Work package 3

Deliverable: D3.3 Report mapping the relevant cross-border initiatives, analysing the cooperation potentials and proposing the cooperation mechanisms with the BS/NS research and innovation programme

Lead organization: Flanders Marine Institute (VLIZ). Task leaders: Jonas Lescroart and Fien De Raedemaecker

Submitted by: Andris Andrusaitis, Coordinator of BANOS CSA (andris.andrusaitis@bonuseeig.fi)

Submission date: 30 April 2019

The main outcomes

- The report identifies the most significant policy documents and initiatives which are driving relevant research and innovation activities for the BANOS programme
- It further involves an analytic mapping exercise identifying transnational marine and maritime R&I projects with relevance to the Baltic and North Sea regions
- A thematic analysis of shared research and innovation priorities is presented for a selection of 21 transnational organisations
- The analytic mapping exercises identifying transnational projects and organisations with an alignment to the BANOS SRIA and its objectives serves as a reference point for initiating discussions towards thematically focused collaboration
- This report concludes with details of possible collaboration with the key cross-border stakeholders under two scenarios of the future development based on our best possible knowledge at the time of finalising this report

To be cited as Lescroart J., K. Koho, F. De Raedemaecker, M. Sirola, H. Pirlet, A.K. Lescrauwaet, A. Andrusaitis (2020). Report mapping the relevant cross-border initiatives, analysing the cooperation potentials and proposing the cooperation mechanisms with the BS/NS research and innovation programme. BANOS CSA/D3.3.

Jonas Lescroart, Karoliina Koho, Fien De Raedemaecker, Maija Sirola, Hans Pirlet, Ann-Katrien Lescrauwaet, Andris Andrusaitis

Contact: fien.deraedemaecker@vliz.be

Flanders Marine Institute (VLIZ)

This work has been carried out by the *Baltic and North Sea Coordination and Support Action (BANOS CSA)* project funded from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No. 817574.

Description of task: (i.e. as in the Description of Work)

Task 3.3 Mapping and analysis of related transnational initiatives and co-operation potentials in the North Sea and the Baltic Sea. Task leader: VLIZ The methodology of mapping and coordination and synthesis of results will be carried out by task leader VLIZ and the coordinating consortium member (BONUSEEIG). This will include identification and analysis of co-operation potentials in terms of the strategies of the strategic partners of the future programme. In particular, the relevant regional seas' conventions (both strategic partners HELCOM and OSPAR) as well as the transnational research initiatives with complementary thematic and geographic scope (e.g. ICES and JPI Oceans) are taken on board.This task will further extend to broader initiatives (e.g. the Joint Programming Initiatives Water, Climate and FACCE) as well as the relevant programmes/platforms in the field of innovation (e.g. sector-specific or 'blue growth' transboundary and national initiatives). The national-level mapping work will be done by the members of the Forum of Programme Managers (see task 5.4). The North Sea macroregion level analysis will be done by the task leader(VLIZ) and that in the Baltic Sea macroregion –by the coordinator (BONUSEEIG).The work on this task will commence in M5 to allow methodological preparation and start actual work as soon as the scope of the future programme becomes clear (T1.1, M6), unfold concurrently with drafting the future programme's SRIA (T1.3, starting in M8) and proceed until M18 to feed into the SOW (T1.4, M18)

Contents

Executive summary

The Baltic and North Sea Coordination and Support Action (BANOS CSA) is preparing a framework for the joint Baltic Sea and North Sea Research and Innovation Programme (BANOS). Transnational cooperation among the members of this partnership, international actors with global and pan-EU focus and actors with a geographically explicit regional focus compatible with the Baltic and North Seas will be the basis for a successful partnership. Identifying the key international stakeholders with the highest potential of productive cooperation with the future BANOS programme and selecting the optimal collaboration mechanisms are the most important two objectives of the task presented in this report (D3.3).

As a starting point, the report identifies the most significant policy documents and initiatives which are driving relevant research and innovation activities for the BANOS programme. Since many of those policies are closely interlinked, they have been grouped under the following four categories: (i) environmental protection and natural resources, (ii) climate change, (iii) sustainable blue growth, and (iv) transversal policies. This chapter also links the policy landscape to the relevant BANOS stakeholders.

This report further involves an analytic mapping exercise identifying transnational marine and maritime R&I projects with relevance to the Baltic and North Sea regions. A selective inventory of 110 EU-funded marine and maritime projects with a temporal and geographical compatibility to the future BANOS programme is provided. These projects conclude at the earliest in 2021 and involve at least one country that is also represented in the BANOS CSA consortium. A categorisation according to the thematic agreement with the specific objectives of the BONUS SRIA shows the closest thematic fit with ten of its specific objectives.

A thematic analysis of shared research and innovation priorities is presented in this report for a selection of 21 transnational organisations. This task also involved the design and distribution of a questionnaire to capture the initial attitude of those organisations towards potential cooperation with BANOS through a variety of mechanisms. Building on the identification of shared thematic priorities, a baseline covering available mechanisms of cooperation as well as the predisposition of the stakeholders towards those mechanisms is established.

The analytic mapping exercises identifying transnational projects and organisations with an alignment to the BANOS SRIA and its objectives serves as a reference point for initiating discussions towards thematically focused collaboration. It offers an overview of potential partners, projects and mechanisms for cooperation within the scope of the specific research and innovation priorities under consideration.

This report concludes with details of possible collaboration with the key cross-border stakeholders under two scenarios of the future development: 1) full merging into the pan-EU partnership ‘Climate-neutral, sustainable and productive blue economy’ and 2) temporary or permanently implementing the Baltic and North Sea R&I Programme as a stand-alone endeavour. This analysis reflects our best knowledge at the time of compiling of this report.

Introduction

The Baltic and North Sea Coordination and Support Action (BANOS CSA) is preparing a framework for the joint Baltic Sea and North Sea Research and Innovation Programme (BANOS). **Transnational cooperation** among the members of this partnership, international actors with global and pan-EU focus and actors with a geographically explicit regional focus compatible with the Baltic and North Seas will be the basis for a successful partnership.

The **areas/themes of cooperation** will be driven by the BANOS Strategic Research and Innovation Agenda (SRIA). The BANOS Specific Objectives (Table 1) form the core of the BANOS SRIA as is outlined in BANOS CSA D1.1 *'Report defining the scope of the future programme'* (2019) and D1.2 '*Overview of existing priorities, status and capacity in relevant fields of research and innovation in the Baltic Sea and the North Sea regions'* (2019), which constitute the basis for the further development of the BANOS SRIA. The areas of cooperation are also interlinked with the current policy context, which emphasises the need to closely monitor and seek synergies with the global, European and macroregional policies relevant to the future BANOS programme.

Table 1. The strategic and the specific objectives of the future BANOS programme (Formas 2019 and updates).

	Strategic Objective A: Healthy Seas and Coasts	Strategic Objective B: Sustainable Blue Economy	Strategic Objective C: Human Wellbeing
Specific Objectives	**A.1**: A resilient marine ecosystem	**B.1**: Sustainable resource management of marine global commons	**C.1**: Safe food and feed
	A.2: Seamless governance linking land, coast and sea	**B.2**: Understanding the value of ecosystem goods and services	**C.2**: Safe and accessible coast
	A.3: Digital Ocean - Competent ecosystem modelling, assessments and forecasting	**B.3**: Smart Seas - technological solutions for sustainable, circular and bio-base blue economy	
	A.4: Efficient techniques for environmental monitoring		
	Cross-cutting Objective: Open Science - Access to knowledge and information		

Cooperation opportunities with existing initiatives (projects and organisations) are dependent on the shared priorities for research and innovation as these represent opportunities to join resources and expertise on themes of common interest. A list of 13 transnational European organisations with strong relevance to the future BANOS programme was already outlined in Chapter 2 of the BANOS CSA report D1.2 '*Exploring the existing research and innovation priorities*' (2019). In addition, a comprehensive identification of the programme's many stakeholders was carried out in the BANOS CSA report D3.2 '*A holistic map of the programme's stakeholders*' (2019). The D3.2 report presents, among other results, a list of transnational organisations ranked by their *power* and *urgency* attributes as perceived by the BANOS CSA consortium. The present report therefore builds on the thematic analysis of D1.2 by expanding it with the highest-rated stakeholders as identified in D3.2.

Successful and productive collaboration with existing initiatives does not solely depend on a common interest. Other important factors are the willingness of external partners to engage with BANOS, and the available means to make this happen. An assessment of specific **mechanisms of cooperation** requires active input from the parties involved. For that reason, this task involved the design and distribution of a questionnaire to capture the initial attitude of 21 transnational organisations towards potential cooperation with BANOS through a variety of mechanisms.

The aim of this deliverable D3.3 is to identify and analyse the cooperation potential in terms of the strategies of the potential strategic partners of the future programme. In particular, the relevant Regional Seas Conventions (both BANOS CSA strategic partners HELCOM and OSPAR), as well as transnational research and innovation initiatives with a complementary thematic and geographic scope (e.g. ICES and JPI Oceans) are taken on board. This task also extends to broader initiatives (e.g. the Joint Programming Initiatives Water, Climate and FACCE) as well as relevant programmes/platforms in the innovation field (e.g. sector-specific or 'blue growth' transboundary and national initiatives). This analytic mapping exercise and thematic assessment serves as a reference point for initiating discussions towards thematically-focused collaboration with transnational initiatives. Moreover, it offers an overview of potential partners and mechanisms for cooperation within the scope of the specific R&I priorities that are under consideration.

This report is structured in 3 main chapters:

1. **Transnational cooperation in the current policy context**

An extensive policy analysis identifies the most relevant policy documents and initiatives which are driving relevant research and innovation activities for the BANOS programme. Since many of those policies are closely interlinked, they have been grouped under the following four categories: (i) environmental protection and natural resources, (ii) climate change, (iii) sustainable blue growth, and (iv) transversal policies. This chapter also links the policy landscape to the relevant BANOS stakeholders. Annex A provides more details on the specific policies and how they correlate with the BANOS objectives and the BANOS SRIA.

2. **Transnational cooperation by means of research and innovation projects**

A mapping exercise was conducted to identify transnational marine and maritime R&I projects with relevance to the Baltic and North Sea regions. A selective inventory of EU-funded marine and maritime projects with a temporal and geographical compatibility to the future BANOS programme is provided. These projects (including BANOS CSA) conclude at the earliest in 2021 and involve at least one country that is also represented in the BANOS CSA consortium. A categorisation according to the thematic agreement with the specific objectives of the BONUS SRIA shows the closest thematic fit with ten of its specific objectives. Annex B provides the inventory of transnational projects with more details on the funding programme, project duration and the assignment of the thematic fit to the specific objectives of the BANOS SRIA.

3. **Transnational cooperation with existing organisations**

Identifying the key international stakeholders with the highest potential of productive cooperation with the future BANOS programme and selecting the optimal collaboration mechanisms are indeed the most important two objectives of this task. A thematic analysis of shared research and innovation priorities is presented for a selection of 21 transnational organisations. Building on the identification of shared thematic priorities, a baseline covering available mechanisms of cooperation as well as the predisposition of the stakeholders towards those mechanisms is established by using a questionnaire to obtain direct input from these key stakeholders. The list of the latter 21 transnational organisations or 'key stakeholders' can be found in Annex C and the questionnaire that was developed for obtaining direct input from the key stakeholders is provided in Annex D.

Transnational cooperation in the current policy context

An extensive analysis of policies, which are relevant to the joint Baltic Sea Research and Development Programme (BONUS), was carried out in 2013. It identified over 80 relevant policy documents and initiatives. The key policies included HELCOM's Baltic Sea Action Plan (BSAP), the EU's Marine Strategy Framework Directive (MSFD), the Common Fisheries Policies (CFP) and the Blue Growth Strategy (BGS). It should be mentioned that at the time, new European policies related to eco-innovation action and climate action were emerging.

While these above-named key policies are still strongly on the (European) policy agenda, the policy landscape is ever changing and new important policies, including the United Nations Sustainable Development Goals (SDGs) and, more recently, the European Green Deal (EGD) have emerged since 2013. Moreover, the BONUS publication of 2013 solely focused on the policy landscape that is relevant for the Baltic Sea. It is clear that for the future BANOS programme, as currently planned in the BANOS CSA, it is important to broaden this view also to the North Sea region. Noteworthy in this context is also the BANOS CSA report on the existing research and innovation priorities in the Baltic and North Sea basins (D1.2). The aforementioned report summarises, among other, important EU-level policy documents that need consideration for the development of the future BANOS framework. In addition, the current chapter aims to link the policy landscape to the most important BANOS stakeholders. Further detail on the BANOS stakeholders can be found in the BANOS CSA report entitled 'A holistic map of the programme's stakeholders' (D3.2).

In this analysis, we have identified and focused on 17 global, European or macroregional policies (Table 2). For the sake of simplicity, the most relevant European climate-related policies have been grouped under one category i.e. 'EU Climate Policies', due to their related content and relevance to BANOS. More details on the specific policies and how they correlate with the BANOS objectives and the BANOS Strategic Research and Innovation Agenda (BANOS SRIA; under development), are included in Annex A: Relevance of key policies to the BANOS Specific Objectives.

It should also be mentioned that many of the policies are closely interlinked. Based on the interlinkages, the policies have been grouped under following four categories: (i) environmental protection and natural resources, (ii) climate change, (iii) sustainable blue growth, and (iv) transversal policies; and discussed further accordingly.

Table 2. Key policies and instruments driving the BANOS Programme. The policies are divided into four categories, comprising policies related to environmental protection, blue growth, climate change and transversal policies (listed below in this respective order). The geographical scope of the policy is also identified (i.e. global, European or macroregional). Links between the policies and relevant stakeholder organisations for each policy are identified. The organisations to whom a given policy is of particularly great relevance are highlighted in bold.

Category	Policy	Links to other policies	Relevant stakeholders	
Env. Protection (Global)	**The Convention on Biological Diversity (CBD)**	BdS, SDGs, EGD, BSAP, CFP, MSFD	AANChOR CSA AORA CSA Black Sea CSA BlueMed BONUS EEIG CPMR North Sea EFARO EMB	EUSBSR HELCOM ICES **IOC-UNESCO** JPI FACCE JPI Oceans JPI Water OSPAR

Env. Protection (European)	**Common Fisheries Policy (CFP)**	MSFD, SBG, SDGs, Ocean Decade	AANChOR CSA AORA CSA Black Sea CSA BlueMed BONUS EEIG CPMR North Sea **EATiP** **EFARO**	EMB EUSBSR HELCOM **ICES** IOC-UNESCO JPI Oceans OSPAR
Env. Protection (European)	**EU Biodiversity strategy (BdS)**	MSFD, CFP, BSAP, SDGs, EGD; CBD, NEAES	AANChOR CSA AORA CSA Black Sea CSA BlueMed BONUS EEIG CPMR North Sea EFARO EMB	EUSBSR HELCOM ICES IOC-UNESCO JPI FACCE JPI Oceans JPI Water OSPAR
Env. Protection (European)	**EU Water Framework Directive (WFD)**	BWD, MSFD, BSAP, SDGs, NEAES	BONUS EEIG EUSBSR HELCOM IOC-UNESCO **JPI FACCE** **JPI Water** OSPAR	
Env. Protection (European)	**Marine Strategy Framework Directive (MSFD)**	BSAP; BdS, MSP, SDGs, EGD, Ocean Decade, NEAES	**AANChOR CSA** **AORA CSA** **Black Sea CSA** **BlueMed** **BONUS EEIG** CPMR North Sea EATiP EFARO	EMB EUSBSR **HELCOM** ICES IOC-UNESCO JPI Oceans JPI Water **OSPAR**
Env. Protection (Regional)	**HELCOM Baltic Sea Action Plan (BSAP)**	MSFD, CFP, EGD, BdS, MSP, EUSBSR, SDGs, NEAES	**BONUS EEIG** EMB **EUSBSR** **HELCOM** IOC-UNESCO	JPI FACCE JPI Oceans **OSPAR**
Env. Protection (Regional)	**OSPAR North-East Atlantic Environment Strategy (NEAES)**	MSFD, CFP, EGD, BdS, MSP, EUSBSR, SDGs, BSAP	**BONUS EEIG** EMB **EUSBSR** **HELCOM** IOC-UNESCO	JPI FACCE JPI Oceans **OSPAR**

Blue Growth (European)	**Blue Growth Strategy (BGS)**	CFP, EGD, IMP, MSP, SDGs, Ocean Decade	AANChOR CSA AORA CSA Black Sea CSA BlueMed BONUS EEIG **CPMR North Sea** **EATiP** **EFARO** EMB **ETIP Ocean** **EUSBSR**	**ICES** Interreg Baltic Sea Region Interreg North Sea Region IOC-UNESCO JPI Climate JPI FACCE JPI Oceans **WATERBORNE TP**
Blue Growth (European)	**The Circular Economy Action Plan (CEAP)**	BGS, SDGs	AANChOR CSA AORA CSA Black Sea CSA BlueMed BONUS EEIG **CPMR North Sea** EATiP EFARO EMB **EUSBSR**	ICES **IOC-UNESCO** JPI Climate JPI FACCE JPI Oceans JPI Water WATERBORNE TP
Climate Change Agenda (Global)	**The Paris Climate Agreement (PCA)**	SDGs, EGD, BGS, CEAP, EUSBSR, EU Climate policies	AANChOR CSA AORA CSA Black Sea CSA BlueMed BONUS EEIG CPMR North Sea EMB ETIP Ocean EUSBSR HELCOM	Interreg Baltic Sea Region Interreg North Sea Region **IOC-UNESCO** **JPI Climate** JPI FACCE JPI Oceans JPI Water OSPAR WATERBORNE TP
Climate Change Agenda (European)	**EU Climate Policies** -Adaptation to climate change -Climate action -Climate strategies and targets -Renewable energy directive -Long-term 2050 strategy	EGD, SDGs, PCA, BGS, EUSBSR	AANChOR CSA AORA CSA Black Sea CSA BlueMed BONUS EEIG CPMR North Sea EMB ETIP Ocean EUSBSR	HELCOM Interreg Baltic Sea Region Interreg North Sea Region IOC-UNESCO **JPI Climate** JPI Oceans OSPAR WATERBORNE TP

