European Commission

ONLINE EVENT
29-30 OCTOBER 2020
#ConnectBlackSeaYouth
#Connect2BlackSea

RESEARCH AND INNOVATION IN THE BLACK SEA

EMPOWERING THE NEXT GENERATION FOR A HEALTHY, RESILIENT AND PRODUCTIVE BLACK SEA

Research and Innovation in the Black Sea: Empowering the next generation for a healthy, resilient and productive Black Sea

CONNECT BLACK SEA

Outputs of National Consultations on the Strategic Research and Innovation Agenda - Bulgaria

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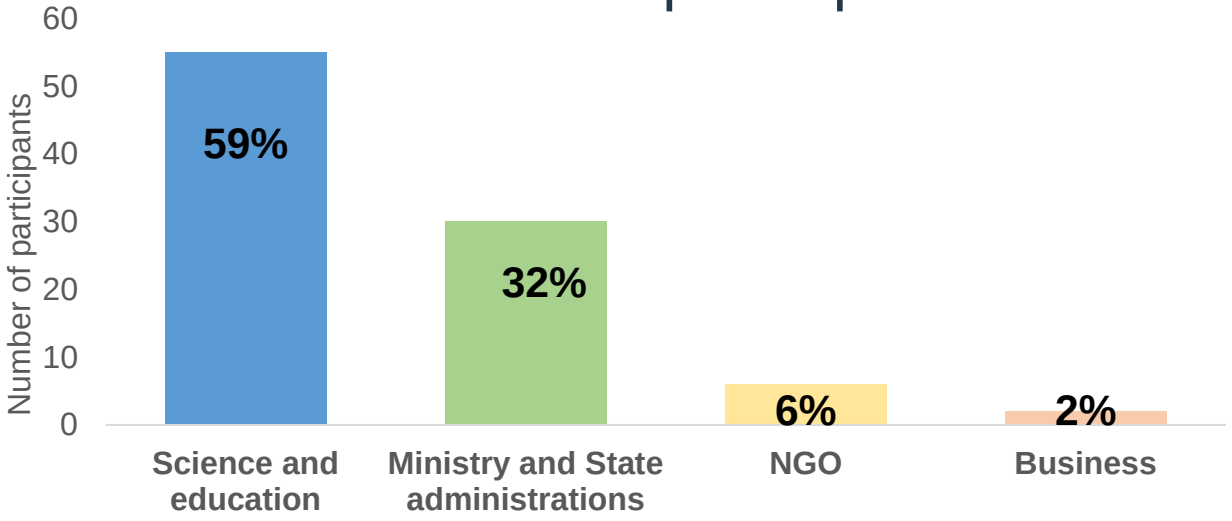
The activities of the Black Sea CONNECT Coordination and Support Action are funded the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 860055.

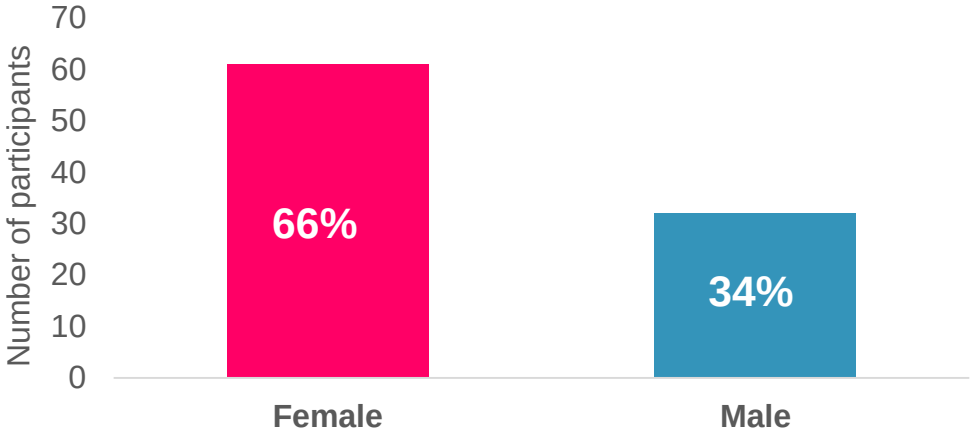
Workshop Overview

Connect2BlackSea.org

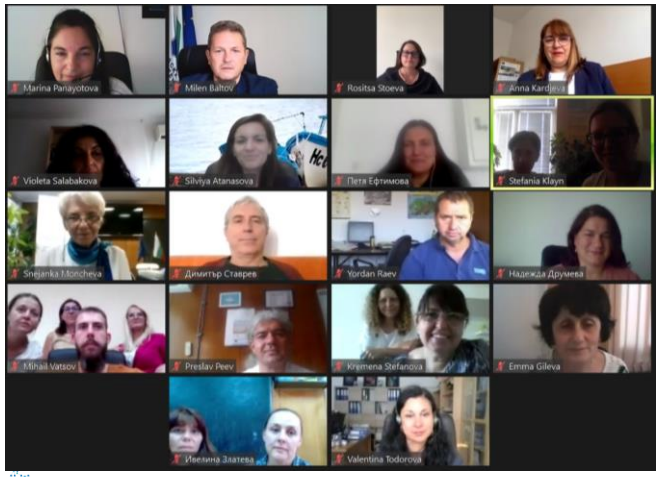
The total number of participants in the event - **93**



Profile of the participants



Gender balance



Picture from the event

Mrs. Milena Damyanova, Director of Science directorate, Ministry of Education and Science

Prof. Kristalina Stoykova, Bulgarian Academy of Sciences

Anna Teresa Caetano, Policy Officer, DG Research & Innovation, European Commission

Associate Prof. Baris Salihoglu, Project coordinator

Special addresses

Identified priorities under Pillar 1

Main Goal 1

New actions suggested (4)

- Explore the Black Sea role in regional climate formation.
- Create Black Sea Digital Twin to improve the information to scientists and the broader public.
- Assess, map and monitor the Black Sea ecosystem services and develop prognostic scenarios for their status under natural and anthropogenic stress.
- Develop integrated information system, incl. digital map, of coastal and underwater cultural heritage, assess the risks for their effective protection and the socialization perspectives.

National Relevance

- 5 for all actions

Identified priorities under Pillar 1

Main Goal 2

New actions suggested (6)

- Develop quality standards of the Black Sea sediments, create sediments archive for reconstruction of the paleoevolution and reconstruction of the historical record of pollutant discharges from anthropogenic activities.
- Study the underwater gas seeps towards short-term prognosis of their ecological, climatic and resource importance.
- Carry out pollution related research to develop harmonised models of diffusive sources and data base for point sources. Assess microplastics pollution in different media and identify the sources.
- Assess what are the effects of exploration and exploitation of marine living and mineral resources on benthic ecosystem and seafloor conditions.
- Assess how can marine aquaculture be developed so that impacts on wild stocks and coastal marine habitats are minimized.
- Evaluate to what degree no-take or highly protected MPAs provide resilience or a buffer against ecosystem disruption caused by climate change.

National Relevance

- 5 for all actions

Identified priorities under Pillar 2

Main Goal 1

Suggestions for additions to the formulated actions (1)

- Promote and foster synergies, through networking events and meetings towards capacity building to transfer knowledge between clusters in the blue economy and reinforce existing inter-sectorial arrangements. *Presentation/sharing of the priority innovation needs of the blue economy with advanced technologically developed ecosystems such as aviation to speed up transfer/recombination of knowledge from different innovative sectors.

New actions suggested (1)

- Development of a unified database at national level with completed and ongoing projects, in particular related to the blue growth in order to analyze and further use the results achieved.

National Relevance

- 3 actions “5”
- 2 actions “4”

Identified priorities under Pillar 2

Main Goal 2

Suggestions for additions to the formulated actions (2)

- Identify renewable energy sectors such as offshore wind and wave energy while investigating the potential of responsible exploration of gas hydrates. *Study of Black Sea gas hydrates as an energy resource, a factor for climate change, a geo-risk and role in the carbon budget. Development of technologies for extraction of methane from marine gas hydrates and disposal of flue gases as hydrates in marine sediments.
- Develop sustainable high-tech fisheries and aquaculture including multi-use platforms, diversification of aquaculture target species and products.

New actions suggested (2)

- Design and development of innovative solutions for sustainable development of port infrastructure and operations in line with the global trend for environmentally friendly "Smart ports" (digitalization, automation, artificial intelligence, database, Internet of Things).
- Development of platforms for accessible and easy to use IT services related to the blue economy for administrations, businesses, education institutions.

National Relevance

- 6 actions **"5"**
- 3 actions **"4"**

Identified priorities under Pillar 3

Main Goal 1

Suggestions for additions to the formulated actions (2)

- Produce, collect and make available compatible high-quality data sets (the FAIR principles and open data access). *Digitalization and verification (rescue) of existing historical data (30-50 years).
- Integrate, strengthen and upgrade monitoring, modelling and forecasting capacities to address social challenges. *Assessment of the overbuilding processes in the coastal zone and the formation of touristic agglomerations aiming at developing mechanisms of effective management and control.

New actions suggested (1)

- Implement and maintain integrated information system for the Black Sea based on innovative web tools.

National Relevance

- all actions **“5”**

Identified priorities under Pillar 3

Main Goal 2

Suggestions for additions to the formulated actions (1)

- Implement common EU and international monitoring standards and research infrastructures for integrated coastal and marine management in support of policy- and decision makers.*Improve transboundary/Black Sea regional integrated monitoring and modeling implementing technological innovations.

National Relevance

- all actions **“5”**

Identified priorities under Pillar 3

Main Goal 4

Suggestions for additions to the formulated actions (1)

- Create, integrate and support incubators and techno parks for promoting SMEs, start-ups and innovative businesses for blue economy.*Establishing territorial national and regional investment profiles.

National Relevance

- all actions **"5"**

Suggestions for funding opportunities

- Fund of Funds
- European Bank for Reconstruction and Development
- BlueInvest Fund

Identified priorities under Pillar 4

Main Goal 2

Suggestions for additions to the formulated actions (1)

- Educate the communities in the region towards the unique value of the Black Sea and promote Citizen Science in the region. *Share good practices for pollution prevention for shaping ecological behavior and culture.

