

**BUREAU OF INDIAN STANDARDS**  
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**मसौदा भारतीय मानक**  
**भौगोलिक जानकारी – भूमि प्रशासन डोमेन मॉडल**  
**(एलएडीएम)**

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***Draft Indian Standard***  
***Geographic Information - Land Administration***  
***Domain Model (LADM) Part 1:***  
***Generic conceptual model***  
***(First Revision)***

**ICS : 35.240.70**

## **NATIONAL FOREWORD**

(Formal clauses will be added later)

This Draft Indian Standard which is identical with ISO 19152-1: 2024 ‘Geographic information — Land Administration Domain Model (LADM) — Part 1 Generic conceptual model’ issued by International Organization for Standardization (ISO) may be adopted by the Bureau of Indian Standards on the recommendation of the Geospatial Information Sectional Committee LITD 22 and the approval of the Electronics and Information Technology Division Council.

This standard was originally published in 2024 and was identical to ISO 19152 : 2012. The first revision of this standard aligns this Indian Standard with ISO 19152 (Part 1) : 2024. The other parts of this standard (in development) are :

Part 2 Land Registration

Part 3 Marine Georegulation

Part 4 Valuation Information

Part 5 Spatial Plan Information

The main changes are as follows:

- a) This document defines fundamental terms, basic components and relationships related to land administration/georegulation objects. A general overview of the model has been presented in its individual packages, and a more detailed overview of the LA\_Source and VersionedObject classes has been included.
- b) The terms, although unchanged in principle, have been defined more rigorously (i.e. basic administrative unit, land, party, right, restriction, responsibility, source, spatial unit), enriched with examples and notes, and new terms have been introduced, such as "georegulation", "regulation" and "fraction". Updates in other ISO/TC 211 documents (i.e. definitions, data types) have been reflected, and corresponding adjustments have been made where necessary.
- c) With the association relationships between VersionedObject and LA\_Source, instances of sources have now been versioned, in contrast to ISO 19152:2012. Constraints have been introduced for the relationships to ensure that dates and times in VersionedObject and LA\_Source correspond. In addition, VersionedObject and LA\_Source have a second set of optional temporal attributes (beginRealWorldLifespanVersion, endRealWorldLifespanVersion, and acceptance) representing the corresponding valid times in the real world. The bi-temporal model with intervals for both system and real-world time is now supported with the addition of temporal attributes to VersionedObject. The multiplicity of the beginLifespanVersion attribute has been changed from mandatory [1] to optional [0..1] and the initial value for this attribute has been set to "realWorldTime". The initial value of availabilityStatus attribute of LA\_Source has been set to "documentAvailable".
- d) Requirements to which a land administration/georegulation system can conform have been

formulated.

- e) Generic definitions for code list values have been provided.
- f) An overview of all parts in the ISO 19152 series has been provided.
- g) The bibliography has been revised to include additional references and has been reformatted.

The text of ISO Standard *may be* approved as suitable for publication as an Indian Standard without deviations. Certain conventions are however not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their places, are listed below along with their degree of equivalence for editions indicated. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies:

<b>International Standards</b>	<b>Corresponding Indian Standard</b>	<b>Degree of Equivalence</b>
ISO 19103, Geographic information — Conceptual schema language	IS 17007 : 2018 Geographic information - Conceptual schema language	Identical
ISO 19109, Geographic information — Rules for application schema	IS 16970 : 2018 Geographic information - Rules for applications schema	Identical

The technical committee has reviewed the provisions of following International Standards referred in this adopted standard and has decided that they are acceptable for use in conjunction with this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendment:

<b>International Standards</b>	<b>Title</b>
ISO 19105	Geographic information — Conformance and testing
ISO 19107	Geographic information — Spatial schema

For the purpose of deciding whether a particular requirement of this standard is complied with, the

final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2:2022 'Rules for rounding off numerical values (Second Revision)'. The number of significant places retained in the rounded off value should be same as that of the specified value in this standard.

## **Scope of ISO FD1S 19103:2024:**

This document:

- a. defines a reference Land Administration Domain Model (LADM) covering basic information-related components of land administration/georegulation;
- b. provides an abstract, conceptual model with packages related to:
  - i. parties (people and organizations),
  - ii. basic administrative units, rights, responsibilities and restrictions (RRRs),
  - iii. spatial units,
  - iv. a generic conceptual model (sources and versioned object);
- c. provides terminology for land administration/georegulation, based on various national and international systems, that is as simple as possible in order to be useful in practice. The terminology allows a shared description of different formal or informal practices and procedures in various jurisdictions;
- d. provides a content model independent of encoding, allowing for the support of various encodings;
- e. provides a basis for national and regional profiles;
- f. enables the combining of land administration/georegulation information from different sources in a coherent manner.

The following are outside the scope of this document:

- a) interference with (national) land administration/georegulation laws with potentially legal implications due to the possibility of describing different types of systems but in the same notation;
- b) construction of external databases with party data, address data, land cover data, physical utility network data, archive data and taxation data. However, the LADM provides stereotype classes for these data sets to indicate which data set elements the LADM expects from these external sources, if available.

This document provides the concepts and basic structure for standardization in the land administration/georegulation domain. It defines a general schema that permits regulatory information to be described. It also allows for the relationship to multiple parties and groups to be expressed together with a referencing structure so that sourcing of all information systems can be maintained. This document establishes the common elements and basic schema upon which more detailed schema can be established.

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Head  
Electronics & IT Department  
Bureau of Indian Standards  
9, B.S. Zafar Marg,  
New Delhi-110002  
Email: [hlitd@bis.gov.in](mailto:hlitd@bis.gov.in), [ashishtiware2205@bis.gov.in](mailto:ashishtiware2205@bis.gov.in)  
Tele: 011-23608501