



Circular Economy Network of Ports (LOOP-Ports)

LOOP-PORTS PROJECT PRESENTATION

ROCÍO GARCÍA

INNOVATION AND PORT CLUSTER DEVELOPMENT



WHY LOOP-PORTS?

Although ports are ideal places to develop circular economy activities, they are being implemented in an isolated way.

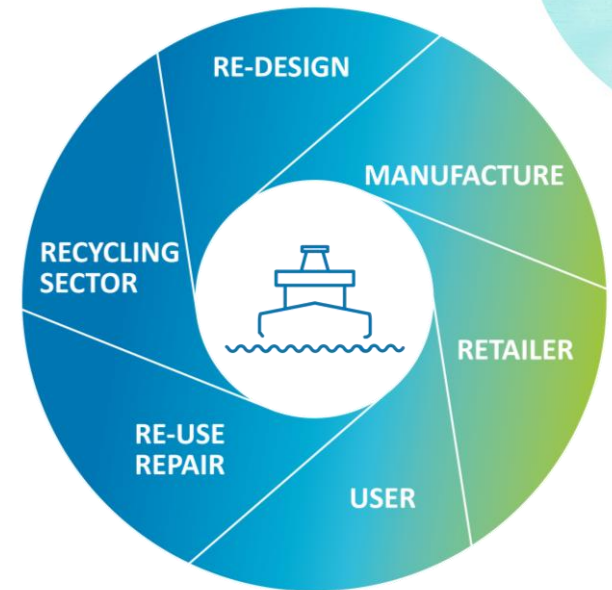
There is a need to actively involve the port sector in this new model of production and consumption

This can bring major economic benefits, contributing to innovation, growth and job creation.



OBJECTIVES

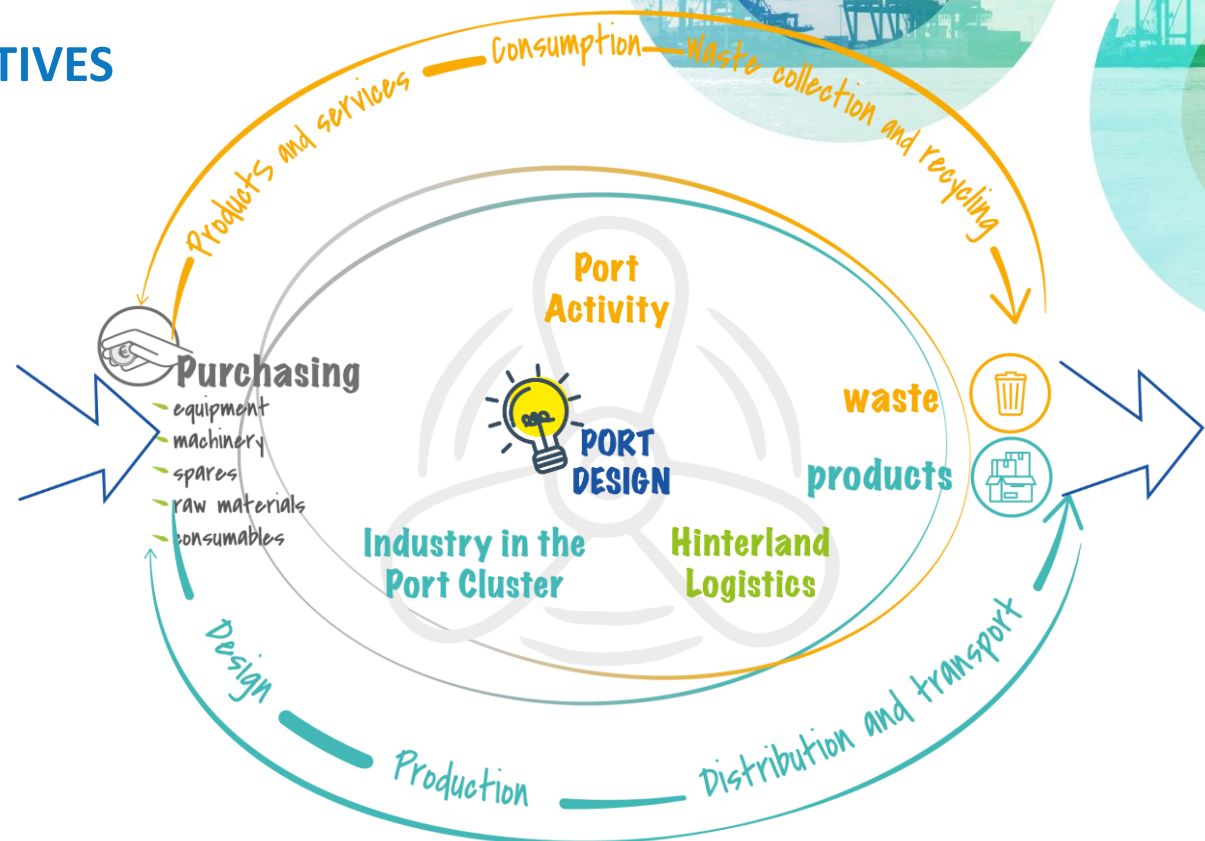
- Understand the ports situation in terms of CE: level of implementation, levers, constraints,...
- Bring together EU ports and relevant stakeholders necessary for CE implementation.
- Develop skills and business models enabling the spread of CE activities in the port sector.