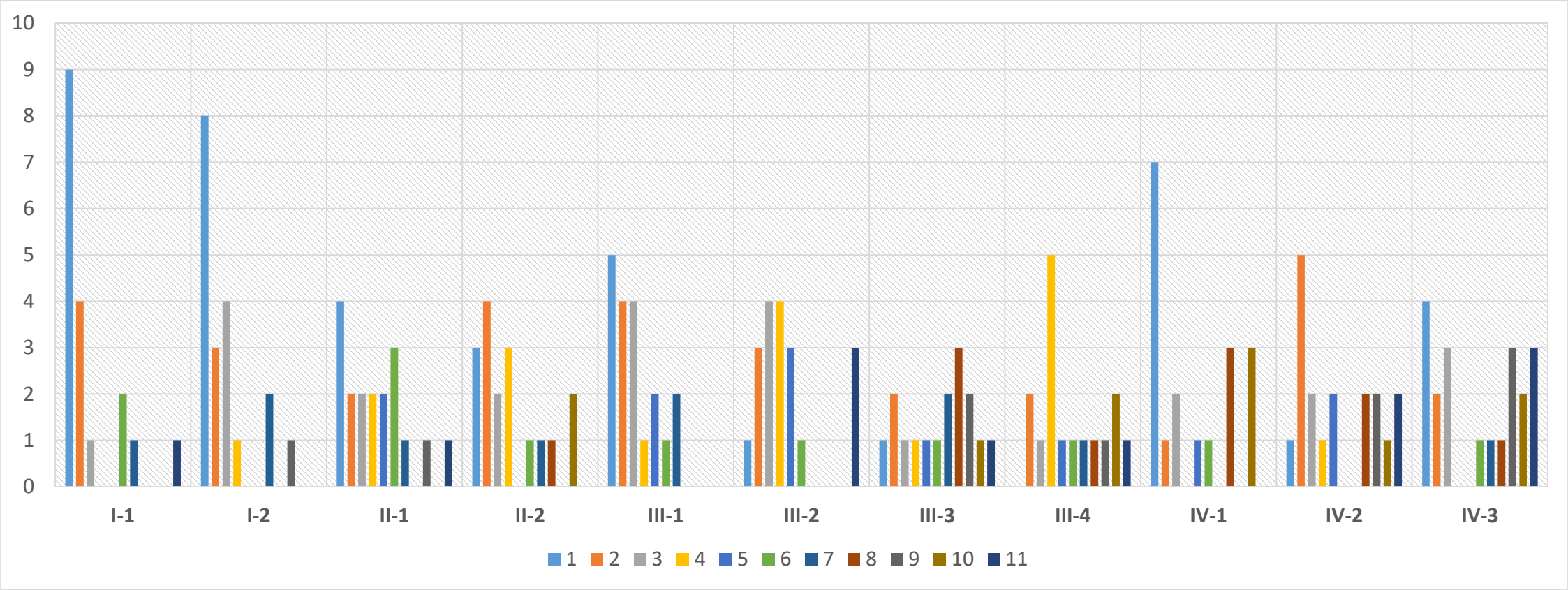
New actions suggested (1)

- Creating of Media Culture (journalist specialized in different fields of Black Sea ecological problems; expanding dedicated Black Sea Media broad casting).

National Relevance

- 2 actions **"5"**
- 1 action **"4"**

Other significant results



Ranking of the 11 Goals in the SRIA (output of the collated preliminary survey) by Pillars (I-IV)

Other significant results

Existing and on-going national projects and initiatives:

- MASRI – Infrastructure for sustainable development of marine research including the participation of Bulgaria in the European infrastructure EURO-ARGO, Contract № Д01-326/18.12.2019, MES
- National Science Program “Environmental Protection and Reduction of Risks of Adverse Events and Natural Disasters”
- National Geoinformation Center for monitoring, evaluation and forecasting of natural and anthropogenic risks and disasters

THANK YOU FOR YOUR ATTENTION!

Research and Innovation in the Black Sea: Empowering the next generation for a healthy, resilient and productive Black Sea

CONNECT BLACK SEA

Outputs of National Consultations in Georgia on the Strategic Research and Innovation

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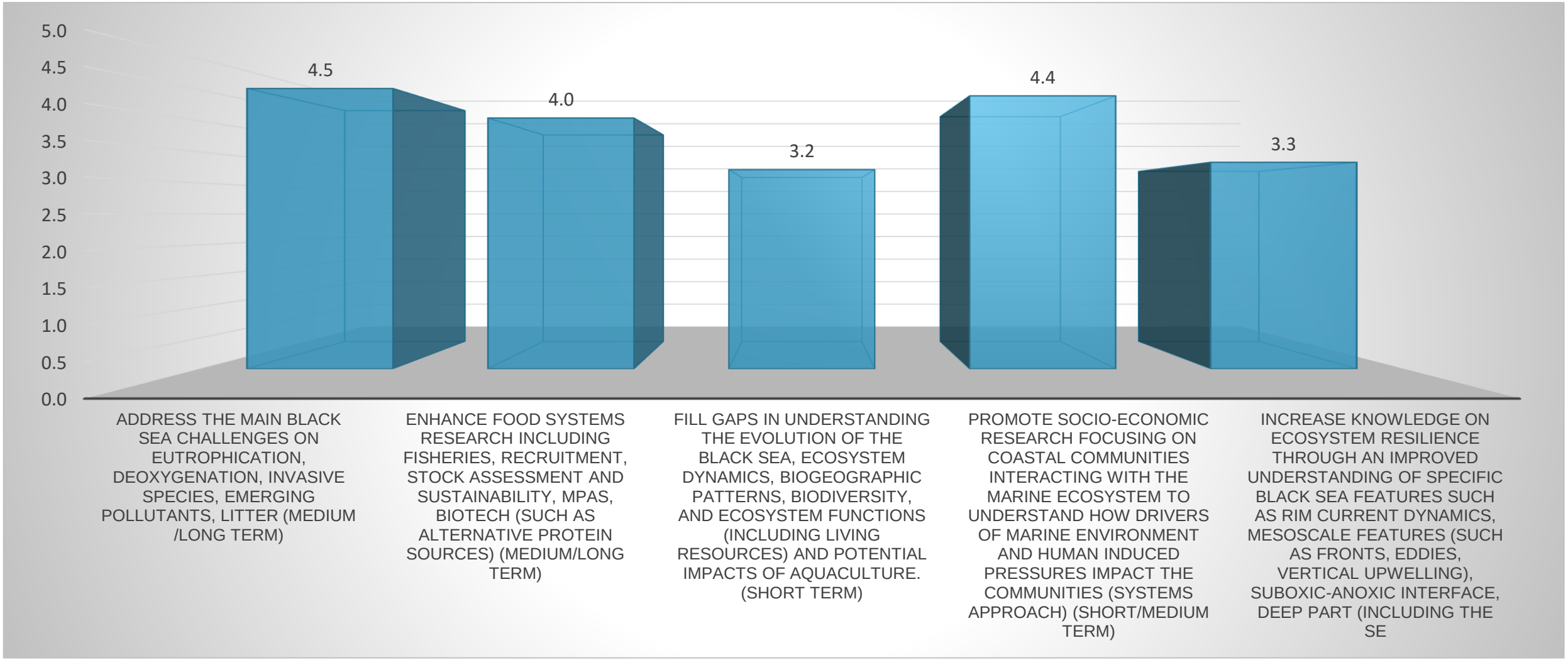
The activities of the Black Sea CONNECT Coordination and Support Action are funded the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 860055.

Workshop Overview

- Tbilisi State University (TSU) conducted the Black Sea Strategic Research and Innovation Agenda (BS-SRIA) Online National Workshop in Georgia on 28 September, 2020.
- Involving 34 stakeholders; 54 Invitees
- The profile/ Representation: Education/Expert, Public Administration, Private and Civil Society sectors attended
- After the introduction, participants of the National Workshop were invited to fill the questionnaire at http://survey.ge identifying their priorities and novel initiatives
- Priorities under Black Sea SRIA 4 Pillars have been identified under the following methodology: 3 categories: Low, average, high; The results are deduced through the specific mathematic formula.

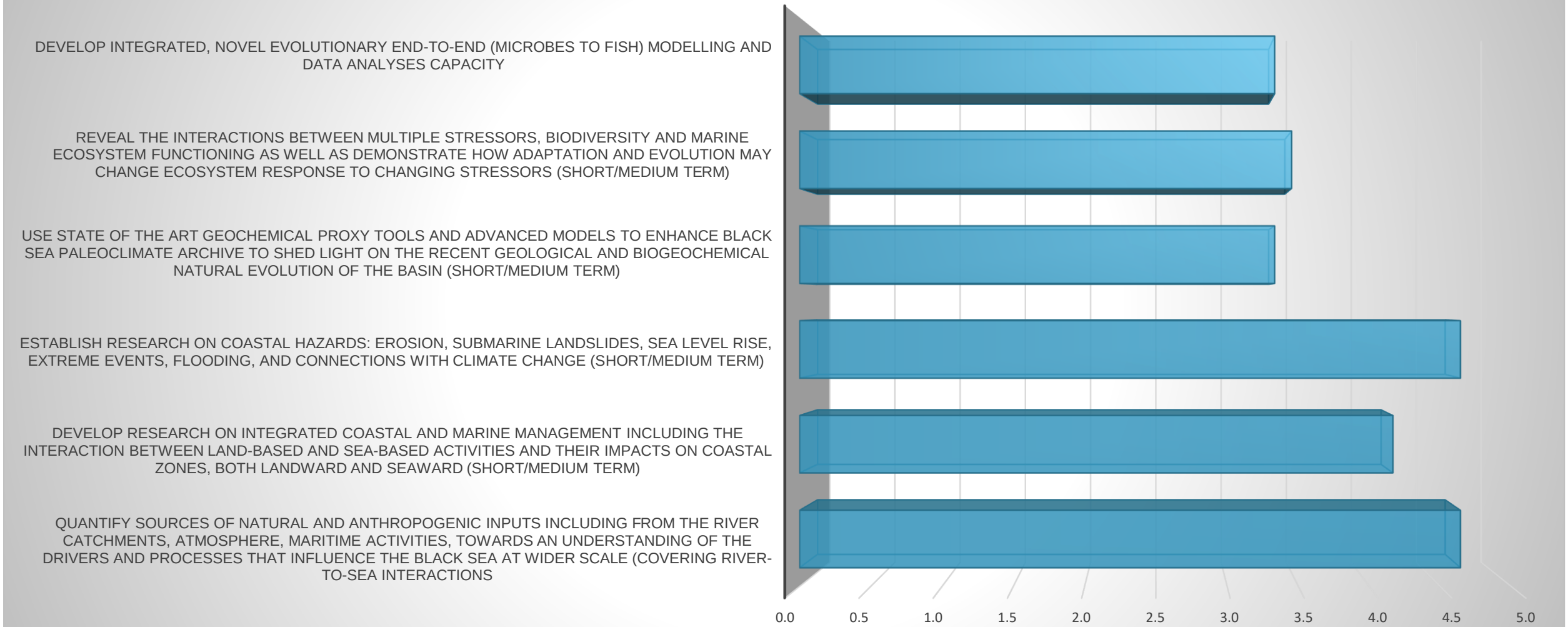
Pillar 1: Addressing fundamental Black Sea research challenges

Main Goal 1 - Developing innovative multi-disciplinary research, building on existing initiatives, including data sharing mechanisms that will generate the knowledge needed to increase ecosystems resilience.



