



BLUE MISSION BANOS

**Supporting the Mission
Ocean Lighthouse in the
Baltic and North Sea Basins**

Deliverable 4.4

**R&I Needs to be Addressed by
Related Programs**

Grant Agreement number	101093845
Project title	BlueMissionBANOS – Supporting the Mission Ocean Lighthouse in the Baltic and North Sea Basin
Deliverable title	R&I Needs to be Addressed by Related Programs
Deliverable number	D4.4
Deliverable version	1
Contractual date of delivery	30.11.2025
Actual date of delivery	24.11.2025
Document status	Final
Document version	Version 1
Online access	Yes
Diffusion	Public
Nature of deliverable	Dataset
Work Package	4
Partner responsible	IVL, Swedish Environmental Institute
Contributing Partners	DBC, Blue Cluster Belgium
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Abstract	This deliverable describes the key Research and Innovation (R&I) needs required to accelerate the transition towards a sustainable, carbon-neutral, and circular blue economy in the Baltic and North Sea region detected by the BlueMissionBANOS project between 2023-2025. It outlines the main bottlenecks, investment needs for R&I activities, and enabling conditions needed to advance knowledge-based solutions to higher Technology Readiness Levels (TRLs) and support the EU Mission “Restore our Ocean and Waters by 2030.”
Keywords	BlueMissionBANOS, EU Mission Restore our Ocean and Waters, Mission Ocean, Research and Innovation (R&I) needs, action points, enablers, policy, legislation, governance, finance, research and innovation, monitoring, data, test sites, business support, standards, education



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HISTORY OF CHANGES		
Version	Publication date	Changes
v0.1	11.08.2025	Outline
v0.2	19.08.2025	Initial Draft
V0.3	27.10.2025	Second draft
v1.0	31.10.2025	Complete Draft
V1.1	11.11.2025	Internal reviewed
V1.2	21.11.2025	Final Document



THE BLUEMISSIONBANOS PROJECT

BlueMissionBANOS (BMB), as a Coordination and Support Action (CSA) for the Baltic and North Sea (BANOS) Mission Ocean Lighthouse, inspires, engages, and supports stakeholders across the BANOS region in taking positive action to reach the Mission Ocean objectives. In particular, the uptake of a sustainable, carbon-neutral, and circular blue economy is facilitated by connecting national, regional, and transnational actors from politics, industry, and science, thereby creating a governance model that is conducive to innovation.

While fostering the transition towards a climate-neutral and circular sustainable blue economy, BlueMissionBANOS supports the prevention and elimination of water pollution, as well as the protection and restoration of biodiversity and marine and freshwater ecosystems. The project focuses on reducing governance fragmentation, facilitating evidence-based decision-making and fostering citizen engagement across the BANOS area. These supporting actions raise awareness, showcase opportunities, and inspire stakeholders to actively contribute to the transition and preservation of oceans, seas, and waters through 2030 and beyond.

To accelerate the transition towards an innovative and circular blue economy, in line with regions' strategic priorities, as defined by their Smart Specialisation Strategies (S3), BlueMissionBANOS facilitates synergies and matchmaking between actors working towards achieving the Mission Ocean objectives in the BANOS area. To that end, BlueMissionBANOS organised regional pilot demonstration arenas (Mission Arenas), systematically bringing together innovators, business support and training organisations, authorities and other local stakeholders from a geographically defined area to collaborate and thus accelerate the uptake of innovative solutions in support of Mission Ocean. As part of the project, BlueMissionBANOS provides a catalogue of projects, partners involved and technical expertise and solutions to foster progress, collaboration and knowledge sharing. Furthermore, BlueMissionBANOS develops a consistent monitoring framework to assess progress in achieving carbon neutrality and circularity.

The BlueMissionBANOS project is funded under the European Union's Horizon-MISS-2021-OCEAN-04 call, Grant Agreement ID 101093845. It runs from December 2022 to November 2025.



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ACRONYMS

BANOS	Baltic and Nordic Sea basin
BMB	BlueMissionBanos - Supporting the Mission Ocean Lighthouse in the Baltic and North Sea Basin
D	Delivery
MA	Mission Arenas
MA1	1 st Mission Arena, Gothenburg
MA2	2 nd Mission Arena, Riga
MA3	3 rd Mission Arena, Amsterdam
MA4	4 th Mission Arena, Sopot
Mission	EU Mission Restore our Ocean and Waters
PP	Project Partners
R&I	Research and Innovation
S3	Regional Smart Specialisation Strategies (S3)
SME	Small and Medium size Enterprises
WP	Work Package



EXECUTIVE SUMMARY

This deliverable presents a dataset of the key Research and Innovation (R&I) needs necessary to achieve the goals of the EU's Mission Ocean and Waters (Mission Ocean) in the Baltic and North Sea regions. It outlines the main bottlenecks, investment needs for R&I activities, and enabling conditions needed to advance knowledge-based solutions to higher Technology Readiness Levels (TRLs) and support the EU Mission "Restore our Ocean and Waters by 2030." The identification and assessment build on the BlueMissionBANOS innovation cycle, described in Deliverables D4.1–D4.2, which connects Mission objectives with regional realities through co-creation and local ownership. The R&I needs span policy and legislation, governance, finance, research and innovation, monitoring and data, test sites and hubs, business support, standards, and education. Addressing these areas will remove barriers and unlock the full potential of the blue economy.

The findings contribute directly to the Mission objectives:

- *Carbon-neutral, circular blue economy*: Strategic investments, multi-use spaces, and blended finance models de-risk innovation and scale net-zero technologies.
- *Ecosystem restoration and biodiversity*: Adaptive governance, living labs, and monitoring baselines enable evidence-based restoration and cross-border comparability.
- *Zero pollution*: Standardisation, circular value chains, and industrial symbiosis promote low-impact solutions that reduce emissions and waste.

The recommendations operationalise the Mission through:

1. *Governance fit for innovation*: Mission Hubs, living labs, and Communities of Practice connect actors and accelerate regulatory learning.
2. *Financing for scale*: Adaptive instruments and a funders' roundtable mobilise public, private, and philanthropic capital.
3. *R&I to market*: Expanded test sites and a blue economy incubator connect ideas to implementation.
4. *Standards and skills*: Harmonised standards and innovation training build workforce capacity and market confidence.

Together, these measures form a coherent pathway from development to deployment to scaling, directly supporting the Mission's 2030 targets and transforming pilots into tangible environmental, social, and economic impact across the BANOS basin.



1. INTRODUCTION AND BACKGROUND

1.1. AIM OF THIS REPORT

This report aims to identify and assess **research and innovation (R&I) priorities** across the Baltic and North Sea region, focusing on the bottlenecks and investment needs that must be addressed to advance promising Mission-aligned solutions of all kinds towards higher Technology Readiness Levels (TRLs), to be deployed and scaled on all EU levels and beyond, and to support effective Mission implementation. The assessment provides a knowledge base and dataset that connects regional R&I needs with related EU, national, and regional programmes, ensuring alignment and coherence across governance levels. Any overlaps with existing SRIAs and other strategic R&I documents should be seen as confirmation of the urgency of the respective R&I needs.