Transversal (Global)	**The United Nations Decade of Ocean Science for Sustainable Development (Ocean Decade)**	BSAP, CFP, MSFD, BdS, CEAP, MSP, EGD, BGS, SDGs, NEAES	AANChOR CSA AORA CSA Black Sea CSA BlueMed BONUS EEIG CPMR North Sea EATiP EFARO EMB ETIP Ocean Euromarine EUSBSR	HELCOM ICES Interreg Baltic Sea Region Interreg North Sea Region **IOC-UNESCO** JPI Climate JPI FACCE JPI Oceans JPI Water OSPAR WATERBORNE TP
Transversal (Global)	**United Nations Agenda 2030 and its Sustainable Development Goals (SDGs)**	BSAP, CFP, MSFD, BdS, CEAP, MSP, EGD, BGS, WFD, EUSBSR, Ocean Decade, PCA, NEAES	AANChOR CSA AORA CSA Black Sea CSA BlueMed BONUS EEIG CPMR North Sea EATiP EFARO EMB ETIP Ocean Euromarine	EUSBSR HELCOM ICES **IOC-UNESCO** JPI Climate JPI FACCE JPI Oceans JPI Water OSPAR WATERBORNE TP
Transversal (European)	**EU Directive on Maritime Spatial Planning (MSP)**	BGS, MSFD, BSAP, APMSA, SDGs, IMP, NEAES	AANChOR CSA AORA CSA Black Sea CSA BlueMed BONUS EEIG CPMR North Sea EATiP EFARO EMB	ETIP Ocean EUSBSR HELCOM ICES IOC-UNESCO JPI Oceans OSPAR VASAB WATERBORNE TP
Transversal (European)	**EU Integrated Maritime Policy (IMP)**	BSAP, MSFD, SBG, EGD, MSP, NEAES	AANChOR CSA AORA CSA Black Sea CSA BlueMed BONUS EEIG CPMR North Sea EATiP EFARO EMB ETIP Ocean EUSBSR	HELCOM ICES Interreg Baltic Sea Region Interreg North Sea Region IOC-UNESCO JPI Climate JPI Oceans OSPAR VASAB WATERBORNE TP
Transversal (European)	**The European Green Deal (EGD)**	MSFD, BdS, CEAP, PCA, SDGs, Ocean Decade	AANChOR CSA AORA CSA Black Sea CSA BlueMed BONUS EEIG CPMR North Sea EATiP EFARO EMB ETIP Ocean	EUSBSR HELCOM ICES IOC-UNESCO JPI Climate JPI FACCE JPI Oceans JPI Water OSPAR WATERBORNE TP

Transversal (European)	**Open Science Policy and Open Data Strategy**	SDGs, Ocean Decade	AANChOR CSA AORA CSA Black Sea CSA BlueMed EMB IOC-UNESCO JPI Climate JPI FACCE JPI Oceans	JPI Water HELCOM ICES OSPAR

(i) Policies related to environmental protection and natural resources

Seven key policies have been identified that are directly related to the protection of the marine environment: BSAP, CFP, MSFD, OSPAR North-East Atlantic Environment Strategy (NEAES), the EU Water Framework Directive (WFD), the EU Biodiversity Strategy (BdS) as well as the Convention on Biological Diversity (CBD). Of these, the BSAP is relevant to Baltic Sea only and vice versa NEAES to the North Sea only, although collaborations between HELCOM and OSPAR, for example in the context of the MSFD, closely link these two policies to each other. The BSAP is also highly relevant to the EU Strategy for the Baltic Sea Region (EUSBSR), as one of the EUSBSR's three overall objectives is "Save the sea" (Annex A: Relevance of key policies to the BANOS Specific Objectives).

The MSFD, which aims to achieve a good environmental status (GES) of the European seas by 2020, is the environmental pillar of the EU Integrated Maritime Policy (IMP). Unfortunately, GES is unlikely to be fulfilled on time and significant effort is still needed from the member states. The future BANOS programme aims to become a major provider of knowledge underpinning MSFD implementation in the Baltic Sea and the North Sea. As such, one of the three strategic objectives of the future programme addresses the issues of protecting and conserving healthy seas and coasts. However, strong collaboration across all the European regional seas is clearly needed to reach the GES across Europe. As such, the MSFD links BANOS closely to the other European regional sea R&I programmes/projects, namely to BONUS (of the Baltic Sea), AANChOR, AORA (of the Atlantic), BlueMed (of the Mediterranean) and the Black Sea. The other two key stakeholders are HELCOM (Baltic Sea) and OSPAR (North-East Atlantic), both with a primary objective to protect the marine environment.

Four of the EU policies noted above (i.e. BdS, CFP, MSFD, WFD) are relevant to the majority of the BANOS stakeholders. Only the WFD is an exception to some extent as it primarily focusses on the freshwater environment; however, the inclusion of the coastal and transitional waters in the directive links BANOS to the WFD and its key stakeholders (e.g. Joint Programming Initiative WATER (JPI WATER) and Joint Programming Initiative Agriculture, Food Security and Climate Change (JPI FACCE)).

Sustainable management of fisheries and aquaculture in the Baltic and North Sea are closely linked to the future BANOS SRIA (Annex A: Relevance of key policies to the BANOS Specific Objectives). Hence, clear linkages exist with the CFP and some of the key stakeholders involved, namely International Council for the Exploration of the Sea (ICES), European Fisheries and Aquaculture Research Organisations (EFARO) and European Aquaculture Technology and Innovation Platform (EATiP).

The objectives of the CBD and EU BdS are very similar (Annex A: Relevance of key policies to the BANOS Specific Objectives), the former having a global and the latter a European scope. As preserving and maintaining biodiversity is not restricted to land but extends to the seas and oceans, these policies are also linked to BANOS SRIA, with Healthy Seas and Coasts as one of its three strategic objectives. Given that the objectives of the CBD and BdS are relatively broad and overarching, both policies are related to the majority of BANOS stakeholders.

(ii) The Climate Change agenda

The climate change agenda has evolved rapidly since BONUS publication 13 was prepared. For example, the Paris Climate Agreement (PCA), aiming to limit the global temperature rise below 2 degrees Celsius compared to pre-industrial levels, was agreed in 2016 and by 2019 the agreement was ratified by 185 countries. The PCA is also closely related to many of the European climate policies, including the Long-term 2050 Strategy aiming

to reduce European greenhouse gas emissions progressively until 2050. The climate agenda is also directly linked to other policy categories i.e. the Sustainable Blue Growth and transversal policies, such as the European Green Deal, which intends to target climate change primarily via mitigation actions (see more details in sections iii and iv below).

Being a central overarching topic of the BANOS SRIA, climate change and its impacts on marine environment, biodiversity and resilience as well as human wellbeing will be covered in the research and innovation themes (see Annex A: Relevance of key policies to the BANOS Specific Objectives for more details). With a strong global and pan-European scope, the climate agenda is closely connected to a wide range of stakeholders, including parties involved in maritime technology, transport and energy sector (e.g. WATERBORNE Technology Platform, ETIP Ocean) as well as regional seas programmes/projects and macroregional bodies (e.g. Conference of Peripheral Marine Regions North Sea - CPMR North Sea, Interreg North Sea Region and Baltic Sea Region, and EU Strategy for the Baltic Sea Region - EUSBSR). In respect to climate research, the Joint Programming Initiative Climate (JPI Climate) is the key stakeholder.

(iii) Sustainable Blue Growth agenda

The Blue Growth Strategy (BGS), which was established in 2012, emphasises the role of the seas and oceans as the drivers of the future European economy. The BANOS CSA plan of action is designed to build a programme that is fully aligned and significantly contributes to the development of the BGS. Concentrating on the issues of sustainability of the marine ecosystem services to society, it emphasises the integral long-term sustainability requirement underlying any development of the 'blue' economy. It intends to contribute to all components of BGS, e.g. the high-potential sectors such as aquaculture, coastal tourism, biotechnology and ocean energy; the essential components such as marine knowledge and maritime spatial planning, and sea basin strategies in two out of seven listed maritime areas. One of the three strategic objectives of BANOS specifically addresses the issues of sustainable blue economy.

The BGS links BANOS to multiple stakeholder groups, from maritime industry and transport (WATERBORNE TP), to fishing, aquaculture (ICES, EATiP, EFARO) and energy sectors (ETIP OCEAN), to environmental protection initiatives (HELCOM, OSPAR), all with vested interest in the marine resources and marine space (e.g. CPMR North Sea and EUSBSR). The BGS is also directly related to the Climate Change agenda through expansion of the renewable energy sector. Offshore windfarms, for example, are expected to be expanded in the coming decades especially in the North Sea while expansion, although somewhat less extensively, is also ongoing in the Baltic Sea. The development of new technologies, for example for cleaner and more efficient shipping, and potential injection of liquefied CO_2 into the old gas reservoirs, further connects the BGS to the Climate Change agenda.

The relatively recent developments in policies related to the circular economy, e.g. the Circular Economy Action Plan (CEAP), aim to stimulate Europe's transition towards circular economy, enhance its global competitiveness, foster sustainable economic growth and generate new jobs. Since possibilities of the circular economy are not restricted to land only but extend to the European seas, the policy is directly related to BANOS and many of its stakeholders. Much of the food production, for example, is associated with the coastal seas and the demand is expected to increase in the future. Therefore, circular solutions are needed e.g. to reduce seafood and feed waste and to preserve marine resources. In addition, better recycling practices can help to tackle issues associated with marine litter.

Macroregional strategies and associated stakeholders, e.g. CPMR North Sea, Interreg North Sea Region and Interreg Baltic Sea Region programmes and EUSBSR, are key BANOS stakeholders in respect to developing sustainable blue growth and providing joint strategies and agreements between neighbouring member states for the future development of maritime space and infrastructure.

(iv) Transversal policies

Six transversal policies, which cover two or more of the policy areas discussed above, are directly related to BANOS SRIA and its objectives. Of the six, two are closely connected with global policies i.e. the United Nations Decade of Ocean Science for Sustainable Development (Ocean Decade) and the United Nations Sustainable

Development Goals (SDGs), three are European policies i.e. the European Green Deal (EGD), EU Directive on Maritime Spatial Planning (MSP) and EU Integrated Maritime Policy (IMP), and one is a regional policy namely the EU Strategy for the Baltic Sea Region (EUSBSR).

The SDGs are the universal call to action to end poverty, protect the planet and improve the lives and prospects of everyone, everywhere. Many of the goals are strongly interlinked. Achieving one will often support another. The most important goal, in respect to BANOS, is Goal 14 – Life Below Water (see Annex A: Relevance of key policies to the BANOS Specific Objectives for details). However, also other goals, such as Goal 3 – Good Health and Wellbeing, Goal 4 – Quality Education, Goal 7 – Affordable and Clean Energy, Goal 9 – Industry, Innovation and Infrastructure, Goal 12 – Responsible Consumption and Production, Goal 13 – Climate Action and Goal 15 – Life on Land, can be directly linked to BANOS SRIA and its objectives. In total, 17 goals have been adopted in a global partnership to tackle the growing inequalities, empower women and girls, and address the climate emergency.

The objectives of the United Nations Decade of Ocean Science for Sustainable Development (Ocean Decade) are closely linked to UN Sustainable Development Goals (SDGs). The Decade (2021-2030) aims to deliver science for the future we want, thus providing a unifying framework across the countries to achieve their ocean related Agenda 2030 and the associated SDGs. Due to the broad and overarching scope of these global polices, they are essentially connected to all important BANOS stakeholder groups. The Intergovernmental Oceanographic Commission (IOC) of UNESCO is listed in Table 2 as the key stakeholder as it holds a universal mandate and global convening power for ocean science and capacity development in support of the 2030 Agenda and its sustainability goals.

The European Green Deal is the most recent addition to the European policy landscape. It is closely linked to the European Climate Agenda aiming to make Europe the first carbon-neutral continent by 2050. It also supports the sustainable blue growth via development of green technology, circular economy and clean renewable energy production, while taking care that the natural biodiversity is maintained and protected. In the global policy context, it is also closely associated with many of the SDGs. Due to the all-inclusive nature of the policy, it is linked to all most prominent individual BANOS stakeholders and all three strategic objectives of BANOS, including the Healthy Seas and Coast, Sustainable Blue Economy and Human Wellbeing. The future development of this policy will be closely followed.

In the context of Blue Growth and marine protection, Maritime Spatial Planning (MSP) is becoming increasingly important. Multiple stakeholders are involved in using the marine resources, thus all with vested interest in marine space at its broadest spectrum (e.g. VASAB), and from specifically fisheries and aquaculture (e.g. EATiP, EFARO, ICES), to the energy sector (e.g ETIP OCEAN), maritime transport (WATERBORNE TP), tourism, recreational use, and conservation, protection and improvement of the environment and nature (e.g. HELCOM, OSPAR). To ensure that the member states are able to deliver on their marine spatial plans, which are due by the end of 2021, and achieve them, new strategies are crucially needed, for example, to develop multi-stakeholder approaches of using and sharing marine space and infrastructure, and to provide new solutions for ocean governance. These knowledge gaps and more are included in the BANOS SRIA.

The EU Integrated Maritime Policy (IMP) seeks to provide a holistic approach on the cross-coordination of different marine and maritime policies, including aspects of blue growth, maritime spatial planning, maritime data, knowledge and surveillance, and sea basin strategies. As such, this policy is linked to a multitude of different BANOS stakeholders, including the European regional seas programmes/initiatives (e.g. BONUS; AANChOR, AORA, BlueMed, Black Sea), and marine and maritime industries from fisheries to ocean energy and shipping. In addition, platforms promoting and developing regional strategies, such as EUSBSR, CPMR North Sea, and Interreg North Sea Region and Interreg Baltic Sea Region programmes, are in the center of this policy. Development of new marine and maritime governance structures and maritime spatial planning are strongly represented in the BANOS SRIA. In addition, the European regional seas cooperation is likely to develop further in the coming decade and various commitment strategies of the collaboration efforts are currently being developed.

The EU Strategy for the Baltic Sea Region (EUSBSR) is listed in the analysis both as a stakeholder and a policy. In the policy context, it is a macroregional strategy among the eight member states of the Baltic Sea and the

European Commission. It aims to strengthen the cooperation between the countries bordering the Baltic Sea in order to meet the common challenges and to benefit from common opportunities facing the region. It has three primary objectives including 'Save the sea', 'Connect the region' and 'Increase prosperity'. The implementation of the policy is carried out via joint transnational Flagship projects and processes. As EUSBSR is focused on the Baltic Sea regional development, also HELCOM and BONUS are amongst its key stakeholders. The EUSBSR is also closely linked to the Interreg Baltic Sea Region activities. Other important stakeholders are related to fisheries, aquaculture and marine and maritime industries in the region and beyond. Also, agricultural stakeholders (e.g. JPI-FACCE) can be considered important as much of the problems associated with eutrophication of the Baltic Sea are related to agricultural practices on land. All three specific objectives of BANOS are closely related to the aims and objectives of the EUSBSR, making the policy highly significant for the intended future programme.

The European Open Science Policy and Open Data Strategy aim to make science more efficient, reliable, and responsive to societal challenges. Both policies are also going to be implemented in Horizon Europe requiring that all research data is FAIR (Findable, Accessible, Interoperable and Re-usable) in future. As such, these two policies are crosscutting through all fields relevant for research and innovation, and link BANOS to a range of stakeholders involved, for example, in research funding, generation of data and/or implementation of research results. The open data and science policies are also closely related to global polices, including SGDs and Ocean Decade, which aim to improve equal education opportunities and access to knowledge for all, as well as providing science for sustainable future of our Planet.

Transnational cooperation by means of research and innovation projects

A mapping exercise was conducted to identify transnational projects with relevance to marine and maritime research and innovation in the North and Baltic Sea regions. To assess the thematic relevance of each of these projects to the future BANOS programme, their thematic alignment to the BANOS Strategic Research and Innovation Agenda (SRIA) was evaluated. This was done by comparing the research priorities of each initiative to the BANOS Specific Objectives (Table 1).

Selective inventory of transnational projects

A comprehensive inventory of EU-funded marine and maritime projects in Europe was kindly provided by EurOcean on August 8, 2019. These records are publicly accessible on the Marine Knowledge Gate 3.0 (EurOcean 2019). The full inventory covers 3124 marine and maritime projects, funded through the EU's Framework Programmes, Interreg Programmes and LIFE Programme (cf. infra), dating back to 2000. This inventory was filtered to obtain a list of projects with temporal and geographical compatibility to the future BANOS programme. The following filters were applied to the inventory, in progressive order, with the remaining number of projects indicated in brackets after each filtering step:

1) Projects should last until at least 2021, the final year of BANOS CSA (172).
2) At least one BANOS country has to be involved in each of the projects (142).
3) Projects funded under the scheme 'Marie Skłodowska-Curie Actions – Individual Fellowships' (H2020 MSCA-IF) were omitted. The scheme awards postdoctoral fellowships to individual researchers. For this exercise, cooperation with individual researchers is not considered; such a level of detail is not appropriate for the scope of this report (123).
4) Projects should not have a purely Mediterranean, Arctic or Antarctic focus (110).

The resulting list consists of 110 marine or maritime projects (including BANOS CSA) that conclude at the earliest in 2021 and involve at least one country that is also represented in the BANOS CSA consortium (further referred to as the 'longlist', Annex B: Specific inventory of transnational). All of these projects are funded through one of three EU funding programmes:

- H2020, 85 projects. The eighth Framework Programme for Research and Innovation is implemented by the European Commission and covers the period 2014-2020 (European Parliament and Council of the European Union 2013a).
- Interreg V, 16 projects. The fifth European Territorial Cooperation (ETC) programme, also referred to as Interreg, is funded by the European Regional Development Fund and covers the period 2014-2020 (European Parliament and Council of the European Union 2013b).
- LIFE, 9 projects. The fifth phase of the LIFE Programme is managed by the European Commission and the Executive Agency for Small and Medium-sized Enterprises, and covers the period 2014-2020 (European Parliament and Council of the European Union 2013c).
-

Table 3 lists the various funding programmes and instruments through which these 110 projects received funding, with examples. The EU's funding instruments for research and innovation vary greatly in scale, scope, budget and duration. Therefore, the specific conditions and characteristics of the programmes and instruments greatly affect the potential mechanisms of cooperation that could be envisaged between the future BANOS programme and any given project.

Table 3. The diversity of funding programmes and instruments through which the 110 projects of the inventory are supported, with a few examples.