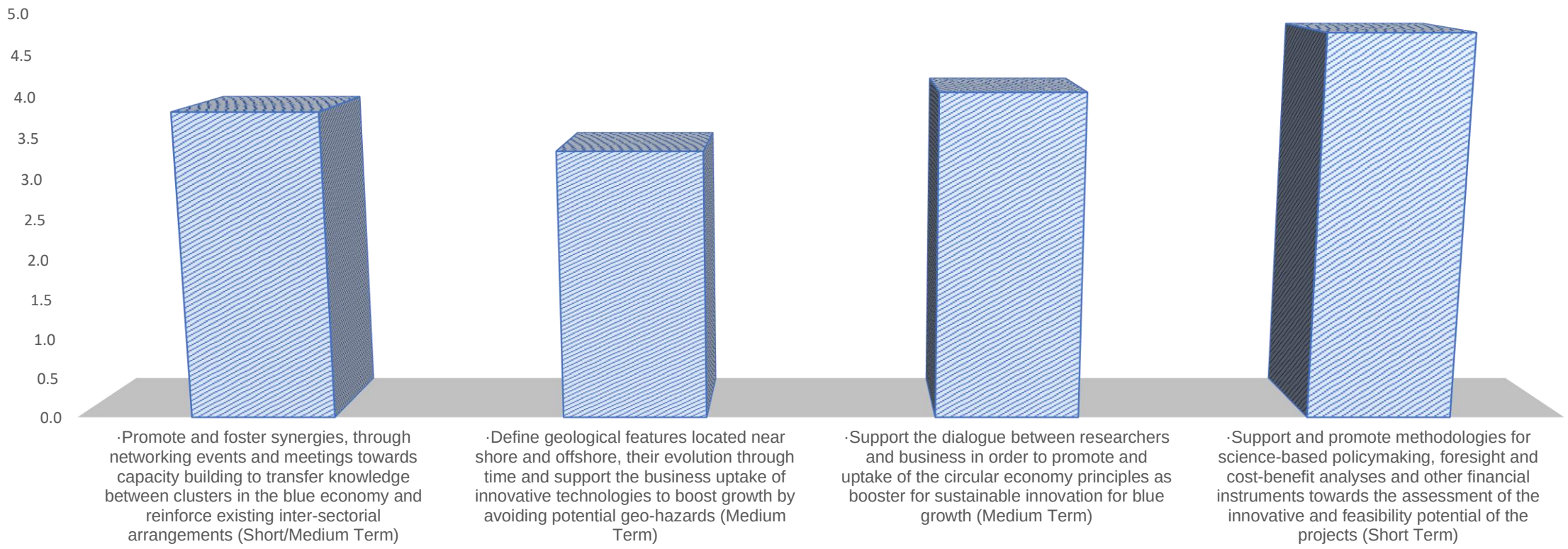
Pillar 1: Addressing fundamental Black Sea research challenges

Main Goal 2 - Providing new knowledge to mitigate the impacts of global climate change and the multiple environmental and anthropogenic stressors in the Black Sea from land-sea interface to the deep basin



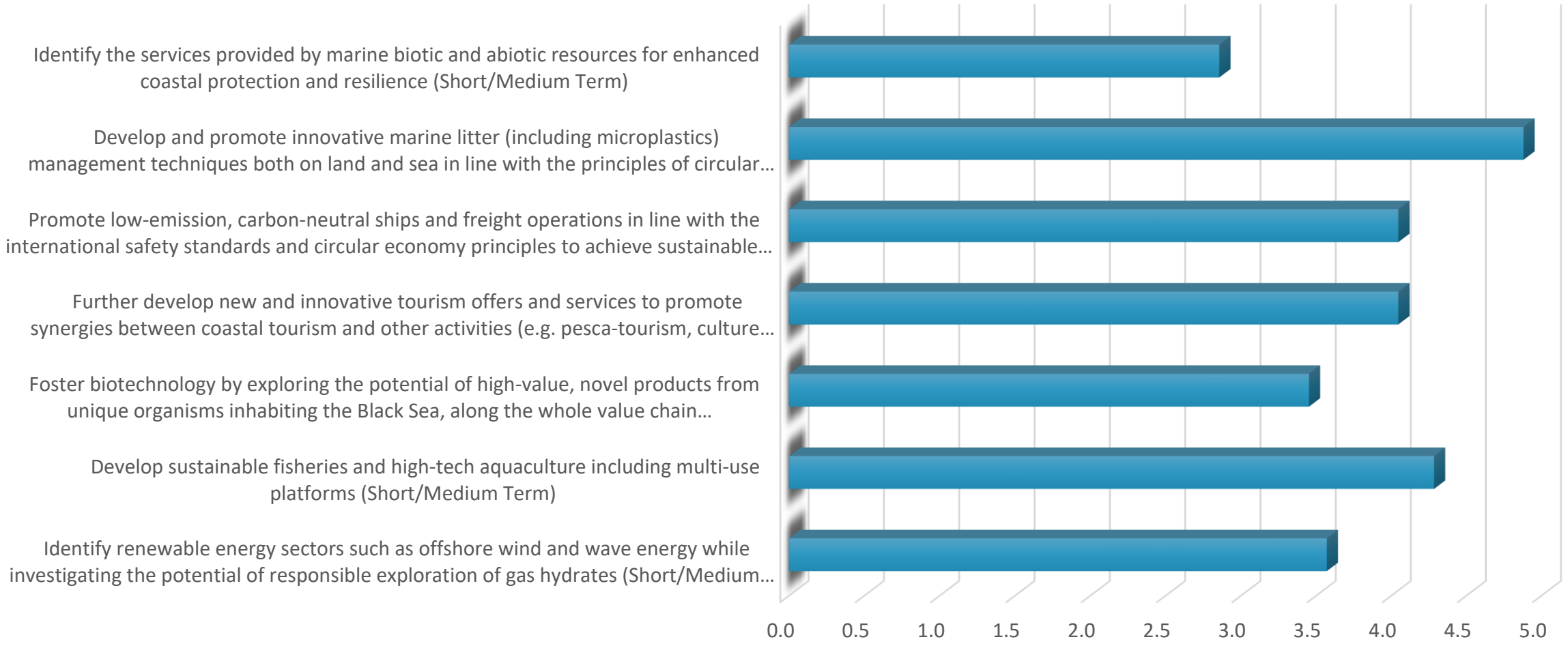
Pillar 2: Developing products, solutions and clusters underpinning Black Sea Blue Growth

Main Goal 1 - Supporting marine and maritime research and innovation domains of all the Black Sea countries to create synergy, increase economic benefits, reduce hazards in service of prospering, resilient and empowered communities deriving interest from the Black Sea basin



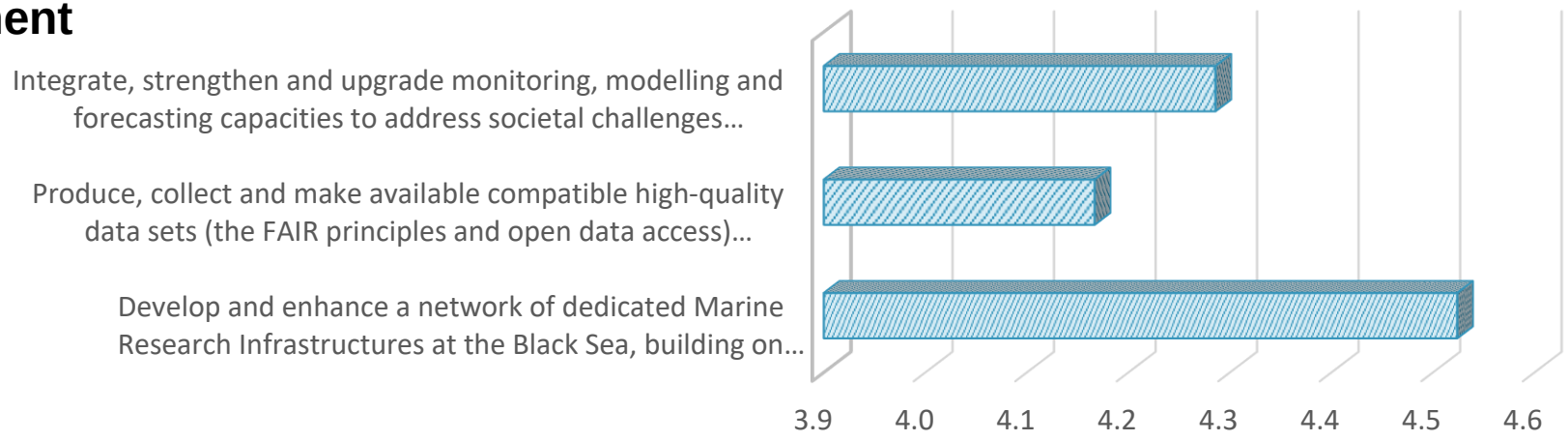
Pillar 2: Developing products, solutions and clusters underpinning Black Sea Blue Growth

Main Goal 2 - Creating incentives for maritime innovation in existing and new, emerging blue economy sectors

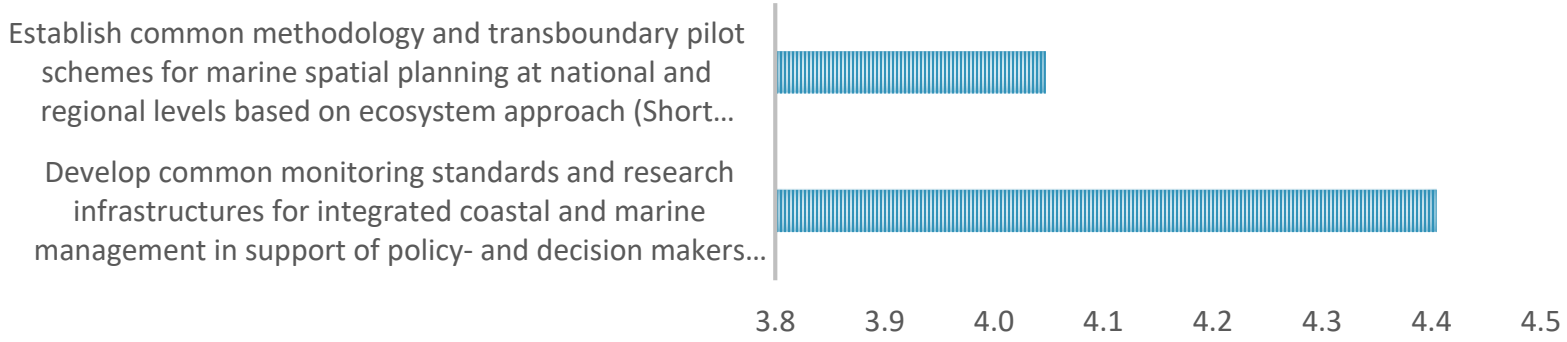


Pillar 3: Building of critical support systems and research infrastructures for communities

Main Goal 1 - Developing smart, integrated observing and monitoring systems in support of addressing scientific and socioeconomic challenges of the Black Sea, towards governance for a sustainable ecosystem, mitigation of climate change impacts, and accurate forecasting for adaptive management

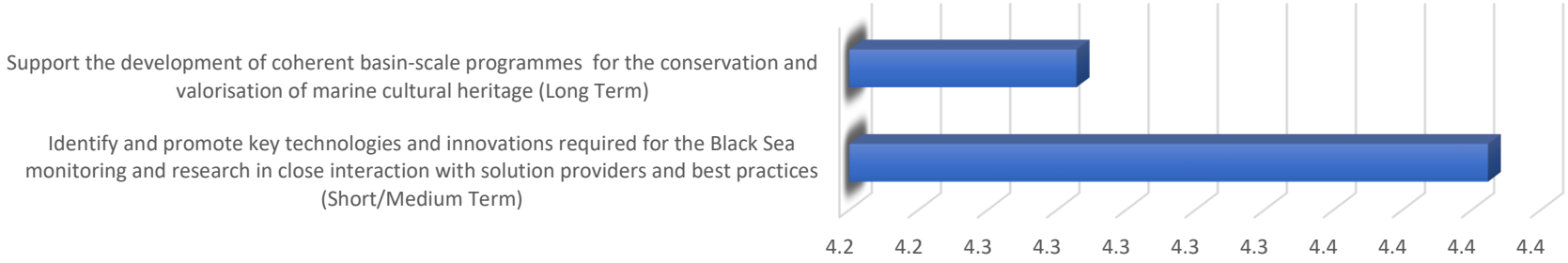


Main Goal 2 - Advancing a harmonised set of working methodologies, standards and procedures on all aspects of coastal and marine research

