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**Data quality —**  
**Part 2:**  
**Vocabulary**

*Qualité des données —*  
*Partie 2: Vocabulaire*

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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](http://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](http://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 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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 184, *Automation systems and integration*, Subcommittee SC 4, *Industrial data*.

This third edition cancels and replaces the second edition (ISO 8000-2:2017), which has been technically revised. It also incorporates the Amendment ISO 8000-2:2017/Amd.1:2018.

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

- addition and modifications of terms and definitions;
- re-ordering of subclauses and terms within those subclauses.

A list of all parts in the ISO 8000 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](http://www.iso.org/members.html).

## Introduction

The ability to create, collect, store, maintain, transfer, process and present data to support business processes in a timely and cost effective manner requires both an understanding of the characteristics of the data that determine its quality, and an ability to measure, manage and report on data quality.

ISO 8000 defines characteristics that can be tested by any organization in the data supply chain to objectively determine conformance of the data to ISO 8000.

ISO 8000 provides frameworks for improving data quality for specific kinds of data. The frameworks can be used independently or in conjunction with quality management systems.

ISO 8000 covers industrial data quality characteristics throughout the product life cycle from conception to disposal. ISO 8000 addresses specific kinds of data including, but not limited to, master data, transaction data and product data.

This document establishes the vocabulary for the ISO 8000 series of parts.

[Annex A](#) contains an identifier that unambiguously identifies this document in an open information system.

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# Data quality —

## Part 2: Vocabulary

### 1 Scope

This document defines terms relating to data quality used in the ISO 8000 series of parts. Terms and definitions related to quality in general are outside the scope of this document.

### 2 Normative references

There are no normative references in this document.

### 3 Terms and definitions

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

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

#### 3.1 Terms relating to quality

##### 3.1.1 process

set of interrelated or interacting activities that use inputs to deliver an intended result

[SOURCE: ISO 9000:2015, 3.4.1, modified — Notes to entry have been removed.]

##### 3.1.2 requirement

need or expectation that is stated, generally implied or obligatory

[SOURCE: ISO 9000:2015, 3.6.4, modified — Notes to entry have been removed.]

##### 3.1.3 quality

degree to which a set of inherent characteristics of an object fulfils *requirements* (3.1.2)

Note 1 to entry: The term “quality” can be used with adjectives such as poor, good or excellent.

Note 2 to entry: “Inherent”, as opposed to “assigned”, means existing in the object.

[SOURCE: ISO 9000:2015, 3.6.2]

##### 3.1.4 quality management system

part of a management system with regard to *quality* (3.1.3)

[SOURCE: ISO 9000:2015, 3.5.4]

### 3.1.5

#### **nonconformity**

non-fulfilment of a *requirement* (3.1.2)

[SOURCE: ISO 9000:2015, 3.6.9, modified — Note to entry has been removed.]

## 3.2 Terms relating to data and information

### 3.2.1

#### **information**

knowledge concerning objects, such as facts, events, things, *processes* (3.1.1), or ideas, including concepts, that within a certain context has a particular meaning

[SOURCE: ISO/IEC 2382:2015, 2121271, modified — Field of application and notes to entry have been removed.]

### 3.2.2

#### **data**

reinterpretable representation of *information* (3.2.1) in a formalized manner suitable for communication, interpretation, or processing

[SOURCE: ISO/IEC 2382:2015, 2121272, modified — Notes to entry have been removed.]

### 3.2.3

#### **data exchange**

storing, accessing, transferring, and archiving of *data* (3.2.2)

[SOURCE: ISO 10303-1:1994, 3.2.15]

### 3.2.4

#### **data set**

logically meaningful grouping of *data* (3.2.2)

EXAMPLE 1 Computer-aided design (CAD) files.

EXAMPLE 2 Electronic data interchange (EDI) transactions.

### 3.2.5

#### **metadata**

*data* (3.2.2) defining and describing other data

[SOURCE: ISO/IEC 11179-1:2015, 3.2.16, modified — The words “that defines and describes” have been replaced with “defining and describing”.]

### 3.2.6

#### **objective evidence**

*data* (3.2.2) supporting the existence or verity of something

Note 1 to entry: Objective evidence can be obtained through observing, *measuring* (3.4.1), testing or other means.

[SOURCE: ISO 9000:2015, 3.8.3, modified — Note 1 to entry has been modified and Note 2 to entry has been removed.]

## 3.3 Terms relating to identifier

### 3.3.1

#### **identifier**

string of characters created by an organization to reference a *data set* (3.2.4)

### 3.3.2

#### **identifier resolution**

*process* (3.1.1) that, when applied to an *identifier* (3.3.1), returns an associated *data set* (3.2.4)



**3.3.3****entity**

concrete or abstract thing in the domain under consideration

[SOURCE: ISO 19439:2006, 3.29, modified — The word “any” has been removed at the start of the definition.]