This task directly supports the overall goal of BlueMissionBANOS to enable the Baltic and North Sea basins to make a decisive contribution to the EU Mission “Restore our Ocean and Waters by 2030” by fostering collaboration, accelerating innovation, and paving the way for the deployment and scaling of sustainable, carbon-neutral, and circular blue economy solutions. The deliverable will be publicly available and can be used by national R&I stakeholders, as well as by EU strategic research partnerships such as SBEP and JPI Oceans, to further develop or adapt their own Strategic Research and Innovation Agendas (SRIAs).

1.2. DESCRIPTION OF THE REPORT

This deliverable presents a data set of the R&I-needs, based on the action points co-created, assessed, and prioritised by the participants, representing a wide range of stakeholder groups and nationalities, during the BlueMissionBANOS four sub-regional innovation cycles, the Mission Arenas events, performed in selected blue economy regions of the Baltic and North Sea basin. The action points are a dataset of R&I priorities and priorities addressing obstacles and barriers.

The delivery is built up by a BMB summary of the cross-regional and cross-sector R&I priorities based on the action points co-created in the four (4) sub-regional innovation cycles. The action points are presented as a dataset in the final section of this report, organised by thematic goals for the Mission Arenas, which support the implementation of the Mission objectives.

The methodology used, the BlueMissionBANOS approach, is described in detail in Deliverable 4.1 “The innovation cycle - Methodologies to accelerate implementation of innovative solutions”. The mobilisation and engagement outcomes are reported in the D4.2 “Evaluation/assessment tools of innovative solutions. The roadmaps, including the datasets of action co-created in selected blue economy regions during the four (4) Mission Arena, are reported in the D4.3 “Roadmaps for deployment of solutions to foster decarbonisation and circularity in selected blue economy regions”.

- | | |
|------|---|
| D4.1 | Report on the innovation cycle methodology, the BMB planning document, including instructions on how to organise innovation cycles and Mission Arenas |
| D4.2 | Report on the outcomes and detected innovation system methodologies BlueMissionBANOS approach |



D4.3	Dataset and report on the methodology results in terms of stakeholder co-created roadmaps
D4.4	Dataset and report on the methodology results of stakeholder co-created and assessed R&I and instrument needs.

Table 1. Connections between the WP4 Deliverables, listing in which report each aspect of the BlueMissionBANOS innovation cycles is described.

The action points are published in the four regional roadmaps on the BlueMissionBANOS website, <https://bluemissionbanos.eu/results/>. The solutions demonstrated at the Mission Arenas are documented on WaveLinks (www.wavelinks.eu).

1.3 BMB APPROACH TO IDENTIFYING AND ASSESSING R&I-NEEDS

The BlueMissionBANOS approach to identifying, co-creating, prioritising, and assessing R&I needs builds on the BMB innovation cycle methodology, described in Deliverable D4.1, which connects EU Mission ambitions with regional realities through co-creation, local ownership, and system innovation. Embedded in the methodology is the identification and co-creation of action points by local stakeholders, as well as the prioritisation of action points addressing R&I needs required to develop, deploy, and scale Mission-aligned solutions of all kinds, focusing on Mission Ocean objective 3. Make the Blue Economy Carbon-Neutral and Circular, as well as objective 1. Protect and Restore Marine and Freshwater Ecosystems and Biodiversity and 2. Prevent and Eliminate Pollution of Our Ocean, Seas, and Waters.

The methodology was carried out in four selected sub-regions of the BANOS basin, finalised in four workshop conferences, known as the ‘Mission Arenas’, where organisers and participants jointly defined regional challenges and co-created enabling actions across R&I priorities, governance, policy, finance, and capacity building. Each innovation cycle began with identifying ongoing initiatives and organisations at all levels. Representatives from the detected organisations, representing the broad range of stakeholders concerned, collaboratively formed workshop sessions based on identified and agreed-upon common challenges and needs. Workshop sessions were performed at the Mission Arenas, where participants co-created, agreed on and prioritised the actions needed.

The assessment process:

1. Identification of initiatives and stakeholders was carried out by a systematic mapping of more than 450 initiatives, local, national, regional and EU-level, across the BANOS basin, identifying regional focus areas and key organisations.
2. These findings shaped the Mission Arenas’ thematic goals, areas to which multiple-stakeholder representatives were invited to multiple preparatory workshops to form the sessions together. Participants in this co-creation process included R&I-actors, startups, industries, public bodies, and authorities at all levels.
3. These stakeholders identified and agreed upon common challenges and needs, and collaboratively formed 98 workshop sessions addressing these issues, which were performed at the Mission Arenas.



4. In total, from opening to closing and in the separate workshops, 482 speakers shared their solutions, knowledge and insights, to enable all participants to have the same knowledge base, the foundation for collaboration and agreement.
5. Nearly 1,200 participants, from 44 countries, representing 500 organisations, attended the Mission Arenas.
6. These participants collaboratively defined challenges and co-created 197 points in the workshop sessions.
7. The process resulted in 197 co-created action points that linked research and innovation (R&I) needs and barriers to practical, deployment-ready solutions.
8. In the closing sessions, findings from each thematic goal area were presented, and the most relevant and feasible actions were prioritised according to their impact on the Mission in a voting process that included all Mission Arena participants.



Figure 1 Sectors represented at the Mission Arenas

This transparent process ensured both credibility and shared ownership, forming a robust foundation for the action points to be effective enablers, reflecting R&I prioritisations to advance to the Mission objectives. The action points addressing R&I needs, barriers, and obstacles can be found, as datasets, in Chapter 4.

The prioritised actions were consolidated into regional roadmaps and shared with EU, national, and regional bodies. BlueMissionBANOS acted as a broker, so the results should be embedded in instruments such as INTERREG and Smart Specialisation Strategies, ensuring that Mission outcomes influence policy, investment, and long-term implementation across governance levels.



2. SUMMARY OF OVERARCHING ACTION POINTS

The BlueMissionBANOS project has conducted a review and compiled a summary of the cross-regional and cross-sectoral barriers, obstacles, and R&I needs, as well as co-created action points across policy, governance, financing, legislation, research, and innovation activities, including methodology, standards, and education. Addressing these interconnected areas is essential to overcoming current barriers and unlocking the full potential of the Baltic and North Sea blue economy. Further information is available in the report: [Deliverable 2.4: Existing governance structures and gap analysis in the BANOS area dedicated to Mission objectives](#).

Through a comprehensive assessment of the Mission ecosystem, the project has highlighted key gaps and opportunities that future programs must prioritise. Integrating adaptive governance, innovative funding models, real-world testing environments, and a strong educational foundation will enable a coordinated and sustainable transition towards ecosystem-positive solutions.

This section summarises these R&I needs, structured across governance frameworks, research activities, and capacity-building methodologies that collectively lay the groundwork for lasting impact and successful program integration.

2.1. POLICY: FRAMEWORKS, GOVERNANCE, FINANCE AND LEGISLATION

A successful transition to a sustainable blue economy requires an enabling environment that facilitates the movement of innovative solutions from research to large-scale deployment. This environment is shaped not only by technological advancements but also by connected frameworks, governance structures, financing mechanisms, and legislative systems that support them.

