International Standard

ISO 19135

Geographic information — Registration and register governance

Information géographique — Enregistrement et gouvernance de registre

Second edition
2026-02

Reference number
ISO 19135:2026(en)

© ISO 2026



COPYRIGHT PROTECTED DOCUMENT

© ISO 2026

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword ..... **viii**
Introduction ..... **ix**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
3.1 General 1
3.2 Registers 2
3.3 Identifiers 3
3.4 Content plane 3
3.5 Concept plane 4
3.6 Actions 4
3.7 Statuses 5
3.8 Supporting roles of a register 5
4 Conventions **6**
4.1 Figure illustrations 6
4.2 UML notation 7
4.3 Availability of ISO/TC 211 resources 7
4.3.1 Maintenance agency for ISO/TC 211 resources 7
4.3.2 Resources provided by this document 7
4.4 Presentation of ISO/TC 211 resources 7
4.4.1 General 7
4.4.2 Provision classes and provisions 7
4.4.3 Conformance classes and conformance tests 8
4.5 Structure of URIs in ISO/TC 211 resources 9
4.5.1 General 9
4.5.2 Identified resources 9
4.5.3 Basic elements used in URI templates 9
4.5.4 Provision statements 10
4.5.5 Conformance classes and tests 10
4.6 Organization of this document 11
5 Principles **12**
5.1 General 12
5.2 Persistent identification and access 12
5.3 Evolution support 12
5.4 Change history retention 13
5.5 Integrity protection 13
5.6 Compliance with commitments 14
5.7 Technologically neutral 14
6 Conformance **14**
6.1 General 14
6.2 Conformant register types 15
6.2.1 General 15
6.2.2 Content register 15
6.2.3 Concept register 15
6.2.4 Governed content register 15
6.2.5 Governed concept register 16
6.2.6 Comprehensive concept register 16
6.3 Requirements classes 16
7 Framework **18**
7.1 General 18
7.2 Data 19
7.2.1 General 19

© ISO 2026 – All rights reserved

7.2.2 Components 19
7.2.3 Actions 20
7.2.4 Metadata 20
7.2.5 Identifiers 20
7.2.6 Versions 21
7.2.7 Concept plane 21
7.2.8 Content plane 21
7.2.9 Statuses 21
7.2.10 Relations 21
7.3 Governance 22
7.3.1 General 22
7.3.2 Documented information 22
7.3.3 Register specification 22
7.3.4 Roles and responsibilities 22
7.3.5 Governance processes 23
7.4 Commitments 23
8 Data capabilities 23
8.1 General 23
8.2 Metadata 24
8.3 Identifiers 24
8.3.1 General 24
8.3.2 Identifier types 24
8.3.3 Identifier schemes 25
8.3.4 Object identifier scheme 25
8.3.5 Functional identifier scheme 26
8.3.6 Requirements 26
8.4 Versions 28
8.4.1 General 28
8.4.2 Scheme 29
8.4.3 Requirements 29
8.5 Information planes 32
8.5.1 Concept plane 32
8.5.2 Content plane 32
8.5.3 Interconnections between planes 32
8.5.4 Management of the planes 33
8.6 Concept plane 33
8.6.1 Concept system 33
8.6.2 Concept 34
8.6.3 Concept version 35
8.6.4 Concept definitions 35
8.6.5 Concept version status 36
8.6.6 Relations 39
8.7 Content plane 46
8.7.1 General 46
8.7.2 Register item class 47
8.7.3 Register item 48
8.7.4 Relations 49
8.7.5 Change 51
8.8 Requirements 51
9 Action capabilities 72
9.1 General 72
9.2 Addition to the register 73
9.2.1 Add a concept 73
9.2.2 Add a concept version 74
9.3 Change of concept version statuses 75
9.3.1 Invalidate a concept version 75
9.3.2 Unpublish a concept version 76
9.4 Changes to the register 77

