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## Qualified workforce for greener ports

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### Abstract

Ports are key components of the supply chain management and overall economy on a regional, national, and international level, by granting access to resources via transportation and services. They also aspire to provide safety and security in respect of passenger mobility, accessibility, labor and health aspects. As EU strives to achieve its ambitious climate objectives, ports' environmental impact is under scrutiny. Still, the emissions from shipping and ports, including GHGs and air pollutants, adversely affect the marine environment and health of approximately 40% of the Europeans residing within 50 km of the coast. Consequently, the greening of ports is considered a priority, since Europe accommodates more than 1,200 ports which facilitate significant trade and retain about 2.5 million jobs, of which the Blue Economy sectors employ more than 500,000 people.

Today the Blue Economy workforce lacks the knowledge, skills and competences required to promote green pathways and to employ efficiently recent technologies/techniques towards European Green Deal. Against this background, the **BLUE PORTS** EMFAF EU-funded project seeks to enhance the capacity of the European ports' human capital (administration, operators and related authorities) in small and medium ports by introducing a tailored training and certification scheme that covers green technology solutions, integration of green products/services and business models that help minimise the environmental footprint of ports' activities and drive their green transition. This scheme, based on the actual needs of the sector, will be tested and validated in selected Mediterranean and Black Sea Ports. The new operational certification scheme for port workforce, in accordance with ISO/IEC 17024, will be promoted for mutual recognition across Europe through national governmental and accreditation authorities offering a professional advantage, better career and mobility opportunities for the certified personnel.

**BLUE PORTS** embraces a *quadruple innovation helix framework*, involving (i) marine and maritime educational/academic institutions and/or vocational training providers; (ii) blue economy industry-economy; (iii) civil society-environmental organizations; (iv) governance of all local, regional, national, transnational level (Figure 1). It is coordinated by the Renewable and Sustainable Energy Lab, Technical University of Crete, and brings together 8 partners from 5 EU and non-EU countries (Greece, Spain, Italy, Georgia, Tunisia), as well as port authorities, pioneering maritime organizations and respective ministries.

The scheme developed will build capacity of the current and future workforce of the Blue Economy and encourages young talents to design and apply the most efficient and effective solutions for greener ports (Figure 2). Going further than other EU-funded maritime projects concerning upskilling in blue careers, **BLUE PORTS** aspires to go beyond the project's intervention area. Apart from its main focus on the Mediterranean Basin, the Black Sea is to be benefitted, too, through a *smart specialization* approach. Meanwhile, it is designed to support digitalization-oriented EU frameworks, such as GreenComp, the Digital Education Action Plan and DigComp, by developing an upskilling training and an EU-acknowledged certification scheme, that ultimately seeks to introduce new skills, new curricula & specialities, and digital qualifications formats, thus creating and sustaining new, greener jobs in the ports industry.

*Keywords:* green ports; personnel certification; upskilling ports workforce; green skills; Mediterranean basin;