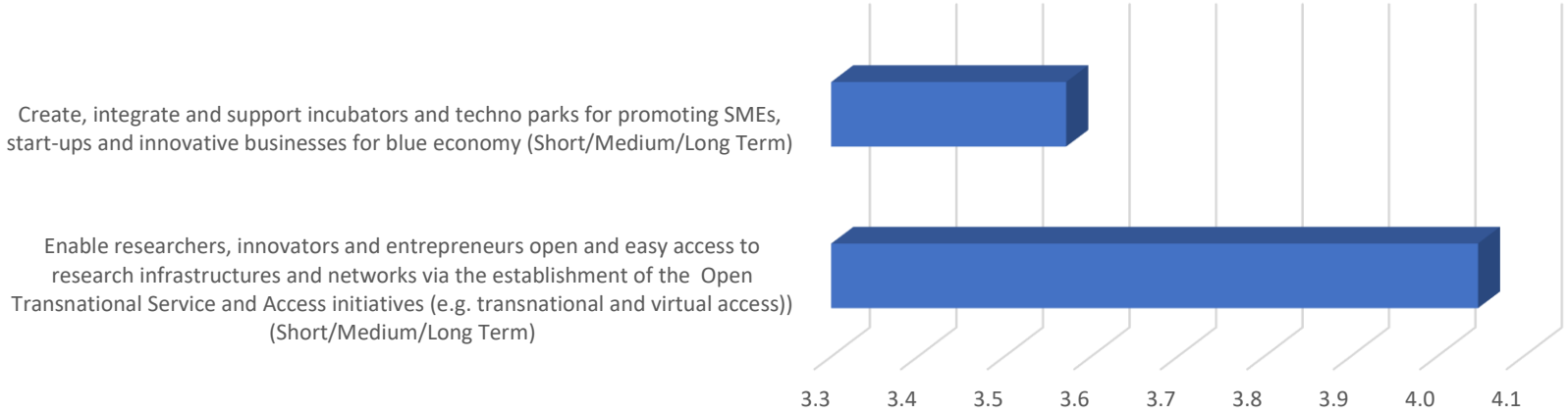


Pillar 3: Building of critical support systems and research infrastructures for communities

Main Goal 3 - Developing new marine based technologies by benefiting from the fourth industrial revolution for the Black Sea to promote safe and sustainable economic growth of the marine and maritime sectors, the conservation and valorisation of marine cultural heritage

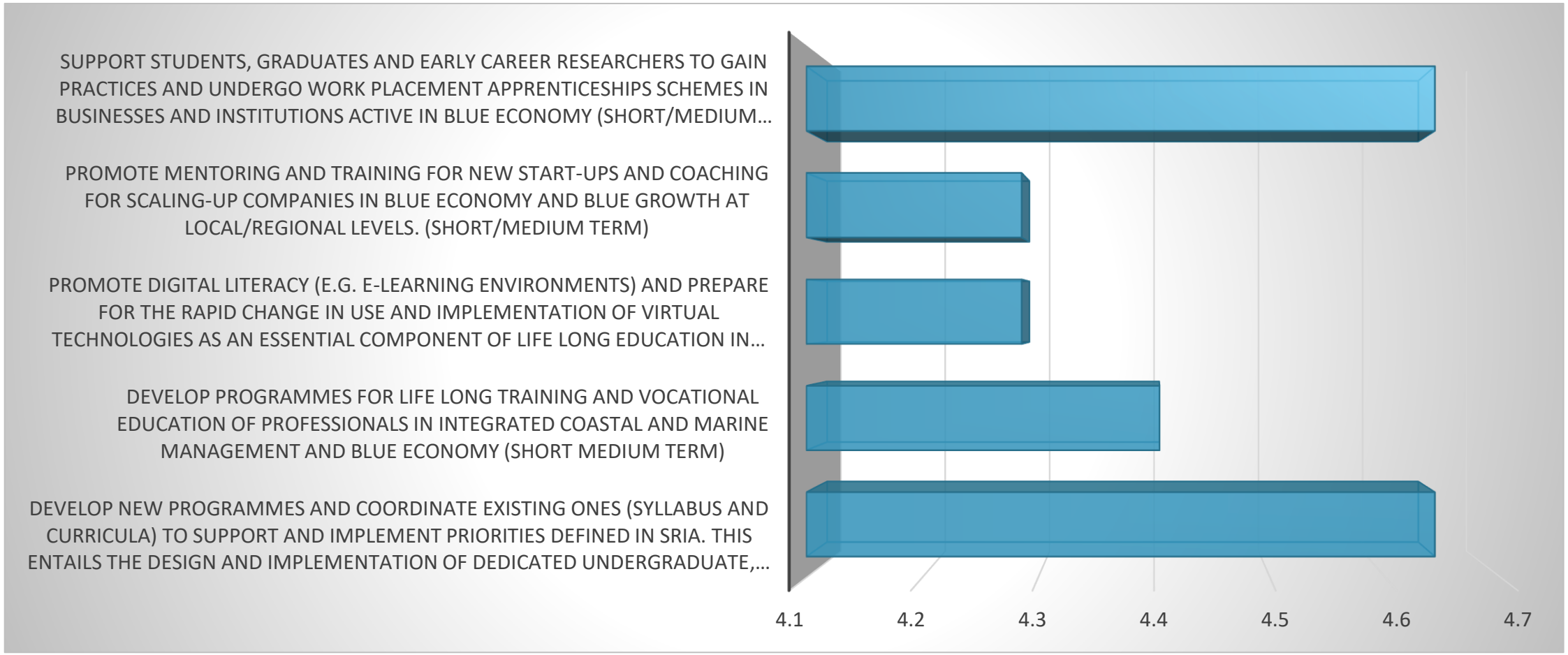


Main Goal 4 - Mechanisms to create, support and promote start-ups oriented towards the circular and blue economy in the Black Sea region



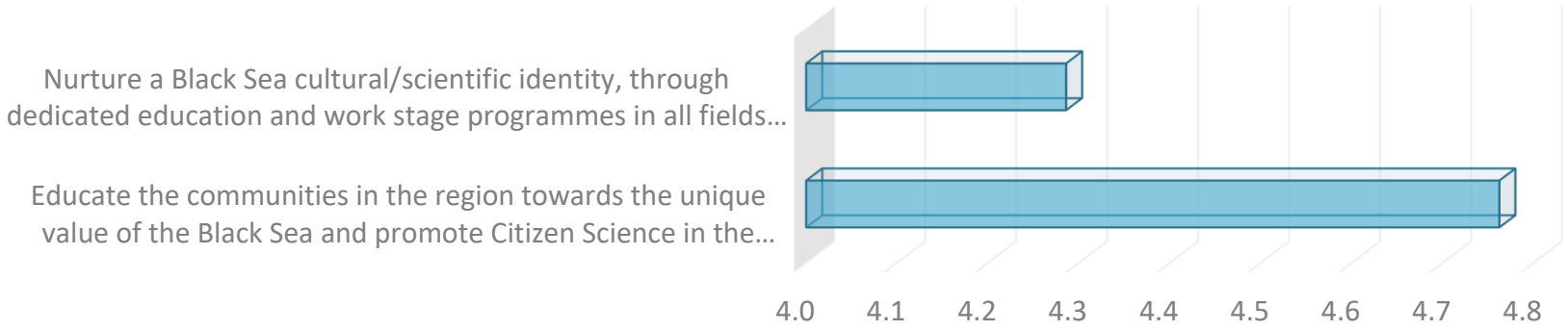
Pillar 4: Education and Capacity Building

Main Goal 1 - Supporting formal and informal learning, education, training and use of knowledge and technologies for established and emerging marine and maritime jobs

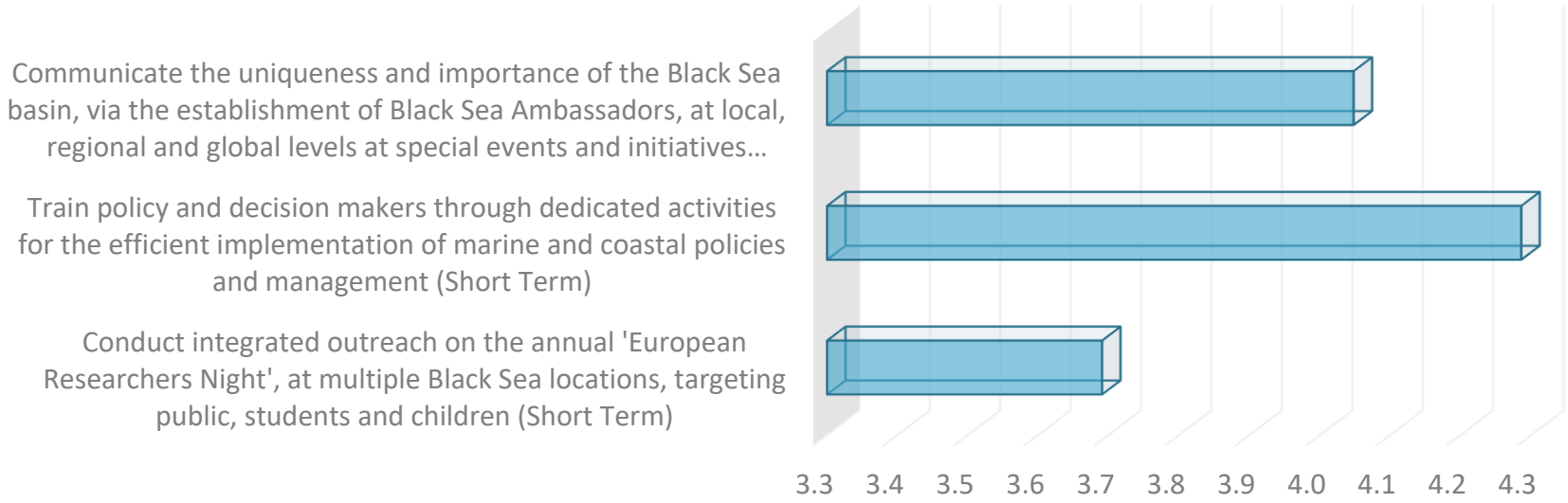


Pillar 4: Education and Capacity Building

Main Goal 2 - Empowering ocean-engaged citizens contributing to a clean, plastic free, healthy and productive Black Sea



Main Goal 3 - Contributing to enhanced science policy dialogue in formulating coastal and marine policies and programmes



Other Significant Results: Activity Suggestions

- **Other then identifying the priorities in the coastal zone of Georgia, the attendees thought of the ways of implementing the suggested activities;**
- **Some complementary activities have also been introduced;**

Noticeably:

- Bathing water pollutants such as faecal/microbiological as well as harmful algal blooms (HAB) not specifically mentioned in SRIA.
- Carrying out research on the Black Sea - to be able to properly assess and understand the priorities for predicting pollution and coastal sustainability.
- Implement bathing water pollution monitoring for all public beaches.
- Establish national Blue Flag or equivalent beach and bathing water rating schemes
- Establish Georgia-Turkey joint fisheries monitoring and assessment programme with public data sharing based on FAIR principles.
- Establish European system of coastal indicators e.g. DEDUCE or PEGASO
- Establishment of stationary research stations in the Black Sea waters within the borders of Georgia.
- Establish operational Black Sea Catchment Observation System to monitor and act on nutrient pollution loads (including introduction of economic and financial instruments for reduction of loads).
- Develop local safe landfill management programs (collection, transfer, disposal)
- Applying Black Sea Catchment Observation System for modelling streams of waste/litter from land based and riverine sources flowing into the Black Sea and to quantify marine/beach litter.
- Study of conflict of interest in zoning fisheries and other sectors of the economy for aquaculture development
- Establish European marine services national competent node in Georgia.