© ISO 2026 – All rights reserved

9.4.1 General ... 77
9.4.2 Concept supersession ... 78
9.4.3 Concept version supersession ... 80
9.4.4 Substantive change ... 81
9.4.5 Clarification change ... 83
9.4.6 Correctional change ... 86
9.5 Destructive changes ... 88
9.5.1 Redaction ... 88
9.5.2 Delete a concept ... 89
9.5.3 Delete a concept version ... 90
9.6 Concept definition ... 91
9.6.1 General ... 91
9.6.2 Add a concept definition ... 91
9.6.3 Add a concept definition version ... 92
9.6.4 Migrating a concept realization to an evolved concept definition with unchanged semantics ... 93
9.6.5 Migrate a concept realization to an evolved concept definition with changed semantics ... 94
9.6.6 Add a concept realization through new semantics provided in an evolved concept definition ... 97
9.7 Concept domains ... 98
9.8 Concept incorporation ... 99
9.8.1 General ... 99
9.8.2 Unversioned and versioned incorporated concepts ... 99
9.8.3 Creating an incorporating concept ... 103
9.8.4 Updating an incorporating concept ... 103
9.8.5 Modify an incorporated concept ... 104
9.8.6 Modify both an incorporated concept and an incorporating concept ... 106
9.9 Concept composition ... 108
9.9.1 General ... 108
9.9.2 Add a composed concept ... 109
9.9.3 Add a realized composed concept ... 110
9.9.4 Modify composed concept parts ... 111
9.9.5 Modify composed concept part definitions ... 112
9.10 Concept inheritance ... 113
9.10.1 General ... 113
9.10.2 Add an inherited concept ... 113
9.10.3 Add a realized inherited concept ... 114
9.10.4 Modify inherited concept definitions ... 116
9.10.5 Usage within incorporated or composed concepts ... 118
9.11 Requirements ... 119

10 Governance processes ... 131
10.1 General ... 131
10.2 Establishing a register ... 132
10.2.1 General ... 132
10.2.2 Requirements ... 132
10.3 Operating a register ... 134
10.3.1 Proposal process ... 134
10.3.2 Approval process ... 136
10.3.3 Appeal process ... 138
10.3.4 Content management process ... 140
10.4 Decommissioning a register ... 141
10.4.1 General ... 141
10.4.2 Requirements ... 141

11 Roles and responsibilities ... 143
11.1 General ... 143
11.2 Register owner ... 144
11.3 Register manager ... 146

© ISO 2026 – All rights reserved

11.4 Control body 147
11.5 Register system manager 148
11.6 Proposer 148
11.7 Register user 149

12 Documented information 149
12.1 Register specification 149
12.1.1 General 149
12.1.2 Requirements 150
12.2 Proposal instructions 156

13 Conceptual model 156
13.1 Overview 156
13.2 Components package 157
13.2.1 Components overview 157
13.2.2 Defining tables 158
13.3 Identifiers package 162
13.3.1 Identifiers overview 162
13.3.2 Defining tables 162
13.4 Statuses package 164
13.4.1 Statuses overview 164
13.4.2 Defining tables 165
13.5 Relations package 167
13.5.1 Relations overview 167
13.5.2 Defining tables 168
13.6 Proposal and appeal package 171
13.6.1 Proposal and appeal overview 171
13.6.2 Defining tables 172
13.7 Requirements 173

14 Commitments 173
14.1 General 173
14.2 Access commitments 174
14.2.1 General 174
14.2.2 Metadata access 174
14.2.3 Content access 174
14.2.4 Historic access 174
14.3 Persistence, integrity and traceability commitments 174
14.3.1 General 174
14.3.2 Identifier persistence 175
14.3.3 Metadata persistence and retention 175
14.3.4 Content persistence and retention 175
14.3.5 Historic persistence with full traceability 176
14.4 Transparency commitments 177
14.4.1 General 177
14.4.2 Metadata transparency 177
14.4.3 Content transparency 178
14.4.4 Historic transparency 178
14.5 Compliance 178
14.6 Documentation 178
14.7 Requirements 178

Annex A (normative) **Conformance test suite 184**

Annex B (informative) **Differences with ISO 19135-1:2015 ..... 263**

Annex C (informative) **Register specification template 265**

Annex D (informative) **Register specification sample: Register of Units of Measure ("RUM") Register Specification 267**

Annex E (informative) **Composite registers 276**

© ISO 2026 – All rights reserved

Bibliography **284**

© ISO 2026 – All rights reserved

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 287, *Geographic Information*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 19135-1:2015), which has been technically revised. It also incorporates the Amendment ISO 19135-1:2015/Amd 1:2021.

The main changes are as follows:

— requirements described in this document now generally apply to all domains of usage, following common practice of setting up registers in user communities;

— application of the document has been generalized and no longer dictates implementation-level concerns, such as data schemes;

NOTE The XML schema in ISO/TS 19135-2:2012 was an implementation of ISO 19135:2005[1)]. ISO/TS 19135-2:2012 was withdrawn in 2019. ISO 19135-1:2015/Amd 1:2021, Annex F, incorporates the provisions of the withdrawn ISO/TS 19135-2:2012, which provides a link to an externally held schema. This document does not provide any XML schema.