Cooperation Programme and instruments	Description	Examples
H2020 - CSA	Coordination and Support Actions provide funding for accompanying measures aimed at coordination or support of research actions and strategies. Funding for research and innovation per se not covered.	BANOS CSA, AANChOR, ETIP OCEAN 2
H2020 - ERA-NET Cofund	Co-fund action designed to support P2Ps, including JPIs, in their establishment of networks and joint activities. Implementation of one substantial, transnational call is compulsory, with top-up funding from the Commission.	MarTERA, BlueBio
H2020 - ERC-STG	European Research Council (ERC) Starting Grants provide 5 years of funding for early-career scientists and their teams.	WARMCOASTS
H2020 - ERC-COG	ERC Consolidator Grants provide 5 years of funding for principle investigators looking to establish or consolidate a recently created team.	EPIFISH
H2020 - ERC-ADG	ERC Advanced Grants provide 5 years of funding for established principle investigators and their teams.	Ocean artUP
H2020 - RIA	Research and Innovation Actions aim for the establishment of new knowledge and/or to explore the feasibility of a new or improved technology, product, process, service or solution.	EurofleetsPlus, ASSEMBLE Plus, MARINET 2
H2020 - IA	Innovation Actions aim directly at producing plans and arrangements or designs for new, altered or improved products, processes or services.	EnFAIT, GoJelly, UPWAVE
H2020 - FCH2-RIA	RIAs funded through a Joint Undertaking, in this case specifically JU Fuel Cells and Hydrogen 2. JUs are large-scale PPPs with pooled resources to work on a specific challenge in Europe.	MARANDA
H2020 - FCH2-IA	IAs funded through a JU (cf. supra).	FLAGSHIPS
H2020 - MSCA-ITN-ETN	Marie Skłodowska-Curie Action (MSCA) to establish Innovative Training Networks (ITN), specifically European Training Networks (ETN). ITNs support joint research training or doctoral programmes. ETNs in particular are designed to help researchers gain experience of different working environments while developing transferable skills.	ConFlex, IGNITE
H2020 - MSCA-RISE	MSCA to facilitate Research and Innovation Staff Exchange, funding short-term exchanges of personnel between academic, industrial and commercial organisations throughout the world.	ECOBOTICS.SEA, ENHANCE, RESEST
INTERREG V - Atlantic Area	Interreg programmes are tuned to region-specific priorities and co-finance cross-border cooperation within those regions.	MOSES
INTERREG V - Central Baltic		Smart Marina
INTERREG V - NW Europe		NWE MEA
INTERREG V - UK-Ireland		COMPASS
INTERREG V- France-UK		S-3 EUROHAB
LIFE	The LIFE Programme co-finances projects aimed at the implementation, updating and development of EU environmental and climate policy and legislation.	Biosecurity for LIFE, DuneLIFE

Categorisation of transnational projects according to the BANOS SRIA specific objectives

For future reference, the projects were categorised by manual assignment to the single best fitting BANOS SRIA specific objective (Figure 1, Annex B: Specific inventory of transnational). To accommodate projects with an overarching scope, the category 'Overarching scope' was added (examples are AANChOR and MarTERA). The assessment was done based on the titles and summaries of the projects, as indexed in the Marine Knowledge Gate 3.0 (EurOcean 2019), held against the BANOS SRIA research and innovation themes that make up the

specific objectives. A detailed breakdown and clarification of the specific objectives can be found in the BANOS CSA D1.1 (Formas 2019).

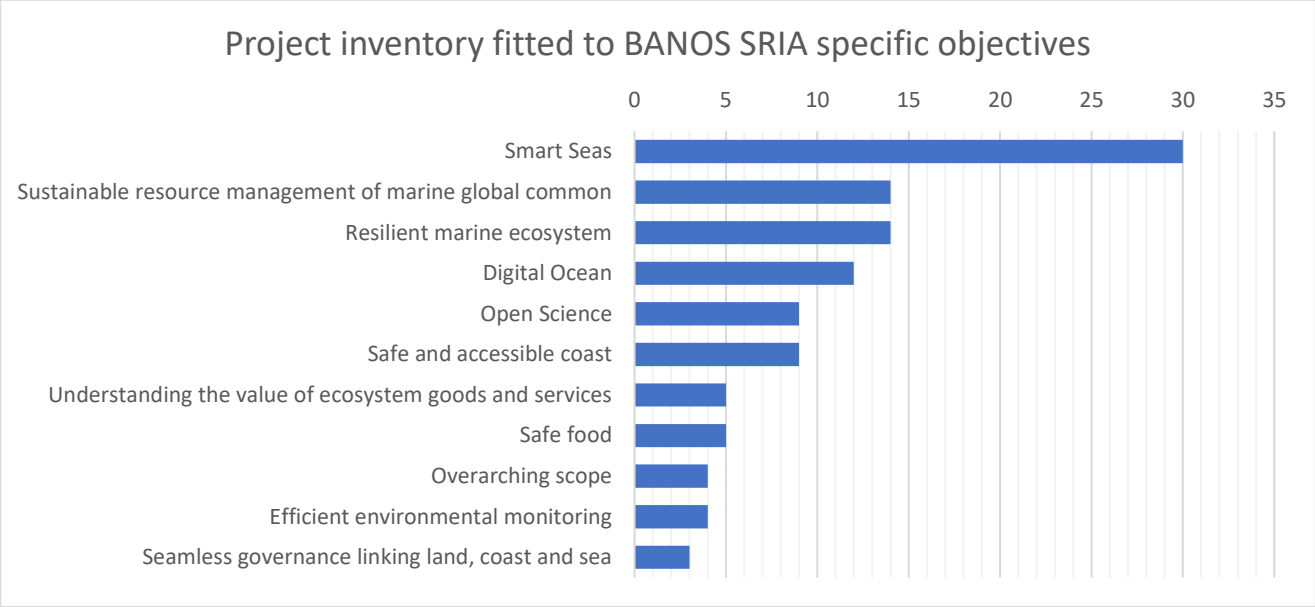

Figure 1. Transnational projects resulting from the selective inventory fitted to BANOS SRIA specific objectives. Each project included in the longlist was manually assigned to the specific objective with the closest fit. The number of projects per specific objective are displayed on the x-axis, totalling 110 projects. All projects in the inventory involve at least one country bordering the Baltic or North Sea and have secured funding until at least 2021, the final year of BANOS CSA.

Some remarks should be made on the relevance of this selective project inventory. First, this mapping exercise will have to be re-done at some point in time during the implementation of the future BANOS programme, and likely early on. Many new transnational projects with a thematic scope complementary to BANOS will exist by the time that the programme is operational, and many other projects that are currently included in the longlist will have reached a conclusion phase where new collaborations are no longer an option. On the contrary, projects may also remain active beyond the period that was covered by EU (co-)funding or obtain additional EU (co-)funding over successive phases (such as ETIP OCEAN 2 and EurfleetsPlus, respectively in its second and third phase).

Updating the project inventory (excl. assignment of individual projects to thematic categories) can be done with relatively little effort, considering the value of the Marine Knowledge Gate's inventory of marine and maritime projects and assuming that it remains up to date. After filing a request to EurOcean for a full inventory of transnational projects, possibly accessible by bulk download in the future, only the abovementioned filtering steps need to be applied to arrive at an updated selective inventory. However, the manual assignment to thematic categories as delineated in the BANOS SRIA is a slow, laborious process and this cost should be considered against having the advantage of a list that allows thematically targeted queries. Other options can be explored, such as the use of thematic tags applied by the Marine Knowledge Gate, insofar as these would be available.

Second, the smaller-scale projects, such as those set up with support of H2020 ERC grants by individual research teams, tend to have strict and/or short agendas, often with a narrow scope. This aspect must be taken into account when such projects are imagined as a potential partner, but it does not mean that no cooperation with added value can be envisioned. Multiple mechanisms are well suited for small-scale, focused collaboration, including joint publications, exchange of students and scientists, representation in knowledge hubs and similar set-ups that allow the transfer of specific expertise, where appropriate.

This analytic mapping exercise and thematic assessment serves as a reference point for initiating discussions towards thematically focused collaboration with transnational initiatives. It offers an overview of potential partners and mechanisms for cooperation within the scope of the specific R&I priorities under consideration.

Transnational cooperation with existing organisations

Selection of 21 transnational organisations

A list of transnational European organisations with strong relevance to the future BANOS programme was previously composed in Chapter 2 of the BANOS CSA report D1.2 '*Exploring the existing research and innovation priorities*' (2019). The R&I priorities of these organisations were evaluated for their thematic concurrence with the BANOS priorities (see Table 1), as summarised in Table 7 of D1.2. These shared priorities prove highly relevant for the mapping of cooperation opportunities for BANOS, as they represent opportunities to join resources and expertise on themes of common interest. Interpreting the results of this priority analysis as potential areas of cooperation constitutes a shift from the original purpose of the exercise, which was presented in the first place as a landscaping exercise and, to lesser extent, as a validation of the R&I priorities nominated for the BANOS programme. In light of this shift, it becomes clear that the analysis of R&I priorities as presented in D1.2 could be expanded upon by including additional organisations with whom a potential cooperative relationship can be considered.

In addition, a comprehensive identification of the programme's many stakeholders was carried out by VLIZ in the BANOS CSA report D3.2 '*A holistic map of the programme's stakeholders*' (2019). The D3.2 report produces, among other results, a list of transnational organisations ranked by their *power* and *urgency* attributes as perceived by the BANOS CSA consortium (Annex G in D3.2). The present report therefore builds on the thematic analysis of D1.2 by expanding it with the highest-rated stakeholders as identified in D3.2.

Since it is not feasible to query all the transnational stakeholders listed in D3.2 nor to compare the strategic documents of all these stakeholders to the BANOS priorities, a selection was made based on the criteria detailed below.

As a first step in the selection process, all transnational stakeholders ranked in Annex G of report D3.2 with a *power-urgency* (P+U) score of 3.5 or higher were retained. Next, all EU institutions and services were excluded (note that 'EU institutions and services' refers to an explicitly defined classification as featured in Table 1 of D3.2). The reasoning behind this exclusion is that EU institutions and services, although definitely among the most prominent stakeholders of the future BANOS programme, are on distinctly higher footing than the programmes they fund, and therefore cannot be considered as (potential) collaborators within the context and scope of this report. BONUS EEIG, the only transnational BANOS CSA consortium member and the secretariat of the BONUS programme, was also excluded. It is assumed that the flow from BONUS to BANOS will be natural, and in any case, the collaboration of BONUS EEIG with BANOS is predetermined by its role as consortium leader of BANOS CSA.

Following the aforementioned exclusions, those with a P+U score of 3.5 or higher that remain are the strategic partners of BANOS CSA (ICES, OSPAR, HELCOM and JPI Oceans), a number of other JPIs with immediate relevance to the scope of BANOS (JPI Climate, Water JPI and FACCE-JPI), VASAB, EMB, the North and Baltic Sea Commissions of CPMR, the Interreg North Sea Region Programme and its Baltic Sea counterpart, IO-UNESCO, EFARO, and a number of European Parliament intergroups. It should be mentioned here that a discussion on cooperation with EMFF and the various regional sea programmes (BlueMed, AORA, AANChOR, Black Sea Connect) is not included in this report but rather the subject of two separate tasks within BANOS CSA, respectively T2.5 for EMFF and T4.8 for the regional sea programmes.

A few more organisations, with P+U scores lower than 3.5, have been included in the current selection on explicit suggestion of the consortium. Since the role of CPMR in the Baltic Sea is largely diminished through the existence of the EU Strategy for the Baltic Sea Region (EUSBSR), as compared to the North Sea region, the EUSBSR was included to the exclusion of the Baltic Sea Commission of CPMR. In order to represent a larger group of European Technology and Innovation Platforms, WATERBORNE TP, EATiP and ETIP Ocean were also included in the selection. The 21 organisations that make up this final selection are further referred to as the 'key stakeholders' (Annex C: Key stakeholders). This selection is subject to an in-depth analysis of cooperation potential.

Thematic analysis of shared R&I priorities

The thematic analysis of R&I priorities as presented in D1.2 was expanded with 11 organisations to include the key stakeholders in regard to potential cooperation with the BANOS programme (Table 4). Strategies and priorities of these organisations were evaluated against the strategic and specific objectives at the core of the BANOS SRIA (drafting in progress, see also Table 1). The strategies and priorities of the selected organisations were deduced from their strategic documents, often a Strategic Research (and Innovation) Agenda, Science or Action Plan, or similar vision document. The respective documents that were used as source for the results presented in Table 4 are listed in Annex C: Key stakeholders. The results offer an indicative overview of themes of common interest and can therefore be interpreted as potential areas of cooperation between BANOS and the selected key stakeholders. However, the commonality in themes presented here should be regarded as non-exhaustive and temporary in nature. Specifically, stakeholder's priorities may change with the publication of new or updated strategies. At the time of writing, JPI Oceans, CPMR – NSC, FACCE-JPI and Water JPI are actively developing a new agenda. For CPMR - NSC, the present analysis is already up to date with the priorities outlined in their new 'North Sea Region 2030' strategy. Other stakeholders, namely Interreg NSR and Interreg BSR, also entered the final year of their published strategies and are likely to revise their priorities in the near future.

Table 4.Strategies and priorities of the 21 key stakeholders identified in this report, evaluated against the strategic and specific objectives at the core of the BANOS SRIA (drafting in progress). The filled circles indicate that the BANOS specific objective is explicitly aligned with the strategic document of the respective organisation. The empty circles indicate that the objective is closely, but not explicitly, aligned with the strategic document of the respective organisation. The empty cells indicate that the subject of the objective is not specifically discussed in the respective strategic document. See Annex C: Key stakeholders for the full names of the organisations and reference to their strategic documents. This table is an expansion to Table 7 in BANOS CSA D1.2 'Exploring the existing research and innovation priorities'.

	HEALTHY SEAS AND COASTS				SUSTAINABLE BLUE ECONOMY			HUMAN WELLBEING		CROSS-CUTTING
Organisation *See Annex C*: Key stakeholders *for details of respective strategic documents.*	**A resistant and resilient marine ecosystem**	**Seamless governance linking land, coast and sea**	**Digital Ocean - Competent ecosystem modelling, assessments and forecasting**	**Efficient technologies for environmental monitoring**	**Sustainable resource management of marine global commons**	**Understanding the value of ecosystem goods and services**	**Smart Seas - sustainable, circular and bio-based blue solutions**	**Safe food and feed**	**Safe and accessible coast**	**Open Science - Access to knowledge and information**
ICES	●	○	●	●	●	○	●	●	○	●
OSPAR	●	●	●	●	○			○	○	
HELCOM	●	●	○	●	●		●	●	●	
JPI Oceans	●	●	●	●	●	●	●	●	●	●
JPI Climate			●	●	●		●		○	●
Water JPI	●	●	○	○	○		○	●	○	○
FACCE-JPI			○	○		○		○		○
Interreg BSR	○	●		○	●	●	●		●	●
Interreg NSR	●	●			●	○	●		●	●
EUSBSR	●	●		○	●	○	●	●	●	○
CPMR - NSC	●				●	●	●	●	○	○
VASAB		●			●		○		●	○
EMB	●	○	●	●	●	○	●	○	●	●
IOC-UNESCO	●	○	●	●	●	●	●	●	●	●
SEARICA	●	●					○		○	
Intergroup CCBSD	○	○			●	○	●	○		
iBSG	●	●		○	●	○	●	●	●	○
EFARO	○		○	○	●	○	●	○	○	
ETIP Ocean			●	●	●	○	●			○
EATiP			○	●	●	●	●	●		●
WATERBORNE TP	○	●		●	●		●	○	●	○

Input from key stakeholders on the cooperation potential with BANOS

Well-considered collaboration between the future BANOS programme and its transnational, synergistic stakeholders will significantly enhance the impact of the programme. Before moving towards the development of actual cooperation agreements, a baseline needs to be established in order to seed and inform any further outreach and discussion with these stakeholders. Apart from the identification of shared thematic priorities, this baseline should cover the available mechanisms of cooperation as well as the predisposition of the stakeholders towards those mechanisms and their potential joint implementation with BANOS. To this end, a questionnaire was developed (Annex D: Questionnaire) with the goal of obtaining direct input from key stakeholders.

The questionnaire was distributed to a selection of key stakeholders (Annex C: Key stakeholders) in January and February 2020. Feedback was received from 14 of the 21 targeted organisations. For each organisation, the questionnaire inquired their experience with various mechanisms of cooperation **(Q1, Q2)**; their receptiveness towards potential engagement through these various mechanisms with BANOS **(Q1)**; reference to other organisations that BANOS should reach out to **(Q3)**; and any open advice or remarks they might hold in the context of BANOS **(Q4)**. The responses from the organisations are treated as institutionally authorised responses and where appropriate, the results as disclosed in this report remain explicitly linked to the responding organisation, enabling tailored follow-up.

Available mechanisms of cooperation

The various mechanisms of cooperation, as included in Q1 of the questionnaire, were based on the list of mechanisms included in the questionnaire distributed by the BONUS programme among its stakeholders in 2008, published in BONUS Publications Nr. 6 '*Identification of cooperation areas and gaps in existing programmes*' (BONUS EEIG 2008). This list was expanded with additional potential mechanisms by VLIZ and BONUS EEIG, in consultation with the European Marine Board (EMB). Several examples of cooperation were further provided by respondents, that did not fit any of the pre-listed cooperation mechanisms. Most of these can be grouped as 'joint organisation of events'. OSPAR introduced another mechanism, 'commissioning of work'.

The cooperation mechanisms commented on by the different respondents are listed below. Were possible, up to two examples of transnational collaboration are included from the experience of specific respondents (Q2 of Annex D: Questionnaire).

- Joint publications: scientific literature

  Publication of (usually international) peer-reviewed, scientific articles in scientific journals, books published by a scientific publishing company, or papers in proceedings of scientific conferences. In a cooperative context, authorship is shared between staff of the cooperating parties or between scientists funded or commissioned by those parties.

- Joint publications: grey literature

  Publication of literature not controlled by commercial publishers, i.e. where publishing is not the primary activity of the producing body. It can be produced on all levels of government, academics and industry and includes white papers, project reports, policy documents, strategic research and (innovation) agendas (SRIA, SRA) and more (Schöpfel and Farace 2010). In a cooperative context, authorship is shared between staff of the cooperating parties or between contributors funded or commissioned by those parties.

  - In 2017, EATiP published an update of their SRIA for aquaculture. The review was jointly developed with EFARO, COFASP, TP Organics and TP FABRE (see Annex C: Key stakeholders for SRIA).
  - In 2018, FACCE-JPI and BiodivERsA agreed to develop a joint vision and action plan for longer-term collaboration.

