

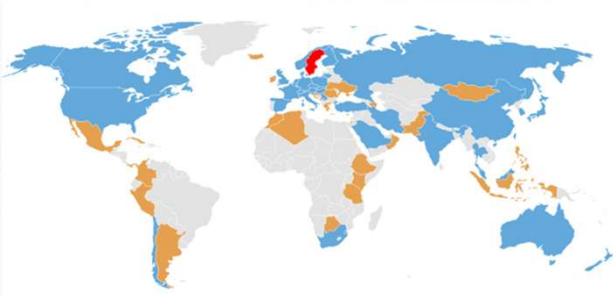

# ISO/TC 211

## Geographic information/Geomatics

Standardization in the field of digital geographic information.

Fourth Expert Meeting of the UN-GGIM Working Group on Marine Geospatial Information  
Tuesday 31<sup>st</sup> January, 2023

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## Collaboration Harmonization Outreach

**Participating Members**  
Observing Members  
Liaison Organizations  
Liaison ISO Committees

**Chair:** Peter Parslow (United Kingdom)

**Committee manager:** Mats Åhlin (Sweden)  
**Committee support:** Christine Allansson (Sweden)

**WG 1:** Framework and reference model (South Korea)

**WG 4:** Geospatial services (Denmark)

**WG 6:** Imagery (Canada)

**WG 7:** Information communities (China)

**WG 9:** Information management (USA)

**WG 10:** Ubiquitous public access (South Korea)

**WG 11 GIS - ITS:** TC211 - TC204 (Denmark)

**WG GIS - BIM:** TC211 - TC59/SC13 (Denmark)

**AG 2:** Strategy (United Kingdom)

**AG 1:** Outreach (Russia)

**AG 3:** Programme Maintenance (Denmark)

**AG 4 JAG:** TC 211 - OGC (France)

**AG 11:** Advisory to UN-GGIM (United Kingdom)

**AG 13:** Land Cover Land Use (United Nations)

**CAG 1:** Chair Advisory Group (United Kingdom)

**AG 5:** Harmonized Model (Denmark)

**AG 6:** Ontology (Australia)

**AG 10:** XML Maintenance Agency (Australia, Canada)

**AG 7:** Terminology Resources (Japan)

**AG 12:** Geodetic Register Control Body (Brazil)

**AG 14:** Registration Maintenance Group (Canada)

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## TC 211/OGC common foundation

- Conceptual schema language – how we use UML
- Application schema – how to model the geo data for a domain
- General Feature Model & Coverage Model
- Registers – well managed (reference) data
- Coordinate reference systems – places the world as numbers
- Spatial schema – how to model geo shapes

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## Modernising



- ISO
  - ISO SMART – machine readable:
    - Standards
    - Terminology: GeoLexica
    - Data models
    - Data validation
  - Online Standards Development
- IT
  - OpenAPIs (with OGC)
  - Web ontologies
- Domains
  - Intelligent transport
  - Digital twins
  - Analytics ready data

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## Activities with UN-GGIM

- Standards Guide (OGC, IHO)
- ISO Geodetic Register (FIG, UN Centre of Excellence)
- Sustainable Development Goals

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## Marine and maritime



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## Current projects with IHO input

- Revision of ISO 19135 Procedures for item registration
  - The IHO Geospatial Information Registry is a key implementation of this standard.
  - We're really pleased that IHO's Yong Baek has been helping us revise it!
  - Intention is to learn from implementations, clarify life cycle of the data items vs life cycle of requests &c
- Revision of ISO 19152 Land Administration Domain Model