— this document does not define an encoding or technical procedures on how to implement a register;

— information on compatibility information with ISO 19135-1:2015 and ISO 19135-1:2015/Amd 1:2021 is given in Annex B.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

1) Cancelled and replaced by ISO 19135-1:2015.

© ISO 2026 – All rights reserved

Introduction

0.1 Purpose

The challenge of managing and organizing information is an inevitable, continual goal in the retainment and passing on of knowledge for humanity.

This task has been traditionally carried out by humans, who have an innate ability to recognize meaning and bridge concepts across information domains. This has allowed for the creation of a rich tapestry of knowledge that is accessible and meaningful.

The prospect of productivity increases brought about by the advent of information systems and automation has led to the minimization or the obsolescence of the intermediary human role, in favour of direct usage of managed information understood by machines. In contrast with humans, information systems have a lower tolerance to semantic ambiguity and a higher need for information persistence.

To facilitate the use of managed information by both humans and information systems, it is necessary to establish a mechanism that allows for the management of information in a way that is both meaningful and persistent.

This document introduces the Framework for Extensible Registration of Information (FERIN), a comprehensive approach to the management of information designed to meet the needs of both humans and information systems.

The framework defines a set of principles, primitives and processes that enable the management and evolution of information. It provides a structured and systematic way to manage information that remains flexible, adaptable and accommodates structural and governance needs.

Structurally, the framework is based on the idea of a “register”, a generalized term for information register, a managed collection of information that is organized and maintained according to a defined set of rules and processes.

The register is designed to provide persistent access to the information it contains and to allow for the evolution of that information over time. Within the register, information is organized into concepts and content, where concepts represent the meaning of the information, and content represents the data that describes the concepts. Internally, they are linked together through statuses and relations forming a nexus that allows for complex expressions and the evolution of information.

The framework defines the register as evolving and extensible through the dynamic definition of concepts, content, statuses and relations, enabling its continuous suitability to serve its audience.

NOTE 1 Various communities in the information management domain contribute to the definitions of concept relations that a register can adopt, including ISO, IEC and the Enosema Foundation.[24]

NOTE 2 The term “register” in this document refers to a “managed collection of recorded information”, instead of just a “collection of recorded information”, as understood in common parlance.

NOTE 3 The meaning of “registration” in this document refers to the assignment of linguistically independent identifiers to information units, in contrast to the meaning of that term in documents on information technology developed by ISO/IEC JTC 1, where it refers to the assignment of names to information units.

0.2 Common use cases

Any entity may choose to establish registers that conform to this document.

While the framework is originally developed to satisfy the needs of the geographic information community, it is intended to be generically applicable to any domain that requires information management.

The register framework supports the following common use cases:

a) manage information that requires persistent identification and access;

© ISO 2026 – All rights reserved

b) manage information and its requirements that evolves over time, including the ability to track such changes;

c) manage information organized according to one or more concept systems;

d) manage information that is required to satisfy certain commitments, such as integrity, transparency, persistence and accessibility;

e) provide access to disparate information concerning related information specified across different information collections, such as the ability to link information across registers;

f) support of cultural and linguistic adaptability by providing a means to record, for each item, equivalent terms used in different languages, cultures, application areas and professions together with a means to make such information accessible;

g) registration and dissemination of information produced through International Standardization processes, making them available to users in a rapid and persistent manner.

NOTE 1 Items specified in a standard can change over time either due to changes in technology or for other reasons. Published standards do not always clearly document what changes have occurred, and do not include information about earlier versions of specified items. Such information can be maintained in a register.

NOTE 2 This document supports the implementation of registers that satisfy the role of an ISO Registration Authority (RA) and of an ISO Registration Agency, both of which are required to conform to defined rules in the ISO/IEC Directives. Specific ISO/TCs provide guidance for the usage of this document in this regard, such as the ISO/TC 211 Good Practices[21].

The name and contact information of the maintenance agency for this document can be found at www.iso.org/maintenance_agencies.

© ISO 2026 – All rights reserved

Geographic information — Registration and register governance

1 Scope

This document defines a framework for the extensible registration of information — an approach used to manage an information register.

This framework specifies the following requirements of an information register:

— capability requirements that an information register uses to manage register content;

— governance requirements that define a set of processes and rules used in the establishment, management, operation, content publication and use of an information register.

The following considerations are out of scope of this document:

— implementation details for the realization of an information register;

— content and related definitions that are managed within an information register.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org

3.1 General

3.1.1
non-substantive change
clarifying change
change with a minor impact on the use of a unit of information

Note 1 to entry: The definition of minor impact depends on the intended use of the unit of information. It may be defined as an editorial alteration of text that does not cause a system compatibility issue.

