Paper for Consideration by S-100WG5

S-100 Test Bed Platform

Submitted by:	Republic of Korea (KHOA)
Executive Summary:	This paper introduces S-100 Test Bed Platform to support development of S-10X PSs
Related Documents:	HSSC9/18 Decision: S-100 Test Bed Platform_ S-100WG4_2019_8.4_KHOA_S-100_TestBedReport
Related Projects:	KHOA S-100 Test Bed Project

Introduction / Background

1. KHOA operates the S-100 infrastructure to support development of IHO S-100 and S-10X Product Specifications, and conducts a test bed programme to check the draft PSs and related technologies.

2. In order to facilitate testing the PSs for various PS developers and users, KHOA established S-100 Test Bed Platform to serve three different environments for offline, online, and simulation. This platform should assist to validate S-10X Test Data Sets and verify their suitability in combination with other S-10X PSs. This document introduces the S-100 Test Bed Platform.

Analysis/Discussion

Offline Platform (S-100 Viewer)

3. KHOA and NIWC are developing S-100 viewer respectively to support verification of S-10X products, such as S-101 electronic charts, S-102 bathymetric surface and S-111 surface current, etc. A key feature is to display the S-10X TDS with different version of S-10X FC/PC when loading the data. The viewer provides basic options to check functions for navigational requirements.

4. In particular, S-100WG and S-101PT decided to change S-101 PC from the XSLT to the Lua considering the improvement of display mechanism for S-100 ECDIS system.

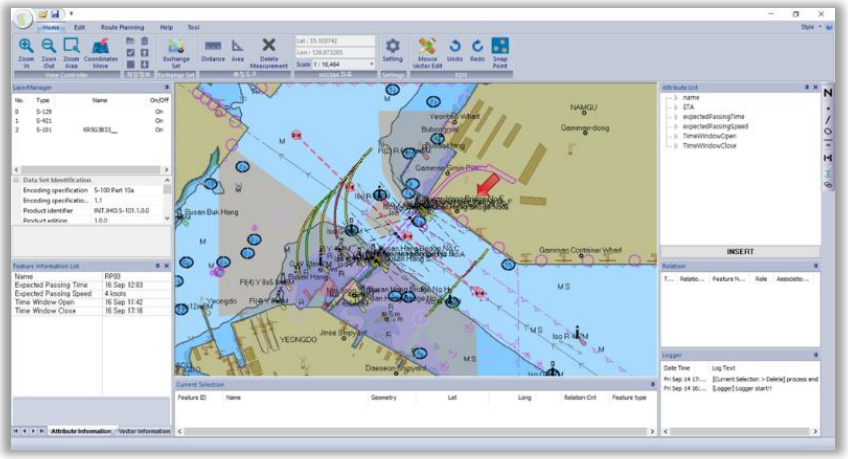

Fig. 1 S-100 Viewer

5. KHOA S-100 viewer has recently developed a Lua engine to absorb S-101 Lua PC. In addition, it deployed the interoperability catalogue to control various S-10X data in accordance with S-98 PS.

6. It also supports Plug-&-Play concept for S-10X catalogues allowing to select a catalogue if needed and the tool has a basic edit function to produce S-12X test data.

Online Platform (S-100 Online)

7. KHOA has built S-100 Online which is an online-based infrastructure. The online has lots of other benefits than the offline platform such as fee to S/W installation and easy success, etc. This Online tools access the GI registry to display data with different versions of the FC/PC. In addition, this supports functions applying colours and symbols from the Portrayal register in real time.

8. This online platform enables data producers and users to explore S-10X products and services. For more information, see another KHOA S-100 Online document.

