Multi-year Expert Meeting
on Transport, Trade Logistics and Trade Facilitation:

Trade Logistics and the 2030 Agenda for Sustainable Development

23-24 October 2017

by

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24 October 2017

https://www.facebook.com/portopia/

Ports Observatory for Performance Indicator Analysis

October 24th 2017

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Administrative and Scientific Coordinator

Presentation to UNCTAD - Multi-year Expert Meeting on Transport, Trade Logistics and Trade Facilitation, fifth session

PORTOPIA

Mission Statement

PORTOPIA will deliver a sustainable, self-supporting European Port Performance Management Toolkit, validated and endorsed by port industry stakeholders, that provides added value to the industry and its stakeholders by supplying transparent, useful and robust indicators and the contextual analysis thereof, leading to improved resource efficiency, effectiveness and societal support for the European Port System

12 partners, of which 10 universities and research institutes, one major trade association, and a technology company

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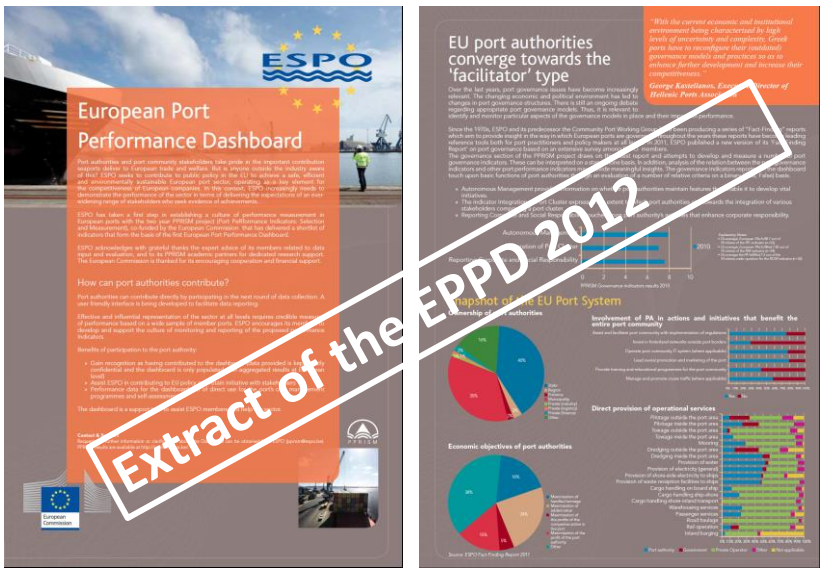
History

- Where does it come from?
  1997, 2001, 2006, 2007, 2009, 2012, 2013, 2017
- Where are we now (1 month from the end)
- Where are we going?

(Where it really started: pprism.espo.be)

Challenge: turn a negative past/start into a positive future

2010 – 2012: pprism.espo.be



PORTOPIA: 10 Strategic Objectives

Strategic Objective	Description
1	Identify ***extensions and elaborations of currently used indicators*** within various existing / completed / ongoing projects and initiatives
2	***Integrate inland ports*** in the observatory
3	***Develop a benchmarking tool*** that allows ***individual ports*** to compare their activities and operations ***with the EU average*** and with **ports in other important regions** like Asia and the Americas ***in a meaningful way***
4	***Ensure a balanced representation of ports*** and port actors across the EU and relevant neighbouring countries (e.g. Mediterranean Partner Countries)
5	***Develop an approach to collect data from the whole port community***: this entails the implementation of appropriate mechanisms to collect, manage and distribute the data on a long term and to show trends over a substantial timeline

PORTOPIA: 10 Strategic Objectives

Strategic Objective	Description
6	***Implement a user-friendly interface***
7	***Determine appropriate weighting and aggregation levels*** leading to comprehensiveness and meaningfulness of port system indicators
8	***Develop a knowledge and management tool*** for monitoring the efficiency and performance of sea and inland ports
9	***Ensure stakeholder confidentiality*** of data management
10	***Develop and implement a business case for a European Port Observatory (EPO)*** to ensure sustainable continuity (long term data monitoring and trends)

Source: PORTOPIA consortium (2012), reinterpretation of the call text

Monday, 30 October 2017

PORTOPIA project governance

Stakeholders

Individual data transfer by ESPO **only after ESPO ExCo approval (incl. individual port approval in the system)**

Representation in ESPO technical committees and ExCo with active PORTOPIA follow-up

Individual ports and national port associations

EUROPEAN COMMISSION

70% co-funding
Ca. 3 mio € of 4,2 mio € total

Full partner in the consortium; **50% own investment**; Validation cycle for deliverables; Dissemination

Share individual data on selected elements of port performance; Provide **individual feedback** and ideas on development

Provide **aggregated data and trends** on port performance: **NO DIRECT TRANSFER OF NON-PUBLIC INDIVIDUAL PORT DATA**

