

 www.zeroc-project.com

WE ARE ZERO C

Enhancing Knowledge and skills at
Western Balkans HEIs in preparation
for zero carbon maritime transport
and logistics society.

NEWSLETTER

ISSUE no. 2 - November 2025



Dear reader,

As we move into the third year of the Zero C Project, we're filled with pride and excitement about how far we've come—and how much more there is still to do together. What began as an ambitious idea to drive decarbonization in maritime education has now grown into a strong, collaborative community of people passionate about making real change.

Over the past year, our partners across Albania, Montenegro, Italy, Germany and Athens have worked tirelessly to bring sustainability into the classroom and beyond. We've been developing and accrediting new courses, running practical trainings, and connecting students and professionals with the latest green and digital tools shaping the future of maritime transport. Each activity, meeting, and workshop has brought us closer to our shared goal: preparing a new generation ready to lead the shift toward a zero-carbon maritime industry.

As we look ahead, we're eager to take the next big steps launching our accredited courses, expanding our learning resources, and continuing to build skills that will power a greener and more resilient maritime sector.

Thank you for being part of this journey. Every contribution, idea, and shared success brings us closer to a sustainable, zero-carbon future at sea. Let's keep sailing forward—together.

The Zero C Project Team

Did you know that?

- **The maritime sector is responsible for nearly 3% of global CO₂ emissions, and reducing these emissions is crucial for meeting the EU's Green Deal 2050 targets.**
- **By introducing Zero C-accredited courses, students in Albania and Montenegro will soon gain specialized skills to help decarbonize ships, ports, and logistics systems.**
- **Innovative tools such as digital twins and smart-port technologies are being tested across partner universities to make maritime operations cleaner and more efficient.**





Powering a Greener Maritime Future

Ports play a pivotal role in the global fight against climate change — yet they also remain one of the most complex areas to decarbonize. Did you know that around 40% of total maritime-related emissions come from port activities, including cargo handling, vessel waiting times, and energy use onshore?

The shift toward green ports is accelerating. Across Europe, more than 65% of major ports are now investing in cleaner technologies — from shore-to-ship power that lets vessels switch off their engines while docked, to electrified cargo handling equipment and renewable energy microgrids. These initiatives can reduce CO₂ emissions by up to 60% in certain terminals.

But decarbonisation isn't just about technology — it's about people and mindset. The Zero C Project is helping future maritime professionals understand how digital tools, smart energy management, and cross-sector collaboration can transform ports into low-carbon innovation hubs. By combining data, creativity, and commitment, we can turn ports — once seen as emission hotspots — into beacons of sustainability driving the green transition forward.

PROJECT ACTIVITES

Third training for a Zero Carbon Future in Maritime Transport and Logistics

On 5–6 December 2024, the Hamburg University of Technology hosted the third training session under the EU-funded ZeroC Project, bringing together academic professionals from Western Balkan higher education institutions. The aim? To arm educators with the tools, knowledge, and inspiration to catalyze decarbonisation in maritime transport and logistics.

Over two enriching days, participants explored a multi-faceted curriculum centred on sustainability, operational efficiency, and innovation:

- Energy Efficiency & Decarbonisation in Port Operations
- Strategies to reduce carbon emissions and optimise energy use in port logistics.
- Maritime Logistics Simulations with AnyLogic
- Hands-on sessions modelling real-world logistics environments and testing interventions.
- Port Call Optimisation & Slot Booking Systems
- Advanced solutions to streamline operations and reduce environmental impact.

From Theory to Practice

The training went beyond lectures: participants engaged in practical exercises designed to reinforce learning and build confidence in applying these methods in real settings. This applied focus aims to ensure that educators don't just learn — they become change-makers in their institutions.

Why It Matters — The Bigger Picture

This event isn't just a one-off. It sits within ZeroC's broader mission to strengthen capacities across academia, enabling the next generation of maritime professionals to lead with sustainability at the core.

