

## Paper for Consideration by HSSC

### Develop and incorporate architectural vision of S-100 products and ECDIS into S-98 development

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<b>Executive Summary:</b>	An efficient development of S-98 should be achieved through a clear and global vision of the implementation of S-100.
<b>Related Documents:</b>	1/ Report of the 2nd meeting of the IHO Council 2/ HSSC11-05.3D 3/ S-100WG3-5.4 4/ Draft S-98

#### Introduction / Background

The S-100WG has been tasked to consider how to incorporate generic interoperability between S-100 based products (item A.2 of S-100WG work plan). The stake of interoperability is to be focused on enabling a harmonized display of information coming from different S-100 products. This is a fundamental goal to reach in e-navigation context. The development of interoperability specification S-98 is still in progress.

At Council 2 meeting, the need of a strategy for the implementation of S-100 based products has been highlighted. It has resulted in action C2/31.

#### Analysis/Discussion

The draft S-98 mainly describes in-depth technical concepts of interoperability that need further improvement including feedback from test beds and high level inputs. In fact, no principle can be identified in this version, as no document exists on the overview principles of S-100 products and specifically, on how S-100 products are used in S-100 ECDIS for route planning and route monitoring. High level considerations should be taken into account prior to further development of S-98:

1. S-100 implementation strategy: this plan should provide inputs for building principles of the combined use of S-100 products, including interoperability principles for S-100 ECDIS ;
2. use cases of the S-100 based products: because the interoperability rules are situational dependant, the context in which each product will be used should be defined, considering firstly the status of the relevant products for regulated navigation purposes. A clear vision of the architectural infrastructure of S-100 based products is required as highlighted in the paper HSSC11-05.3D from NIPWG ;
3. framework of the S-100 based products: while development of S-100 based products is still on-going and a large part of them is not fully developed and mature, in particular concerning the portrayal, which products should have to be considered at a realistic deadline.

From now on, it would be better to have a top-down analysis: from the strategic plan should flow the general concepts of interoperability and then the implementation of the catalogue of interoperability rules.

#### Recommendations

Considering that S-98 should be driven by agreed high level principles, it is recommended that a dedicated sub-working group works:

1. to produce a functional analysis of related products from the point of view of the mariner, which may involve the mapping of data flow through related products, the definition of the architecture of S-100 products and their use cases;
2. to define the operating principles governing S-100 ECDIS, including principles of interoperability;
3. to check that the development achievement of S-100 products and S-98 is consistent with the overall vision of the implementation strategy of S-100. Concepts should be proven by test beds.

#### Justification and Impacts

The risk is to develop concepts that do not fit mariner's reality or that mariners do not understand. A more mariners centric approach should be encouraged to avoid useless efforts or too complex technical concepts that do not answer to expectations of the mariner.

#### Action Required of HSSC

The HSSC is invited to note this paper and discuss its recommendations.