Brussels, 12 May 2023

COST 032/23

DECISION

Subject: Memorandum of Understanding for the implementation of the COST Action “Rethinking the Blue Economy: Socio-Ecological Impacts and Opportunities” (RethinkBlue) CA22122

The COST Member Countries will find attached the Memorandum of Understanding for the COST Action Rethinking the Blue Economy: Socio-Ecological Impacts and Opportunities approved by the Committee of Senior Officials through written procedure on 12 May 2023.

MEMORANDUM OF UNDERSTANDING

For the implementation of a COST Action designated as

COST Action CA22122
RETHINKING THE BLUE ECONOMY: SOCIO-ECOLOGICAL IMPACTS AND OPPORTUNITIES (RethinkBlue)

The COST Members through the present Memorandum of Understanding (MoU) wish to undertake joint activities of mutual interest and declare their common intention to participate in the COST Action, referred to above and described in the Technical Annex of this MoU.

The Action will be carried out in accordance with the set of COST Implementation Rules approved by the Committee of Senior Officials (CSO), or any document amending or replacing them.

The main aim and objective of the Action is to to assess the impact and the opportunities arising from the Blue Economy paradigm. This will create new insights on how to enhance the economic, social and environmental sustainability of the Blue Economy. This will be achieved through the specific objectives detailed in the Technical Annex.

The present MoU enters into force on the date of the approval of the COST Action by the CSO.

OVERVIEW

Summary
The COST Action "Rethinking the Blue Economy: Socio-ecological impacts and opportunities" (RethinkBlue) centres around the Blue Economy and related policies affecting European societies. After the term was introduced at the UN Rio+20 conference, the paradigm was adopted by various actors across Europe and beyond. In the EU, the Blue Economy paradigm involves regional and national political-economic priorities, new legislative and governance frameworks, and EU and national financial support for sectors of the marine economy. However, the impact of these policies on coastal populations are not yet well-understood. Accelerating globalisation, technological developments and the impact of climate change pose additional challenges.

The purpose of this Action is to rethink the Blue Economy, in two ways. First, by assessing its impact on coastal societies, and second, by exploring opportunities deriving from innovations and potential synergies between established and emergent marine activities. The guiding research questions are:

1. What are the impacts, positive or negative, of Blue Economy developments on human well-being, social equity and the economic and environmental sustainability of coastal societies?
2. What are potential opportunities for innovations and synergies between sectors?

Scientific interactions focus on five themes: (1) maritime occupations, (2) food security & sustainable blue consumption, (3) port cities & coastal communities, (4) fisheries governance & emergent activities, (5) climate change & natural hazards. Knowledge exchange and capacity building among researchers and stakeholders of the Blue Economy will be facilitated through meetings, research workshops, an online seminar series, training schools, and conferences.

Areas of Expertise Relevant for the Action	**Keywords**
● Sociology: Social structure, inequalities, social mobility, social exclusion, income distribution, poverty ● Political Science: Political systems and institutions, governance ● Social and economic geography: Socio-economic aspects of environmental sciences ● Agriculture, Forestry, and Fisheries: Aquaculture, fisheries ● Sociology: Anthropology, ethnology, cultural studies	● Blue Economy ● Maritime governance and policy ● Socio-economic transformations ● Social, economic and environmental sustainability ● Coastal societies

Specific Objectives
To achieve the main objective described in this MoU, the following specific objectives shall be accomplished:

Research Coordination
● Exchanging knowledge to develop a common research agenda;
● Coordinating research efforts in ongoing projects to enhance theory building, enable new empirical insights through cross-country, cross-sector comparison, and identify research gaps;
● Coordinating future research efforts;
● Collaborating with stakeholders to develop research insights into actionable, policy-relevant knowledge that will support stakeholders and decision-makers in enhancing the social, economic and environmental sustainability of the Blue Economy.

Capacity Building

● Integrating currently discrete research communities to build a pan-European, interdisciplinary network of experts from different European regions and countries;
● Fostering knowledge exchange and the creation of a joint research agenda;
● Building competence and supporting the career development of the next generation of European researchers and experts;
● Participating in global research networks by creating opportunities for exchange and collaboration with researchers from near neighbour countries and third countries;
● Creating opportunities for involvement and dialogue between researchers, stakeholders and the general public;
● Supporting stakeholders and policy-makers in developing a Blue Economy that is socially, economically and environmentally sustainable.

TECHNICAL ANNEX

1. S&T EXCELLENCE

1.1. SOUNDNESS OF THE CHALLENGE

1.1.1. DESCRIPTION OF THE STATE OF THE ART

Human populations have depended on coastal areas and marine ecosystems throughout history (Pitcher & Lam 2015), and maritime and coastal spaces continue to provide human societies with a range of services. Particularly noteworthy are those related to the extraction of renewable resources (e.g., fishing), maritime transport and tourism, along with many other activities at sea or on shore. Ports and the associated commercial infrastructures have set their mark on surrounding coastal areas, accumulating population and resources around them. Globalisation, defined as an increasingly accentuated interdependence between geographically distant populations, cannot be understood without increasingly efficient maritime transport.