Manage individual data
Respect for **confidentiality**
Data warehouse
Knowledge Management
Dashboards
Data, trends and analysis
Relevant benchmarking

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12 partner independent consortium bound by a Description of Work and a Consortium Agreement;
Investment by consortium partners **1,2 mio €**

Monday, 30 October 2017 7

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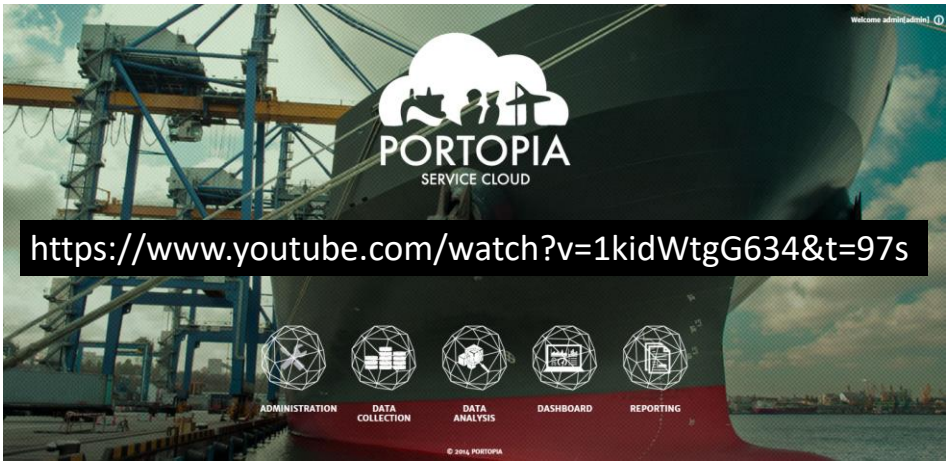
Indicators: Market Trends and Structure

- Market tendencies: Rapid Exchange System Dashboard (based on quarterly traffic data supplied by port authorities)
- Average Call Size
- Average Vessel Size
- Traffic growth
- Market Share
- Transshipment incidence / intra-European traffic dependency
- Modal Split
- Forecasting module
  - Short and mid-term market expectations