**3.3.4****organization identifier**

reference that can be resolved unambiguously to the legal name, the location and the administrator of the organization

**3.3.5****legal entity**

physical or juridical person granted legal status by the governing body of a nation, state or community

**3.3.6****authoritative legal entity identifier**

ALEI

*identifier* (3.3.1) for a physical or juridical person issued by the administrative agency for a governing body of the nation, state, or community with the authority to grant legal status

**3.3.7****proxy identifier**

*identifier* (3.3.1) issued by an organization that is not the originator of the object identified

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**3.4 Terms relating to measurement****3.4.1****measure**

ascertain or determine the magnitude or quantity of something

**3.4.2****measurement**

result of *measuring* (3.4.1) something

**3.4.3****measurement data**

*data* (3.2.2) representing a *measurement* (3.4.2)

**3.5 Terms relating to industrial data****3.5.1****product**

thing or substance produced by a natural or artificial *process* (3.1.1)

[SOURCE: ISO 10303-1:1994, 3.2.26]

**3.5.2****product data**

representation of *information* (3.2.1) about a *product* (3.5.1) in a formal manner suitable for communication, interpretation, or processing by human beings or by computers

[SOURCE: ISO 10303-1:1994, 3.2.27]

**3.5.3****application**

one or more *processes* (3.1.1) creating or using *product data* (3.5.2)

[SOURCE: ISO 10303-1:1994, 3.2.2, modified — The phrase “group of” has been removed at the start of the definition.]

**3.5.4**  
**application protocol**  
**AP**

part of ISO 10303 that specifies an application interpreted model satisfying the scope and *information* (3.2.1) *requirements* (3.1.2) for a specific *application* (3.5.3)

Note 1 to entry: This definition differs from the definition used in open system interconnection (OSI) standards. No part of ISO 8000, however, contains content referring specifically to OSI communication, so this definition applies in all parts of ISO 8000.

[SOURCE: ISO 10303-1:1994, 3.2.7, modified — The words “part of this International Standard” have been replaced with “part of ISO 10303” in the definition and Note 1 to entry has been modified.]

**3.5.5**  
**application reference model**  
**ARM**

*information* (3.2.1) model that describes the *information requirements* (3.1.2) and constraints of a specific *application* (3.5.3) context

[SOURCE: ISO 10303-1:1994, 3.2.8]

**3.6 Terms relating to data dictionary**

**3.6.1**  
**data dictionary entry**

description of an *entity* (3.3.3) type containing, at a minimum, an unambiguous *identifier* (3.3.1), a term, and a definition

Note 1 to entry: In the ISO 8000 *data* (3.2.2) architecture, a property need not be associated with a specific data type in a *data dictionary* (3.6.2). The association between a property and a data type can be made in a *data specification* (3.6.3).

Note 2 to entry: In order to exchange a value corresponding to a data dictionary entry, more *information* (3.2.1) than an identifier, a name and a definition could be needed. For a property, a data type is needed. Depending on the kind of property, other data elements (e.g. unit of measure, language) could also be needed. These elements can be given in the data dictionary, in a data specification that references the data dictionary entry, or directly associated with the data.

Note 3 to entry: In the ISO 13584 data architecture, the dictionary entry for a property is required to reference a specific data type. Thus, an ISO 13584 dictionary entry is a special case of the more general concept, as it includes elements of a data specification.

[SOURCE: ISO 22745-2:2010, B.2.17, modified — The spelling of “datatype” has been changed to “data type” to be consistent with other terms in this document and Note 2 to entry has been modified.]

**3.6.2**  
**data dictionary**

collection of *data dictionary entries* (3.6.1) that allows lookup by *entity* (3.3.3) *identifier* (3.3.1)

[SOURCE: ISO 22745-2:2010, B.2.16]

**3.6.3**  
**data specification**

rules for describing items belonging to a particular class using entries from a *data dictionary* (3.6.2)

[SOURCE: ISO 22745-2:2010, B.2.18, modified — Examples have been removed.]

### 3.7 Terms relating to characteristic data

#### 3.7.1

##### property value

instance of a specific value together with an *identifier* (3.3.1) for a *data dictionary entry* (3.6.1) that defines a property

#### 3.7.2

##### characteristic data

description of an *entity* (3.3.3) by the class to which it belongs and a set of *property values* (3.7.1)

EXAMPLE 1 ISO 13584, ISO 15926, ISO 22745, ISO 13399 and ISO/TS 29002 all include characteristic data in their *data* (3.2.2) models.

EXAMPLE 2 The item “Hex Cap Screw — A193 Grade B7,250-20 X 1.250” appears in a manufacturer’s catalogue. It can be described as:

- class: hexagon cap screw;
- property values: [material specification, A193 Grade B7]; [diameter, 0.250 in]; [thread pitch, 20/in]; [length, 1.250 in].

In actual characteristic data, the first element of each bracketed pair would be an *identifier* (3.3.1) for a *data dictionary entry* (3.6.1). The elements are shown decoded here for clarity.

### 3.8 Terms relating to data quality

#### 3.8.1

##### data quality

degree to which a set of inherent characteristics of *data* (3.2.2) fulfils *requirements* (3.1.2)

Note 1 to entry: See also *quality* (3.1.3).  
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#### 3.8.2

##### data quality management

coordinated activities to direct and control an organization with regard to *data quality* (3.8.1)

#### 3.8.3

##### data error

non-fulfilment of a *data* (3.2.2) *requirement* (3.1.2)

Note 1 to entry: In this term, “error” is synonymous with *nonconformity* (3.1.5).

#### 3.8.4

##### data provenance record

record of the ultimate derivation and passage of a piece of *data* (3.2.2) through its various owners or custodians

Note 1 to entry: A data provenance record can include *information* (3.2.1) about creation, update, transcription, abstraction, *validation* (3.8.6), and transferring ownership of data.

#### 3.8.5

##### verification

confirmation, through the provision of *objective evidence* (3.2.6), that specified *requirements* (3.1.2) have been fulfilled

[SOURCE: ISO 9000:2015, 3.8.12, modified — Notes to entry have been removed.]