Facilitate the transition of the port sector to a circular economy.

OBJECTIVES

INTEGRATION OF THE CIRCULAR ECONOMY IN THE PORT CLUSTER



Elaborated by:





October 2018 – December 2020

13 partners

6 European Countries

France
Italy
Germany
Netherlands
Denmark
Spain



PROJECT STRUCTURE

Mapping of current port status in relation to circular economy

Looking at the future: opportunities for intervention and specific innovation recommendations

Ports circular economy professional education pilot

Circular ports network development and Stakeholders interaction

Project management, communication and business models

ACTIVITIES & RESULTS



ACTIVITIES & RESULTS



ACTIVITIES & RESULTS

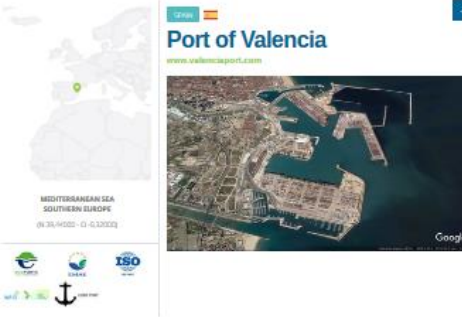
DATABASE / MAPPING / WEB TOOL



Circular Economy Activities 1 2 3 4

CIRCULAR ECONOMY ACTIVITY 4

Name of the Circular Economy Activity Identified:	CRANES ENLARGEMENT		
Type of the Circular Economy Activity implemented:	REFURBISHMENT		
Brief Description of the Activity:			
The enlargement of cranes in Valencia Terminals to attend bigger vessels in port of Valencia instead of discard them			
Material or Flow addressed:	Industrial Sector Involved:	Key Organisation(s):	Other Stakeholders/Value Chain Partners:
OTHER	OTHER	PORT AUTHORITY OF VALENCIA	NOATUM AND TCV
Life Stage (ambition, planned, pilot, scale-up, implemented)		Planned Duration (Project based or permanent)	
IMPLEMENTED		PERMANENT	
New Product/s or Service/s Generated:		Potential users demand:	
PERMANENT		N/A	
Website:		Additional Information:	
www.veintepies.com		N/A	



Port of Valencia
www.valenciaport.com

Cargo and industrial sector related to

Cruise Traffic	✓	Dry Bulk Traffic	✓	General Cargo Traffic	✓
Other Liquid Traffic	✓	Ro-ro traffic	✓	Ro-ro traffic	✓
Cruise Traffic	✓	Fishing Traffic	✓	Drishabikayard	✓

Size (statistics)

No. of Inwards (2017/2016*)	7,715	Total Goods GT (in million Tonnes, 2017/2016*)	60	No. of passengers from/to (in thousands, 2017)	649
No. of cruise ships (in thousands, 2017)	411	No. of Fishing Ships (updated June, 2018)	19	No. of Terminals	FROM 11 TO 20

*The figures for some ports cover from available statistics from 2016 in order of not having the 2017 figures.

ENLARGEMENT PLANNED **ENVIRONMENTAL REPORT PUBLISHED**

ACTIVITIES & RESULTS

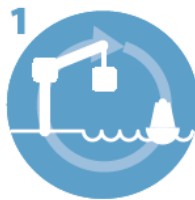


ACTIVITIES & RESULTS

AREAS OF INTERVENTION

How ports can work with circular economy

3 themes:



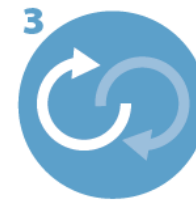
Circular assets & equipment

Optimisation of capacity and life-time extension of port assets and infrastructure, such as buildings, cranes, quays, buoys and other equipment through maintenance and smarter use (sharing, renting, etc). Incl. green procurement.



Circular flows within ports (and between ports & surrounding area)

New uses for would-be wastes generated by port activities, such as ship waste and by-products of industries within ports and port (re)development activities (recycling, upcycling, cascading, etc).



