Interreg Co-funded by the European Union
Italy – Croatia
DIH InnovaMare

Smart Seas, Shared Solutions: How Italy and Croatia Are Driving Innovation in the Blue Economy

1 Introduction

In the Adriatic, waves of change are reshaping the future of **marine innovation**. From protecting fragile ecosystems to modernizing coastal industries, the DIH InnovaMare project is steering the region toward **a more sustainable and technologically advanced Blue Economy**.

Funded under the Interreg Italy–Croatia 2021–2027 Programme, the initiative brings together researchers, entrepreneurs, and policymakers across borders with a single goal: **to make the sea not only a source of livelihood, but also a model for green growth and digital transformation**.

Defined by the European Commission as encompassing all economic activities related to oceans, seas, and coasts [1], the **Blue Economy** brings together long-established sectors—such as fisheries, aquaculture, maritime transport, and coastal tourism—with fast-emerging areas including marine renewables, biotechnology, and digitalisation.

Across the European Union, these industries employ over five million people and generate approximately €500 billion in gross value added each year [2]. In Italy and Croatia, the Blue Economy underpins local livelihoods, coastal development, and the region's identity itself. Yet as pressures on marine ecosystems grow, so too does the urgency to innovate.

2 Key challenges in the Blue Economy sectors

At the core of the DIH InnovaMare project lies a **cross-border research effort** aimed at identifying **where innovation can make the greatest impact**. Eight partner institutions—universities, business support organisations, SMEs, and public authorities—joined forces to map out the sector's most pressing technological and environmental challenges. Their work began with an Open Call launched in late 2024, inviting ideas from both academia and industry. Submissions were evaluated for relevance, innovation potential, feasibility, and stakeholder impact, producing a shortlist of 20 challenges that will shape the next phase of development. The type of organisation and the sector to which the applicants belong are shown in Figures 1 and 2.

