

# Circular Economy Network of Ports (LOOP-Ports)

**MEDPorts meeting - 03/06/2020**

**Rocío García - Fundación Valenciaport**



## RATIONALE

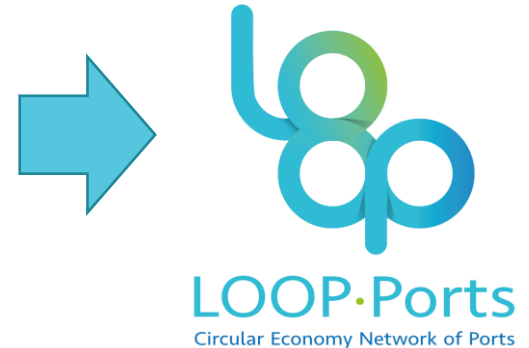


- Crossing-points for all kinds of waste and industrial flows.
- Logistical hubs for the import and export of waste materials.
- Setting-up location of industries that are active in the treatment, collection and shipment of waste.
- Active innovation promoters.

## RATIONALE

CE initiatives related to the port sector are being developed in an isolated way.

**NEED:** to actively involve the port sector in this new model of production and consumption, where the value of products and materials is maintained for as long as possible, and waste and resource use are minimised.



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



## PARTNERSHIP



October 2018 – November 2020

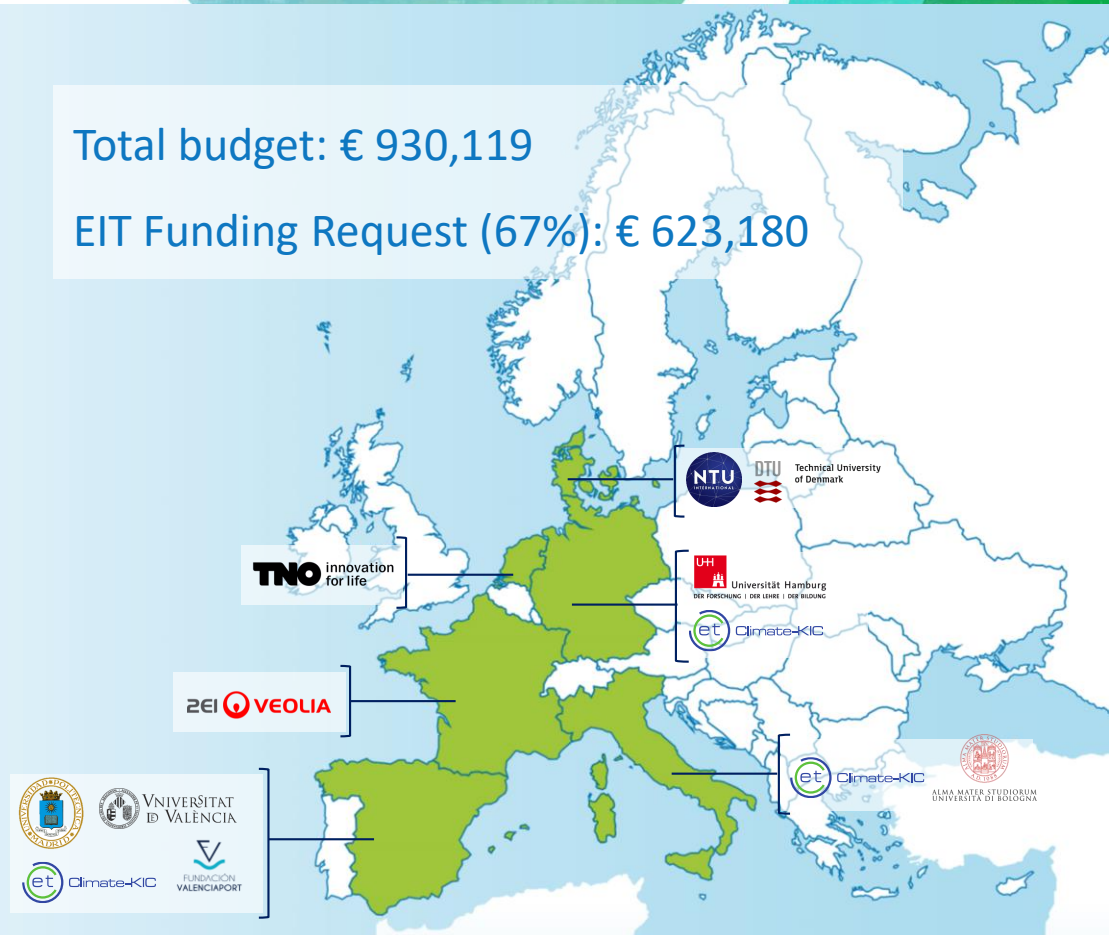
**13** partners

**6** European Countries

France  
Italy  
Germany  
Netherlands  
Denmark  
Spain

Total budget: € 930,119

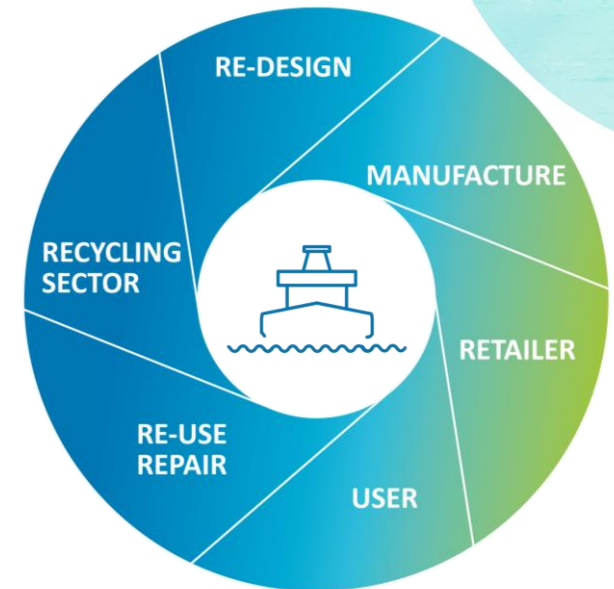
EIT Funding Request (67%): € 623,180





