

D7.1 GUIDELINES FOR THE ACCELERATOR PLATFORM IMPLEMENTATION



The activities of the BRIDGE-BS Research and Innovation Action are funded by the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 101000240.



DELIVERABLE NAME

ID:	D7.1
Title	Guidelines for the accelerator platform implementation
RESPONSIBLE PARTNER	DTU
CONTRIBUTORS	Patrizio Mariani (DTU), Matteo Bocci (SML), Frederick Herpers (SML), Ivo Grigorov (DTU), Jane Pedersen (DTU)
ТҮРЕ	Report
DISSEMINATION LEVEL	PU
FILE	BRIDGE-BS_D7.1
REVISION	V2
DUTE DATE	30 November 2021
SUBMISSION DATE	28 January 2022
CALL	H2020-BG-2018-2020 (Blue Growth)
ΤΟΡΙϹ	BG-11-2020
Type of Action	Research and Innovation (RIA)

DOCUMENT HISTORY					
REVISION NO	REVISION DATE	MODIFICATION	AUTHOR		
VO	22.12.2021	Document Creation	Patrizio Mariani (DTU)		
V1	07.01.2022	Document revised	Frederick Herpers (SML)		
V2	26.01.2022	Document revised	Jane Pedersen (DTU)		



CONTENTS

EXECUTIVE SUMMARY	3
1. INTRODUCTION	4
2. ACADEMIC RESEARCH AND BUSINESS OPPORTUNITIES IN THE BLACK SEA	8
2.1 From ideas to business	8
2.2 Accelerator approaches1	0
2.3 Blue economy sectors and the Black Sea case1	0
3. GUIDELINES FOR THE BRIDGE-BS ACELERATOR PROGRAM 1	5
3.1 Opening of the call for proposals1	6
3.2 Selection procedure	6
3.3 Implementation and monitoring1	8



EXECUTIVE SUMMARY

To translate science into future business opportunity, BRIDGE-BS sets up a business accelerator platform to provide services and support to business initiatives fulfilling project's objectives on sustainability, circular and blue economy. Service acquisition calls are launched to stimulate competitions among business actors, and service support identified for selected start-ups in their early development. This is combined with the organization of two high-tech summits where some of these ideas and activities will be presented for matchmaking with investors and other stakeholders. The goal is to generate the environment for companies, start-ups, organisations and universities to co-create innovative ideas on blue economy themes.

This technical note defines the structure and implementation of the accelerator platform in BRIDGE-BS. The document outlines procedures for (1) the opening of the call for proposals (2) selection of business cases to participate in the accelerator program (3) implementation and monitoring of accelerator activities. Initial timelines and lump sum allocation for the call are also indicated as well as the principles to guide the initial review, assessment and scoring of the proposed business idea. This document is delivered early in the project and will be subject to discussion and revision together with selected stakeholders. Hence a final version of the guidelines will be delivered two months before the opening of the first call for proposals.

The approach followed is focussing on the initial and accelerating phase of the development including developing "Proof of ideas", providing "Proof of concepts", delivering "Proof of business". The emphasis is on blue economy in the Black Sea hence on established and new maritime sectors such as transport, shipbuilding, fisheries, aquaculture, coastal-maritime tourism and renewable energy.

The BRIDGE-BS accelerator program will open two accelerator calls (Expected May 2023, March 2024) with selection procedure tailored on Black Sea blue economy sectors and leveraging with the Accelerator Panel established in the project (e.g., via Living Labs and High-Tech Summits). The Accelerator Panel will review and rank the proposal received based on scalability and ambition profiles, and the applicability of the business ideas in the local and international markets. The impact of the program is assessed against the delivered "proof of business" that are potentially viable businesses initiatives supporting habitat conservation and restoration, responsible tourism, blue biotech, climate mitigation, sustainable use of Black Sea resources and the development of a sustainable society.



1. INTRODUCTION

The overall objective of BRIDGE-BS is to advance marine research and innovation in the Black Sea to identify the operating space for the safe development of human activities under multiple-stressors conditions and to develop *Blue Growth* pathways for the sustainable utilization of marine ecosystem services and in collaboration with diverse groups of stakeholders. To achieve these goals the project is structured around three main themes (i.e., NODEs) linking research and knowledge development (NODE1), technology and business opportunities (NODE2), societal engagement and exploitation (NODE3) – see **Figure 1**.

Specifically, NODE2 focuses on stimulating new marine technology and blue economy activities in the Black Sea. These activities and technology will support the EU Blue Growth strategy within the safe operating space identified by the knowledge and models generated under NODE1. This is achieved by (i) developing methods for strengthening marine resource management, (ii) the development and application of innovative monitoring technologies (i.e., biogeochemical sensors, genomics, and smart observations combined with artificial intelligence), and (iii) supporting innovative start-ups and business models to create local added value and future jobs.