For the individuals and communities involved, these activities are not only of economic importance, but form part of their way of life. They have generated knowledge systems, institutional frameworks and subsistence strategies adapted to complex socio-ecological systems. The expansion of the Exclusive Economic Zones (EEZs) in the last decades of the 20th century significantly impacted many traditional users of marine and coastal spaces. For instance, fishers who had used EEZs for centuries found themselves suddenly marginalised by institutional arrangements that saw their exclusive control transferred to the nation-state. At the same time, coastal populations and maritime activities are increasingly exposed to the consequences of climate change such as rising sea levels and a higher risk of natural hazards. In many coastal areas in Europe, populations will be confronted with the need to adapt or to risk displacement, with enormous socio-economic consequences.

Alongside these social, institutional and environmental changes, technological developments have accelerated transformations of maritime human activities. Technological progress has resulted in larger vessels, better monitoring systems, larger and more complex offshore platforms, and more efficient technology for the exploration and extraction of marine fossil fuels or the generation of wind energy. Some artisanal ocean uses were marginalised or replaced by transnational industries. Similarly, in the shipping industry, the emergence of global labour markets led to a decline in job opportunities for local workers. Along with these changes in economic activities, the perception of the ocean and individuals' relations to it changed.

In recent decades, new activities and actors have become increasingly important, perhaps most notably marine tourism (Orams 1999), the production of renewable energy and biotechnology (Foley 2017), and the extraction of mineral resources, especially hydrocarbons. Since about 2012, the term "Blue Growth", has been used to refer to these processes of increasing diversity and intensity of human maritime activities. The reference to growth was soon formally replaced by an emphasis on "sustainability" when the UN introduced the term "Blue Economy" at the Rio+20 conference as a parallel to the "Green Economy". Although the conference ended without a consensus about its definition (Silver et al. 2015), the new concept became a popular policy paradigm in Europe and beyond. As stated in the European Commission (2021a, p. 2) report: 'The outdated notion that environmental protection conflicts with the economy are giving way to the realisation that, especially in the maritime industry, the environment and the economy are intrinsically linked. We need to shift the focus from "blue growth" to a sustainable "blue economy"'. The Blue Economy paradigm involves regional and national political-economic priorities, new legislative and governance frameworks, and EU and national financial support for the maritime economy. However, the precise meaning or content of such policies is further interpreted and defined by policy makers, often with a view towards national economic interests (Garland et al. 2019). The term was also adopted in the private sector and the academic community, thus giving rise to multiple

competing discourses related to the Blue Economy that variously considered oceans as natural capital, as livelihoods, as good business, or as drivers for innovation (Garland et al. 2019).

EU policies concerning the Blue Economy typically distinguish between established sectors on one side, and emerging sectors on the other side. Fisheries, maritime transport or coastal tourism, among others, are usually included in the first category. In contrast, the second category includes marine renewable energy (e.g., ocean energy, floating solar energy, off-shore hydrogen generation), blue bio-economy and biotechnology, marine minerals, desalination, maritime defence, security and surveillance, research and education, as well as infrastructure and maritime works (submarine cables, robotics) (European Commission 2021b, p. vi). Here the ocean is considered as the new frontier for economic growth, promoting investment, innovation and technology (Arias Schreiber et al. 2022).

One characteristic of this Blue Economy paradigm is its focus on new economic and innovation opportunities, often involving large-scale infrastructure development and resource exploitation. However, little consideration is given to the implications of these developments for traditional activities and coastal communities, who may be marginalised or displaced from the spaces they have used for generations. While the development of coastal tourism is known to compete with or displace traditional activities (Pi-Sunyer 1977; Santana Talavera 1997), emerging and innovative sectors may have a similar impact in coastal and marine areas on which traditional activities and users depend.

Considering the socio-ecological consequences of the developments associated with the Blue Economy, it is essential to assess and mitigate the impacts of these processes. While the Blue Economy entails competing interests between user groups and governance challenges that cannot be ignored, many official documents focus on the technical challenges and propose solutions through investment and innovation (European Commission 2021b, 2022). This runs the risk of exacerbating differences in power and access, as funding and policies dedicated to promoting the Blue Economy may mainly benefit large companies and powerful elites (Arias Schreiber et al. 2022; Schutter et al. 2021). At the same time, new developments and innovations associated with the Blue Economy may also offer opportunities for coastal communities and established activities through synergies with new entrants (Pascual-Fernández et al. 2018). However, it is important to actively look for such opportunities, taking advantage of insights from cutting-edge research as well as stakeholders' experience and expertise.

1.1.2. DESCRIPTION OF THE CHALLENGE (MAIN AIM)

As noted above, the social, institutional, environmental and technological developments outlined above, may present both challenges and opportunities for coastal populations and maritime activities. Against this background, the impacts of the Blue Economy policies pursued by the EU and its member states, as well as the opportunities they may offer, are not yet well understood.