## OBJECTIVE

LOOP-Ports aims to **facilitate the transition to a more circular economy in the port sector** through the creation of a Circular Economy Network of Ports, which will provide an innovation ecosystem around the port activity and stimulate circular economy initiatives in ports.



## PROJECT STRUCTURE

WP1: Mapping of current port status in relation to circular economy

WP2: Looking at the future: opportunities for intervention and specific innovation recommendations

WP3: Ports circular economy professional education pilot

WP4: Circular ports network development and Stakeholders interaction

WP5: Project management, communication and business models

## EXPECTED RESULTS



- DATABASE CE ACTIVITIES AT PORTS



- MAPPING OF EXISTING CE ACTIVITIES



- MAIN DRIVERS ANALYSIS
- IDENTIFICATION OF OPPORTUNITIES FOR INTERVENTION



- WEB TOOL



- CROSS-EU NETWORK OF PORTS
- WORKSHOPS



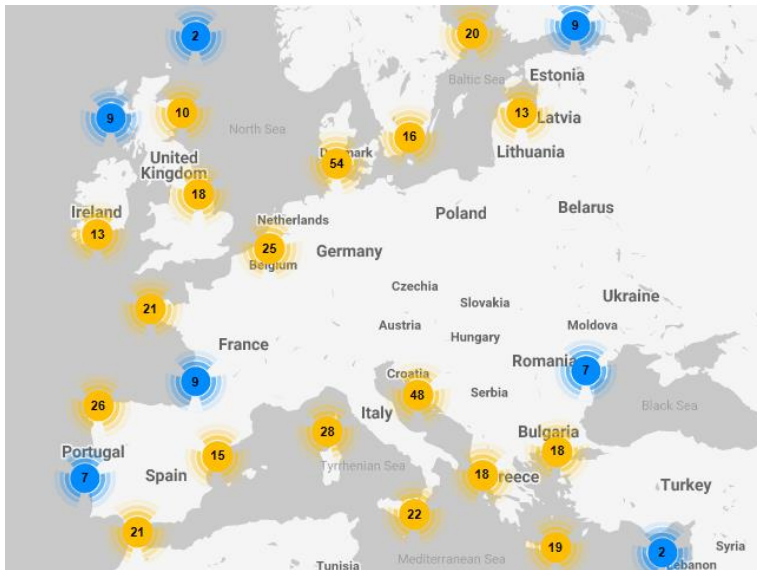
- TRAINING MATERIALS AND 3 EDUCATIONAL TRAINING PILOTS



- BUSINESS MODELS

## ACTIVITIES AND RESULTS

### WEB TOOL: mapping of CE activities in EU ports



1. DECOMMISSIONING
2. DISTANTLING/COMPONENT HARVESTING
3. INDUSTRIAL SYMBIOSIS
4. MAINTENANCE AND OVERHAUL
5. RE-USE / SECOND HAND
6. RECYCLING OF WASTE STREAMS
7. REFURBISHMENT
8. RENTAL SERVICES
9. REPAIR
10. OTHER