The assessment of current gaps highlights the need for integrated approaches across these dimensions. Standardised frameworks can ensure interoperability and build market confidence, while adaptive governance models can bring together actors across sectors and regions to co-create and test new solutions. Innovative financing models are necessary to de-risk investments, maintain the continuity of proven initiatives, and unlock capital across the entire value chain. At the same time, legislation must evolve to match the pace of innovation, combining clear rules with the flexibility to accommodate proof-of-concept approaches and emerging business models.

Future programs should therefore be designed to embed these Research and Innovation (R&I) needs within policy, funding, and regulatory systems. Only by addressing these enabling conditions holistically can the blue economy realise its potential to deliver environmental, social, and economic benefits. The R&I needs presented here describe the enabling environment necessary for the successful uptake of blue solutions in the BANOS area. When combined, these needs showcase the variety of actions that should be taken to create an external environment in which research and innovation can thrive.

2.1.1. FRAMEWORKS: EU AND NATIONAL FRAMEWORKS

Advancing the sustainable blue economy will require targeted Research and Innovation (R&I) actions that are embedded within robust EU and national policy frameworks. Current assessments



highlight the need to align regulatory, infrastructural, and market conditions to enable innovation uptake at scale.

Key priorities from the Mission Arenas are:

- The standardisation of emerging products and processes, particularly in circular and blue-green value chains. Developing harmonised standards will improve scalability, increase transparency, and build consumer trust, while enabling interoperability across sectors and countries.
- Strategic investment in enabling infrastructure. Upgrades to port facilities, improved recycling capabilities, enhanced power transmission capacity, and innovative storage solutions are all necessary to support the deployment of low-carbon and green shipping technologies. These investments should be informed by research and innovation (R&I) evidence to ensure long-term resilience and efficiency.
- Policy frameworks must also promote sustainable and multi-use business models.
- Climate change projections should guide the design of ecosystem-positive solutions, with R&I providing the methodologies to quantify their benefits and build strong business cases.
- Financial de-risking mechanisms, including insurance schemes, will be essential to attract private investment.
- Simplifying regulatory procedures, ideally through one-stop-shop licensing systems, would accelerate the uptake of innovation, particularly for cross-sectoral and multi-use projects. Flexible regulations should permit proof-of-concept approaches and feasibility studies within the legal framework, thereby enabling the faster validation of new technologies and concepts.
- Specific incentives for zero-waste production and consumption, such as biorefining and industrial symbiosis, should be supported by targeted R&I to optimise their environmental and economic performance.
- Creating a level playing field between agriculture and aquaculture and transferring best practices from the green to the blue bioeconomy will further enhance competitiveness and sustainability.

To integrate these R&I needs into future programs, funding instruments must be adaptive, cross-sectoral, and co-designed with industry, researchers, and policymakers. This will ensure that innovative concepts can transition from pilot to market in a way that is both economically viable and environmentally regenerative.

2.1.2. GOVERNANCE: ADAPTIVE GOVERNANCE FIT FOR INNOVATIVE CONCEPTS

Strengthening governance systems to accommodate innovative concepts better will be essential to accelerate the transition towards a sustainable blue economy. Research and Innovation (R&I) can play a central role in designing governance models that are adaptive, inclusive, and capable of responding to regional and sectoral specificities.



Key priorities from the Mission Arenas are:

- Engaging the next generation is a first step. Integrating pupils into ongoing research projects can generate early interest in marine sciences and the blue bioeconomy, creating a pipeline of future professionals equipped to contribute to innovation and sustainability goals.
- Governance must be rooted in region-specific realities. Living labs, co-created by political, scientific, industrial, and societal actors, offer a platform for testing novel approaches under real-world conditions. R&I should inform the design of these initiatives, ensuring that solutions are both locally relevant and scalable.
- New governance structures are needed at both vertical (inter-ministerial and intergovernmental) and horizontal (transdisciplinary and transsectoral) levels. Initiatives such as Mission Hubs or Mission Ocean Managers could serve as coordinating bodies, engaging stakeholders across governance layers to align objectives and accelerate the uptake of research outcomes.
- Marine protection and restoration efforts would benefit from closer integration of research and development (R&D) results into national policies. This requires coordinated mechanisms for data sharing, stakeholder engagement, and the joint development of policy tools across blue economy sectors. Incentive schemes for sustainable industry practices should be paired with robust enforcement measures to ensure compliance with cross-sectoral, long-term agreements.
- Clear leadership responsibilities at the regional level are vital for bringing tailored solutions to local contexts. Best practice examples, such as the Maripark concept, should be systematically transferred and adapted to other regions beyond their original locations. At the same time, a transnational governance network, mandated by governments, could support the implementation of the Ocean & Waters Mission and address broader regional development challenges.
- Developing communities of practice across industry, research, and policy spheres can foster trust, enhance synergies, and establish a truly cross-sectoral innovation ecosystem. Targeted actions to facilitate cooperation between stakeholders in sectors such as offshore wind energy can also accelerate the multi-use approach and contribute to shared sustainability objectives.

Finally, early-stage innovation should be reinforced through applied R&D partnerships between academia and industry. These collaborations are crucial for advancing low-TRL blue bioeconomy solutions and integrating them effectively into broader bioeconomy value chains, ensuring that promising ideas can progress toward market readiness and ultimately deliver societal benefits.

2.1.3. FINANCE: INNOVATIVE FUNDING MODELS BEYOND CALL FORMAT

Achieving the objectives of the sustainable blue economy requires funding mechanisms that go beyond traditional, call-based formats. Research and Innovation (R&I) should inform the design of financing tools that can support all stages of the innovation cycle, from early-stage research to large-scale implementation, while addressing investment risks and ensuring long-term continuity. New public funding instruments and public–private partnerships can play a crucial role in de-risking investments and incentivising private sector engagement. These mechanisms should be adaptable to different technology readiness levels, enabling progression from pilot to market.



Key priorities from the Mission Arenas are:

- Unlocking capital across the entire value chain is critical. Rather than focusing exclusively on new initiatives, funding strategies should prioritise the continuity and scaling of proven “good solutions.” This includes systematic financing for projects that have demonstrated measurable environmental and socio-economic benefits, ensuring that momentum is not lost between project phases.
- A roundtable of funders, bringing together public institutions, private investors, and philanthropic actors, could help align priorities, share risk, and coordinate investment in Mission Ocean priority areas such as marine litter reduction, aquaculture innovation, ocean regeneration, and sustainable fishing gear.
- Strategic investments in enabling infrastructure, such as upgraded port facilities, enhanced recycling capabilities, improved power transmission networks, and advanced storage solutions, remain essential for supporting the growth of green shipping and other low-carbon marine industries.
- Funding frameworks should also promote multi-use business models that deliver both environmental and economic value, supported by financial de-risking mechanisms such as specific insurance products. Regulatory and financing systems need the flexibility to integrate proof-of-concept and feasibility studies, enabling rapid validation of innovative ideas.
- Flexible instruments, ranging from dedicated test sites to market-based mechanisms such as biodiversity credits, should be deployed to accelerate the uptake of innovation and incentivise large-scale ecosystem restoration and conservation.