3.1.2
relation
<register> association declared between units of information

© ISO 2026 – All rights reserved

3.1.3
substantive change
change with a major impact on the use of a unit of information

Note 1 to entry: The definition of major impact depends on the intended use of the unit of information. It may be defined as the alteration of semantics or technical meaning.

3.1.4
uniform resource identifier
URI
sequence of characters that identifies an abstract or physical resource with a syntax

Note 1 to entry: The sequence of characters shall be in accordance with IETF RFC 3986.

[SOURCE: ISO/IEC 2382-36:2019, 3.11.7]

3.1.5
uniform resource locator
URL
member of the subset of *uniform resource identifiers (URIs)* (3.1.4) that provide a means of locating a resource by describing its primary access mechanism

Note 1 to entry: See IETF RFC 3986.

[SOURCE: ISO/IEC 2382-36:2019, 3.11.8]

3.1.6
uniform resource name
URN
persistent, location-independent, resource identifier used for recognition of, and access to, characteristics of the resource or the resource itself

[SOURCE: ISO 5127:2017, 3.1.9.22]

3.2 Registers

3.2.1
composite register
register (3.2.2) composed of one or more internal registers that collectively fulfils a shared purpose

Note 1 to entry: A hierarchical register is a type of composite register.

3.2.2
register, noun
managed collection of information

Note 1 to entry: The use of the verb form “register” is discouraged to prevent confusion with this use as a noun.

Note 2 to entry: A register differs from a dataset in that is governed through defined processes.

Note 3 to entry: This concept is based on the English language use of this term and is not related to publishing or indexing of books, which are common uses of this term in other languages.

3.2.3
register specification
documented information describing governance and requirements of the *register* (3.2.2) and its contents

3.2.4
register system
information system on which a *register* (3.2.2) is maintained

Note 1 to entry: In the previous editions, only the term “registry” is used.

© ISO 2026 – All rights reserved

Note 2 to entry: A register system can be implemented using a database system governed by a set of processes that are well-defined and rigorously maintained.

3.2.5
registration
<register> process of assigning an unambiguous *identifier* (3.3.1) to an approved item

3.3 Identifiers

3.3.1
identifier
linguistically independent sequence of characters capable of uniquely and permanently identifying that with which it is associated

3.3.2
functional identifier
<register> *identifier* (3.3.1) that always retains its original intent by enabling its association to be redirectable and change over time

Note 1 to entry: A functional identifier is unique in that there is a single representation of the identifier at any time. A functional identifier is persistent as what it is associated with always reflects the original intent of the identifier.

3.3.3
object identifier
<register> *identifier* (3.3.1) that identifies an object

Note 1 to entry: In an object identifier, the characteristics of uniqueness and persistence of its association are not redirectable and do not change over time.

3.4 Content plane

3.4.1
managed content
information contained in a *register item* (3.4.2)

Note 1 to entry: Managed content is information that is directly managed and governed under the scope of the *register* (3.2.2). Other associated information can be necessary for register operations, but it falls outside the realm of governance and is therefore not considered managed content.

3.4.2
register item
unit of information in a *register* (3.2.2) with an *identifier* (3.3.1)

3.4.3
register item class
defined abstraction of a set of *register items* (3.4.2) that share common characteristics

Note 1 to entry: A register item class typically includes the data requirements of the essential characteristics of a register item class.

3.4.4
unmanaged content
information associated with a *register item* (3.4.2) that is not governed by the *register* (3.2.2)

Note 1 to entry: Unmanaged content may include information that is not directly related to the register item, such as metadata or administrative information that is useful for the operation of the register but does not require governance procedures.

Note 2 to entry: Unmanaged content may be stored together with *managed content* (3.4.1), but is not considered part of the register item, and therefore not subject to the same governance procedures as managed content.

© ISO 2026 – All rights reserved

3.5 Concept plane

3.5.1
concept
unit of knowledge created by a unique combination of characteristics

Note 1 to entry: A unit of knowledge is also a unit of information.

[SOURCE: ISO 1087:2019, 3.2.7, modified — Notes 1 and 2 to entry deleted. New Note 1 to entry added.]

3.5.2
concept definition
concept (3.5.1) that describes the information requirements and properties of another concept

3.5.3
concept system
system of concepts
set of *concepts* (3.5.1) organized according to the concept relations among its concepts

Note 1 to entry: Adapted from ISO 1087:2019, 3.2.28.

