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# DOCKSTHEFUTURE

## defining the concept of "Port of the Future"

DtF Decision Support System

# THE TOOL

# **What is it?**

- The DtF DSS is an excel based decision support system allowing decision makers to find the best suitable solution, based on past experience, for achieving port related strategic objectives

# DSS Rationale

## Ongoing challenges

Port decision makers face multi-dimensional challenges with investments impacted by:

- ✓ Long term goals vs short term conflicting interests
- ✓ Stakeholders' competition
- ✓ Interconnected decision making processes

## Open issues

Therefore, port decision makers need to:

- ➢ Cope with multi-dimensional issues and critical challenges
- ➢ Find ways to simplify the research for feasible solutions
- ➢ Promote long term port development, assuring short term value for port stakeholders

# A potential problem scenario

We might look at ways to reduce emissions..

..but at the same time we might want to reduce port activities' negative impacts on local community!

E.g., by promoting alternative fuels

AAG SAYS: NO TO GAS TERMINALS
IN THE GULF OF TRIESTE and SURROUNDINGS

AAG .ORG

MLADI FORUM

..but as demonstrated by relevant protests, this might increase conflicts with local communities..

# DSS Objectives

The DSS is a valuable tool for understanding which measures, projects and initiatives need to be pursued in order to achieve ports' high level strategic objectives

- To help in selecting the "right" *initiatives* to achieve a series of Strategic Objectives chosen by the *user*

- To support complex decision-making processes in which there is a multi-objective function

# DSS Interface

# DSS Interface

**Sorted Projects**

**Strategic Objective that can be pursued via the selected measures**

**Projects details**

**Basic interface:**
**Select Measures**

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**Select First Measure**
MS0020: Alternative fuels

**Select Second Measure**
MS0630: RIS

**Select Third Measure**
None

| MS->SO | EXPAND SO | EXPAND PROJECT | RESET |

**BASIC HELP**
- **Select** up to three Measures
- **Press MS>SO** to get the list of SOs addressed by the selected measures and the list of projects that developed them
- To expand the Strategic Objective:
  - select the SO
  - press **EXPAND SO**
  - see the results in the SO_to_MS tool
- Press **RESET** to clean the setting and restore the default condition
- An **ERROR** message is prompted if a proper selection is not made

Note: some MS might not address any SO and/or be developed in a

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| RANKING SCORE | LIST OF STRATEGIC OBJECTIVES | Measure 1 | Measure 2 |
|---|---|---|---|
| 10 | To deploy alternative transport fuels | x | |
| 4.5 | To reduce / mitigate the externalities of port operations | x | x |
| 2.9 | To increase the portion of renewable energy in port | x | |
| 0.5 | To provide systematic incentives for clean ships | x | |
| 0.5 | To transit towards digitization and automation in port activities | x | |

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| PROJECT/INITIATIVE | Measure 1 | Measure 2 |
|---|---|---|
| NEWS | | x |
| FUTUREMED | | x |
| PROMINENT | | x |
| GoLNG | x | |
| POSEIDON MED | x | |
| LEAWIND | x | |
| GAINN4MOS | x | |
| The small-scale LNG Reloading Terminal in Gdansk and bunkering services | x | |
| Go4Synergy | x | |
| Blue Baltics LNG infrastructure facility deployment in the Baltic Sea Region | x | |
| cHAMeleon | x | |
| Technical Study and Cost-Benefit Analysis for the Development of LNG as a Marine Fuel in Malta | x | |
| Zero Emission Ferries | x | |
| CLEANPORT | x | |
| INWAPO | | x |
| EMMA | | x |
| CLINSH | | x |
| Directive 2014/94/EU | x | |
| Directive 2005/44/EC | | x |
| CoRISMa | | x |

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| NEWS | PROJECT |
|---|---|

Web Reference:

https://trimis.ec.europa.eu/project/development-next-generation-european-inland-waterway-ship-and-logistics-system-0

Description:
NEWS' principal objective is to increase (container) transport flows on inland waterways (especially the Danube) by developing a Next generation European Inland Waterway Ship and logistics system to make container transport on inland waterways more cost-, time- and ecologically efficient. Hence, it supports the full integration of waterborne transport into the EU transport and logistics chain.

# DSS Limitations

- The effective use of the tool is influenced by:
  - Database reliance and interdependence
  - Missing key indicators on performance and transferability
  - The contextualization of the measures and their applicability to the specific context is up to the user (i.e., further analysis will be needed)

# **Further development**

- In respect to the first released version, future DSS apps will:

  – Embed other DtF outputs (e.g. PCI and TA-score)

  – Guarantee full interoperability

  – *Enlarge the number of initiatives considered*