By integrating these adaptive funding models into future programs, the blue economy can become both a driver of innovation and a safeguard for marine ecosystems.

2.1.4. LEGISLATION: NEED FOR ADAPTED REGULATION

Adapting legislative frameworks to meet the needs of an innovative and sustainable blue economy will be essential to ensure both regulatory certainty and the agility to accommodate emerging solutions. Research and Innovation (R&I) can inform evidence-based reforms that strike a balance between environmental protection and economic opportunity, enabling the faster adoption of promising technologies and business models.

Key priorities from the Mission Arenas are:

- Improving the policy framework for aquaculture is a priority, ensuring it aligns with the traditional food and biotechnology sectors. Streamlined approval processes would accelerate the deployment of sustainable aquaculture systems and help level the competitive playing field.
- Greater visibility of value generation within blue value chains is also needed. By making these economic contributions more transparent, policymakers can better design incentives and guarantee the adoption of innovative approaches to revenue diversification for both established and emerging businesses. Climate change projections should be integrated into business planning, supporting ecosystem-positive models and enabling robust financial cases for investment.



- Marine protection and restoration should be reinforced through the systematic integration of R&D results into national and regional policies. This requires coordinated stakeholder engagement, active data sharing, and cross-sectoral cooperation to ensure that legislation reflects the latest scientific insights and technological capabilities.
- Flexible regulatory and financing systems will be vital to enable proof-of-concept and feasibility studies within the legal framework. Such adaptability ensures that new ideas can be tested under real-world conditions while maintaining compliance with environmental safeguards.
- Finally, simplifying regulations and permitting processes can reduce administrative burdens and accelerate the development of sustainable blue businesses. Clear, predictable, and proportionate rules will create a more innovation-friendly environment, supporting the transition towards a resilient and regenerative ocean economy.

In conclusion, implementation of existing solutions is the most urgent action to be taken. Policy-wise, harmonization of different levels and departments is essential. This could be done through the creation of a sustainable blue economy department.

2.2 RESEARCH AND INNOVATION

The transformation towards a sustainable and competitive blue economy will only succeed if research and innovation are embedded across all stages of policy, investment, and implementation. Scientific knowledge, technological development, and collaborative experimentation must work in tandem to address complex environmental challenges while unlocking economic opportunities.

Key priorities from the Mission Arenas are:

- Within this vision, test sites, pilots, and hubs play a crucial role. They are the physical and organisational platforms where research outcomes meet real-world conditions, allowing ideas to be validated, refined, and scaled. Without such spaces, innovation risks remaining theoretical, unable to deliver tangible impact. Expanding and opening access to these facilities, particularly in multi-use configurations and region-specific living labs, will be essential to accelerate market readiness and cross-sectoral solutions.
- The broader R&I landscape builds on this foundation. Robust monitoring and data systems provide the evidence base for targeted action. Well-designed programs and calls can align funding with strategic priorities, provide collaboration between academia, industry, and communities while ensuring that promising ideas receive the support they need to mature. Business support mechanisms, skills development, and targeted investment help innovators navigate the path from pilot to scale-up, embedding economic viability alongside environmental responsibility.

By integrating these R&I elements into future programs, with test sites, pilots, and hubs as the central enabler, the blue economy can transition from fragmented initiatives to a connected, in-



novation-driven ecosystem capable of delivering lasting environmental regeneration and sustainable growth. The Mission-oriented approach, which has already been tested at national and EU level in recent years, is very well suited to tackling the complex challenges of the future.

2.2.1 MONITORING AND DATA

Robust, high-quality data is the foundation for effective decision-making, targeted investment, and adaptive management in the blue economy. At present, ocean observation in Europe and even at national level is highly fragmented, so efforts to improve coherence are necessary. A comprehensive baseline assessment at basin level is a critical first step, providing a consistent reference point for tracking environmental, social, and economic changes over time.

Key priorities from the Mission Arenas are:

- Such a baseline should serve multiple purposes, ranging from scientific research to policy development, industry planning, and community engagement. It should integrate contributions from national monitoring efforts within Exclusive Economic Zones (EEZs) and be complemented by coordinated basin-scale activities involving regional stakeholders. This will ensure both local relevance and cross-border comparability.
- Joint monitoring initiatives, co-designed by scientists, policymakers, and industry, can optimise resources, avoid duplication, and ensure data interoperability. Incorporating emerging technologies, such as autonomous monitoring systems, satellite observation, and AI-based analytics, can enhance the frequency, accuracy, and cost-efficiency of data collection.

By embedding these monitoring and data activities within future research and innovation programs, the blue economy will be better equipped to measure progress, adapt strategies, and ensure that interventions are both evidence-based and outcome-driven. This integrated approach will also strengthen trust among stakeholders by making transparent, high-quality information widely accessible.

2.2.2. R&I NEEDS TO BE INCLUDED IN PROGRAMS AND CALLS

Future research and innovation programs should be designed to actively facilitate collaboration, experimentation, and uptake of sustainable blue economy solutions. This requires not only funding research activities, but also supporting the systems, actors, and platforms that connect ideas with implementation. Public and private funding institutions must join forces

Key priorities from the Mission Arenas are:

- Strengthening collaboration and co-creation between academia, startups, public sector and the private sector is central to accelerating innovation. Dedicated support for innovation clusters can pool resources, expertise, and infrastructure, making them accessible to early-stage companies and stimulate cross-sectoral synergies. Matchmaking platforms, legal assistance, intellectual property frameworks, and mentorship programs can help startups articulate strong business cases, connect with funders, and access new markets. Access to physical spaces for innovation is equally important. Increasing the number of test and demonstration



sites, both on land and at sea, and making them affordable and open to a wide range of actors will enable more rapid prototyping, validation, and scaling of new technologies.

- Community engagement should be an integral part of R&I efforts. Supporting local skill development, encouraging the valorisation of ecosystem services, and stimulating new business models rooted in regional contexts can strengthen local ownership and ensure that innovation benefits are widely shared. Involving pupils and students in research projects and professional innovation activities can inspire future careers in the blue bioeconomy and equip young people with the interdisciplinary skills needed for emerging sectors.
- Region-specific living labs can be used to test new governance models, business approaches, and technical solutions, ensuring that outcomes are both locally relevant and scalable. Climate change projections should inform business cases for ecosystem-positive solutions, while the development of new products, from alternative fish species to underutilised marine resources, can expand and diversify blue value chains.
- Stimulating strategic partnerships across borders and sectors will be essential. Cross-border cooperation, knowledge-sharing platforms such as BlueBioMatch, and alignment with Smart Specialisation Strategies can put blue innovation at the heart of regional development agendas. Collaboration with private sector actors, including shipbuilders, marina operators, logistics firms, and clean tech providers, can drive co-development of solutions that align commercial viability with sustainability goals.
- Innovation programs should also encourage the joint development of technological solutions for real-time infrastructure monitoring, threat detection, and coordinated response capabilities, particularly where multifunctional and co-existing uses of infrastructure are possible. Research priorities should include low-trophic aquaculture, side-stream valorisation, and the development of scalable, sustainable value chains that integrate both blue and green bioeconomy approaches.
- Drivers for implementation, deployment and scaling should be imbedded in the R&I-programs.

