SEA TRAFFIC MANAGEMENT
IT SERVICES TO IMPROVE SHIPPING OPERATIONS
ULF SIWE, SWEDISH MARITIME ADMINISTRATION @OCEANTRENDS
Any problems?
Any other problems?

Port to berth – 1.85h

After berth – 1.05h

After terminal ops – 1.02h

Europe, container ships: 100+50+50= €200M / year

Source: Lind et al: Reducing idle time with collaboration and data sharing, Concept note #16, STM validation project
Enable efficient **exchange of information** between maritime stakeholders through **common standards**.

A **decentralized** service ecosystem for ships, ports and authorities.

Enabling **third-parties providing service innovations**

**Secure and authenticated access** to **authorized parties**.
Digital Services
Advanced Monitoring

• Common situational awareness
• Avoid misunderstandings
• Reduces response times
• De-conflict traffic
• Suitable for automation

“The biggest thing since AIS”
Search & Rescue

- Quicker response
- More accurate searches
- Avoid misunderstandings
- Identify vessels of opportunity
- Saves lives

“Reliable data in rough conditions”
Route recommendation

Pilot route

- Reduced work load
- No pilot-crew misunderstanding

Ice route

- Detailed routes
- No manual errors
- Fewer ships stuck
  - saved fuel

– It decreases the risk of miscommunication significantly, and getting the current routing path at a much earlier stage, enables planning, gives the option to adjust the trip and keep an optimal speed. (Captain Johan Jonsson)
Navigational Warnings

- Reduced work load
- No manual errors
Port services through data sharing

**Instant sharing of time stamps**

**Port call improvement**

**Port call coordination – situational awareness**

**Port call synchronization**
Improve shipping operations
## Improved Safety

<table>
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<tr>
<th>Risk reduction rate</th>
<th>Flow Management by flow optimisation</th>
<th>Flow Management by enhanced monitoring</th>
<th>Dynamic Voyage Management by route exchange</th>
<th>Weighted combined rate</th>
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<tbody>
<tr>
<td>Collisions</td>
<td>58%</td>
<td>5%</td>
<td>52%</td>
<td>81%</td>
</tr>
<tr>
<td>Groundings</td>
<td>6%</td>
<td>64%</td>
<td>8%</td>
<td>69%</td>
</tr>
</tbody>
</table>

**€ 100 million / year + lives**

Source: Forsman and Andersson (2015) ML2 D2 FSA – Formal Safety Assessment
Improved Efficiency – shorter

1 % - € 500 million / year

Source: Andersson and Ivehammar (2014) - Cost-Benefit Analysis of Implementing Dynamic Route Planning at Sea
Improved Efficiency – just-in-time

34%

4.1%

230 nm - € 400 million / year

Reduction of waiting times in port … savings for port call actors

350 - 600 USD / port call

“Looking at a call as a production process, the port has a key role in delivering its own services, but also in facilitating other partners in the port. Data availability will not only increase port call efficiency, it will also be a step towards increasing predictability”, Vidar Fagerheim, CEO, Shiplog AS

The world: 7– 12 BUSD / year

Source: Lind et al (2018): Balancing just-in-time operations – coordinating value creation, Concept note #6, STM validation project
Improved Efficiency – Fleet Optimisation

17 % less turn-around time

Source: MONALISA 2.0 project study (2015)
Sailing with STM
Harmonizing the maritime sector with STM

- Growing international awareness and interest
- International governance established
- Ratification of the message formats
- Maturity framework established building on experiences from the STM ports
- New projects on STM being launched
- Industrial actors making an uptake on STM concepts
Placeholder for video
Sea Traffic Management – Services in Practice
Want to learn more ...?

Visit www.stmvalidation.eu for access to concept notes

More to come ...