





DOCKSTHERUTURE defining the concept of "Port of the Future"

by **Reza Karimpour**

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Ports

Exchange of views between ports CEOs and Transport Commissioner Bulc, 19 January 2015 Brussels



Report More photos



Europe's ports are vital gateways, linking its transport corridors to the rest of the world. 74% of goods entering or leaving Europe go by sea, and Europe boasts some of the finest port facilities in the world. Ports play an equally important role to support the exchange of goods within the internal market and in linking peripheral.

Maritime
Internal market
International aspects
 Safety and Environment
 European Maritime Safety Agency (EMSA)
 EU-wide digital maritime system and services
 Maritime security
▼ Ports
> Links
> Seafarers





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Support to better planning, financing and funding of port infrastructure and their connexions in the trans-European network. The Commission has integrated ports in the corridor work plans foreseen by Article 46 of the guidelines for the development of the trans-European transport network (<u>Regulation 1315/2013</u>) and provides targeted grants and other forms of financial supports to port infrastructure projects by using the <u>Connecting Europe Facility</u>. More than \in 1 billion have already been awarded since 2014 to support rail or inland waterways connecting ports with the hinterland, basic port infrastructure, innovation and green port projects.

Initiatives to simplify procedures in ports. Improving the digital information flows and reducing administrative burden is vital to ensure efficient ship port calls and throughput of cargo. To contribute to this goal the Commission intends to establish a European Maritime Single Window environment with technical and legal frameworks for the submission and re-use of regulatory reporting information, including the eManifest information for customs. This initiative is currently under assessment and the proposal for the way forward is expected to follow in summer 2018.

Initiatives to raise the environmental of ports by promoting the exchange of good practices. As part of its research and innovation agenda the commission launched in 2016 the "Port of the Future" call as part of the Horizon 2020 programme to encourage innovation in ports and the links with port cities.

Related documents

Legislation

Regulation (EU) 2017/352 of the European Parliament and of the Council of 15 February 2017 establishing a framework for the provision of port services and common rules on the financial transparency of ports

Communication from the Commission - Ports: an engine for growth - COM(2013)295 final @

Proposal for a Regulation of the European Parliament and of the Council establishing a framework on market access to port services and financial transparency of ports - COM(2013)296 final @

Impact Assessment accompanying the Regulation and Communication - SWD(2013)181 final 🗗

Summary of Impact Assessment - SWD(2013)182 final @









- DTF is a project funded by the European Commission under Horizon 2020.
- As a Coordination and Support Action (CSA) it will support the EC (DG MOVE and INEA) in covering coordination and networking of Research and Innovation projects, Programs and policies.
- Starting date: January 2018 (implementation time 30 months).



To define the Port of the Future, meant as a near future (2030) which should face Challenges related to but not limited to:

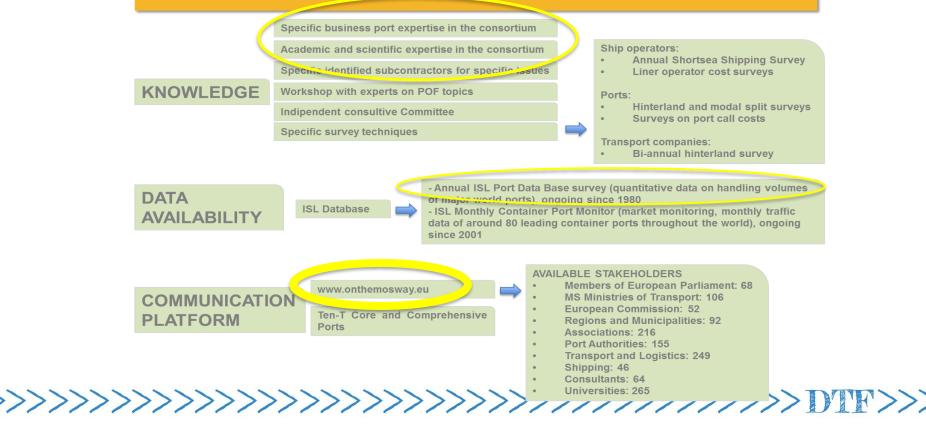
- simplification and digitalization of processes,
- emission reduction,
- energy transition, the use of renewable, & electrification,
- smart grids,
- dredging,
- port-city interface, and
- Etc...