<https://www.loop-ports.eu/circular-economy-tools/>



## ACTIVITIES AND RESULTS

WEB TOOL: mapping of ports and CE activities in EU ports



## ACTIVITIES AND RESULTS

### WEB TOOL: mapping of ports and CE activities in EU ports



#### Cargo and industrial sector related to

Cosmetics Traffic:	✓	Dry Bulk Traffic:	✓	General Cargo Traffic:	✓
Other Liquid Traffic:	✓	Prepacked Traffic:	✓	Retrograde Traffic:	✓
Cruise Traffic:	✓	Fishing Traffic:	✓	Dry Bulk/Shipyard:	✓

#### Size (statistics)

No. of Inwards (2017/2018*)	7,715	Total Goods GT (in million Tonnes, 2017/2018*)	60	No. of passengers from/to (in thousands, 2017)	649
No. of cruise passengers (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 2018 in case of not having the 2017 figures.



#### 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	

## ACTIVITIES AND RESULTS

### WEB TOOL: mapping of ports and CE activities in EU ports



#### Cargo and industrial sector related to

Cross-border Traffic	✓	Dry Bulk Traffic	✓	General Cargo Traffic	✓
Other Liquid Traffic	✓	Petroleum Traffic	✓	River/Inland Traffic	✓
Coastal Traffic	✓	Fishing Traffic	✓	Dry Bulk/Inland	✓

#### 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
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#### Circular Economy Activities

1 2 3 4

#### ECONOMY ACTIVITY 4

CRANES ENLARGEMENT

REFURBISHMENT

Lead of discard them

Other Stakeholders/Value Chain Partners:

NOATUM and TCV

(Project based or permanent)

PERMANENT

Final users demand:

N/A

Website:

www.veintepies.com

Additional Information:

N/A

## ACTIVITIES AND RESULTS

### LEVERS OF CHANGE

**1**

Lever #1

#### **Awareness and Information regarding CE potential**

The first condition for change is awareness of the problems that CE can help address and areas where CE can create new opportunities (conceptual understanding of the CE concept). To make a clear link with the local situation in the port, insight into current resource streams and other improvement opportunities are needed. Next, technical and non-technical knowledge is necessary to effectively leverage CE to capture the associated business and environmental benefits.

**2**

Lever #2

#### **Business models & market structure**

The second lever focuses on the formal and informal relationships between actors in the port sector. It can be split into two strongly related aspects: the way business is conducted (how ports create, deliver, and capture value, in economic, social, cultural or other contexts to other stakeholders) and market structure (competition and collaboration, information sharing, economies of scale, transparency, stability, and market shaping instruments such as fines, fees, contracting practices, rebates, etc).

**3**

Lever #3

#### **Rules, policies, and regulatory instruments**

This lever covers the legal, policy and regulatory instruments deployed by local, national or supranational governments, business and other organisations to influence decision making linked to the port sector that direct or determine what circular economy initiatives are viable. Think of strategies, targets, performance and technology standards; labelling and bans; spatial planning; monitoring and enforcement; and assessments and permits.

**4**

Lever #4

#### **Fiscal instruments, investment and funding**

Lever four examines the current situation and developments related to fiscal instruments and incentives. It asks what financial tools (fines, rebates, bonuses, procurement) are currently available to ports to stimulate CE initiatives. This lever furthermore explores the status of the investment climate, and the role of funding instruments such as grants and subsidies.

**5**

Lever #5

#### **Technology, processes, design, standards and infrastructure**

This lever revolves around the physical conditions that can help or hinder circular economy practices. It explores the current status of technology, designs and processes, and how new developments in these areas create new possibilities. In addition to this, this lever examines what standards or certification schemes are needed to capture these opportunities, as well as the enabling role infrastructure plays.

**6**

Lever #6

#### **Collaboration inside the port and with other port stakeholders**

This lever examines the status as well as the need for collaboration and co-creation processes between stakeholders. It focuses on both the engagement of the ports with its environment such as businesses based in the ports, solutions providers, legislators, etc. In addition to this, a spotlight is put on the relationship with the cities ports are often based in or near, and the need for a positive engagement with citizens that stems from this.

**7**

Lever #7

#### **Technical and non-technical knowledge, skills and capabilities**

This lever reviews the previous levers and looks at what knowledge, skills and capabilities are needed for ports to make the next step with circular economy. A distinction is made between newcomer ports - ports new to circular economy, and forerunner ports - ports who are experienced with applying CE thinking.