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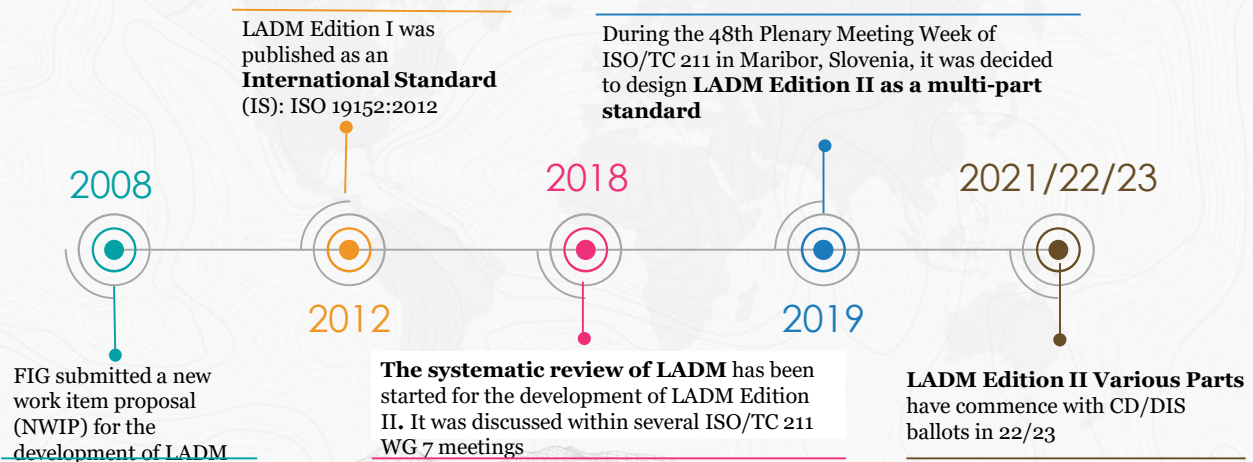
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## Development timeline of the Land Administration Domain Model (LADM)



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## Purposes of Land Administration

- Peace Building and Security
- Social Justice
- Disaster Management
- Resource Management
- Tenure Security
- Access to Credit
- Taxation
- Smart and Resilient Societies
- Sustainable Land Use
- Protected Environment
- Slum Upgrading
- Access to Housing
- City Management
- Access to Basic Infrastructure

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## ISO 19152 LADM Parts

- As suggested in “systematic review”, ISO 15152 LADM is being rewritten to enhance its capability and address other aspects of “Land Administration” beyond Cadaster.
- Land Administration Domain Model (LADM) Parts
  - Part 1 – Generic Conceptual Model
  - Part 2 – Land Registration
  - **Part 3 – Marine Georegulation**
  - Part 4 – Valuation Information
  - Part 5 – Spatial Plan Information
  - Part 6 – Implementations

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# ISO 19152 LADM – Part 3: Marine Georegulation



- Concepts and structure for georegulation in the marine space:
  - information structure for management of legal spaces:
    - international maritime limits and boundaries,
    - marine living and non-living resources management areas,
    - marine conservation area.
  - uses
    - IHO S-100 Universal Hydrographic Model
    - S-121 Marine Limits and Boundaries
    - United Nations Convention on the Law of the Sea.
- model for representing rights, restrictions and responsibilities within the context of the marine space.

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# ISO 19152 LADM – Part 3: Marine Georegulation



Based on IHO S-121 Maritime Limits and Boundaries:

- The existing IHO standard for submitting Maritime Limits and Boundary declarations by countries to the UN Office of Legal Affairs, Division for Ocean Affairs and the Law of the Sea (DOALOS).
- developed as a result of a UN General Assembly resolution.
- S-121 was based on the original ISO 15152:2012 Land Administrative Domain Model and the IHO S-100 Universal Hydrographic Model.

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## ISO 19152 LADM – Part 3: Marine Georegulation



- S-121 is at version 1, which means it is undergoing testing and implementation.
- OGC pilot project was conducted to test the standard and produce an exchange encoding. An XML GML encoding and a plain text encoding were developed and tested.