By embedding these diverse R&I needs into program design and funding calls, future initiatives can bring an innovation ecosystem that is collaborative, inclusive, and capable of delivering both regional benefits and global impact.

2.2.3. INNOVATION AND BUSINESS SUPPORT

Accelerating sustainable growth in the blue economy requires adequate zonation through Maritime Spatial Planning (MSP) and depends on an innovation ecosystem that not only generates ideas but also supports their transformation into viable, market-ready solutions. A specific sustainable blue economy incubator will accelerate implementation of solutions. This requires a combination of targeted business support, enabling policy measures, and strong connections between research, industry, and local communities.

Key priorities from the Mission Arenas are:

- Collaboration and co-creation between academia, startups, and the private sector should be systematically supported, including the systems, actors, and platforms that facilitate these



partnerships. Advisory services can play a crucial role at the local level, providing municipalities and communities with guidance on developing circular, blue biobased value chains and navigating available funding opportunities.

- New public funding instruments and public–private partnerships are needed to de-risk investments and incentivise innovation across all stages, from research through to full-scale deployment. Commercialisation should be facilitated through business support institutions that can identify promising business cases, provide access to testbeds, and promote standardisation to ensure consumer safety and market confidence.
- Market diversification is another critical element. Developing alternative fish products to replace traditional species such as cod and herring can help reduce pressure on overfished stocks while aligning with consumer preferences. Similarly, promoting the valorisation of underutilised marine resources can create high-value products for both human and non-human consumption.
- Marinas and coastal areas can be maximised as hubs for small and medium-sized enterprises (SMEs), supporting youth engagement in maritime professions and sustainability-oriented recreational activities. Tourism potential can be extended beyond peak seasons by integrating local culture and environmental experiences into off-season offerings.
- Startups and SMEs require targeted support beyond pilot phases. This includes financial assistance, mentorship programs, market access facilitation, and scale-up strategies to ensure sustained business growth. Legal assistance, intellectual property protection frameworks, and matchmaking platforms can help connect innovators with funders, large enterprises, and potential collaborators.
- Regional cooperation, enabled by cross-border partnerships and knowledge-sharing platforms such as BlueBioMatch, can strengthen innovation ecosystems. Alignment with Smart Specialisation Strategies ensures that blue innovation is integrated into wider regional development plans.
- Entrepreneurship and innovation training, covering topics such as business modelling, startup development, and innovative practices, can help build the skills base needed for a dynamic and adaptive blue economy. Local coastal communities can be strengthened by diversifying fisheries and aquaculture towards low-impact fishing methods and low-trophic species, ensuring both environmental sustainability and economic resilience.
- Strategic partnerships with private sector stakeholders, including shipbuilders, marina operators, logistics firms, and clean tech providers, can drive the co-development of innovative solutions that align economic interests with regional sustainability goals.

This combination of capacity building, financial support, and cross-sectoral collaboration will be essential for unlocking the full potential of innovation in the blue economy.

2.2.4. TEST SITES, PILOTS AND HUBS

A decisive factor in accelerating innovation in the blue economy is the availability of real-world environments where ideas can be tested, refined, and scaled. Test sites, pilot projects, and innovation hubs are not only technical platforms, but they are also the critical bridge between research and commercial deployment, where concepts transition from theory to tangible impact.



Key priorities from the Mission Arenas are:

- Multi-use setups, such as industrial symbiosis parks on land and at sea, provide unique opportunities for co-locating activities across sectors, enabling shared infrastructure, reducing costs, and cross-pollination of ideas. These environments can integrate aquaculture, renewable energy, tourism, logistics, and other blue economy activities in mutually beneficial ways.
- The number of demonstration sites must be expanded significantly, with open and affordable access to ensure that innovators, whether from research institutions, startups, or established companies, can validate and refine their solutions under real operating conditions.
- Region-specific solutions remain essential. Living labs co-created by political, scientific, industrial, and community actors can address local challenges while maintaining the flexibility to adapt governance structures as innovations evolve.
- Creating a supportive environment for commercialisation is equally important. Business support institutions can help identify and strengthen viable business cases, allocate additional testbeds, and ensure standardisation to build market confidence and consumer safety.
- Marinas and coastal areas can also be developed as dynamic business hubs, attracting SMEs and providing opportunities for youth engagement in maritime professions and sustainability-driven recreation.

By embedding these physical and organisational innovation platforms into future programs, the blue economy will gain the practical, collaborative spaces it needs to move beyond prototypes and pilots towards full-scale, market-ready solutions that deliver measurable environmental and economic benefits.

2.3 OTHER: METHODOLOGY, STANDARDS AND EDUCATION

A robust framework of methodologies, standards, and education is fundamental to ensuring the successful adoption and scaling of innovations within the blue economy. Standardisation provides the necessary consistency and transparency that builds consumer trust and facilitates market expansion, while specific approaches empower local communities and institutions to participate actively in sustainable growth.

Equally important is education, which plays a critical role in preparing a skilled workforce and fostering an entrepreneurial mindset. By integrating students into innovative projects and offering comprehensive training in entrepreneurship and innovation, the region can nurture the talent and knowledge essential for long-term sectoral resilience.

Together, these elements create a foundation that supports collaboration, drives systemic innovation, and helps embed sustainable practices throughout the Baltic and North Sea blue economy.

2.3.1. METHODOLOGY AND STANDARDS

Standardisation remains a cornerstone for scaling up innovation within the blue economy, particularly for new and circular products. By promoting harmonised standards and transparent processes, stakeholders can foster consumer trust, improve market access, and ensure product quality. This



enables faster adoption of sustainable solutions and creates a level playing field across the Baltic and North Sea region.

Key priorities from the Mission Arenas are:

- Marinas have a unique potential to contribute to local community development. Collaborative efforts with local stakeholders and communities can tailor strategies to address the specific needs of marinas, stimulating job creation and supporting sustainable growth. Empowering local institutions, organisations, and businesses to cooperate more effectively around the Baltic and North Sea will further strengthen this impact, especially when their marketing benefits are highlighted.
- Consumer awareness is critical to market transformation. Awareness-raising campaigns can enhance understanding of sustainable marine products. At the same time, market fit analyses and the establishment of community hubs help connect producers directly with consumers, stimulating demand for the innovative blue economy.

To underpin these efforts, developing communities of practice (CoPs) that bring together industry, research, and policy stakeholders is essential. These CoPs create the trust and synergies necessary for systemic innovation, supporting a dynamic and resilient innovation ecosystem throughout the region.

2.3.2. EDUCATION

Engaging students in innovative blue economy projects is vital to cultivating the next generation of skilled professionals and innovators. Active involvement in real-world, interdisciplinary projects not only inspires students but also equips them with the practical skills and knowledge needed to work in this dynamic sector.

Expanding entrepreneurship and innovation training programs is equally important. These should include modules on innovative practices, business modelling, and startup development, preparing learners to transform ideas into viable ventures and contribute to sustainable growth.

Empowering local institutions, organisations, and businesses with tools and mechanisms to support cooperation across the Baltic/North Sea region further enhances the educational ecosystem. Highlighting the marketing benefits of collaboration encourages broader engagement and strengthens regional networks that support both education and innovation.



