







# DRAFT International Standard

## Information technology — Artificial intelligence — Transparency taxonomy of AI systems

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### Foreword

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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)).

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

This document was prepared by Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 42, *Artificial intelligence*.

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).

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## ISO/IEC DIS 12792:2024(en)

### Introduction

The objectives of this document include:

- improving trustworthiness, accountability and communication among different AI stakeholders, including partners in a supply chain, customers, users, society and regulators, by establishing a consistent terminology around transparency of AI systems;
- providing AI stakeholders with information about different elements of transparency with their relevance and possible limitations to different use cases and target audience;
- serving as a basis for developing technology-specific, industry-specific or region-specific standards for transparency of AI systems.

Transparency for AI systems is the property of a system that stakeholders receive relevant information about the system. This can include information on items such as system features, limitations, data, system design and design choices (see ISO/IEC 22989:2022, 5.15.8).

Increased transparency provides information for relevant stakeholders to better understand how an AI system is developed and used. For example, this allows an AI customer (such as an AI user) of the AI system to determine if it is appropriate for their situation, and supports an AI auditor in assessing if the system complies with conformity requirements.

A standardized transparency taxonomy of AI systems helps people with different backgrounds to better understand each other by using the same terminology. This in turn supports an improved understanding of the AI systems, and provides a foundation for developing interoperable and coherent transparency related standards.

This document is structured as follows:

- [Clause 5](#) provides an overview of this document and describes the concept of transparency of AI systems;
- [Clause 6](#) discusses how transparency needs can vary depending on the AI system context and on the stakeholders involved;
- [Clause 7](#) discusses transparency items that describe the context of the AI system;
- [Clause 8](#) pertains to documenting how the AI system interacts with its environment;
- [Clause 9](#) focuses on documenting the internal functioning of the system;
- [Clause 10](#) offers guidance on the documentation of datasets as stand-alone items.

AI systems often affect society and the environment (see [Clause 7](#)). However, it is also true that society and the environment can affect the performance of an AI system. This can include various aspects, such as:

- environmental conditions that affect the functioning and longevity of an AI system;
- introduction or reinforcement of unwanted bias;
- organizational practices that can cause poor outcomes;
- effects such as concept and data drift;
- formation of unwanted feedback loops (e.g. negative reinforcement of discriminatory patterns), which can be especially problematic in the case of continuous learning.

While these are important items for consideration, a detailed analysis is not provided in this document.



# Information technology — Artificial intelligence — Transparency taxonomy of AI systems

## 1 Scope

This document defines a taxonomy of information elements to assist AI stakeholders with identifying and addressing the needs for transparency of AI systems. The document describes the semantics of the information elements and their relevance to the various objectives of different stakeholders.

This document uses a horizontal approach and is applicable to any kind of organization and application involving an AI system.

## 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/IEC 22989:2022, *Information technology — Artificial intelligence — Artificial intelligence concepts and terminology*

## 3 Terms and definitions

*The Terms and definitions clause is a mandatory element of the text.*  
*For rules on the drafting of the Terms and definitions, refer to the ISO/IEC Directives, Part 2:2018, Clause 16.*  
To insert a new terminological entry, go to the *Structure* tab and click on *Insert Term entry*.

For the purposes of this document, the *following terms and definitions given in ISO/IEC 22989:2022, as well as 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

#### attestation

issue of a statement, based on a decision, that fulfilment of *specified requirements* (3.13) has been demonstrated

Note 1 to entry: The resulting statement is intended to convey the assurance that the specified requirements have been fulfilled. Such an assurance does not, of itself, provide contractual or other legal guarantees.

Note 2 to entry: First-party attestation and third-party attestation are distinguished by the terms declaration, certification and accreditation, but there is no corresponding term applicable to second-party attestation.

[SOURCE: ISO/IEC 17000:2020(en), 7.3; modified: removed "referred to in this document as a "statement of conformity" from Note 1.]

## ISO/IEC DIS 12792:2024(en)

### 3.2

#### **carbon footprint of a product**

CFP

carbon footprint

sum of greenhouse gas emissions and greenhouse gas removals in a product system, expressed as carbon dioxide equivalents and based on a life cycle assessment using the single impact category of climate change

[SOURCE: ISO 14050:2020(en), 3.11.1; modified: added the admitted term "carbon footprint"]

### 3.3

#### **confidential data**

data to which only a limited number of persons have access and which are meant for restricted use

[SOURCE: ISO 5127:2017, 3.1.10.18; modified: removed Note 1 to entry]

### 3.4

#### **conformity assessment body**

body that performs conformity assessment activities, excluding accreditation

[SOURCE: ISO/IEC 17000:2020(en), 4.6]

### 3.5

#### **data protection**

implementation of administrative, technical, or physical measures to guard against the unauthorized access to data

[SOURCE: ISO/IEC 2382:2015(en), 2126371; modified: removed all Notes to entry.]

