such as thematic canvases, which participants fill in using post-its. These supports facilitate the

emergence of challenges, resources, constraints, and priority actions, fostering active and equitable participation.
This is followed by a phase of analysis and synthesis, where the content is clustered by thematic area and semantic affinity. This process allows for the identification of recurring patterns, convergences, and divergences among perspectives, resulting in a conceptual map useful for strategic elaboration.
Finally, the results are translated into statements of intent and policy proposals through a shared interpretation process that integrates the collected evidence with the territorial context and regional priorities. This step can be supported by validation sessions with experts and stakeholders to ensure consistency, feasibility, and impact.

Then, in the specific, 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.

Phase	Key Activities	Guiding Questions	Generated Output
Collection and Visualization	Gathering post-its on thematic canvases during workshops	What are the challenges, resources, constraints, and priority actions?	Raw data, observations, individual contributions
Mapping and Accessibility	Mapping all collected data and making it visible	What does this information mean? What makes it new and interesting?	Organized and visual dataset
Organization and Clustering	Grouping by common themes, semantic affinity, and strategic areas	What are the challenges in these areas?	Macro-themes, shared priorities
Analysis and Interpretation	Identifying key insights, defining requirements, creating briefs to generate ideas	What are the priority actions in these areas? How and why are they relevant?	Thematic briefs, strategic insights
Validation and Synthesis	Internal review and stakeholder consultation	Are the proposals coherent, feasible, and widely shared?	Statements of intent, consolidated policy proposals

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?

Below is a summary table outlining all the phases of the co-design process:

Phase	Step	Actors involved	Expected output	Timeline
Transformative Portfolio of Missions		Partners	Identification of priorities and concrete opportunities for sustainable innovation in the Mediterranean blue economy	Start period Period 2, 7 - 12 End period Period 2, 7 - 12
Local workshops	Stakeholder panel composition	Partners	Engagement of stakeholders who are responsible for critical market functions, service provisions, regulatory and policy	Start period Period 2, 7 - 12 End period Period 2, 7 - 12

			environments	
	Co-design session	Partners, identified stakeholders	Collection of unstructured ideas and perspectives from stakeholder	Start period Period 1, 1 - 6 End period Period 2, 7 - 12
	Outcome analysis and identification of challenges	Partners	Clusterization and identification of the main challenges and priority actions to be implemented at regional level	Start period Period 1, 1 - 6 End period Period 2, 7 - 12

- **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, Civil 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.

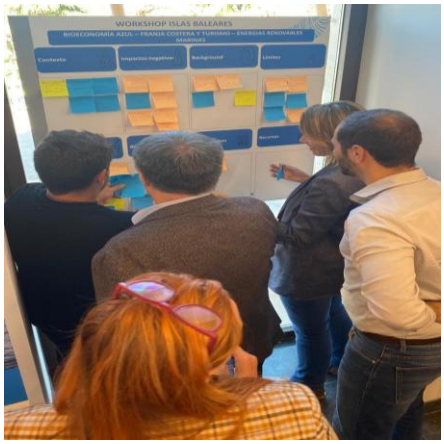
At the end of the session, one additional topic had been suggested for future discussions – Sustainable Energy. The following topics were also discussed: existing Blue Economy projects in Alentejo; the importance of funding for resource enhancement and Action Plan implementation; capacity building and 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.



GREECE

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.

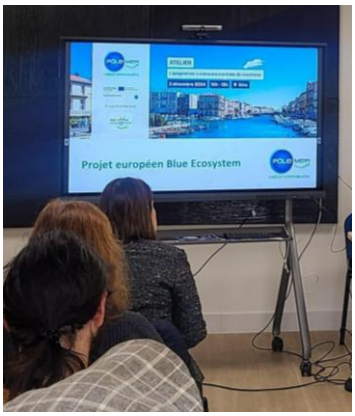
ZADAR COUNTY

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.

Figure 7 – The Transformative Portfolio of Missions by TRAIN Lab and S3 domain.