Figure 1. BRIDGE-BS is structured around three interconnected excellence nodes for advancing knowledge, delivering research and empowering citizens. *Node 1: Service dynamics* performs research on the effects of multi-stressors on marine ecosystems and services; *Node 2: Blue growth and incubators* advance the technology capacity for ecosystem monitoring and mapping as well as translate research ideas into business opportunities; *Node 3: Empowered citizens* enables uptake of project results into Black Sea societies as well as engages with citizens, business and policymakers to tailor project's results towards end-user needs.

To translate science into future business opportunity, the project does set up a business accelerator platform to provide services and financial support to business initiatives fulfilling BRIDGE-BS's objectives on sustainability, circular and blue economy. Service acquisition calls are launched to stimulate competitions among business actors, and service support identified for selected start-ups



for their early development. This is combined with the organization of two high-tech summits where some of these ideas and activities will be presented for matchmaking with investors and other stakeholders. The goal is to generate the environment for companies, start-ups, organisations and universities to co-create innovative ideas on blue economy themes.

The terms 'blue economy' and 'ocean economy' are often used interchangeably, however it is important to note here that there are key differences.

The term 'blue economy' relates to the concept of sustainably using ocean resources to drive economic growth, create jobs and improve livelihoods, whilst preserving the health of the ocean. Ocean economy on the other hand, simply refers to the economic activities that take place in the ocean, receive outputs from the ocean and / or provide goods and services to the ocean. The blue economy aims to strengthen the potential of the ocean economy, promoting growth, innovation, investments and to reduce poverty, whilst safeguarding healthy seas.

To define the Blue Economy, the term 'Marine and Coastal Activities' will be used to describe all activities, including both economic activities, such as fishing, tourism, maritime transport, and non-economic activities like marine conservation, marine surveillance, and waste management. Whilst non-economic activities do not contribute to GDP, they are important employment factors and play a vital role in preserving and building marine and coastal capital, as well as supporting key economic sectors.

The marine and coastal capital as demonstrated in **Figure 2** below, based on widely accepted definitions, can be distinguished in: Natural, Technical, Institutional and Human (see **BOX 1**).



Figure 2. Marine and Coastal Capital and components¹

The combination of these four forms of capital is the sum total that a country (and as the sum of its constituent member states, the Black Sea region) can use for the development of marine and coastal economic activities in the context of the blue economy. Marine and coastal capital should be

¹ <u>Stratégies Mer et Littoral, 2017</u>



preserved, adapted, increased or optimised, so that it can be passed to future generations. Beyond an inventory of the marine and coastal capital, is an understanding of the relationship between the capital and the economic sectors, be they positive, negative, neutral, existing or anticipated. In turn, *Marine and Coastal Activities* contribute to maintaining and increasing the different types of capital, by supporting jobs and/or creating added value and knowledge to support further activities.

BOX 1. Forms of capital

The marine and coastal capital of the region can be regarded as consisting of five forms of capital: natural capital, human capital, institutional capital, produced capital and financial capital (refer to the figure above):

Natural capital comprises:

- <u>Marine and coastal space</u>: coastline (various types), maritime zones and characteristics (bathymetry, etc.), islands, lagoons, etc.: space is the fundamental support for all maritime and coastal activities, and coastal space is vital for the Blue Economy (all maritime activities begin and end at the coast).

- *Natural heritage*: marine and coastal landscapes and ecosystems (including habitats and species) and associated ecosystem services.

- <u>Natural resources</u>: biological resources which are provided by the ecosystem (fish, algae...), energy resources (wind, waves, currents, heat, tides etc), and mineral resources

Human capital¹:

- <u>Marine and coastal knowledge</u> (applied, scientific, theoretical, or practical) which can support marine and coastal activities and/or improve marine and coastal capital. This includes traditional knowledge (sometimes referred to as marine and coastal cultural heritage) and its physical and non-physical components.
- <u>Human capacity</u> (including skills¹ and resources) which can support maritime and coastal activities and/or improve the marine and coastal capital in all its components.

Institutional capital refers to:

the cooperation between stakeholders, their commitment to work together and to act within the necessary frameworks, regulations, and <u>policies</u> to facilitate institutional working. <u>Institutional</u> capital is necessary to support any decision and action associated with the management of marine and coastal activities, as the space and resources are usually shared between many stakeholders, and decisions or actions, both private or public, overlap or conflict with the decisions and actions of others.