3. CONCLUSIONS

This deliverable consolidates the critical research and innovation (R&I) needs identified across policy and legislation, governance, finance, research and innovation, monitoring and data, test sites/pilots/hubs, innovation & business support, methodologies/standards, and education. Addressing these interconnected areas removes deployment barriers and unlocks the full potential of the Baltic and North Sea blue economy.

The direct contribution to Mission objectives is:

- Carbon-neutral, circular blue economy: Strategic investments in enabling infrastructure (ports, recycling, power transmission, storage), multi-use maritime spaces, and blended finance/PPPs de-risk innovation and scale net-zero technologies, including green shipping and low-trophic aquaculture.
- Ecosystem restoration & biodiversity: Adaptive governance, living labs, and basin-level monitoring baselines enable evidence-based restoration, cross-border comparability, and outcome-driven management.
- Zero pollution: Standardisation, targeted R&I calls, and market instruments (e.g., circular value chains, side-stream valorisation, industrial symbiosis) accelerate uptake of low-impact solutions that cut emissions and pollutants.

The recommendations operationalise the Mission by:

1. *Governance fit for innovation*: Mission Hubs/Ocean Managers, region-specific living labs, and communities of practice align actors vertically and horizontally and speed regulatory learning (including one-stop-shop licensing and proof-of-concept within legal frameworks).
2. *Financing for scale*: Adaptive, cross-sectoral instruments and a funders' roundtable mobilise public, private, and philanthropic capital; continuity funding prioritises scaling of proven solutions.
3. *R&I to market*: Well-designed programmes, open and affordable test/demonstration sites on land and at sea, and a dedicated incubator connect ideas to implementation and markets.
4. *Standards, skills, and awareness*: Harmonised standards build trust and interoperability; education and entrepreneurship training create a skilled workforce and strengthen regional resilience; consumer awareness and marina/community hubs stimulate demand.

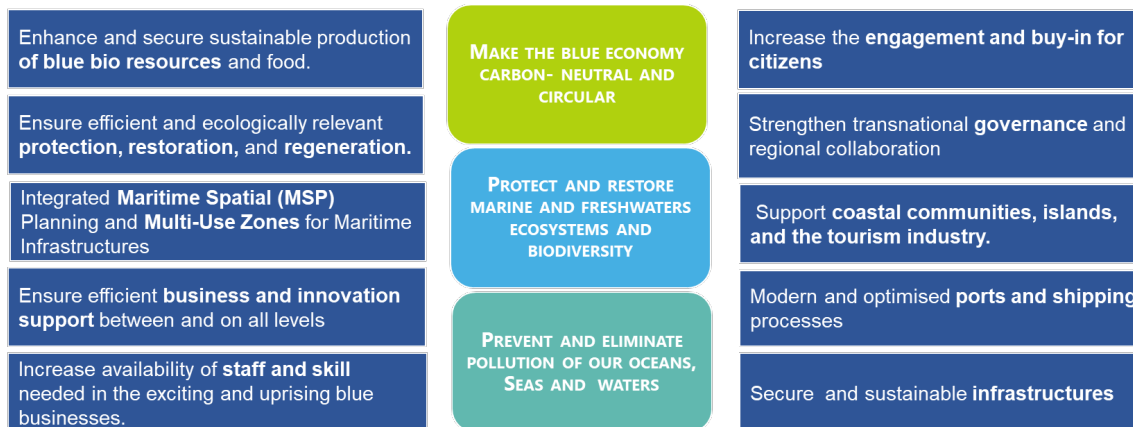
Together, these measures form a coherent pathway from development to deployment to scaling that is tightly coupled with Mission targets and 2030 timelines, turning pilots into measurable environmental improvements, pollution reduction, and carbon-neutral, circular growth across the BANOS basin. Furthermore, the Mission instrument plays a central role in fostering collaboration and co-creation among academia, startups, the public sector, and the private sector at all levels necessary to accelerate innovation.



4. DATASETS ACTION POINTS ADDRESSING R&I-NEEDS, OBSTACLES AND BARRIERS

The data sets below present action points co-created at the Mission Arenas, addressing R&I needs, obstacles and barriers. These action points are offered under the thematic goals areas for the four sub-regional Mission Arenas and connected to the Mission objectives and enablers they support. The summarised goal areas:

- Secure **sustainable infrastructures** and security.
- Enhance and secure the sustainable production of **blue bioresources and food**.
- Ensure efficient and ecologically relevant **protection, restoration, and regeneration** of ocean and freshwater ecosystems.
- Ensure efficient **business and innovation support** across all levels.
- Increase the availability of **staff and skills** needed in the exciting and emerging blue businesses
- **Enhance citizen engagement** and buy-in.
- Integrated **Maritime Spatial (MSP) Planning and Multi-Use Zones** for Maritime Infrastructures.
- Modern and optimised **shipping and port** processes.
- Support **coastal communities, islands, and the tourism** industry.
- Strengthen transnational **governance and regional collaboration**.
- Support **coastal communities, islands, and the tourism** industry.



4.1. SUSTAINABLE INFRASTRUCTURE

Sustainable Infrastructure and Security		Policy				R&I Needs				1. Protect and restore					2. Prevent and eliminate pollution				3. Carbon-neutral and circular Blue Economy			Mission Ocean enablers	
MA	Action point	Frame-work	Govern-ance	Fi-nance	Legisla-tion	Dat-a	R&I	Sup-port	As-sets	1.	a	b	c	d	2.	a	b	c	3.	a	b	1	2
Prioritised																							
3	Enhance collaboration between and within government agencies and private sector to improve security in critical infrastructure through data-sharing initiatives that foster trust while protecting sensitive information.		1												1				1			1	
3	Encourage the collaborative development and implementation of technological innovations to enable real-time infrastructure surveillance, threat detection, and coordinated response capabilities across sectors.						1								1				1			1	
3	Promote innovation programmes to collaboratively develop new security solutions, explore co-existence and multifunctionality of infrastructure to enhance resilience and address emerging threats more effectively.						1								1				1				
3	Create a regional platform for marine security and safety. The platform can provide a secure and neutral space for dialogue among stakeholders to build trust, exchange insights, and collaboratively address shared challenges.		1												1				1			1	



4.2. BLUE BIO RESOURCES AND FOOD

Enhance and secure sustainable production of blue bio resources and food.		Policy				R&I Needs				1. Protect and restore					2. Prevent and eliminate pollution			3. Carbon-neutral and circular Blue Economy		Mission Ocean enablers			
MA	Action point description	Frame-work	Govern-ance	Fi-nance	Legisla-tion	Data	R&I	Support	Assets	1.	a	b	c	d	2.	a	b	c	3.	a	b	1	2
Prioritised																							
1	Framework Ecosystem Services: Framework (local, national or regional) for quantification and monetisation of Ecosystem Services	1													1			1	1	1			
1	Financial Incentives CAP Framework for long-term financial incentives akin to Common Agricultural Policy.	1		1															1	1			
1	Multi-use setups Parks for industrial symbiosis (multi-use) setups on land and at sea.								1										1	1			
1	Decoupled licensing and monitoring for zero-input / low-trophic from finfish aquaculture.				1														1	1			
1	Alternative local blue biomass, Develop new products from alternative local blue biomass: e.g. by-catch; new species like seagrass, AND processing side-streams						1												1	1			
1	Replace feed imports, To replace feed imports from overseas, incentivize blue/green transition in production and		1					1											1	1			