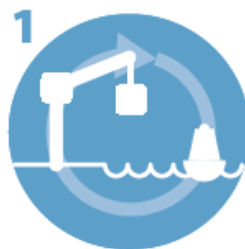


## ACTIVITIES AND RESULTS

### AREAS OF INTERVENTION

#### How ports can work with circular economy

3 themes:



##### Circular assets & equipment

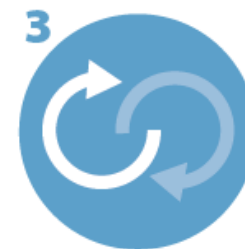
Optimisation of capacity and life-time extension of port assets and infrastructure, such as buildings, cranes, quays, buoys and other equipment through maintenance and smarter use (sharing, renting, etc). Incl. green procurement.



##### 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 Hamina Kotka, 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 CO<sub>2</sub>, 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 AND RESULTS

### STAKEHOLDERS GROUP

1. European Sea Ports Organisation (ESPO)
2. Baltic Ports Organisation (BPO)
3. Puertos del Estado - Spanish Ports State Authority - (Spain)
4. Valencian Regional Authority managing industrial and fishing ports as well as marinas (Spain)
5. Ravenna Municipality (Italy)
6. DG European Funds for the Valencian region (Spain)
7. Danish Maritime (Denmark)
8. Port Authority of Valencia (Spain)
9. Port Authority of Huelva (Spain)
10. Port Authority of Gijón (Spain)
11. Port Authority of Barcelona (Spain)
12. Port of Koper (Luka Koper) (Slovenia)
13. Port Authority of Piraeus (Greece)
14. ADSL del Mar Tirreno Centro Settentrionale – Civitavecchia, Fiumicino and Gaeta (Italy)
15. ADSP del Mare Adriatico Settentrionale – Venice and Chioggia (Italy)
16. ADSP del Mare Adriatico Centro Settentrionale - Ravenna (Italy)
17. Grand Port Maritime de Marseille (France)
18. ADSP del Mare Adriatico Meridionale – Bari, Brindisi, Manfredonia, Barletta and Monopoli (Italy)
19. Port of Bourgas (Bulgaria)
20. Grand Port Maritime de Dunkerque (France)
21. Port of Leixoes (Portugal)
22. Port of Messina e Milazzo (Italy)
23. Port of Klaipeda (Lithuania)
24. Port of Frederikshavn (Denmark)
25. ADSP del Mar Ligure Orientale – La Spezia e Marina di Carrara
26. ADSP del Mar Ionio - Ligure Orientale – Taranto (Italy)
27. Copenhagen-Malmö Port (Sweden – Denmark)
28. Port of Ploče Authority (Croatia)
29. Intermodal Transport Cluster (Croatia)
30. Port of Zadar Authority (Croatia)
31. Split Port Authority (Croatia)
32. ADSP del Mare Adriatico Centrale – Ancona, Pesaro, Falconara, S. Benedetto, Pescara and Ortona (Italy)
33. Port of Málaga (Spain)
34. CLARA – Servizi Ambientali per il Territorio (Italy)
35. Port of Castellón (Spain)
36. Port of Alicante (Spain)
37. Port of Tallinn (Estonia)
38. Port of Hamburg marketing (Germany)
39. Port of Santander (Spain)
40. Port of Bilbao (Spain)
41. Ports de Balears (Spain)
42. Port Authority of Tenerife (Spain)
43. Danske Havne (Denmark)
44. MEDPorts Association

## ACTIVITIES AND RESULTS

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6. DG European Fund for Regional Development

7. Danish Maritime Organisation
8. Port Authority of Ventspils (Latvia)
9. Port Authority of Hamburg (Germany)

10. Port Authority of Genoa (Italy)
11. Port Authority of Trieste (Italy)
12. Port of Koper (Slovenia)

13. Port Authority of Porec (Croatia)
14. ADSL del Mar Tirreno (Italy)
15. ADSP del Mare Adriatico

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25. ADSP del Mar Ligure Orientale – La Spezia e Marina di Carrara

