Paper for Consideration by HSSC13

Report on Progress of the S-1OOP (S-100 Open Online Platform) Project

Submitted by:	Republic of Korea (KHOA)
Executive Summary:	ROK invites interested members to join SOOP project development.
Related Documents:	HSSC Decision12/13, S-100WG5-06.9, TSM8-5.3 S-100 Online Test bed
Related Projects:	S-100 Test bed

■ Introduction

The S-100 Open Online Platform (SOOP) is the groundwork of sharing and cooperation to facilitate changeover to the S-100 world with a vision and goals, as one of the alternative approaches to overcome challenges that the IHO community faces at the moment. This paper reports the progress on S-1OOP project activities and a plan to establish a correspondence group for promoting the SOOP project.

■ Background

Progress of S-1OOP Project

The S-1OOP project was introduced at the 5th S-100WG meeting in March 2020 and the WG requested voluntary participation. The project was reported as one of the S-100WG activities at the 12th HSSC meeting in October 2020. The HSSC meeting invited ROK to call for Member States to join the online test bed.
A detailed project plan was discussed at the 8th S-100 TSM meeting in March 2021. The meeting supported the general concept of the project and supported establishing a correspondence group under the S-100WG to carry out the project with industry's involvement and requested KHOA to report the activities of the CG to S-100WG/TSM meetings.

■ Discussion

S-1OOP Project Correspondence Group

Vision
Support the introduction of the IHO S-100 Roadmap for the Implementation Decade (2020-2030) and establish a platform for S-100 based data testing and information sharing, which will be the gateway of S-100 world for IHO member states, but also for relevant stakeholders.

Goals

1. **Share:** Share the S-100 infrastructure for product specification development and exchange experiences of production process

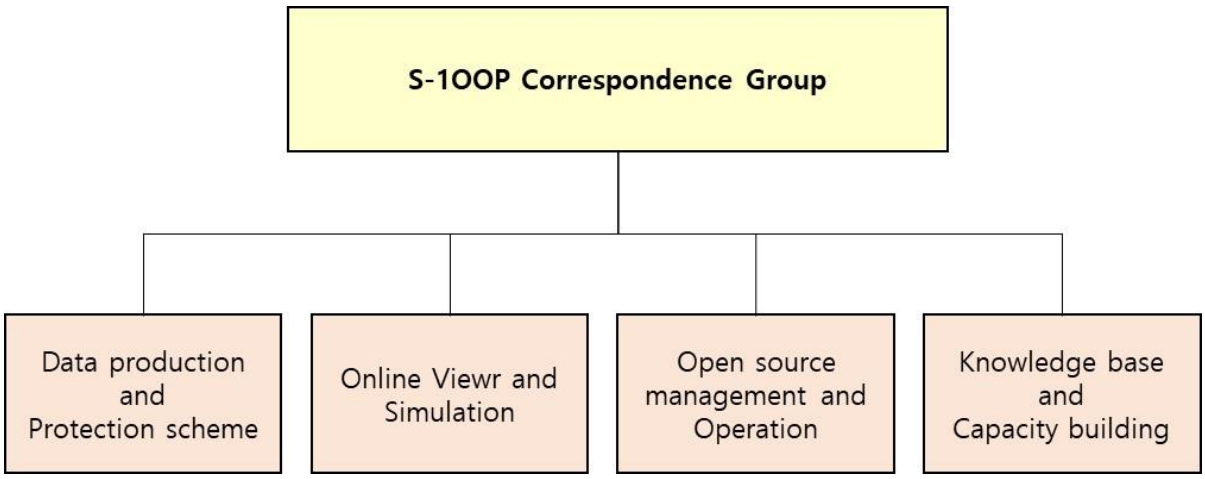
2. **Joint development**: Open software sources and share application models for S-100 implementation, enhancement of searching S-100 technical documents, establishment of the groundwork for capacity building and knowledge sharing in S-100 related field.

3. **Lowering technical barrier**: Resource management and establishment of online test bed to encourage the participation of Member States in the introduction of S-100 and the production of datasets

4. **Knowledge base/Capacity building**: Regular seminars/education and training management where anyone can voluntarily participate and share experiences of producing and using S-100 data

Structure of S-1OOP Correspondence Group (CG)

The S-1OOP correspondence group works in four themes in order to achieve the strategic goals effectively.



