

Interreg



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NEXT Black Sea Basin



#1 NEWSLETTER

February, 2025



Waves of Innovations!

Welcome to the first newsletter of the EfxINNOs project, supported by the Interreg NEXT Black Sea Basin Programme.





Duration

08/2024 - 02/2027



Total budget

1.643.648,40 €



EU funding

1.479.283,56 €

Project partners

6 partners from 5 countries from the Black Sea region: Greece, Bulgaria, Romania, Georgia and Türkiye

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WHO WE ARE?

Lead partner

- Democritus University of Thrace-School of Engineering (DUTH) – Greece

Project partners

- Union of Bulgarian Black Sea Local Authorities (UBBSLA) – Bulgaria
- National Institute for Marine Research and Development "Grigore Antipa" (NIMRD) – Romania
- Ilia State University (ISU) – Georgia
- Istanbul University (IU) – Türkiye
- Technical University of Varna (TUV) – Bulgaria

WHAT WE DO?

EfxINNOs is a transnational project that aims to establish and operate an Innovative Marine Technology Transfer Network to enhance the transition to a sustainable Blue Economy in the Black Sea Basin. The project will develop a novel, cost-effective, technologically advanced network of platforms collecting data, images, and videos on the marine biodiversity of the Black Sea and the North Aegean Sea.

WHAT WE ACHIEVE?

- Black Sea and North Aegean benthic seagrass surveying using state-of-the-art instrumentation
- microAUV, ROV, and surface buoy databases containing raw and processed data
- Harmonized data collection and processing methods & common methods for delineating marine natural assets and assessing human impacts
- Seabed Marine Litter Monitoring
- Development of AI tools and algorithms for seagrass health assessment
- Marine Environment Monitoring in line with the Marine Strategy Framework Directive
- Digital Info Kiosks in pilot areas in Bulgaria

BSB Common territorial challenges

The land-based anthropogenic sources and the nearshore and offshore human activities have been found to substantially **reduce the biological diversity** and **productivity of the Black Sea**. It is widely considered as the most damaged sea on the planet, mostly due to its confined nature and the rising outflux of nutrients and toxic pollutants. Pollutants enter the Black Sea through the river influx, and industrial, municipal and agricultural sewage, navigation canals, dredging, dumping, and oil and gas extraction along the shelf.

The value of sea bed ecosystems

Seagrass forms the most vital but highly vulnerable part of the seascape.

Seagrass meadows are the “lungs” of the coastal ocean.

They support commercial fisheries and biodiversity, clean the surrounding water, and help remove the excessive carbon dioxide from the atmosphere.

Seagrass meadows are the most productive marine ecosystems!

Black Sea Seagrass communities

- There are six species of seagrasses in the Black Sea: *Zostera marina* (eelgrass), *Z. noltii*, *Potamogeton pectinatus*, *Ruppia maritima*, *R. spiralis* and *Zannichellia major*.
- The number of plant species in the Black Sea is one-fourth that of the Mediterranean.

Seagrass meadows under threat

Seagrass meadows are among the least protected coastal ecosystems. Almost 30% of global seagrass areas have been lost since the late nineteenth century. An estimated 7% of this vital habitat disappears each year.

Increasing anthropogenic pressure - industry, agriculture, aquaculture and tourism in Black Sea coastal zones resulted in the decline of seagrasses.



EfxINNOs Central Scope

To develop and operate a novel, cost-effective, technologically advanced, sustainable [network of monitoring platforms](#), improving existing research infrastructures, serving the joint monitoring requirements of EU Policy Instruments and the Black Sea Integrated Monitoring Assessment Program (BSIMAP), linking the Black Sea and the North Aegean Sea.



The microAUV

EfxINNOs will purchase and deploy a fleet of versatile microAUVs for the underwater exploration of seagrass meadows.

EfxINNOs - A Sea of Actions

- Utilize innovative [underwater platforms](#) (microAUVs) for the mapping of coastal marine environment at selected regions of the BS and the NAS
 - Produce extensive [digital seabed habitats maps](#), emphasizing on marine protected species
 - [Collect new data](#), images and videos never earlier recorded to report on coastal marine biodiversity of the BS and NAS and RT data on physicochemical conditions to serve maritime activities
 - Correlate the prevailing environmental seabed conditions with the [present health of seabed habitats](#)
 - Assess, evaluate and develop policy tools and directions to [protect seabed habitats](#) from man-made impacts
-
- ✓ Communicate results and raise awareness to minimize threats
 - ✓ Educating people on the significance of coastal marine biodiversity protection
 - ✓ Report on results and policy recommendations



The latest from EfxINNOs

It's been half a year since the start of the project. Where are we today?

Significant progress has been achieved in various aspects of EfxINNOs during the first six months of project implementation.