- Joint development of policy tools

Joint development of instruments used to design or implement policy. This includes laws, regulations, standards, processes, models, and more, in support of agenda-setting, formulation, decision-making, implementation or evaluation (Policy Design Lab 2013).

- EFARO has worked with EU-funded initiatives (e.g. Future of European Fisheries and Aquaculture Research – FEUFAR) to perform scenario analyses and foresight exercises in support of European aquaculture development.

- Co-design of higher education

  Co-design or joint delivery of programmes in higher education, with Higher Education Institutions (HEIs) attached as third parties. Such programmes can be at the academic, applied or vocational level and range from full-scale, accredited post-secondary degrees to the organisation of internships, summer school, training courses and development of online learning material. An elaborate discussion of existing marine and maritime educational programmes, with examples, will be included in the report of BANOS CSA task 4.3 'Strategies in support of Human Capacity Development' (in progress).

  - VASAB and the BONUS BALTSPACE project co-financed a summer school on marine spatial planning in 2016, in Klaipeda, attracting PhD students and early-career professionals[1].

- Mobility of students, scientists, staff

  Jointly developed or implemented facilitation of mobility for students, scientists, engineers or other staff such as technicians, policy officers, lecturers and more. Examples of facilitating actions are development of mobility networks, reimbursement of travel expenses in support of attending courses or conferences, and arranging internship opportunities.

- Joint PhD programmes

  Co-design or joint delivery of programmes at the doctoral level. Such programmes can vary from the organisation of complete training networks awarding doctoral degrees, to the joint funding or facilitating of PhD research, to co-design of training events for PhD students.

- Joint funding of calls

  Joint issuing of calls, tenders and the like, calling for proposals for research and innovation projects or proposals for associated actions such as events, research synthesis and development of training or policy tools. The awarded grants, in-kind resources or commission costs are co-funded or jointly provided by the cooperating parties.

  - JPI Climate and JPI Oceans launched a joint call in 2019 for research projects at the climate-ocean interface[2].
  - FACCE-JPI together with multiple ERA-NET projects launched a joint call on the reduction of greenhouse gas emissions in animal productions systems in 2018[3].

- Development of common projects

  Conceiving and implementing a shared project. Such cooperative project may be of any scale, involving any number of partners and contributors. It can be a one-time pooling of resources to achieve a specific objective, or part of a longer-standing cooperation. Projects can be supported through the partners' own resources or jointly submitted in response to a call from a third party.

  - The ERA-NET Cofund project WaterWorks 2015, partly funded through H2020, is a collaboration between Water JPI and FACCE-JPI. The project contributes to the strategic agendas of both JPIs[4].
  - OSPAR and HELCOM joined forces to develop indicators for incidental bycatch of birds and marine mammals[5].

- Shared use of infrastructure

  Sharing of infrastructure between partners. Commonly shared infrastructure are facilities such as vessels, laboratories and field stations, and (electronic) systems such as servers, databases and high-

performance computing clusters. These typically include supporting services e.g. maintenance and operational support.

- Data generated through several HELCOM monitoring actions are stored and managed on databases held by ICES.
- Scientists working on JPI Oceans' microplastics projects were hosted on board of the solar-powered vessel of the Race for Water foundation, during the vessel's five-year sampling campaign[6].

- Joint commercial venture

  Joint development or support in development of commercial products and services, in collaboration with industry. These include technical, information and data products and services of commercial nature, intellectual property products such as patents, registered designs and trademarks, and programmes in explicit support of industry such as business incubators or accelerators.

- Representation in a partner's board

  Representation and contribution of one or more partners in the steering, scientific, advisory or other boards of another partner, either as full or as observing members.

  - The OSPAR secretariat is on the steering bodies of several transnational projects, e.g. JERICO and Clean Atlantic, and holds observership status in others e.g. the Arctic Council[7].
  - VASAB assists the BONUS Secretariat by providing independent advice on scientific and policy-related issues in its role as member of the BONUS Advisory Board.

- Representation in a work group

  Representation and contribution of one or more partners in a work group of shared interest organised by another partner, or possibly by a third party. Work groups are typically focussed on a clearly demarcated topic with information sharing (knowledge hub, expert group) or more practical outcomes (task force, evaluation panel, drafting team) as their main purpose.

  - JPI Oceans and FACCE-JPI, together with JPI HDHL, jointly coordinate the Knowledge Hub on Food and Nutrition Security, with the aim to manage the impact of climate change on the nutritional make-up of food[8].
  - Water JPI established multiple Knowledge Hubs, most recently inviting the Art. 185 programme PRIMA and to join an incipient Knowledge Hub on Water Scarcity.

- Lobbying for policies of mutual interest

  Establishing and maintaining coordination and transparency for activities that are carried out with the objective of influencing the policy formulation and decision-making processes, where it pertains matters of mutual interest. Interest representation in the EU follows a code of conduct established in the European Transparency Initiative (COM(2006) 194 final).

- Networking support

  Support in networking activities, such as hosting, arranging or initiating discussions and meetings among partners or between partners and third parties.

  - EMB facilitated the third discussion between the various European sea basin initiatives (BANOS CSA, BlueMed, AANChOR, Black Sea Connect) at the EurOCEAN 2019 conference.
  - ETIP Ocean facilitated the meeting of the SET Plan Implementation Working Group for Ocean Energy, in Dublin, 2019.

- Support in dissemination

  Mutual support in dissemination activities, by echoing news items of partners in one's own network (through its website, newsletter or mailing list), advertising calls of partners, reciprocal representation at events, and other outreach instruments aimed to specialised networks, higher policy or the lay public.

- ETIP Ocean shares information on their partner's sectoral events through their mailing list.
- BONUS is usually represented at VASAB events (e.g. Baltic MSP Forum, projects' conferences, stakeholder events) and VASAB is represented at many BONUS events.

- Joint organisation of events

  Co-organisation of physical events such as conferences, workshops and stakeholder consultations, or online events such as webinars.

  - JPI Oceans' seminar in 2016 on the future of the ocean economy was organised in cooperation with OECD[9].
  - ETIP Ocean organised several webinars in cooperation with partners boasting expertise in a specific subject, such as a webinar in 2020 on standard data formats for ocean energy that was delivered jointly with the DTOceanPlus project[10].

- Commissioning of work

  Work ordered by one party and performed by another, typically with compensation.

  - At times, OSPAR accepts work commissioned by other international bodies, e.g. by ICES, including R&I.

- Other: tailored structures

  Complex mixture of cooperation mechanisms blended into a unique structure that is specifically tailored to meet the needs of the parties involved.

  - Project platform: the establishment of project platforms by Interreg BSR is an initiative to cluster project results developed in different EU funding programmes on one topic. The aim is to structure these results and communicate them in a synthesised way to the target groups, e.g. policy makers and practitioners in the selected field. Partners from BONUS projects are involved in the SUMANU, CSHIPP, Blue Platform, Capacity4MSP project platforms. These project platforms can apply for co-financing from Interreg BSR[11].
  - Thematic Annual Programming (TAP): TAP is a 'light' tool to align national research programs on a specific topic. FACCE-JPI has organised TAP-SOIL, aimed at stimulating organic matter sequestration in the soil. FACCE-JPI first asks that national research agencies publish the same call text on a topic. Project coordinators then participate in annual meetings to exchange on methods, data (exchange) and results, and projects foresee 7-10% of the total budget to be allocated to these networking activities[12].

Weblinks to cooperation examples provided by respondents

1. https://www.baltspace.eu/index.php/msp-summer-school
2. http://jpi-oceans.eu/news-events/news/jpi-climate-and-jpi-oceans-jointly-fund-two-international-projects-next-generation
3. https://faccejpi.net/strateg/international-cooperation/ict-agri-era-netsusan-era-netfacce-era-gas
4. https://cordis.europa.eu/project/id/689271
5. https://portal.helcom.fi/meetings/Incidental%20bycatch%20WS%201-2019-647/default.aspx
6. http://www.jpi-oceans.eu/news-events/news/jpi-oceans-microplastics-projects-join-race-water-odyssey
7. https://www.ospar.org/about/international-cooperation/the-arctic-council
8. http://www.jpi-oceans.eu/food-and-nutrition-security
9. https://www.jpi-oceans.eu/news-events/news/jpi-oceans-oecd-future-ocean-economy-seminar
10. https://www.etipocean.eu/events/webinar-digital-representation-of-standard-data-formats-for-ocean-energy-systems/
11. https://projects.interregbaltic.eu/search.html?tx_bsrpprojectdb_db%5Bdemand%5D%5Bcategory%5D=Project%20platforms&cHash=0460ac9711f5d824b3746e7f013ec984
12. https://faccejpi.net/actions/thematic-annual-programming-tap-soil

The experience of the queried stakeholders with the various cooperation mechanisms outlined above is indicated in Table 5. With the exception of a joint PhD programme and a joint commercial venture, each of the listed mechanisms has been previously implemented by at least one key stakeholder. This effectively validates the cooperation mechanisms presented to the stakeholders as being grounded in reality. In addition, the stakeholders themselves added two more mechanisms resulting in a palette of tested, approved and realistic cooperation mechanisms. Taking that into account, the least popular mechanisms are not necessarily inherently ineffective, unachievable or otherwise undesirable. Rather, they are likely presented to the wrong audience. Should it become clear, through further development of the BANOS programme, that these mechanisms can add value where others cannot, then different stakeholder groups ought to be approached. In particular, development of joint higher education or PhD programmes is likely more attractive to Higher Education Institutes (HEIs) and joint commercial ventures to individual companies or clusters, than either are to the transnational research- or policy-focussed organisations that are at the focus of this report. Conversely, most stakeholders have experience with the development of common projects, representation in various boards and work groups, and mutual support in dissemination and networking.

Table 5. Experience of the key transnational stakeholders with various mechanisms of cooperation. The results were gathered through the left-hand column in the first question of the questionnaire (Q1, Annex D: Questionnaire), with respondents checking a mechanism if their organisation has experience (past or ongoing) with that particular form of cooperation. See Table 6 for the disposition of the stakeholders towards implementation of the various mechanisms in a cooperative framework with BANOS.

	ICES	HELCOM	OSPAR	JPI Oceans	Water JPI	FACCE-JPI	CPMR - NSC	Interreg NSR	Interreg BSR	VASAB	EMB	IOC-UNESCO	ETIP Ocean	EATiP	EFARO
joint publications: scientific literature	x										x	x			x
joint publications: grey literature	x					x			x		x	x	x	x	x
joint development of policy tools			x		x	x			x			x		x	x
co-design of higher education															x
mobility of students, scientists, staff	x				x					x		x			
joint PhD programmes															
joint funding of calls				x	x	x									
development of common projects	x	x			x	x	x			x	x	x		x	x
shared use of infrastructure	x				x							x			
joint commercial venture															
representation in a partner's board	x	x	x	x	x	x				x	x	x		x	
representation in work group			x	x	x	x		x		x	x	x		x	x
lobbying for policies of mutual interest		x			x		x			x	x			x	x
networking support	x	x	x	x	x		x	x	x		x	x	x	x	x
support in dissemination	x	x	x	x	x			x	x	x	x	x	x	x	

Potential engagement with BANOS through various mechanisms of cooperation

Respondents were asked to indicate what forms of cooperation, if any, they might consider with the future BANOS programme. All responding key stakeholders showed willingness to consider some form of cooperation (Table 6). Most of the organisations are open for representation through a board (steering, scientific, advisory, or other) or a work group of shared interest (knowledge hub, task force, or other). The same is true for the provision of networking support and support in dissemination activities. Also supported by many of the key stakeholders are the possibilities to jointly develop projects or policy tools, or to work towards the joint publication of grey literature (i.e. white papers, project reports, policy-advising documents and similar). Furthermore, the readiness of specific organisations to consider the joint funding of calls (JPI Oceans, FACCE-JPI and Interreg NSR), a joint mobility programme (ICES, JPI Oceans, VASAB and IOC-UNSECO), and the shared use of infrastructure (ICES, JPI Oceans and IOC-UNESCO) might prove to be of great value to BANOS and the impact it aims to generate. Little or no overall interest is shown for the co-design of higher education and PhD programmes, and for joint commercial ventures. This is congruent with the lack of experience that this selection of stakeholders has with these activities, as shown in Table 5. As discussed there, BANOS should approach other stakeholder groups when the intention arises to engage in educational or commercial endeavours.

Driven by the mutual benefits that can be reaped from cooperating on shared priorities (Table 4), the specific answers with regards to the underpinning mechanisms, as provided here by each stakeholder, will be taken up as a practical starting point for potential further discussions on collaboration with the individual organisations.

Table 6. Mechanisms that can be considered for potential future cooperation between BANOS and its key stakeholders, as assessed by the individual stakeholders. The results were gathered through the right-hand column in the first question of the questionnaire (Q1, Annex D: Questionnaire), with respondents checking a mechanism if their organisation is willing to consider that particular mechanism in a cooperative framework with BANOS. See Table 5 for an assessment of the familiarity of these stakeholders with the various mechanisms of cooperation.

	ICES	HELCOM	OSPAR	JPI Oceans	Water JPI	FACCE-JPI	CPMR - NSC	EUSBSR	Interreg NSR	Interreg BSR	VASAB	EMB	IOC-UNESCO	ETIP Ocean	EATiP	EFARO
joint publications: scientific literature	x			x								x	x			
joint publications: grey literature	x			x		x		x		x		x	x	x	x	x
joint development of policy tools			x	x	x	x		x		x	x		x	x	x	x
co-design of higher education	x			x												
mobility of students, scientists, staff	x			x	x						x		x			
joint PhD programmes				x												
joint funding of calls				x	x	x			x							
development of common projects	x	x		x	x	x	x	x			x	x	x		x	x
shared use of infrastructure	x			x	x								x			
joint commercial venture																
representation in a partner's board	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x
representation in work group	x	x	x	x	x	x		x		x	x	x	x	x	x	
lobbying for policies of mutual interest		x		x	x		x	x			x	x			x	x
networking support	x	x	x	x	x		x	x		x	x	x	x	x	x	x
support in dissemination	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x

Recommendation of key stakeholders for future cooperation with BANOS

To maximise the coverage of the BANOS stakeholder network, the key stakeholders were asked to make recommendations in regard to other (transnational) organisations or networks that BANOS should reach out to. The recommended organisations are listed in Table 7. This list reflects the organisations that are important to engage with during the further development of BANOS, to the benefit of both parties, in the opinion of the programme's key transnational stakeholders. Note that the queried stakeholders were not necessarily made aware of the existing BANOS stakeholder map (D3.2) nor the lists of respondents to the questionnaire (Annex C: Key stakeholders). As such, a few of the recommended organisations were already part of the selection of key stakeholders, included in the BANOS stakeholder map (D3.2) or treated in BANOS CSA task 4.8 '*Pan-European regional seas co-operation*', affirming the comprehensiveness of previous mapping efforts.

Table 7. Organisations that BANOS should reach out to, as per opinion of the key stakeholders. The results were gathered through the third question of the questionnaire (Q3, Annex D: Questionnaire). The first column 'Organisation' lists the recommended organisations. The second column 'Argument' displays, where available, the argument for inclusion as provided by the queried stakeholders. The last column 'Status' indicates to what degree the recommended organisations are already taken into account or engaged with BANOS CSA.

Organisation	**Argument**	**Status**
Bonn Agreement		Newly suggested.
Partnership for Research and Innovation in the Mediterranean Area (PRIMA)		Newly suggested.
Arctic Council		Newly suggested.
Dutch Marine Energy Centre		Newly suggested.
Wave Energy Scotland		Newly suggested.
UK Marine Energy Council		Newly suggested.
JPI HDHL		Newly suggested.
BLUE PILOT		Newly suggested.
BIOEAST initiative		Newly suggested.
Interreg NSR projects such as PERISCOPE, NorthSEE	Some of the transnational projects under the Interreg North Sea Region Programme may be relevant for BANOS to look into.	Newly suggested, although Interreg NSR as a whole was selected as key stakeholder.
EUSBSR actors, i.e. members of Policy Areas and Horizontal Actions, and participants of Flagship projects	Exchange between BANOS and the Coordinators of EUSBSR's Policy Areas and Horizontal Actions can strengthen macroregional cooperation, the coordinators could act as a connection to the policy level to trigger implementation of research findings. Of possible relevance, among others: - PAs: Nutri, Bioeconomy, Hazards, Energy, Ship; - HAs: Spatial Planning, Climate	Newly suggested, although EUSBSR as a whole was selected as key stakeholder.
EATiP Mirror Platforms	Several of these national/regional aquaculture clusters have their interest in the North and Baltic Sea area: Aquacultuur Vlaanderen, AQUIMER, AquaCircle, IATiP, NCE Aquatech Cluster, NCE Aquaculture, NCE Seafood Innovation Cluster, SAIC, KNAQ (now BAMS). These have proven to play a decisive role in supporting an open dialogue	Some newly suggested, some included in stakeholder map. EATIP as a whole was selected as key stakeholder.

	between industry, scientists and policy makers, as well as between experts from different disciplines.	
Conference of Peripheral Maritime Regions (CPMR)	CPMR is the European umbrella organisation of CPMR - NSC. European maritime policy is one of its focus areas.	Included in stakeholder map.
Nordic Council of Ministers	The Nordic Council of Ministers involves some of the countries in the North and Baltic Sea Regions.	Included in stakeholder map.
Belmont Forum		Included in stakeholder map.
BiodivERsA		Included in stakeholder map.
North East Atlantic Fisheries Commission (NEAFC)		Included in stakeholder map.
Regional Sea Conventions (Bucharest Convention, Barcelona Convention)	With the new EU Commission in 2019 and the new agendas (e.g. UN Ocean Decade, EU Green Deal) shaping macroregional policies, BANOS could reach out beyond northern Europe, to the UN Regional Sea Programmes [Conventions] for instance.	Taken up in T4.8.
Regional sea programmes (BlueMed, Black Sea Connect, AORA…)		Taken up in T4.8.
IOC-UNESCO	Aligning with IOC and the societal outcomes of the UN Ocean Decade could raise the profile of BANOS globally.	Selected as key stakeholder.
EMB		Selected as key stakeholder.
OSPAR		Strategic partner of BANOS CSA.
ICES		Strategic partner of BANOS CSA.
JPI Oceans		Strategic partner of BANOS CSA.
BONUS		BONUS EEIG as consortium member of BANOS CSA

General comments from respondents

The questionnaire ended with an opportunity to share any type of remark, advise or proposal that the respondents might have with respect to BANOS and potential cooperative agreements between the respondent and BANOS (Q4, Annex D: Questionnaire). The responses are summarised below:

- EATiP proposes the organisation of a dedicated workshop with the national and regional industry cluster representatives, if desired and relevant.
- VASAB notes that cooperation with BANOS will ensure knowledge transfer and may unlock new synergies, such as the potential of BANOS to contribute to the further monitoring of the socioeconomic and environmental benefits of maritime spatial planning, as well as a focus on land-sea interactions. In order to

ensure the linkage between science and spatial planning, VASAB is open to consider their involvement through an active role in the future BANOS programme.