Ports & circular markets

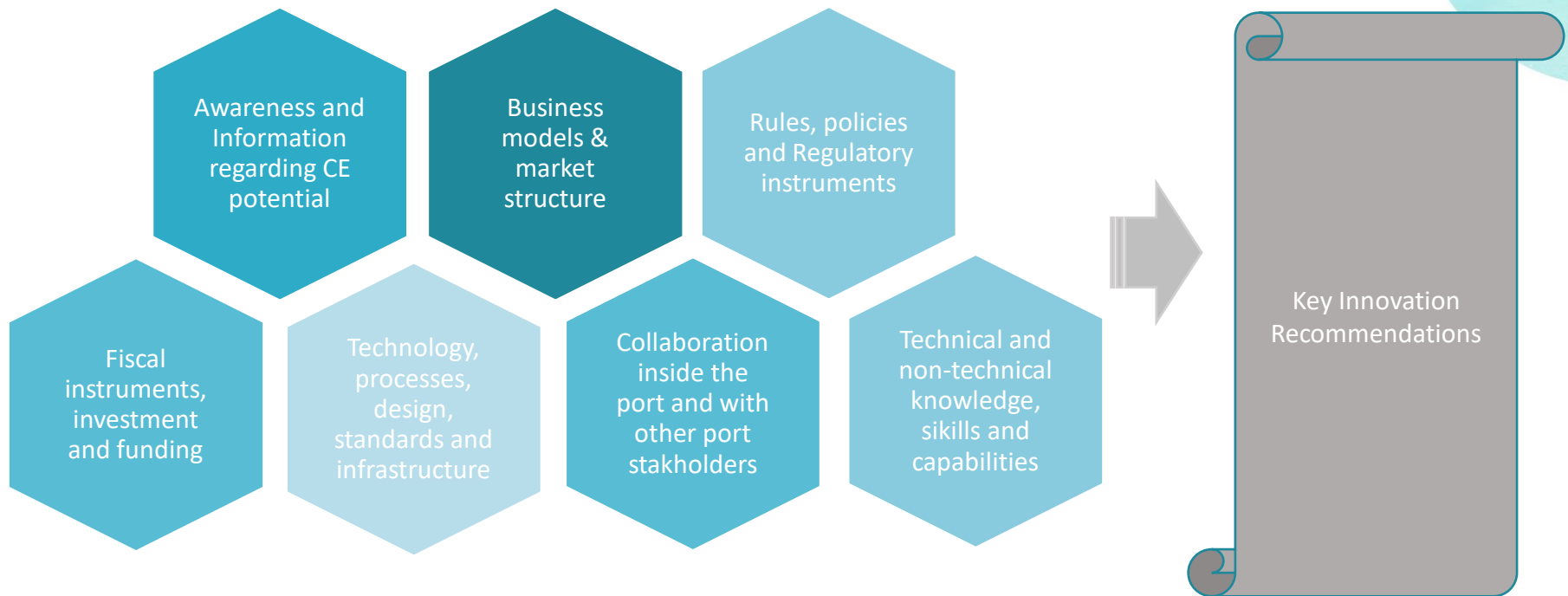
Ports enabling other industries – both on and offshore – to become more circular by developing new activities that connect supply and demand for circular resources targeted at the material moving through the port.

Case examples

- *Port of Haminakotka, Finland*
Digitalisation through 3D operating system - this allows intensification of daily port operations, as well as effective maintenance and repair of port facilities.
- *Ramsgate, United Kingdom*
A new light-weight and modular design enables quicker buoy maintenance, with less stock in reserve, and executed by smaller ships enables more cost-effective maintenance.
- *Cruise liner in port (DTU)*
A cost-effective product/service system for reducing in-harbour emissions through onshore power supply.
- *Port of Aalborg, Denmark*
Dredging has become a value adding activity - the sands are used as a raw material in the production of grey cement in the co-located cement plant.
- *Port of Boulogne-Sur-Mer, France*
Fish by-products used as raw materials and ingredients for the nutraceuticals, functional food, cosmetics and animal nutrition markets.
- *Port of Goro and Garibaldi, Italy*
To ensure a sustainable production of seafood, a circular value chain is created aimed at prevention measures to limit lost nets, reporting of lost nets, and collection and recycling of collected nets. Lastly, biodegradable nets are being developed.
- *Port of Marseille, France*
The VASCO project is using state-of-the-art green chemistry to transform industrial fumes, such as CO₂, from industry based at the port in the
- *Port of Frederikshavn, Denmark*
Full circle decommissioning of ships & rigs - a dedicated quay with specialist facilities is built that will support 100% repurposing of both machinery and materials.
- *Port of Antwerp, Belgium*
The Carloop project - extending the life of car parts and recapturing valuable raw materials by providing logistical services that link locations where products are used, with locations where specialist knowledge is available for parts refurbishment and recycling.
- *Port of Moerdijk, Netherlands*
Piloting return logistics to valorize waste tires through pyrolysis - replacing incineration to obtain gas, oil and biochar for producing new goods and generation of energy.

