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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



DRAFT International Standard

ISO/DIS 19157-3

Geographic information — Data quality —

Part 3: Data quality measures register

*Information géographique — Qualité des données —
Partie 3: Registre des mesures de la qualité des données*

ICS: 35.240.70

ISO/TC 211

Secretariat: **SIS**

Voting begins on:
2025-07-08

Voting terminates on:
2025-09-30

This document is circulated as received from the committee secretariat.

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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 documents 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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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

For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee Geographical Information ISO/TC 211, Working group WG 9.

This first edition cancels and replaces the edition (ISO 19157:2013^[1] Annex D, Annex G and Annex H), which has been technically revised.

The main changes compared to the previous edition are as follows:

- this document is the ISO 19157-3 data quality measures register specification;
- the data quality measures are not part of this document;
- ISO 19157-3 is a Registration Authority standard as defined in ISO Directives, Part 2 (see www.iso.org/directives);
- the data quality measures are stored and managed in the online ISO 19157-3 data quality measures register;

A list of all parts in the ISO 19157 series can be found on the ISO website.

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.

Introduction

Geographic data are increasingly being shared, interchanged and used for purposes other than their producers' intended ones. Information about the quality of available geographic data is vital to the process of selecting a dataset in that the value of data are directly related to its quality. A user of geographic data may have multiple datasets from which to choose. Therefore, it is necessary to compare the quality of the datasets to determine which best fulfils the requirements of the user.

To facilitate comparisons, it is essential that the results of the quality are expressed in a comparable way and that there is a common understanding of the data quality measures that have been used. These data quality measures provide descriptors of the quality of geographic data through comparison with the universe of discourse. The use of incompatible measures makes data quality comparisons impossible to perform. This document standardizes the components and structures of data quality measures and defines commonly used data quality measures.

Data quality measures defined in a standard register enable the consistent use of data quality measures throughout various geographic applications adopting standard quality evaluation procedures, such as the one defined in the ISO 19157-1.

This document specifies the process of establishing, maintaining and publishing register of data quality measures in compliance with ISO/DIS 19135. It identifies and describes components and content structure of a register for data quality measures, and the registration and maintenance procedure. This document also specifies the required machine-readable implementation of the register and the procedure of access and use of the register. The ISO 19157-3 data quality measures register is applicable to both data producers and users. Data producers can use the ISO 19157-3 data quality measures register to assess and describe how well a dataset conforms to its product specification. Data users can use ISO 19157-3 data quality measures register to perform their own evaluation and determine whether or not specific geographic data are of sufficient quality for their particular application.

ISO 19157-3 data quality measures register and the ISO 19157-3 data quality measures register system are referred to as the ISO data quality measures register and the ISO data quality measures register system.

ISO 19157-3 data quality measures and ISO 19157-3 basic measures are referred to as the register items.

This document describes how the requirements of ISO 19135 are applied to the ISO data quality measures register. The only requirement class in ISO 19135 not used in this document is requirements class 'Requirements class of the appeal process' (<https://standards.iso211.org/19135/-/3/req/appeal-process>). See [Annex C](#) for details.

[Annex A](#), which is normative, provides a test for conformance to this document.

[Annex C](#), which is informative, provides an overview of ISO data quality measures register's compliance with ISO/DIS 19135.

This document contains URIs for normative statements, conformance classes, conformance tests and provisions - requirements, recommendations and permissions. URIs to normative statements within this document are a combination of the namespace <https://standards.iso211.org/19157/-/3/1/> and the content identifier.

The description of elements in the local identifiers can be found at <https://committee.iso.org/sites/tc211/home/resolutions/isotc-211-good-practices/--structure-of-uris-in-isotc-211.html>.

The name and contact information of the registration authority for the ISO 19157-3 data quality measures register can be found at https://www.iso.org/maintenance_agencies.html.

Geographic information — Data quality —

Part 3: Data quality measures register

1 Scope

This document defines the management and operations of the ISO data quality measures register in accordance with ISO/DIS 19135 and identifies the structure of a data quality measure in accordance with ISO 19157-1.

The scope for the quality measure register is to be a human and machine readable collection of ISO data quality measures organized and approved by the ISO data quality control body.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 19103, *Geographic information — Conceptual schema language*

ISO 19115-1, *Geographic information — Metadata — Part 1: Fundamentals*

ISO/DIS 19135, *Geographic information — Registration and register governance*

ISO 19157-1, *Geographic information — Data quality — Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 19157-1:2023 and the following apply.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

data quality basic measure

generic data quality measure used as a basis for the creation of specific data quality measures

Note 1 to entry: Data quality basic measures are abstract data types. They cannot be used directly when reporting data quality.

3.2

error

error of measurement

measurement error

measured quantity value minus a reference quantity value

[SOURCE: ISO/IEC GUIDE 99:2007, 2.16 – Note to entry 1 and 2 have been removed and a different term is preferred in this document. ISO/IEC Guide 99:2007^[2]]

3.3**measurand**

quantity intended to be measured

[SOURCE: ISO/IEC GUIDE 99:2007, 2.3 – Note to entry 1 to 4 have been removed. ISO/IEC Guide 99:2007^[2]]

3.4**data quality measures register**

managed collection of data quality measures and their definitions

4 Abbreviated terms

[Table 1](#) contains the explanation of abbreviations used in this document.

Table 1 — Abbreviations used in this standard

URI	Uniform Resource Identifier
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5 Conformance

A register claiming conformance to this document shall pass all tests described in the abstract test suite presented in [Annex A](#) of this standard.

6 General requirements for data quality measures register**6.1 General**

[Clause 7](#) to [Clause 9](#) describe the registration of data quality measures in the ISO data quality measures register, and the roles, responsibilities and management of the ISO data quality measures register. The requirements, recommendations and permissions defined in this document are summarized in [Table 2](#), [Table 3](#) and [Table 4](#).

6.2 Data quality register - general requirements, recommendations and permissions

[Table 2](#) lists the requirements defined in this document.

Table 2 — List of requirements

Requirement class	https://standards.isotc211.org/19157/-3/1/req/content
Standardization target type	Instance of a data quality measure definition regardless of data encoding.
Dependency	https://standards.isotc211.org/19115/-1/1/ (Metadata - Part 1: Fundamentals)
Dependency	https://standards.isotc211.org/19135/-1/1/ (Registration and register governance)
Dependency	https://standards.isotc211.org/19157/-1/1/ (Data quality - Part 1: General requirements)
Requirement 1	https://standards.isotc211.org/19157/-3/1/req/content/QualityMeasuresRegister
Requirement 2	https://standards.isotc211.org/19157/-3/1/req/content/QualityMeasure/Register/RecordChanges
Requirement 3	https://standards.isotc211.org/19157/-3/1/req/governance/ControlBody
Requirement 4	https://standards.isotc211.org/19157/-3/1/req/governance/Chairs
Requirement 5	https://standards.isotc211.org/19157/-3/1/req/governance/MembershipTerm
Requirement 6	https://standards.isotc211.org/19157/-3/1/req/governance/Decision
Requirement 7	https://standards.isotc211.org/19157/-3/1/req/governance/Reporting
Requirement 8	https://standards.isotc211.org/19157/-3/1/req/governance/RegisterSystemManager