- Centrum Balticum, acting as coordinator of the EUSBSR Horizontal Action Neighbours, notes that they welcome cooperation with the BANOS programme, both as Centrum Balticum in its own right and in its role in the EUSBSR. Interest from the EUSBSR is mostly towards R&I development in topics of relevance. Many EUSBSR Policy Areas would be interested in the outcomes of projects funded through BANOS. The EUSBSR Communication Point would be interested in cooperating on communication and dissemination activities, and Horizontal Action Neighbours would like to learn what they could offer BANOS in terms of increasing Russian, Belarusian, Icelandic and Norwegian participation. Furthermore, HA Neighbours offers to provide a list of all organisations currently participating in EUSBSR flagships.
- EFARO and Interreg NSR explicitly note that they consider cooperation with BANOS a road to further develop, with Interreg NSR adding that they can broker contact between Interreg NSR projects and BANOS, if desired.
- Water JPI wishes to continue exchanges with BANOS CSA on the SRIA development of both parties and on other actions. Interreg BSR also notes that cooperation during the programming process would be useful, i.e. to exchange on the planned content in the two programmes during 2020.
- CPMR - NSR mentions that their members are regional governments in all North Sea countries, and that many of these regional governments have their own external cooperation arrangements and funding schemes based on regional development strategies, as well as stakeholder networks in their respective territories. They add that CPMR – NSR could act as a link between BANOS and the regional governments in the North Sea area.
- HELCOM emphasis the omnipresent need for connection: between adjacent ecosystems where they are part of a bigger one such as the Baltic and North Seas; between organisations with similar mandates, processes and workings to instil process efficiencies such as between HELCOM and OSPAR; and between science and policy to achieve sustainable development through science-informed decision making. They further comment that BANOS already seems to establish itself as an ideal vehicle for making such connections.
- EATiP calls for transnational cooperation in the field of higher education and vocational training to support a knowledge-based sector. Linking theory to practice, stimulation of collaborative academy-industry mechanisms should be reinforced to ensure the delivery of necessary skills that are in line with the sector needs.
- Cooperation with organisations outside of the purely research-focused community, i.e. public policy authorities and private businesses, will make it possible to check the feasibility and usability of results produced by BANOS projects and will contribute to reducing the gaps between research results and policy or commercial applications. The comment was made separately by EATiP, Interreg BSR and VASAB.
- In a similar vein and as noted by EATiP, there is a need for improved mechanisms for effective knowledge transfer to ensure implementation, demonstration and application of research results. As innovation of is driven by small, specialised companies and start-ups, EATiP explicitly asks for the support of collaborative platforms, funds and other instruments that can stimulate entrepreneurship and de-risk disruptive technologies. The same idea is echoed by Interreg BSR, suggesting that a library could be established of the (research) results that are produced by BONUS and further developed by BANOS. They further recommend that these results should be actively brought to the attention of applicants of EU funding programmes on the transnational and national level in order to enable the uptake and implementation.
- EATiP notes that the further development of the aquaculture sector in Europe depends on a strong alignment of priorities between the regional seas, and therefore strongly endorses collaboration between BANOS CSA and the other basin-based CSAs in Europe.
- As already outlined in the section *Transnational cooperation with existing organisations*, FACCE-JPI and CPMR – NSR both bring to the attention that they are preparing a new strategy, which comes with a shift

in the priorities of these organisations. Their revised priorities indicate where they will focus their transnational cooperation and exchange for the coming ten years, and have already been integrated in Table 4.

- EMB shares the specific rules to which they are bound to for participating in projects or external contracts. They note that EMB participation should mainly focus on activities that comprise their main strength, such as stakeholder and project coordination, foresight activities and communication.

Conclusions and recommendations

Brief conclusion of BANOS policy landscape and linkage to prominent stakeholder groups

Since BONUS Publication 13, at least four game-changing novelties have emerged in the policy landscape. These include (i) the UN's SDGs and the Decade of Ocean Science, (ii) rapid increase in prominence and urgency of the climate agenda, including the European Green Deal and the Paris Climate Agreement, (iii) further development of policies related to Sustainable Blue Growth and (iv) Circular Economy. In addition to the above-mentioned policies, the MSFD remains topical as well, as it is very unlikely that the GES will be reached within the initial policy timeframe and rigorous cross-European efforts will be needed in the future to reach its objectives.

The future BANOS programme and its Strategic Research and Innovation Agenda are fully aligned with the current policy landscape. The three BANOS strategic objectives, including Healthy Seas and Coast, Sustainable Blue Economy and Human Wellbeing, all have a strong emphasis on the integral long-term sustainability and reliance on the marine ecosystem and its biodiversity, including the development of ecosystem-based management approaches. In addition, the programme intends to contribute to all components of the Blue Growth Strategy, i.e. the high-potential sectors such as aquaculture, coastal tourism, biotechnology and ocean energy; the essential components such as marine knowledge and maritime spatial planning and sea basin strategies in two out of seven listed maritime areas. The programme will also commit to combatting climate change, thus contributing towards the goals of the European Green Deal, by getting involved in the development of a carbon-neutral renewable energy sector and by understanding the role of seas and ocean as natural climate change mitigators. In addition, new circular economy solutions, for example in the aquaculture sector, will be developed. The potential threats posed by climate change to the human wellbeing, including sea level rise and securing safe food and feed supply, are also addressed.

The policy landscape is closely associated with the BANOS primary individual stakeholders. To extend the programme's impact from the northern European seas to pan-European level, collaboration with other regional seas initiatives and JPI Oceans are a key for success. Other macroregional stakeholders such as EUSBSR and CPMR North Sea should not be overlooked, but synergies and joint opportunities should rather be identified. To ensure that marine biodiversity and resilience is protected, HELCOM and OSPAR are the critical stakeholders. Fulfilling knowledge gaps in the agendas of these environmental initiatives will be closely monitored and synergies sought.

Brief conclusion on transnational cooperation with existing initiatives

The analytic mapping exercises identifying transnational projects and organisations with an alignment to the BANOS SRIA and its objectives serves as a reference point for initiating discussions towards thematically focused collaboration. It offers an overview of potential partners, projects and mechanisms for cooperation within the scope of the specific research and innovation priorities under consideration.

Cooperation between transnational organisations can be established through a variety of mechanisms, each setting different goals and conditions. In reality, cooperation agreements will often not be a simple sum of the mechanisms, as listed in this report, but may evolve as complex mixtures of these mechanisms in unique structures specifically tailored to the needs of the parties involved. In this context, the responses of stakeholders to the questionnaire are not considered as a commitment of any kind and are not be treated as binding in any way. Moreover, they offer only a temporary state of affairs; the disposition of the responding stakeholders towards cooperation in the form of the given mechanisms may change over time, pending further development of BANOS or due to other factors.

Cooperation mechanisms under different scenarios

The following chapter details collaboration with the key cross-border stakeholders under two scenarios of the future development: 1) full merging into the pan-EU partnership 'Climate-neutral, sustainable and productive blue economy' and 2) temporary or permanently implementing the Baltic and North Sea R&I Programme as a stand-alone endeavour. This analysis reflects our best knowledge at the time of compiling of this report – February 2020.

SCENARIO 1

According to the scenario envisioned by the European Commission, a larger partnership 'Climate-neutral, sustainable and productive blue economy' (the BE partnership) could be launched in 2023 following a competitive call for proposals issued in 2022. Currently the exact goals and objectives of this partnership as well as its main features (e.g. a co-programmed or a co-funded character) are being discussed among the Member States and the Commission.

Several member states have already expressed their wish for the BE partnership to be built upon the existing pillars of the European regional seas' initiatives in the Atlantic, Baltic and North Sea, Black Sea and the Mediterranean using the Joint Programming Initiative 'Healthy and Productive Seas and Oceans' (JPI Oceans) as a unifying core. If this scenario materialises, BANOS – the joint Baltic and North Sea Research and Innovation Programme - will become a part of the BE partnership and collaboration with the other regional initiatives and JPI Oceans will be organised in a centralised manner within the partnership. The larger partnership would then coordinate such joint actions as mutual aligning of the research and innovation agendas and implementation plans, arranging joint or coordinated calls for proposals, joint stakeholder consultation actions as well as a full spectrum of various dissemination and impact enabling activities as elaborated in work packages 3 and 4 of BANOS CSA (see Table 8).

Within this scenario the collaboration with the key pan-EU and international stakeholders would be best planned and implemented at the whole partnership level (i.e. coordinated by the central executive structure). In particular, this would apply to the initiatives addressing different aspects of innovation as these are less dependent on the sea-basin specifics and can potentially bring benefit to any region of the Global Ocean. The current draft description of the BE partnership (i.e. the 'fiche', status 24.02.2020) already singles out several potential collaboration partners of this kind, e.g. the relevant knowledge and innovation communities (KICs) under umbrella of the European Institute of Innovation and Technology (EIT) as well as the European Aquaculture Technology and Innovation Platform (EATIP) and Waterborne Technology Platform. In addition, if implemented, partnership-level ties will be established with several other thematically relevant HE partnerships currently on the candidate list, e.g. *Food Systems*, *Biodiversity* and *Water for All.* For high level dissemination of the main findings, the BE partnership will need to develop a strategy of working with the influential EP intergroups: Climate Change, Biodiversity, and Sustainable Development (CCBSD) and Seas Rivers Islands & Areas (SEARICA). Finally, mostly for the science foresight and knowledge synthesis activities, systematic programme-level communication channels shall be established with the UNESCO's Intergovernmental Oceanographic Commission (IOC), European Marine Board (EMB) as well as the network of European Fisheries and Aquaculture Organisations (EFARO).

Cooperation between BANOS and the international organisations with a distinct geographical focus corresponding to or involving the Baltic Sea and North Sea areas is best kept at a sea-basin scale even if BANOS joins a larger partnership. The key policy-level recipients of the new knowledge gained by the programme are the implementing bodies of the two respective regional seas' conventions: HELCOM and OSPAR Commission. This is true also for more specialised organisations of a macro-regional scale, e.g. those in charge of implementing the macro-regional strategies and addressing the issues of cross-border spatial development including MSP, e.g. VASAB in the Baltic Sea region. The International Council for the Exploration of the Sea (ICES) occupies a specific role among the BANOS regional stakeholders as an international multidisciplinary scientific forum for the exchange of information and ideas on all aspects of marine sciences pertaining to the North Atlantic, including the adjacent Baltic Sea and North Sea. Its principal functions are to: (i) promote, encourage, develop, and coordinate marine research; (ii) publish and otherwise disseminate results of research; and (iii) provide non-biased, non-political scientific advice to member nation governments and international regulatory

commissions. In this capacity ICES deserves a role of BANOS's key strategic partner involved at all stages of programme development and implementation – from formulation of the SRIA to review, synthesis and dissemination of the outputs of research and innovation outputs[1].

Resolving the issues of cross-border regional development among the EU Member States is supported by the array of the INTERREG programmes, e.g. INTERREG Baltic Sea Region, INTERREG North Sea Region as well a series of geographically more specific programmes (as e.g. INTERREG Latvia-Estonia or INTERREG France (Channel) England). As already proved by BONUS in the Baltic Sea region, cooperation between the regional R&I programme and relevant INTERREG programmes may bring mutual benefits.

SCENARIO 2

The other scenario would consider a situation when BANOS would permanently or temporarily exist as a stand-alone programme. The same three groupings of the key international stakeholders as described under scenario 1 would remain valid (see also Table 8). Although, not merged into a single partnership, collaboration with the R&I initiatives in other European regional seas would remain an important impact enabler. This collaboration would be implemented in accordance to the plan elaborated under the task 4.8 of BONUS CSA. The forms of collaboration with other initiatives operating in Europe's regional seas would in essence remain the same as under scenario 1. The level of integration, however, would be more flexible and a dedicated framework for a systematic and sustained coordination among different programmes, e.g. "a European forum for regional seas' research and innovation" would have to be established.

In regard of the second group – the international actors with global and pan-EU focus – the collaboration strategy and forms of collaboration would in essence remain as described under scenario 1. However, depending on the available capacity, the approach to shortlisting the key partners could be more stringent, possibly selecting a limited number of entities from each of the four sub-groups in this group. Forms of collaboration would be lighter and the calendar of collaborative actions less intense.

Finally, the strategy and scale of collaboration with the regional partners would remain the same as under scenario 1, as would the forms of different collaborative actions.

If scenario 2 is implemented on temporary base, i.e. as a bridging measure before full-scale launching of a pan-EU BE partnership, establishing effective collaboration links with the stakeholders of the first and the third groups would acquire the most of urgency:

- with other regional seas' initiatives and JPI Oceans – for achieving more coherence among the SRIAs, possible coordinated nationally funded call(s), and a concerted contribution concerning the future broader partnership.
- with HELCOM, OSPAR and ICES – in order to strengthen the practical impact of research and innovation in restoring GES and achieving sustainable use of the ecosystem services of the Baltic and North seas.
- with the relevant INTERREG programmes – for mutual coordination of the work plans and calls and possible post-selection clustering and coupling of projects in order to crate multi-actor knowledge communities involving scientists, innovators, private enterprises, government authorities representing different levels and economy sectors as well as the civil society organisations.

[1] HELCOM, OSPAR Commission and ICES together with JPI Oceans are the strategic partners of BANOS CSA.

Table 8: Potential forms of collaboration between BANOS and the relevant international organisations.

Group of organisations	Examples of organisations	Potential forms of collaboration
Potential integral members of the BE partnership	BLUEMED AANCHOR CSA Black Sea Connect CSA JPI Oceans	Scenario 1: Internal collaboration under joint overarching governance: - *Mutual alignment of SRIA's* - *Concerted work planning* - *Joint and coordinated calls for proposals* - *Full spectrum of joint communication, dissemination and impact enabling activities* Scenario 2: Generally similar, however more flexible forms of collaboration coordinated by a joint *European forum for Regional Seas' research and innovation.*
International actors with global and pan-EU focus		Scenario 1: Centralised collaboration at a partnership level:
	KIC/EIT Waterborne TP EATIP	- *Facilitating exchange of ideas between academia and the innovation community* - *Coordinating the innovation support actions*
	Potential future EU partnerships focusing on food, water, biodiversity and climate issues (including the successors of the respective joint programming initiatives)	- *Consultation on synergies and avoiding overlaps during the SRIA development stages* - *Coordinated calls with subsequent clustering of thematically synergetic projects.* - *Joint dissemination and promotion activities*
	EP intergroup SEARICA EP intergroup CCBSD	- *Visibility actions*
	EFARO UNESCO IOC EMB	- *Contribution to SRIA development and updates* - *Possibly, joint dissemination activities and fora*
		Scenario 2: Bilateral collaboration with the selected key stakeholder(s) of each of the sub-groups above. Forms of collaboration basically the same as under scenario 1, but, depending on the capacity at hand, lighter and less systematic.
Actors with geographically explicit regional focus compatible with the Baltic and North Seas	ICES HELCOM OSPAR Commission INTERREG BSR INTERREG NSR VASAB CPMR NS Commission	Scenario 1: Sea-basin level collaboration: - *Strategic partnership in development of SRIA, joint stakeholder fora, participation in various work groups.* - *Program-level collaboration in adjusting the agendas and workplans to facilitate creation of effective multi-actor collaborations supported by different funding streams.* Scenario 2: Sea-basin level collaboration in similar forms as under scenario 1. In this scenario collaboration with the partners of this group acquires a priority.

Consulted literature

BONUS EEIG. 2008. Identification of cooperation areas and gaps in existing programmes. Tampere, Finland. https://www.bonusportal.org/files/29/Publication_Nr._6.pdf.

EurOcean. 2019. EurOcean Knowledge Gate. [accessed 2019 Aug 8]. http://kg.eurocean.org/.

European Commission. 2000. Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. Off J Eur Union. 43(L 327). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32000L0060.

European Commission. 2006. Green Paper - European Transparency Initiative COM(2006) 194 final. :17. https://europa.eu/documents/comm/green_papers/pdf/com2006_194_en.pdf.

European Commission. 2007. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: An Integrated Maritime Policy for the European Union. COM/2007/0575 final. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52007DC0575.

European Commission. 2008. Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive). Off J Eur Union. 51(L 164). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0056.

European Commission. 2009a. Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC. Off J Eur Union. 52(L 140):16–62. https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32009L0028.

European Commission. 2009b. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions concerning the European Union Strategy for the Baltic Sea Region. COM/2009/0248 final. https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52009DC0248.

European Commission. 2011. Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions: Our life insurance, our natural capital: an EU biodiversity strategy to 2020. COM(2011) 244 final. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52011DC0244.

European Commission. 2012. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Blue Growth opportunities for marine and maritime sustainable growth. COM/2012/0494 final. https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52012DC0494.

European Commission. 2013. Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions: An EU Strategy on adaptation to climate change. COM/2013/0216 final. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52013DC0216.

European Commission. 2014. Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning. Off J Eur Union. 57(L 257). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0089.

European Commission. 2015. Communication from the Commission to the European Parliament, the Council,

the Economic and Social Committee and the Committee of the Regions: Closing the loop - An EU action plan for the Circular Economy. COM/2015/0614 final. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52015DC0614.

European Commission. 2018. Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions and the European Investment Bank: A Clean Planet for all A European strategic long-term vision for a prosperous, . COM/2018/773 final. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0773.

European Commission. 2019. Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions: The European Green Deal. COM(2019) 640 final. https://ec.europa.eu/info/publications/communication-european-green-deal_en.

European Parliament, Council of the European Union. 2013a. Regulation (EU) No 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) and repealing Decision No 1982/2006/EC. Off J Eur Union. 56(L 347):104–173. http://data.europa.eu/eli/reg/2013/1291/oj.

