Shipping – self-organizing ecosystem, episodic tight coupling between autonomous organizations

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Shipping – self-organizing ecosystem, episodic tight coupling between autonomous organizations
Secure information exchange

SeaSWIM (system-wide-information-management) ensures secure information exchange among authorized parties.

STM
SEATRAFFIC MANAGEMENT

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Standardized exchange of voyage plans
Voyage Information Service

Ship systems with STM functionality

Voyage Information Service & SeaSWIM connector

SeaSWIM

Share VP
Find services
Control access

Get VP
Subscribe to VP
Send VP

Identity Registry
Service Registry

Maritime Cloud

Shoreside actors

Service provider
Shore Centre/VTS
Ports
Fleet operations
Ice breaking services
SAR
MSW

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Sea Traffic Management Services
Creating a safer, more efficient and environmentally friendly maritime sector
STM supported services
Nordic pilot route service
A voyage plan in ECDIS...
Service call Pilot Routes

[Image of a software interface with highlighted sections:
- Call Service with VP
- Nordic Pilot Route Service
- UVIDs:
  - urn:mm:stm:voyage:id:adveto.20298-Trelleborg-Svartklubben:20170425
  - urn:mm:stm:voyage:id:svartklubben:001
  - urn:mm:stm:voyage:id:trelleborg:001]
Pilot routes displayed in ECDIS...

Imagery: Adveto AB
...merged with voyage plan
...merged with voyage plan

- Efficient planning
- Shared mental model
- Safe navigation berth-to-berth
- Fulfilling IMO res. A.893(21) on voy. planning

Imagery: Adveto AB
STM architecture put to practise...

Peer-to-peer
Secure transmission
Authenticated id’s
Access controlled
INTEROPERABLE!

Adveto ECDIS

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Winter Navigation

Provides ships information related to Ice Breaker assistance in the Northern Baltic

- Using ice breaker coordination system (Ibnext)
- onboard Finnish and Swedish ice breakers
- In ice coordination centers
- IB authorities
Winter Navigation
Service Overview

For voyage planning:
Ship can get recommended icebreaker waypoints (Dirways) in force - to be used when creating new voyage plan

During the voyage:

Monitoring of the ships voyage
- Planned route displayed in Ice breaker coordination system

Detailed recommendations for ships, when needed:
- Modifying the ships route plan and sending it back as recommendation
- Send short route segments to ships
- Text messages: for detailed assistance information
Syncronized port calls
STM Services in Practice

Placeholder for video
Sea Traffic Management – Services in Practice
Route message format (AIS-ASM)
Will be validated and brought forward for standardization
STM Validation Project

The STM Validation Project will demonstrate the STM concept in large-scale test beds in both the Nordic and Mediterranean Seas, encompassing around 300 vessels, 13 ports and 6 shore based service centres as well as using the European Maritime Simulator Network.

VTS Kvitsøy
VTS Horten
VTS/SC Gothenburg
Joint operations center/maritime surveillance
Winter navigation service
VTS Talinn
VTS St. Petersburg
### No. Of Ships per manufacturer

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<th>Manufacturer</th>
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19/09/2017 - 19/12/2017 - 01/02/2018 - 19/03/2018 - 01/07/2018
Next steps

STM past, present and future


STM DEPLOYMENT
STM DEVELOPMENT
STM VALIDATION PROJECT
MONALISA

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THINK DIFFERENT
MAKE THINGS HAPPEN
MAKE A DIFFERENCE

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