By empowering teaching staff with cutting-edge knowledge and skills, we're planting seeds for long-term impact. As these educators return to their institutions, they'll carry the potential to shape curricula, research, and industry collaboration toward a greener maritime future.



4th Zero C Project Training held at “Ismail Qemali” University of Vlora

On March 18–19, 2025, “Ismail Qemali” University of Vlora proudly hosted the 4th training session of the Zero C Project, titled “Digitalization for Reducing CO₂ Emissions in Maritime Transport and Logistics.” This two-day event brought together academic staff from partner universities across the Western Balkans, with the shared goal of advancing knowledge and fostering innovation in sustainable maritime practices. The training opened with a welcome speech from the University of Vlora, followed by a comprehensive overview of the training’s objectives and the importance of digitalization in the shipping sector. Prof. Vasileios Podimatas from the National Technical University of Athens delivered an insightful session on the role of digitalization in maritime operations and its contribution to enhancing energy efficiency and reducing carbon emissions.

Participants explored key themes including:

- Digitalization technologies in maritime logistics
- Internet of Things (IoT) and its potential for energy savings
- Regulatory frameworks supporting digital transformation in the sector

The second day focused on practical applications of digital technologies. Prof. Ing. Marco Mita from the University of Bari, Italy, led sessions on:

- Science IoT
- Automation and Control Systems
- IoT and Sensor Networks for monitoring and managing electrical energy

These sessions emphasized how smart technologies can play a pivotal role in decarbonizing maritime transport and logistics. This training session is part of the Zero C Project (101128747 – Erasmus+ CBHE), which aims to enhance knowledge and skills at Western Balkan higher education institutions to support the transition to a zero-carbon maritime society. We thank all participants and speakers for their contributions and engagement. Stay tuned for more updates and upcoming activities from the Zero C Project!



Zero C Consortium Meeting in Vlora (March 20–21, 2025): Advancing Collaboration for a Greener Maritime Future

On March 20–21, 2025, the University “Ismail Qemali” Vlorë hosted the Consortium Meeting of the Zero C Project, gathering project partners from the Western Balkans and EU to evaluate progress, coordinate efforts, and define the path forward. The two-day meeting followed the successful training on digitalization in maritime transport and focused on reviewing the project’s implementation, ensuring alignment across work packages, and preparing for the next stages of the initiative.



Day one opened with a welcome from the host university and proceeded with a presentation on project management and quality assurance led by UAMD. A comprehensive overview of the midterm report was provided, including both technical and financial elements. This was followed by updates from UOM on the development and accreditation of skills-oriented curricula and lifelong learning programs, emphasizing academic staff engagement. The day concluded with a Project Quality Assurance Board meeting, partner discussions, and a visit to the city center.

On the second day, NTUA led sessions on capacity building and the installation of new equipment, reporting on knowledge transfer activities and implementation results. ITS presented dissemination and exploitation strategies, midterm outreach activities, and future plans for national conventions and Zero C network engagement. Partners also visited the university laboratories to see newly installed equipment and concluded the meeting with a general discussion on future directions and deliverables.

The meeting successfully reinforced collaboration between partners, ensured clarity on the next project phases, and contributed to the shared mission of advancing zero-carbon maritime transport and logistics in the Western Balkans.



Promoting Innovation and Sustainability: ZERO-C Featured at EIT Info Day at the University of Vlora

During a dynamic Info Day dedicated to the European Institute of Innovation and Technology (EIT), the University of Vlora became a center of collaboration and innovation. Organized by the Scientific Research and Projects Sector, the event gathered academics, students, and researchers to explore EIT opportunities and its innovation communities. A key highlight was the presentation of the ZERO-C project, a flagship UV initiative promoting sustainability and carbon neutrality through innovation, education, and cross-sector collaboration. Participants learned about ZERO-C's objectives and achievements in supporting the green transition, fostering entrepreneurship, and building skills aligned with the European Green Deal.