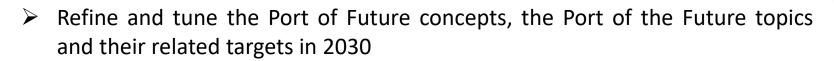
DocksTheFuture Assets

2-155.2









Identify appropriate KPIs ("Key Performance Indicators") and relevant monitoring and evaluation actions

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➤ Leading to the "Port of the Future Road Map for 2030" that will include a number of exploitation elements such as:

- o <u>tools</u> for evaluation and transferability of Port of the Future solutions,
- <u>R&D and policy recommendations</u>,
- o training packages and
- the creation of a "Port of the Future Network of Excellence".

Who is involved in DocksTheFuture?





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The project is coordinated by **Circle S.p.A (Italy)** as the leader of the Working Group including:

ISL - Institut für Seeverkehrswirtschaft und Logistik (Germany)

Magellan (Portugal)

PortExpertise (Belgium)

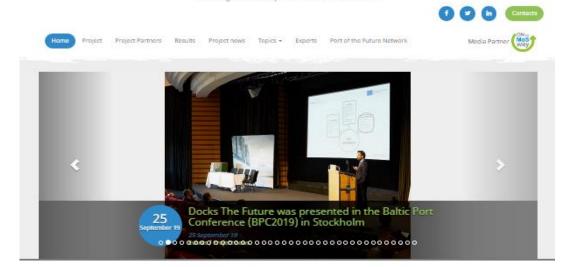
University of Genoa (Italy)







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DOCKSTHEFUTURE

LATEST NEWS

Port infrastructure

22 july 2019

BLOG 2019: Logistics and Maritime Forum, 16-17 Oct 2019 La Spezia, Italia

BILOG 2019: 16-17 Oct 2019 La Spezia The sustainable, connected and resilient road to 2030...

4 June 2019

are-Emission Equipment Drive for Chile Port

Puerto Coronel has become the first port in Chile to incorporate zero-emission electric forklift cranes...

Accessibility and Standards

22 July 2019 Costs of pollution in European Ports: SHOULD THE USER/POLLUTER PAY?

"A new study on transport infrastructure charging, due this summer, tackles the thorny question of ...

22 July 2019.

New scenarios in the Meditorranean: Suor and China, the strategies of big carriers, new technologies and energy mutes

New scenarios in the Mediterranean: Suez and China, the strategies of big carriers, new technologies, and...

Integration in the supply chain and synchromodality

26 September 2019 Docks The Future: Stakeholdors Consultation

The goal of this deliverable is to present the main outputs and outcomes of a...

22 July 2019 BILOG 2019: Logistics and Maritime Porum, 16-17 Der 2019 La Spena, Italia

BILOG 2019: 16-17 Oct 2019 La Spezia The sustainable, connected and resilient road to 2030...







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Specific subcontractors for:

- for the Port of the future concept (TU Delft)
- For the port-city relation (AIVP)
- For sustainability (Llyod's Register)

- 1.600 already identified stakeholders via www.onthemosway.eu
- _Direct involvement of the 329 TEN-T core and comprehensive ports;
- Engagement of more than 30 experts in the different identified topics, including clustered projects managers and Associations / EU Platforms (e.g. Alice);
- Advisory Board (5 top experts)

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Newsletter

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The Motorways Of the Sea Digital Multichannel Platform

Home Shipping Transport Ports MoS Projects - Training Center MoS G.I.S. CONNECTING EU



LATEST NEWS



5 September 2019

HELCOM publishes report on alternative fuels for shipping in the Baltic Sea region HELCOM in April 2019 published its "Alternative fuels for shipping in the Baltic Sea...

4 September 2019 Dialogue and collaboration – the key to

A TRANSPORT

30 August 2019 CIRCLE participates in the European Project EasyLog PortsEurope, August 29, 2019 – CIRCLE S.p.A. participates in the European Project EasyLog...

24 August 2019 New railroad line in northwest links DP World port to Chinese Silk Road

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ARCHIVE

2 September 2019

The UK government has launched a GB£10M grants scheme to help ports adapt for Brexit The UK government has launched a GB£10m grants scheme to help ports adapt for...

24 August 2019 Container cone detection rolled out

Why DocksTheFuture? & What we have achieved by now?