European Parliament, Council of the European Union. 2013b. Regulation (EU) No 1299/2013 of the European Parliament and of the Council of 17 December 2013 on specific provisions for the support from the European Regional Development Fund to the European territorial cooperation goal. Off J Eur Union. 56(L 347):259–280. http://data.europa.eu/eli/reg/2013/1299/oj.

European Parliament, Council of the European Union. 2013c. Regulation (EU) No 1293/2013 of the European Parliament and of the Council of 11 December 2013 on the establishment of a Programme for the Environment and Climate Action (LIFE) and repealing Regulation (EC) No 614/2007. Off J Eur Union. 56(L 347):185–208. http://data.europa.eu/eli/reg/2013/1293/oj.

European Parliament, Council of the European Union. 2014. Regulation (EU) No 508/2014 of the European Parliament and of the Council of 15 May 2014 on the European Maritime and Fisheries Fund and repealing Council Regulations (EC) No 2328/2003, (EC) No 861/2006, (EC) No 1198/2006 and (EC) No 791/2007 and Regulati. Off J Eur Union. 57(L 149):1–66. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L:2014:149:FULL&from=EN.

Formas. 2019. Scoping the strategic framework for the future programme. BANOS CSA/D1.1.

HELCOM. 2007. HELCOM Baltic Sea Action Plan. Krakow, Poland. https://helcom.fi/baltic-sea-action-plan/.

IOC-UNESCO. 2018. The United Nations Decade of Ocean Science for Sustainable Development, 2021-2030. IOC/BRO/2018/2. https://unesdoc.unesco.org/ark:/48223/pf0000261962.

Krüger C, Koho K. 2019. Exploring the existing research and innovation priorities. BANOS CSA/D1.2.

Lescroart J, De Raedemaecker F, Pirlet H, Lescrauwaet A-K, Sirola M. 2019. A holistic map of the programme's stakeholders. BANOS CSA/D3.2.

Policy Design Lab. 2013. Taxonomies and models in the study of policy design. http://policy-design.org/wiki/development-of-taxonomies-and-models-for-policy-design/.

Schöpfel J, Farace DJ. 2010. Grey Literature. In: Bates MJ, Maack MN, editors. Encyclopedia of Library and Information Sciences. Boca Raton, Florida: CRC Press. p. 2029–2039.

UNFCCC. 2016. Decision 1/CP.21 Adoption of the Paris Agreement. https://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf.

United Nations. 1992. Convention on Biological Diversity. https://www.cbd.int/doc/legal/cbd-en.pdf.

United Nations. 2015. Resolution adopted by the General Assembly on 25 September 2015, 70/1. Transforming our world: the 2030 Agenda for Sustainable Development. A/RES/70/1. https://sustainabledevelopment.un.org/post2015/transformingourworld.

Annexes

Annex A: Relevance of key policies to the BANOS Specific Objectives

Policy	Policy related to BANOS Specific Objective	How?
Blue Growth Strategy – BGS (COM(2012) 494 final) The Blue Growth Strategy, established in 2012, is a long-term strategy to support the sustainable growth in the marine and maritime sectors. It emphasises the role of the seas and oceans as the drivers for the future European economy, including the potential for innovation and growth. In the wider policy context, BGS is the maritime contribution of the Europe 2020 strategy for smart, sustainable and inclusive growth. Five sectors with a high potential for sustainable jobs and growth have been identified: • aquaculture • coastal tourism • marine biotechnology • ocean energy • seabed mining BGS also aims to deliver • marine knowledge to improve access to information about the sea; • maritime spatial planning to ensure an efficient and sustainable management of activities at sea; • integrated maritime surveillance to give authorities a better picture of what is happening at sea.	B.1: Sustainable resource management of marine global commons B.2: Understanding the value of ecosystem goods and services B.3: Smart Seas - technological solutions for sustainable, circular and bio-based blue economy C.1: Safe food and feed C.2: Safe and accessible coast	The BGS is closely linked to the BANOS strategic objective Sustainable Blue Growth. The R&I themes under the specific objectives B.1-B.3 support the maritime industry and creation of new jobs, for example, through development of innovative approaches in seafood industry with zero food waste, creating new approaches to maritime spatial planning (including knowledge bases for the competing demands of space utilization) and supporting the development of renewable energy. The BANOS strategic objective Human Wellbeing, including the specific objectives C.1 and C.2 will further contribute to the BGS, focusing on development of new approaches in sustainable and safe marine fisheries, aquaculture and food production in the sea and on land. In addition, the development of innovative and sustainable blue tourism and recreation opportunities will enhance local economies and create potential new employment opportunities.

Links to other policies: CFP, EGD, IMP, MSP, SDGs, Ocean Decade		
Common Fisheries Policy (CFP) (Regulation (EU) No 508/2014) The Common Fisheries Policy was introduced in the 1970s and has subsequently gone through periodic updates. Currently the CFP stipulates that between 2015 and 2020 the fish catch limits should be set at sustainable limits and overfishing should be halted to ensure the long-term viability of the fish stocks. In practical terms, the CFP set rules for managing European fishing fleets and for conserving fish stocks. Designed to manage a common resource, it gives all European fishing fleets equal access to EU waters and fishing grounds and allows fishermen to compete fairly. The CFP has four main policy areas: • Fisheries management • International policy • Market and trade policy • Funding of the policy The CFP also stipulates rules on aquaculture and stakeholder involvement. Links to other policies: MSDF, SBG, SDGs, Ocean Decade	A.1: A resilient marine ecosystem B.1: Sustainable resource management of marine global commons B.2: Understanding the value of ecosystem goods and services C.1: Safe food and feed	The CFP is related to all three strategic objectives of BANOS. The R&I themes under the specific objectives A.1 and B.1 will enhance the understanding of the ecosystem functioning delivering solutions for implementing the ecosystem approach in management of marine global commons (including fisheries) as well as understanding of the sustainable yields of fish stocks. Understand the value of ecosystem services, including the allocation of the ecosystem services (i.e fisheries) to maximise social welfare among the fishermen; this will support fair and equal access of fishing grounds for all stakeholders involved (B.2). The sustainable aquaculture development and food production in the sea and on land are addressed in the specific objective C.1.
EU Biodiversity Strategy (BdS) (COM(2011) 244 final)	A.1: A resilient marine ecosystem	The ecosystem-based approach, including the preservation of the marine biodiversity, is at the

The Biodiversity Strategy was adopted in 2011. It consists of an ambitious strategy including six targets and twenty actions to halt the loss of biodiversity and ecosystem services in the EU, as well as to help stop the global biodiversity loss by 2020. The mid-term review of the strategy indicated progress in many areas but highlighted the need for much greater effort. The six BdS targets: 1. Protect species and habitats 2. Maintain and restore ecosystems 3. Achieve more sustainable agriculture and forestry 4. Make fishing more sustainable and seas healthier 5. Combat invasive alien species 6. Help stop the loss of global biodiversity In addition, the BdS supports the UN Convention on Biological Diversity (CBD), which was established in 1992 and entered into force in 1993. Links to other policies: MSFD, CFP, BSAP, SDGs, EGD, CBD	A.2: Seamless governance linking land, coast and sea A.3: Digital Ocean - Competent ecosystem modelling, assessments and forecasting B.1: Sustainable resource management of marine global commons C.1: Safe food and feed	core of the scope of BANOS. Therefore, the BdS is linked to all three strategic objectives of BANOS. Understanding the resilience and functioning of the ecosystem, including the food web structure, and providing scientific support for the implementation of the ecosystem approach will contribute to solutions for the protection of marine species and habitats as well as maintaining and restoring marine biodiversity (A.1, A.2, A.3). New governance structures, which respond to current and future sustainability challenges are also critical for the preservation and protection of species, habitats and biodiversity (A.2). The development of sustainable and safe fisheries and aquaculture practices (B.1 and C.1), will contribute towards management of sustainable fish stocks and fishing practices, while minimising the impact on the marine habitats, making seas healthier and species richer in number.
EU Climate Policies Multiple EU policies and directives, which are related to marine and maritime activities, are in place to combat the effects of climate change including the following: • Adaptation to climate change (COM/2013/0216 final) • Climate action • Climate strategies and targets	A.1: A resilient marine ecosystem B.3: Smart Seas - technological solutions for sustainable, circular and bio-based blue economy	To achieve the long-term 2050 strategy and excel in its climate policies development of sustainable marine and maritime green solutions, expansion of renewable (marine) energy and development of circular (marine) economy are needed (B.3). In addition, restoring and conserving marine ecosystems and understanding their value and benefits as natural carbon sinks will promote their use and value in carbon sequestration (A.1).

• Renewable energy directive (Directive 2009/28/EC) In addition, Europe has set itself ambitions target to reduce its greenhouse gas emissions progressively by 2050 in its long-term 2050 strategy (COM/2018/773 final). This long-term strategic vision for a prosperous, modern, competitive and climate-neutral economy by 2050 was set by the Commission in 2018. The strategy shows how Europe can lead the way to climate neutrality by investing into realistic technological solutions, empowering citizens, and aligning action in key areas such as industrial policy, finance, or research – while ensuring social fairness for a just transition. Links to other policies: EGD, SDGs, PCA, BGS, EUSBSR		
EU Directive on Maritime Spatial Planning (MSP) (Directive 2014/89/EU) The Maritime Spatial Planning Directive was adopted in 2014 and the deadline for the establishment of maritime spatial plans for the EU Members States is set for 2021. The MSP aims to work across the borders and sectors to ensure human activities at sea take place in an efficient, safe and sustainable way, while supporting the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources.	Specific objective A.2: Seamless governance linking land, coast and sea Specific objective B.1: Sustainable resource management of marine global commons Specific objective C.2: Safe and accessible coast	Maritime spatial planning is an essential element of efficient governance of the maritime sector and in order to ensure sustainable marine and maritime management practices. As such, the MSP policy directly relates to the specific objectives A.2 and B.1, which focus, for example, on the development of alternative policy instruments and new governance structures, which respond to current and future sustainability challenges, and development of multifactorial marine spatial planning management tools as knowledge bases for the competing demands of space utilization.

Efficient MSP, which supports environmentally sustainable practices, is becoming increasingly urgent as the maritime space is becoming more and more occupied and competition for space is increasing among the multiple stakeholders involved in various activities (for example, in renewable energy, aquaculture and fisheries, maritime transport, and oil and gas industry). Links to other policies: BGS, MSDF, BSAP, APMSA, SDGs, IMP		
EU Integrated Maritime Policy (IMP) (COM/2007/0575 final) The Integrated Maritime Policy has been in place since 2007. It seeks to provide a holistic, enhanced cross-coordination between different maritime policies. With this in aim, higher returns from seas and oceans with less impact on the environment are envisaged. The IMP encompasses fields as diverse as fisheries and aquaculture, shipping and seaports, marine environment, marine research, offshore energy, shipbuilding and sea-related industries, maritime surveillance, maritime and coastal tourism, employment, development of coastal regions, and external relations in maritime affairs. The IMP covers the following cross-cutting policies: • Blue growth • Marine data and knowledge • Maritime spatial planning • Integrated maritime surveillance • Sea basin strategies	A.2: Seamless governance linking land, coast and sea B.1 aspects of Maritime Spatial planning B.2: Understanding the value of ecosystem goods and services	Seamless governance of marine and maritime activities falls within the scope of the IMP. As such, the specific objective A.2, which includes development of alternative policy instruments and new governance structures, is related to the policy. In addition, A.2 covers aspects of key barriers preventing implementation of current policy initiatives, including harmonization of policy objectives, a topic covered under the IMP. The IMP is also related to the specific objective B.2, which focuses on an integrated analysis of the eco- and socio-economic systems to support the implementation of the ecosystem approach in marine policies.

Links to other policies: BSAP, MSFD, SBG, EGD, MSP		
Open Science Policy and Open Data Directive The Open Science Policy Platform and its Recommendations (OSPP-REC) was established in 2018 and the policy will be implemented in Horizon Europe. For BANOS, the specific recommendations for to the research funding organizations are of high relevance, which for example, require research data to be FAIR (Findable, Accessible, Interoperable and Re-useable). In addition, it encourages engagement and involvement of citizens, civil society and end-users in co-designing and co-creating processes. The policy also promotes responsible research and innovation practises. The Open Data Directive (Directive/2019/1024) provides a common legal framework for the re-use of publicly funded research data, based on the FAIR data principles and the maxim "as open as possible, as closed as necessary". Research data must be open by default, allowing only for exceptions related to security, privacy, intellectual property and legitimate commercial interests. In addition, the Directive introduces the concept of high-value datasets, thereby stipulating extra requirements for certain thematic categories of data. The Directive will be compulsory for all EU Member States from 17 July 2021 onwards, so BANOS will need to follow the Open Data Directive and fulfil its minimum requirements.	A.1: A resilient marine ecosystem A.2: Seamless governance linking land, coast and sea A.3: Digital Ocean - Competent ecosystem modelling, assessments and forecasting A.4: Efficient techniques for environmental monitoring B.1: Sustainable resource management of marine global commons B.2: Understanding the value of ecosystem goods and services B.3: Smart Seas - technological solutions for sustainable, circular and bio-based blue economy C.1: Safe food and feed C.2: Safe and accessible coast	Both policies will be centrally important to BANOS and to all its research and other related activities. As the policies will be implemented during Horizon Europe and Open Data Directive will be compulsory to all MS from July 2020 onwards, the intended BANOS programme is currently developing specific strategies for implementation of these crosscutting policies in the following four BANOS tasks: Task 4.4 Strategies supporting firm establishing of 'open science' Task 4.5 Developing strategies and instruments stimulating innovation diffusion and 'open innovation'. Task 4.6 Developing strategies and instruments supporting open data. Task 4.7 Strategies supporting 'citizen science'

Links to other policies: SDGs and Ocean Decade		
EU Strategy for the Baltic Sea Region (EUSBSR) (COM/2009/0248 final) The EU Strategy for the Baltic Sea Region is the first macroregional strategy in Europe. It was approved by the European Council in 2009 and aims to strengthen the cooperation between the countries bordering the Baltic Sea in order to meet the common challenges and to benefit from common opportunities facing the region. The strategy is an agreement between the eight member states of the Baltic Sea and the European Commission. Cooperation with neighbouring countries is encouraged. The strategy has three overall objectives with four sub-objectives: 1. Save the sea • Clear water in the sea • Rich and healthy wildlife • Clean and safe shipping • Better cooperation 2. Connect the region • Good transport conditions • Reliable energy markets • Connecting people in the region • Better cooperation in fighting cross-border crime 3. Increase prosperity	A.1: A resilient marine ecosystem A.2: Seamless governance linking land, coast and sea A.3: Digital Ocean - Competent ecosystem modelling, assessments and forecasting A.4: Efficient techniques for environmental monitoring B.1: Sustainable resource management of marine global commons B.2: Understanding the value of ecosystem goods and services B.3: Smart Seas - technological solutions for sustainable, circular and bio-based blue economy C.1: Safe food and feed C.2: Safe and accessible coast	The EUSBSR and its objectives are closely linked to all the BANOS strategic and specific objectives that are aiming to unlock the sustainable growth in the North European Seas, while preserving the healthy seas and coasts as well as promoting human wellbeing. The joint sister seas' approach of BANOS, encompassing both the Baltic and North Sea, will also enhance the incorporation of the neighbouring member and associate states. In addition to strong research and development activities, BANOS also aims to achieve strong EU added value and impact through strong initial stakeholder consultation from the very beginning; promoting open science, data and innovation practices while also enhancing human capacity building and skills development, thus leading to increased prosperity in the region.

• Baltic Sea region as a frontrunner for deepening and fulfilling the single market • EUSBSR contributing to the implementation of Europe 2020 Strategy • Improved global competitiveness of the Baltic Sea region • Climate change adaptation, risk prevention and management Links to other policies: BSAP, CFP, MSDF, BdS, CEAP, MSP, EGD, BGS, SDGs, Ocean Decade		
EU Water Framework Directive (WFD) (Directive 2000/60/EC) The Water Framework Directive was adopted and published in 2000. The Directive was set to protect the Community waters in qualitative as well as in quantitative terms. The objective of the WFD is to get polluted waters clean again and to ensure clean waters are kept clean. The WFD addresses inland surface waters, transitional waters, coastal waters and groundwater. The WDF contains five key aims: • expanding the scope of water protection to all waters, surface waters and groundwater • achieving "good status" for all waters by a set deadline • water management based on river basins • "combined approach" of emission limit values and quality standards • getting the prices right	A.2: Seamless governance linking land, coast and sea	As the WFD addresses inland surface waters, transitional waters, coastal waters and groundwater, it is directly related to the specific objective A.2, which links the governance of land and coast and addresses land-derived pollutants in the sea.