Monday, 30 October 2017 8

PORTOPIA Service Cloud

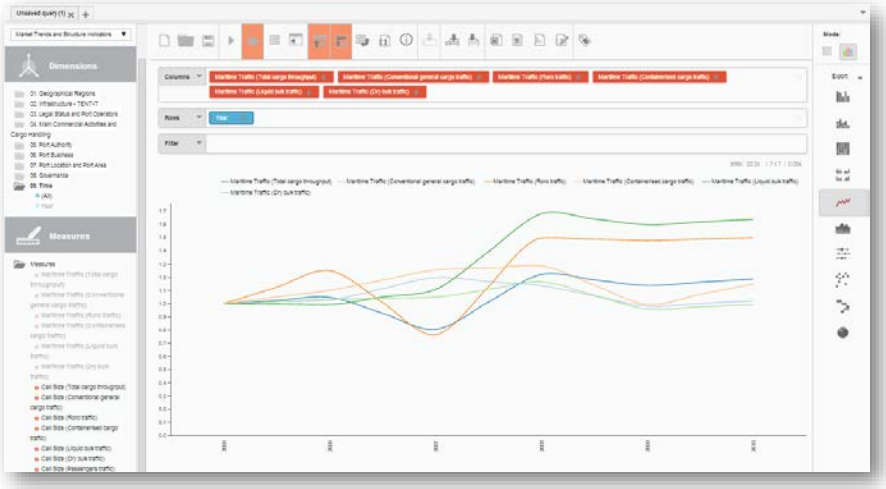
The desktop overview



9

DATA ANALYSIS MODULE

Market Trends & Structure Indicator's Analysis



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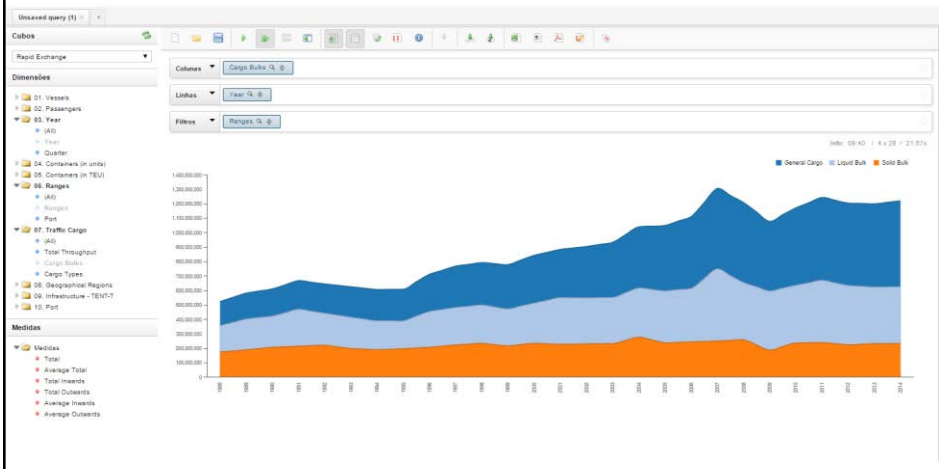
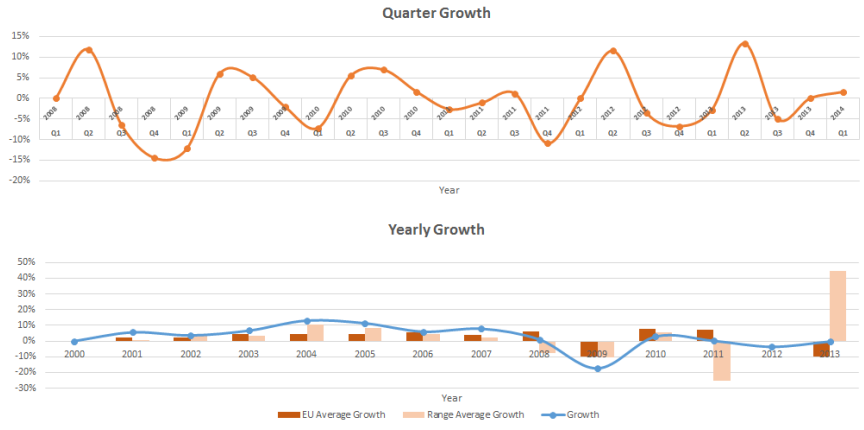
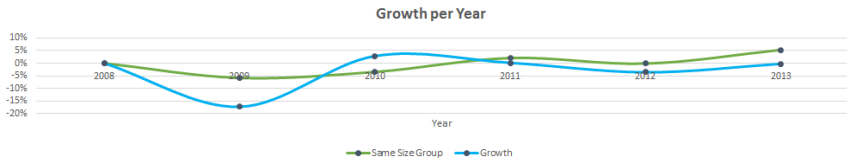


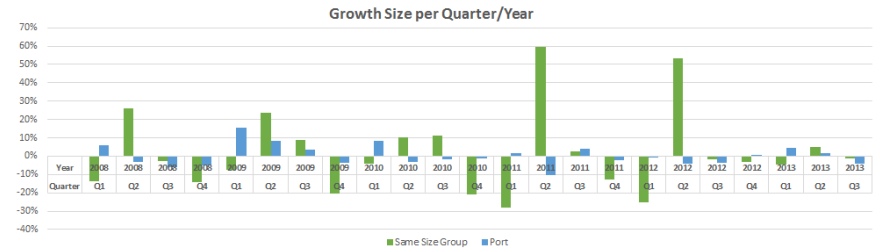
RES Dashboard development



Logo Partner

RES Dashboard development





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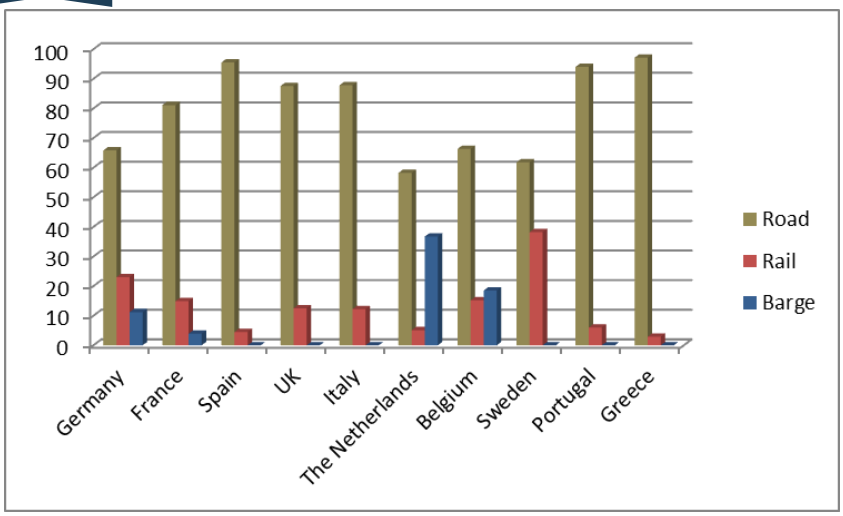
Modal Split