Region	Bioeconomy / Agrofood	Energy & Transport	Tourism / Cultural & Creative Industries	Environment & Water Management	Digitalization / Innovation	Distinctive Features
Alentejo (PT)	Sustainable aquaculture, alternative proteins, biodegradable gear, valorization of by-products, combat IUU fishing	Port of Sines as a green logistics hub; offshore wind, solar, wave, and hydrogen expansion	Eco-sustainable tourism in protected areas; cultural heritage preservation	Ecosystem resilience linked to reserves.	Digital transformation for tourism & ports	Strong emphasis on aligning with national carbon neutrality goals
Albania	AI-driven fisheries monitoring, smart aquaculture, community conservation	Offshore wind & wave energy; overcoming investment/infrastructure gaps	Sustainable tourism via smart visitor management & eco-tourism governance	Addressing marine habitat degradation & pollution from tourism	Innovation in monitoring, strong community participation	Focus on inclusiveness, resilience, and community-led solutions
Balearic Islands (ES)	Low-impact fisheries, MPAs, high-quality seafood branding	Offshore renewables, green fuels (hydrogen, wave)	Eco-tourism, digital hospitality, community sustainability initiatives	Strong biodiversity conservation & carbon neutrality goals	Digital tools in hospitality & tourism	Unique link between Blue Economy and high tourism pressure
Cyprus	Limited focus on aquaculture; emphasis on water-food nexus	Desalination as energy-intensive but essential; renewable integration potential	Eco-tourism linked to water resilience	Water scarcity as priority challenge; co-creation of governance and technical solutions	Collaborative innovation platforms; workshops with diverse stakeholders	Distinctive mission around freshwater scarcity and desalination
Emilia-Romagna (IT)	Sustainable aquaculture, regenerative practices, marine biotech	Offshore wind, floating PV, sustainable shipbuilding	Eco-tourism 2.0, digital platforms, conservation incentives	Circular bioeconomy and biodiversity protection	Digital monitoring for tourism and conservation	Integration of manufacturing with renewable energy transition
Greece	IMTA aquaculture, sustainable marine food systems	Wave & wind energy, cold ironing for shipping	Eco-tourism linked to social innovation	Biodiversity restoration, pollution control, community engagement	AI, IoT marine monitoring, open data frameworks	Broadest portfolio (energy, food, environment, biotech, social innovation)
Occitanie & PACA (FR)	Focus on port-related food safety indirectly	Electrification & water-energy nexus in ports	Limited (indirectly linked to port services & tourism)	Water quality monitoring, wastewater treatment, freshwater reuse	Digital decision-support systems for ports	Clear specialization in port water management
Zadar County (HR)	Biodegradable gear, waste valorization, IUU control	Decarbonized ports, alternative fuels	Eco-tourism, digital green certifications, community models	Marine ecosystem restoration, pollution prevention via drones & AI	AI & IoT marine monitoring, citizen science, smart tourism platforms	Highly applied innovation agenda: waste, congestion, sludge valorization

5. 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.

6. 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 will be contacted at local level with organisations in TRAIN Labs on the potential impact of the developed activity in relation to the identified challenge.

Acceleration process – Key point Application Form

What: collective technical workshops, study visits, keynote conferences, feasibility studies, assistance for pilot actions preparation, assistance of transition agendas[3] preparation, etc

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.

[3] 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).

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.

