



TECHNICAL UNIVERSITY OF CRETE
SCHOOL OF CHEMICAL AND
ENVIRONMENTAL ENGINEERING
RENEWABLE AND SUSTAINABLE ENERGY
SYSTEMS LABORATORY



**Co-funded by
the European Union**

BLUE-PORTS

BLUE CAREERS IN NET ZERO ENERGY PORTS

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The role of EU ports



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- 1200+ ports in EU
- ~2.5 M jobs
- 0,5+ M employees in **Blue Economy**
- 48% of goods traded between EU & the world (74% in volume)



Source: European Sea Ports Organisation (ESPO, 2022)

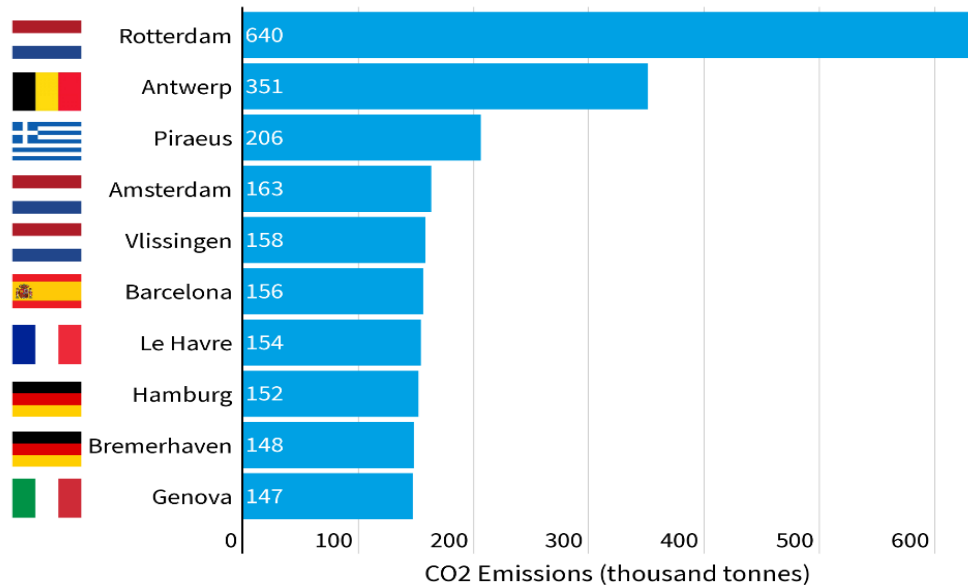
- **Marine Renewable Energy** (floating offshore wind, wave or tidal)
 - **Zero-emission** maritime transport (CO_2 , SO_2 & NO_x ↓)
 - **Digitalization** (monitoring & reporting)



Challenges facing EU Ports



Emissions from ship activities at port



3-4% of EU's CO₂ emissions
in maritime transport,
6-7% at berth in ports (2019)

- Marine environment damaging
- Affecting temperatures
- Waters & soils acidification altering nutrient/oxygen levels
- Health issues for 40% of Europeans living within 50km of the sea