Technical capital includes:

- all the <u>infrastructure</u> facilities provided to support marine and coastal activities, including <u>services</u> such as communications, meteorological and physical oceanographic services, water and energy supply, and waste treatment.
- <u>Financial capital</u> is the capacity to invest or support public and private investment to guarantee capital to support maritime and coastal activities. Whilst Financial Capital is an area of huge importance for the region, it relates to the ability to 'self-finance' activities. It also includes, within the broader produced capital component, the attractiveness for public and private funds and investments, e.g., the ability to attract external financing from International Financing Institutions.



As the marine and coastal economic sectors are considered, we should keep in mind that they have a lifecycle of their own. They develop, grow, expand, decline and disappear, depending on many drivers, such as the availability or sustainability of resources, skills, technical developments, or acceptability (see Figure 3 below).

The potential of a marine and coastal sector for the blue economy depends on its position within the lifecycle. The potential for creating new jobs and increased added value is higher in sectors that are developing or growing, as they require development of skills for the workforce and investment in infrastructure. The potential for creating jobs is lower in mature and declining sectors, as smaller investments for infrastructure are needed, but may need funding for adaptation of skills, and reskilling, for the workforce or economic reconversion.

A rapid diagnosis of the BE in the Black Sea is provided in the section §2.3. It is in line with the baseline which were shared with WP6 and WP8.



2. ACADEMIC RESEARCH AND BUSINESS OPPORTUNITIES IN THE BLACK SEA

2.1 From ideas to business

The path for translating academic research into business opportunities is not unique although minimal conditions can be identified:

- Define the problem being solved;
- Identify markets and potential customers;
- Create financial and business models;
- Build the minimum valuable product;
- Commercialise.

The approach followed in BRIDGE-BS is focussing on the initial and accelerating phase of the development breaking it down in: developing "Proof of ideas", providing "Proof of concepts", delivering "Proof of business".

Proof of Ideas are mainly research products that have been demonstrated in real-world conditions and can include tools, technologies, services, protocols, etc. that have been developed and operated at sea by the public and private actors.

Proof of Concepts are the translations of some of promising research ideas that can gain stakeholders' support and that can generate new creative business models supporting eco-innovations in the blue economy sectors with focus on regional needs and by harnessing local science, policy, and industry knowledge.

Proof of Businesses are initiatives to tailor these innovative business models into viable products and business cases, accelerating the development and delivery to attract private investors. BRIDGE-BS accelerator platform provides support services (including service acquisitions) as well as training and networking to generate new start-ups and business opportunities (**Figure 3**).



Figure 3. (*Left panel*) Level of ambition and scalability of ideas can be compared to business model application and market validation to map the different activities. The project will focus on accelerating high ambition and very scalable ideas (startups and open innovation ideas) – modified from Startup Commons². (*Right panel*) Development research ideas from pre-development, to accelerating and

² <u>https://www.startupcommons.org/</u>



stabilization phases. The project will focus on accelerating mechanisms for identified and validated research products.

All the steps above are performed in close collaboration with stakeholders enabling collaborative design of ideas and business models. Living Labs (see **BOX 2**) will be established in Pilot Sites around the Black Sea to discuss research ideas and validate results. Two high tech summits will be organized to engage with industry and investors and to verify and support proof of concepts and proof of business. This participatory process of vision, learning and experimenting falls well within transition management applications³ with a large and diverse multi-actor involvement in order to cover diverse societal values and beliefs. The approach focuses on a long-term perspective to generate sustainable innovation across several blue economy sectors.

In transition management theory, sustainable solutions are generated via a series of complex interactions of development phases within underlying domains—markets, institutions, technology, policy, ecology, culture. These phases can drive transitions along possible pathways^{4, 5} and can achieve transformative changes in given sectors and markets. Transition pathways can be described by four phases (**Figure 3**):

(a) *predevelopment* – an initial exploratory phase when several solutions are tested and applied in real world applications but with little or no regime change in the nature of the product;

(b) *take-off* – destabilization of the regime and emergence of innovations that can drive transformative changes;

(c) acceleration – structural change in the evolution dynamic of the idea into a viable product; and

(d) *stabilization* – a new regime arises where the initial research idea reaches a stable equilibrium either achieving a transformative change in the market (transformative), fails to reach an equilibrium (backlash), coexists with competing innovations (lock-in), or the solution fails to enter the market (system breakdown).

The approach in BRIDGE-BS will boost take-off and acceleration phases providing services, financial support (including service acquisitions), training, networking and mentoring to generate business opportunities in the blue economy in the Black Sea.

⁵ van der Brugge, R., and Rotmans, J. (2007). "Towards Transition Management of European Water Resources." *Water Resources Management* 21 (1): 249–67. https://doi.org/10.1007/s11269-006-9052-0.