On the one hand, the Blue Economy is envisioned as a way forward during ongoing crises, for instance as provider of alternative food items and new medicines; as a source of renewable energy; and, perhaps most importantly, as job creator for impoverished coastal regions and port cities. Although these are promising prospects, they raise questions about how to resolve conflicts of interests between different purposes and user groups, as well as about appropriate regulation and governance (Garland et al. 2019).

On the other hand, there is growing evidence that Blue Economy policies may entail negative socio-ecological consequences. A review by Bennett et al. (2021) suggests that some of these consequences are already emerging in different parts of the world. They identify ten risk clusters: dispossession, displacement and ocean grabbing; livelihood impacts for small-scale fishers; lost access to marine resources needed for food security and well-being; inequitable distribution of economic benefits; social and cultural impacts; the marginalisation of women; human and indigenous rights abuses; and exclusion from governance. Similarly, in Europe, the sectors included under the umbrella term "Blue Economy" face numerous challenges. For instance, the construction of wind farms, the extraction of oil and gas or the requirement of increased nature conservation measures following the EU biodiversity strategy for 2030 (with 30% marine protected areas) increase the competition for space (Stelzenmüller et al. 2021, 2022). Yet there is relatively little knowledge on the trade-off effects of different activities in coastal waters. Furthermore, what is missing in existing scholarship is a comparative assessment of the impacts of Blue Economy policies across Europe.

In sum, there is an urgent need to go beyond idealised models and buzzwords. Instead, what is needed are empirical studies that investigate the challenges, conflicts, and unintended consequences of the policies at hand, and provide stakeholders and decision-makers with critical reflections and insights based on strong empirical evidence. In doing so, it is important to pay not only attention to potential adverse effects and challenges, but also to the opportunities and the potential contained in the Blue Economy.

Hence the purpose of this COST Action is to assess the impact and the opportunities arising from the Blue Economy paradigm. The guiding research questions of the Action are:

1. What are the impacts, positive or negative, of Blue Economy developments on human well-being, social equity and the economic and environmental sustainability of coastal societies?

2. What are potential opportunities for innovations and synergies between sectors?

1.2. PROGRESS BEYOND THE STATE-OF-THE-ART

1.2.1. APPROACH TO THE CHALLENGE AND PROGRESS BEYOND THE STATE OF THE ART

Even though the European and international policy strategies present Blue Economy policies as a coherent framework, the sectors included therein are often characterised by internal contradictions and conflicts. While these conflicts have been reported and represented in the public sphere (e.g., media, NGO campaigns), there has been little systematic empirical research on these topics. Moreover, existing research is typically fragmented along disciplinary and sectoral lines, and there may be little awareness of relevant research findings or collaboration opportunities across national boundaries. Bringing together experts from different disciplines, with different sectoral foci, and from different countries, the goal of this Action is to provide a critical and empirically grounded perspective on the Blue Economy.

Disciplinary boundaries are especially significant. Important insights about the Blue Economy come from disciplines such as sociology, social anthropology, geography, environmental economics, political ecology, marine ecology and fisheries research, to name but a few. However, there is little communication across disciplinary boundaries. Hence, one of the key goals of this Action is to promote cross-disciplinary exchange and collaboration. More specifically, the aim is to promote collaboration among scholars from different social sciences, as well as promoting collaboration with natural sciences (e.g. marine biologists) and humanities (e.g., history).

The Action contributes to developing networks between scholars in an additional way, namely with regard to the study of different maritime sectors. While the Blue Economy comprises a range of sectors, these are rarely approached together. Instead, different Blue sectors such as fisheries, maritime transport, or tourism are typically analysed separately. Advancing beyond this, this Action adopts a thematic approach which cuts across sectors. Looking at topics across sectors will offer new perspectives, thus enabling scholars to ask new questions and gain new theoretical and empirical insights which otherwise may remain unnoticed. For example, concerning the construction of maritime careers: why do seafarers terminate their employment in transport and switch to fisheries? Or, why do fishers leave their job in resource extraction and switch to the tourism and service industry? It is no less important to consider how a vocation for a career related to the sea emerges, especially in a European context where such vocations are increasingly rare. Even though most scholars may remain anchored in their area of expertise, the Action's thematic approach, with Working Groups cutting across sectors, encourages them to consider their findings in a broader perspective.

The cross-national perspective, at the core of the COST Action scheme, is central to the attempts to advance our understanding of the Blue Economy. Maritime topics are especially difficult to look at through the (still) conventional prism of nation-states. The international composition of this COST Action enables participants to observe and compare national challenges through a comparative perspective. For instance, how do EU policies play out in different local or national contexts?

Lastly, the Action aims to include participants from an academic background as well as stakeholders. The aim is to ensure that diverse perspectives and practical experiences will be an integral part of the Action's activities. Taken together, the Action adopts a multi-disciplinary, thematic approach, connecting

scholars and stakeholders from different countries to promote knowledge exchange and collaboration. This will open up new research agendas and a potential for new empirical and theoretical insights.

