DocksTheFuture

The Future of Ports: vision 2030

23 June 2020

TRA 2020
TRANSPORT RESEARCH ARENA
HELSINKI

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ECTP INNOVATIVE BUILT ENVIRONMENT
ERRAC The European Rail Research Advisory Council
ERTRAC
ETRA European Transport Research Alliance
WATERBORNE

DocksTheFuture

- DTF is a project funded by the European Commission under Horizon 2020
- As a Coordination and Support Action (CSA) it supports the EC (DG MOVE and INEA) in covering coordination and networking of Research and Innovation projects, Programmes and policies
- Starting date: January 2018 (implementation time 35 months until November 2020)
- Grant Awarded : about 1.2 million Euro

Project scope

- Scope: research needed to implement new port concepts, new management models, and innovative design, engineering, construction and operation technologies solutions for full customer satisfaction
- The DocksTheFuture (DtF) Project aims at defining the vision for the ports of the future in 2030, covering all specific issues that could define this concept including among others, emission reduction, energy transition, electrification, smart grids, port-city interface and the use of renewable energy management

Project Structure and Outputs

WPSP

DOCKSTHEFUTURE

Document analysis
(past/ongoing port projects)

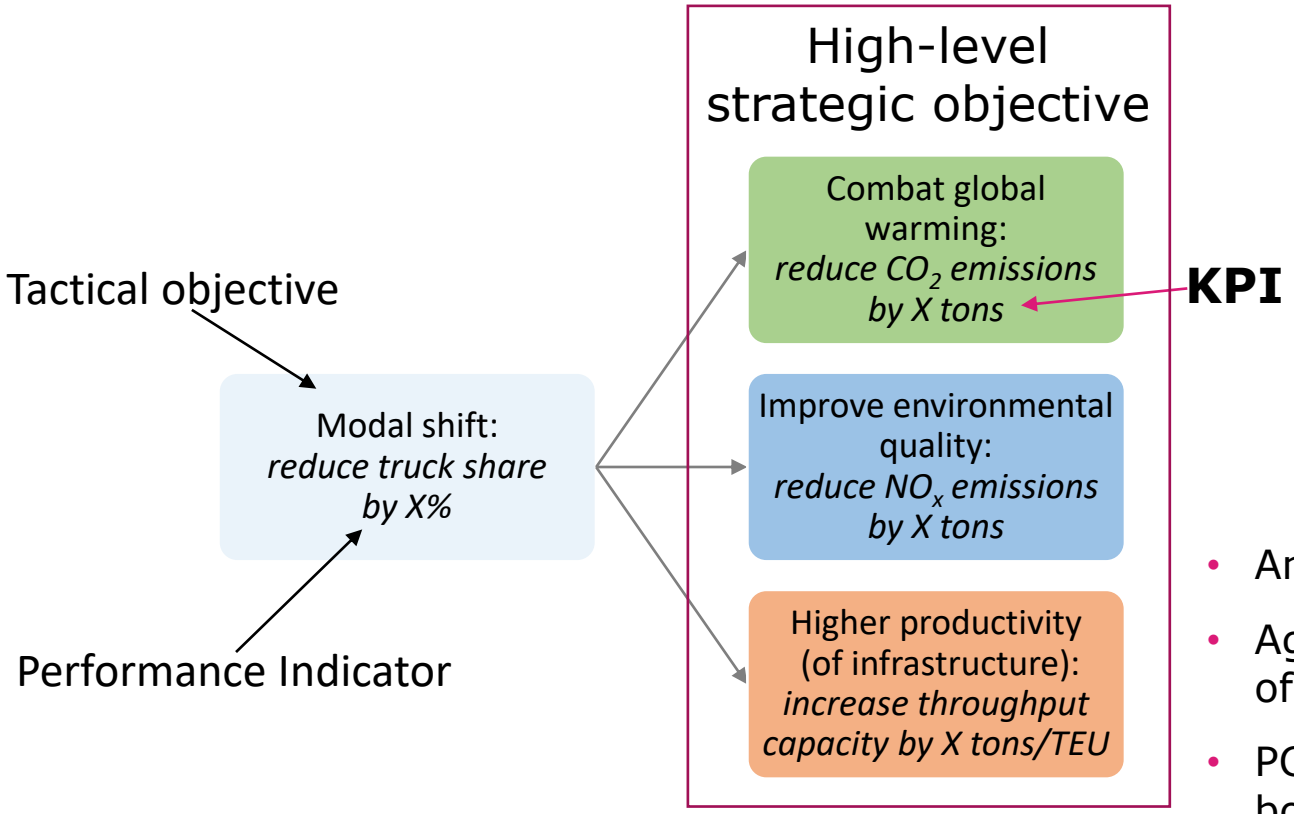
- Definition of PoF
- Structured DB of initiatives
- Project Common Index (PCI)
- Transferability Analysis (TA)
- **Decision Support System (DSS)**
- **Network of Excellence (NoE)**