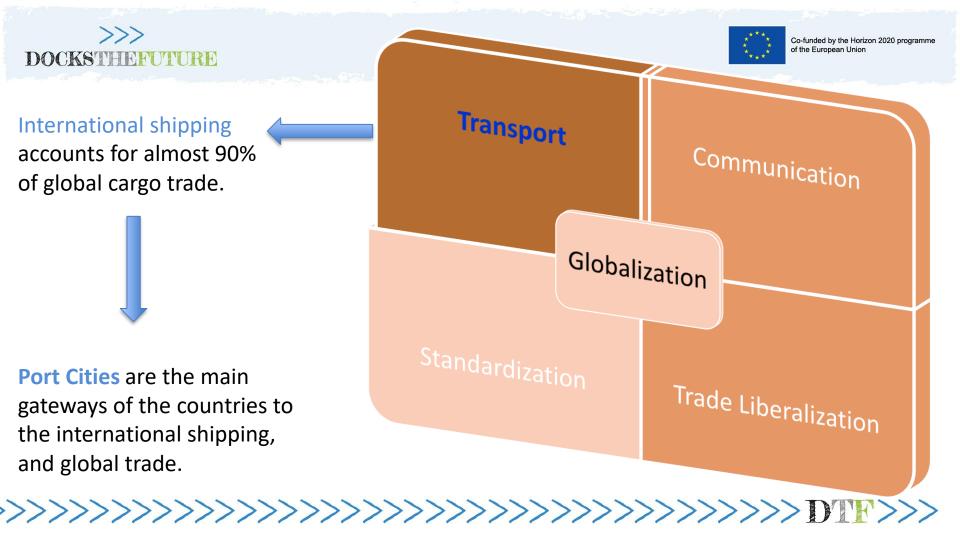


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International shipping accounts for almost 90% of global cargo trade.

Port Cities are the main gateways of the countries to the international shipping, and global trade.







DocksTheFuture has already addressed in early stages of the Project:

1. a preliminary research on the "Port of Future" concept;

2. the definition of several "**Port of the Future topics**" to be addressed and their related targets in 2030;

- $\circ \quad \text{Port infrastructure and management}$
- o Accessibility and fulfillment of European standards

- o Integration in the supply chain and synchromodality
- o Environmental concern
- Sustainability
 - Safety and security
 - Digitalisation
 - Port-city relation
 - Port Governance
 - o Human element





3. 136 projects and initiatives, were assessed and clustered according to the criteria.

Criteria of the Type, Data availability, and Types of action. Then some projects added according to the Port Experts from the Project Conference in Trieste

4. To connect the concept of Future Ports with the UN Sustainable Development Goals by 2030, 5 Macro area , with their 36 related-Strategic Objectives were defined



SUSTAINABLE GOALS

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4. To connect the concept of Future Ports with the UN Sustainable Development Goals by 2030

First macro area for ports: **1- Climate and Energy**

Potential topics

energy efficiency, circular economy, bio-based economy, renewable energy, CO2 and infrastructure, clean ship incentives, deployment of alternative transport fuels



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Second macro area for ports:

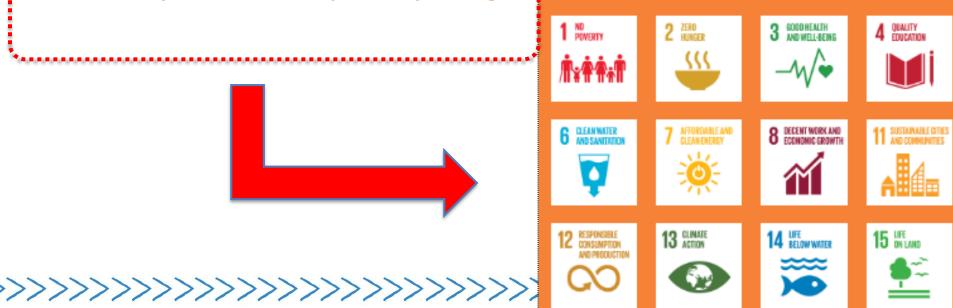
2- Community outreach and port-city dialogue



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4. To connect the concept of Future Ports by 2030 with the UN Sustainable Development Goals by 2030 Potential topics

stakeholder management, sustainability reporting, community outreach, city-port relations, employment, education, spatial planning, nature in ports, port culture, externalities of port operations