4.3. PROTECTION AND RESTORATION

Ensure efficient and ecologically relevant protection, restoration, and regeneration of ocean and freshwater ecosystems.		Policy				R&I Needs				1. Protect and restore					2. Prevent and eliminate pollution			3. Carbon-neutral and circular Blue Economy		Mission Ocean enablers			
MA	Action point	Frame-work	Govern-ance	Fi-nance	Legisla-tion	Data	R&I	Support	Assets	1.	a	b	c	d	2.	a	b	c	3.	a	b	1	2
Prioritised																							
1	Sufficient funding, Provide sufficient funding for local implementation and management of MPAs.		1				1				1	1	1										
1	Start ASAP, Start with ‘something’ – even small and as soon as possible rather than waiting for comprehensive solutions.										1												
1	Empower local communities, Empower / devolve the establishment, management, monitoring of MPAs to local communities (making use of any kind for good practices elsewhere).		1		1		1				1	1	1										
1	Mainstream biodiversity protection, Mainstream biodiversity protection into national / regional MSPs and other sectoral policies		1		1		1				1	1	1										
2	Develop and implement nature-based solutions: Use the best available knowledge, assess all possible effects, collaborate extensively with stakeholders, have clarity in responsibilities, raise awareness and educate.						1				1												
2	Aim for a supportive policy framework: Streamline licensing procedures; promote local algae and mussel products; apply the polluter pays principle more widely.	1			1						1				1				1	1			



2	Co-management of water bodies: Co-operate with local communities in management activities; present good examples of actions widely; align data needs of stakeholders.		1		1				1											
2	Start small, otherwise you will not start at all! As simple as that.								1											
2	Include all stakeholders in the MPA processes from the start, in particular from currently underrepresented sectors such as business (e.g. extractive sector), local communities and fisheries.		1						1	1										
2	Empower the local communities through ocean literacy and co-management schemes on the establishment, management, and monitoring of MPAs , including initiatives such as blue community gardens, citizen science and active management with fishers	1	1			1														1
2	Start implementing strong and clear communication, education and provide regular information on marine conservation needs and measures, including their cost-effectiveness , bringing positive perspectives of MPA establishment and effective management.	1																		1
2	Improve integration of MSP processes with land-based activities and planning to ensure better assessment and inclusion of land-sea interactions.	1							1											
3	Increase funding for marine protection and restoration, and support innovation in technology , staff resources and capacity building. Nature Restoration Fund or innovative funding					1			1		1					1	1			



4.4. BUSINESS AND INNOVATION SUPPORT

Ensure efficient business and innovation support between and on all levels		Policy				R&I Needs				1. Protect and restore					2. Prevent and eliminate pollution				3. Carbon-neutral and circular Blue Economy			Mission Ocean enablers	
MA	Action point	Frame-work	Govern-ance	Fi-nance	Legisla-tion	Data	R&I	Support	Assets	1.	a	b	c	d	2.	a	b	c	3.	a	b	1	2
Prioritised																							
1	Improve policy framework, Improve the policy framework for aquaculture farmers to be on level with traditional food and biotech sectors and fast-track approval processes.				1														1	1			
1	Support collaboration & co-creation , Support collaboration and co-creation between academia, startups & private sector incl. support for the systems, actors & platforms that facilitate this.						1	1											1	1	1		
1	Advisory services, Establish outreach advisory services that provide support directly to municipalities / local communities wanting to explore opportunities for developing local & circular blue biobased value chains & also information about funding.							1											1	1			
1	New public funding instruments, De-risk and incentivise investments through new public funding instruments and/or public-private partnerships to support all stages of development from research to implementation.			1				1											1	1	1		
2	Promote sustainable business models: Use climate change projections to assess the impact on the Baltic and create a busi-	1			1		1	1						1					1	1	1		



business development. Intensify work on the full launch of the Baltic Pipe.													
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4.5. SKILLS AND EDUCATION

Increase availability of staff and skill needed in the exciting and uprising blue businesses		Policy				R&I Needs				1. Protect and re-store					2. Prevent and eliminate pollution				3. Carbon-neutral and circular Blue Economy			Mission Ocean enablers	
MA	Action point	Frame-work	Govern-ance	Fi-nance	Legisla-tion	Data	R&I	Support	Assets	1.	a	b	c	d	2.	a	b	c	3.	a	b	1	2
Prioritised																							
1	Vocational training Create dedicated vocational and lifelong learning training programs to up- and re-skill workers to exploit the opportunities in the blue sector.		1																1	1	1		
1	Academia & industry collaboration Build direct collaboration between academia and industry via internships and project-based classes.																		1	1	1		
1	Integrate pupils in research projects. Integrate pupils into current research projects, to spark interest and pave way for careers in the blue bioeconomy sector.		1				1												1	1	1		
1	Collaboration with private sector Joint efforts by research, university, & clusters as agents of innovation to encourage collaboration with the private sector						1												1	1	1		
1	Involve students in innovative projects. Involve students actively in professional and innovative projects related to blue economy to inspire them and give the opportunity to develop the necessary skills and gain the interdisciplinary knowledge.						1												1	1	1		
1	Ocean topics in school curricula Explore, in collaboration with students and teachers, the opportunity to integrate									1	1	1	1	1	1	1	1	1	1	1	1		1



4.6. CITIZEN ENGAGEMENT

Increase the engagement and buy-in for citizens		Policy				R&I Needs				1. Protect and restore					2. Prevent and eliminate pollution			3. Carbon-neutral and circular Blue Economy		Mission Ocean enablers			
MA	Action point	Frame-work	Govern-ance	Fi-nance	Legisla-tion	Data	R&I	Support	Assets	1.	a	b	c	d	2.	a	b	c	3.	a	b	1	2
Prioritised																							
1	Bridge between citizens and professional. Make the bridge between citizens and professionals by adjusting our language to understand the two-directional message.																		1	1	1		1
1	Dialogue between different actors Create and strengthen the interaction and dialogue between citizens, students, researchers, industry and policymakers locally to make it more relevant for citizens		1																1	1	1		1
3	Integrate Ocean Literacy into non-formal and formal education activities to raise awareness of marine ecosystems, conservation, and sustainable use.									1													
4	Promote Ocean Literacy in schools: Integrate Ocean literacy programs into early education curricula, including field trips to coastal areas & marine research facilities.																						1
4	Create regional blue economy hubs that connect industry and academia, organise events, networking sessions, knowledge-sharing, and vocational trainings.																						1
4	Empower local institutions, organisations & businesses with mechanisms to be more willing to cooperate around the																						1



