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## IHO HYDROGRAPHIC SERVICES AND STANDARDS COMMITTEE

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### HSSC LETTER 02/2019

### HSSC COMMENTS ON THE IHO FUTURE STRATEGIC PLAN DRAFTED BY SPRWG

Dear Colleagues,

1. Following Council decision C2/40, the Hydrographic Services and Standards Committee (HSSC) was requested by the Strategic Plan Review Working Group (SPRWG) to provide feedback on the draft Strategic Targets (ST) and Performance Indicators (SPI), as presented in the SPRWG Chair's e-letter 02/2019 dated 13 March 2019. The HSSC Chair provided the HSSC WGs/PTs Chairs with an input paper pointing out the "*HSSC relevant elements of the Future IHO Strategic Plan*". This paper was circulated by e-mail amongst the WGs/PTs Chairs in order to evaluate the list of ST's and SPI's proposed by the SPRWG, and to analyse the possible impact on the implementation of the HSSC Work Programme. The inputs from the HSSC WG/PT Chairs were preliminary provided to the HSSC Chair and discussed during the HSSC11 meeting and, finally, completed after the meeting. Each HSSC WG/PT has a specific role in the implementation process of the Future Strategic Plan.
2. The Strategic Plan outlines the IHO mission, vision and high-level Goals for the next six years. It also takes into account how to measure the Goals (SPI) and the major projects in order to meet the Strategic Targets. In particular, Targets were intended as actions to be accomplished and Indicators as measurable effects of those actions. In particular, the first and the second Goals directly influence the HSSC Work Programme activities. Considering that the implementation of the IHO Strategic Plan should focus on those Strategic Targets achievement, undertaken in conformance with the Strategic Performance Indicators, these Targets should be as "measurable" as possible. As a consequence, quantifiable SPI would give a precise indication to implement the Strategic Plan, making the strategic vision a tangible reality.  
The HSSC comments to IHO Future Strategic Plan, organised in accordance with the strategic Goals of reference, are presented as follows.
  - a. *Strategic Goal 1 - Safety and Efficiency of the "transforming navigation"*  
Actions should be taken in order to completely fulfil the on-going transformation process in navigation, in which the HSSC has an important role to support the process of delivering Standards, Product Specifications and triggering the implementation strategy.  
As a general comment, "measurable SPIs" are necessary to monitor this transformation route. The main objective is to pursue drafting the "Future Strategic Plan" and to give consistency to the implementation action through the efforts made by WGs/PTs, MSs and Stakeholders.

On this regard:

- The **SPI 1.1.1** should be re-worded to the following: "*XX% of the Member States have operationalized some S-1XX based products by XXXX (year)*".  
This could be a way to make SPI 1.1.1 measurable. Further details could be considered in the S-100 Strategic Implementation Plan, as requested by the Council with the Action C2/31.

Moreover, in order to monitor the accomplishment of Goal 1, the HSSC considers it relevant that such SPI takes into account the incorporation of S-100 Standard and resultant products into relevant IMO standards for SOLAS navigation. This could be a key driver for new front-of-bridge products that are going to be operationalized in the future.

- The **SPI 1.1.2** could be re-worded to the following: “*Complete and implement a refurbished standardisation of paper charts to enable advanced support for “print on demand” based on content of S-101 electronic nautical charts*” or “*Improved paper chart production based on S-101 ENC data implemented and standardized*”.

Following HSSC discussion about the “Future of Paper Charts” (see HSSC11-05.4B paper), referring to SPI 1.1.2 “*Complete and implement a refurbished standardisation of paper charts as “print on demand” based on content of electronic nautical charts*” (see SPRWG e-letter 2/2019 dated 13 March 2019) could generate a non-unique interpretation.

The proposed changes would recognise the fact that the full automation of paper charts production from ENCs, especially from S-57 ENCs, will be extremely challenging to be standardize for many reasons. For example, paper charts have traditionally allowed a significant amount of national interpretation – both in concepts and symbology. A fully automated production would require Member States to give up that possibility, which they have been very eager to retain. There is also a significant number of national special requirements that are currently encoded only on ENCs as information (free text), and therefore nearly impossible to automate. The S-101 ENC Product Specification makes it easier to have these modelled into the data, unlike in S-57.

For the same reason, it should be avoided to give the impression that paper charts must in the future be produced from ENC products – this should be a possibility, not a requirement. A solution to produce paper charts from S-101 data instead of the S-57 data, also needs to be considered.