1.2.2. OBJECTIVES

1.2.2.1. Research Coordination Objectives

The Action's overarching goal is to create new insights on how to enhance the economic, social and environmental sustainability of the Blue Economy. To achieve this, the Action's research coordination objectives are:

1. Exchanging knowledge to develop a common research agenda;

2. Coordinating research efforts in ongoing projects to enhance theory building, enable new empirical insights through cross-country, cross-sector comparison, and identify research gaps;

3. Coordinating future research efforts;

4. Collaborating with stakeholders to develop research insights into actionable, policy-relevant knowledge that will support stakeholders and decision-makers in enhancing the social, economic and environmental sustainability of the Blue Economy.

1.2.2.2. Capacity-building Objectives

The Action's capacity-building objectives are:

1. Integrating currently discrete research communities to build a pan-European, interdisciplinary network of experts from different European regions and countries;

2. Fostering knowledge exchange and the creation of a joint research agenda;

3. Building competence and supporting the career development of the next generation of European researchers and experts;

4. Participating in global research networks by creating opportunities for exchange and collaboration with researchers from near neighbour countries and third countries;

5. Creating opportunities for involvement and dialogue between researchers, stakeholders and the general public;

6. Supporting stakeholders and policy-makers in developing a Blue Economy that is socially, economically and environmentally sustainable.

2. NETWORKING EXCELLENCE

2.1. ADDED VALUE OF NETWORKING IN S&T EXCELLENCE

2.1.1. ADDED VALUE IN RELATION TO EXISTING EFFORTS AT EUROPEAN AND/OR INTERNATIONAL LEVEL

With roots in the early 20th century, maritime research in Europe has long-standing traditions. This is reflected in numerous research groups at university departments and research centres in different European countries. Their focus tends to be on particular sectors of the Blue Economy (e.g., small-scale fisheries; seafarers; port infrastructures; heritage and tourism), often from a particular disciplinary perspective. In addition, there are numerous individual researchers and research groups working on related topics such as sustainability, climate change, engineering, or occupational health and safety.

There are a number of past and current collaboration and networking initiatives connecting some of these individual researchers and research groups. A prominent example is the Centre for Maritime Research (MARE), established in 2000, with six partner institutions in different European countries. Bringing together social scientists and other researchers interested in maritime resource use and management, MARE organises conferences, workshops and publications. Another example is Too Big to Ignore (TBTI). As a global research network focussing on one specific sector, i.e. small-scale fisheries, TBTI demonstrates the impact that a network can achieve by creating a coherent research agenda for researchers working on the same topic. Other initiatives focus on collaboration around particular research questions (e.g., in connection with EU funding programmes). An example is the COST Action "Ocean Governance for Sustainability - Challenges, Options and the Role of Science" (OceanGov; CA15217), which was active from 2016 to 2020, and examined ocean governance across different levels. In addition, there are intergovernmental and interregional pan-European platforms dedicated to maritime topics and the Blue Economy. A notable example is the Joint Programming Initiative Healthy and Productive Seas and Oceans (JPI Oceans), which supports the provision of expert knowledge for the sustainable use of oceans. Another example is the Blue Economy Working Group, which forms part of the Brussels-based European Regions Research and Innovation Network. Its aim is to support members and foster participation in European funding programmes.

While there are a number of initiatives related to maritime issues and the Blue Economy, the field remains fragmented along national and disciplinary boundaries. Another persisting division, which has received less attention in other initiatives, is between researchers working on different sectors of the Blue Economy. Hence there is a need to create and strengthen research networks in order to encourage and facilitate comparative and collaborative research.

Therefore, the goal of this COST Action is to build on existing research initiatives and foster connections by bridging, strengthening and expanding existing formal and informal networks of researchers. In doing so, the Action seeks to learn from and consolidate existing efforts to create a pan-European, interdisciplinary network of researchers, and to encourage connections between researchers and stakeholders in Europe and beyond. This will enhance the exchange of knowledge, experiences and evidence between researchers, as well as with stakeholders.

In contrast to many existing initiatives, the Action places special emphasis on the participation of scholars and stakeholders from ITC countries, where the volume and visibility of research on the Blue Economy is still limited. The strengthening of research networks between them and countries characterised by more intensive research traditions is especially important. Moreover, while most existing initiatives focus on one particular sector of the Blue Economy (e.g., fisheries), this Action seeks to bring together researchers working on different sectors.

2.2. ADDED VALUE OF NETWORKING IN IMPACT

2.2.1. SECURING THE CRITICAL MASS, EXPERTISE AND GEOGRAPHICAL BALANCE WITHIN THE COST MEMBERS AND BEYOND

The Action emerges from discussions within and between existing research communities. In connection with the development of the proposal, the Action has secured a critical mass of participants interested in joining from the start. The Action will comprise participants from COST countries (including ITC). Most participants will be affiliated with universities or associated organisations among them leading experts and research groups in the field, with experience from research projects across Europe as well as globally. The major European maritime regions (Baltic Sea, North Sea, Atlantic Ocean, Mediterranean) will be represented, providing the basis for comparative cross-regional and cross-country analyses. The Action is multidisciplinary. The main social science fields that will be essential for the Action, such as sociology, geography and social anthropology, will be well-represented, and participants will have expertise and experience with both qualitative and quantitative research. The Action will include both theoretically-oriented and applied, policy-oriented researchers, as well as experts with a wealth of practical expertise and experience from different sectors of the Blue Economy.

