## News from Standardisation Bodies

<table>
<thead>
<tr>
<th>Type</th>
<th>Document for information and discussion</th>
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<tbody>
<tr>
<td>Creator</td>
<td>EC and EEA INSPIRE Team</td>
</tr>
<tr>
<td>Date/status/version</td>
<td>04/06/2018 / DRAFT / version 1.0</td>
</tr>
<tr>
<td>Addressee</td>
<td>MIG</td>
</tr>
<tr>
<td>Identifier</td>
<td>MIG/8/2018/DOC12</td>
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<tr>
<td>Description</td>
<td>This document summarises new developments and activities relevant to INSPIRE maintenance and implementation from the following standardisation bodies:</td>
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<tr>
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<td>- ISO/TC 211</td>
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<td>- Open Geospatial Consortium (OGC)</td>
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<td></td>
<td>- World Wide Web Consortium (W3C)</td>
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<tr>
<td>actions:</td>
<td>MIG to:</td>
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<tr>
<td></td>
<td>- Take note of the document</td>
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<td></td>
<td>- Discuss possible coordinated actions related to the presented standardisation activities</td>
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ISO Technical Committee (TC) 211 on Geographic Information

**Point of contact:** Christina Wasström, ISO/TC 211 chair, Christina.Wasstrom@lm.se

ISO/TC 211 has, together with the standardisation organisations OGC and IHO (International Hydrographic Organization) made a questionnaire to analyse existing barriers to implement standards and need of training. The questionnaire was targeting UNGGIM members, but the result can be of use within INSPIRE community.

A new project (stage 0 project) on Land Cover (ISO 19144-2) has been established, with the support of FAO, to meet the interest on establishing land use classification. The project will include discussions on how to develop the current standard, e.g. how to add Land Use, how to align with EAGLE (European Land monitoring initiative).

Another stage 0 project has been established; on Land administration. There is a great international interest for that standard, e.g. from FIG, OGC, IHO, DOALOS, World Bank, FAO & UNHABITAT. Two international workshops (one in Delft and one in Zagreb) has been organized to plan for the development of the standard.

The committee has two specific ISO internal cooperation that is relevant for an infrastructure:

- The cooperation with “Intelligent transport systems” (ISO TC 204) to support the integration between the infrastructure aspects of intelligent transport systems (ITS) and geographic information.
- The cooperation with “Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM)” (ISO/TC 59) to describe measures to lower the barriers and increase interoperability between GIS and BIM, and specify standardization need in the field of GIS-BIM interoperability.

As described at the MIG meeting in June 2017, there is a formal process to ensure the maintenance of the standards developed by ISO. The standards are systematic reviewed, and updated when needed. To also ensure that the INSPIRE documentations are up-to-date regarding references to standards, a review of INSPIRE regulations and guidelines is recommended. More information can be found at the web site [https://committee.iso.org/home/tc211](https://committee.iso.org/home/tc211)
Open Geospatial Consortium (OGC)

**Point of contact:** Athina Trakas, Director Regional Services, Europe, Central Asia & Africa, atrakas@opengeospatial.org; Bart De Lathouwer, Director, Innovation Program, bdelathouwer@opengeospatial.org

Membership balance

- 500+ members and growing
- 50+ standards
- Thousands of implementations
- Broad user community implementation worldwide
- Alliances and collaborative activities with ISO and many other SDO’s

Standards and Domain Working Groups (SWGs and DWGs)

There are currently 50 SWGs and 38 DWGs, many of which (e.g. Meteorology & Oceanography DWG, Geoscience DWG, WFS/FES SWG, SensorThings SWG) on topics of high relevance for INSPIRE¹.

2018 Standards forecast

The following standards are scheduled for voting and adoption in 2018².

- GeoPackage Tiled/Gridded Extension (approved)
- SensorThings API – Part 2, Tasking (Q2)
- WCS 2.1 (Q2)
- CDB Multi-Spec Extension (Q2)
- TimeseriesML 1.2 (Q3)
- GMUP2 v2 (Q3)
- 3D Tiles (Q3)
- GeoTIFF (Q3)
- CDB 1.1 (Q3)
- WFS 3.0 (with ISO) (Q3)
- AS Topic 2 – Spatial Ref (Q3)
- Web Services Security (Q3)
- PipelineML (Q3)
- WCS 2.0 REST Extension (Q3)
- WPS 2.0 REST/JSON Binding Extension (Q3)
- Semantic Sensor Network Ontology (with W3C) (Q3)
- Time Ontology in OWL (with W3C) (Q3)
- MetOcean Profile for WCS 2.1 (Q4)
- AS Topic 1 – Feature Geometry (Q4)
- HDF Abstract Data Model (Q4)
- **OpenFlight (Q4)**
- **Geo-DCAT (Q4)**
- WMS 1.4 (Q4)
- IndoorGML 1.1 (Q4)
- CityGML 3.0 (Q4)
- SoilML (Q4)
- QB4ST (with W3C) (Q4)