Integrate monitoring, modelling, and forecasting capabilities

- Preparation of a Guideline for Environmental Impact Assessments (EIA) of maritime and coastal projects for the Black Sea coastal countries, agencies responsible for environmental decisions on projects / plans.)
- Preparation of a Guideline for Strategic Environmental Assessment (SEA) of maritime and coastal plans for the Black Sea coastal countries (Actors: Black Sea Commission.
- Consultation and adoption of the draft the law of Georgia on integrated coastal zone management.
- Update, consultations and adoption the Integrated Coastal Zone Management Strategy for Georgia.
- Establish lifelong training and vocational education of professionals in ICZM, MSP and blue economy at leading universities in Georgia (Tbilisi State university, Ilia State University, and/or Batumi State University).
- Implement Fishing for Litter scheme in the Black Sea countries e.g. Turkey-Georgia-Ukraine pilot.
- Develop waste management campaign covering rivers and catchments in the Black Sea
- Develop beach clean-up campaigns and counts programme for all 6 countries.
- Reactivate integrated coastal and marine management legislation and strategy development process in Georgia by implementing relevant provisions of the EU Georgia Association Agreement action plan in the field of environment and climate change.

Thank you for your attention!

Research and Innovation in the Black Sea: Empowering the next generation for a healthy, resilient and productive Black Sea

CONNECT BLACK SEA

Outputs of National Consultations on the Strategic Research and Innovation Agenda

Ion Lica

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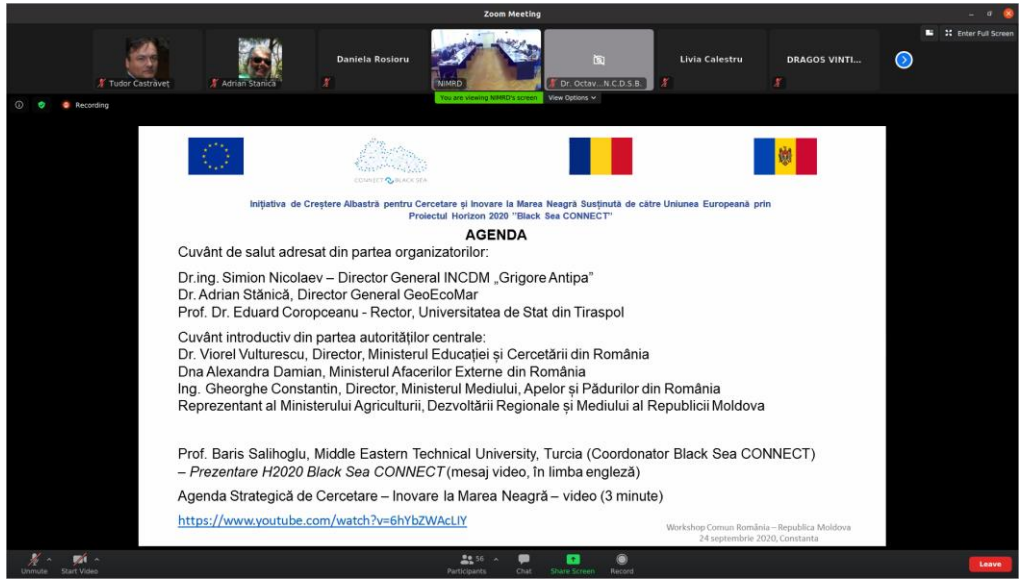
The activities of the Black Sea CONNECT Coordination and Support Action are funded the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 860055.

Workshop Overview

- BS Connect National SRIA Consultations Joint Workshop Romania - Republic of Moldova - September 24, 2020

- ~ 20 live and 56 online participants
- From: Ministry of Agriculture, Regional Development and Environment, Ministry of Economy and Infrastructure, Tiraspol State University, Technical University, Institute of Ecology and Geography, Institute of Geology and Seismology, Moldova State Hydrometeorological Serviceб „Moldova Waters” Agency, Cahul District Administration, NGOs, mass-media etc.

- Gender balance ~ 48/52%



Pillar 1: Black Sea Knowledge Bridge

Identified priorities under Pillar 1

- Quantify sources of natural and anthropogenic inputs including from the river catchments, atmosphere, maritime activities, towards an understanding of the drivers and processes that influence the Black Sea at wider scale (covering river-to-sea interactions and atmosphere – hydrosphere interfaces)
- Address the main Black Sea challenges on eutrophication, deoxygenation, invasive species, emerging pollutants, litter
- Develop research on integrated coastal and marine management including the interaction between land-based and sea-based activities and their impacts on coastal zones, both landward and seaward
- Fill gaps in understanding the evolution of the Black Sea, ecosystem dynamics, biogeographic patterns, biodiversity, and ecosystem functions (including living resources) and potential impacts of aquaculture
- Establish research on coastal hazards: erosion, submarine landslides, sea level rise, extreme events, flooding, and connections with climate change

Pillar 2: Black Sea Blue Economy

Identified priorities under Pillar 2

- Support and promote methodologies for science-based policymaking, foresight and cost-benefit analyses and other financial instruments towards the assessment of the innovative and feasibility potential of the projects
- Further develop new and innovative tourism offers and services to promote synergies between coastal tourism and other activities (e.g. pesca-tourism, culture and underwater heritage, aquaculture, yachting)
- Support the dialogue between researchers and business in order to promote and uptake of the circular economy principles as booster for sustainable innovation for blue growth
- Promote and foster synergies, through networking events and meetings towards capacity building to transfer knowledge between clusters in the blue economy and reinforce existing inter-sectorial arrangements
- Develop and promote innovative marine litter (including microplastics) management techniques both on land and sea in line with the principles of circular economy

Pillar 3: Key Infrastructure and Policy Enablers

Identified priorities under Pillar 3

- Support the development of coherent basin-scale programmes for the conservation and valorisation of marine cultural heritage
- Develop and enhance a network of dedicated Marine Research Infrastructures at the Black Sea, building on existing European and international initiatives, ensuring interaction between the ongoing projects and research activities
- Integrate, strengthen and upgrade monitoring, modelling and forecasting capacities to address societal challenges
- Produce, collect and make available compatible high-quality data sets (the FAIR principles and open data access)
- Establish common methodology and transboundary pilot schemes for marine spatial planning at national and regional levels based on ecosystem approach

Pillar 4: Education and Capacity Building

Identified priorities under Pillar 4

- Develop new programmes and coordinate existing ones (syllabus and curricula) to support and implement priorities defined in SRIA. This entails the design and implementation of dedicated undergraduate, MSc, PhD and postdoctoral programmes for future researchers and professionals in all fields of Blue Growth
- Promote digital literacy (e.g. e-learning environments) and prepare for the rapid change in use and implementation of virtual technologies as an essential component of life long education in all fields of blue economy
- Communicate the uniqueness and importance of the Black Sea basin, via the establishment of Black Sea Ambassadors, at local, regional and global levels at special events and initiatives such as the International Black Sea Day (31st October), and the European Maritime Day
- Conduct integrated outreach on the annual 'European Researchers Night', at multiple Black Sea locations, targeting public, students and children
- Support students, graduates and early career researchers to gain practices and undergo work placement apprenticeships schemes in businesses and institutions active in blue economy

Thank you…

Research and Innovation in the Black Sea: Empowering the next generation for a healthy, resilient and productive Black Sea

CONNECT BLACK SEA

Outputs of National Consultations on the Strategic Research and Innovation Agenda - Romania

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The activities of the Black Sea CONNECT Coordination and Support Action are funded the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 860055.

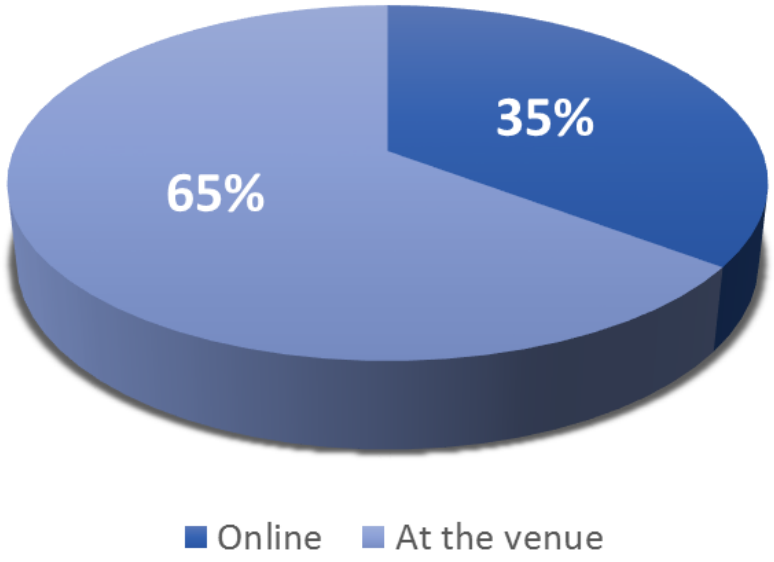
Workshop Overview

Joint Hybrid Workshop – Romania – Moldova – September 24th, 2020

Romanian Participation (numbers for the completed questionnaires)

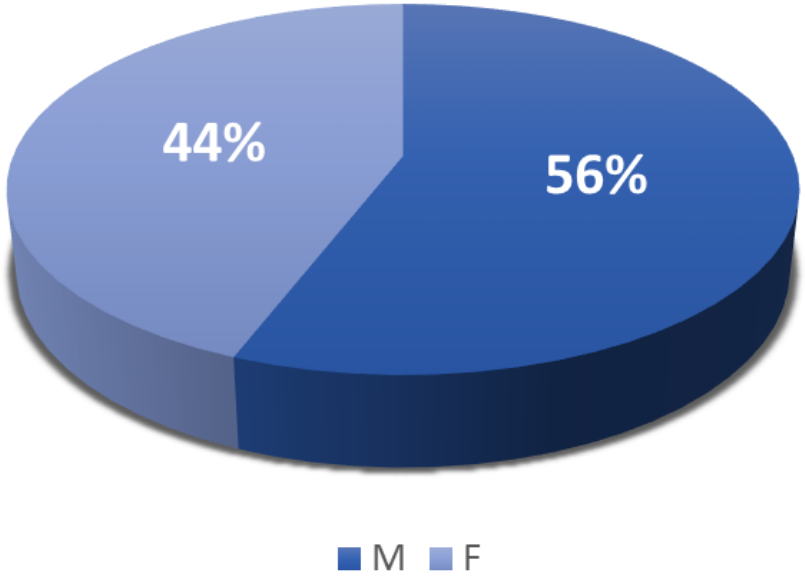
How many participants?

- 12 online
- 22 at the venue



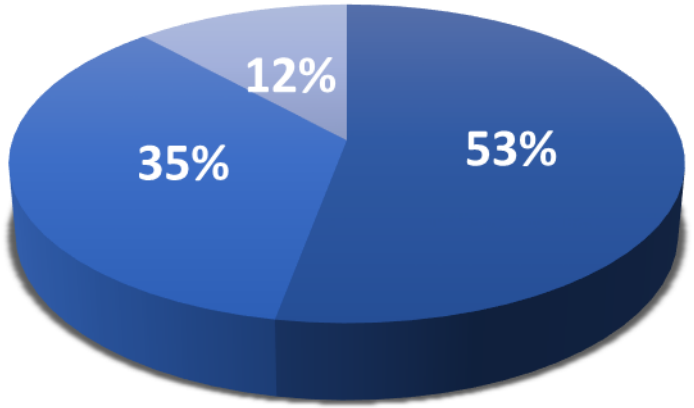
Gender balance?

