ICT services for safety and environmental management at sea and port

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   ➔ Changes in shipping in the Baltic Sea

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International seaborne trade

Source: UN Review of Maritime Transports, 2009
Total throughput of selected European ports
2009/2008

Source: European Sea Ports Organisation. 2010
The amount of maritime transportation in the Baltic Sea in 2008

Total 822 M tonnes

The largest ports:
Primorsk (75,6 M t)
St. Petersburg (60 M t)
Gothenburg (43,2 M t)
Klaipeda (29,9 M t)
Riga (29,6)

Container traffic 7,8 M TEU
Ship calls 380 000

Source: Baltic Port List 2008
Maritime transportation in the Gulf of Finland in 2008

Total 253 M tonnes

- Oil transports 143 M tonnes (56 %)
- Container traffic 3,4 M TEU
- Ship calls 46 000

Source: Baltic Port List 2008
Reasons for accidents

- Human error: 39%
- External factors: 15%
- Technical failure: 12%
- Cargo handling: 1%
- Communication, routines: 2%
- Other: 1%
- Not known: 30%

Case Propontis

- Tanker Propontis with 100,000 tons of oil was grounded near Suursaari in February 2007.
- It was off the route in ice conditions.
- VTS center did not react.
- Accident was avoided, due to double-hull.
Changes in shipping at the Baltic Sea

- Growing volumes
  - Oil
  - Containers
- Intermodalism and Short Sea Shipping
- Raising energy prices, stress on ship traffic
- Warming climate
  - Alien spices
  - Stormy weather
- International crews and ice conditions
- New IMO regulations in air pollution and waste handling systems
- New technology
  - Electronic Traffic Monitoring: VTS, AIS, eNavigation, GOFRREP
  - Cargo tracking
Framework for logistics operations

Order
Invoice
ASN
Way Bill

ORDER
PRODUCE
SUPPLY

Order
Confirmation
Invoice
ASN
Way Bill

ASN = Advance Shipping Notice

Source: Kauremaa, J., 2004
## Use (%) of ICT systems in Finnish companies in 2007

<table>
<thead>
<tr>
<th>2007</th>
<th>All</th>
<th>Construction</th>
<th>Hotels and restaurants</th>
<th>Transport</th>
<th>Retailing</th>
<th>Industry</th>
<th>Post and telecom</th>
<th>Wholesale</th>
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<tbody>
<tr>
<td>Computer</td>
<td>97</td>
<td>95</td>
<td>89</td>
<td>87</td>
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<td>Broadband</td>
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<td>Intranet</td>
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<tr>
<td>EDI (2006)</td>
<td>13</td>
<td>7</td>
<td>4</td>
<td>10</td>
<td>23</td>
<td>15</td>
<td>18</td>
<td>20</td>
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</table>

Source: Statistics Finland, 2008
Use (%) of technology at logistics

<table>
<thead>
<tr>
<th>Technology</th>
<th>By degree of internationalisation: (Manufacturing/construction)</th>
<th>By company size: (Manufacturing/construction)</th>
<th>(Trade)</th>
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</table>

Source: Finland State of Logistics 2006
Changes in port operations at Baltic Sea

- Increasing security and safety systems
  - ISPS
  - 24-hour rule
  - CSI, C-TPAT
- 24 / 7 service
- New technology
  - Automatic port systems
  - Port community systems
  - Customs
  - Cargo tracking
Summary: EU eMaritime initiative

• Administration Domain Applications
  – Reporting using Single Windows,
  – eCustoms

• Improved Shipping Operations
  – eNavigation
  – Ship reporting, e.g. CO2 operational index
  – VTS

• Improved Port Operations;
  – Port Community systems
  – Integration of authorities, Port@Net, SafeSeaNet

• Integration into Logistic chains;
  – Short Sea Shipping and intermodalism
  – eFreight

• Promote seafaring profession and sea-shipping
  – eHealth at Sea
  – Improving image of EU Shipping
Thank you!

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