³ Loorbach, D. (2007). Transition management. *New mode of governance for sustainable development. Utrecht: International Books.*

⁴ Rotmans, J., René, K., and van Asselt, M. (2001). "More Evolution than Revolution: Transition Management in Public Policy." *Foresight* 3 (1): 15–31. https://doi.org/10.1108/14636680110803003

BOX 2. LIVING LABS

The Living Labs (NODE 2) The Living Labs represent an instrument to empower local communities in the future sustainable management of the Black Sea, breaking sectoral silos and ensuring a systemic approach. They create a new local participative dynamic to explore alternative forms of governance while being a focal point for greater interconnection between physical and socioeconomic sciences making BRIDGE-BS a truly interdisciplinary project. They will operate in the identified Pilot Sites of the project, bringing together business operators from the coastal and maritime sectors, interest groups, scientific experts and local responsible administrations. They will be coordinated by AUEB and local pilot site leaders, creating an arena for connections and knowledge exchange between the scientific and local communities. Various tools (role play, decision support tools, system innovation tools, participative scenarios) will exploit and enhance the inter-actor exchanges in, to create a learning loop, raise awareness on ecosystem services and their multi-stressors, current and future, stimulate a thinking "out of the box", develop trust and collaborations, to foster the adoption and implementation of innovative eco-solutions.

2.2 Accelerator approaches

Accelerator and incubation theory span various disciplines covering several domains including marketing, finance, organizational development, technical and/or service development, go-to-market, distribution and capital planning. Despite such complexity, business accelerator initiatives have been proliferating constantly over the last decade although with different foci and objectives⁶.

Accelerators are generally considered a clear link between research & development, innovative technology, entrepreneurship, and go-to-market strategies including capital investment options and other business challenges. No startup/small company team can cover all these expertise alone, hence partnerships with academia are considered beneficial.

A general principle for all accelerator programs is to set up open calls to attract best capacities. Goals and objectives can be sector and region specific to achieve targets set by public or private entities. To maximize the impact business accelerators should be learning oriented programs providing mentoring, education and/or service acquisition. It is important to define metrics for impact of the accelerator program and those could include (i) that the venture is ongoing; (ii) the number of employees; (iii) subsequent funding attraction; (iv) visibility, etc. All these basic principles should be visible and clearly communicated to all applicants in order to align expectations and maximize the benefits of the accelerator program.

2.3 Blue economy sectors and the Black Sea case

The **Black Sea blue economy is largely dependent on established maritime sectors** such as transport, shipbuilding, fisheries and aquaculture and coastal-maritime tourism. Together, these sectors make a substantial contribution to the region's overall gross value added (GVA) and blue economy employability. While they continue to grow, emerging sectors such as blue-biotech, and to some extent renewable maritime energy, also offer notable opportunities for greater diversification in local value-chains. While the recovery from COVID-19 pandemic, encompassing resilience to this and future shocks, as well as competitiveness on the global market must be fully developed, sustainability is and

⁶ Still, K. (2017). Accelerating research innovation by adopting the lean startup paradigm. *Technology Innovation Management Review*, 7(5).



will remain the central challenge for these sectors. Pressures on Black Sea marine and coastal ecosystems over the past 50 years have already made the sea basin extremely vulnerable to anthropogenic impacts. Marine resources have been severely affected by over-fishing, unplanned development of coastal zones, intense maritime traffic and land-based pollution, as well as the effects of climate change.

Under the broader framework of the Black Sea Synergy, the Common Maritime Agenda for the Black Sea (CMA)⁷ and its scientific pillar, the Black Sea Strategic Research and Innovation Agenda (SRIA)⁸, represent unique regional cooperation frameworks to support Black Sea counties to jointly promote a sustainable and resilient blue economy.

The following rapid diagnosis for the Black Sea region aims to assess not only the current status of its marine and coastal economic sectors, but also the potential for future development of existing and new sectors. For existing sectors, after an initial stocktake, the assessment will examine: the significance of each sector, individually and in relation to other sectors; the value chains of each sector and its national benefit (whilst the added value is captured at national level but also at regional level as the sum of the national ones); the relationship to the marine and coastal capital and its subcomponents; and, finally, the level of maturity - developing, growing, maturing and declining. And for new sectors - aquaculture, marine renewable energy, and biotechnology - the assessment will focus on potential. It will highlight the needs of the sector (expressed in terms of the marine and coastal capital) and its potential; derived from comparisons with the availability of capital.

In economic terms, the Black Sea has considerable importance to the EU and its neighbors. The Blue economy activities in Bulgaria and Romania, for instance, generated a gross added value (GVA) of EUR 2.048 billion and employed around 189,600 people in 2016. Respectively for Romania and Bulgaria, Blue economy represents 2.63% and 0.63% of the annual GVA and 4% and 0.88% of jobs in 2016⁷. The Black Sea basin is a major oil and gas production⁹ and transport areas¹⁰. The Black Sea basin has also a busy maritime transport network, albeit with several safety and efficiency issues. Coastal tourism is the third major maritime economic activity that has an expanding international clientele. It is based on domestic and foreign customers¹¹.