4. To connect the concept of Future Ports with the UN Sustainable Development Goals by 2030

Third macro area for ports: **3- Governance and Ethics**

Potential topics

transparency, integrity, equal rights and opportunities, fair trade, anti-corruption, responsible supply chains







4. To connect the concept of Future Ports with the UN Sustainable Development Goals by 2030

Fourth macro area for ports: 4- Resilient Infrastructure

Potential topics

port planning and design, public-private partnerships, financing, digitization and automation, climate resilience, working with nature, ecosystems management







4. To connect the concept of Future Ports with the UN Sustainable Development Goals by 2030

Fifth macro area for ports: 5- Safety and Security

Potential topics

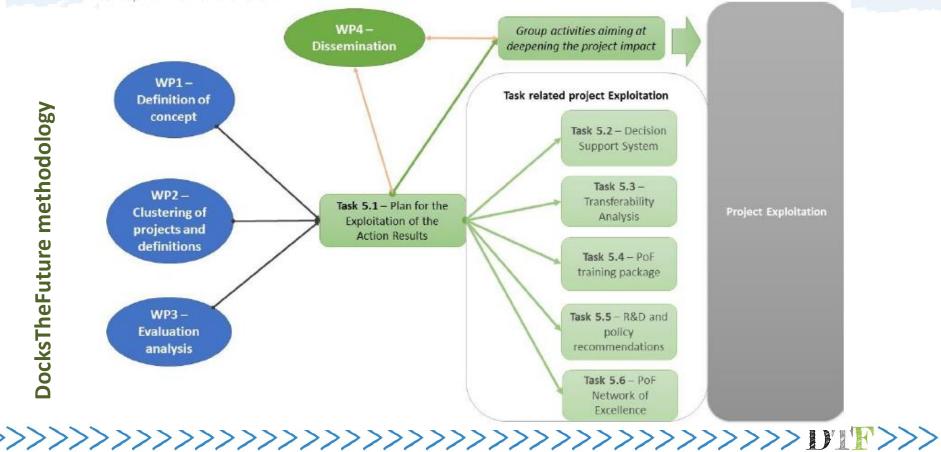
cyber-security, protection of critical infrastructure, ISPS, nautical safety, labor safety, responsible care



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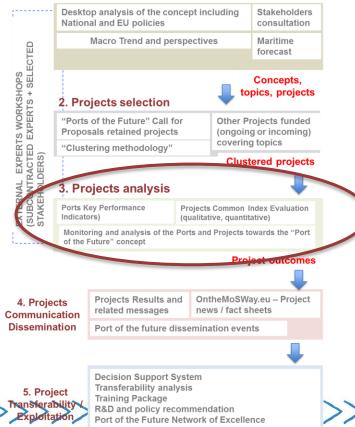


>>> DOCKSTHEFUTURE >>> WP3 tasks



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1. Port of the future concepts



Input from other WPs

- Concept and aims (from WP1) marked KPIs Atlas, database
- Topics, objectives and structure (from WP1)
- Clustered projects (from WP2)

Projects analysis

- KPI development (for aims)
- Common Index
- Transferability factor

- Output

Evaluation methodology
 Respects' evaluation
 DIF

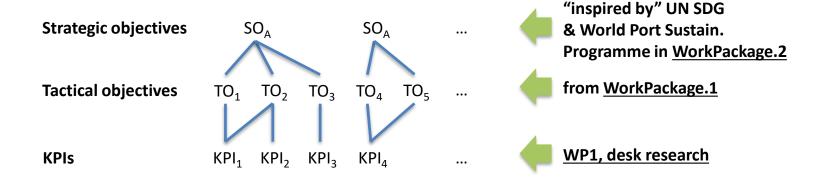


>>> WP3 report



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And now: KPI Development



⇒ Preliminary framework for structuring the KPI has been presented in March

Follow-up in June, structure has been stronger aligned to aspects of the World Port Sustainability Programme, Work is ongoing....





Port of the Future by 2030,

A focus on sustainability and Port-City dialogue







Developments in port-city relation

- has been an issue for a number of decades
- when ports and cities started to lose their
- mutual interdependence and their
- developments since then has influenced

each other.





