

**7<sup>TH</sup> MEETING OF THE HYDROGRAPHIC SERVICES AND STANDARDS COMMITTEE****Busan, Republic of Korea, 09-13 November 2015****Paper for Consideration by HSSC****ISO Activities Affecting HSSC**

<b>Submitted by:</b>	IHB
<b>Executive Summary:</b>	This paper reports on the activities of the ISO Technical Committee 211 (ISO/TC211) that are relevant to the work of the HSSC.
<b>Related Documents:</b>	S-100 and all dependent product specifications.
<b>Related Projects:</b>	S-100WG, NIPWG, TWCWG, MSDIWG and DQWG

**Introduction / Background**

The IHO is a class A liaison member of the ISO Technical Committee 211 (ISO/TC211) and has contributed towards the development of the 19100 series of standards and technical specifications. These ISO standards have been used for the development of the S-100 Universal Data Model, the IHO Geospatial Information (GI) Registry and various S-10X product specifications currently under development. Since the HSSC6 meeting (11-14 November 2014), the IHO participated in the 39<sup>th</sup> and 40<sup>th</sup> ISO/TC211 plenary and working group meetings which took place in Shenzhen, China (24-28 November 2014) and Southampton, UK (8-12 June 2015) respectively.

**Analysis / Discussion**

Since the HSSC6 meeting, ISO/TC211 accepted a nomination from the World Bank to become a class A liaison member. It also accepted requests for internal liaison membership from the ISO Technical Committee 20 / Sub-Committee 16 (dealing with unmanned aircraft systems) and ISO/IEC Joint Technical Committee 1 / Working Group 9 (dealing with "Big Data").

The following new projects of relevance were registered:

- new project 19127, Geodetic codes and parameters. 19127 defines rules for the population of tables of geodetic codes and parameters and identifies the data elements required within these tables. S-100 currently only makes reference to one geodetic code (EPSG:4326 – WGS84), however this may need to be expanded for future product specification requirements.
- new project to revise 19101-2:2008, Reference model – Part 2: Imagery. This Technical Specification provides a reference model for the processing of geographic imagery. Changes to this document could have an impact on future extensions to S-100 Part 8.
- new project to revise 19126:2009, Feature concept dictionaries and registers. This document describes the model used for the IHO Registry Feature Concept Dictionary (FCD) component. Changes to this document could influence future extensions to the IHO Registry.

A study review of the following Technical Reports will be undertaken;

- ISO/TR 19120:2001, Functional standards
- ISO/TR 19121:2000, Imagery and gridded data

These Technical Reports provide useful background information for the development of S-100 related standards.

ISO TC 211 is developing a registry of geodetic codes and parameters for geographic information. The registry conforms to the following ISO standards/technical specifications 19111:2007 (Spatial referencing by coordinates),

19127:2005 (Geodetic codes and parameters), 19135:2005 (Procedures for item registration), 19135-1 (Procedures for item registration - Part 1: Fundamentals), and 19135 Part 2 (Procedures for item registration -- Part 2: XML schema implementation). It is anticipated that the ISO Registry will be of relevance to OEMs developing applications that consume S-100-based data products.

Most of the 19100 standards and technical specifications are described using the Universal Modelling Language (UML). ISO TC 211 maintains an updated repository of harmonized UML models which can be downloaded from the ISO/TC211 web site ([www.isotc211.org](http://www.isotc211.org)). A report on "Best practices for UML modelling in ISO/TC 211", has been developed by an ad hoc working group, and was presented to the 39<sup>th</sup> plenary meeting. The UML repository is an important resource for IHO Working Groups developing S-100 based product specifications.

ISO TC 211, the IHO and the Open Geospatial Consortium (OGC), worked collaboratively to produce a "Guide to the Role of Standards in Geospatial Information Management" and a companion document. These documents were adopted as UN-GGIM reference documents at the fifth UN-GGIM session which took place at the UN Headquarters in New York, USA from 5 to 7 August 2015. Both documents are available from the MSDIWG page of the IHO website ([www.iho.int](http://www.iho.int) > Committees & WG > HSSC > MSDIWG) under "Miscellaneous".

ISO/TC211 held a "Standards in Action" workshop during each of its past two meetings. Presentations were provided on topics such as: An overview of ISO/TC 211's current programme; Spatial Data on the Web; The Status of Imagery Standards in TC211, the European Location Framework; Common ground - how disparate industries can share resources and Alaska Data Integration Working Group (ADIWG) Open Source ISO Metadata Toolkit. The workshops provided an opportunity for liaison organizations and other associated communities, developing geospatial standards and applications to learn from each other's experience.

Further information on the ISO/TC211 activities and associated working documents is available from the ISO/TC211 web site at <http://www.isotc211.org/>

## **Conclusions**

The IHB will continue to monitor and participate in the ISO/TC211 standards development work and report on relevant activities to IHO working groups and committees. IHO Member States are encouraged to liaise with their national standardization bodies to ensure that the IHO standards activities are understood and taken into account as appropriate at the national level.

## **Recommendations**

This paper is for information only; no action is required.

## **Action Required of HSSC**

The HSSC is invited to:

- a. note the paper, and
- b. agree that the IHB continues to monitor ISO/TC211 activities.