Furthermore, the Black Sea is also an important fishing region, where the majority of stocks is transboundary in nature. The total value of fish landing value in the region represents a value of \$691,337,148 (<u>GFCM (2016)</u>) for 400,000t caught. According to GFCM, Turkey is by far the largest contributor (68%), followed by Ukraine, the Russian Federation and Georgia.

A number of Maritime Economic Activities (MEAs) show sustainable growth potentials, but with varying degrees of maturity and needs to be addressed. A repartition of sectors and activities across the three different "blocks" of economic activities is illustrated in the figure below, positioning the

¹¹ 85,74 millions tourists without no distinction between land and sea tourism (World Bank (2014))



⁷ The 2018 annual economic report on the EU blue economy

⁸ http://connect2blacksea.org/the-sria/#

⁹ Mainly inshore but in development on offshore mainly in <u>Romania (8% offshore Crude</u>) and Bulgaria

¹⁰ The region accounts for more than 34% of natural gas and oil imports of the EU. As a share of GDP, intra-BSEC trade remained above 8% of GDP in the last decade - with the exception of 2009- with an upwards trend (<u>BSTDB</u> (2014))

Maritime Economic Activities (MAEs) on the basis of its current weight (current jobs and GVA,) and their potential for development (jobs and GVA).



Figure 4. Development and challenges for Blue Economy in the Black Sea.

The illustration above (Figure 4) demonstrates the following challenges for Blue Economy in the Black Sea:

- Economic activities related to relatively 'traditional' and large sectors are not sufficiently sustainable. These are economic activities in sectors such as tourism, fisheries, shipbuilding, etc. which in order to be performing to their potential, require strong adaptation and innovation in the existing business models and services offered, so as to be able to maximise their potential in generating local economic returns and more stable and high-quality jobs.
- Innovative economic activities with a relatively limited size at the current stage but with strong development potentials in mid-to-long term require greater attention. There are specific niche markets with large potential, such as yachting and cruising or (to some extent) mariculture mariculture covers all the range of marine culture (fish, mollusks, algae, hatchery) which could be instrumental in the diversification and generation of higher added value to the above-mentioned 'traditional' sectors. Other sectors are also currently emerging that demonstrate potential, such as gas and marine energy. Underdeveloped activities with unclear future potential in the current absence of essential basic and applied marine research. These include renewable energy and biotechnologies, for which further research should be fostered in order to assess their potential and allow for pre-commercial opportunities.

Such regional patterns can be found in Black Sea country dynamics, although specifications and differences exist both in terms of varying potential and available capacities. A number of maritime economic activities therefore demonstrate growth potential, which is currently hindered by various challenges, some of them as discussed above. Limited capacity and capability across the sea basin makes it difficult to address such challenges without external support.



Doc. Version: 2 26.01.2022

Countries	Emerging niches to be supported	In need of adaptation	Potentials to be further assessed	Capacity and needs
Bulgaria	Synergies between marine & river small cruise, coastal tourism and short sea shipping	Fisheries Tourism shipbuilding	Offshore aquaculture Offshore wind	Limited innovation but existing skills (institutes)
Georgia	Synergies between small cruise and coastal tourism	Tourism Fisheries	marine aquaculture marine energy exploitation, blue biotechnologies Oil & gas exploitation	Environmental protection enhancement
Moldava	Synergies between marine & river small cruise	Passengers (ferries) and maritime transport (goods)	Synergies between small cruise & tourism	Development of training and education
Romania	Synergies between marine & river small cruise, coastal tourism	Tourism shipbuilding	Offshore aquaculture marine energy exploitation, blue biotechnologies	Limited innovation whereas existing skills (institutes)
Russia (Black Sea focus)	Synergies between small cruise and coastal tourism including yachting	Fisheries Tourism	marine aquaculture marine energy exploitation, blue biotechnologies Oil & gas exploitation	Strong research institutes are still strong but weak connection with business or administration
Turkey	Synergies between small cruise and coastal tourism including yachting Shipbuilding	Fisheries	marine energy exploitation, blue biotechnologies	Cross-sectoral development/ management requested Good skills and infras
Ukraine	Synergies between small cruise and coastal tourism	Fisheries Tourism	marine aquaculture marine energy exploitation, blue biotechnologies	Good skills – new infras requested

At the same time, in parallel with above activities, the environmental and ecological stability of the Black Sea must be safeguarded for future generations. *In general, there is a good availability of port infrastructures and there are existing liaisons between several countries in the Black Sea (ferries, maritime transport, etc.).* Natural capital is facing several threats (overexploitation by fisheries, land



and marine pollution, O&G exploitation, coastal erosion, climate change effects, etc.), yet it also offers opportunities.