• getting the citizen involved more closely • streamlining legislation Links to other policies: BWD, MSFD, BSAP, SDGs		
HELCOM Baltic Sea Action Plan (BSAP) (HELCOM 2007) The Baltic Sea Action Plan was adopted by all the Baltic Sea coastal states and the EU in 2007. It is an ambitious programme to restore the good ecological status of the Baltic marine environment by 2021 while supporting a wide range of sustainable human economic and social activities. The BSAP has four main goals: • Baltic Sea unaffected by eutrophication • Favorable status of Baltic Sea biodiversity • Baltic Sea undisturbed by hazardous substances • Environmentally friendly maritime activities The BSAP is most recently endorsed by a declaration of the Ministers of the Environment of the Baltic Coastal Countries and the EU Environment Commissioner (HELCOM Copenhagen Declaration 2013) Links to other policies: MSDF, CFP, EGD, BdS, MSP, EUSBSR, SDGs	A.1: A resilient marine ecosystem A.2: Seamless governance linking land, coast and sea A.3: Digital Ocean - Competent ecosystem modelling, assessments and forecasting A.4: Efficient techniques for environmental monitoring B.1: Sustainable resource management of marine global commons B.3: Smart Seas - technological solutions for sustainable, circular and bio-based blue economy	All four goals of the BSAP are directly related to BANOS strategic objective Healthy Seas and Coasts, including all four of the specific objectives (A.1-A.4), which relate to restoring and/or ensuring the good ecological status of the marine environment while supporting the ecosystem-based management practices. The 2nd and the 4th goal of BSAP are also supported by specific objectives B.1 and B.2 under the Sustainable Blue Economy, ensuring sustainable management practices and delivering solutions for environmentally sound maritime activities.
OSPAR North-East Atlantic Environment Strategy (NEAES) The OSPAR North-East Atlantic Environment Strategy (NEAES) was adopted in 2010 and it	A.1: A resilient marine ecosystem A.2: Seamless governance linking land, coast and sea A.3: Digital Ocean - Competent ecosystem modelling, assessments and forecasting	Five thematic strategies outlined in NEAES are directly related to BANOS strategic objective Healthy Seas and Coasts, including all four of the specific objectives (A.1-A.4), which relate to restoring and/or ensuring the good ecological

extends until end of 2020. The core of the strategy is centred around the implementation of the ecosystem approach (EA). In this respect a suite of five thematic strategies to address the main threats in the region have been identified. • Biodiversity and Ecosystem Strategy • Eutrophication Strategy • Hazardous substances Strategy • Offshore Oil and Gas Industry Strategy • Radioactive Substances Strategy In addition, Joint Assessment and Monitoring Programme is included to enhance the assessment of the status of the marine environment. the results of assessments are used to follow up implementation of the strategies and the resulting benefits to the marine environment. Climate change issues are also included within the strategies' wider context. Links to other policies: MSFD, CFP, EGD, BdS, MSP, EUSBSR, SDGs, BSAP	A.4: Efficient techniques for environmental monitoring B.1: Sustainable resource management of marine global commons B.3 Smart Seas – sustainable, circular and bio-based blue solutions	status of the marine environment while supporting the ecosystem-based management practices and enhancing the assessment practises. The Biodiversity and ecosystem strategy is also related to specific objective B.1 sustainable resource management of global commons. The offshore oils and gas strategy is in part related to BANOS specific objectives B.1. and B.3 is respect to development oil and gas platforms and other associated structures for potential multi-use purposes in future.
Marine Strategy Framework Directive (MSDF) (Directive 2008/56/EC) The Marine Strategy Framework Directive was adopted in 2008. The MSFD aims to achieve the good environmental status (GES) in EU marine waters by 2020 and to protect the resource base upon which marine-related economic and social activities depend. To evaluate and monitor the GES, a set of 11 descriptors have been identified: 1. Biodiversity is maintained	A.1: A resilient marine ecosystem A.2: Seamless governance linking land, coast and sea A.3: Digital Ocean - Competent ecosystem modelling, assessments and forecasting A.4: Efficient techniques for environmental monitoring B.1: Sustainable resource management of marine global commons	Ecosystem based management approaches are strongly supported by BANOS. Therefore, the activities, especially related to the Specific Objective Healthy Seas and Coasts (A1.-A.4), are directly related to achieving the GES in the Baltic and North Sea. In addition, aspects of marine spatial planning as well as sustainable fisheries management, covered in the BSAP, are related to specific objective B.1.

2. Non-indigenous species do not adversely alter the ecosystem 3. The population of commercial fish species is healthy 4. Elements of food webs ensure long-term abundance and reproduction 5. Eutrophication is minimised 6. The sea floor integrity ensures functioning of the ecosystem 7. Permanent alteration of hydrographical conditions does not adversely affect the ecosystem 8. Concentrations of contaminants give no effects 9. Contaminants in seafood are below safe levels 10. Marine litter does not cause harm 11. Introduction of energy (including underwater noise) does not adversely affect the ecosystem Links to other policies: BSAP; BdS, MSP, SDGs, EGD, Ocean Decade		
The Circular Economy Action Plan (CEAP) (COM/2015/0614 final) The Circular Economy Action Plan was adopted in 2015. The CEAP includes measures to help stimulate Europe's transition towards a circular economy, boost global competitiveness, foster sustainable economic growth and generate new jobs. It entails the complete production cycle: from production and consumption to waste management and the market for secondary raw materials and a revised legislative proposal on waste.	A.4: Efficient techniques for environmental monitoring B.1: Sustainable resource management of marine global commons B.3: Smart Seas - technological solutions for sustainable, circular and bio-based blue economy	The CEAP entails *prevention objectives,* which require Member States to take specific measures to tackle food waste and marine litter as a contribution to achieve EU commitments to the UN SDGs. As such, the CEAP is closely related to • specific objective A.4, which includes an R&I theme focusing on removal of waste from marine environment. • specific objective B.1, which includes an R&I theme that proposes to explore possibilities for innovation in seafood and marine technology for zero food waste throughout the entire production system. • Specific objective B3, which aspires to deliver technological solutions for

The proposed actions within the CEAP will contribute to "closing the loop" of product lifecycles through greater recycling and re-use, bringing benefits for both the environment and the economy. Links to other policies: the BGS, SDGs		sustainable, circular and bio-based blue economy.
The Convention on Biological Diversity (CBD) (United Nations 1992) The Convention on Biological Diversity is a multilateral treaty and it entered into force in 1993. It is now one of the most widely ratified international treaties on environmental issues, with 194 member countries. The CBD has 3 main objectives: • The conservation of biological diversity • The sustainable use of the components of biological diversity • The fair and equitable sharing of the benefits arising out of the utilization of genetic resources In 2010 the United Nations Decade of Biodiversity was announced at the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity in Nagoya, Japan, where the Strategic Plan for Biodiversity 2011-2020 and its Aichi Biodiversity Targets were agreed on. The Strategic Plan for Biodiversity 2011-2020 comprises a vision for 2050, five strategic goals and twenty ambitious targets, collectively known as the Aichi Biodiversity Targets. These aim to:	A.1: A resilient marine ecosystem A.2: Seamless governance linking land, coast and sea A.3: Digital Ocean - Competent ecosystem modelling, assessments and forecasting B.1: Sustainable resource management of marine global commons C.1: Safe food and feed	The objectives of the CBD are closely aligned with the BdS. As such the CBD is related to the same BANOS specific objectives as BdS, and the reasoning is very much the same. The ecosystem-based approach, including the preservation of the marine biodiversity, is at the core of the scope of BANOS. Therefore, the CBD is linked to all three strategic objectives of BANOS. Understanding the resilience and functioning of the ecosystem, including the food web structure, and providing scientific support for the implementation of the ecosystem approach will contribute to solutions for the protection of marine species and habitats as well as maintaining and restoring marine biodiversity (A.1, A.2, A.3). New governance structures, which respond to current and future sustainability challenges, are also critical for the preservation and protection of species, habitats and biodiversity (A.2). The development of sustainable and safe fisheries and aquaculture practices (B.1 and C.1), will contribute towards management of sustainable fish stocks and fishing practices, while minimising the impact on the marine habitats, making seas healthier and species richer in number.

• Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society • Reduce the direct pressures on biodiversity and promote sustainable use • Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity • Enhance the benefits to all from biodiversity and ecosystem services • Enhance implementation through participatory planning, knowledge management and capacity building Links to other policies: BdS, SDGs, EGD, BSAP		
The European Green Deal (EGD) (COM(2019) 640 final) The European Green Deal is a priority set in 2019 by the European Commission. The Deal strives for Europe to be the first climate-neutral continent in the world by 2050. This means emitting less carbon dioxide, as well as removing the carbon dioxide emitted from the atmosphere. This requires extending the Emissions Trading System (which already helps the EU reduce emissions from the energy and industrial sectors) to other sectors. The EGD supports the development of cleaner sources of energy and green technologies for Europeans to produce, move, consume and live in a more environmentally-responsible way. This means developing a truly circular economy and protecting biodiversity.	A.1: A resilient marine ecosystem A.2: Seamless governance linking land, coast and sea A.3: Digital Ocean - Competent ecosystem modelling, assessments and forecasting A.4: Efficient techniques for environmental monitoring B.1: Sustainable resource management of marine global commons B.2: Understanding the value of ecosystem goods and services B.3: Smart Seas - technological solutions for sustainable, circular and bio-based blue economy C.1: Safe food and feed	Part of the European Green Deal includes an endorsement of Biodiversity Strategy for 2030, which also applies to seas and oceans. See BdS for more details on links with BANOS objectives and R&I themes (A.1, A.2, A.3, B.1, C.1). To achieve climate neutrality, extensive carbon dioxide removal from the atmosphere is required. Restoring and conserving marine ecosystems and understanding their benefits as natural carbon sinks can promote their use and value in carbon sequestration (included in Specific Objective A.1). The EGD states that Europe needs to move towards a zero-pollution policy, therefore linking the Deal with the Specific objective B.3: Smart Seas - technological solutions for sustainable, circular and bio-based blue economy.

Links to other policies: the MSDF, BdS, CEAP, Parish Agreement, SDGs, Ocean Decade		The Circular Economy Action Plan is closely associated with the EGD. See the section CEAP for more details on links with BANOS objectives and R&I themes (A.4, B.1, B3).
The Paris Climate Agreement (PCA) (UNFCCC 2016, Decision 1/CP.21) The Paris Climate Agreement signed in November 2016 builds on the United Nations Framework Convention on Climate Change (UNFCC) and Kyoto Protocol. The Agreement has been signed by a total of 197 countries and ratified by 185 as of January 2019. The central aim of the Agreement is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius when compared to the pre-industrial levels and to pursue efforts to limit the temperature increase even more, to only 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. Links to other policies: SDGs, EGD, BGS, CEAP, EUSBSR, EU Climate policies	A.1: A resilient marine ecosystem B.3: Smart Seas - technological solutions for sustainable, circular and bio-based blue economy	To stop the global temperature rise, actions towards solutions are needed to create low carbon technologies, renewable energy practices and methods to remove greenhouse gases. Developing secure, clean and efficient renewable marine energy, as well as green maritime solutions and technology, and enhancing circular economic practices, will all contribute towards achieving carbon neutrality (covered in Objective B.3). In addition, restoring and conserving marine ecosystems and understanding their value and benefits as natural carbon sinks will promote their use and value in carbon sequestration (Objective A.1).
The United Nations Decade of Ocean Science for Sustainable Development (Ocean Decade) (IOC-UNESCO 2018, document IOC/BRO/2018/2) The United Nations proclaimed the UN Decade of Ocean Science for Sustainable Development for 2021 to 2030 on December 2017. The Decade aims to deliver *science for the future we want* in order to provide a common framework of ocean	A.1: A resilient marine ecosystem A.2: Seamless governance linking land, coast and sea A.3: Digital Ocean - Competent ecosystem modelling, assessments and forecasting A.4: Efficient techniques for environmental monitoring B.1: Sustainable resource management of marine global commons	The needs of the society outlined in the United Nations Decade of Ocean Science for Sustainable Development are closely linked to the BANOS strategic and specific objectives aiming to unlock the sustainable growth in the North European Seas, while preserving the healthy seas and coasts as well as promoting human wellbeing (A.1-A.4, B.1-B3, C.1-C.2).

science, which can support countries' actions to sustainably manage the oceans, seas and coasts. The Decade recognizes that the science-informed mitigation and adaptation policies to global change are urgently needed, but neither science nor policymakers can accomplish that alone. As such, the Decade bolsters inclusive approaches of designing and conducting scientific marine research, which also supports the development of a sustainable Blue Economy. Through stronger international cooperation, the Decade will support scientific research and innovative technologies to ensure science responds to the needs of society: • A clean ocean where sources of pollution are identified and removed • A healthy and resilient ocean where marine ecosystems are mapped and protected • A predictable ocean where society has the capacity to understand current and future ocean conditions • A safe ocean where people are protected from ocean hazards • A sustainably harvested ocean ensuring the provision of food supply • A transparent ocean with open access to data, information and technologies The Decade also aims to provide a unifying framework across the UN system to enable countries to achieve all of their ocean-related Agenda 2030 priorities linked to sustainable development goals (SDGs).	B.2: Understanding the value of ecosystem goods and services B.3: Smart Seas - technological solutions for sustainable, circular and bio-based blue economy C.1: Safe food and feed C.2: Safe and accessible coast Cross-cutting objective: Open Science - Access to knowledge and information	The BANOS agenda also supports the importance of early stakeholder engagement of various actors, thus bridging the gap between policy-makers, scientists, citizens and industry and ultimately delivering policy-relevant science that meets the needs of the future we want. The cross-cutting BANOS objective, open science and data, and promotion of open innovation practices, will ensure transparency and availability of the R&I results to everyone in the world. All of the BANOS objectives are also closely intertwined with the UN SDGs, see the SDGs section for more details.

Links to other policies: BSAP, CFP, MSDF, BdS, CEAP, MSP, EGD, BGS, SDGs		
United Nations Agenda 2030 and its Sustainable Development Goals (SDGs) (United Nations 2015, A/RES/70/1) The SDGs form the heart of the UN 2030 Agenda for Sustainable Development adopted by all UN Member States in 2015. A 15-year plan has been set to achieve the Goals. In total, 17 Sustainable Development Goals have been adopted to demonstrate an urgent call for action by all countries - developed and developing - in a global partnership to tackle growing inequalities, empower women and girls, and address the climate emergency. They are the universal call to action to end poverty, protect the planet and improve the lives and prospects of everyone, everywhere. The SDGs are all-inclusively aimed to all stakeholders: governments, civil society, the private sector, and others, who are all expected to contribute to the realisation of the 2030 agenda and achieving the set goals. The Seventeen SDGs: 1: No Poverty 2: Zero Hunger 3: Good Health and Well-being 4: Quality Education 5: Gender Equality 6: Clean Water and Sanitation	A.1: A resilient marine ecosystem A.2: Seamless governance linking land, coast and sea A.3: Digital Ocean - Competent ecosystem modelling, assessments and forecasting A.4: Efficient techniques for environmental monitoring B.1: Sustainable resource management of marine global commons B.2: Understanding the value of ecosystem goods and services B.3: Smart Seas - technological solutions for sustainable, circular and bio-based blue economy C.1: Safe food and feed C.2: Safe and accessible coast Cross-cutting objective: Open Science - Access to knowledge and information	The BANOS Strategic and Specific Objectives are closely associated with multiple SDGs. However, the closest association is naturally Goal 14 – Life Below Water. Reducing marine pollution (target 14.1[1]) is directly linked to objective A.2 that targets impacts of land-derived pollution, litter and nutrients on the status of the marine environment and ecosystem services, including ways to reach good environmental status, as well as understanding the effectiveness of mitigation actions. Reducing pollution is also linked to B.1 which includes aspects of circular economy and zero waste management. Sustainably managing and protecting marine and coastal ecosystems (target 14.2[1]) is directly linked to objectives A.1., A.2., A.3, A.4 and B.1., all addressing and aiming for the healthy seas as well as sustainable management practices of the global commons. Understanding and minimising the impacts of ocean acidification (target 14.3[1]) is directly linked to the objective A.1, which includes themes focusing on understanding the role of marine ecosystems on climate change and ocean acidification mitigations and adaptations. Halting overfishing (target 14.4[1]) is directly related to objectives B.1 and C.1 that aim to provide

7: Affordable and Clean Energy 8: Decent Work and Economic Growth 9: Industry, Innovation and Infrastructure 10: Reduced Inequality 11: Sustainable Cities and Communities 12: Responsible Consumption and Production 13: Climate Action 14: Life Below Water 15: Life on Land 16: Peace and Justice Strong Institutions 17: Partnerships to achieve the Goal Many of the Goals are strongly interlinked. Achieving one will support another. Each goal is accompanied with a set of targets and indicators to further define the progress towards achieving the Goals and their implementation. In total 169 targets have been set, of which 10[2] belong to the goal 14 Life below water.		sustainable management solutions as well as sustainable and safe fisheries, aquaculture and food production in the sea and on land under the changing climate. Conserving at least 10 per cent of coastal and marine areas (target 14.5[1]) is directly related to objective B.1, including aspects of maritime spatial planning and taking the variety of stakeholders into account. Understanding the value of ecosystem good and services (B.2) will also provide value for conservation efforts. Eliminating harmful fisheries subsidies (target 14.6[1]) is related to the sustainable management of global commons (B.1) as well as development of alternative governance structure (A.2). Increasing economic benefits of least developed countries through sustainable use of marine

[2] Outcome targets (1-7) and Means of Implementation targets (a-c) for the SDG Goal 14 Life Below Water. 14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution. 14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive ocean. 14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels. 14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics. 14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information. 14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation. 14.7 By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism. 14.A Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries. 14.B Provide access for small-scale artisanal fishers to marine resources and markets. 14.C Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want

Links to other policies: APMSA, BSAP, CFP, MSDF, BdS, CEAP, MSP, EGD, BGS, WFD, BWD, EUSBSR, Ocean Decade, PCA		resources (target 14.7[1]) is not directly related to the geographic scope of BANOS, however, sustainable management practices included in objectives B.1 and C.1 are (at least in part) transferrable to global level, providing potential for new sustainable ecosystem-based management solutions. Increasing scientific knowledge and research and developing capacity in marine technology (target 14A[1]) is related to objective B.3 that aims to achieve new technological solutions and foster sustainable blue growth. Assuring that small-scale local fishermen have access to marine resources (target 14.B[1]) is related to objective B.2 that addresses trade-offs between different stakeholder groups involved in fisheries, including social welfare. Implementing sustainable law on sustainable oceans (target 14C[1]) is related to ocean governance and development of alternative policy instruments and new governance structures, which respond to current and future sustainability challenges (both included in objective A.2). In addition to Goal 14, BANOS objectives can be linked to multiple other SDG goals including Goal 3 (objectives C.1 and C.2), Goal 4 (cross-cutting objective open science), Goal 7 (objective B.3), Goal 9 (objective B.3), Goal 12 (objective B.1), Goal 13 (objectives A1-4) and Goal 15 (objective A.2).

