DEVELOPMENT OF THE SEA MOTORWAYS AND KLAIPEDA PORT PROSPECTS IN MOS

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SEA MOTORWAYS???
FIVE MAJOR AXSES
MOTORWAYS OF THE SEA, WHAT IT IS?

• Important part of the European transport system
• Important element of the Logistics chain and supply chains network
DEFINITION OF MOTORWAYS OF THE SEA (MOS)

• The Motorways of the Sea are part of the trans-European transport network (TEN-T) and shall reduce road congestion and enhance the access to peripheral and island regions and States. In an innovative approach, the Motorways of the Sea concept aims at the integration of logistics and infrastructure planning.

• Motorways of the Sea should be an integral part of door-to-door logistics chains and should offer efficient, regular, reliable and frequent services that can compete with road only transport. The ports connected to the Motorways of the Sea should have efficient hinterland connections, rapid administrative procedures and a high level of service that is targeted to making short sea operations successful.
MOTORWAYS OF THE SEA ELEMENTS

• Technical (Infrastructure) part
  – Ports, shipping lines, terminals, axes to the terminals, logistics centers

• Technological part
  – Effective cargo handling and transport means changing systems

• Organization part
  – Co-operation between partners on transport directions (in regions) (network)

• Legal part
  – Unified regulations, documents, etc.
MAIN TASKS MOTORWAYS OF THE SEA

• Link transport corridors
• Optimize transportation costs
• Minimize transportation time
• Avoid bottlenecks on the inland transport systems
• Minimize cargo stops during transportation process
• Link transport means and logistic centers
RO-RO NETWORK IN SOUTH BALTIC
MOTORWAYS OF THE SEA PERSPECTIVES

• MoS tasks implementation and execution
• Link transport corridors in ports and Logistic centers (Inter modal terminals)
• Solve bottlenecks of the shore transport corridors
• Increase supply chains effectiveness
• Increase Countries and Regions economics activity
SEA MOTORWAYS IN SUPPLY CHAIN LOGISTICS (Example)

- Production logistics and value driven process planning (In/Outsourcing)
- Supply chain incident management
- IT support
- Hinterland relations
- Product design
- Logistics centre development
- Transshipment optimisation
- Mesologistics: knowledge integration
- Intermodal transport logistics
- Port development planning
- Maritime shipping statistics
- Supply chain simulation
- Development of industrial parcs and regional VAS

Reference: ISL, 2007
EAST – WEST TRANSPORT CORRIDOR

- Main points

North Sea region
UK

HUB
Taulov Själland Skåne

North

Klaipeda/Kaliningrad

South: Germany, Poland

Moscow/China/Asia

Esbjerg

France, BeNeLux

Blekinge/Karlshamn/Karlskrona

Vilnius

Minsk/Kiev/Odessa Black Sea Region
MOTORWAYS OF THE SEA ADDITIONAL POSSIBILITIES

• Influence on new cargo flows creation
• Influence on new Inter modal terminals and Logistic centers development
• Transportation optimization on basis more effective transport means use
• Creation of the new transport direction
TRANSPORT CORRIDORS
(SEA MOTORWAYS)
TRANSFER POINTS

• Ports terminals
• Logistics centers
• Inter modal terminals
• Railway stations
• Transport corridors crossing places
No system in all
Bridge system in sea part
Network system in sea part
Bridge system in sea and shore
Network system in sea and shore
METHODICS OF EVALUATION

• Correlation GDP>Trade>Transport
• Population and industry concentration
• Regions clause to the Sea which have real influence on the sea transport system
• For more detailed investigations can be used multi-criteria evaluation methods
THE BASIC ELEMENTS FOR THE MULTI-CRITERIA FORECASTS

• GDP forecasts for the countries;
• European export and import forecasts (values at constant prices) for the relevant countries;
• Calculation of import and export for the different commodity groups for each country;
• Projection of trade flows based on calculated for all commodities and all countries (volumes), differentiated for exports and imports;
• Technical possibilities on selected directions;
• Geographical, hydro meteorological and other conditions on concrete directions.
COMPLEX EVALUATION FACTORS

- Price with weight coefficient 0.20 - 0.40;
- Time with weight coefficient 0.15 - 0.30;
- Safety with coefficient 0.15 - 0.25;
- Hydro metrological conditions in with weight coefficient 0.05 - 0.10;
- Border crossing with weight coefficient 0.05 – 0.08 (after 1st of May safety control according ISPS Code);
- Other factors with weight coefficient 0.05 – 0.10.
MOTORWAYS OF THE SEA LINK TC (DFDS NETWORK)
Evaluation of the transports corridors (Sea Motorways) (Example)

<table>
<thead>
<tr>
<th>Factors and weights</th>
<th>Transport corridor use Ro-Ro ferry via Karlshamn</th>
<th>Transport corridor use Ro-Ro ferry via Kiel</th>
<th>Inland transport corridor via Poland</th>
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</thead>
<tbody>
<tr>
<td>Price factor</td>
<td>0,85</td>
<td>0,84</td>
<td>1,0</td>
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<tr>
<td>Weight of the price factor</td>
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<td>0,35</td>
<td>0,35</td>
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<tr>
<td>Time factor</td>
<td>0,62</td>
<td>0,75</td>
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<td>Weight of the time factor</td>
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<td>0,20</td>
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<td>Safety factor</td>
<td>0,988</td>
<td>0,985</td>
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<td>Weight of the safety factor</td>
<td>0,25</td>
<td>0,25</td>
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<tr>
<td>Hydro-meteorological factor</td>
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<td>1,0</td>
<td>0,95</td>
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<td>Weight of meteorological factor</td>
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<tr>
<td>Border crossing factor</td>
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<tr>
<td>Weight of the border factor</td>
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<tr>
<td>Other factors</td>
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<tr>
<td>Weight of the other factor</td>
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<td>0,05</td>
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<tr>
<td>Correlation coefficient</td>
<td>0,95</td>
<td>0,95</td>
<td>0,95</td>
</tr>
<tr>
<td>TOTAL</td>
<td>0,914</td>
<td>0,937</td>
<td>1,043</td>
</tr>
<tr>
<td>Transport corridor</td>
<td>Time on one direction, hours</td>
<td>Costs (basis prices), EURO</td>
<td>Safety factor: Positive probability</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>------------------------------</td>
<td>---------------------------</td>
<td>-------------------------------------</td>
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<tr>
<td>Use Ro-Ro ferry Klaipeda – Kiel</td>
<td>36</td>
<td>998</td>
<td>0,988</td>
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<tr>
<td>Inland transport corridor via Poland</td>
<td>48</td>
<td>1200</td>
<td>0,973</td>
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<tr>
<td>Use Ro-Ro ferry line via Karlshamn</td>
<td>38</td>
<td>1020 (1250)</td>
<td>0,985</td>
</tr>
</tbody>
</table>
CONCLUSIONS

• Motorways of the Sea (MoS) has already proved to be a successful political tool and will play an important role in the future European transport and logistics market

• Hinterland improvements for improved and efficient MoS, optimize logistics (supply) chains

• MoS concept is an important solution for Baltic Sea – East Countries (globalisation)

• West – East transport direction is most preferable in Baltic sea in comparison with other directions
• QUESTIONS???