ACTIVITY 2
SEA TRAFFIC MANAGEMENT DEFINITION PHASE

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Activity 2 Leaders

Co-financed by the European Union
Trans-European Transport Network (TEN-T)
The team
ITS ALL ABOUT REAL-TIME INFORMATION SHARING

From need to know to need to share

Increased safety

Increased efficiency

Environmental sustainability
Concerns of Sea Traffic Management

The problem: The need to increase efficiency in operations within and between ports

- Maximize the utilization of the facilities in ports
- Minimize the use of energy to steam between two ports

constrained by safety considerations

STM is a concept for sharing secure, relevant and timely maritime information with authorized service providers, by proposing a framework and standards for information management and interoperable services.
Value proposition

STM takes a holistic approach to distributed service related to the **berth-to-berth voyage** enabling the efficient, safe, and environmentally sustainable sea transport.

<table>
<thead>
<tr>
<th>Category</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accidents</td>
<td>-50</td>
</tr>
<tr>
<td>Bunker</td>
<td>-34</td>
</tr>
<tr>
<td>Emissions</td>
<td>-34</td>
</tr>
<tr>
<td>Ports</td>
<td>-2.3</td>
</tr>
<tr>
<td>-15</td>
<td></td>
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</tbody>
</table>

Range of cost saving from STM implementation compared to analyses of current practices (lowest to highest percentages).
Two simultaneous focus

Enabled by Enhanced Digital Collaboration using Common Standards
Information management in sea transports

**Problem**
- Many competing autonomous actors with their own systems/solutions
- Vendor specific solutions
- Sub-optimized information sharing
- High entry barriers for new service providers
- Lack of standards for information sharing and service interaction

**Need**
A common service distribution and information sharing platform promoting TRUSTED, NON-PROPRIETARY, AND FEDERATED COLLABORATION
Main principles:

• Increased ship-to-ship, ship-to-shore, shore-to-ship, shore-to-shore interactions
• Includes private, mandatory, and public service opportunities
• Considers IMO’s e-navigation, EU’s e-maritime, and the collaborative port
• Access rights and information ownership
• Ships should still have their authority and competence
• The Master chooses the level of interaction
• A service-oriented approach to distributed information management
The voyage in focus
STM strategic concepts and operational services

**Voyage management**
Support planning and dynamic re-planning

**Flow management**
Area management and flow optimization

**PortCDM**
Approach and Port synchronization

Voyage Optimization & Traffic coordination

Port Call Synchronization

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Port Collaborative Decision Making (Port CDM)

- Fast turnaround
- Just-in-time operations
- Optimal resource utilization
- Minimal waiting times
- High degree of predictability

SHIP

Optimization

Port

Port operator

Synchronization
Port of Valencia

Port of Gothenburg
Ship-to-shore interaction: Safety

- Shore-based organizations can contribute considerably by adding valuable information and advice based on
- Better ship and shore team work!
Ship-to-shore interaction: Efficiency

- Standardized way of information sharing
- Intentions and status shared in real-time
- Reduced workload!
Sea Traffic Management
Definition Phase: How?

Enterprise Architecture:
• Legal & Business perspective
• Operational perspective
• Information and technical perspective
=> Holistic view of the concept
Performance assessment

Analyses:
• Target Cost Benefit Analysis
• Formal Safety Assessment
• Target Transversal Aspects
• Target Business Case

Simulations:
• Usability tests
• EMSN tests

Demonstrations:
• PortCDM real life tests
• Living lab approach

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STM Master Plan
The implementation of STM

- The Master Plan provides a feasible transition sequence to realise the STM Concept
- Sequencing into 3 phases
- Breakdown into operational improvement steps and activities

STM Roadmap and Masterplan

The Masterplan is the key instrument to modernise Europe’s sea traffic management system.

www.stmmasterplan.com
Conclusions

Four Concepts
- Strategic Voyage Management
- Dynamic Voyage Management
- Flow Management
- PortCDM

capturing essential services

enabled by

a common Maritime Service Infrastructure (SeaSWIM)

Four Lines of Change
- Information Sharing Environment
- Planning the Voyage
- Voyage Execution
- Integrated Port Operations

enabled in

Three improvement phases
- Creating STM foundations (2015-2020)
- Increasing Operational Capabilities (2020-2025)
- Achieving full STM capabilities (2025-2030)
THINK DIFFERENT
MAKE THINGS HAPPEN
MAKE A DIFFERENCE