The event emphasized the importance of partnerships with EIT Knowledge and Innovation Communities (KICs) in areas like climate, energy, and digital technologies. Projects like ZERO-C reflect UV's growing role in European innovation ecosystems and its dedication to a sustainable, inclusive future.

University of Vlora continues to foster innovation, empower young minds, and advance toward a zero-carbon future.



Open Day 2025 at the University of Vlora



Open Day 2025 at the University of Vlora was an inspiring opportunity for future students to dive into academic excellence and sustainability! The Department of Marine Sciences showcased not only its ambitious academic programs but also the international Zero C project—focused on zero-carbon solutions in the maritime sector and youth empowerment through green skills.

Visitors learned how participation in such projects enhances curricula, expands lifelong learning opportunities, and opens real paths for student involvement in scientific research and professional development.

The University of Vlora continues to be a hub of knowledge, innovation, and opportunity—for all who want to shape the blue future of our planet!



ZERO C Brings Together Experts in Bari to Advance Green Maritime Education



On May 26–27, 2025, the ZERO C project organized a dynamic two-day event at ITS Academy Mobilità in Bari, Italy, gathering educators, industry professionals, and regional stakeholders to share expertise on innovative approaches to teaching and learning for a zero-carbon future in maritime transport and logistics.

The event focused on enhancing vocational education and training (VET) systems to better equip the next generation with the green skills needed in the maritime and port sectors. Highlights from the sessions included insights from ARTI Puglia on the role of vocational training in regional innovation, strong strategies from ITS leaders for strengthening academia-industry collaboration, and hands-on discussions about applying Problem-Based Learning (PBL) and co-design methods in course development. Participants also explored Work Package 3, addressing the integration of new training content and technical equipment to support decarbonization goals. The first day concluded with a cultural visit to Bari's historic center, providing an informal setting for networking and reflection.

We extend our sincere thanks to ITS Academy Mobilità and all participants who contributed to the success of this event. Together, we are shaping a skilled and sustainable maritime workforce prepared to lead the green transition.



ZERO C joins the Work & Study Fair 2025 at Aleksandër Moisiu University



The ZERO-C project proudly participated in the Work & Study Fair 2025 hosted by the Faculty of Business at Aleksandër Moisiu University of Durrës, where sustainability and innovation took center stage.



Our participation highlighted ZERO-C's mission to advance zero-carbon solutions in the maritime sector and empower young people through green skills, digital competencies, and education for sustainable development. With climate change increasingly affecting coastal economies, ZERO-C is committed to preparing future professionals to lead the green transition.

The ZERO-C stand attracted strong interest from students, researchers, and academic staff eager to learn about sustainable technologies, green career opportunities, and digital transformation for a low-carbon future. Interactive demonstrations and discussions on eco-innovation, the circular economy, and smart port solutions sparked meaningful engagement and dialogue.

We thank everyone who visited our booth and shared their ideas. The enthusiasm and curiosity shown by students reaffirmed the growing commitment to sustainability within our academic community.

ZERO-C continues to foster collaboration, research, and innovation driving real change toward a sustainable maritime future.



IN TWO YEARS OUR TEAM HAS COMPLETED:

75%

Work Package 1

The WP1 is dedicated to the management and coordination of the project implementation aiming to: Ensure the excellent project execution, achieving all objectives, timely implementation of tasks and their quality delivery; Ensure coherent and effective implementation of the project through a smooth and functional internal communication; Ensure the proper monitoring, risk mitigation and reporting activities to implement the project according to the project timetable and required quality.

85%

Work Package 2

WP2 focuses on developing skills-oriented curricula for energy efficiency and decarbonization in maritime transport and port logistics. The goal is to enhance innovative teaching methods and meet targeted learning outcomes. This approach ensures education aligns with industry needs in decarbonization and energy efficiency.

100%

Work Package 3

WP 3 focuses on capacity building through staff training and equipment upgrades, enhancing knowledge transfer in energy efficiency and decarbonization for maritime transport and logistics.

