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BlueGovAI

Cross-Border Maritime Governance, Artificial Intelligence and the Blue Economy: Building a More Integrated and Sustainable Adriatic

How BlueGovAI is exploring practical, trustworthy AI to reduce administrative barriers, strengthen Italy–Croatia cooperation and support a more efficient, inclusive and sustainable blue economy.

The sea does not recognise administrative borders. Effective maritime governance therefore depends on shared knowledge, interoperable procedures and cooperation between institutions, businesses and communities on both sides of the Adriatic.

The sea does not recognise administrative borders. Economic activities, ecosystems, tourism flows, maritime transport and environmental impacts connect territories that belong to different countries every day. In the Adriatic, this interdependence is especially evident: Italy and Croatia share the same maritime space, yet operators, local authorities and port administrations still have to navigate administrative systems and procedures that do not always interact smoothly.

This is the space in which BlueGovAI – Enhancing Cross-Border Governance through AI for a Sustainable Blue Economy – operates. The project aims to improve cross-border maritime governance between Italy and Croatia by reducing legal and administrative barriers that hinder cooperation in the blue economy. Its approach combines artificial intelligence, regulatory analysis, practical tools and stakeholder engagement to support more sustainable, efficient and integrated operations across the Adriatic.

A shared sea needs shared governance

Cross-border maritime governance is not only about agreeing on common principles. It is about creating the conditions for institutions, port authorities, businesses and coastal communities to work together more effectively in their day-to-day activities.

Italy and Croatia operate within a common European regulatory framework, but national interpretations, administrative traditions, enforcement practices and local procedures can differ. In practice, these differences can translate into duplicated paperwork, divergent inspection requirements, uncertainty over the competent authority and additional compliance costs for operators moving between the two shores of the Adriatic.

The impact is particularly significant for small ports and small and medium-sized enterprises in the blue economy. These actors often have limited legal, administrative and digital capacity. For a ferry operator,

an eco-tourism business, a small cruise operator or an artisanal fisheries enterprise, understanding and complying with two sets of procedures can require more time and resources, while also discouraging new cross-border services and greener investments.

BlueGovAI starts from a simple premise: a shared ecosystem requires governance mechanisms that can overcome administrative fragmentation. Cross-border cooperation is therefore not an abstract policy objective, but a practical condition for making the Adriatic blue economy more sustainable and competitive. By aligning knowledge, procedures and tools, cooperation can help reduce administrative burdens, strengthen institutional capacity and improve environmental outcomes on both sides of the sea.

Artificial intelligence as a tool for cooperation

In this context, artificial intelligence can play a new role. Not as a substitute for public authorities, professional expertise or human responsibility, but as a tool for understanding, comparing and managing regulatory complexity.

A central component of BlueGovAI is the AI-powered Legal Concordance Platform. Designed for a cross-border environment, it will compare Italian and Croatian maritime and environmental rules, identify mismatches at clause level and support users with real-time bilingual answers to compliance questions. The platform is also intended to indicate the relevant competent authority through a “responsible body recommender”, helping users navigate fragmented regulatory environments more quickly and confidently.

The platform will be built on a structured bilingual legal corpus that brings together legislation, administrative procedures, inspection practices and environmental compliance forms used in the two countries. This shared knowledge base is essential: it allows AI outputs to remain linked to source materials and gives users a common reference point for cross-border operations.

For a small-port officer or maritime operator, the practical value is clear. Instead of searching through multiple sources and systems, a user could ask a question about a specific requirement and receive guidance that points to the relevant legal source and authority. In this way, AI becomes a knowledge infrastructure for cooperation: it helps make distributed information comparable, accessible and usable for better-informed decisions.

From digitalisation to real simplification

Digital transformation creates value only when it improves real processes. BlueGovAI therefore combines technological development with practical administrative innovation.