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¹ See all SWGs at [http://www.opengeospatial.org/projects/groups/swg](http://www.opengeospatial.org/projects/groups/swg) and all DWGs at [http://www.opengeospatial.org/projects/groups/wg](http://www.opengeospatial.org/projects/groups/wg)

² *Italic Bold = Community standard*, see [http://www.opengeospatial.org/standards/community](http://www.opengeospatial.org/standards/community)

Red = in vote
Upcoming Technical/Planning Committee meetings

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<tr>
<th>Date</th>
<th>Location</th>
<th>Host/Sponsor</th>
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<tr>
<td>4-8 June 2018</td>
<td>Fort Collins, CO USA</td>
<td>DigitalGlobe, UCAR</td>
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<tr>
<td>10-14 September 2018</td>
<td>Stuttgart, Germany</td>
<td>HTF Stuttgart</td>
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<tr>
<td>10-14 December 2018</td>
<td>Charlotte, NC USA</td>
<td>EPRI</td>
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<tr>
<td>March 2019</td>
<td>Singapore TBC</td>
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<td>June 2019</td>
<td>Belgium TBC</td>
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<td>September 2019</td>
<td>Banff, Canada</td>
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<tr>
<td>December 2019</td>
<td>Toulouse, France TBC</td>
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WFS 3 as an example of a new way of working

Use of modern tools

- [https://github.com/opengeospatial/WFS_FES](https://github.com/opengeospatial/WFS_FES)
- Github repository is public!
- Documentation is organized per official OGC Asciidoc standard template, but text itself is full of examples, plenty of OpenAPI content
- Leverage concepts from the joint OGC-W3C Spatial Data on the Web Best Practices and build a standard that is “native” to the web

WFS OpenAPI document

Impact on other web service standards

- “WFS-first” approach
  - All web service SWGs monitor and participate in WFS revision
  - Influence WFS such that core elements are developed that can be used in other web services
• Start using WFS-like approach now
  o Underway in Web Processing Service (WPS) SWG
  o Being considered in other SWGs
• Map core elements from above work to:
  o OGC Essentials concepts
  o New OWS Common conceptual model
• See what happens – keep all stakeholders involved on the process and perhaps a set of core elements will naturally evolve

OGC Board of Directors guidance

• Get to 90% of a standard really fast...
• Then take time to finish the last 10%
• Make the 90% product available to stakeholders and implementers to test
• Develop a repository of example implementations
• Be more public for the 90%
• Control the 10% in the OGC process to ensure the final product is truly an “international consensus standard”

WFS3 Hackathon – March 2018

• More than 30 participants physically attended, also small team working in Europe
• 20+ GitHub issues created
• 5 working server implementations; 3 clients; QGIS plugin; GDAL driver
• Draft standard was revised as a result of findings from the hackathon, including a major change to the path structure
• Document developed as result of the hackathon has been submitted in a NWIP to ISO / TC 211
• Conclusion: Hackathons...
  o Expedite development of standards (days instead of months!)
  o Engage the community of first-implementers
  o Lighten the bureaucratic load of discussions
  o Still operate in a consensus environment
World Wide Web Consortium (W3C)

Points of contact: Dave Raggett, team contact of the Dataset Exchange Working Group, dsr@w3.org; Francois Daoust, team contact of the Spatial Data on the Web Interest Group, fd@w3.org

- That same group is working on a document named “Dataset Exchange Guidance for Application Profiles”.
- The Spatial Data on the Web Interest Group is discussing maintenance and update of the Spatial Data on the Web Best Practices document that was published last year. It has also started to work on best practices for Statistical Data (no document published yet).
- W3C is in the process of chartering a Working Group on updating the popular JSON-LD specification.
- The Web of Things Working Group is progressing work on standards for exposing physical and abstract entities (things) as objects with properties, actions and events, independently of the communication protocols. The approach uses Linked Data with URIs for naming things and linking to their descriptions, and provides the basis for semantic interoperability across open markets of services.
- A W3C Workshop is being planned for late 2018 on taking stock after two decades of experience with RDF and Linked Data with a view to identifying opportunities for further standardisation work, e.g. extending RDF to embrace Property Graphs, and context sensitive mappings between vocabularies with overlapping semantics.
- A W3C study of Web data standardisation has been produced with support from the Open Data Institute and InnovateUK, with a view to making W3C a more effective, more welcoming and sustainable venue for communities seeking to develop Web data standards and exploit them to create value added services.

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3 https://www.w3.org/TR/2018/WD-vocab-dcat-2-20180508/
4 https://w3c.github.io/dxwg/profiles/
5 https://www.w3.org/2017/sdwig/
6 https://www.w3.org/2018/03/jsonld-wg-charter.html
7 https://www.w3.org/WoT/WG/
8 https://www.w3.org/2017/12/odi-study/