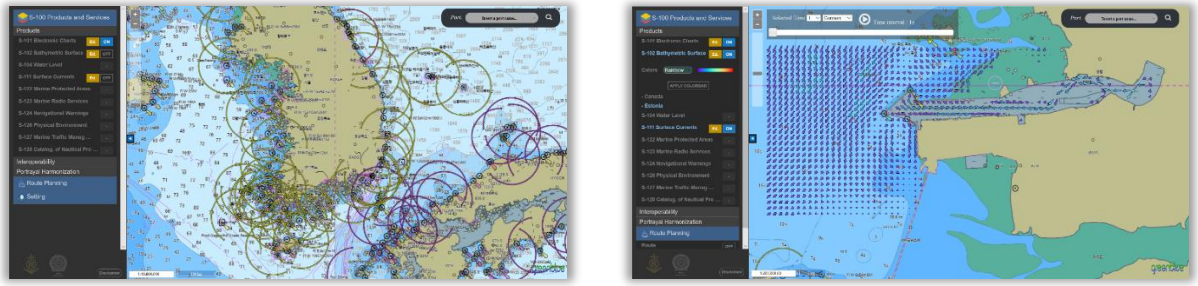

Fig. 2 S-100 Web-Viewer

Simulation Platform (S-100 Navigational Simulator System)

9. KHOA established a Test Bed Centre based on S-100 Navigational Simulator System, show on the Fig.4, taking into account the physical environment of the vessel operation at sea. This allows to test S-10X products and services with virtual simulators in various coastal conditions.

10. The S-57 ECDIS and prototype S-100 ECDIS developed by KHOA were installed in the centre.

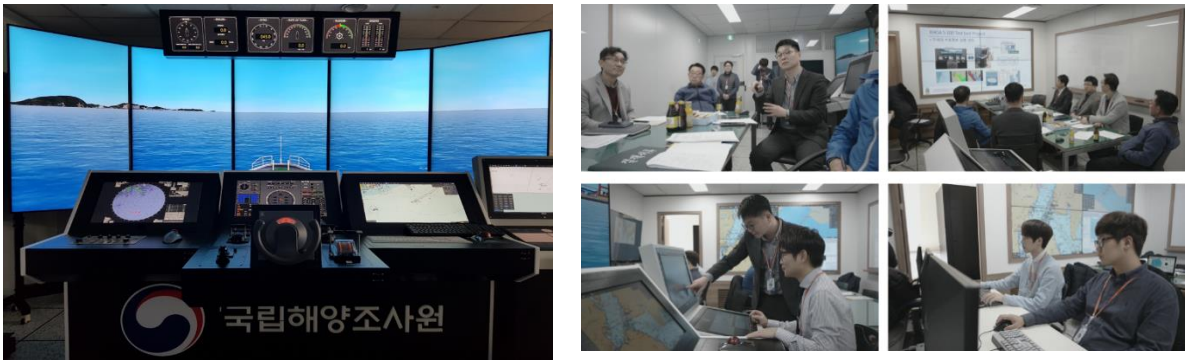

Fig. 3 S-100 Test Bed based on S-100 Navigational Simulator System

11. KHOA held S-100 test bed workshop with S-129 PT chair and domestic experts in the S-100 Simulator Centre in November 2019 to check the simulator's functions and test S-129 TDS. The following items were discussed during the workshop;

- Function and use environment of the ship pilot simulator
- Appropriateness and Application of S-10X Hydrographic data and standards environment
- S-100 Test Bed user experience and optimal provision of additional information
- Key considerations in terms of bridge procedure
- Considerations for S-100/10X interoperability, symbols and quality information

Conclusions

12. In line with the IHO S-100 Master Plan, KHOA has built various platforms to support S-100 and S-10X PSs and to support the preparation of S-100 products by the Hydrographic offices. KHOA hopes that the development and production of the IHO S-100 is going to move smoothly.

Recommendations

13. KHOA recommends S-10X stakeholders and Hydrographic offices to use S-100 Test Bed Platform for testing and verifying their work.

Action Required of S-100WG

The S-100WG5 is invited to:

a. **Note** this paper