Building on this, the Action will make a concerted effort to expand and strengthen the network, both with regard to expertise and geographical scope. The Action's Management Committee (MC) and the Core Group will take a lead role in these efforts.

With regard to expertise, a key priority will be to ensure participation from a range of disciplines. Another key priority will be to expand stakeholder participation, with a focus on achieving a balanced representation of different sectors (e.g., fisheries, seafaring, tourism, etc.), topics (e.g., environment, welfare, etc.), and levels (e.g., local, national, regional, European, global). To achieve this, Action participants will adopt a snowballing approach, using their personal and institutional networks to identify individuals with the required expertise and invite them to join the Action. Moreover, experts will be invited to participate in the Action's activities (e.g., online seminar series, Training Schools, editorial work) in order to strategically build expertise within the network and expand the network.

The Action will seek to maintain and strengthen geographical balance and expand the network. Information about the Action's activities (such as conferences or Training Schools) will be distributed widely, to raise awareness about the Action and attract new participants. In line with the Action's focus on the Blue Economy, a particular effort will be made to reach researchers and research groups in coastal states in Eastern Europe and around the Mediterranean (i.e., ITCs and Near Neighbour Countries). Moreover, the Action will build on participants' personal networks to engage with cutting-edge global research by establishing connections and encouraging scientific cooperation and exchange with experts and research groups in third countries.

2.2.2. INVOLVEMENT OF STAKEHOLDERS

Close collaboration with stakeholders is crucial throughout the Action in order to increase the relevance and usefulness of Action outcomes for stakeholders and society at large. The Action's strategy for stakeholder involvement will be part of the Action's Science Communication Plan.

Relevant stakeholder groups. Relevant stakeholder groups include international, national and local organisations representing different interests (e.g., employers, unions), different sectors of the Blue Economy (e.g., fisheries, aquaculture, seafaring, tourism, energy, etc.) and addressing different issues (e.g., labour market, environment, welfare, heritage, etc.). Examples include environmental NGOs (e.g., World Wildlife Fund), welfare organisations (e.g., Deutsche Seemannsmission), and industry organisations (e.g., International Transport Federation, Low Impact Fisheries of Europe).

Identifying and inviting stakeholders. The Action will make a concerted effort to expand the number and diversity of stakeholders at the start of the Action. The aim is to include stakeholders active at different levels (from local to international) and representing different sectors, interests and issues, while taking into account geographic coverage. In order to identify relevant stakeholders, the Action will organise a workshop at the kick-off conference, where Action participants will list, map and discuss relevant stakeholders. After the launch of website and social media channels, relevant stakeholders will be informed about the Action and invited to participate. In the final year of the Action, renewed efforts will be made to identify and invite interested stakeholders to participate in stakeholder workshops.

Stakeholder involvement. Stakeholders will be regularly informed about the Action, Action activities and outcomes through the Action's website and social media. In addition, interested stakeholders can participate actively on an ad hoc basis or by joining the Action as WG members. As WG members, stakeholders will be involved in setting the research agenda of their WG, planning research projects, data collection, and discussion of findings. In the final year of the Action, stakeholders will help to translate research findings into actionable, policy-relevant knowledge.

3. IMPACT

3.1. IMPACT TO SCIENCE, SOCIETY AND COMPETITIVENESS, AND POTENTIAL FOR INNOVATION/BREAK-THROUGHS

3.1.1. SCIENTIFIC, TECHNOLOGICAL, AND/OR SOCIOECONOMIC IMPACTS (INCLUDING POTENTIAL INNOVATIONS AND/OR BREAKTHROUGHS)

The Action's **scientific impact** will be of conceptual, theoretical and empirical character. Although the term "Blue Economy" has been widely used, the understanding and use of the term depends on the discipline and the context (Eikeset et al. 2018). This has contributed to the conceptual

confusion and fragmentation of the research area. The exchange of knowledge among Action participants will enable conceptual clarification and the development of a common research agenda across academic disciplines, Blue Economy sectors and countries. At the same time, new empirical insights through cross-country, cross-sector comparison and collaboration on ongoing research projects will be important for opening new research agendas and for theory development.

In the short term, the COST Action will result in collaborative scientific articles, which will promote theory building and empirical knowledge. This will also identify research gaps and new directions for research. To achieve long-term impact, the Action will pay special attention to supporting young researchers who will shape the development of the field in the years to come. Hence the attention to activities promoting capacity-building and knowledge transfer. These will contribute to skill development and innovative thinking among young researchers and experts from different disciplines, sectors and countries.

