State of play and future outlook of maritime traffic flows in 2030

Alessandro Panaro, SRM - The Suez Canal after the expansion or a new scenario for the competitiveness of European ports. A vision about the free zones

Eeli Friman, University of Turku - Baltic Sea Region (BSR) Transport & Logistics 2030 Foresight study

Jorge Lara López, Fundación ValenciaPort - The Waterborne Strategic Agenda

Sonke Maatsch, ISL - Megatrends in shipping until 2030: decarbonisation, ship sizes and seaborne trade
MidTerm Conference

Envisioning the Port of the Future: the 2030 horizon

STATE OF PLAY AND FUTURE OUTLOOK OF MARITIME TRAFFIC FLOWS IN 2030
The “New Suez Canal” is setting new records

- Transit goods through the Suez Canal account for 8-10% global seaborne trade.
- 2018 is the year of records. For the first time in its history the threshold of 18 thousand ships has been exceeded (+3.6%). They transported over 983 million tons of cargo.
- Southbound cargo (524.6 million tons, +9.8%) and Northbound cargo (458.8 million tons, 6.6%) registered a remarkable growth.

Source: SRM on Suez Canal Authority, 2019
Evolution of ships traffic after the Suez Canal expansion

- **Containerships** are the most numerous (5,706) vessels transiting the Canal with a **31% market share**.
- The average size of the ships transited through Suez **increased by 12%** compared to 2014 (the year before the expansion).
- **+26%**: The increase in average size of the **containerships** transited in 2018 compared to 2014.

Source: SRM on Suez Canal Authority, 2019
The main world oil trade chokepoints

- **Suez** (and the Sumed pipeline) is the 3rd busiest transit chokepoint in the world with a total oil flow (crude oil and refined products) of 5.5 million b/d transited in both directions.

- It holds 9% of global seaborne oil trade and 9% of LNG.

Source: SRM on U.S. Energy Information Administration
Suez is the BRI’s crossroads. China is growing in the Med
Suez Canal Economic Zone

Two integrated areas
Two development areas
Four ports

Source: SRM
Alessandro Panaro
Head of Maritime & Energy Dept.
SRM
sr-m.it
T. 0039 081 791 37 38
E. alessandro.panaro@intesasanpaolo.com
MidTerm Conference: Envisioning the Port of the Future: the 2030 horizon

4th of April 2019 – Port of Trieste

Baltic Sea Region Transport and Logistics 2030 Foresight Study
Baltic Sea Region Transport and Logistics 2030 Foresight Study

Conducted as part of HAZARD Project at the Turku School of Economics, Finland
HAZARD Project 2016-2019
Mitigating the effects of emergencies in major seaports in the Baltic Sea Region

Full questionnaire and more available at http://blogit.utu.fi/hazard
Purpose of the study

• What is the outlook of transport and logistics in the Baltic Sea Region (BSR) in 2030?

• A follow up to a study conducted in 2013*
  – Only slight adjustments to the setting in the current study
  – The 2013 foresight study was set at year 2025

Survey Structure

- Conducted in two rounds in late 2018 and early 2019
- A Delphi survey with a questionnaire of 52 questions in 10 themes
- Follows closely the structure of the preceding study from 2013

<table>
<thead>
<tr>
<th>Theme on transport and logistics</th>
<th>Number of questions</th>
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<td>Social aspects</td>
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<tr>
<td>Supply chain safety and security</td>
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Results

Expected development by 2030
Weighted Responses by Theme (N = 97)

- Responses are weighted with the self rated level of expertise of each participant
- 5-level scale in use
- Generally, the higher the score, the more positive the outlook

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<th>Weighted average answer</th>
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Theme 5: Maritime transport in the BSR by 2030 (N = 97)

CONTAINER TRAFFIC in the BSR will decrease/increase

MARITIME and PORT INFRASTRUCTURE will have under-/overcapacity

The technical condition of PORT and MARITIME TRANSPORT INFRASTRUCTURE will deteriorate/Improve

Likelihood that the fuel/energy efficiency in MARITIME TRANSPORT will be significantly improved

The concentration in LINER AND RO-RO SHIPPING MARKET will decrease/increase

Likelihood that the NORTHEAST PASSAGE has become a significant maritime route for trade between BSR and Asia.