### 32 Port Authorities

### 4 Public Authorities

### 5 Port and Maritime Associations

### 3 Industry Associations

### 1 Environmental Management Organization

**44  
Members**

**14 EU  
countries**

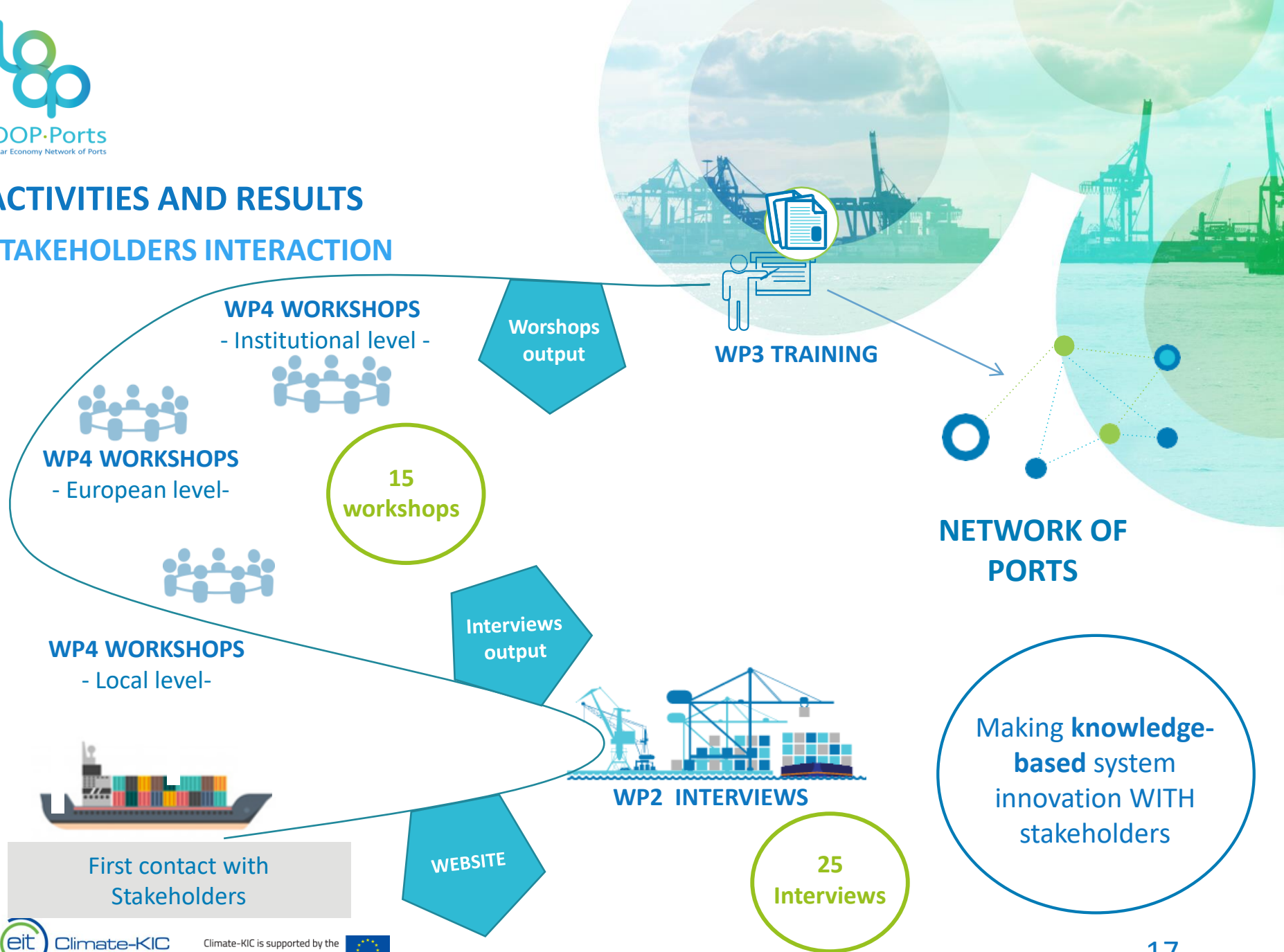
# ACTIVITIES AND RESULTS

## STAKEHOLDERS GROUP



## ACTIVITIES AND RESULTS

### STAKEHOLDERS INTERACTION





## ACTIVITIES AND RESULTS

### STAKEHOLDERS WORKSHOPS

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



**36** companies



**59** participants



**Companies profiles**





17 February 2020

News

Jorge Miguel Lara López



## LOOP-Ports project nominated to win IAPH 2020 World Ports Sustainability Awards

We are pleased to announce that one of the projects led by the Fundación Valenciaport and funded by EIT Climate-KIC has been shortlisted and selected by the IAPH 2020 World Ports Sustainability Awards to compete for the distinction to be the best project in "Climate and Energy" category. Please, we need your support! Vote for us: <https://sustainableworldports.org/iaph-world-ports-sustainability-awards-2020/vote/>



In Partnership with:



THANK YOU

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