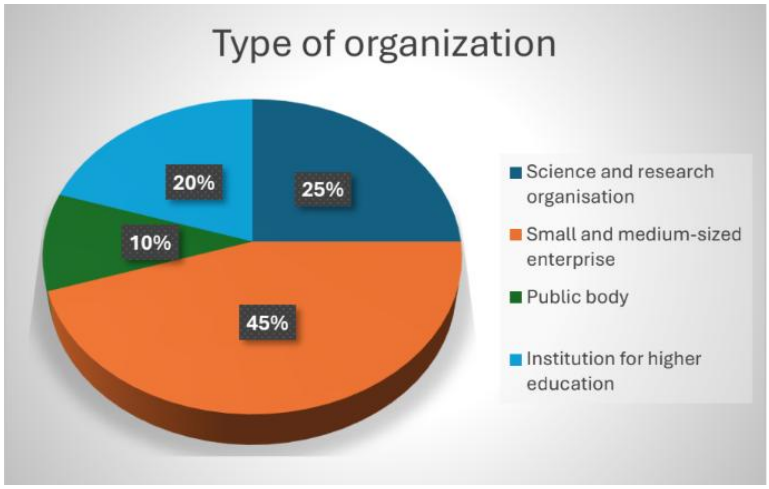

Figure 1. Stakeholder types among the applicants

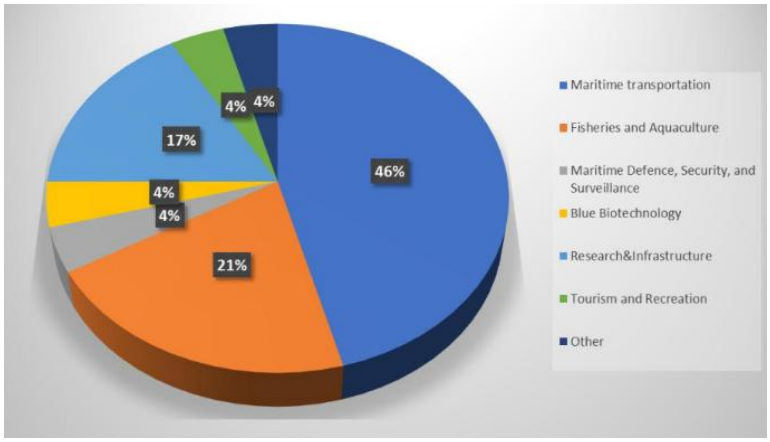

Figure 2. Blue Economy sector analysis

Among the dozens of proposals received, several stood out for their creativity and potential to transform the way the Adriatic manages its marine resources. Figure 3 illustrates a challenge review for the top-rated challenges. The highest-ranked, **a Sensor Suite for Monitoring Regenerative IMTA Systems in the Adriatic Sea**, showcased how biotechnology and digital monitoring could work hand in hand to make aquaculture more sustainable. Other top entries tackled marine pollution through eco-friendly waste management, explored autonomous underwater monitoring systems to safeguard marine habitats, proposed greener port infrastructure to reduce emissions, and offered smarter tracking and recycling systems for fishing gear and processing waste.

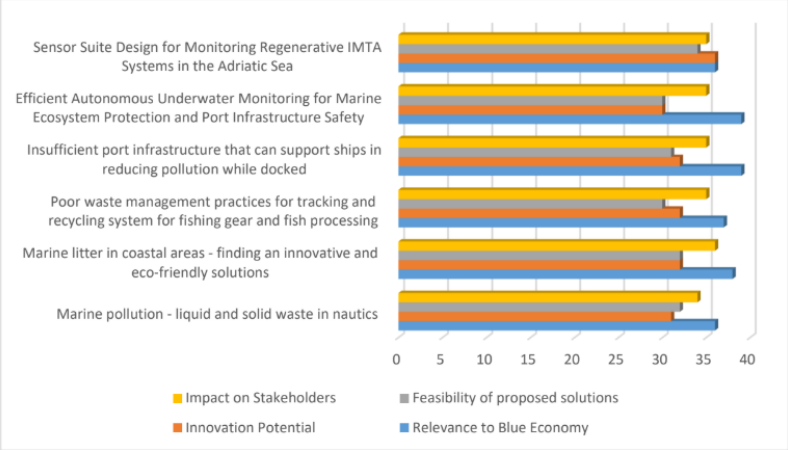

Figure 3. Challenge review for top-ranked challenges

Although these ideas originate from different corners of the Blue Economy, they share a common ambition: to **use technology to build a cleaner, safer, and more connected maritime world**. Based on this evaluation, the project team selected **20 key challenges** that reflect the Adriatic's most urgent priorities, issues that must be addressed if the region is to remain both competitive and environmentally resilient. **These include curbing overfishing and unsustainable resource use, fighting pollution and plastic waste, improving the management of shared marine areas, expanding access to modern technology for aquaculture and renewable energy, and mitigating the impacts of climate change on fish stocks and biodiversity**.

Each of these priorities requires innovation that goes beyond individual sectors. The project envisions **integrated, data-driven approaches that connect science, business, and governance**. Smart management systems capable of combining information from multiple sources can help decision-makers act more swiftly. Meanwhile, advanced sensor technologies, renewable energy solutions, and digital logistics tools can reduce costs and emissions, creating a more efficient and low-carbon Blue Economy.

3 Conclusion

Behind these technical efforts lies something equally important: cooperation. The InnovaMare project has built a genuine community of expertise, bringing together 34 evaluators from research institutions, public authorities, and private companies. Their collaboration ensures that innovation is grounded in both scientific evidence and real-world feasibility. This cooperative spirit will continue to guide the next phase of DIH InnovaMare, which includes an **Innovation Competition** inviting entrepreneurs, scientists, and students from Italy and Croatia to design new marine technologies

with direct applications. Financial institutions and multinational companies will help bridge the gap between research and market, turning bright ideas into tangible results.

In the end, DIH InnovaMare is more than a research project: it's a shared vision for the Adriatic's future. By linking science and enterprise across borders, it demonstrates how cooperation can drive sustainable growth, strengthen regional resilience, and contribute to the EU's broader goals for decarbonization and environmental protection.

The project's message is clear: **the future of the Adriatic will depend on shared knowledge, smarter technologies, and collaboration that knows no borders**.

References

[1] European Commission. The 2018 Annual Economic Report on EU Blue Economy; European Union: Brussels, Belgium, 2018. https://op.europa.eu/en/publication-detail/-/publication/79299d10-8a35-11e8-ac6a-01aa75ed71a1

[2] European Commission. (2012). The EU's Strategy for Sustainable Marine and Maritime Growth: Blue Growth. https://ec.europa.eu/maritimeaffairs/policy/blue_growth_en