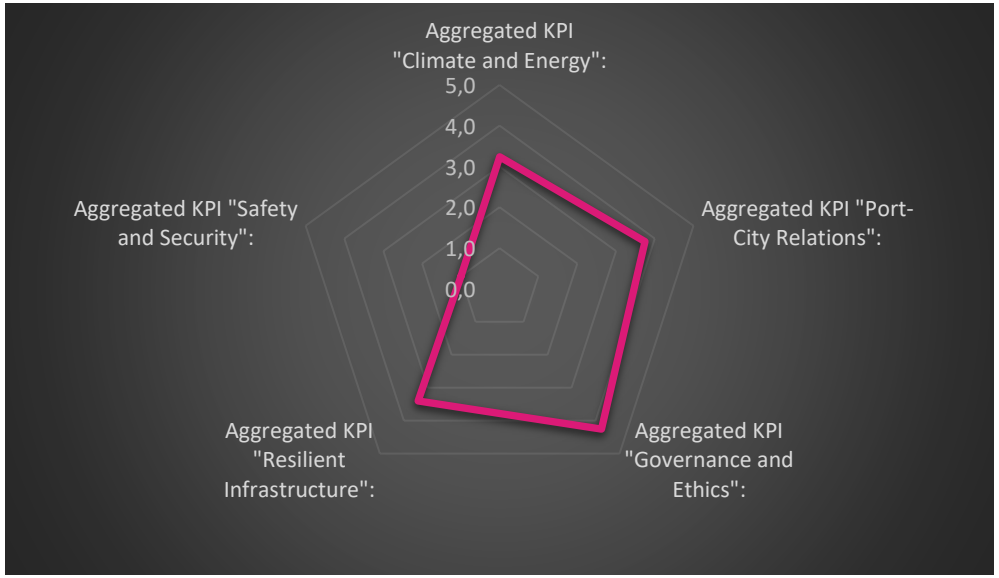
WPSP areas	high-level strategic objectives	KPI name or type
Climate and Energy	Combat global warming (SDG 13)	reduction of port-related CO2-equivalent emissions [tons]
	Save natural resources (SDG 12)	waste reduction (plastic, dredging material) [tons]
Community outreach and port-city dialogue	Inclusive cities (SDG 11.3.2)	qualitative scale
	Land consumption (SDG 11.3.1)	former port area converted [square meters]
	Improve environmental quality (SDG 11.6)	reduction of emissions in port (noise, air)
	Good jobs (SDG 8.5)	qualitative scale
Governance and Ethics	Transparency (SDG 16.6)	qualitative scale
	Gender equality (SDG 5.5)	qualitative scale
	Equal opportunity (SDG 10.3)	port open to thrid-party operators [binary]
	Restrict corruption (SDG 16.5)	qualitative scale
	Green governance (SDG 15.9)	ISO 14001 [binary]
Resilient Infrastructure	Economic growth (SDG 8.1)	growth in port's throughput capacities [TEU, tons]
	Higher productivity (SDG 8.2)	savings due to optimization [Euro]
	Resilient infrastructure (SDG 9.1)	qualitative scale
	Account for resilience (SDG 13.2)	
Safety and Security	Reduce crime (SDG 16.1)	qualitative scale
	Safe working conditions (SDG 8.8)	qualitative scale

Definition of «Port of the Future»