We officially started the project
**Kick-off meeting & Joint Open
Workshop**

02-04.10.2024 / Varna, Bulgaria

Hosted by UBBSLA



Highlights from the Workshop

All partners attended the first project events, organized in Bulgaria by UBBSLA with the support of TUV – Varna. More than 60 participants from government, local authorities, institutions responsible for water and biodiversity protection, lecturers and student, civil society and industry contributed to the event. The workshop provided a platform for presenting the project's objectives and fostering networking among stakeholders. Presentations by partners and stakeholders emphasized how EfxINNOs' goals align with local priorities, enhancing cooperation and collaboration. A press conference was featured during the workshop, attracting significant interest from journalists and increasing the project's visibility. This media engagement helped to raise public awareness about the project's aims and activities.

The pilot sites visit was an opportunity to check “on ground” the various options available for the deployment of the info kiosks and to provide the involved local authorities a better understanding of the project's scope and impact and particularly make a tangible connection of the research and monitoring activities planned for the Bulgarian Black Sea coast with the place-based local development operations.

Behind-the-scenes insights!



TECHNICAL SPECIFICATIONS for three microAUVs, one ROV, and one surface buoy were drafted, ensuring that the equipment purchased in EfxINNOs meets high-performance standards and can fulfill project goals. This foundation work was complemented by the publication of open tenders for acquiring goods by all relevant partners, namely DUTH, NIMRD, TUV, IU and ISU.



COMPREHENSIVE LITERATURE REVIEWS - publications, conference papers, reports, etc. conducted by all partners and identified the broad and specific areas of interest for studying benthic habitats within the Black Sea and North Aegean Sea. This review is pivotal for understanding marine ecosystems' functioning and assessing the impact of human stressors, providing a robust basis for ongoing and future research.



REGULATORY GROUNDWORK

Efforts to obtain authorization for project's marine surveying activities and the deployment of instrumentation have commenced. These efforts involve coordination with key stakeholders, compliance with national regulations, and the promotion of safety while mitigating potential environmental impacts. This regulatory groundwork is critical for the subsequent deployment and operational phases of the project.



The project has actively engaged with local stakeholders, including academia, civil society, governmental agencies, and industry, to gather historical data and insights into ecologically significant areas. This engagement ensures the project's research is informed by diverse perspectives and grounded in existing knowledge.



EfxINNOs has established a common approach for data collection and harmonization efforts.

Discover more project updates!



ILIA STATE UNIVERSITY (ISU)

ALREADY SELECTED THE PILOT AREA IN GEORGIA

The Poti New Port area was selected as EfxINNOs pilot for the deployment of a physico-chemical buoy at coordinates 42.09.558'N; 41.38.997'E. This site ensures:

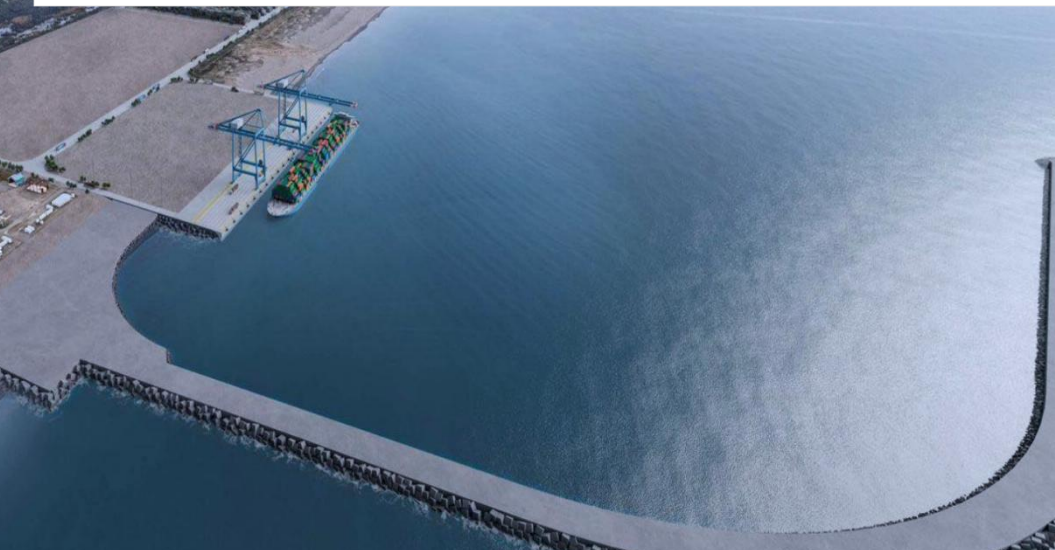
- Safe deployment: The location is relatively sheltered yet exposed enough for meaningful data collection.
- Scientific relevance: The data collected will allow comparisons with earlier findings, particularly regarding chlorophyll concentrations and organic pollutants.

The buoy's sensors will measure parameters such as temperature, pH, conductivity, turbidity, salinity, dissolved oxygen, and chlorophyll-a to provide continuous chemical monitoring of the Black Sea waters.