- 19 M
- 15 F



Workshop Overview

Participants profile



Overall outcomes - Romania

- All activities from the SRIA were considered to be either Extremely Important (5 on the scale 1-5) or Very Important (4 on the scale 1-5)
- All activities need to start as soon as possible
- Funding sources – all pointed towards the Mix between National and Local budget, EU and International Organizations funds, Private Investments – as the most suitable funding solutions

Pillar 1: Black Sea Knowledge Bridge
Addressing fundamental Black Sea research challenges

Main Goal 1 - Developing innovative multi-disciplinary research, building on existing initiatives, including data sharing mechanisms that will generate the knowledge needed to increase ecosystems resilience.

- Address the main Black Sea challenges on eutrophication, deoxygenation, invasive species, emerging pollutants, litter
- Fill gaps in understanding the evolution of the Black Sea, ecosystem dynamics, biogeographic patterns, biodiversity, and ecosystem functions (including living resources) and potential impacts of aquaculture. **(Short Term)**

Main Goal 2 - Providing new knowledge to mitigate the impacts of global climate change and the multiple environmental and anthropogenic stressors in the Black Sea from land-sea interface to the deep basin

- Quantify sources of natural and anthropogenic inputs including from the river catchments, atmosphere, maritime activities, towards an understanding of the drivers and processes that influence the Black Sea at wider scale (covering river-to-sea interactions and atmosphere – hydrosphere interfaces) **(Short/Medium Term)**
- Develop research on integrated coastal and marine management including the interaction between land-based and sea-based activities and their impacts on coastal zones, both landward and seaward **(Short/Medium Term)**

Pillar 2: Black Sea Blue Economy

Main Goal 1 - Supporting marine and maritime research and innovation domains of all the Black Sea countries to create synergy, increase economic benefits, reduce hazards in service of prospering, resilient and empowered communities deriving interest from the Black Sea basin

- Promote and foster synergies, through networking events and meetings towards capacity building to transfer knowledge between clusters in the blue economy and reinforce existing inter-sectorial arrangements **(Short/Medium Term)**
- Define geological features located near shore and offshore, their evolution through time and support the business uptake of innovative technologies to boost growth by avoiding potential geo-hazards **(Medium Term)**

Main Goal 2 - Creating incentives for maritime innovation in existing and new, emerging blue economy sectors

- Identify renewable energy sectors such as offshore wind and wave energy while investigating the potential of responsible exploration of gas hydrates **(Short/Medium Term)**
- Develop sustainable fisheries and high-tech aquaculture including multi-use platforms **(Short/Medium Term)**

Pillar 3: Key Infrastructure and Policy Enablers

Main Goal 1 - Developing smart, integrated observing and monitoring systems in support of addressing scientific and socioeconomic challenges of the Black Sea, towards governance for a sustainable ecosystem, mitigation of climate change impacts, and accurate forecasting for adaptive management

Develop and enhance a network of dedicated Marine Research Infrastructures at the Black Sea, building on existing European and international initiatives, ensuring interaction between the ongoing projects and research activities (**Short Term)**

Main Goal 2 - Advancing a harmonised set of working methodologies, standards and procedures on all aspects of coastal and marine research

Develop common monitoring standards and research infrastructures for integrated coastal and marine management in support of policy- and decision makers **(Medium Term)**

Main Goal 3 - Developing new marine based technologies by benefiting from the fourth industrial revolution for the Black Sea to promote safe and sustainable economic growth of the marine and maritime sectors, the conservation and valorisation of marine cultural heritage

Support the development of coherent basin-scale programmes for the conservation and valorisation of marine cultural heritage **(Long Term)**

Main Goal 4 - Mechanisms to create, support and promote start-ups oriented towards the circular and blue economy in the Black Sea region

Create, integrate and support incubators and techno parks for promoting SMEs, start-ups and innovative businesses for blue economy **(Short/Medium/Long Term)**

Pillar 4: Education and Capacity Building

Main Goal 1 - Supporting formal and informal learning, education, training and use of knowledge and technologies for established and emerging marine and maritime jobs

- Develop new programmes and coordinate existing ones (syllabus and curricula) to support and implement priorities defined in SRIA. This entails the design and implementation of dedicated undergraduate, MSc, PhD and postdoctoral programmes for future researchers and professionals in all fields of Blue Growth **(Short/Medium Term)**
- Develop programmes for life long training and vocational education of professionals in integrated coastal and marine management and blue economy **(Short Medium Term)**

Main Goal 2 - Empowering ocean-engaged citizens contributing to a clean, plastic free, healthy and productive Black Sea

- Educate the communities in the region towards the unique value of the Black Sea and promote Citizen Science in the region **(Short/Medium Term)**
- Nurture a Black Sea cultural/scientific identity, through dedicated education and work stage programmes in all fields of research and Blue Economy **(Short Term)**

Main Goal 3 - Contributing to enhanced science policy dialogue in formulating coastal and marine policies and programmes

- Train policy and decision makers through dedicated activities for the efficient implementation of marine and coastal policies and management **(Short Term)**
- Communicate the uniqueness and importance of the Black Sea basin, via the establishment of Black Sea Ambassadors, at local, regional and global levels at special events and initiatives such as the International Black Sea Day (31st October), and the European Maritime Day **(Short Term)**

Additional ideas

Pillar 1

Study the impact of sea level rise on coastal ecosystems. • Ecological restoration studies of polluted / destroyed coastal areas. Development of regional coastal models, future predictions, models for the digital ocean. • Strategies for implementing actions for counteract the effects of the climate change. • Assessment of the impact of submarine mineral resource exploitation on Black Sea ecosystems. • 3D mapping of sea bottom morphology and of velocities of the Black Sea currents.

Pillar 3

Establishing more demanding sets of rules for the maritime vessels in the Black Sea basin, in order to combat pollution (although it is already declared a special area) ; Establish methodologies for maritime vessels voluntary reporting pollution incidents / affecting the marine ecosystem in the Black Sea basin. • Establish clear responsibilities (including reporting the fulfillment of the obligations to implement the methodology). • Filling the lack of understanding of the importance of this link between cultural heritage and social and environmental aspects. • Development of special research programmes for information on and capitalization of underwater heritage. • Coherent and permissive national legislative framework for the practice of recreational diving and scientific research.

Research and Innovation in the Black Sea: Empowering the next generation for a healthy, resilient and productive Black Sea

From Stakeholder's Round table in Dursu RF

CONNECT BLACK SEA

SRIA

Presentation of latest status of the aims and tasks SRIA for the Black Sea

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The activities of the Black Sea CONNECT Coordination and Support Action are funded the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 860055.

Workshop overview

September 10, 2020, *Durso, Krasnodar region, Russia*

The main aim was to address and discuss the latest status on the Black Sea SRIA and its Implementation Plan, to have the healthy, resilient and reach Black Sea through connecting efforts of all representatives

In total about 50 participants, both in person and on line were involved.
Participants included high level authorities:

- **Vladimir Ryabinin,** IOC UNESCO Executive Secretary, (Video address)
- **Administrations** of Krasnodar region with greetings
- **Igor Kapyrin (**Ministry of Foreign Affairs, RF**),**
- **Sergei Goncharenko (BSEC)** the Organization of the Black Sea
- Economic cooperation
- **Vladislava Nemova** (The World Bank)
- **Sigi Gruber (**Directorate-General Research and Innovation, European Commission
- **Baris Salihoglu, Mustafa Yucel** (Middle East Technical University)

Russian universities,all institutes involved in the Black and Azov Sea research, stakeholders

Pillar 1: Black Sea Knowledge Bridge

Identified priorities under Pillar 1:

- Managing and conducting of summer schools and training courses for students and other young interested people

Pillar 2: Black Sea Blue Economy

Identified priorities under Pillar 2:

- Implementation Plan to push the economical recovery of the Black Sea states

Pillar 3: Key Infrastructure and Policy Enablers

Identified priorities under Pillar 3:

- To join efforts of responsible parties

Pillar 4: Education and Capacity Building

Identified priorities under Pillar 4:

- Empowered the citizens and enhanced BLUE WORKFORCE for better implication of designated tasks

Other significant results

- after listening to and discussing a wide range of issues related to sustainable development of marine (blue) economy in the Azov-Black sea region, the objectives included in the draft implementation Plan for the UN Decade ocean Sciences for sustainable development, a scientific approach to conservation and restoration of ecosystems of the Black and Azov seas.

Research and Innovation in the Black Sea: Empowering the next generation for a healthy, resilient and productive Black Sea

CONNECT BLACK SEA

SRIA Consultation Workshop of Turkey

Mustafa Yücel

METU-IMS, Turkey

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Workshop Overview

- 154 participants
- Universities, research organizations, ministries, funding agencies, municipalities, private sector, civil society.
- 53% Women

  47% Men

Workshop Overview – Plenary and Group Work

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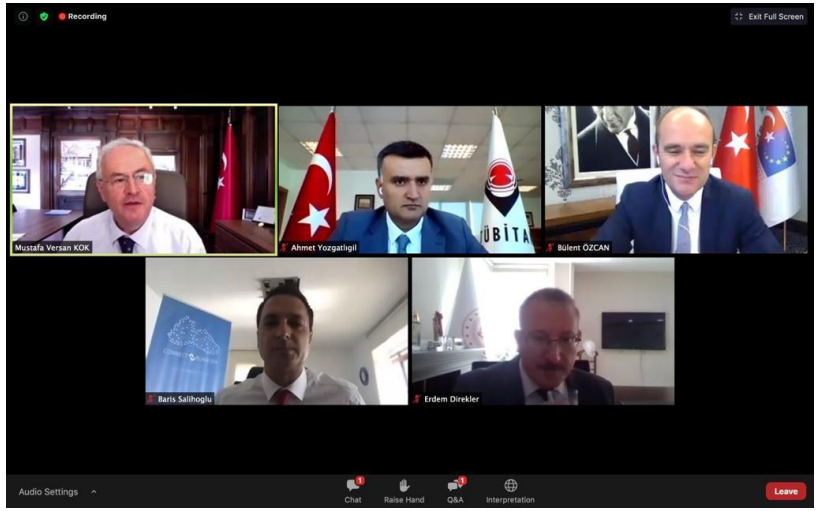