1 Environmental Priority of the port sector over the years (ESPO, 2022)

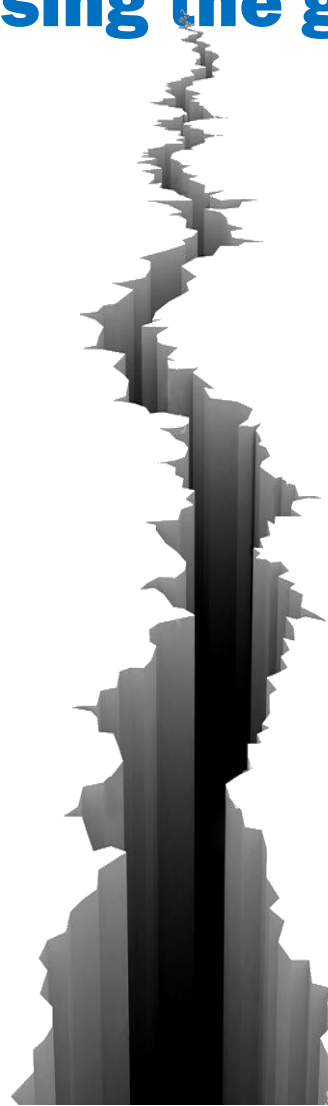


BLUE-PORTS addressing the gap



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- Port personnel should be **competent** to recent technologies/techniques towards EGD's goals
- A **gap** between academic education/training and the industry demands
- Existing **training courses** do not provide skills certification
- **Existing human capital** of ports (administration, operators and related authorities) needs upskilling and reskilling
- **Certification** is key in creating new qualifications for the maritime sector and sustaining future, **greener** jobs



BLUE-PORTS Innovative Approach



Bridging academic & private sector



Tailored training



Capacity building of current & future workforce



Digitalization approach
(GreenComp, DigComp, Industry 4.0 DigitalEducationActionPlan)



Academia, Governance, Industry & Civil Society cooperation



Expanding target group to ashore port employees & young talents



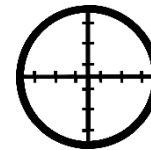
Greening of maritime jobs



Smart specialization
(Mediterranean & Black sea)



Certification scheme of international recognition
In accordance to
ISO/IEC 17024



Focus on Small & Medium Ports



BLUE-PORTS Consortium

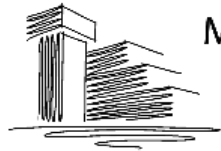


Project Coordinator

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Associated Partners



Ministry of Maritime Affairs
&
Insular Policy



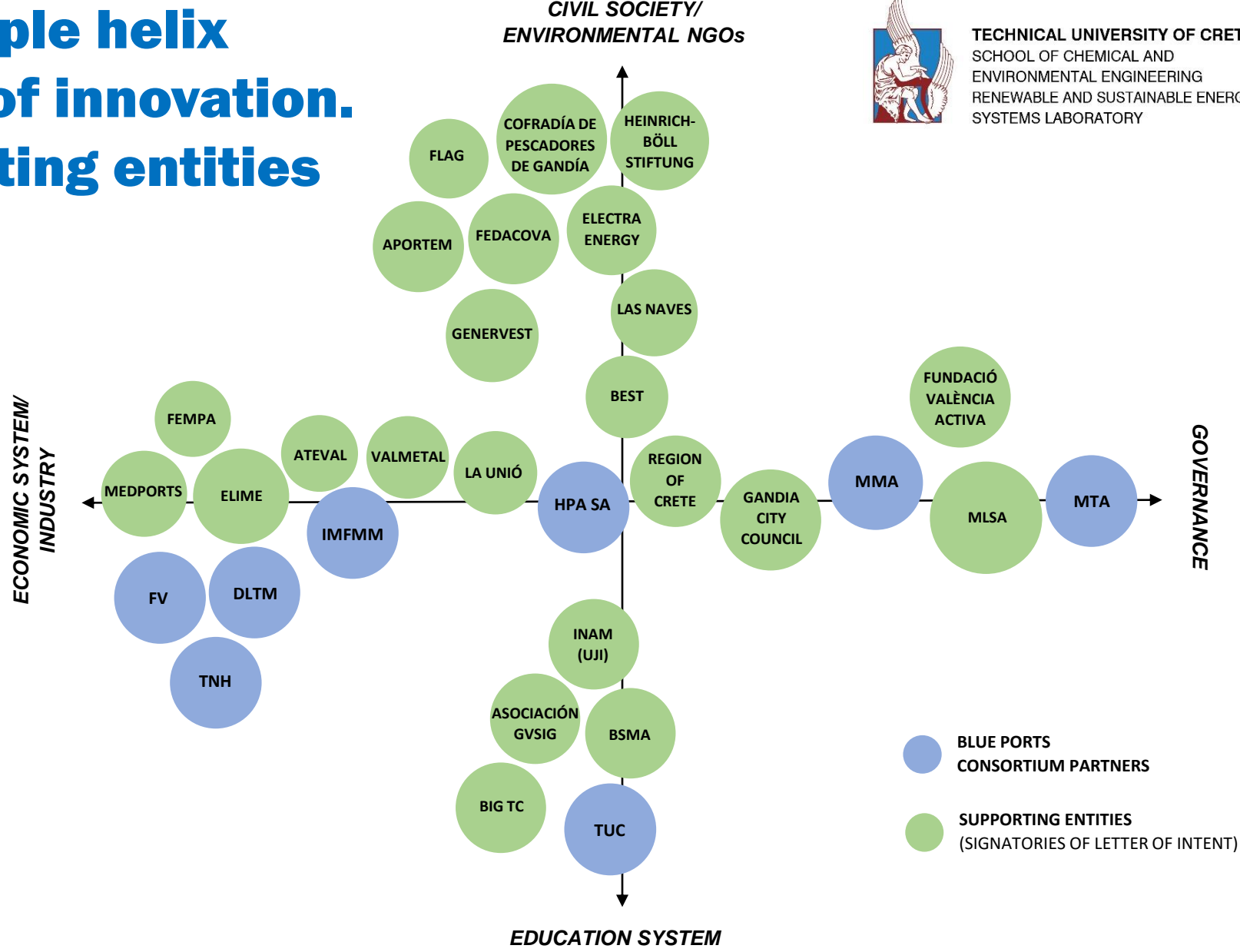
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MARITIMES



