DIGITAL@SEA CLUSTER
AND
GLOBAL MARITIME DIGITAL ROUTE TESTBED

WORKSHOP ON ENHANCING E-NAVIGATION CAPABILITY

JOINTLY ORGANIZED BY:

9 November 2021
THE DIGITAL@SEA
FROM ENUW TO DIGITAL@SEA
"Digital@Sea Cluster Sunbae Hong reported that the cluster aims to demonstrate the real e-Navigation service to the world, including shore-based platforms such as PortCDM, STM, etc. MOF is trying to invite some shipping companies and satellite communication providers with VDES technology to participate in the cluster.

To bring the maritime administrations on board, MOF is preparing an MOU aiming to invite the current ENUW MOU countries and the international organisations.

The group agreed to call the cluster “clusters” (plural) to include other national agendas and initiatives, such as SMART navigation, digital certificates, global e-Navigation route testbed, etc. IALA reminded the group that IALA would keep the area for e-Navigation testbed on the IALA website.”
E-NAVIGATION CLUSTERS
REGIONAL FOCUS

Ports around the world – Highlighted e-Navigation Clusters
THE DIGITAL@SEA CLUSTER
GLOBAL REACH

THE DIGITAL@SEA CLUSTER
VALIDATING E-NAVIGATION USABILITY

• MS 1 - VTS Information SVC
• MS 2 - VTS Navigation Assistance SVC
• MS 3 - VTS Traffic Organization SVC
• MS 4 - Port Support SVC (PSS)
• MS 5 - Maritime Safety Information SVC
• MS 6 - Pilotage SVC
• MS 7 - Tugs SVC
• MS 8 - Vessel Shore Reporting
• MS 9 - Telemedical Maritime Assistance SVC
• MS 10 - Maritime Assistance SVC
• MS 11 - Nautical Chart SVC
• MS 12 - Nautical Publications SVC
• MS 13 - Ice Navigation SVC
• MS 14 - Meteorological information SVC
• MS 15 - Real-time Hydrographic and Environmental information SVC
• MS 16 - Search and Rescue SVC

GMDRT CONCEPT

Global Verification, Validation & Harmonization Route for **seamless digital maritime services**

- Maritime Safety Information
- S-100 ENC Updating & Streaming
- Collision/Grounding Risk Warning
- Route Planning Service

- Industry / Service provider
- Shipping company
- Port / Administration
- Institute, Academy, NGO, GO

Digital Communication (Satellite, VDES, LTE-M)

- EUOUPE STM Service
- e-Nav System
- MCP
- MOF
- SUEZ Canal
- e-Navigated Ship
- SINGAPORE SMART-Navigation
- KOREA SMART-Navigation
- Gulf of Aden
- Piracy, Escort Info, Emergency report
GMDRT PHASE 1

Host:

MOF - MINISTRY OF OCEAN AND FISHERY OF THE REPUBLIK OF KOREA

Execution:

Study of Global Maritime Digital Route Testbed Establishment and Cooperate with Republic of Korea

KRISO – KOREA RESEARCH INSTITUTE OF SHIPS AND OCEAN ENGINEERING

Study of Global Maritime Digital Route Testbed Establishment and Cooperate with Europe

BM BERGMANN MARINE
STAKEHOLDERS

• Project Support Organisations (IALA, IMO, IHO…)

• Ports and Port Actors (Ports, Terminals…)

• Shipping Lines

• Data Provider (HOs, RENCs, VARs…)

• Coastal Administrations and Governmental Organisations (VTS, Coast Guard…)

• Service Provider (Communications, MCP Service Provider…)

• Research Institutes
## Envisioned Schedule

<table>
<thead>
<tr>
<th>ID #</th>
<th>Activity Title</th>
<th>Activity Description</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Project Management</strong></td>
<td>Coordinate project activities</td>
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<tr>
<td>1.1</td>
<td>Project Meetings</td>
<td>Organize and coordinate Project Meetings</td>
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<tr>
<td>1.2</td>
<td>Project Coordination</td>
<td>Coordinate activities between partners within and between knots</td>
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<tr>
<td>1.3</td>
<td>Project Reports</td>
<td>Consolidate and distribute project status reports</td>
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<tr>
<td>2</td>
<td><strong>Project Preparation</strong></td>
<td>Identify and induce participation of stakeholders (government, port, telecommunication company, shipping company, C-IQ, etc.)</td>
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<tr>
<td>2.1</td>
<td>Define components in Korean Knot</td>
<td>Select project components to be used in the Korean knot</td>
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<tr>
<td>2.2</td>
<td>Define components in EU Knot</td>
<td>Select project components to be used in the EU knot</td>
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<tr>
<td>2.3</td>
<td>Recruit Partners</td>
<td>Select relevant stakeholders and recruit them as project partners</td>
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<td>2.4</td>
<td>Identify funding options</td>
<td>Select relevant funding options, contact funding organizations, and validate support by funding organizations</td>
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<td>2.5</td>
<td>Prepare full project details</td>
<td>Create project details including work packages, timelines, and budget, draft funding submissions</td>
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<td>2.6</td>
<td>Prepare project launch</td>
<td>Submit funding request, receive approval, develop project initiation concept</td>
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<tr>
<td>3</td>
<td><strong>Project Execution</strong></td>
<td>Execute project according to agreed project plan</td>
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<tr>
<td>3.1</td>
<td>Initiation phase</td>
<td>Kick-off meetings, coordination definition</td>
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<tr>
<td>3.2</td>
<td>Execution phase</td>
<td>Execute project as defined in the project description</td>
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<td>3.3</td>
<td>Project closeout</td>
<td>Draft final project report, conduct project closeout workshop</td>
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</tbody>
</table>

- **Virtual Project Meetings**
- **In-Person Project Meetings**
- **Project Status Report**
- **Final Project Report**
THANK YOU FOR YOUR ATTENTION

Michael Bergmann
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Any questions or remarks? Please write to michael.bergmann@bergmann-marine.com