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## ISO 19152 LADM – Part 3: Marine Georegulation



- IHO submitted S-121 to become the basis of ISO 19152-3 Marine Georegulation.
- joint development between both ISO TC211 and IHO under the IHO/TC211 cooperative agreement.
- ISO 19152-3 is a generalization of IHO S-121.
- ISO 19152-3 has two conformance clauses:
  - Maritime Limits and Boundaries (IHO S-121 )
  - General, to support many other areas of Marine Georegulation, e.g. Marine Cadaster, Fishery or resource extraction

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## ISO 19152 LADM – Part 3: Marine Georegulation



- ISO 19152-3 Committee Draft has been circulated for comment
- Editing Committee is planned to take place before the next ISO TC211 plenary (probably in March 2023) to resolve all of the comments on the Committee Draft.
- Since the document is quite mature, being based on an existing IHO standard, most of the comments on the document were editorial or were minor technical comments.
- The document should be ready for submission for Draft International Standard (public) ballot by June 2023.

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## ISO 19152 LADM – Part 3: Marine Georegulation



- Since ISO 19152-3 is part of the ISO 19152 series it must progress through its voting stages in coordination with the other parts of the 19152 LADM standards, in particular 19152-1 and 19152-2.

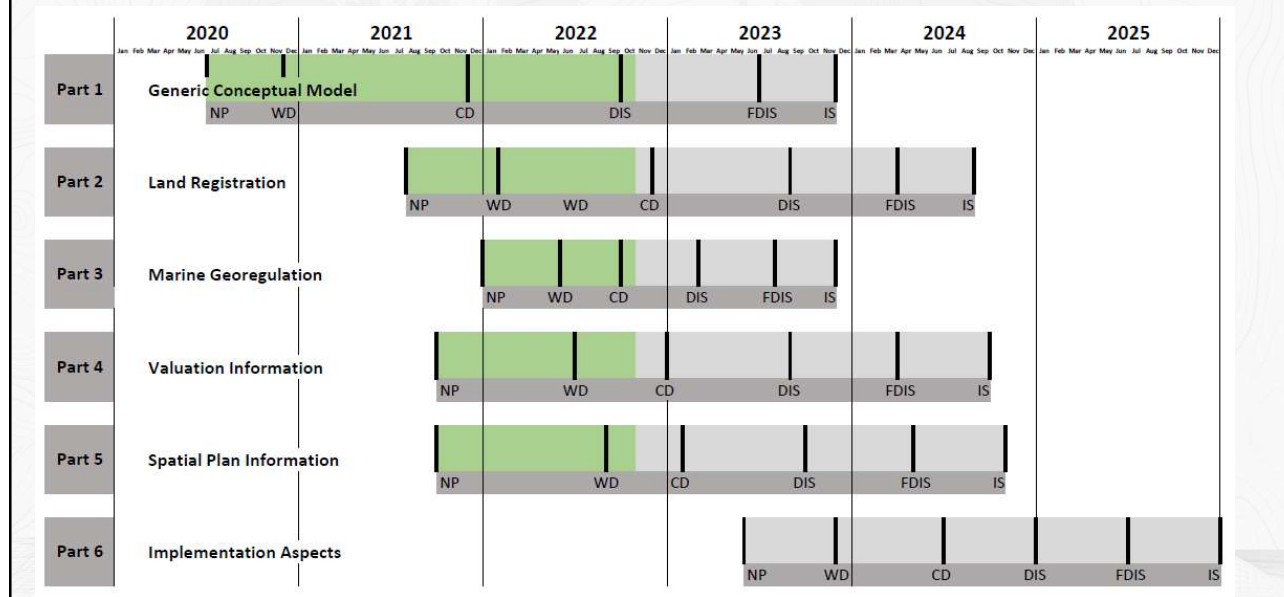
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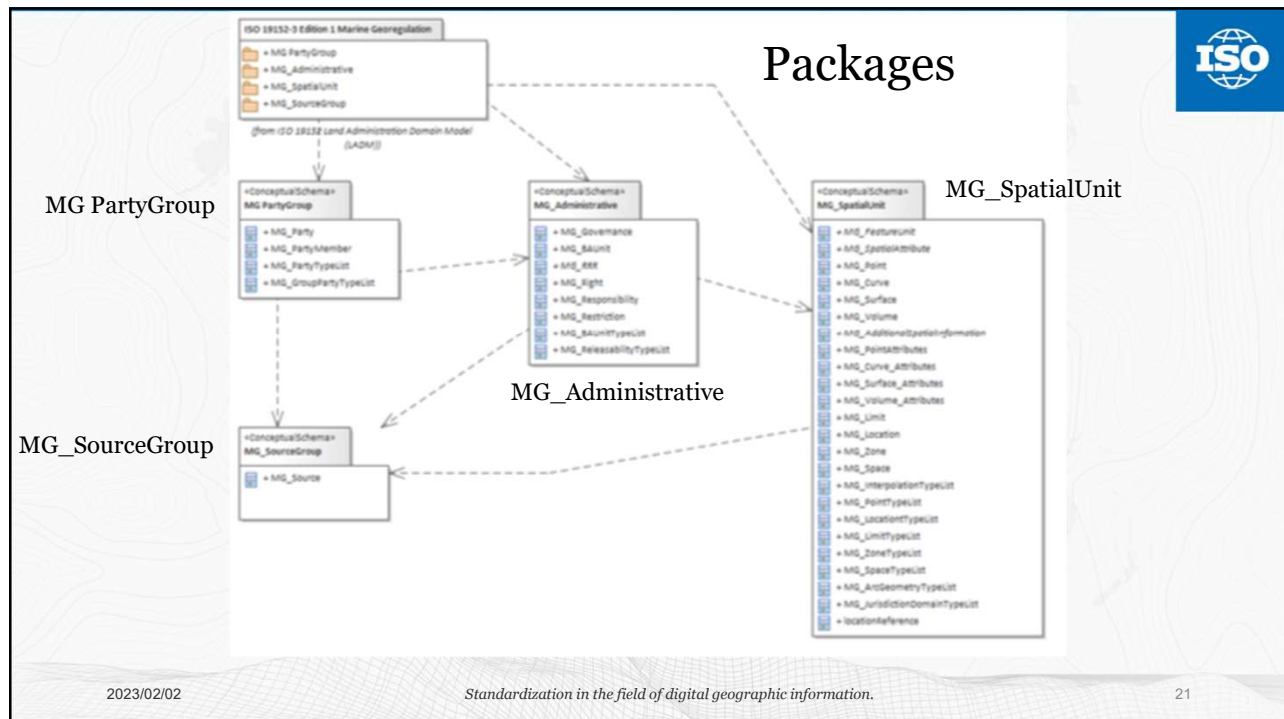
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## LADM Edition II – Current Status of All Parts of LADM (November 2022)



