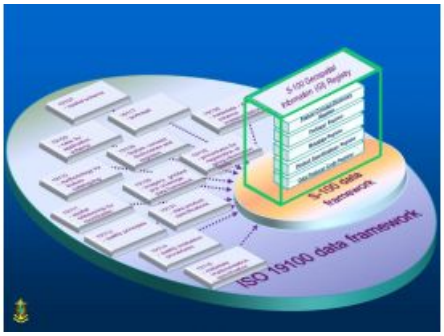
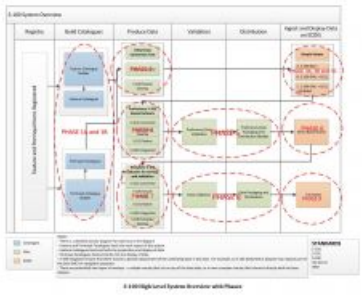
ACHIEVEMENTS IN 2015 IMPORTANT FOR ECDIS AND E-NAVIGATION

Significant Progress for IHO Technical Standards





The main driver for the establishment in 1921 of the precursor of what is today the International Hydrographic Organization (IHO) was to standardise the presentation of information on nautical charts and publications. Standardisation has been a core activity of the IHO ever since. The IHO currently maintains 15 standards and 10 related guidelines. This article highlights some of the recent achievements in relation to the maintenance of existing standards as well as the development of new standards.

A major achievement in 2015 was the completion of a coherent set of revised editions of the key standards underpinning Electronic Chart Display and Information Systems (ECDIS). This activity required close coordination between the IHO and the International Electrotechnical Commission (IEC). The IHO's contribution includes Edition 6.1 of Publication S-52 - Specifications for Chart Content and Display Aspects of ECDIS, Edition 4.0 of S-52 Annex A - IHO Presentation Library for ECDIS, Edition 3.0 of Publication S-64 - IHO Test Data Sets for ECDIS and Edition 1.2.0 of Publication S-63 - IHO ENC Data Protection Scheme. These standards were reviewed and updated to reflect lessons learned from earlier reports of unexpected chart behaviour in some ECDIS. The revised editions are a significant contribution by the IHO to supporting navigational safety by ensuring that all identified ambiguities and inconsistencies relating to the display of Electronic Navigational Charts (ENCs) in ECDIS have been resolved. Following the publication of the 4th Edition of IEC 61174 - Maritime Navigation and Radiocommunication Equipment and Systems - Electronic Chart Display and Information System (ECDIS) - Operational and Performance Requirements, Methods of Testing and Required Test Results in August 2015, the revised editions are now the normative IHO references for the type approval of all new ECDIS equipment.

In parallel, the IHO was actively preparing the next generation of standards to support the e-Navigation strategy and implementation plan adopted by the International Maritime Organization as well as supporting the growth in maritime spatial data infrastructures that promote the wider availability of core geospatial data, such as hydrography. An enhanced Edition 2.0.0 of the underpinning standard, Publication S-100 - Universal Hydrographic Data Model, was issued in 2015. The changes introduced in the new edition improve the usability of S-100 for the developers of product specifications by providing for a portrayal model, an additional encoding format - Geographic Markup Language (GML), and the ability to maintain lists of information that are common across different domains. A number of S-100 based product specifications developed by the IHO or by other organisations are also now ready for implementation or for validation tests.

Another significant outcome of the efficient coordination with the other standardisation organisations was the adoption in August 2015, by the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM), of a Guide to the Role of Standards in Geospatial Information Management and an associated Technical Compendium as the UN-endorsed international geospatial standards best practice for spatial data infrastructure. These documents resulted from a collaborative endeavour between the IHO, the Open Geospatial Consortium (OGC) and Technical Committee 211 of the International Organization for Standardization (ISO).

2016 will see the IHO's technical programme continue work on developing the S-100 framework and monitoring the implementation of the revised ECDIS standards.

Most IHO standards are made freely available on the IHO website.