3.5.4
concept version
representation of *concept* (3.5.1) at a particular point in time

3.5.5
general concept
concept (3.5.1) that corresponds to a potentially unlimited number of objects which form a group by reason of shared properties

EXAMPLE 1 “planet”, “tower”, “Nobel Prize in Physics”, “moon”.

EXAMPLE 2 “Spaceship” has been a general concept before such a material object existed, at the time when there existed only 1 such object, and later, when there existed several such objects.

Note 1 to entry: For a general concept it is essential that a number of corresponding objects greater than 1 can be perceived or conceived of.

[SOURCE: ISO 1087:2019, 3.2.9, modified — Last sentence of Note 1 to entry moved to Example 2.]

3.5.6
realized concept
instance of *concept* (3.5.1) that is realized into concrete information

3.6 Actions

3.6.1
addition
<register> insertion of a new *concept* (3.5.1) or *concept version* (3.5.4) into a *register* (3.2.2)

3.6.2
deletion
<register> declaration that a *concept version* (3.5.4) is *deleted* (3.7.1)

3.6.3
invalidation
<register> declaration that a *concept version* (3.5.4) is *invalid* (3.7.2)

3.6.4
publish
<register> make a *concept version* (3.5.4) visible

© ISO 2026 – All rights reserved

3.6.5
redaction
<register> erasure of specific content from a *concept version* (3.5.4)

3.6.6
supersession
<register> declaration that a *concept* (3.5.1) or *concept version* (3.5.4) is *superseded* (3.7.6)

3.6.7
unpublish
<register> make a *concept version* (3.5.4) not visible

3.7 Statuses

3.7.1
deleted
<register> status that indicates the *concept version* (3.5.4) has been removed

3.7.2
invalid
<register> status that indicates the *concept version* (3.5.4) is unsuitable for use

Note 1 to entry: When a concept version contains at least one error that requires a *substantive change* (3.1.3) to correct, it is invalid.

3.7.3
published
<register> status that indicates the *concept version* (3.5.4) is visible

3.7.4
redacted
<register> status that indicates the *concept version* (3.5.4) content has been erased

3.7.5
retired
<register> status that indicates the *concept version* (3.5.4) is no longer recommended for use

3.7.6
superseded
<register> status that indicates the *concept* (3.5.1) or *concept version* (3.5.4) has been replaced by one or more replacements of the same type

3.7.7
unpublished
<register> status that indicates the *concept* (3.5.1) is not visible

3.7.8
valid
<register> status that indicates the *concept* (3.5.1) is suitable for use

3.8 Supporting roles of a register

3.8.1
control body
register control body
<register> *party* (3.8.2) consisting of a group of *subject matter experts* (3.8.9) that makes decisions regarding the content of a *register* (3.2.2)

Note 1 to entry: The control body supports the *register manager* (3.8.4) for the review, authentication and approval of the register content.

© ISO 2026 – All rights reserved

3.8.2
party
independent person, group, body or organization

3.8.3
proposer
register change proposer
submitting organization
<register> *party* (3.8.2) authorized by the *register owner* (3.8.5) to propose changes to the content of a *register* (3.2.2)

3.8.4
register manager
party (3.8.2) delegated by the *register owner* (3.8.5) to manage a *register* (3.2.2)

Note 1 to entry: In the case of an ISO register, the register manager performs the functions of the Registration Authority specified in the ISO/IEC Directives, Part 1, Annex H.

3.8.5
register owner
party (3.8.2) that has ultimate responsibility of a *register* (3.2.2)

3.8.6
register system manager
registry manager
party (3.8.2) delegated by the *register owner* (3.8.5) to manage a *register system* (3.2.4)

Note 1 to entry: In the case of an ISO *register* (3.2.2), the register system manager performs the functions of the Registration Authority specified in the ISO/IEC Directives, Part 1.

Note 2 to entry: The register system manager is responsible for the management of the information system.

3.8.7
register user
party (3.8.2) that accesses content from a *register* (3.2.2) through a *register system* (3.2.4)

Note 1 to entry: Register users may have different levels of access to the register according to the rules and procedures of the register.

3.8.8
role
set of specified responsibilities assigned to one or more *parties* (3.8.2)

3.8.9
subject matter expert
party (3.8.2) with substantial knowledge, experience and competency in a specific domain

4 Conventions

4.1 Figure illustrations

In this document, figures are used to illustrate interaction and connections between components of the register.

In figures that illustrate register content, some of the following conventions are adopted for consistency reasons:

— boxes in general represent information objects; if there are boxes in the same figure with rounded and non-rounded corners, the non-rounded corner boxes denote data while the rounded-corner boxes denote processes;

© ISO 2026 – All rights reserved