- Data production/Protection scheme: Lessons learned for S-100 data production, spec development tools, data protection related issues
- Online viewer and simulation: Share TDS online and test jointly by simulation method
- Open source management and Operation: Joint development and resources sharing of S-100 viewer and other related software
- Knowledge base and capacity building: Future technologies (MASS, e-Nav) and establish thebasis of capacity building

SOOP CG first meeting Proposal

- Date: June 2021 (tbd) / VTC
- Draft agenda

- (Overview/Background) Core building blocks of S-1OOP concept, introduction of prototype platform
- (Vision/Goal) Discuss the vision, detailed composition, and goals of S-100 online platform development
- (Organization) Determining the task (theme) leader in charge for details such as S-100 infra, data production and testing, open source
- (Work plan) Establish a three-year implementation plan to build an online platform

- (Seminar) Consultation and detailed discussion for holding regular seminars to share experiences and resource of S-100 development

■ Action required of HSSC

The HSSC is invited to:

a) note this paper
b) invite IHO Member States to join the S-1OOP CG

Appendix 1

Attendance list of S-1OOP(S-100 Open Online Platform) from S-100WG

Updated 27 April 2021

	Country	Organization	Participant
1	ROK	Korea Hydrographic and Oceanographic Agency (KHOA)	Iji Kim (lead)
2	ROK	Korea Research Institute of Ships and Ocean Engineering (KRISO)	Sewoong Oh
3	China	Maritime Safety Administration (MSA)	Dongli Sun
4	Denmark	Danish Geodata Agency (GST)	Elizabeth Hahessy
5	Canada	Canadian Coast Guard	Eivind Mong
6	Indonesia	Hydrography and oceanography Center	Mohammad Qisthi Amarona
7	Indonesia	Hydrography and oceanography Center	Oke Dwiyana Pribadi
8	Norway	Norway Hydrographic Service	Odd Aage Foere
9	Norway	Norway Electronic Chart Center	Robert Sandvik
10	Singapore	Maritime and Port Authority of Singapore (MPA)	Carrie Ang
11	Singapore	Maritime and Port Authority of Singapore (MPA)	Pearlyn Pang
12	Singapore	Maritime and Port Authority of Singapore (MPA)	Kenneth Lim
13	UK	United Kingdom Hydrographic Office (UKHO)	Thomas Mellor
14	UK	United Kingdom Hydrographic Office (UKHO)	Alison Contreras
15	USA	National Geospatial Intelligence Agency (NGA)	Kevin Dickens
16	USA	US Naval Information Warfare Center (NIWC)	Miroslav Stamenkovich
17	Belgium	Inland ENC Harmonization Group	Gert Morlion
18	Finland	International Electrotechnical Commission	Hannu Peiponen
19	France	SHOM	Yann Karamoal
20	OEMs	IIC technologies	Jonathan Prichard
21	OEMs	Portolanscience	Raphael Maltankar
22	OEMs	Navico	Inga Fjellanger
23	OEMs	Navtor	Jarl Gaute Vartdal
24	OEMs	ESRI	Tom de Puet

25	Private	Land Information New Zealand (LINZ)	Mikus Ranka
26	Greece	National Technical University of Athens	Stelios Contarinis

Appendix 2

Definition of S-1OOP Project

1. S-100 Open Online Platform Project

The primary goal of S-100 is to support a greater variety of hydrographic related digital data sources, products and customers. The S-100 implementation roadmap was introduced, but the development of the S-100 standard has been difficult for supporting various use cases as only a few S-100 experts and industry partners have been involved. The S-1OOP project was introduced for sharing and cooperation of S-100.

The project vision

S-100 Open Online Platform is the foundation for S-100 World online to accelerate the wide adoption of the S-100 hydrographic framework by jointly developing and making freely available the building blocks required to overcome any technical S-100 implementation barriers.