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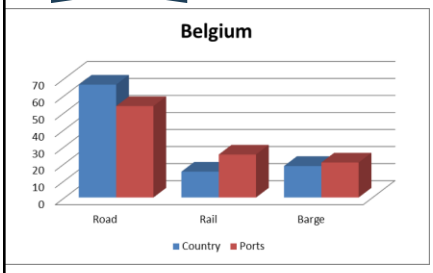
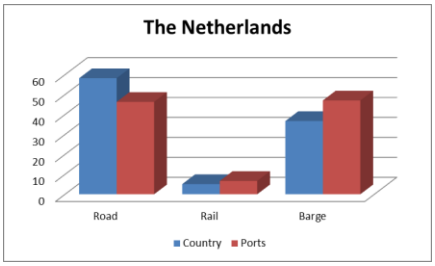
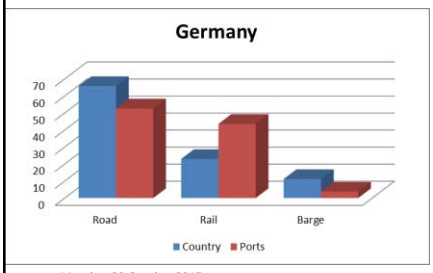
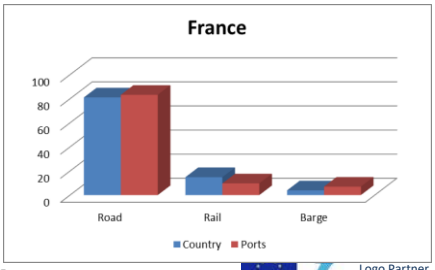
Modal split

Ports vs country level









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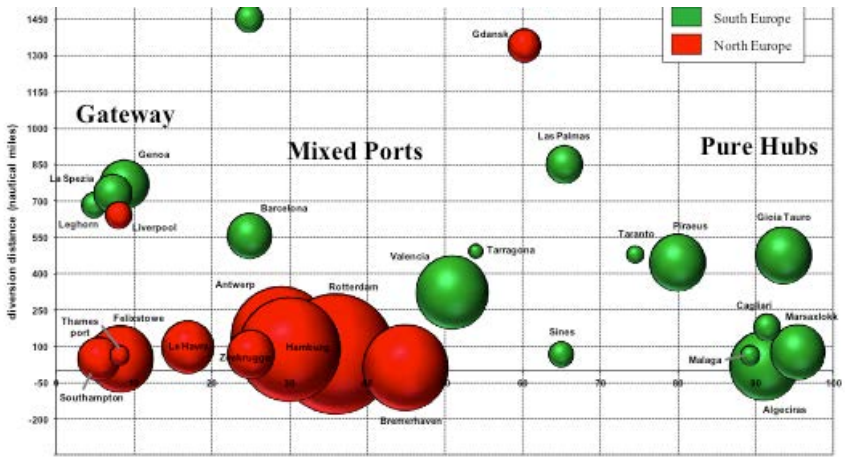
Transhipment incidence vs diversion



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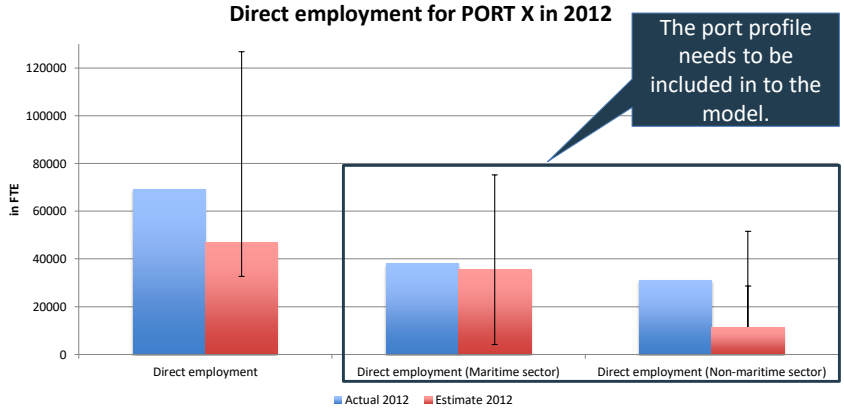
Indicators: Socio-Economic Indicators

- Direct and indirect Employment (in FTE)
- Direct and indirect Gross Added Value (in €)
- Flowback to Treasury (in €)
- Private Investment (in €)
- Other indicators:
  - Hrs of Training per FTE
  - Gender (% of women)

Applications

Estimates at the port level

Results - Direct employment (example)



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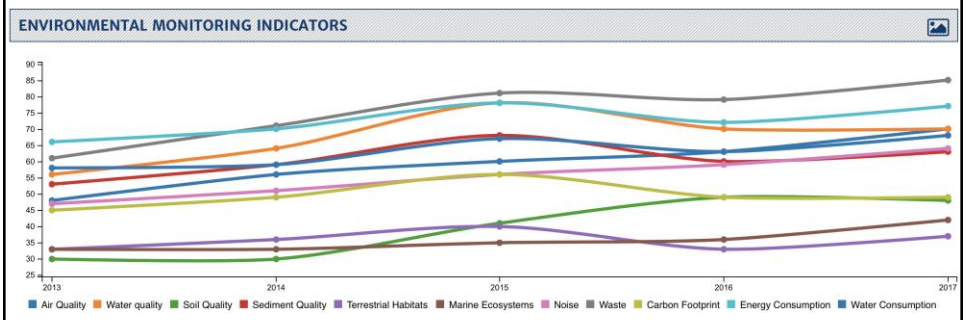
Indicators: Environment, Security and Health & Occupational Safety

