e-Navigation Update

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e-Navigation Update

- Introduction to CIRM
- What is e-Navigation?
- e-Navigation Projects
- Maritime Connectivity Platform – the heart of e-Navigation
- The future of e-Navigation
Introduction to CIRM

Comité International Radio-Maritime

- A global association of marine electronics companies, founded in 1928
- Aims to promote relations between organisations concerned with electronic aids to marine navigation and communications.
- 112 member companies
- NGO in consultative status to IMO
- Involved in regulation and standardization (IMO, IEC, ITU etc.)
CIRM Working Groups

- e-Navigation
- Radiocommunications
- ECDIS
- Service
- Type Approval
- VDR
- Cyber Risk
- CIRM/BIMCO Joint Working Group on Software Maintenance
What is e-Navigation?
What is e-Navigation?

E-navigation is defined by the IMO as:

“the harmonized collection, integration, exchange, presentation and analysis of marine information on board and ashore by electronic means to enhance berth to berth navigation and related services for safety and security at sea and protection of the marine environment.”
What is e-Navigation?

**Strategy Implementation Plan** priorities:

- improved, harmonized and user-friendly bridge design;
- means for standardized and automated reporting;
- improved reliability, resilience and integrity of bridge equipment and navigation information;
- integration and presentation of available information in graphical displays received via communication equipment; and improved Communication of VTS Service Portfolio.
e-Navigation Projects
e-Navigation Projects
e-Navigation Projects - EfficienSea2

- Led by the Danish Maritime Authority
- 32 partners from 12 countries
- Budget: €11.5M of which EU funding €9.8M
- 3 year project - ended in April 2018
Overall aim:

to create and implement innovative and smart solutions for efficient, safe and sustainable traffic at sea through improved connectivity for ships.
Project focus areas

- CONNECTIVITY
- COMMUNICATION CHANNELS
- END USER SERVICES
- PLATFORMS FOR SERVICES
- CONNECTIVITY
e-Navigation Projects - EfficienSea2

- Sulphur emission monitoring
- Arctic services – improving safety and emergency response
- Route Optimization and exchange
e-Navigation Projects - EfficienSea2

- BalticWeb
- S-124 data format
- ECDIS or other
- ArcticWeb
e-Navigation Projects - EfficienSea2

Maritime Connectivity Platform
Aims:

- To enable efficient exchange of information between maritime stakeholders through common standards.
- A decentralized service ecosystem for ships, ports and authorities.
- Secure and authenticated access to authorized parties.
e-Navigation Projects – STM Validation

- Led by the Swedish Maritime Administration
- 39 partners from 13 countries
- Budget: €43M of which EU funding €21M
- Timeframe: 2015 to 2018
e-Navigation Projects – STM test-bed

300 ships, 13 Ports:
e-Navigation Projects – STM test-bed
e-Navigation Projects - SMART-Navigation

Organized and Funded by the Ministry of Oceans and Fisheries, Republic of Korea

Budget: US$ 115M

Timeframe: March 2016 – December 2020
The SMART-Navigation Project aims to:

- improve the quality & efficiency of maritime transport while enhancing the quality of life for mariners at sea
- contribute to IMO's strategic implementation of e-Navigation
- create accompanied growth of the world maritime community via e-Navigation
e-Navigation Projects - SMART-Navigation

S - Sea traffic coordination leading to optimized maritime traffic flow

M - Maritime domain awareness enabling to detect risky situations that vessels may encounter with

A - Active & proactive maritime safety management preempting identified incident hazards

R - Remote monitoring enabling to evaluate ship system

T - Maritime Telematics service delivering information related to navigational safety in seamless manners
3 activities, 13 Work Packages:

- **Activity 1** - Developing core technologies for e-Navigation service
- **Activity 2** - Developing an e-Navigation operating system & digital maritime communication
- **Activity 3** - Harmonization with e-Navigation international standards
November 2017: S. Korea and Denmark perform validation test for maritime cloud technology

South Korea’s Ministry of Oceans and Fisheries said it tested its cloud-based navigation and communications system with the help of its Danish counterpart off the coast of Busan as a joint project to develop the globally-recognized maritime digital communications standard.
Maritime Connectivity Platform (MCP)
Maritime Connectivity Platform (MCP)

- Formerly known as ‘The Maritime Cloud’ (which it is not)
- It is a communication framework
- Analogy is an “app store”: involves similar concepts of authentication and service discovery
- Used in the EfficienSea2, STM, and SMART Navigation projects
Maritime Connectivity Platform (MCP)

**Identity Registry:** Secure identity management

**Service Registry:** Registering, discovering and using relevant services

**Messaging Service:** Intelligently exchanging information between communications systems
Maritime Connectivity Platform (MCP)

Source: maritimecloud.net
The future of e-Navigation
The future of e-Navigation

EFFICIENT SEA 2.0 GETTING CONNECTED

SMART NAVIGATION PROJECT
WIDER CONNECTION SAFER NAVIGATION

STM
SEA TRAFFIC MANAGEMENT

2018 2019 2030

STM DEPLOYMENT

STM DEVELOPMENT

Stakeholders

Services

Reporting

Navigation

Weather

Registry

Connected Contextual Awareness

Identity Registry

Shore Services

warning

Ship

Nav ICS
Thank you!

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