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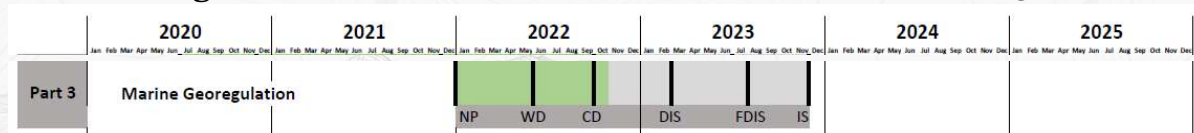


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## ISO 19152 LADM – Part 3: Marine Georegulation



- The Project manager Chris Body. Editor C Douglas O'Brien
- Countries contributing: Australia, Canada, China, France, Germany, Republic of Korea and US
- NWIP was reviewed during Jul-Sep 2022 and Committee Draft (CD) was prepared. The CD of Part 3 was submitted to ISO for ballot in 13 Oct 22. The ballot ended 8 Dec 22.
- Received 120 comments (101 editorial, 13 technical & 6 general)
- Editing Committee to review comments before March 23




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## Cooperation



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# Thank you

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## Contact us

Useful links:

<https://committee.iso.org/sites/tc211>


GeoLexica: <https://isotc211.geolexica.org/>

Resources (UML, XML, ...):

<https://committee.iso.org/sites/tc211/home/re.html>


SDG case studies:

<https://committee.iso.org/sites/tc211/home/standards-in-action/united-nations.html>




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