- Dashboards based on ECOPORTS self-diagnosis method (environmental management index)
- CO2 footprint
- Water quality
- Waste production
- Nautical accidents
- Port security incidents
- Fatal accidents, work-related accidents, lost workdays
- Investments in protection

Dashboard development

Environmental Management Indicators



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Environmental priorities in ports

	1996	2004	2009	2013	2016
1	Port Development (water)	Garbage / Port waste	Noise	Air quality	Air quality
2	Water quality	Dredging: operations	Air quality	Garbage/ Port waste	Energy Consumption
3	Dredging disposal	Dredging disposal	Garbage / Port waste	Energy Consumption	Noise
4	Dredging: operations	Dust	Dredging: operations	Noise	Relationship with local community
5	Dust	Noise	Dredging: disposal	Ship waste	Garbage/ Port waste
6	Port Development (land)	Air quality	Relationship with local community	Relationship with local community	Ship waste
7	Contaminated land	Hazardous cargo	Energy consumption	Dredging: operations	Port development (land related)
8	Habitat loss / degradation	Bunkering	Dust	Dust	Water quality
9	Traffic volume	Port Development (land)	Port Development (water)	Port development (land)	Dust
10	Industrial effluent	Ship discharge (bilge)	Port Development (land)	Water quality	Dredging: operations

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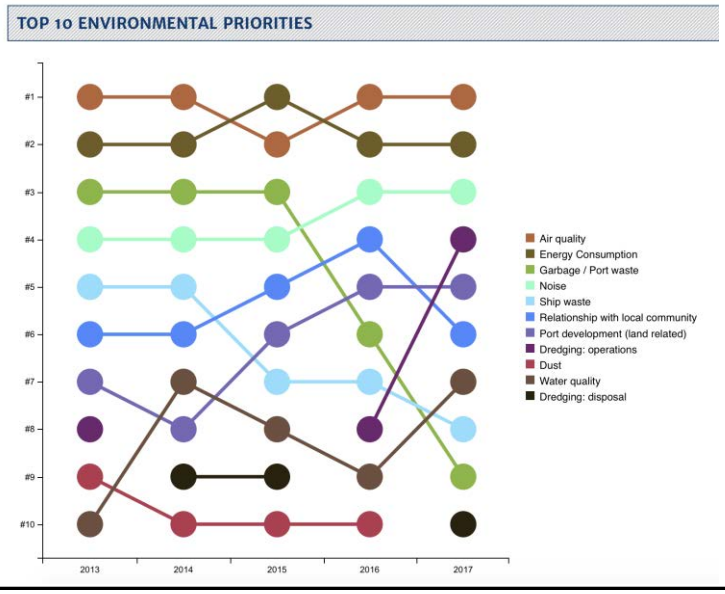
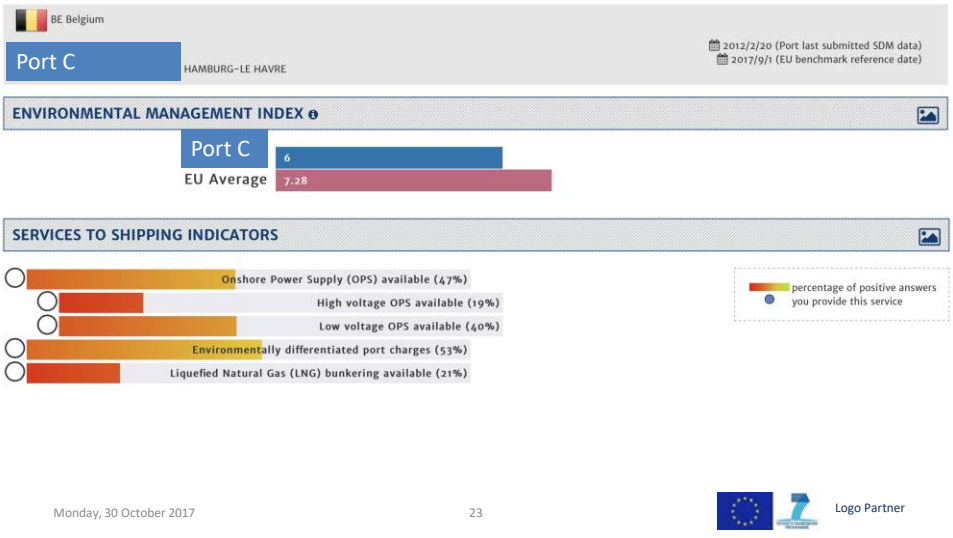
Environmental priorities in ports



Port Dashboard (extract)