ACTIVITIES & RESULTS

LEVERS OF CHANGE





ACTIVITIES & RESULTS

STAKEHOLDERS GROUP



ACTIVITIES & RESULTS

STAKEHOLDERS GROUP



PORT OF TALLINN
The Port of Good Neighbours

32 Port Authorities

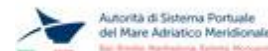
4 Public Authorities

4 Port and Maritime Associations

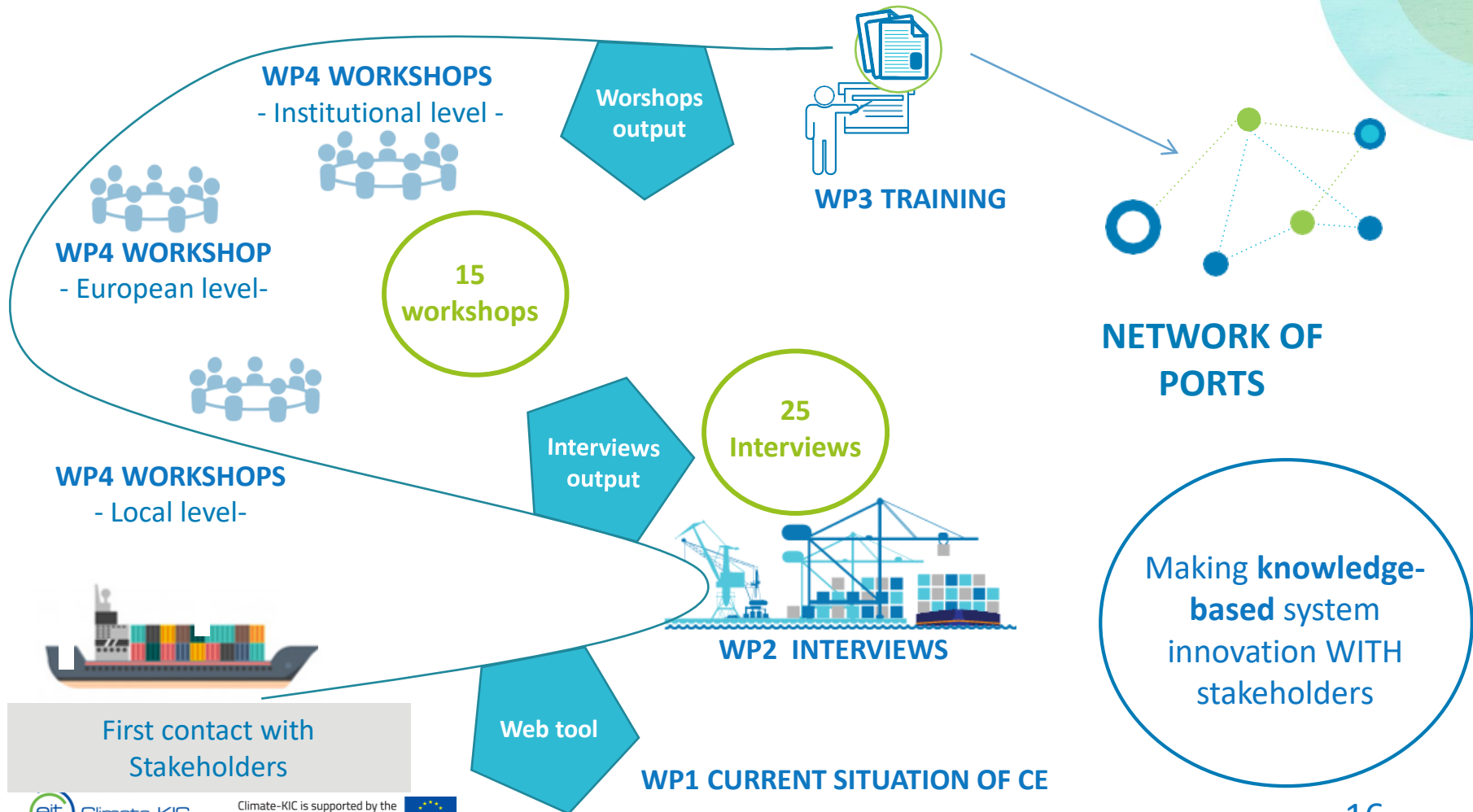
5 Other related entities

45
Members

14 EU
countries



ACTIVITIES & RESULTS LOOP-PORTS PATHWAY

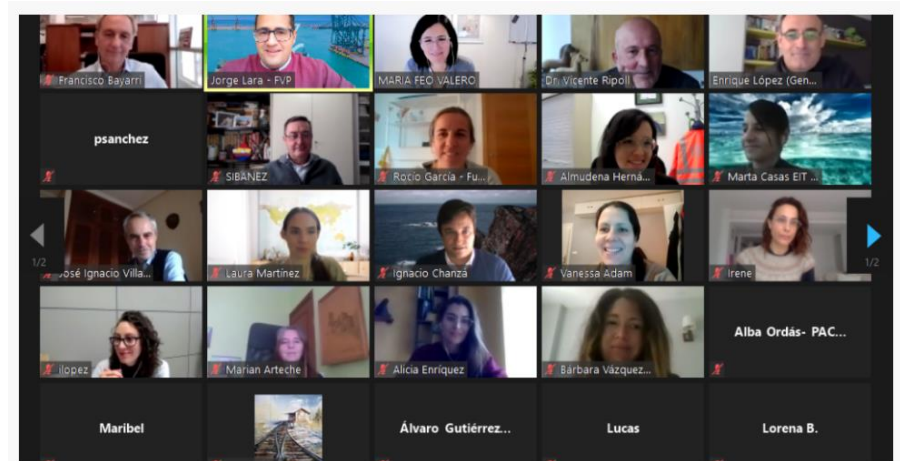


ACTIVITIES & RESULTS WORKSHOPS

- 6 local workshops
- 8 institutional workshops (regional / national)
- 1 European workshop



Before Covid19...2019



With Covid19...2020



ACTIVITIES & RESULTS

TRAINING



TRAINING – IDENTIFYING CIRCULAR ECONOMY OPPORTUNITIES IN PORT OF FREDERIKSHAVN

The port sector plays an important role in the green transition of the maritime industry. Ports can play the role of initiators and facilitators for circular economy initiatives bringing ...

19 - 20 November 2020

CORSO DI FORMAZIONE PER LE AUTORITÀ PORTUALI ITALIANE

Circular economy in the maritime sector: how to close the loop and build capacity? Il settore portuale può svolgere un ruolo importante nella realizzazione di iniziative di Economia ...

CURSO DE INICIACIÓN EN ECONOMÍA CIRCULAR PARA EL CLÚSTER DE VALENCIAPORT

Los puertos, como nodos logísticos y puntos de paso de diferentes tipos de residuos y flujos industriales, son lugares ideales para evaluar e incorporar estrategias de economía ...

ACTIVITIES & RESULTS BUSINESS MODELS



Circular flows within ports



Energy

Heat recovery associated with the energy consumption of the refrigerated warehouses located in the port for use in its urban environment (lighting, heating of buildings, heating of swimming pools, etc.). Port of Valencia.



