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**Geografske informacije - Model kopenske administracijske domene (LADM)
(ISO/DIS 19152:2011)**

Geographic information - Land Administration Domain Model (LADM) (ISO/DIS 19152:2011)

Geoinformation - Land Administration Domain Model (LADM) (ISO/DIS 19152:2011)

Information géographique - Modèle d'administration du domaine terrestre (LADM)
(ISO/DIS 19152:2011)

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Geographic information - Land Administration Domain Model (LADM) (ISO/DIS 19152:2011)

Information géographique - Modèle d'administration du
domaine terrestre (LADM) (ISO/DIS 19152:2011)

Geoinformation - Land Administration Domain Model
(LADM) (ISO/DIS 19152:2011)

This draft European Standard is submitted to CEN members for parallel enquiry. It has been drawn up by the Technical Committee CEN/TC 287.

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Foreword

This document (prEN ISO 19152:2011) has been prepared by Technical Committee ISO/TC 211 “Geographic information/Geomatics” in collaboration with Technical Committee CEN/TC 287 “Geographic Information” the secretariat of which is held by BSI.

This document is currently submitted to the parallel Enquiry.

Endorsement notice

The text of ISO/DIS 19152:2011 has been approved by CEN as a prEN ISO 19152:2011 without any modification.

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ISO/TC 211

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Geographic information — Land Administration Domain Model (LADM)

Information géographique — Modèle d'administration du domaine terrestre (LADM)

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ISO/CEN PARALLEL PROCESSING

This draft has been developed within the International Organization for Standardization (ISO), and processed under the **ISO-lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five-month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

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Foreword

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Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 19152 was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics*.

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Introduction

This International Standard defines the Land Administration Domain Model (LADM). LADM is a conceptual schema, and not a data product specification (in the sense of ISO 19131 Data Product Specification).

Land administration is a large field; the focus of this International Standard is on that part of land administration that is interested in rights, responsibilities and restrictions affecting land (or water), and the geometrical (geospatial) components thereof. LADM provides a reference model which will serve two goals:

- to provide an extensible basis for the development and refinement of efficient and effective land administration systems, based on a Model Driven Architecture (MDA), and
- to enable involved parties, both within one country and between different countries, to communicate, based on the shared vocabulary (that is, an ontology), implied by the model.

The second goal is relevant for creating standardized information services in a national or international context, where land administration domain semantics have to be shared between regions, or countries, in order to enable necessary translations. Four considerations during the design of the model were:

- it should cover the common aspects of land administration all over the world;
- it should be based on the conceptual framework of 'Cadastre 2014' of the International Federation of Surveyors (FIG) (KAUFMANN and STEUDLER, 1998; see Bibliography, and www.fig.net/cadastre2014/);
- it should be as simple as possible in order to be useful in practice;
- the geospatial aspects follow the ISO/TC 211 conceptual model.

It should be noted that although this is a land administration domain model, it is not intended to be complete for any particular country. It should be expandable and it is likely that additional attributes, operators, associations, and perhaps new classes, will be needed for a specific region or country; see for example the Social Tenure Domain Model (STDM) in Annex I, the country profiles in Annex D, or the integration of LADM with Land Parcel Identification Systems (LPIS) of the European Union in Annex H. Conversely, it is possible to use only a subset, or profile, of LADM for a specific implementation. Furthermore, the model supports the increasing use of 3D representations of objects (spatial units).

Until now, most countries (or states, or provinces) have developed their own land administration system. One country operates a deeds registration system, another a title registration system. Some systems are centralized, and others decentralized. Some systems are based on a general boundaries approach, others on fixed boundaries. Some systems have a fiscal background, others a legal one. The different implementations (foundations) of the various land administration systems do not make meaningful communication across borders easy. However, looking from a distance, one may observe that the different systems are in principle largely the same: they are all based on the relationships between people and land, linked by (ownership or use) rights, and are in most countries influenced by developments in Information and Communication Technology (ICT). Furthermore, the two main functions of every land administration (including cadastre and/or land registry) are:

- keeping the contents of these relationships up-to-date (based on regulations and related transactions); and
- providing information from the (national) registers.

Land administration is described as the process of determining, recording and disseminating information about the relationship between people and land. If ownership is understood as the mechanism through which

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rights to land are held, we may also speak about land tenure. A main characteristic of land tenure is that it reflects a social relationship regarding rights to land, which means that in a certain jurisdiction the relationship between people and land is recognised as a legally valid one. These recognised rights are in principle eligible for registration, with the purpose being to assign a certain legal meaning to the registered right (e.g. a title). Therefore, land administration systems are not just 'handling geographic information', as they represent a lawfully meaningful relationship amongst people, and between people and land.

As land administration activity on the one hand deals with huge amounts of data, which moreover are of a dynamic nature, and on the other hand requires a continuous maintenance process, then the role of ICT is of strategic importance. Without the availability of information systems it will be difficult to guarantee good performance with respect to meeting changing customer demands. Organizations are now increasingly confronted with rapid developments in technology, a technology push (internet, geospatial data bases, modelling standards, open systems, and GIS), as well with a growing demand for new services, a market pull (e-governance, sustainable development, electronic conveyance, and the integration of public data and systems). Modelling is a basic tool, facilitating appropriate system development and reengineering and, in addition, it forms the basis for meaningful communication between different systems.

Standardization has become a well-known process in the work of land administrations and land registries. In both paper-based systems and computerized systems, standards are required to identify objects, transactions, relationships between objects (e.g. parcels, more generally spatial units) and persons (e.g. citizens, or subjects legally speaking, and more generally speaking parties), classification of land use, land value, map representations of objects, and so on. Computerized systems require further standardization, when topology and the identification of single boundaries are introduced. In existing land administrations and land registries, standardization is generally limited to the region, or jurisdiction, where the land administration (including cadastre and/or land registry) is in operation. Open markets, globalization, and effective and efficient development and maintenance of flexible (generic) systems, require further standardization.

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Geographic information — Land Administration Domain Model (LADM)

1 Scope

This International Standard:

- defines a reference Land Administration Domain Model (LADM) covering basic information-related components of Land Administration (including those over water as well as land, and elements above and below the surface of the earth);
- provides an abstract, conceptual schema with four basic packages related to
 - 1) parties (people and organizations);
 - 2) basic administrative units, rights, responsibilities, and restrictions (ownership rights);
 - 3) spatial units (parcels, buildings and utility networks);
 - 4) spatial sources (surveying), and spatial representations (geometry and topology);
- provides a terminology for land administration, 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;
- provides a basis for national and regional profiles; and
- enables the combining of land administration information from different sources in a coherent manner.

The following is outside the scope of this International Standard:

- interference with (national) land administration laws that may have any legal implications;
- construction of external databases with party data, address data, valuation data, land use data, land cover data, physical utility network data, archive data, and taxation data. However, LADM provides stereotype classes for these data sets, which indicate what data set elements LADM expects from these external sources, if available; and
- modelling of land administration processes.

2 Conformance

Any land administration domain model claiming conformance to this International Standard shall satisfy the requirements of Annex A.

3 Normative references

The following normative documents contain provisions, which, through reference in this text, constitute provisions of the International Standard. For dated references, subsequent amendments to, or revisions of,