A range of activities (fisheries, marine renewable energies, mariculture, biotechnologies) need to be fully assessed with regards to their environmental impacts.

River-Sea connections, which represent a land-sea interaction, are not just beneficial for the valorization of the natural and cultural assets and the subsequent tourism growth; they also allow for new synergies across sectors (cruise / coastal and land tourism / short sea shipping / shipbuilding) creating cross-cutting local added value.

Innovation could be a strong enabler to support the marine and coastal activities at national and regional level.



3. GUIDELINES FOR THE BRIDGE-BS ACELERATOR PROGRAM

The BRIDGE-BS accelerator program will open two accelerator calls (Expected May 2023, March 2024) with selection procedure tailored on Black Sea blue economy sectors and leveraging with the Accelerator Panel (AP) established in the project (e.g., via Living Labs and High-Tech Summits). The includes industry, technological partners, investors, authorities, selected international practitioners and will perform the selection of supported business ideas following reference evaluation tables (RETs) co-designed with stakeholders. The exact content of these RETs will be provided in a follow up version of this document after engagement with stakeholders at regional and international levels.

The AP will review and rank the proposal received based on scalability and ambition profiles, and the applicability of the business ideas in the local and international markets.

The impact of the program is assessed against the delivered "proof of business" that are potentially viable businesses initiatives supporting habitat conservation and restoration, responsible tourism, blue biotech, climate mitigation, sustainable use of Black Sea resources and the development of a sustainable society.



Figure 5. Overview of the BRIDGE-BS accelerator program with identification of the call for proposals, gate point for the eligibility criteria and selection process, and possible accelerator pathways for supporting open innovation and start-ups. By the end of the program Technology readiness level (TRL) is expected to increase from TRL=3 to TRL=6, technology demonstrated in relevant environment. Impacts should target the marine and coastal capital and the sustainability of Black Sea Blue Economy activities and should be reported by implementing e.g. Nature Based Solutions (NBS), Carbon zero maritime processes, Circular blue economy, Observation technologies, Artificial intelligence for marine automation, etc.

Five major points are defined for the accelerator program¹²:

(i) Program package (being the list of services offered – final list discussed with stakeholders)

(ii) Strategic focus (Black Sea and Blue Economy: see \$2.3)

¹² A detailed flowchart of the process with the specific steps and links with other projects will be provided in the follow up version of this document



- (iii) Selection process (final procedures discussed with stakeholders)
- (iv) Funding and service support options
- (v) Networking and innovation ecosystem provided

3.1 Opening of the call for proposals

Two calls are opened May 2023 (first call), March 2024 (second call). Calls are advertised through project's website and social media channels at least two months before deadlines for applications.

The application will consist of a power point stack of 10-15 slides answering the following questions:

- (1) What problem you solve?
- (2) Why is this a problem?
- (3) Is this a problem for the Black Sea or beyond?
- (4) What solution you have?
- (5) Why is this a solution?
- (6) How does it contribute to the environmental and ecological stability of the Black Sea?
- (7) Does it have an IPR or can you apply for one?
- (8) What is the present TRL of your MVP and what TRL can it achieve with this program?
- (9) Where do you get the money for the further development?
- (10) How much money can it then produce at the end?
- (11)What is your business model? Which customers? Which market(s)? Which benefits for Black Sea (GVA and jobs)?
- (12)What revenue scenarios have you tested?
- (13) Who are you and what is your team and network?
- (14) What do you need as support and services?

The questions above will be refined before opening the calls after engagement with industry stakeholders at regional and international levels (final text available in the follow up version of this deliverable).

3.2 Selection procedure

Eligibility: eligibility criteria are checked first by the management team of the accelerator program (Figure 5, gate points 1-3). The program is open to legal entities (universities, businesses, CSOs, etc.) and individuals in Black Sea countries (i.e. Common Maritime Agenda signatory countries). Hence specific eligibility elements are:

- (1) Correct information provided
- (2) Regional relevance
- (3) Match with services provision.

As for point (3), we envision the applicants for the BRIDGE-BS acceleration program to specify the challenges and needs they intend to address with the application. This would include suggestion on the service support needed how they would make use of the acceleration mechanisms. Applicants will describe their needs through a self-assessment based on the KTH indicators (Box 3 below) and suggest the concrete support services they will need. As part of the evaluation and selection process (see



below) the WP7 team and the "Accelerator panel" may also suggest extra challenges and support services opening a dialogue with the applicants framed around modified KTH indicators.