In addition to the scientific impact, the Action will have **socio-economic and political impacts** by providing policy makers and stakeholders with critical reflections and insights based on strong empirical evidence. While there are numerous studies on the impacts of e.g. climate change on marine ecosystems, there is still a gap between the proposals for mitigation or adaptation measures derived from these studies and their practical implementation. Moreover, measures benefitting activities in one sector of the Blue Economy may have negative externalities for other sectors.

The COST Action will address this in two ways. First, the Action will enable collaboration across disciplines and sectors. This will provide a more holistic understanding of Blue Economy activities, thus providing the basis for new insights and innovative practical solutions (e.g., co-use of space in wind farms for aquaculture or passive fishing gear; developing tourist activities in aquaculture cages at sea) to create synergies. While there already are a few initiatives in European countries that work along these lines (Padin et al. 2016), it is essential to combine the experience and insights from those initiatives in order to identify best practices and promising ways forward. Second, the Action will cooperate with stakeholders to ensure that research insights are developed into actionable, policy-relevant knowledge that is of maximum usefulness to stakeholders, communities and decision makers. This means that the creation of policy-relevant knowledge will be at the centre of the Action dissemination activities. In this way, the Action will contribute to enhancing the economic, social and environmental sustainability of the Blue Economy in Europe.

3.2. MEASURES TO MAXIMISE IMPACT

3.2.1. KNOWLEDGE CREATION, TRANSFER OF KNOWLEDGE AND CAREER DEVELOPMENT

The Action will take several steps to maximise the Action's impact. The **creation of new knowledge** (described in section 3.1.1.), is closely linked to the **transfer of knowledge among Action participants**, as the Action seeks to highlight existing knowledge in separate research areas and produce new knowledge by stimulating exchange among experts from different disciplines, sectors and countries, as well as between researchers and stakeholders. In all WGs, adopting a comparative perspective will stimulate cross-fertilisation concerning topics, theoretical perspectives and methods, and lead to new empirical insights. It will also reveal gaps and new directions for research.

To achieve this, the Action creates spaces and opportunities that enable and stimulate the exchange and creation of knowledge. The RethinkBlue seminar series and the Training Schools provide a shared forum for exchange across WGs. They introduce young researchers and experts from different disciplines, sectors and countries to different perspectives, new methods and empirical insights. The aim is to inspire innovative thinking and new collaborative research projects. Similarly, workshops and Short-Term Scientific Missions will foster exchange and knowledge creation. New insights gained during the Action will be shared across WGs, for instance through the RethinkBlue seminar series or at the final conference. Moreover, researchers and stakeholders will collaborate throughout the Action in order to increase the practical relevance and usefulness of the knowledge, thus increasing the impact of the Action's research outcomes.

The Action's strategy for **transferring knowledge beyond the Action** is part of the Action's Science Communication Plan. As described in section 3.2.2., this includes dissemination of knowledge to the global scientific community, as well as engagement with stakeholders and the general public.

Supporting participants' **career development** will contribute to capacity building, with a long-term impact on knowledge creation. As described in the section "COST Mission and Policy", the Action will make a special effort to support young researchers, women and researchers from Inclusiveness Target Countries (ITCs). The Action will contribute to the career development of participants by involving them in cutting-edge, international and interdisciplinary research, as well as through several targeted measures to promote their careers. WG leaders will take responsibility for actively involving young researchers, researchers from ITCs and Near Neighbour Countries, as well as underrepresented groups of researchers (e.g., women; researchers with disabilities) in WG activities, and encourage them to take responsibility e.g. as organisers of WG activities or as lead authors of joint publications. Similarly, editorial work provides networking opportunities and increased visibility with other Action participants as well as with global experts. Additional publications and presentations at international conferences organised by third parties will be encouraged, especially by young researchers.

Training Schools offer additional opportunities for career development, as trainees acquire new knowledge and skills, and trainers gain recognition and can develop their teaching portfolio. In addition to informal networking opportunities, the Action will include a Mentoring Programme. The Action also offers hands-on experience in leadership positions, and the Action MC and the Core Group will take responsibility for encouraging a diverse group of Action participants to take on these roles in line with COST policy and principles. To support less experienced leaders and/or allow individuals to get experience, all leadership positions will be supported by deputies. This will allow sharing experience and expertise, distributing the workload, and improving the quality of decisions.

3.2.2. PLAN FOR DISSEMINATION AND/OR EXPLOITATION AND DIALOGUE WITH THE GENERAL PUBLIC OR POLICY

The results of the RethinkBlue Action will be communicated to diverse target audiences, as shown in the table below, in line with the Action's Science Communication Plan.

	Scientific community		**Stakeholders**	**General public**
	Europe	**global**		
Scientific publications & presentations	Yes	Yes	Yes	
Website & social media	Yes	Yes	Yes	Yes
Stakeholder workshops			Yes	
Policy briefs			Yes	
Final conference	Yes	Yes	Yes	

The **dissemination of knowledge to the global scientific community** will be achieved through publications and conference presentations. Action participants will prepare articles in leading international peer-reviewed journals as well as edited volumes or special issues. Additional publications by Action participants (e.g., deriving from Short-Term Scientific Missions) and presentations at third-party conferences will be encouraged.