RUSSIAN PORTS in the Gulf of Finland will have under-/overcapacity
Key Findings

Four highest and lowest scoring responses in the survey
• Environmental issues grow larger
• Significant technological advances
• Taxes and regulatory compliance to increase costs
• Lack of skilled labour (blue collar)
• Greatest difference in border control of road freight transport between EU and non-EU countries

<table>
<thead>
<tr>
<th>The four questions with the highest and lowest average values in view of 2030</th>
<th>By 2025</th>
<th>By 2030</th>
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<tbody>
<tr>
<td>The use of TRACKING AND TRACING TECHNOLOGIES will increase</td>
<td>4,65</td>
<td>4,76</td>
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<td>The demand for ENVIRONMENTALLY SUSTAINABLE services will increase</td>
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<td>The importance for the COMPETITIVENESS of the BSR will increase</td>
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<td>Fuel/energy efficiency in ROAD FREIGHT TRANSPORT will improve</td>
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<td>4,44</td>
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<td>BORDER CROSSING CONTROL in road freight between EU and non-EU countries have become more difficult</td>
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<td>AVAILABILITY OF SKILLED LABOUR will increase</td>
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<td>TAXES AND OTHER OFFICIAL CHARGES will decrease</td>
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<td>The costs to comply with ENVIRONMENTAL REGULATION will decrease</td>
<td>1,60</td>
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</table>
THANK YOU!

Mr. Eeli Friman & Professor Lauri Ojala
Turku School of Economics
Interreg HAZARD Project
T. +358 40 9113391 (Friman)
E. eeli.a.friman@utu.fi  &  lauri.ojala@utu.fi

Full questionnaire and more available at http://blogit.utu.fi/hazard
MidTerm Conference: Envisioning the Port of the Future: the 2030 horizon

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State of play and future outlook of maritime traffic flows in 2030

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 770064.
Strategic Research Agenda – European Waterborne Sector

Jorge Miguel Lara López
A European Technology Platform for the Waterborne sector

- Continuous dialogue between waterborne stakeholders
- Common medium and long-term R&D Vision and a Strategic Research Agenda (SRA).
- Waterborne = Maritime + Inland Navigation and lakes + Ports!
MISSIONS OF THE WATERBORNE SECTOR

The transformation of the Waterborne transport
- Green and clean Waterborne transport
- Connected and automated Waterborne transport
- Safe and secure Waterborne transport
- Safe, competitive and eco-friendly yards

Developing European leadership and new business models for blue growth sectors
- Understanding and protecting the oceans, seas and inland waters
- The oceans, seas and inland waters as a source/font of natural resources
- Working and living at sea

Integrating shipping and inland navigation into seamless port and logistics operations
- Port operations
- Integrating maritime and hinterland logistics
- Port infrastructure
VISIONS – “PORT & LOGISTICS” IRAG

Port operations
Integrating maritime and hinterland logistics
Port infrastructure
What are we doing?

VISIONS – PORT OPERATIONS

By 2050, ports will offer, at the lowest cost, the fastest reliable service with zero-waste and zero emissions in a safe and secure environment. Ports will be able to:

- Achieve zero emissions
- Facilitate the new port operations demands following the energy transition
- Improve nautical operations, ship-port interactions and cargo handling
- Accommodate changing cargo types/flows and changes in passenger transport
- Embrace new services (blue growth, marine tourism, cruisers, larger ships, maintenance for automated vessels, etc.)
- Exercise and enhance their responsibility in an automated transport environment and their societal responsibility (employability, etc.)
What are we doing?