Quadruple helix model of innovation. Supporting entities



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BLUE-PORTS expected results



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- ✓ **Tailored education material**, fully digitized (for trainers and trainees) and a synchronous and asynchronous training platform
- ✓ A pool of **skilled certified blue economy staff** & specialized young talents, in 4 countries
- ✓ A new **operational certification scheme** in accordance to ISO/IEC 17024
- ✓ A **roadmap** for the BLUE PORTS scheme's implementation across Europe



BLUE-PORTS Impact



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*outreach potential: 500+ small, medium ports in Europe,
Mediterranean and Black Sea*

Medium-long term benefits:

- ✓ GHGs reduction
- ✓ Commonly acknowledged quality standards on blue economy staff training, throughout EU
- ✓ Competent staff in an ever-evolving market
- ✓ Confidence gained for opinion leaders, planners & consumers
- ✓ Better/cost-efficient maintenance procedures
- ✓ Energy saving & environmental protection rules



About ReSEL TUC

Research & Innovation



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- ✓ Sustainable energy and mobility planning
- ✓ Sustainability impacts assessment - Life cycle analysis
- ✓ Sustainable systems design
- ✓ Living labs demonstration
- ✓ Training and certification
- ✓ Knowledge transfer and learning innovation
- ✓ Co-creation and behavioural change instruments
- ✓ Governance and capacity building
- ✓ Big data analysis



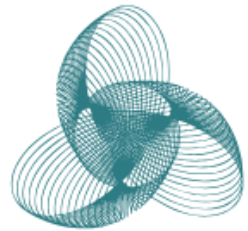
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Potential synergies



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Seenergy

Sustainability Education Programme
for Greener Fuels and Energy on Ports

01/10/2022 – 31/03/2025
PT, ES, IT, SE, AT, GR, NL, FR, DE

Training, reskilling, spreading awareness and creating communication channels
that will set the basis for the green port transitioning



Maritime Logistics Engineering
and Management

01/11/2019 – 30/04/2023
PT, GR, NL, UK

Sharing of knowledge and new synergies between Industries,
Universities, and Authorities at the EU level.



Future proof skills for the
maritime transport sector

01/01/2019 – 31/12/2023
NL, NO, DK, GR, IT, FR

Supports maritime professionals in obtaining key digital, green & soft management skills,
and fostering the cooperation at EU-level between the industry, education and training providers and authorities.





Potential synergies BLUE PORTS with ...

Project	topic
TURNING BLUE	marine renewable energy environmental protection
BlueBioTechpreneurs	Hackathon (other basins)
NextBlueGeneration	Marine Transport





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Thank you for your attention!

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