As described in section 2.2.2., **stakeholders will participate** from the start of the Action, from agenda setting to interpreting the results and translating them into actionable, policy-relevant knowledge that provide a solid foundation for decision makers. In this way, their involvement will increase the relevance and usefulness of Action outcomes for stakeholders, policy makers and society at large.

In addition, the Action will engage with the **general public** and **stakeholders beyond the Network of Action participants**. Throughout the Action, interested stakeholders and the general public will receive regular updates about Action activities and outcomes. The goal is to share the Action's findings and to attract interested individuals and organisations to become involved with the Action.

As mentioned in section 2.2.2., during the last year of the Action, there will be an additional effort to involve stakeholders through stakeholder workshops. Arranged in the local language where possible, these workshops will provide the opportunity to discuss research findings, explore their implications for stakeholders, and inform policy development and implementation.

Lastly, the final conference will enable COST Action participants to share Action results with representatives of different types of stakeholders, such as industry representatives, NGOs, national and EU policy-makers, and representatives of local government. Media representatives will be invited as well. Conference sessions will range from scholarly presentations to panel discussions and advocacy events.

4. IMPLEMENTATION

4.1. COHERENCE AND EFFECTIVENESS OF THE WORK PLAN

4.1.1. DESCRIPTION OF WORKING GROUPS, TASKS AND ACTIVITIES

The Action will be managed by the Management Committee (MC), with support from the Core Group (CG). The Core Group will consist of Action Chair, Vice Chair, Grant Holder Scientific Representative, Working Group (WG) leaders, Science Communication Coordinator and Grant Awarding Coordinator. The Action MC will meet twice a year to plan activities, oversee implementation and update plans if/as required. The Core Group will have quarterly meetings, with additional ad hoc meetings if/as required. The MC and the Core Group will be responsible for overseeing the organisation of activities that encourage knowledge exchange across the five thematic WGs. This includes (1) the organisation of the kick-off conference, the mid-term conference and the final conference; (2) the organisation of the "RethinkBlue seminar series"; (3) the organisation of Training Schools; and (4) the organisation of the Action's Mentoring Programme. The Mentoring programme will involve matching young researchers with senior researchers for 1:1 mentoring, and supporting them by proposing activities. Shortly before the end of the funding period, participants will be asked to reflect on their experiences and evaluate the programme.

The scientific work will be carried out in five thematic WGs (WGs 1-5).

WG1-5: THEMATIC WORKING GROUPS

The thematic WGs are organised around specific research foci, summarised in the table below.

	Focus	**Core Research Themes**
WG 1 "Maritime occupations"	Workers in different sectors of the Blue Economy, such as fishers, seafarers, etc.	• Employment and careers • Occupational and organisational culture • Impact of technological change • Social networks • Well-being of individuals and crews
WG 2 "Food security & sustainable blue consumption"	Value chains, trade and consumption of blue products (e.g., seafood) and services (e.g., transport, tourism)	Drivers and barriers to sustainable blue consumptions, such as • consumer attitudes and habits • regulations concerning trade and consumption • collective action
WG 3 "Port cities & coastal communities"	Port cities and coastal communities as complex organisations that are deeply connected with local spaces, culture, economy, and environment	• Tourism and recreational use of ports and coastal areas • Coastal demography and new inhabitants, e.g. labour migrants, maritime lifestyle migrants etc. • Conflicts between different users • Identity, maritime heritage and history: different uses of the past
WG 4 "Fisheries governance &	Governance challenges related to traditional and	• Governance challenges related to divergent interests of different user groups

emergent activities"	emerging Blue activities and developments	• Marine spatial planning • Regulatory approaches • Implementation, monitoring and dealing with non-compliance • Collective action and civil society organisations
WG 5 "Climate change & natural hazards"	Impact of climate change and natural hazards for coastal populations and the Blue Economy	• Understanding the economic, social and environmental impact of climate change and natural hazards • Coastal residents' experiences and attitudes • Strategies for preventing, reducing and mitigating the impact of climate change and natural hazards

The purpose of each of these WGs is to organise activities for creating new scientific knowledge, developing new collaborative research projects, translating scientific research findings into actionable and policy-relevant knowledge, and disseminating outcomes to the global research community, stakeholders and the general public. The aim is to create an enduring network of researchers that will produce and publish scientific products of high quality and relevance. Each WG has four main tasks: (1) planning activities, (2) research collaboration, (3) capacity building, and (4) stakeholder involvement. While they differ in their thematic focus, they follow the same generic work plan, shown in the table below.

Tasks	**Activities**
Planning activities	Organisation of WG workshops at kick-off conference Regular WG meetings
Research collaboration	WG research meetings Organisation of sessions at mid-term conference Co-writing peer-reviewed articles Editorial work on edited books / special journal issues
Capacity building	Developing & teaching modules for Training Schools
Stakeholder involvement	Organisation of stakeholder workshops Development of policy briefs Organisation of sessions at final conference

Planning activities. Each WG will organise an agenda-setting workshop during the kick-off conference. Throughout the Action, WG members will meet regularly to exchange information and organise WG activities.

