

## Paper for Consideration by SNPWG

### Progress of sea-trial test-bed on e-Navigation Service (MSI/Ship Reporting)

<b>Submitted by:</b>	KRISO(Korea Research Institute of Ships & Ocean Engineering), Jeppesen
<b>Executive Summary:</b>	KRISO has been preparing Global Test-bed with Sweden and Denmark jointly, in particular, working closely with Jeppesen regarding an e-Navigation service like MSI/Ship Report. This paper reports the progress of e-Navigation service that KRISO and Jeppesen are working on, and introduces the sea-trial test plan which is scheduled in April, 2014.
<b>Related Documents:</b>	S-100, S-57, S-52
<b>Related Projects:</b>	Global e-Navigation test-bed project of ROK

#### Introduction / Background

ROK has signed the MOU on e-Navigation technical development and Global Test-bed with Sweden and Denmark jointly in January, 2014 to build up the capability of advanced technologies. The main purpose of this Test-bed project is technical cooperation on e-Navigation service solution which has been developed in each country through Sea-trial test in ROK Water. Sea-trial test is planned to conduct total three times in 2014 including the first test which is supposed to be carried out in April 2014.

KRISO is in charge of the research on MSI/Ship Report based on the S-100 standard in this Test-bed, and works closely with Jeppesen to implement this. This paper reports the progress of what KRISO and Jeppesen have conducted and its future plan.

#### Analysis/Discussion

##### Major progress on MSI/Ship Report

Jeppesen has tested MSI service in Singapore Water in connection with MEH (Marine Electronic Highway) project, and NOAPR (Notice Of Arrival Pilot Request Specification) with Norwegian Coastal Administration on the European SafeSeaNet (SSN). KRISO and Jeppesen pushed forward with followings to test e-Navigation Service of MSI/Ship Report in ROK water based on the past research results.

##### << MSI part>>

- Data Model of MSI (S-57 Model, S-100 Model): Jeppesen (Done)
- Feature Catalogue of MSI: KRISO (Done)
- GML Schema of MSI: Jeppesen (Done)
- Sample Dataset of MSI: Jeppesen (Done)
- MSI Viewer: KRISO (Ongoing)
- Sea-trial Use case of MSI: KRISO, Jeppesen (Ongoing)
- Test Datasets for Sea-trial Scenario: KRISO (Planned)
- Execution of Sea-trial Test: KRISO (Planned)

##### << Ship Report part>>

- Data Model of Ship Report(S-100 Model): Jeppesen (Done)
- Feature Catalogue of Ship Report: KRISO (Done)
- GML Schema of Ship Report: Jeppesen (Done)
- Sample Dataset of Ship Report: Jeppesen (Done)
- Ship Report Viewer: KRISO (Ongoing)
- Sea-trial Use case of Ship Report: KRISO, Jeppesen (Ongoing)
- Test Datasets for Sea-trial Scenario: KRISO (Planned)
- Execution of Sea-trial Test: KRISO (Planned)

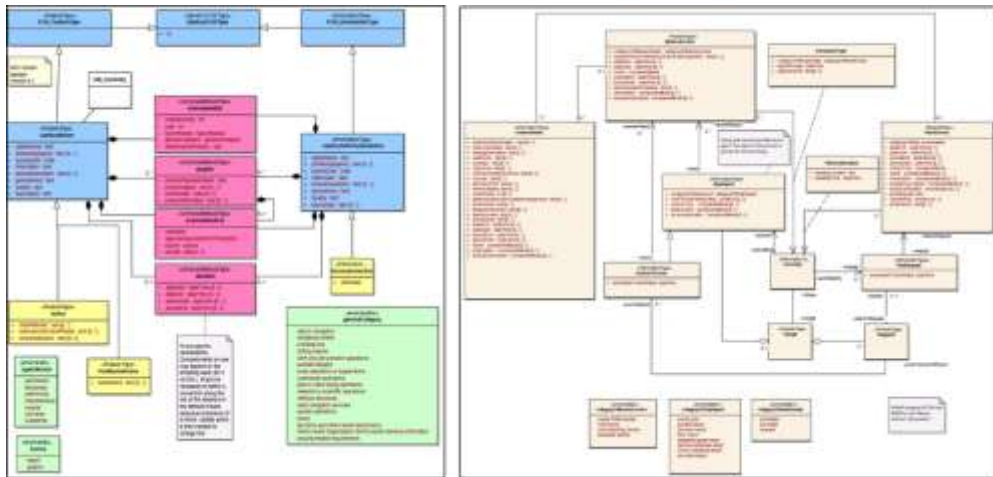


Fig. 1 Data Model of MSI and Ship Report by Jeppesen

It is planned to demonstrate the data model, sample data set, and Viewer of MSI/Ship Report at SNPWG17 Meeting.

### The first Sea-trial Test plan

The first Sea-trial Test will be conducted with Training Ship of KMU (Korea Maritime University) and MMU (Mokpo Maritime University) between Busan ~ Yeosu ~ Mokpo in the end of April, 2014. KRISO and Jeppesen intend to improve the research results iteratively in the left Sea-trial Test in 2014.

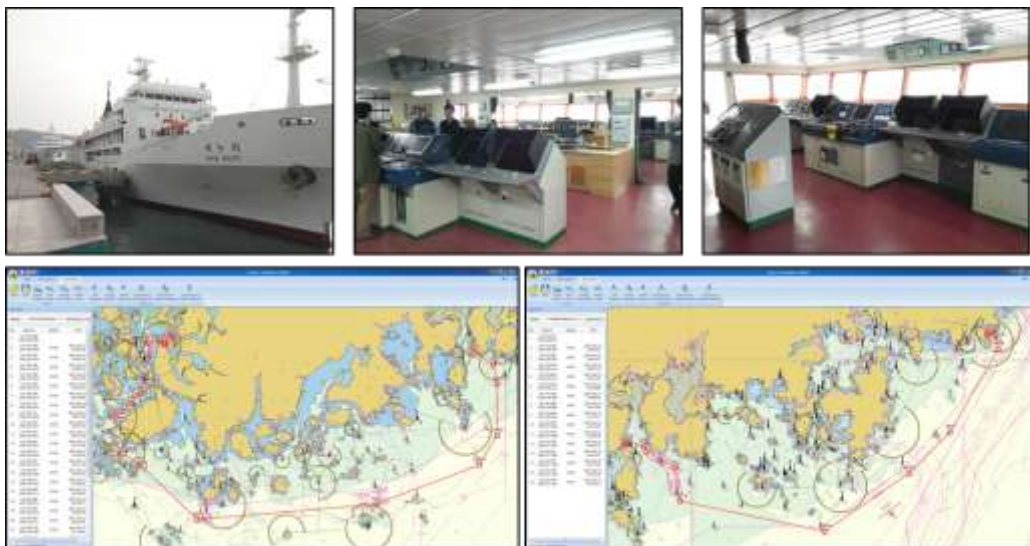


Fig. 2 Training Ship of KMU/MMU for sea-trial and Test Routes (Mokpo ~ Yeosu ~ Busan)

### **Conclusions**

Feature/Information Type of NPUB is used several times to design MSI/Ship Report Data Model. Thus, Various NPUB Feature/Information Type which was defined by SNPWG are closely related to e-Navigation Service data model. KRISO and Jeppesen will conduct research on e-Navigation Service such as MSI/Ship Report progressively together, and report the results to SNPWG.

### **Action Required of SNPWG**

The SNPWG is invited to:

- a. Take note of this initiative.
- b. Provide recommendations that may be helpful in developing S-100 based e-Navigation service.