### 3.6

#### **digital fingerprint**

bit sequence generated from a digital document using an algorithm that uniquely identifies the original document

Note 1 to entry: Any digital document modification will produce a different fingerprint.

[SOURCE: ISO 14641:2018, 3.15]

### 3.7

#### **evolutive system**

AI system whose behaviour can change without an explicit action from its AI developer.

Note 1 to entry: Examples of evolutive systems include AI systems with a storage component, AI systems that leverage user-side actions and feedback, and AI systems involving continuous learning.

Note 2 to entry: Change of behaviour does not imply a change of goal, but can result in a better or worse fulfillment of the targeted goal.

### 3.8

#### **feature**

measurable property of an object or event with respect to a set of characteristics

Note 1 to entry: Features play a role in training and prediction.

Features provide a machine-readable way to describe the relevant objects. As the algorithm will not go back to the objects or events themselves, feature representations are designed to contain all useful information.

[SOURCE: ISO/IEC 23053:2022, 3.3.3; modified: removed <machine learning> domain tag]

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### 3.9

#### life cycle impact assessment

LCIA

environmental impact assessment

phase of life cycle assessment aimed at understanding and evaluating the magnitude and significance of the potential environmental impacts for a product system throughout the life cycle of the product

[SOURCE: ISO 14050:2020, 3.6.5; modified: added admitted term "environmental impact assessment"]

### 3.10

#### object of conformity assessment

object

entity to which *specified requirements* (3.13) apply

EXAMPLE Product, process, service, system, installation, project, data, design, material, claim, person, body or organization, or any combination thereof.

Note 1 to entry: The term "body" is used in this definition to refer to conformity assessment bodies and accreditation bodies. The term "organization" is used in its general meaning and may include bodies according to the context. The more specific ISO/IEC Guide 2 definition of an organization as a body based on membership is not applicable to the field of conformity assessment.

[SOURCE: ISO/IEC 17000:2020(en), 4.2; modified "in this document" to "in this definition" in Note 1 to entry]

### 3.11

#### power usage effectiveness

PUE

ratio of the data centre total energy consumption to information technology equipment energy consumption, calculated, measured or assessed across the same period

Note 1 to entry: Sometimes the inverse value of PUE, referred to as Data Centre Infrastructure Efficiency (DCiE), is used.

[SOURCE: ISO/IEC 30134-2:2016(en), 3.1.3]

### 3.12

#### scope of attestation

range or characteristics of *objects of conformity assessment* (3.10) covered by *attestation* (3.1)

[SOURCE: ISO/IEC 17000:2020(en), 7.6]

### 3.13

#### specified requirement

need or expectation that is stated

Note 1 to entry: Specified requirements can be stated in normative documents such as regulations, standards and technical specifications.

Note 2 to entry: Specified requirements can be detailed or general.

[SOURCE: ISO/IEC 17000:2020(en), 5.1]

### 3.14

#### taxonomy

systematic classification of items into generic groups based on factors possibly common to several of the items

[SOURCE: ISO/IEC 14224:2016(en), 3.92]

### 3.15

#### water footprint

metric(s) that quantifies the potential environmental impacts related to water

[SOURCE: ISO 14050:2020(en), 3.10.1]

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### 4 Symbols and abbreviated terms

AI	artificial intelligence
ML	machine learning
API	application programming interface
URL	universal resource locator
REST	representational state transfer
JSON	javascript object notation
GUI	graphical user interface

### 5 Overview

#### 5.1 General

[Clause 5](#) provides an overview of this document and describes the concept of transparency of AI systems, in particular in relation to other trustworthiness characteristics.

#### 5.2 Organization and usage of the taxonomy

This document describes a multi-faceted taxonomy of transparency for AI systems. [Clause 6](#) discusses how transparency needs can vary, depending on the AI system context and the role of different AI stakeholders. The remainder of this document covers multiple levels and viewpoints on the system. It is organized in four parts:

- [Clause 7](#) describes transparency taxonomy elements (referred to simply as "taxonomy elements") informing on the context of the AI system (e.g. transparency needs in the case of labour stakeholders).
- [Clause 8](#) pertains to documenting how the AI system interacts with its environment (e.g. its recommended and precluded uses, or API documentation).
- [Clause 9](#) focuses on the internal functioning of the system, at the level of model components and algorithmic processes.
- [Clause 10](#) offers guidance on the documentation of datasets as stand-alone items, considering that the AI system's life cycle involves those datasets (thereby also worth transparency considerations), but also that datasets can be reused as is across several AI systems for different use cases.

For a given AI system, all four parts of the taxonomy ([Clauses 7](#) to [10](#)) can be considered, as they provide complementary information. An illustration of this document's structure can be found in [Figure 1](#).