Selection: the selection and ranking process will be performed by the AP also based on KTH innovation readiness level template which is used to explore the developments from proof of concept into proof of business (see **BOX 3**). KTH and AP priorities will be refined recognizing that we aim at targeting both Start-ups/SMEs acceleration and Open Innovation activities with a focus on the Black Sea (see **Figure 5**). To provide support to the former the *team* is the most important factor, while for the latter the *idea* is the important element.

In both cases scalability and market check are important elements (**Figure 3**). Priority is given to activities starting at TRL3 to bring them to (at least) TRL6. Note that specific support to be provided in addressing those elements will be further detailed at a later stage.

Reference evaluation tables (RETs) will be defined with the AP and relevant stakeholders. The exact content of these RETs will be provided in a follow up version of this document after engagement with stakeholders at regional and international levels.

We foresee that the selection criteria for the RETs will allow to "assess" the relevance of the idea by assessing the robustness of proposals submitted when applying for the accelerator services, in terms of:

- Relevance, understood as the extent to which the proposed products/services are expected address the challenges and opportunities identified for a sustainable blue economy in the Black Sea (i.e., through a qualitative assessment by a selected expert panel, which will reflect upon the relevance of the proposed products and services vis a vis the priority technologies, innovative business models and challenges/opportunities identified in the High-Tech Summit and in collaboration with the Living Labs);
- Impact, understood as the foreseen performance of the proposed products/services in terms of environmental results (reduction of CO2 emissions, marine pollution, etc.), social impacts (jobs created, etc.), as well as economic forecasts (sales and market potentials, etc.) to be achieved by the actual products/services once operational (in 5, 10, 15/20 years ahead) across the Black Sea region (i.e. CMA signatory countries);
- o **Sustainability,** understood as the extent to which additional resources are available to support the proposed services/products beyond the initial support provide by the accelerator (e.g. market potentials, etc.)

The priority will be on adding values to specific maritime sectors as emerging from the exchanges during the High-Tech Summit. Hence business cases should be rooted in those sectors. Short listed candidate will be invited to **Pitch** their business idea during the High Tech Summit.

A revision of such criteria and process will be possible on the basis of the discussions and main agreements on technology potentials for supporting the blue economy in the Black Sea region, as emerged from the Living Labs organised in WP6 as well as the first High-Tech Summit planned under WP7 in 2022.



Accelerator Panel: Accelerator Panel (AP) is established in the project and includes industry, technological partners, investors, authorities, selected international practitioners. The applications will be first screened by DTU and SML teams for eligibility as the WP leaders of WP7. Relevant consortium members and the Coordination will be involved in the preliminary analysis of the applications. A short-list of applicants will be circulated to the AP whose members will be identified among Living Lab participants and key actors including, i.e., marine clusters, BlueTech Accelerators, Hi Tech Companies, incubators/accelerators focusing on sustainable blue economy. AP will be invited to participate in the screening while for example invited to the High-Tech Summits, where business models will be presented in a "pitching" sessions to present and discuss emerging innovative business ideas. The final composition of the AP will be provided in a follow up version of this document.



The KTH Innovation Readiness Level[™] is a complete framework for guiding idea development and assessing idea status across key dimensions. All information can be found here: <u>https://kthinnovationreadinesslevel.com/</u>

The framework provides structure and support for idea owners as well as coaches and managers in the development of an early stage idea to an innovation on the market. The model assesses the idea development on a scale from 1 to 9 in six key areas of innovation development. For each area, clear definitions of the different levels are given as well as milestones and activities that are needed to reach each level. The model is a highly useful tool for teams developing ideas and coaches or managers supporting idea development to measure progress and status. The model is supplied via access to an online resource library where all descriptions and documents can be found. In a planned premium version, idea management will be done via an interactive software application.

3.3 Implementation and monitoring

Overall process foreseen in the "acceleration support" to innovative products/services for a sustainable blue economy in the Black Sea consisting of the following indicative steps:

 Application is the initial starting point where black sea operators (businesses, academia or other actors) submit a structured application form which allows the BRIDGE-BS WP7 team to assess the proposed products/services to be supported. The "application package"



provides as a basis for a self-assessment of applicants. As mentioned, the selection criteria (indicated above) will be further elaborated when detailing the "application forms", possibly by building upon a simplified version of the KTH indicators (see BOX 3).

- o **Screening** is the process where the received applications are revised and assessed on the basis of the "selection criteria", so to identify the most promising (relevant, impactful, sustainable) applications to be further assessed (short-list).
- Pitching is the ultimate stage of the selection process, where the short-listed applicants are called to present their proposed products/services to an expert panel and as basis for the final approval of the applicants to be awarded by the "acceleration support" by BRIDGE-BS WP7.
- o **Decision**, based on the previous steps a formal decision is communicated to the selected applicants and follow-up support activities are provided.