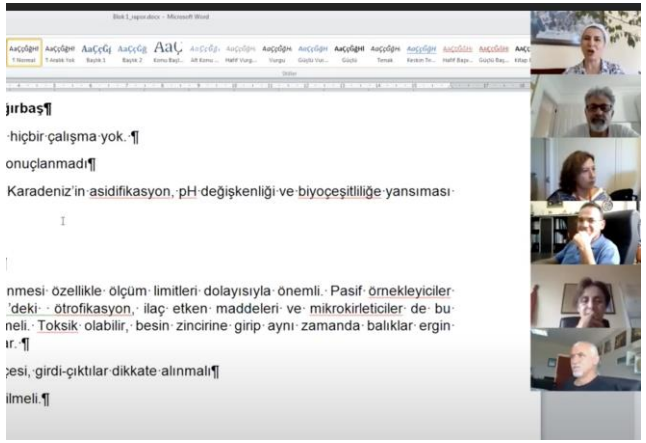

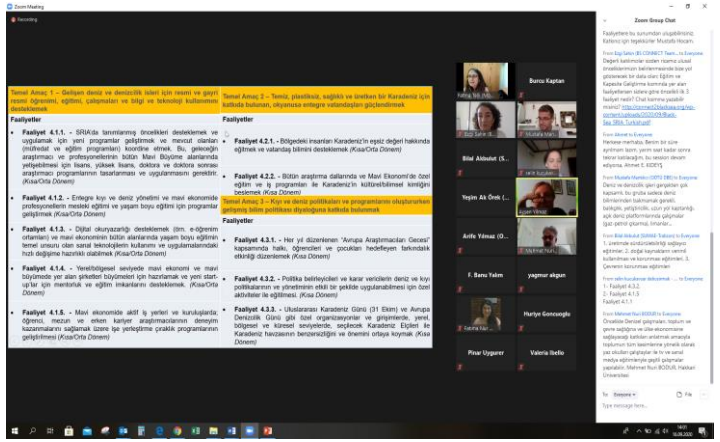

Synthesis Panel with Moderators and Reporters

Nüket Sivri

Yakup Peker

Devrim Tezcan

Fatma Telli Karakoç

Gülsen Avaz

Aslı Süha Günay

Meltem Ok

Yeşim Ak Örek

Pillar 1: Black Sea Knowledge Bridge

- Actions 1.1.1. (multistressors) and 1.1.2 (food systems) are evaluated as crucial
- Data integration needed for water and biogeochemical budgets – basis of all
- Links to infrastructures and education are a must to implement Pillar 1
- Supporting joint seagoing expeditions
- Unique, frontier science topics in the Black Sea linking physics to chemistry to evolution of life should not be overlooked. This will attract talent too.

Pillar 2: Black Sea Blue Economy

- Highest priority: 2.2.4 coastal tourism – new approaches are seen as priority to develop this sector.
- Transport/shipbuilding, aquaculture and biotech important
- Circular economy principles well taken – linked to plastics
- Ecosystem based management and planning
- Linked to data infrastructures as well from biotech data to socioeconomics

Pillar 3: Key Infrastructure and Policy Enablers

- Actions 3.2.2 (marine planning) and 3.3.1 (novel technologies) highest ranked
- Many independent research infrastructures, national level coordination lacking
- Standardization and compatibility of data urgent need
- Need for user-oriented data products and need to access
- When databases are mentioned classical ‘data’ needs have been expanded to genetics to socioeconomics.

Pillar 4: Education and Capacity Building

- Near term priority: develop programs for policy makers and blue professionals for relatively fast results
- Citizen science including cultural heritage
- Lifelong learning – start ‘blue’ education early
- Apprenticeships programs
- Digital ocean literacy
- Suggestion: emphasis on accredited training programs

Other significant results

- Interest in compiling a history of research and innovation of the Black Sea
- Need involvement from more social scientists
- Plus more private sector, civil society… different methods of engagement needed – CMA link crucial here (Panel 2 of today)
- Need to break down the Silos !!

Research and Innovation in the Black Sea: Empowering the next generation for a healthy, resilient and productive Black Sea

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Outputs of National Consultations on the Strategic Research and Innovation - Ukraine

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UkrSCES

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Workshop Overview: 100 participants

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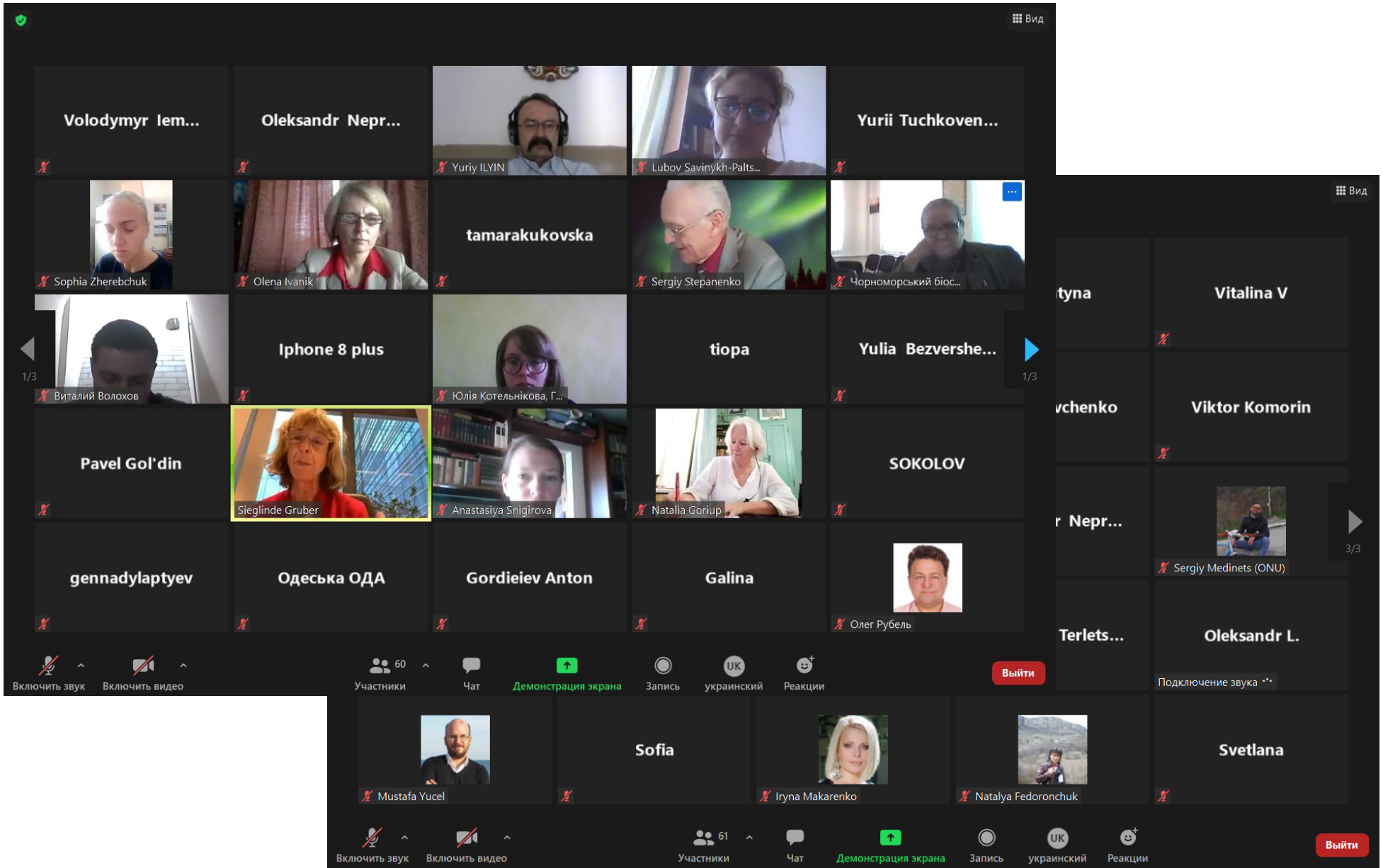
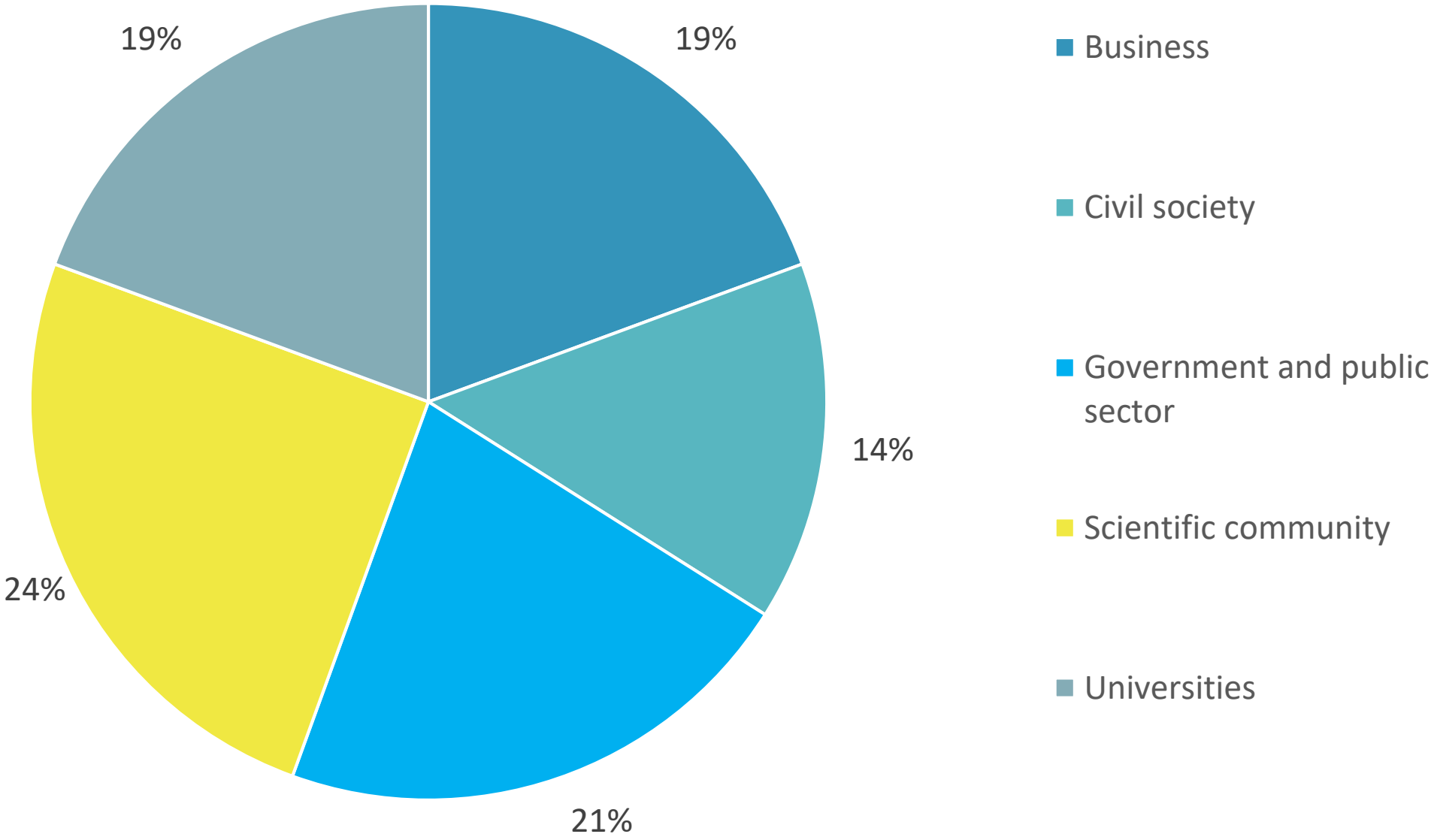