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Developments in port-city relation can be characterized as:

- 1. an increasing rivalry for limited land resources and
- 2. in parallel by a decrease in benefits from ports for their port cities (e.g. in terms of employment) and
- 3. an increase in negative consequences from port operations like environmental impacts and traffic congestions.

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The adoption of green technologies is critical to reduce the environmental impact of port

operations on port city, and to save resources.

The adoption of some of the following technologies is part of the current debate

among cities and port authorities:

- LNG
- Eolic Off-Shore energy
- Wave energy
- Cold ironing





Source: PortForward



Port-city relationship,

the importance of the port function for the city may be different in each situation, allowing to identify three situations in which:

- Port's functions dominate the urban functions (e.g. Rotterdam).
- Port's and urban functions have equivalent importance (e.g. Amsterdam).
- Urban functions dominate the port functions(e.g. New York), the port holds a secondary role in the city.



In 2017, **AIVP** started collaborating with Port Expertise under the broader framework of the European Project Docks the Future.

A survey was done in 2018, to understand the priorities of port-city actors, by asking their leaders or top managers.

To do the **survey**, AIVP invited 3500 organizations worldwide, of which 224 responded to the call.













The questions that were formulated in this survey reflect on the dominant topics that have been considered crucial for the port-city relationship either by AIVP or by experts in congresses, academic literature or specialized media.

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Methodology What did we ask?

The survey has 68 questions, structured in five key topics, considering relevant for port-city relationships: spatial organization, environment, society and culture, economy and governance

- 1. Spatial Organization: 17 questions;
- 2. Social Interaction with the local community: 13 questions;

- 3. Environnemental Challenges: 14 questions;
- 4. Economic issues: 11 questions;
- 5. Port City Governance: 13 questions.





Despite the sectorial differences, and tension that may emerge among port and city actors, the survey demonstrates that there is considerable **common ground** in the main issues like waterfront organization, port expansion, energy or mobility.







Cooperative approach is reflected in other answers in the survey, to develop **hybrid waterfronts**, preparing the local economy to answer to global companies, cooperate to finance projects, or develop the port-city interface to reduce the port nuances.







The concern to reduce port externalities was

visible in several questions, indicating that port city actors, and mostly port authorities, are increasingly aware of the problem.

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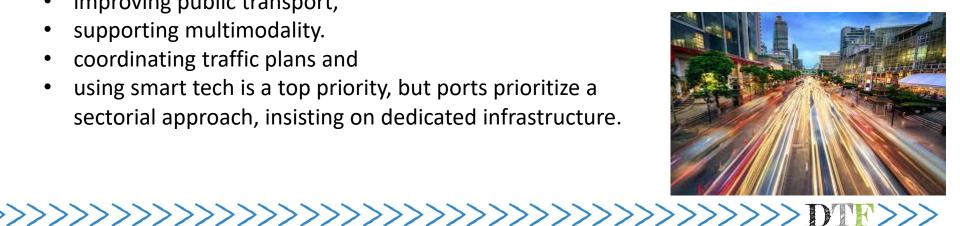




Mobility was considered an important problem for **spatial organization** in port cities, where there is the added challenge of port generated traffic, either by cargo or passenger.

predilection for

- improving public transport,
- supporting multimodality.
- coordinating traffic plans and
- using smart tech is a top priority, but ports prioritize a sectorial approach, insisting on dedicated infrastructure.







Circular economy was considered the last priority regarding economic issues, protecting biodiversity was not among the top-3 environmental issues, while participatory processes were also the last priority among governance concerns.





The **ISPS** has been used countless times in conferences and meetings as:

- the main obstacle for accessibility to port areas.
- the fences and controls, and reduce the transparency of port areas



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In conclusion,

- port and city actors are aware of the problems, thinks they are important and show willingness to cooperate and find solutions. The question is then how can this cooperative spirit be translated into concrete actions supported by all actors.
- We cannot rely only on technological innovation to address all challenges related to sustainable development and sustainable port-city relationships.
- It is necessary that the "smart" tech is accompanied by new mindsets and governance structures that can profit from the new tools, otherwise, we risk making changes only superficially, without tackling the core of the problems.







The survey shows :

Although port city actors recognize the importance of several key topics such As Sustainability, energy transition, circular economy, or protecting biodiversity emphasized, the **Economic focus** of ports still remains dominant, not recognizing these new issues as top priorities. 😕

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