- While contributing to the “transforming navigation” process, HSSC recommended that an investigation is required to determine what the data requirements will be for facilitating autonomous ships. It was noted that there should be a fall back option that will enable the data to be understandable and readable by humans. This concept could lead to a parameter to be monitored in order to give effectiveness to SPI 1.1.3 achievement. The **SPI 1.1.3** could be re-worded to the following: “*Autonomous shipping requirement supported by S-1xx*”
- Data encoding and encrypting exchange set activities are normally monitored at HSSC WGs/PTs Level and by the main stakeholders, in order to standardize the content of the IHO dedicated publication (S-63). At the moment, the proposed ENC exchange set are not yet supported by the existing model of ENCs distribution, highlighting the need of implementing a full risk assessment. Consequently, **SPI 1.2.1** could be re-worded to the following: “*% of certified cyber secure data products and services delivered by XXXX (year)*”.
- Regarding the SPI 1.2.3, “*For areas with water depth less than 50 meters, the adequacy of the hydrographic knowledge is assessed*”, if we consider C-55, the 200m bathymetric contour should be taken into account. Therefore, it could be wise to use the same C-55 limitation, and probably not deal exclusively with “very shallow water” concept. In relation to the fact that SPI should be measurable with an objective (%), by country or worldwide, the “very shallow water” concept or any other related element in C-55 could not provide objectiveness to the indicator measurement. It is proposed to set as measurable indicator the CATZOC encoding. It is proposed to re-word the **SPI 1.2.3** to the following: “*XX% of CATZOC X (or QoBD level better than X) assessed by XXXX (year)*”.

b. Strategic Goal 2 - Developing hydrographical geospatial data use for the benefit of society

- The transition from S-57 to S-101 opens new opportunities to provide a better mechanism to the mariners to support decision making and improving safety of navigation. In this regard, data quality indicators have a fundamental role: not only can they be used for risk management by the mariner, but they can also support maritime autonomous surface ships development. In fact, as highlighted during HSSC, data quality indicators are fundamental to

assure overall spatial awareness and support decision making with a conditional visualization methodology. The **SPI 2.2.1** could be re-worded to the following: “*Quality indicators for all types of hydrographic data available and applied*”.

- The S-1xx framework provides a solution to meeting the expanding global demand for hydrographic data and services for the mariners, and more generally for the benefit of the entire Maritime Community.

It is anticipated that SPI 2.2.2, could be achieved by 2021 with the publication of the S-44 6<sup>th</sup> Edition. Therefore **SPI 2.2.2** could be re-worded to the following: “*New Edition of S-44 promulgated for all hydrographic applications and wider use by 2021, revised every 2 years, and fully implemented by all HOs by 2026*”.

- In order to estimate the value of using S-1xx data sets for MSDIs, **SPI 2.3.1** could be re-worded to the following: “*% of S-1xx data sets in the regional and global MSDI*”. In fact, MSDI should be analyzed both at regional and global level, taking into account UN-GGIM recommendations. Finally, considering the topic, the SPI 2.3.1, a complimentary analysis needs to be completed by IRCC/MSDIWG.

3. Following the considerations at paragraph 2, Annex 1 summarizes the structure of the revised Strategic Plan (Goals, ST, SPI) with specific reference to the SPI affecting HSSC activities.

4. Current work is on track in accordance with the HSSC Work Plan 2020. All HSSC action items are scheduled, already completed or ongoing. HSSC is ready to harmonize its Work Programme in accordance with the final version of the IHO Strategic Plan. The analysis work done by the WGs/PTs by correspondence and also during the HSSC-11 meeting made the Committee aware of the updates that may be required. Moreover, HSSC actions are already aligned with the concepts expressed in the draft version of the Strategic Plan.

Finally, during HSSC11, Member States pointed out that “*the longer we hesitate to make statements, the more we will lose the confidence of our stakeholders*”. The future Strategy should be based on a clearly defined statement about the following topics: appropriateness of paper charts, ECDIS back-up, front-of-bridge and back-of-bridge requirements. It is agreed that “*standardization in isolation will fail*”, that is why the Strategic Plan should find correspondence in an IMO statement. This could also provide benefits at operational level.

Yours sincerely,



Rear Admiral Luigi SINAPI

Chair, HSSC

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## STRATEGIC TARGETS AND PERFORMANCE INDICATORS OF HSSC INTEREST