Annex B: Specific inventory of transnational projects

Acronym	Funding Programme	End Year	BANOS Specific Objective
AANChOR	H2020 - CSA	2022	Overarching scope
ARCSAR	H2020 - CSA	2023	Smart Seas
BANOS CSA	H2020 - CSA	2021	(Overarching scope)
ETIP OCEAN 2	H2020 - CSA	2021	Smart Seas
ETIPWind	H2020 - CSA	2021	Smart Seas
FORWARD	H2020 - CSA	2021	Open Science
GRRIP	H2020 - CSA	2022	Open Science
KEPLER	H2020 - CSA	2021	Efficient environmental monitoring
BlueBio	H2020 - ERA-NET Cofund	2023	Sustainable resource management
ERA-PLANET	H2020 - ERA-NET Cofund	2021	Digital Ocean
MarTERA	H2020 - ERA-NET Cofund	2021	Overarching scope
OCEANERA-NET COFUND	H2020 - ERA-NET Cofund	2021	Smart Seas
GlobalMass	H2020 - ERC-ADG	2021	Safe and accessible coast
MATURATION	H2020 - ERC-ADG	2022	Understanding ecosystem goods and services
Ocean artUp	H2020 - ERC-ADG	2021	Sustainable resource management
3D-BioMat	H2020 - ERC-COG	2022	Sustainable resource management
APPELS	H2020 - ERC-COG	2021	Resilient marine ecosystem
AveTransRisk	H2020 - ERC-COG	2022	Open Science
BEAL	H2020 - ERC-COG	2021	Sustainable resource management
BYONIC	H2020 - ERC-COG	2022	Digital Ocean
EcoLipid	H2020 - ERC-COG	2022	Resilient marine ecosystem
EPIFISH	H2020 - ERC-COG	2021	Safe food
GEOSTICK	H2020 - ERC-COG	2022	Digital Ocean
GOCART	H2020 - ERC-COG	2022	Digital Ocean
MINORG	H2020 - ERC-COG	2022	Understanding ecosystem goods and services
VORTEX	H2020 - ERC-COG	2023	Resilient marine ecosystem
ARCHEIS	H2020 - ERC-STG	2024	Understanding ecosystem goods and services
EVOCLOCK	H2020 - ERC-STG	2023	Sustainable resource management
evolSingleCellGRN	H2020 - ERC-STG	2024	Sustainable resource management
FluidKnowledge	H2020 - ERC-STG	2024	Open Science
ICY-LAB	H2020 - ERC-STG	2021	Efficient environmental monitoring
OldCO2NewArchives	H2020 - ERC-STG	2024	Understanding ecosystem goods and services
PhotoPHYTOMICS	H2020 - ERC-STG	2021	Resilient marine ecosystem
RISeR	H2020 - ERC-STG	2024	Safe and accessible coast
SPONGE ENGINE	H2020 - ERC-STG	2021	Resilient marine ecosystem
TOPIOS	H2020 - ERC-STG	2022	Digital Ocean

The BANOS CSA has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No.817574.

WARMCOASTS	H2020 - ERC-STG	2024	Safe and accessible coast
FLAGSHIPS	H2020 - FCH2-IA	2022	Smart Seas
MARANDA	H2020 - FCH2-RIA	2021	Smart Seas
AIRCOAT	H2020 - IA	2021	Smart Seas
AquaIMPACT	H2020 - IA	2022	Safe food
DTOceanPlus	H2020 - IA	2021	Smart Seas
EcoSail	H2020 - IA	2021	Smart Seas
EnFAIT	H2020 - IA	2022	Smart Seas
GoJelly	H2020 - IA	2021	Sustainable resource management
HiSea	H2020 - IA	2021	Digital Ocean
HyMethShip	H2020 - IA	2021	Smart Seas
i4Offshore	H2020 - IA	2023	Smart Seas
IMPRESSIVE	H2020 - IA	2021	Safe and accessible coast
LIBERATE	H2020 - IA	2022	Smart Seas
RAMSSES	H2020 - IA	2021	Smart Seas
ReaLCoE	H2020 - IA	2021	Smart Seas
ROMEO	H2020 - IA	2022	Smart Seas
SIMBA	H2020 - IA	2022	Safe food
SMARTFISH	H2020 - IA	2021	Sustainable resource management
UPWAVE	H2020 - IA	2021	Smart Seas
W2EW	H2020 - IA	2021	Smart Seas
CAFE	H2020 - MSCA-ITN-ETN	2023	Digital Ocean
ConFlex	H2020 - MSCA-ITN-ETN	2021	Smart Seas
IGNITE	H2020 - MSCA-ITN-ETN	2021	Sustainable resource management
MixITiN	H2020 - MSCA-ITN-ETN	2021	Governance linking land, coast and sea
SLATE	H2020 - MSCA-ITN-ETN	2021	Safe and accessible coast
ECOBOTICS.SEA	H2020 - MSCA-RISE	2022	Sustainable resource management
ENHANCE	H2020 - MSCA-RISE	2023	Open Science
GHaNA	H2020 - MSCA-RISE	2021	Sustainable resource management
PADDLE	H2020 - MSCA-RISE	2021	Sustainable resource management
RESET	H2020 - MSCA-RISE	2021	Smart Seas
SmartShip	H2020 - MSCA-RISE	2023	Smart Seas
ACTION	H2020 - RIA	2022	Efficient environmental monitoring
ASSEMBLE Plus	H2020 - RIA	2021	Open Science
COREALIS	H2020 - RIA	2021	Safe and accessible coast
COSMIC	H2020 - RIA	2021	Safe and accessible coast
ENDURUNS	H2020 - RIA	2022	Digital Ocean
Euro-Argo RISE	H2020 - RIA	2022	Digital Ocean
EurofleetsPlus	H2020 - RIA	2023	Open Science
FarFish	H2020 - RIA	2021	Open Science
GASVESSEL	H2020 - RIA	2021	Smart Seas
IMMERSE	H2020 - RIA	2022	Digital Ocean
INFORE	H2020 - RIA	2021	Digital Ocean
MARINET2	H2020 - RIA	2021	Smart Seas
MegaRoller	H2020 - RIA	2021	Smart Seas

The BANOS CSA has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No.817574.

NOVIMAR	H2020 - RIA	2021	Smart Seas
PANDORA	H2020 - RIA	2022	Understanding ecosystem goods and services
SEA-TITAN	H2020 - RIA	2021	Smart Seas
Strength2Food	H2020 - RIA	2021	Safe food
3DPARE	INTERREG V - Atlantic Area	2021	Sustainable resource management
iFADO	INTERREG V - Atlantic Area	2021	Overarching scope
MONITOR	INTERREG V - Atlantic Area	2021	Smart Seas
MOSES	INTERREG V - Atlantic Area	2021	Overarching scope
BATSECO-BOAT	INTERREG V - Central Baltic	2021	Safe and accessible coast
CoMET	INTERREG V - Central Baltic	2021	Smart Seas
EfficientFlow	INTERREG V - Central Baltic	2021	Governance linking land, coast and sea
SEABASED	INTERREG V - Central Baltic	2021	Governance linking land, coast and sea
Smart Marina	INTERREG V - Central Baltic	2021	Safe and accessible coast
SME Aisle	INTERREG V - Central Baltic	2021	Open Science
NWE MEA	INTERREG V - North West Europe	2022	Smart Seas
COMPASS	INTERREG V - UK-Ireland	2022	Digital Ocean
MarPAMM	INTERREG V - UK-Ireland	2022	Efficient environmental monitoring
The Bryden Centre	INTERREG V - UK-Ireland	2021	Smart Seas
S-3 EUROHAB	INTERREG V- France-UK	2021	Safe food
SAMARCH	INTERREG V- France-UK	2022	Sustainable resource management
Atlantic region DE	LIFE	2026	Resilient marine ecosystem
Better BirdLIFE	LIFE	2025	Resilient marine ecosystem
Biosecurity for LIFE	LIFE	2022	Resilient marine ecosystem
CoastNet LIFE	LIFE	2025	Resilient marine ecosystem
DuneLIFE	LIFE	2023	Resilient marine ecosystem
LIFE Ad'Apto	LIFE	2021	Resilient marine ecosystem
LIFECOASTadapt	LIFE	2022	Resilient marine ecosystem
MinEZ	LIFE	2022	Resilient marine ecosystem
SoLIFE	LIFE	2022	Resilient marine ecosystem

The BANOS CSA has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No.817574.

Annex C: Key stakeholders

Organisations that responded to the questionnaire are indicated with an acronym in bold. Further note that JPI Oceans, FACCE-JPI and CPMR - NSC are actively developing a new or updated strategic document.

Acronym	Full name	Strategic document	URL to strategic document
ICES	International Council for the Exploration of the Sea	Strategic Plan (2019); Science Plan (2019); Advisory Plan (2019)	https://issuu.com/icesdk/docs/ices_stategic_plan_2019_web https://issuu.com/icesdk/docs/ices_science_plan_2019_web https://issuu.com/icesdk/docs/ices_advisory_plan
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic	The North-East Atlantic Environment Strategy 2010-2020; Science Agenda 2018 Update	https://www.ospar.org/site/assets/files/1200/ospar_strategy.pdf https://www.ospar.org/documents?v=40399
HELCOM	Baltic Marine Environment Protection Commission - Helsinki Commission	HELCOM Baltic Sea Action Plan (2007)	http://www.helcom.fi/Documents/Baltic%20sea%20action%20plan/BSAP_Final.pdf
JPI Oceans	Joint Programming Initiative Healthy and Productive Seas and Oceans	Strategic Research and Innovation Agenda 2015-2020	http://www.jpi-oceans.eu/library?refid=246303
JPI Climate	Joint Progamming Initiative Connecting Climate Knowledge for Europe	Strategic Research & Innovation Agenda 2016-2025	http://www.jpi-climate.eu/gfx_content/documents/JPI%20CLIMATE_SRIA_LR.pdf
Water JPI	Joint Progamming Initiative Water Challenges for a Changing World	Strategic Research and Innovation Agenda 2.0 (2016)	http://www.waterjpi.eu/images/documents/SRIA%202.0.pdf
FACCE-JPI	Joint Programming Initiative on Agriculture, Food Security and Climate Change	Strategic Research Agenda – Revised edition (2016)	https://faccejpi.net/application/files/2215/5540/4778/FACCE-JPI_SRA-2015_Final_small.pdf
Interreg BSR	Interreg Baltic Sea Region	Cooperation Programme 2014-2020	https://www.interreg-baltic.eu/fileadmin/user_upload/about_programme/BSR-Cooperation-Programme.pdf
Interreg NSR	Interreg North Sea Region Programme	Cooperation Programme 2014-2020	https://northsearegion.eu/media/1347/programme_2014tc16rftn005_1_2_en_web.pdf
EUSBSR	EU Strategy for the Baltic Sea Region	Action Plan for the European Union Strategy for the Baltic Sea Region {COM(2009) 248}	https://www.balticsea-region-strategy.eu/action-plan/17-action-plan-2015/viewdocument
CPMR - NSC	Conference of Peripheral Maritime Regions - North Sea Commission	North Sea Region 2030	Not yet published at the time of writing
VASAB	Vision and Strategies around the Baltic Sea	Long-Term Perspective for the Territorial Development of the Baltic Sea Region (2010)	https://vasab.org/wp-content/uploads/2018/06/vasab_ltp_final-2.pdf
EMB	European Marine Board	Navigating the Future V: Marine Science for a Sustainable Future (2019)	http://www.marineboard.eu/navigating-future-v

The BANOS CSA has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No.817574.

IOC-UNESCO	Intergovernmental Oceanographic Commission of UNESCO	Revised Roadmap for the UN Decade of Ocean Science for Sustainable Development (2018)	http://www.fao.org/3/CA0463EN/ca0463en.pdf
SEARICA	Seas, Rivers, Islands and Coastal Areas Intergroup	Priorities as listed on the website (2019)	http://www.searica.eu/
Intergroup CCBSD	Intergroup on Climate Change, Biodiversity and Sustainable Development	Objectives and Working Groups as listed on the website (2019)	http://ebcd.org/intergroup/about/
iBSG	EP Informal Baltic Sea Group	iBSG endorses the EUSBSR Action Plan	
EFARO	European Fisheries and Aquaculture Research Organisation	A vision on the future of European Aquaculture (2017)	http://efaro.eu/onewebmedia/EFARO%20vision%20future%20EU%20aquaculture%20final%2020160516.pdf
EATiP	European Aquaculture Technology and Innovation Platform	A Review of the Strategic Research and Innovation Agenda (2017)	http://eatip.eu/wp-content/uploads/2018/02/EATIP-SRIA-2017.pdf
ETIP Ocean	European Technology and Innovation Platform for Ocean Energy	Strategic Research Agenda for Ocean Energy (2016)	https://www.oceanenergy-europe.eu/wp-content/uploads/2017/03/TPOcean-Strategic_Research_Agenda_Nov2016.pdf
WATERBORNE TP	Waterborne Technology Platform	Strategic Research Agenda for the European Waterborne Sector (2019)	http://www.waterborne.eu/media/35860/190121-waterborne_sra_web_final.pdf

The BANOS CSA has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No.817574.

BANOS
Baltic and North Sea Coordination and Support Action

Annex D: Questionnaire

BANOS CSA stakeholder survey: 'Mapping and analysis of related transnational initiatives and co-operation potential in the North Sea and the Baltic Sea.'

BANOS CSA – Introduction

The Baltic and North Sea Coordination and Support Action (BANOS CSA) is preparing a framework for launching the joint Baltic and North Sea Research and Innovation Programme (BANOS). The future BANOS programme, as is planned in the BANOS CSA, sets out to underpin and develop EU and national policies and strategies, with particular consideration of Europe's blue growth strategy in the northern European regional seas.

BANOS will fund research and innovation in accordance to the objectives identified in the **BANOS Strategic Research and Innovation Agenda** (BANOS SRIA, drafting in progress).

The draft strategic and specific objectives of the future BANOS programme as planned in the BANOS CSA.

	Strategic Objective A: Healthy Seas and Coasts	Strategic Objective B: Sustainable Blue Economy	Strategic Objective C: Human Wellbeing
Specific Objectives	A.1: A resilient marine ecosystem	B.1: Sustainable resource management of marine global commons	C.1: Safe food and feed
	A.2: Seamless governance linking land, coast and sea	B.2: Understanding the value of ecosystem goods and services	C.2: Safe and accessible coast
	A.3: Digital Ocean - Competent ecosystem modelling, assessments and forecasting	B.3: Smart Seas - technological solutions for sustainable, circular and bio-base blue economy	
	A.4: Efficient techniques for environmental monitoring		
	Cross-cutting Objective: Open Science - Access to knowledge and information		

The BANOS CSA consortium is coordinated by BONUS EEIG. This is the dedicated implementing structure of BONUS, the joint Baltic Sea research and development programme. The BANOS consortium represents the leading R&I funders of the EU member states and associated states surrounding the Baltic and North Sea.

The BANOS CSA has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No.817574.

Context of this survey

This questionnaire is conducted to assess which mechanisms of cooperation are commonplace among European organisations with thematic relevance to BANOS, and which mechanisms are foreseeable for potential cooperation between these organisations and the future BANOS programme. Such cooperation may be of any form and to any degree, as long as it serves the advancement of shared goals and objectives. This questionnaire is being distributed among the BANOS strategic partners and a selection of transnational initiatives and innovation platforms with a complementary thematic scope.

DISCLAIMER

Personal information (i.e. name, function and email of respondent) will be kept confidential by the Flanders Marine Institute and BONUS EEIG. Personal information may be used by the Flanders Marine Institute and BONUS EEIG to follow up with the respondent in case further questions arise regarding the responses provided in the questionnaire. The respondent holds the right to request access, correction, deletion, and restriction of all processing of your personal information.

Responses provided by the respondent in this questionnaire, with exception of the aforementioned personal information, will be shared with the BANOS CSA Consortium Members and may be publicly distributed as part of a deliverable or other form of publication by BANOS CSA. However, these responses are not considered as a commitment of any kind and will not be presented as such, nor will they be treated as binding in any other way.

Further information

BANOS CSA 'at a glance' flyer
BANOS CSA briefing no 1

BANOS CSA Coordinator **Andris Andrusaitis**
BANOS CSA Project Officer **Karoliina Koho**
BONUS EEIG, Pasilanraitio 9B, 00240 Helsinki

banoscsa@bonuseeig.fi
tel. +358 40 040 4011
www.banoscsa.org
www.twitter.com/banos_csa

Contact information questionnaire:

Jonas Lescroart: jonas.lescroart@vliz.be
Fien De Raedemaecker: fien.deraedemaecker@vliz.be

The BANOS CSA has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No.817574.

BANOS
Baltic and North Sea Coordination and Support Action

Questionnaire

Respondent details

Organisation: Click here to enter your organisation.

Name of respondent: Click here to enter your name.

Position of respondent: Click here to enter your position.

Email: Click here to enter your contact information.

Q0 Which mechanisms of cooperation (past and ongoing) is your organisation familiar with? Considering the scope of your organisation and based on past experience, which mechanisms of cooperation do you think would be achievable between your organisation and the future BANOS programme, if any? Please tick all that apply.

Please note that 'cooperation' can mean anything from long-term, formal collaboration on all fronts to short-term, informal cooperation on a specific topic.

PAST AND ONGOING COOPERATION	POTENTIAL COOPERATION WITH BANOS
☐ joint publications: peer-reviewed, scientific literature	☐ joint publications: peer-reviewed, scientific literature
☐ joint publications: grey literature (white papers, project reports, policy documents…)	☐ joint publications: grey literature (white papers, project reports, policy documents…)
☐ joint development of policy tools	☐ joint development of policy tools
☐ co-design or joint delivery of higher education	☐ co-design or joint delivery of higher education
☐ mobility of students, scientists, staff	☐ mobility of students, scientists, staff
☐ joint PhD programmes	☐ joint PhD programmes
☐ joint funding of calls	☐ joint funding of calls
☐ development of common projects	☐ development of common projects
☐ shared use of infrastructure (e.g. data portal, server…)	☐ shared use of infrastructure (e.g. data portal, server…)
☐ joint commercial venture (e.g. product development)	☐ joint commercial venture (e.g. product development)
☐ representation in a partner's steering, scientific, advisory… board (incl. as observer)	☐ representation in a partner's steering, scientific, advisory… board (incl. as observer)
☐ representation in a knowledge hub, task force… of shared interest, possibly organised by a 3rd party	☐ representation in a knowledge hub, task force… of shared interest, possibly organised by a 3rd party
☐ lobbying for policies of mutual interest	☐ lobbying for policies of mutual interest
☐ networking support e.g. enabling meetings	☐ networking support e.g. enabling meetings
☐ reciprocal support in dissemination activities	☐ reciprocal support in dissemination activities
☐ other, please describe: Click here to add more options.	☐ other, please describe: Click here to add more options.

The BANOS CSA has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No.817574.

Q2 Based on the previous question, please name examples of past or ongoing cooperation between your organisation and programmes similar in nature to BANOS, i.e. transnational R&I funding programmes. If applicable, give the URL of a website or report that documents information on this specific cooperation type.

Click here to answer.

Q3 Are there other useful organisations or networks that BANOS should reach out to in the context of transnational cooperation that you would like to name here?

Click here to answer.

Q4 Anything else you would like to note in the context of the future BANOS programme and transnational cooperation?

Click here to answer.

The BANOS CSA has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No.817574.