Research collaboration. Research-focused activities (e.g., research meetings, sessions at mid-term conference) will aim at developing a shared research agenda, identify relevant data sets collected by WG participants, and carry out comparative analysis between sectors, countries and (where possible) developments over time. This will provide the basis for joint publications, and identify gaps that will require new collaborative research.

Moreover, WGs will form editorial teams for edited books or special journal issues related to their WG theme and take an active role in implementing it (conceptualisation, call for papers, editorial work, communication with publisher). This will allow WG members to increase visibility and strengthen global connections by involving experts as yet outside the network.

The research-focused activities will also support the collaborative and coordinated research developments to support new research during the Action and/or with a view to future, long-term collaborative research after the end of the Action. This is expected to result in joint applications (e.g., EU Horizon programme) and/or the coordination of applications for national funding.

Capacity building: Training Schools. The WGs will develop and teach the modules for the Action's Training Schools, including external experts if/as required.

Stakeholder involvement. The WGs will actively contribute content for the Action's website and social media channels. In year 4, the WGs will organise stakeholder workshops to communicate scientific results to key stakeholders, and develop policy briefs for local, national, regional and/or European stakeholders. Moreover, each WG will organise a session at the final conference to present their scientific results.

4.1.2. DESCRIPTION OF DELIVERABLES AND TIMEFRAME

The WG activities described in section 4.1.1. will result in the following deliverables for the entire RethinkBlue Action:

- D1. Science Communication Plan (Month 6)
- D2. Action Website (Month 12)
- D3. One peer reviewed scientific article (Month 24)
- D4. One peer reviewed scientific article (Month 36)
- D5-D7. Three peer reviewed scientific articles (Month 46)
- D8. One edited book / special issue (Month 46)
- D9. One policy brief (Month 24)
- D10-D13: Four policy briefs (Month 46)

Open Access Policy. Action results will be made openly accessible on the Action's website, whenever legally possible. Open access publication of works (e.g., peer-reviewed articles) originating from Action activities and events will be supported by the Action (in case authors' own institutions do not provide such funds).

4.1.3. RISK ANALYSIS AND CONTINGENCY PLANS

The main risks are expected to be related to failure to expand the network of Action participants, low engagement of participants, unforeseen changes in personal circumstances of participants, delays, over- or under-spending, as well as low engagement of stakeholders. The table provides an overview of the expected risks and the plans for mitigating them.

Risk	**Prevention and Contingency Plans**
Uneven representation of disciplines, sectors, countries and/or demographics	The Action MC, Core Group and WG leaders will identify experts outside the initial network and invite them to join the WGs or participate on an ad hoc basis.
Low engagement of Action participants	The decentralised structure of the Action and the inclusive approach in organising activities is expected to contribute to participants' sense of ownership and responsibility, and hence their engagement. Regular information about Action activities and personal contacts will increase awareness of activities and opportunities to participate. WG leaders will actively reach out to individual WG participants to discuss opportunities and encourage involvement.
Delay of activities or deliverables	Action participants responsible for specific deliverables (e.g., local organisers of a conference, seminar convener, publication lead author) will work in pairs or small teams to share the work and act as a back-up to each other. Progress is monitored through regular reports. Difficulties or delays must be communicated as soon as possible (at least three months before the deadline), and will then be discussed in order to find a solution that ensures successful implementation.

Overspending or underspending budget	Expenses are monitored by the MC and the Core Group. Immediate measures will be taken to prevent overspending and to re-allocate unused budgets to additional activities or to cover overspending. To reduce costs, face-to-face meetings will be organised in combination with other events (e.g. combining WG meeting with Training School) where possible. Online meetings will be used where this is feasible without compromising quality (e.g., Core Group meetings).
Low engagement of stakeholders	The Action will identify relevant stakeholders, actively distribute information about Action activities to shareholders and encourage them to participate. In addition, Action participants (especially Core Group and MC members) will use their personal contacts to invite and involve stakeholders. Where this is feasible, different languages will be used for dissemination and workshops will be organised locally using the local language in order to facilitate engagement.

4.1.4. GANTT DIAGRAM

	Year 1				Year 2				Year 3				Year 4			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Network coordination																
MC meetings																
CG meetings																
STMS & third-party conference participation																
Planning, network formation & knowledge exchange																
Kick-off conference																
Science Communication Plan		D1														
WG meetings																
RethinkBlue seminar series																
Capacity building																
Training Schools																
Mentoring Programme																
Research collaboration																
WG research meetings																
WG sessions at mid-term conference																
Co-writing peer-reviewed articles								D3				D4				D5-7
Editorial work (edited book / special issue)																D8
Internal communication																
Platform for internal communication																
External communication & stakeholder involvement																
Website & social media channels				D2												
Stakeholder workshops & policy briefs								D9								D10-13
Final conference																

Note: Grey shading indicates the timing of activities. Deliverables D1-D13 are inserted at the planned time of delivery. Numbering of deliverables as in section 4.1.2.