ISU has initiated and made significant progress in securing permissions for buoy deployment. Key stakeholders engaged include:

- Poti Port Administration
- Maritime Transport Agency
- State Hydrographic Service

The licensing process is nearing completion, ensuring compliance with necessary regulations for deployment in Georgian waters.



Moreover, the project activities implemented in Türkiye by our project partner **Istanbul University (IU)** will be part of Programme filming mission. During the period 20th – 23rd of May, 2025 the team of TESIM, the technical assistance project funded by the European Commission to support the implementation of cross-border cooperation programmes under the Neighbourhood Policy (ENI CBC, Interreg NEXT) will be in Türkiye on their next audiovisual mission to showcasing the activities implemented there in the frame of EfxINNOs project.

ISU has completed the buoy's and its sensors' technical specifications. Currently, the procurement of a buoy is in process, and just after delivery, the installation will be started.



WE ARE PLEASED TO ANNOUNCE that EfxINNOs project has been selected as strategic under the Interreg NEXT “Black Sea Basin” Programme 2021-2027. Granted as an operation of strategic importance by the Managing Authority and Joint Secretariat, EfxINNOs will be subject to special monitoring and communication measures.

By accepting the challenge to boost the project's visibility and to highlight the project's contribution to the achievement of the Programme's objectives, EfxINNOs consortium believes that the project potential for transnational cooperation in strategic areas with good prospects for impact on the local economies and people living in the respective areas will be further developed and the results of the project will be even more promising.

The relevance of the partnership and the perspectives of future cooperation between the partners are of utmost importance for the Managing Authority and Joint Secretariat as well. More about the project partner organizations and their contribution to EfxINNOs can be found below on the next page.



Another great news is coming! The lead partner DUTH from Greece has been invited to present EfxINNOs to the Monitoring Committee on April 10th, 2025.

Stay tuned!

EfxINNOs will be presented during a regional co-creation workshop in Romania

The project partner, National Institute for Marine Research and Development “Grigore Antipa” (NIMRD) will present EfxINNOs in a workshop section dedicated to the Black Sea projects synergies.

Date: 24 - 26 February 2025, Constanta, Romania

Location: NIMRD, Conference room, 1st floor, 300, Mamaia Blvd, 900581 Constanta, Romania

[Zoom link](#)

Interreg NEXT Black Sea Basin Programme

32 Projects

147 Partners

€29,779,593 Granted

More information about all projects in progress, can be found on the [program page!](#)



About us: the project partners



Democritus University of Thrace-School of Engineering (DUTH) is the lead partner of the EfxINNOs. Apart from its primary educational and research activity, running via its multiple campuses in the cities of Xanthi, Komotini, Alexandroupolis and Orestiada, DUTH has essentially participated in the efforts for the economic growth of the Administrative Region of Thrace. DUTH seeks to reinforce its research profile through collaborations and projects that render it one of the leading research organizations in Greece.



Union of Bulgarian Black Sea Local Authorities (UBBSLA) is a non-governmental body, covering 21 municipalities bordering the Bulgarian Black Sea Coast. UBBSLA is an organization uniting the interests of all member municipalities and encouraging strong and effective local self-government and active citizen participation in the region.



National Institute for Marine Research and Development "Grigore Antipa" (NIMRD), located on the Romanian Black Sea coast, has as its main activity the performance of fundamental, applied and technological development research in the field of oceanography, marine and coastal engineering, ecology and protection of the marine environment.



Ilia State University (ISU) is one of the leading research and educational institutions in Georgia. Representing a union of students and professors, ISU is a multifunctional educational and research institution offering a common space for academic and professional education and research with the joint efforts of its students, professors, teachers and researchers.



Istanbul University (IU), the Faculty of Aquatic Sciences trains engineers who will protect and manage water resource with ecosystem-based approaches, ensure the sustainability of aquatic ecosystems and our marine and inland water resources, etc.



Technical University of Varna (TUV) is a higher education institution founded in 1962 as the Higher Mechanical and Electrical Engineering Institute. Over time, the university has established itself as a leading educational and research center in the region who contribute to the development of industry and society in Bulgaria and beyond.

Contacts



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BSB00193 – EfxINNOs

Establishing and Operating an Innovative Marine Technology Transfer Network for Enhancing the Transition to a Sustainable Blue Economy in the Black Sea Basin (EfxINNOs)

Editor: UBBSLA

Contact details: coordinator@ubbsla.org

Publishing date: 28.02.2025

The responsibility for the content of this material is that of the author(s). The content of this material does not necessarily represent the official position of the European Union

The project is supported from the Interreg NEXT Black Sea Basin Programme
Programme priority: Blue and Smart Region; Specific objective RSO1.1: Developing and enhancing research and innovation capacities and the uptake of advanced technologies
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