The type of support required is tailored based on the proposal put forwards by applicants as part of their initial response to the "application package" and possibly based on the feedback received by the expert panel on the specific areas of weakness to be further addressed by the proposed products/services. We foresee different options:

- A fixed term period of interfacing (usually 3 to 6 months)
- A formal 'program' of activities, involving internal program staff and external resources of mentors, consultants, and potential other stakeholders (collaborators, customers, suppliers, investors) in collaboration with other EU H2020 projects, e.g., DOORS
- Mentoring will support the most promising ideas selected on the basis of their societal and commercial potentials and could include: revision of business planning, specific training and managerial advice, finetuning of technological aspects, etc.
- Matchmaking with potentially interested investors for further selected the most commercially and mature ideas (after the training and to be show cased in regional events e.g., with WP8)
- Training and capacity building opportunities (in collaboration with WP9)
- Support to prepare and organize a 'demo-day' where final presentations to potential investors is made
- Post program interactions with the program staff, alumni and the wider stakeholders
- Conscious network building
- Specific acquisitions of services including consultancy via the allocated resources (presently allocated to BSEC partner).

Note that, due to limited resources and to strengthen regional synergies with other important projects, the accelerator support would focus on innovative products/services and potential start-ups support, while Open Innovation activities and additional training support are operated in collaboration with other projects. For example, synergies with other regional initiatives and particularly with DOORS - but not exclusively as other existing Development Agencies, Clusters and training programmes at the country levels could be also involved. These synergies might include:

- Promotion and dissemination of information prior to the call (to ensure full participation)
- Access to broader training for companies (e.g., not scoring well-enough to be awarded)
- Contribution in the assessment of the applications (e.g., as part of the experts panel).



The final list of service provision and the synergies with other projects and initiatives will be provided in the follow up version of this document.

Activity	Timeline	NOTES
First call for proposals	May 2023	
Decision and program start	August 2023	Links to activities in DOORS and
		High-Tech Summit
Second call for proposals	March 2024	Flexible based on needs
Decision and program start	May 2024	Links to activities in DOORS and
		High-Tech Summit

 Table 1. Timeline for the accelerator program.



PARTNERS

NO	CONSORTIUM MEMBERS	COUNTRY
1	METU - Middle East Technical University - Institute of Marine Sciences	TR
2	IO-BAS - Bulgarian Academy of Sciences Institute of Oceanology	BG
3	NIMRD - The National Institute for Marine Research and Development "Grigore Antipa"	RO
4	IBER-BAS - Institute of Biodiversity and Ecosystem Research - Bulgarian Academy of	BG
	Sciences	
5	UkrSCES - Ukrainian scientific Centre of Ecology of Sea	UA
6	TSU - Ivane Javakhishvili Tbilisi State University	GE
7	GeoEcoMar - Institutul National de Cercetare Dezvoltare pentru Geologie si	RO
	Geoecologie Marina	
8	SIO-RAS - P.P. Shirshov Institute of Oceanology of Russian Academy of Sciences	RU
9	ICBSS - International Center for Black Sea Studies	EL
10	HCMR - Hellenic Centre for Marine Research	EL
11	CNR - Consiglio Nazionale Delle Ricerche	IT
12	ULiege - University of Liège	BE
13	AUEB - Athens University of Economics and Business	EL
14	SU - Stockholm University - Stockholm Resilience Centre	SE
15	CETMAR - Centro Tecnológico del Mar, Fundación	ES
16	INDIGO MED	EL
17	IEEN - Institute of Electronic Engineering and Nanotechnologies	MD
18	DTU - Technical University of Denmark	DK
19	BSEC - Organization of the Black Sea Economic Cooperation	TR
20	SML - Stratégies Mer Et Littoral	FR
21	CPMR - Conference of Peripheral Maritime Regions	FR
22	TUBITAK - The Scientific and Technological Research Council of Turkey	TR
23	MCB - Marine Cluster Bulgaria	BG
24	TEPAV - The Economic Policy Research Foundation of Turkey	TR
25	SUMAE - Ministry of Agriculture and Forestry	TR
26	TUDAV - Turkish Marine Research Foundation	TR
27	IU - Istanbul University	TR
28	EMSEA - European Marine Science Educators Association	BE
29	SNU - Sinop University	TR
30	EMB - European Marine Board Ivzw	BE
31	IFREMER - Institut Français De Recherche pour l'Exploitation de la Mer	FR
32	CHX - Crowdhelix	IE
33	RTU MIREA - Russian Technological University MIREA	RU





BRIDGE-BS

Blue Growth Incubators | Service Dynamics | Empowered Citizens



BRIDGE Black Sea

@BRIDGE_BlackSea

BRIDGE Black Sea

bridgeblacksea.org

BRIDGEBlackSea