- The port of the future delivers value to its customers by deploying managed services. These services have with minimum negative impact on the society and the environment and are compliant with all applicable legal instruments. The port of the future delivers these services by running lean business processes supported by maturing technology
- These processes are tailored to the needs of the customers and are easy to adapt to ever changing circumstances

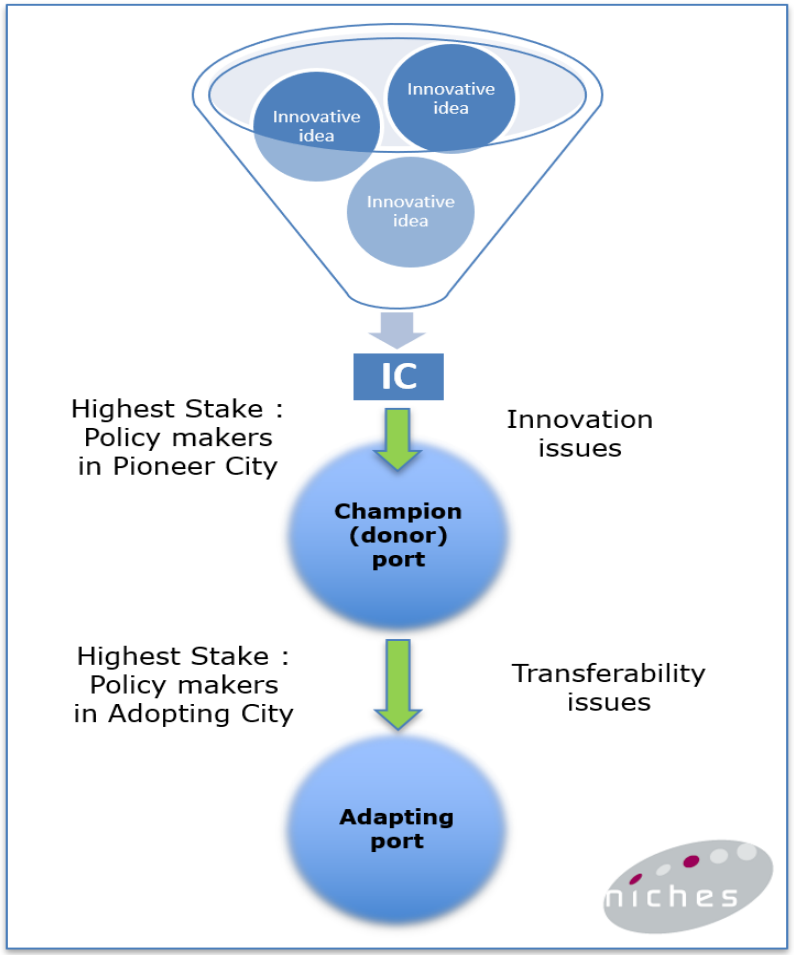
Project Common Index (PCI)





- An aggregate KPI is computed for any WPSP area
- Aggregated KPI profile shows main impact and side impacts of a project
- PCI is a combination of the aggregated KPI which considers both the maximum KPI and the averaged KPI

Transferability Analysis (TA)