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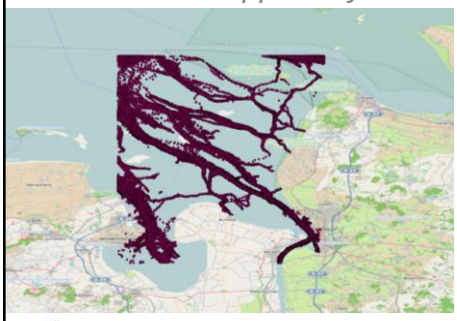
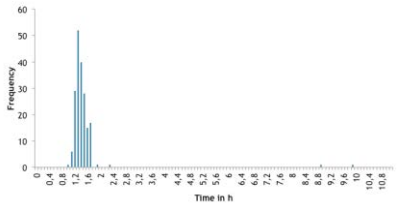
Indicators: Logistic Chain and Operational Performance

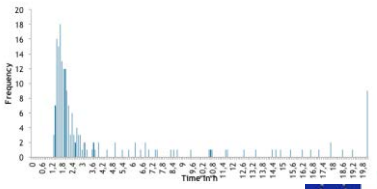
- Intermodal connectivity index
- Maritime connectivity index
- Ro-ro connectivity index
- Maritime Access Fluidity
- Road congestion (TomTom partnership)
- Supply chain cost indicators
- Terminal productivity (aggregated level)
- Others: Mean Time Customs Clearance

Indicator development

Maritime access fluidity (Based on AIS data, supplied by MarineTraffic)







25

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Indicators: Governance

- Based on ESPO's fact finding study
- 5-yearly study on port governance
- PORTOPIA digitalizes and dynamizes the exercise, allowing permanent updating and generating snapshots of the EU port system, with links to policy issues

Monday, 30 October 2017 26

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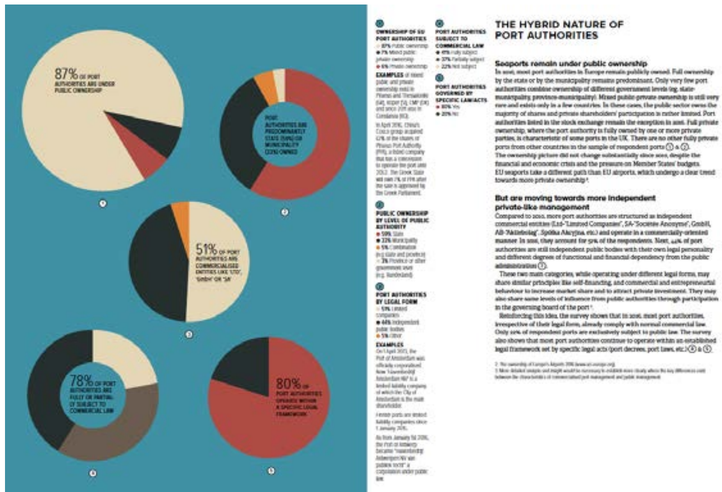
Governance indicators



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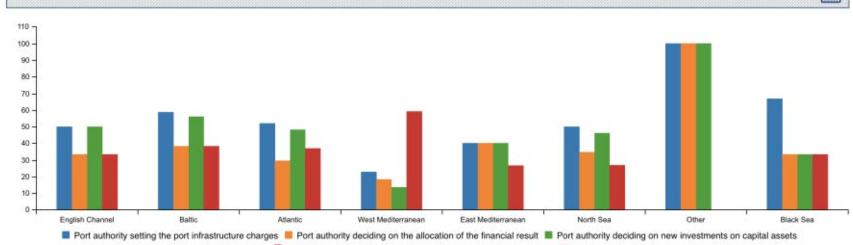
FINANCIAL AUTONOMY OF PORT AUTHORITIES



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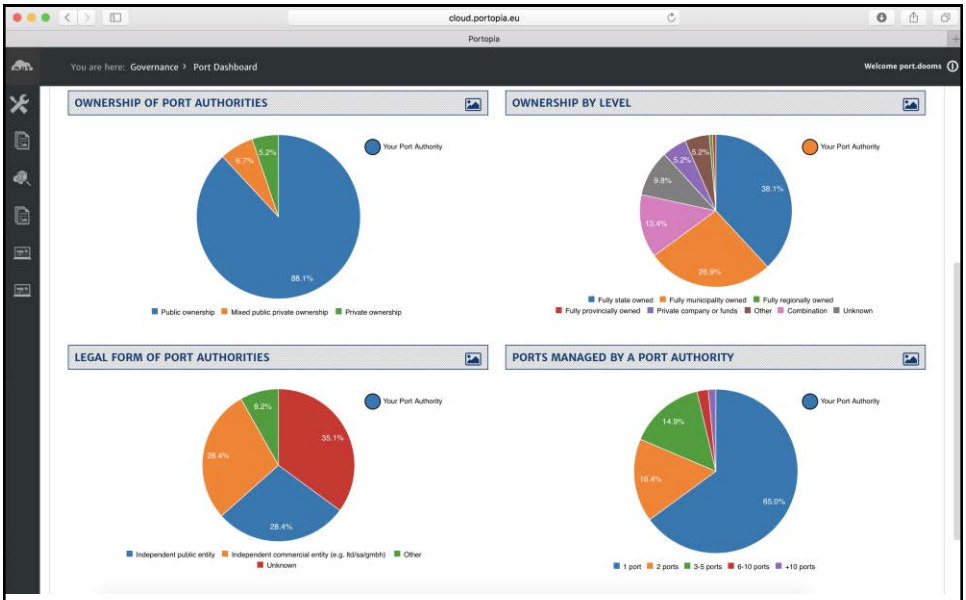