Circular port assets & equipment



Energy

Collaborative BM offering a system of electricity supply from land adapted in containers of 8x20 feet compatible with all types of ports and ships. Port of Kristiansand.

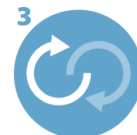


Circular flows within ports



Other

Innovative solution for the recycling of glass fibre that allows a high recovery of this material and its subsequent reuse as an input in various production processes.

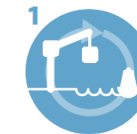


Ports & circular markets



Other

Industrial symbiosis. Port of Aalborg.



Circular port assets & equipment



Metals

Maintenance and regeneration of marine containers at the end of their useful life for alternative purposes

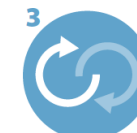


Circular flows within ports



Energy

Conversion of surplus wind energy into hydrogen (storable and transportable) to be used in various applications at the port. Port of Emden.



Ports & circular markets



Plastics

Transformation of the rubber tyre waste stream into new resources / raw materials by means of a pyrolysis plant. Port of Moerdijk.

LAST BUT NOT LEAST...



CLIMATE AND ENERGY

WINNER 2020

LOOP-Ports





ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA



e INSTITUTO
DE ECONOMÍA
INTERNACIONAL
UNIVERSITAT DE VALÈNCIA



Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG



Technical University
of Denmark



LOOP-Ports

Circular Economy Network of Ports



FUNDACIÓN
VALENCIAPORT



Climate-KIC

Climate-KIC is supported by the
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