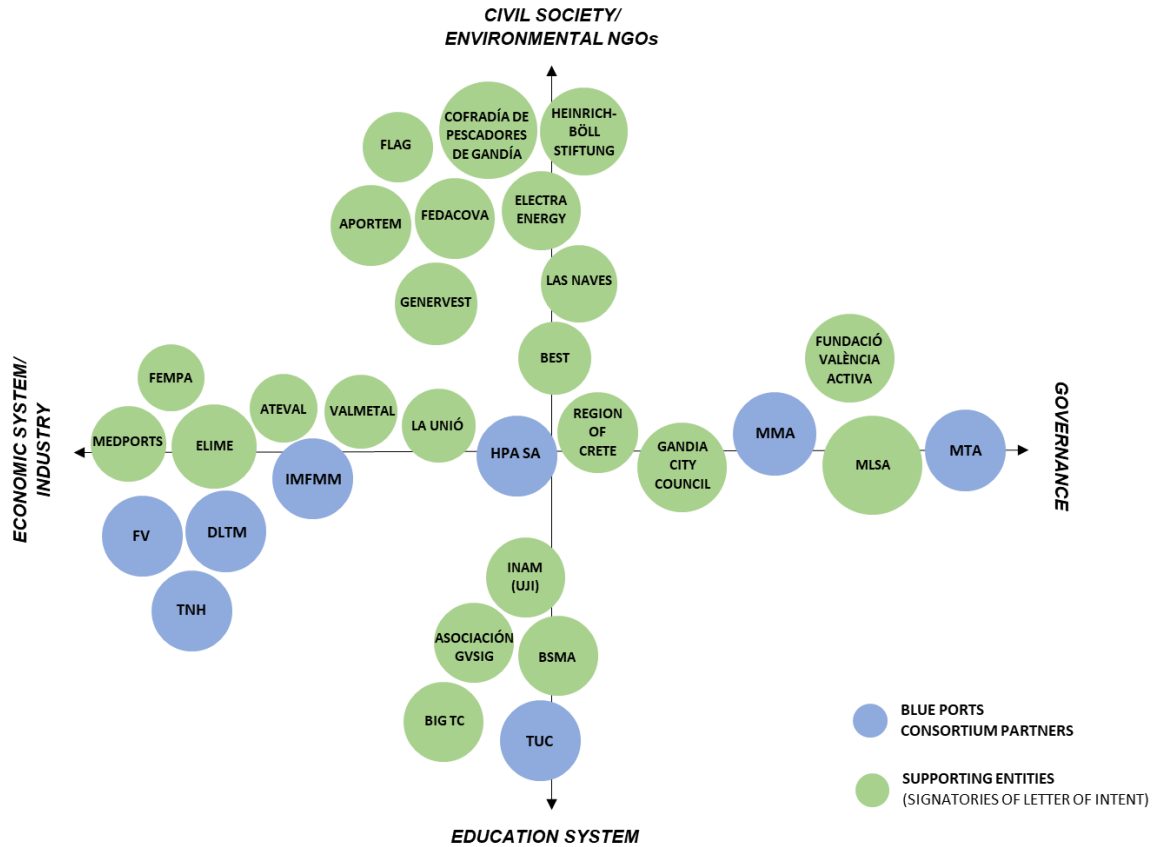


Figure 1 BLUE PORTS consortium engages the quadrable innovation helix model And a balanced team of complementary expertise

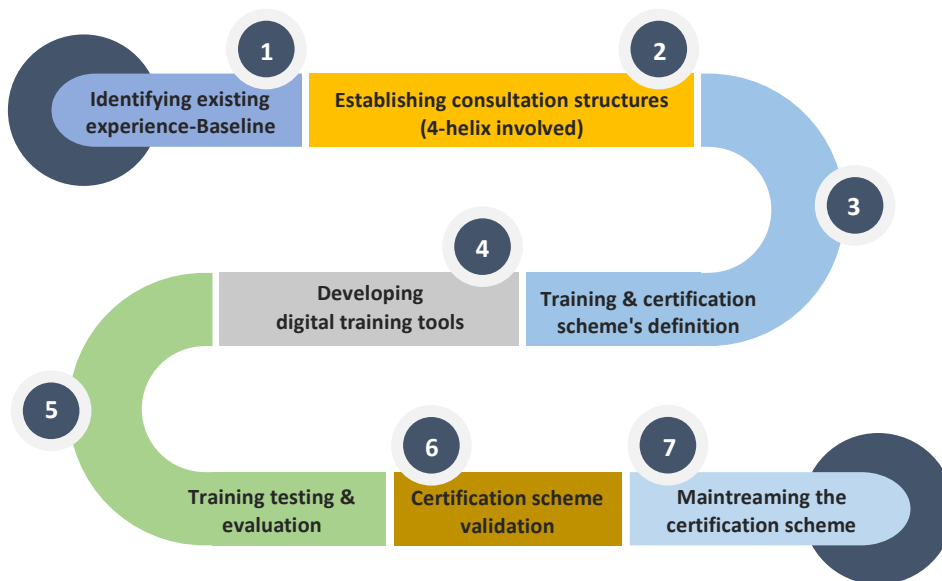


Figure 2 Development steps of the BLUE PORTS training and certification scheme