VISIONS – INTEGRATE MARITIME AND HINTERLAND LOGISTICS

By 2050, port actors connect/integrate maritime and hinterland logistics to a point where they offer the lowest cost, the fastest reliable service with zero waste and emissions in a safe and secure environment. Port will be able to:

- Provide real time information (digital corridors) throughout the supply chain
- Transfer the cargo in a seamless way offering customer tailored solutions (synchro-modality, cost/time trade-off, new cargo handling solutions, etc.)
- Enable a dynamic business environment fostering smart collaborative planning of ship to hinterland logistics
- Enable changing demands for maritime transport from the logistics sector
- Adopt new concepts like modularisation of cargo to achieve secure intermodality in transport (last-mile integration, IoT for Customs and security, etc.)
- Offer attractive services to maritime tourism, cruisers and passenger ferries (port services to ships, crew and passengers, links to local tourism)
- Adopt redefined roles of port governance within a European and global context
VISIONS – PORT INFRASTRUCTURE

By 2050, in support of the visions aforementioned under port operations and integrating maritime and hinterland logistics, the following infrastructure concepts are envisaged:

- Adaptive near shore extensions and offshore ports
- Flexible and resilient solutions to future ship types, hinterland logistics, new port activities, etc.
- Facilities for zero emissions energy (re)generation and supply for ships, port activities and society
- Cutting-edge adaptive secure communication and IT architecture (real time information, etc.)
- Strategic traffic and port management (interaction with autonomous vessels and port operators)
- Ship-assist infrastructure (smart berths, towage, mooring, MARPOL, bunkering, etc.)
- City-port-nature oriented planning (building with nature smart industry, coastal recreation, etc.)
- Leisure and business integrated hubs for passenger transport, integrated links to public transport, city and local tourism sector
R&D LINES AND TECHNOLOGIES

By thematic area
THEMATIC AREAS

- ENERGY
- ENVIRONMENT
- ICT
- INFRASTRUCTURE
- CARGO
- MARITIME & INLAND OPERATIONS
- SAFETY AND SECURITY
- ECONOMY
- POLICIES, SOCIAL AND REGULATION
- EMPLOYMENT OF THE FUTURE
- CITY-PORT INTEGRATION
THANK YOU FOR YOUR ATTENTION

More information, please contact with:
Jaap Gebraad
Director Research & Development Affairs
jg@seaeurope.eu
www.waterborne.eu/

Jorge Miguel Lara López
Representing Chair “Ports & Logistics” IRAG
jlara@fundacion.valenciaport.com
MidTerm Conference
Envisioning the Port of the Future: the 2030 horizon

Megatrends in shipping until 2030: decarbonisation, ship sizes and seaborne trade
Decarbonisation

- EU GHG emission target: -30% by 2030 from 2005 (-43% ETS)
- EU GHG Reduction target for shipping: -40% by 2050 from 2005
- Continuous growth of actual emissions, reduction only after 2008/2009 recession
- -34% to go (from 2016)
- Two options:
  - More efficiency (in terms of GHG)
  - “Reducing transport needs”
## Size classes

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Source: ISL based on Clarkons Research Services Ltd. (CRSL)

### Ship size developments

**Short Sea Shipping:**
- Ship size growth limited by demand growth and fleet
- Physical limitation Kiel Canal on North Sea-Baltic Sea

**Transatlantic:**
- Ship size growth limited by demand growth and fleet
- U.S. East Coast ports scale up to Neo-Panamax

**Far East-Asia:**
- Currently mix of vessels with 18 KTEU and 20+ KTEU
- Port access restrictions increasingly important
- Economies of scale decrease with size
Trade developments

- World trade shows stable growth (~3%)
- Even if trade stagnates in the long run in the richest economies, many EU countries still catch up
- EU trade growth will hence continue

- GHG efficiency gains of >50% needed (LNG: roughly 20-25%)
- Restructuring must start now as ships built in late 2020s will still be active in 2050
- The ‘blue mode’ must take action to also remain the ‘greenest’ mode
- CO_{2}-neutral fuels needed: Electricity from renewables? Methanol? Hydrogen? ...?
Coffee Break