Workshop Overview: Profile



Workshop Overview: Pillars sessions

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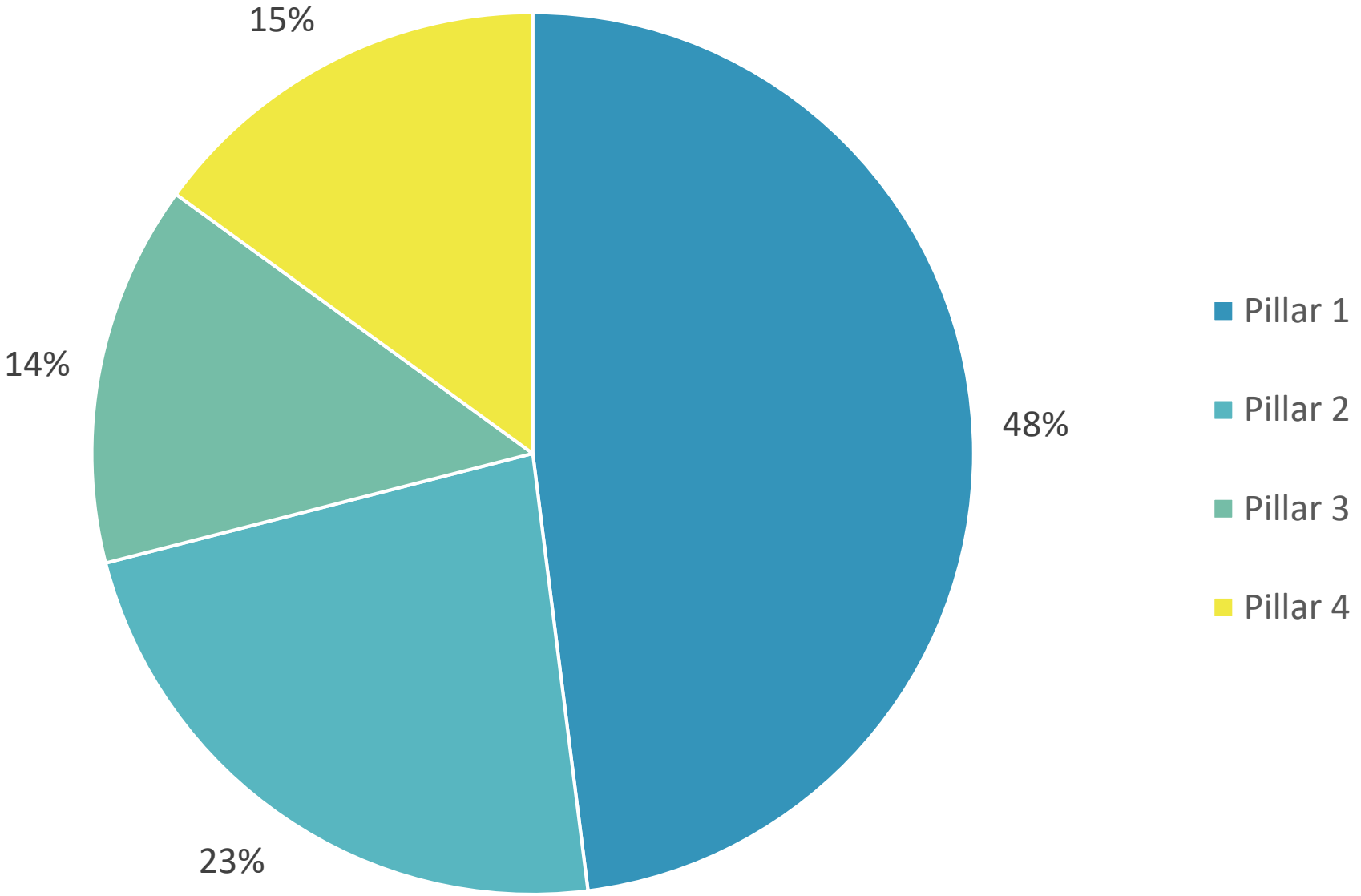
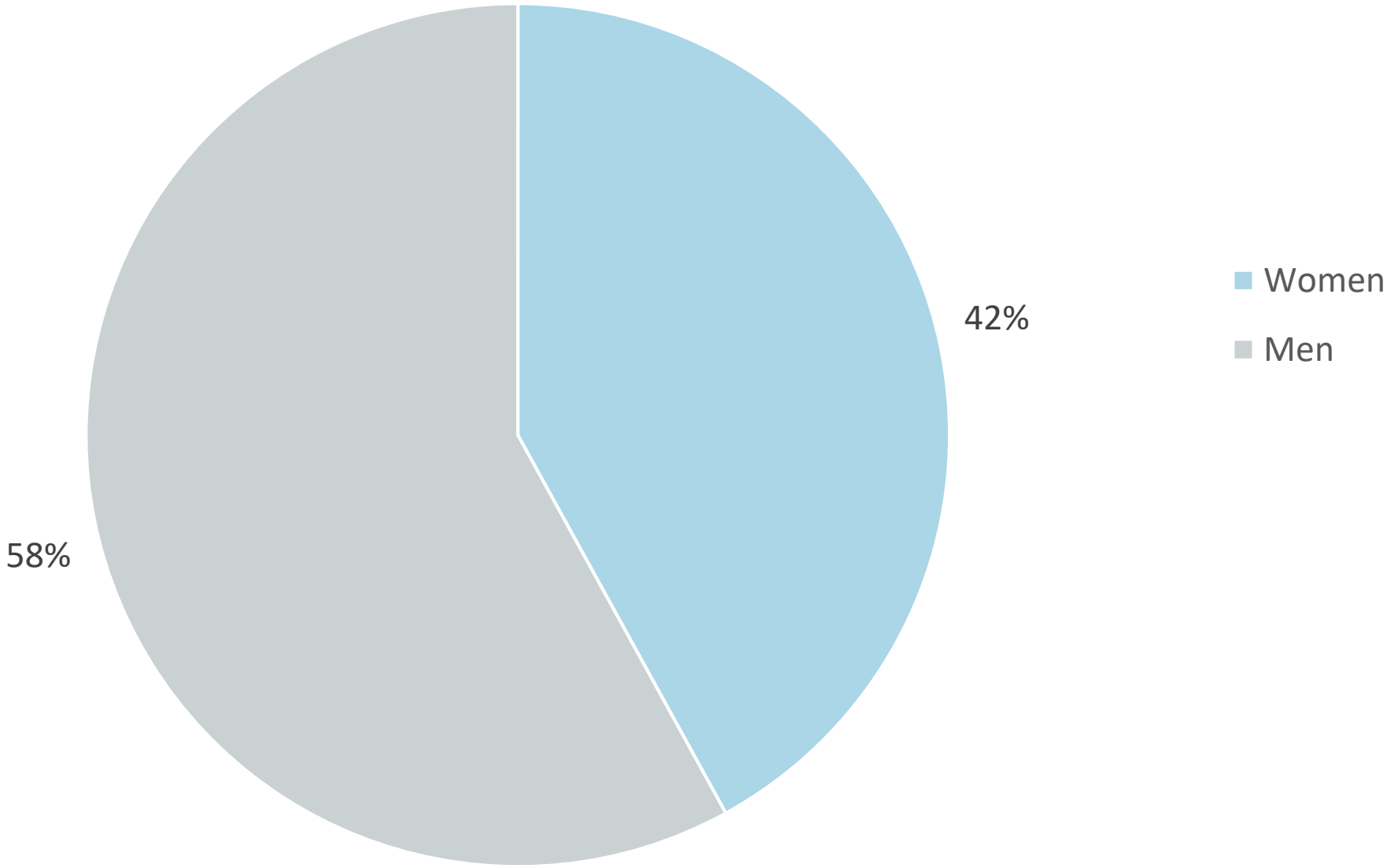


Workshop Overview: Gender



Pillar 1: Black Sea Knowledge Bridge

- Address the main Black Sea challenges on eutrophication, deoxygenation, invasive species, emerging pollutants, litter;
- Promote socio-economic research focusing on coastal communities interacting with the marine ecosystem to understand how drivers of marine environment and human induced pressures impact the communities;
- Increase knowledge on ecosystem resilience through an improved understanding of specific Black Sea features such as Rim current dynamics, mesoscale features, suboxic-anoxic interface, deep part in the Black Sea and their roles in nutrient fluxes, productivity and fisheries;
- Use state of the art geochemical proxy tools and advanced models to enhance Black Sea paleoclimate archive to shed light on the recent geological and biogeochemical natural evolution of the Basin

Pillar 2: Black Sea Blue Economy

- Promote and foster synergies, through networking events and meetings towards capacity building to transfer knowledge between clusters in the blue economy and reinforce existing inter-sectorial arrangements;
- Define geological features located near shore and offshore, their evolution through time and support the business uptake of innovative technologies to boost growth by avoiding potential geo-hazards;
- Develop sustainable fisheries and high-tech aquaculture including multi-use platforms;
- Identify renewable energy sectors such as offshore wind and wave energy while investigating the potential of responsible exploration of gas hydrates

Pillar 3: Key Infrastructure and Policy Enablers

- Develop and enhance a network of dedicated Marine Research Infrastructures at the Black Sea, building on existing European and international initiatives, ensuring interaction between the ongoing projects and research activities;
- Develop common monitoring standards and research infrastructures for integrated coastal and marine management in support of policy- and decision makers;
- Identify and promote key technologies and innovations required for the Black Sea monitoring and research in close interaction with solution providers and best practices;
- Enable researchers, innovators and entrepreneurs open and easy access to research infrastructures and networks via the establishment of the Open Transnational Service and Access initiatives

Pillar 4: Education and Capacity Building

- Develop programmes for life long training and vocational education of professionals in integrated coastal and marine management and blue economy;
- Develop new programmes and coordinate existing ones (syllabus and curricula) to support and implement priorities defined in SRIA. This entails the design and implementation of dedicated undergraduate, MSc, PhD and postdoctoral programmes for future researchers and professionals in all
fields of Blue Growth;
- Nurture a Black Sea cultural/scientific identity, through dedicated education and work stage programmes in all fields of research and Blue Economy;
- Train policy and decision makers through dedicated activities for the efficient implementation of marine and coastal policies and management

Other significant results

- Additional online surveys on the priority of actions within the framework of 4 Pillars are needed in Ukraine;
- To add to Main Goal 1 of Pillar 1: *Supporting the priority of interdisciplinary studies of the Black Sea ecosystems on the basis of a holistic approach methodology, obtaining fundamental patterns of the biological component's response to balance disorders, under the influence of anthropogenic factors and climatic conditions;* conservation and restoration of natural resources of the founding of the northwestern Black Sea region in the conditions of climate change, taking place by implementing effective strategies for their water and environmental management;
- To add to Main Goal 2 of Pillar 1: Development and implementation of modern technologies of modeling and forecasting the state of the marine environment;
- To apply to the state authorities with an interagency initiative (Ministry of Environmental Protection of Ukraine, National Academy of Sciences of Ukraine and Ministry of Education and Science of Ukraine, Ministry of Infrastructure of Ukraine) regarding the preparation of the Concept and the National Program of Maritime Research of the Black and Azov Seas of Ukraine;
- To take into account that the Law of Ukraine "On Strategic Environmental Assessment" which requires that most strategic state planning documents be held by SEA and create a basis for future environmental impact assessment procedure, which allows to plan the future development of the coastal regions;
- To develop recommendations for allocating funds from local authorities to attract qualified experts to the processes of environmental assessments, conduct the scientific research and formulate the action program;
- Taking into account the development on space monitoring of the Black Sea to make monitoring of algae blooms in the northwestern part of the Black Sea

THANK YOU!

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European Commission

ONLINE EVENT
29-30 OCTOBER 2020
#ConnectBlackSeaYouth
#Connect2BlackSea

DAY 1 - Black Sea Research and Innovation in 2020: Status of the SRIA, Response to COVID-19