

20th CHRIS MEETING
Niteroi, RJ, Brazil, 3-7 November 2008

Paper for Consideration by CHRIS

**Adoption and Publication of IHO S-100 -
The Hydrographic Geospatial Standard for
Marine Data and Information**

Submitted by:	TSMAD Chair
Executive Summary:	This paper seeks CHRIS endorsement of S-100 and the proposed publication road map.
Related Documents:	S-100 Version 1.0.0
Related Projects:	TSMAD work plan, particularly S-101 and the MEP product specification development.

Introduction / Background

A draft version of S-100 was published in February 2008 for peer group and stakeholder review and comment. Some 400 comments were received from various member states and organizations including DGIWG with whom IHO TSMAD has liaised closely with during the development of S-100. An editing committee consisting of TSMAD membership processed the comments during TSMAD 17 in September which resulted in the preparation of a new version. This version fulfils the S-100 element of the TSMAD CHRIS work program apart from the following:

1. A portrayal component. The development of S-100 generally has been hindered by the sometimes extended preparation time of the ISO TC211 standards. In the case of ISO 19117 (Portrayal), a review of the original published standard is currently taking place and a new stable version is unlikely to be available before mid 2009.
2. 3D spatial component. Preliminary work has been progressed as part of the overall spatial profiling exercise completed in cooperation with DGIWG. In reality there has never been any definitive use cases proposed requiring any urgent inclusion of 3D, and this element will be developed as an extension to S-100 at a later date if required.
3. Alternative encoding formats to ISO/IEC 8211. Other formats will be developed as extensions as and when required by product specifications.
4. S-100 was developed as a series of disparate components and a rationalization of the overall structure and layout is required. This would be best undertaken by a professional technical writer under contract.
5. Bathymetric product specification. Preparatory work has taken place and a preliminary draft prepared, but it was always going to be difficult to progress this work item effectively before a more stable version of S-100 was completed.

Analysis/Discussion

S-100 has been designed as a contemporary standard based on a series of components ("building blocks") with a view to increasing the

flexibility and extensibility over and above that which was possible with S-57. S-100 does not easily fit the newly developed IHO standards life cycle process, in that changing its content will not, unlike S-57, invalidate existing product specifications.

Various factors govern the breadth and depth of testing S-100, not the least being limited resources. The fact that S-100 is based on the ISO TC211 19100 series of standards and in turn ISO TC211's close liaison with the Open Geospatial Consortium and its extensive testing facilities, should promote a reasonable level of confidence in the initial content. Also, the close cooperation between IHO and DGIWG in developing their respective standards will also ensure a sound foundation for content and interoperability. It is anticipated that the development of product specifications will be one of the most important testing environments.

The ongoing maintenance processes of S-100 will be mostly similar to S-57, but with the inclusion of extensions as a category to supplement clarifications and corrections. It is anticipated that extensions will be more major items of work, e.g. GML encoding format, web feature services etc. requiring additions to the TSMAD work programme. The yearly frequency of CHRIS/HSSC meetings could potentially be an issue in gaining endorsement for including urgent requirements in the work programme. Particularly if stakeholders requiring extensions are prepared to actively support the development work.

Conclusions

TSMAD see little benefit in a protracted period for the publication of S-100. As mentioned earlier, the development of product specifications is the most cost effective method of testing and projects using S-100 such as the St Lawrence Seaway Test Bed and the Bathymetry product specification are already proving beneficial.

S-57 3.0 was formally adopted at the XIVth International Hydrographic Conference in 1992. S-100 is a major step change from S-57 and after initial endorsement by the CHRIS the following would seem to be the most appropriate available options:

1. By conference, the next opportunity being the 2009 Extraordinary Conference.
2. By circular letter, seeking the approval of member states.

Whilst it is not expected that the average IHO audience will have a deep understanding of the details of S-100, the S-100 Information Paper at Annex A gives a broad perspective of its content.

Recommendations

TSMAD recommends that CHRIS 20 endorses S-100, and subsequently submits a proposal for the adoption of the standard to the 4th IEHC. The suggested publication date is July 1st 2009.

TSMAD further recommends that the CHRIS endorses the following roles and responsibilities for the maintenance of S-100.

1. Minor new versions – that the TSMAD WG has the authority of CHRIS(HSSC) to make Clarifications and Corrections to the standard as and when required. These would be signified by a fourth level number change (X.X.X.X) for clarifications and a third level number change (X.X.X.X) for corrections.
2. Major changes – that the CHRIS(HSSC) is the authority for endorsing the proposal, preparation and publication of major changes to the standard e.g. extensions.
3. New versions – that the CHRIS(HSSC) is the authority for endorsing new versions of the standard. This may be post the inclusion of a major new extension or for rationalizing all previous minor changes and resetting the numbering.
These would be signified by a first level number change (X.0.0.0).
4. IHO Hydro Sub-Register – that the TSMAD WG is the owner and provides the resources for its management and the control body.

Justification and Impacts

S-100 must be the basis for the future development of applications and product specifications in support of the dissemination of digital hydrographic data. S-100 must be made available as soon as possible.

TSMAD is the relevant IHO CHRIS(HSSC) WG for the maintenance of S-100.

Action Required of CHRIS Relevant CHRIS WG

The CHRIS is invited to:

agree the TSMAD recommendations