Alongside the Legal Concordance Platform, the project will develop the Sustainable Blue-Ops Toolkit: a practical package of mutual-recognition forms, inspection checklists and shared data standards co-designed by Italian and Croatian stakeholders. These tools are intended to help frontline users reduce unnecessary duplication and apply more consistent sustainability and compliance practices without requiring expensive IT upgrades or large legal teams.

The solutions will not remain theoretical. They will be tested in live port operations in Italy and Croatia, with feedback from users feeding back into the development process. The project sets a concrete operational ambition: to reduce duplicate clearance time by at least 10% across 30 pilot vessel calls. This

focus on measurable improvement is important because it links digital innovation directly to better public administration and more efficient maritime operations.
This is where maritime governance, AI and the blue economy converge. Technology is not the end goal; it is a means to simplify compliance, improve interoperability and allow smaller organisations to devote more time and resources to service quality, environmental performance and innovation.

A sustainable blue economy also depends on better rules

Discussions about the sustainable blue economy often focus on green technologies, emission reductions, ecosystem protection and new marine-based business opportunities. Yet there is another, less visible dimension: the quality of governance.
Complex procedures, duplicated documentation and poor administrative interoperability create economic and organisational costs. They can also slow the adoption of more sustainable practices and make cross-border opportunities less accessible to smaller businesses. When operators face disproportionate compliance burdens, even beneficial investments or new services may become harder to pursue.
Improving governance therefore contributes to sustainability. BlueGovAI aims to give SMEs and local authorities simpler access to regulatory information, practical digital tools and AI-supported insights for compliance and planning. Better information and more coherent procedures can reduce administrative friction, support eco-friendly operations and create a more enabling environment for innovation in maritime transport, tourism, fisheries and other coastal activities.
The blue economy should therefore be understood as an ecosystem in which environmental sustainability, economic competitiveness and administrative capacity are deeply interconnected. More effective governance can reinforce all three.

Trustworthy AI, with people at the centre

Using AI in public governance also raises essential questions about transparency, reliability, privacy and accountability. BlueGovAI addresses these issues as part of the project design rather than as an afterthought.
The project includes a participatory pathway for ethical AI governance, involving harbour officers, small operators, stakeholders and young professionals from Italy and Croatia. The aim is to co-create a framework in which data transparency, human oversight and privacy protection are grounded in the real experience of the people who will use the tools.
This matters because AI should not create a new administrative “black box”. In the BlueGovAI approach, technology should make knowledge easier to access while keeping sources visible and responsibility clearly human and institutional. The objective is not only to build functional tools, but also to build confidence in how those tools are designed and used.
Training and capacity building are therefore integral to the project. Workshops, webinars and learning activities will accompany the digital solutions, helping public authorities, operators and young people develop practical skills in responsible AI use and cross-border cooperation. This human dimension is critical to ensuring that innovation can continue beyond the project itself.

From the Adriatic to a model that can be replicated

The challenge addressed by BlueGovAI extends beyond Italy and Croatia. Many European maritime regions face similar conditions: ecosystems cross national borders, economies are closely interconnected, but administrative systems continue to operate largely through national procedures and institutional structures.

The Adriatic experience can therefore provide a useful model for other maritime corridors. BlueGovAI brings legal harmonisation, digital transformation and ethical AI governance into one cross-border workflow. Cooperation is embedded not only at policy level, but through shared legal corpora, bilingual digital tools, common pilots, co-designed toolkits, training activities and stakeholder participation.

This integrated approach is what gives the project its broader relevance. If successful, it can demonstrate how practical AI-supported governance can help public administrations and economic actors navigate cross-border complexity without sacrificing transparency, responsibility or local accessibility.

A shared sea needs shared knowledge, interoperable procedures and tools that connect territories, institutions and people. BlueGovAI starts from the Adriatic to show how artificial intelligence – when developed transparently, responsibly and around users' needs – can help build simpler, more sustainable and more inclusive cross-border maritime governance.