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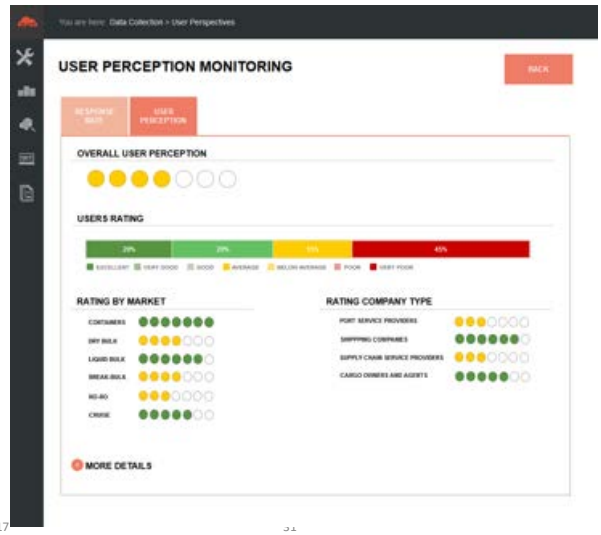
Indicators: User Perceptions of Port Performance

- Development of an ICT tool to measure the user perceptions on port performance (= effectiveness of service delivery / **user satisfaction**)
- Port-centric approach
  - Tool can be customized (not all criteria are important for each port cf. diversity of ports) – markets, port components.
  - Ports submit the survey to their users (shippers, shipping lines, forwarders, other service providers)
- PORTOPIA provides the technological solution, scientific quality assurance and basic analytical tool
- Initially based on the CSI initiative of the AAPA, but modified and tailored to European needs

User perceptions monitoring



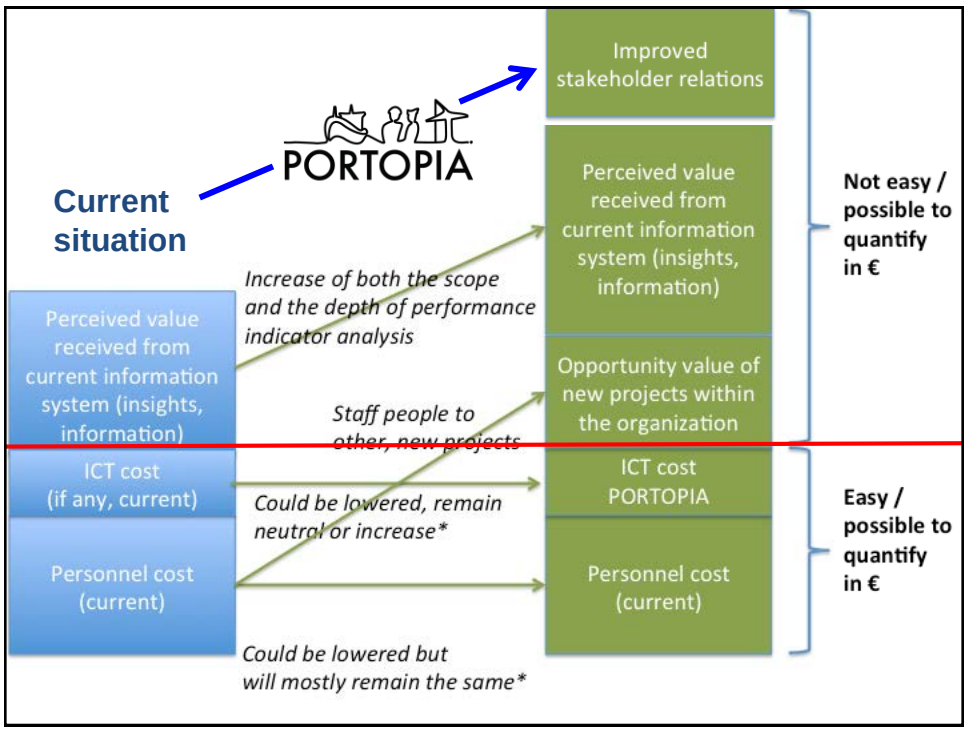
Main challenge of PORTOPIA

Develop, and sell (cfr. future revenue base, self-supportiveness…) something that potential contributors / early adopters do not want or need… (or say/think they do not want or need)