71%

Work Package 4

WP4's "Impact" component will focus on disseminating and exploiting project results by engaging academia and the logistics and maritime sectors in a Zero-C network to promote cross-border dialogue, best practice sharing, and decarbonization awareness.

Latest research by team ZeroC

Zero C Research Showcased at CEST Conference 2025

On September, Eirini-Asimina Stamatopoulou, member of the Laboratory for Maritime Transport at the School of Naval Architecture & Marine Engineering of the National Technical University of Athens (NTUA), presented the paper “Assessing Knowledge Gaps about Shipping Emissions: Designing Educational Programs for Sustainable Maritime Logistics for Future Professionals in Albania & Montenegro” at the 19th International Conference on Environmental Science and Technology (CEST2025) in Kos, Greece. The paper is the result of a fruitful collaboration between Eirini-Asimina Stamatopoulou, Andreas Mohr (PhD Candidate at the Institute of Maritime Logistics, Hamburg University of Technology), and Dario Carnimeo (ITS Academy Mobilità, Puglia) — all partners of the Zero C project.



The paper builds on the work initiated in Zero C Deliverable 2.2 – Needs Analysis for the Maritime Transport and Logistics Sector in Energy Efficiency and Decarbonization. This research exemplifies how Zero C partners are transforming project outputs into contributions that resonate in international academic and policy discussions. The study underscores that achieving decarbonization in maritime transport is not only a technological and regulatory challenge, but also a human capital challenge. By identifying skills gaps and proposing education tailored to the next generation of maritime professionals, we can ensure that energy efficiency and sustainability are embedded in future practices. This contribution demonstrates Zero C's commitment to aligning research, skills development, and innovation to accelerate the transition toward a resilient and net-zero maritime sector.

INTEGRATING DECARBONIZATION INTO THE CURRICULUM

Within the framework of the ZeroC Project, one of the key objectives is the revision of study programs in the field of the maritime industry offered by the University of Montenegro, the University of Vlora, and “Aleksandër Moisiu” University of Durrës. Following the professional training sessions delivered by our European partners — the Technical University of Hamburg, the Technical University of Athens, and ITS Logistica Puglia — all three universities have updated their syllabi by reallocating a significant portion of credits to maritime-related courses and integrating new knowledge on decarbonization, energy efficiency in ships and ports, and emerging technologies. These curricular improvements are being implemented starting from the 2025–2026 academic year. In parallel, the three higher education institutions, as project beneficiaries, are also developing Lifelong Learning (LLL) courses focused on energy efficiency, decarbonization, and innovative technologies, aimed at training professionals working in the maritime sector. These courses are planned to be delivered during the spring and summer of 2026.



Did You Know?

Zero C Facts That Inspire Change



Zero C stands for Zero Carbon Maritime Transport — a European-funded initiative helping the maritime sector transition toward a cleaner, low-emission future.



The project connects three Western Balkan universities — Aleksandër Moisiu University of Durrës, University of Vlora, and University of Montenegro — with leading European institutions such as TU Hamburg, NTUA Athens, and ITS Logistica Puglia.



More than 20 university courses are being revised or newly created to integrate topics like energy efficiency, digitalization, and decarbonization in shipping and ports.



Starting from 2025–2026, students will follow updated curricula that prepare them to design greener ships, optimize logistics, and reduce maritime emissions.



By 2026, the partner universities will launch Lifelong Learning (LLL) courses for maritime professionals to stay ahead in sustainability and green innovation. Zero C aligns directly with the EU Green Deal and Fit-for-55 targets, empowering education to play a leading role in the global decarbonization effort.



More than 300 students and professionals across Albania and Montenegro are expected to benefit from Zero C's training activities by the end of the project.

Every action taken within Zero C contributes to one shared vision: a future where maritime transport is sustainable, innovative, and zero-carbon.



SCAN ME