4.7. MARITIME SPATIAL PLANNING (MSP) AND MULTI-USE

Integrated Maritime Spatial (MSP) Planning and Multi-Use Zones for Maritime Infrastructures		Policy				R&I Needs				1. Protect and restore					2. Prevent and eliminate pollution			3. Carbon-neutral and circular Blue Economy			Mission Ocean enablers		
MA	Action point	Frame-work	Govern-ance	Fi-nance	Legisla-tion	Data	R&I	Support	Assets	1.	a	b	c	d	2.	a	b	c	3.	a	b	1	2
Prioritised																							
1	Regulatory incentives, Clarify the multi-use permitting processes and provide suitable regulatory incentives e.g. multi-use as a non-financial tendering criteria, or as a permit condition.				1															1	1		
1	Multi-use in MSP, Integrate offshore multi-use in maritime spatial plans				1					1										1	1		
1	Multi-use portfolio, Identify where and what type of multi-use combinations should take place taking into consideration the socio-economic and environmental benefits.	1																		1	1		
1	Multi-use parks, Set up 'multi-use parks' with clear government support in terms of the permits & insurance but also necessary infrastructure - providing anchors & docking facilities, using buoys to mark the boundaries of multi-use areas in order to reduce costs & risks							1												1	1		
3	Simplify Regulatory Frameworks with clear licensing. Ideally establish one-stop-shops.	1																		1	1	1	



Others																		
1	Mainstream multi-use into policies, Mainstream the ocean multi-use concept into relevant sectoral policies (e.g. offshore wind development strategies).				1										1	1		
3	Strengthen cross-sector blue economy stakeholder dialogue structures to reduce siloed approaches. Build on the already good 'Communities of Practice' examples in the region.						1								1	1	1	
3	Undertake Baseline Assessment on a basin level serving the purpose for all possible uses, contributed to from National efforts in EEZs and Coordinated basin activities from regional elements and undertake joint monitoring effort					1									1	1	1	
3	Operationalize the transnational planning of the North Sea and other basins using examples such as the GNSBI. This mandates consideration of transnational planning , aspects and develops joint projects	1	1												1	1	1	
4	Implement concrete actions to facilitate cooperation among stakeholder from different sectors and the offshore wind energy, contributing to sustainability and enabling the multi-use approach.														1			
4	Facilitate the transition from policy declarations to concrete, actionable measures that promote the implementation of multi-use (MU) concepts.																1	
4	Establish enabling governance frameworks and provide targeted incentives to stimulate private sector involvement in multi-use (MU) initiatives.																1	



4.8. SHIPPING AND PORTS

Goal theme: Modernise and Optimise Shipping & Ports processes		Policy				R&I Needs				1. Protect and restore					2. Prevent and eliminate pollution			3. Carbon-neutral and circular Blue Economy		Mission Ocean enablers			
MA	Action point	Frame-work	Govern-ance	Fi-nance	Legisla-tion	Data	R&I	Support	Assets	1.	a	b	c	d	2.	a	b	c	3.	a	b	1	2
Prioritised																							
2	Invest in infrastructure: Upgrade port facilities, improve recycling facilities, enhance power transmission capacity, and develop storage solutions to support the growth of green shipping	1		1																			
2	Create a more universal definition of Green Shipping Corridors to improve the frameworks, incentives, and monitoring opportunities in the shipping industry across the entire value chain.	1				1									1				1	1			
2	Address existing loopholes in the governance of the shipping industry through improving the policy frameworks, financial support mechanisms, permitting, and cross-border regulations.	1			1										1				1	1			
2	Educate the public & engage with stakeholders on the effect of the shipping industry on green goals. This includes increasing communication, education programmes, and organising stakeholder workshops on all levels of the value chain.																		1				1



4	Invest in modern, climate-resilient maritime infrastructure that supports sustainable port operations, clean energy generation, and safe navigation, focusing on cross-border connectivity and the full integration of environmental considerations.		1				1								1						1	1		1	
4	Foster strategic partnerships with private sector stakeholders, including shipbuilders, marina operators, logistics firms, and clean tech providers, to co-develop innovative solutions that align economic interests with regional sustainability goals.						1	1							1						1	1			
4	Strengthen regional cooperation frameworks by enhancing the use and integration of risk assessment tools into national maritime safety protocols, ensuring harmonised responses to both environmental threats and security challenges.	1					1	1							1										1
4	Offer targeted financial incentives, regulatory support, and innovation funding to encourage cross-sector and cross-border collaborations that address shared maritime sustainability challenges and accelerate the uptake of best practices across the SBR.			1				1							1							1			
Others																									
2	Improve access and support of green fuel sources by working with intergovernmental institutions, national ministries, stakeholders, and citizens	1													1							1	1		
2	Engage with private sector actors through partnerships and effective communication to ensure that financial input, new technologies and approaches are carried forward into the future and utilised on the ground.	1	1												1							1	1		
2	Provide incentives for new collaborative approaches between stakeholders, beyond today's market forces on the regional,	1		1				1							1							1	1		



4.9. GOVERNANCE AND REGIONAL COLLABORATION

Strengthen transnational governance and regional collaboration		Policy				R&I Needs				1. Protect and restore					2. Prevent and eliminate pollution			3. Carbon-neutral and circular Blue Economy			Mission Ocean enablers			
MA	Action point	Frame-work	Govern-ance	Fi-nance	Legisla-tion	Data	R&I	Support	Assets	1.	a	b	c	d	2.	a	b	c	3.	a	b	1	2	
Prioritised																								
1	Unlock funding across value chain Unlock funding across the entire value chain, focusing on systematic funding for implementing “good solutions” and increasing the continuity of existing projects and initiatives rather than only focusing on new ones.			1																1	1	1		
1	Region-specific solutions Create solutions that are region-specific: support actors from politics, science, industry, and society in forming living labs to test new approaches. Flexible, adaptive governance structures are key to supporting this endeavour.		1				1		1											1	1	1		
1	New governance structures Create new governance structures at vertical (inter-ministerial and intergovernmental) AND horizontal (transdisciplinary and transsectoral) levels to engage local, regional and national authorities (e.g., establish Mission Hubs and Mission Ocean Managers)		1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1



4.10. COMMUNITIES, ISLANDS AND TOURISM

Support coastal communities, islands, and the tourism industry.		Policy				R&I Needs				1. Protect and restore					2. Prevent and eliminate pollution				3. Carbon-neutral and circular Blue Economy			Mission Ocean enablers	
MA	Action point	Frame-work	Govern-ance	Fi-nance	Legisla-tion	Dat-a	R&I	Sup-port	As-sets	1.	a	b	c	d	2.	a	b	c	3.	a	b	1	2
Prioritised																							
2	Apply strategic planning at the local, regional, & international levels to balance coastal tourism and boating with environmental & social impacts . It is vital to recognise that a place visited is a resource that must be actively managed.	1								1					1				1				
2	Strengthen data collection and analysis: Support comprehensive studies to understand coastal communities' economic, social, and environmental impacts to inform policy decisions and prioritise funding for sustainable tourism initiatives.		1			1	1			1					1				1			1	
2	Facilitate stakeholder collaboration to empower communities and promote circular business models in collaboration with authorities, NGOs, and tourism actors to achieve common goals.		1				1												1				
2	Education, awareness and responsibility are key to creating a culture of responsible tourism and working strategically with challenge																						
4	Promote a comprehensive lifecycle approach by encouraging maintenance, repair, retrofitting,	1																	1	1			