This is extremely difficult…

Market Understanding that Mirrors how Customers Experience Life

"The customer rarely buys what the company thinks it is selling him" – *Peter Drucker*



Main conditions

1. Given that in this first phase, data acquisition is primarily oriented at **port authorities as suppliers and adopters** (so as resource contributors)**, any development needs to bring clear value to these contributors first**. This creates challenges in terms of the revenue model if the future organization needs to generate its own resources (cfr. "self-supporting").
2. There needs to be a **strong climate of trust between the stakeholders** (i.e. which kind of access for which stakeholders, which implications) on a high level. Given the "history", this is not an easy task and needs careful communication.
   - Cfr representative of an important port during a PORTOPIA workshop, end of april 2015): ***"we did not want this PORTOPIA project, the European Commission enforced it upon us. That is exactly why we as port authorities should not contribute to the future resource base of the system, but the European Commission should instead".***
   - This after more than 5 years of joint work (PPRISM – PORTOPIA)!

PORTOPIA

quotes

"You can't do transparency halfway. It takes people and it takes strategy. This is not a quick fix."

"If you are gonna be naked, you better look attractive"

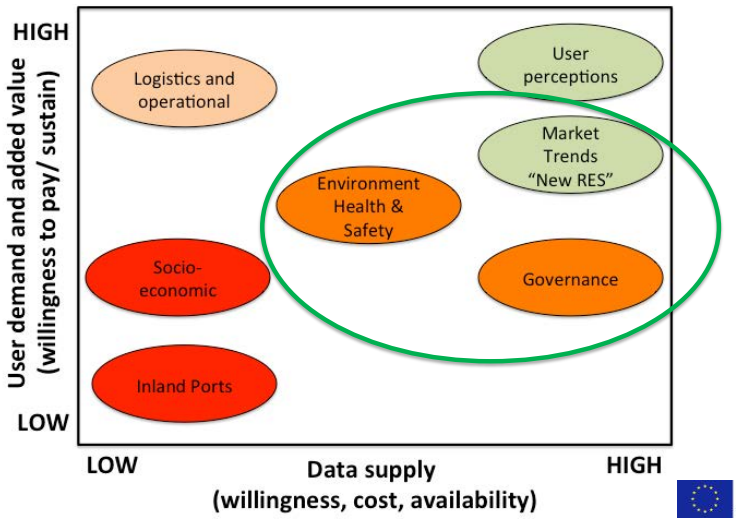
"PORTOPIA will allow ports to look in the mirror and see how they perform compared to meaningful averages and best practices, but within the confines of their own bathroom"

Challenges and risks

- Interaction academics / industry within a business intelligence project
  - Different profiles who do not understand each other interact to implement the project
    - **Need for "translators" who can bridge data, analytics and business decision making: data strategists, data scientists and analytic consultants**
  - Understanding transaction costs when implementing an indicator: acceptability also means a cost-efficient way to collect data
  - One by one indicator approach is difficult: **create integrated dashboards**
- Stakeholder management issues
  - Gain and maintain the trust of both industry and policy (government) stakeholders
  - Often divergent objectives and attitudes, even within the industry!
  - Data confidentiality issues (trust in the partnership)
  - Dealing with uncertainty: entrepreneurial aspects of the project not in line with main institutional logic of most port authorities or representative bodies (npo)
  - Implementation rhythm: take into account restricted absorptive capacity of stakeholders
  - Change management: cfr. changes in RES system (make the case for change)

Vision of the future

Need to prioritize technological development towards PORTOPIA survival



Governance / organization is crucial

- Direct link to cost/revenue model
- Direct link to power relations between stakeholders (contributors of resources)
  - Data (port authorities, external sources)
  - Intellectual knowledge (academics, industry)
  - Technology provider
  - => All three components are needed to deliver value (time/efficiency/cost)
  - => Revenue in first stage primarily from one of the resource contributors.

Way forward (1)

- Favorable decision of ESPO Exec. Comm. to continue the “core” activity (traffics, environmental management, governance)
- Transfer to new technology partners
- Offer the platform to other (non-EU) users
- Start small and focused (!?): create a global database of quarterly port traffic, bottom-up…
- Seek network externalities and coalition building – share traffic data with other partners to develop new intelligence/insights

Way forward (2)

- New project ideas revolve around:
  - Sustainability reporting for ports (IAPH/PIANC WG 174): guidelines and support
  - Measurement of social license to operate (SLO)
  - Integrated maritime logistics corridor dashboards integrating data from PORTOPIA, connectivity; fluidity and costs (*"a fluid maritime logistics chain is a green logistics chain"*).
    - Involving all modes (road, rail, IWW)

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