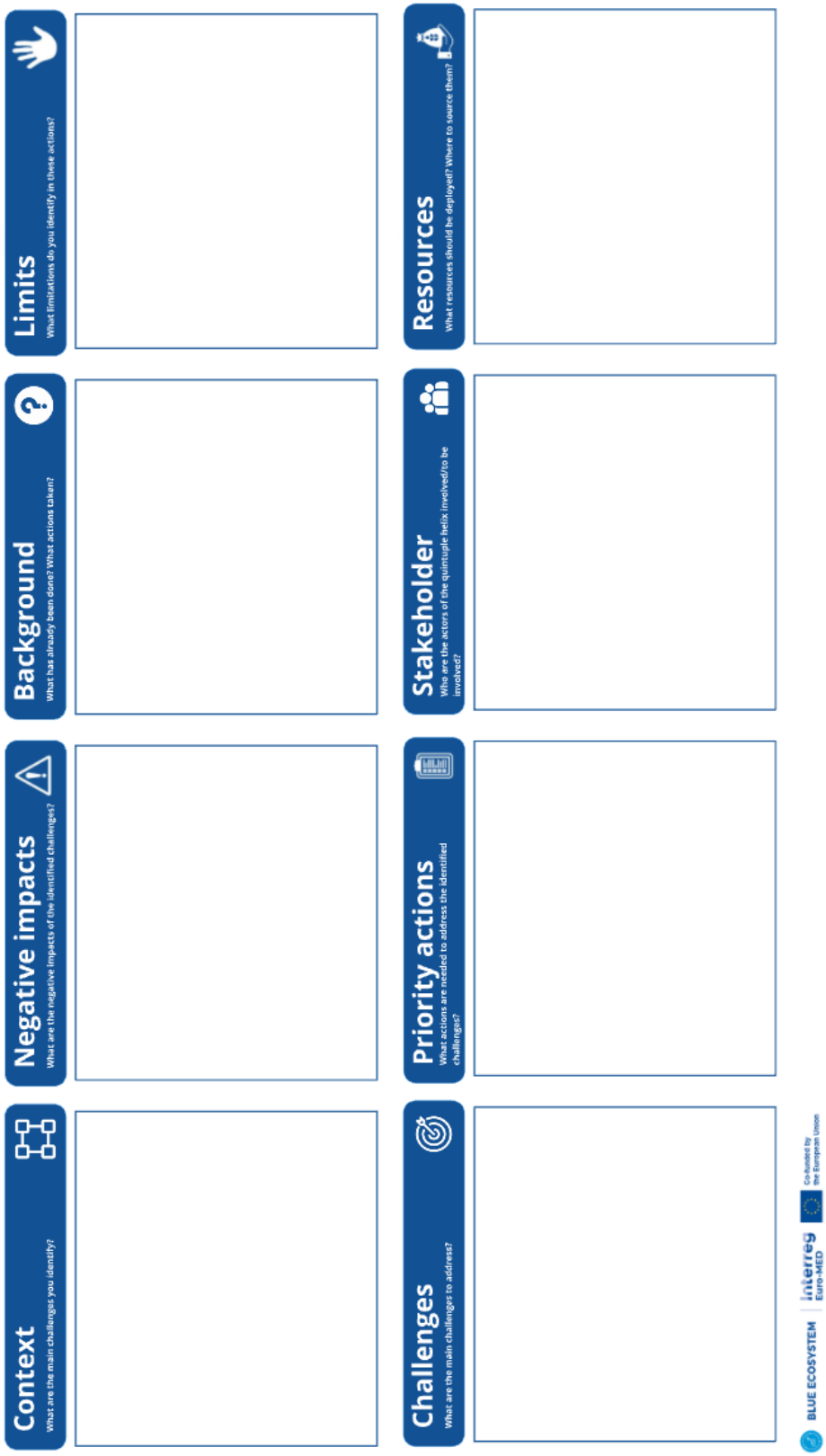
Envisaged Duration? The duration of the acceleration process will vary depending on the complexity of the projects and challenges addressed. However, a typical timeline might range from several months to a few years, ensuring sufficient time for ideation, development, and implementation.

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?

7. ANNEXES

7.1 ANNEX 1



○ 7.2 ANNEX 2

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.

8. REFERENCES

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- Article CO-DESIGN FOR SOCIETY IN INNOVATION
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- TerritoRRIa-Annex Policy Design
- BLUE BIO MED Project
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- Blue Ecosystem - D.1.2.1 - Blue Transformative challenges matrix.
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