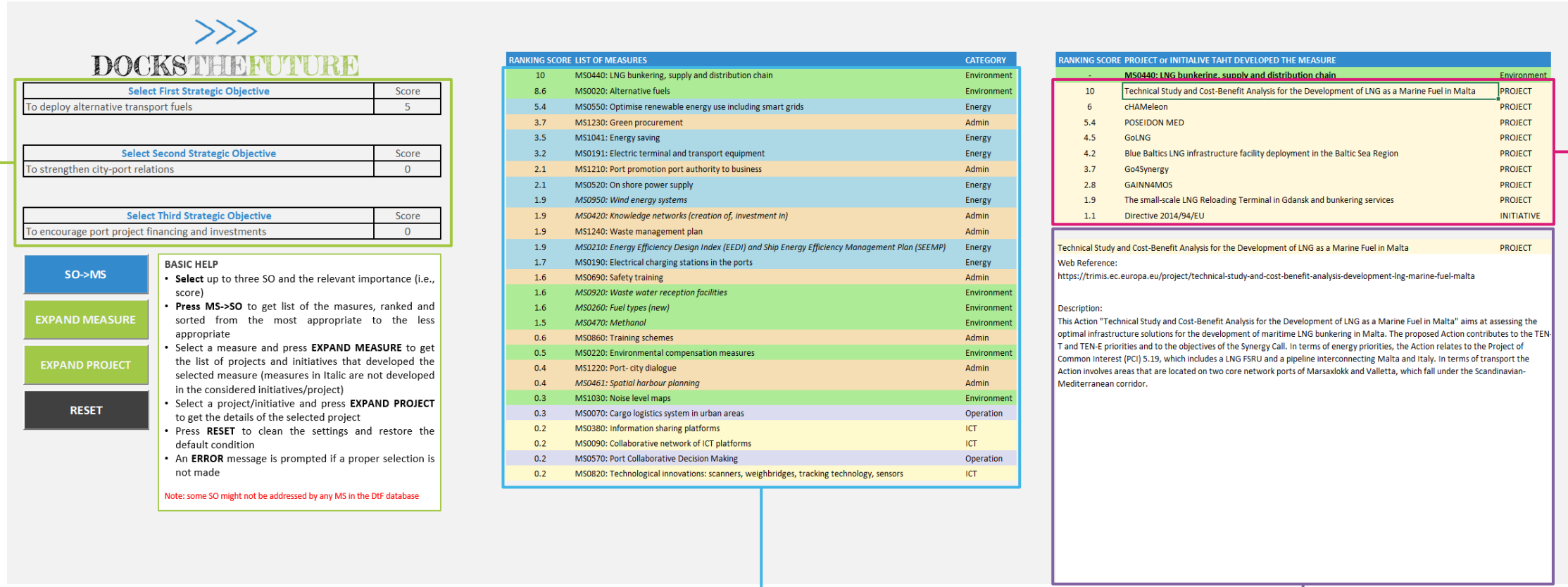
- The **Port of the Future vision 2030** promotes the implementation of projects with an innovative concept (**IC** expressed as the ***I-score***) and for the solution to be transferable for a larger potential impact.
- Transferability requires qualification of transfer objectives through identified risks, challenges, constraints/barriers and success factors involved in such a solution transfer in targeted ports, where the context, type of port, transport modes and operations may be different.
- The full Transferability Analysis (TA) promotes the uptake of the most promising innovative concepts, in order to transfer them from their current "niche" position to a mainstream application

Decision Support System (DSS)

- The DSS is aimed at helping in selecting the *tools* to achieve a High-Level Strategic Objective (SO)
  - These *tools* are named measures (MS) and consist of the technologies, procedures, norms, etc. implemented in past and present project in direct connection with a SO
- The DSS supports decisions but the detailed analysis of measures, their applicability to the specific contest is up to the user
- Given the semi-quantitative nature of input data the figures provided by the DSS only represent a ranking score and not an assessment score

Decision Support System Tool

Sorted Projects



Basic interface

Measures

Projects details

Network of Excellence

DocksTheFuture is a voluntary cooperative Network of Excellence gathering the most innovative ports willing to team up and take actions to support the maritime community achieving the UN 2030 Sustainable Development Goals, using the opportunities given by International funding programmes such as the ones set by the EU Green Deal for the part related to the port industry:

- Supplying clean, affordable and secure energy to any port related transport means
- Mobilising the community and the industry for a clean and circular economy
- Building and renovating port infrastructures in an energy and resource efficient way
- Supporting smart digital seamless solutions for the entire port community
- Accelerating the shift to sustainable and smart mobility, to achieve a 90% reduction in transport emissions by 2050

Members benefits

- News on best practices and industry insights via a set of digital channels such as a web portal (www.docksthefuture.eu) and the related social networks
- A monthly newsletter with selected articles and anticipation about forthcoming calls for proposals
- Bimonthly webinar on selected topics with the participation of top-tier experts
- Biyearly DocksTheFuture events (in synergies with other sector events)
- Business to Business facilitation
- Find an expert service (i.e. among the experts involved in the DTF project activities)

Contatcts

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