Key goals of the project

I. Share S-100 components, test datasets, and information required to construct an S-100 ecosystem
II. Exchange experience and best practice results with S-100 production processes for data producers
III. Enhance navigation, discovery and search of S-100 standards and technical guidelines for stakeholders
IV. Promote development of open-source software and application models to implement the S-100 World
V. Publicize the benefits and effects of the transition to the S-100 World

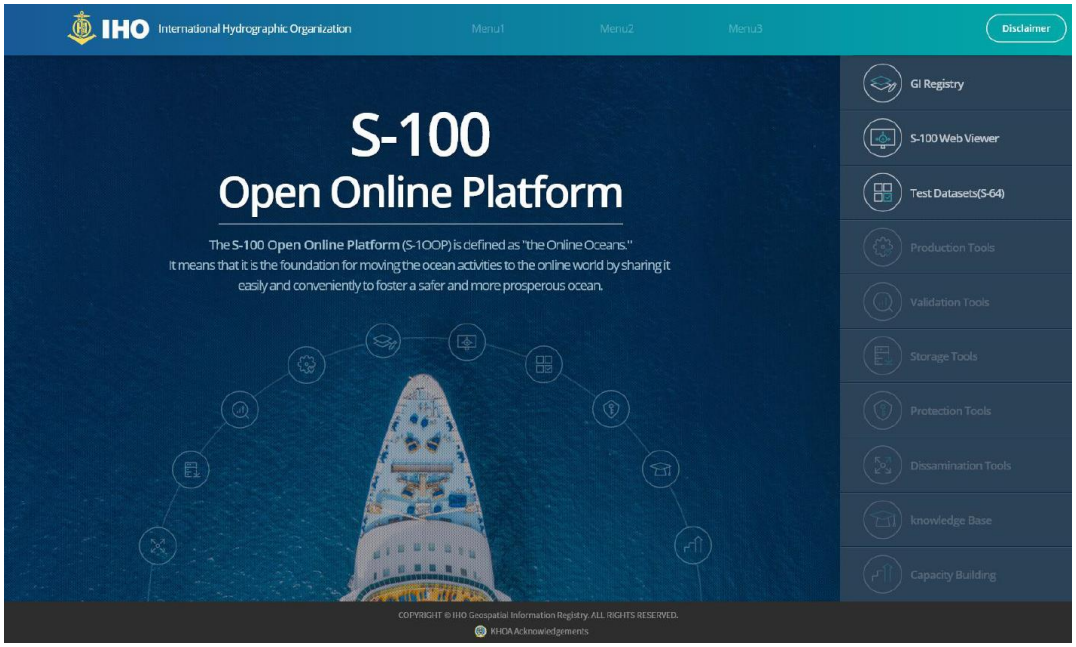


Figure 1 S-1OOP (Open Online Platform)

Building blocks

Building blocks required to achieve the vision and goals of S-1OOP are shown in Table 1 and Figure 1. However, these may be refined with experience, project conditions or requirements from stakeholders. Building blocks are technical resources, resource sharing infrastructure, open source software tools, technical guidelines and reference materials that would allow any organizations to achieve S-100 operational capability quickly and efficiently.

Figure 2 Building blocks Diagram (Source: IIC Technologies)

Table 1 List of building blocks

No.	Title	Description	remarks
1	GI Registry	S-100 Geospatial Information Registry contains several registers (online databases) that include items of information that are relevant to those communities developing of S-100 based products and services. (S100.iho.int)	
2	Test Datasets	Datasets created for testing purpose aimed at validating various aspects of dataset creating, validation, dissemination, portrayal and updating.	
3	Production Tools	Tools, generally software, designed to produce one or more data products that comply with certain standards.	
4	Validation Tools	Tools, generally software, designed to validate the degree of compliance of a data product to one or more standards.	
5	Storage Tools	Tools, generally software, designed to store data products for various purposes, such as archiving, verification and dissemination.	
6	Protection Tools	Tools, generally software, designed to apply certain data protection measures, such as digital signature and encryption.	
7	Data viewer	Software designed to portray data products.	
8	Dissemination Tools	Tools, generally software, designed to aid in making data products available to users.	
9	Knowledge Base	A storage of information or data that is available to draw on for highlighting the underlying set of facts, assumptions, and rules which a computer system has available to solve a problem.	
10	Capacity Building	The process by which the S-1OOP assesses and assists in sustainable development of the Member States, other states and stakeholders to acquire the knowledge, skills and means to adopt the S-100 World.	