



International Standard

ISO 55013

Asset management — Guidance on the management of data assets

*Gestion d'actifs — Document d'orientation sur la gestion de
données en tant qu'actifs*

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奥邦检验认证集团

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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 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.

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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 251, *Asset management*.

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

0.1 General

This document gives guidance on the management of data when applying asset management principles or requirements for an asset management system. These principles and requirements are described in ISO 55000 and ISO 55001, respectively. Much of asset management involves decision-making with decisions being reliant on data, particularly for larger and more complex contexts.

This document is intended to facilitate organizations in their management of data in the context of asset management. Effective asset management typically relies on the proper management of data that is pertinent to the assets. Organizations can manage the data as an asset to support their organizational management. This document covers management of data both for supporting the practice of asset management and for handling the data as an asset.

NOTE For the purposes of this document, the term “asset data” is used to refer to data that lists and describes an asset and the term “data asset” is used to refer to collections of asset data that has the properties of an asset.

This document gives guidance for those who:

- a) are identifying the usefulness or fitness for purpose of data for achieving the asset management objectives of the organization, including fulfilling its accountability;
- b) are involved in the establishment, implementation, maintenance, stewardship and improvement of data in the context of asset management;
- c) are involved in the planning, designing, implementation and reviewing of data-based asset management activities along with service providers;
- d) are asset owners, asset managers, information managers, service providers, maintainers, partners, auditors, regulators and investors;
- e) are the internal and external stakeholders, including internal and external personnel, that affect, or are affected (positively or negatively) by, the management of data in the context of asset management.

Management of data can play a critical role in other management systems as well as in an asset management system. Meanwhile, there can be many benefits for organizations to integrate and implement multiple management systems. The achievement of mutual alignments to other management systems requires an approach based on an appropriate cross-functional data exchange and analysis within the organization.

0.2 Context of this document

Against a background of advances in information technology (IT) and diversifying stakeholder demands, how data should be managed in the context of asset management is now seen as a pressing issue for many organizations. As organizations get larger and tend to become more complex, the need for reliable data to support sound decision-making becomes increasingly important. Data acquisition and maintenance is a cost to an organization, while data's potential value is realized when it is used or can be used in the future. The value of data is diminished if it is unreliable, out of date and/or applied incorrectly.

Accordingly, the role of data is changing from being a resource that supports management activities to a non-physical asset from which value is generated by being managed in a coordinated way, just like any other tangible or intangible asset.

Data in the context of asset management has its own characteristics as follows:

- a) like physical assets, asset data follows a sequence of life cycle stages; it can be used many times although the usefulness of data can change as they move along their life cycle;
- b) data can be stolen if not protected appropriately; such data theft does not bring data loss and can therefore not be immediately evident to an organization yet create sustained negative impacts;

- c) data are easy to copy, transport and even corrupt, but they can be difficult or impossible to reproduce if they are lost, destroyed or corrupted;
- d) data can be used for multiple purposes: the same data can even be used by multiple people at the same time; similarly, many people and processes can be adding or updating data simultaneously;
- e) data can generate new value when combined with other assets;
- f) many uses of data often lead to more data to handle as a result; most organizations manage increasing volumes of data and the relationships between data sets;
- g) data and information are essential in conducting business within an organization and/or between two functions or divisions; most business decisions from the strategic to the operational level generally involve the sharing of data.

While some of these characteristics are similar to other assets, as a whole, they differ in nature from those of other asset types. This requires different approaches to ensure that the management of data supports its objectives in the context of asset management.

Different data sets may be treated as assets which can be critical to the success of the organization. In such situations, organizations may treat such collections of data as data assets. The principles of asset management described in ISO 55000 should be applied to the management of data assets.

0.3 Relationship to ISO 55000 and ISO 55001

ISO 55000 is the foundation for implementing asset management, and therefore the prerequisite to understand this document.

ISO 55001 can be applied by organizations to establish and implement an asset management system. This also applies to an asset management system for data assets. On the other hand, since an organization's asset management system is supported by decision-making based on information or data and its analysis, the process of determining decision-making criteria in an asset management system that meets the requirements of ISO 55001 generally includes the process of managing data. As such, this document facilitates organizations to include data assets within their asset management system.

Asset management — Guidance on the management of data assets

1 Scope

This document gives guidance on managing data to support an organization in meeting its asset management objectives and by extension its organizational objectives.

This document is applicable to any organization, regardless of its type or size.

This document does not provide methodologies to derive or appraise value for data assets.

This document does not provide methodologies to derive financial values for data assets.

This document does not provide direction to organizations on the need (or not) for calculating financial values for asset data.

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 55000, *Asset management — Vocabulary, overview and principles*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 55000 and the following 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

asset data

data that lists and describes an asset

Note 1 to entry: Asset data can exist in a number of formats such as structured data, documented information, sensor data, etc. requiring different approaches to their management.

Note 2 to entry: Data supporting asset management decision-making can be considered as asset data.

3.2

data asset

data that has the properties of an asset

Note 1 to entry: Data assets can be managed as an asset in accordance with ISO 55001.

Note 2 to entry: *Asset data* (3.1) can be part of more than one data asset. Data assets can have relationships between each other.

国际标准

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资产管理—数据资产管理规范

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前言

国际标准化组织（ISO）是由各国标准化团体（ISO 成员团体）组成的世界性的联合会。制定国际标准工作通常由 ISO 的技术委员会完成。各成员团体若对某技术委员会确定的项目感兴趣，均有权参加该委员会的工作。与 ISO 保持联系的各国际组织（官方的或非官方的）也可参加有关工作。ISO 与国际电工委员会（IEC）在电工技术标准化方面保持密切合作的关系。

制定本标准及其后续标准维护的程序在 ISO/IEC 指引 第 1 部分均有描述。应特别注意用于各不同类别 ISO 文件批准准则。本标准根据 ISO/IEC 导则第 2 部分的规则起草（见 www.iso.org/directives 或 www.iec.ch/members_experts/refdocs）。

本标准中的某些内容有可能涉及一些专利权问题，对此应引起注意。ISO 不负责识别任何这样的专利权问题。在标准制定期间识别的专利权细节将出现在引言/或收到的 ISO 专利权声明清单中（www.iso.org/patents）。

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ISO 与合格评定相关的特定术语和表述含义的解释以及 ISO 遵循的世界贸易组织（WTO）贸易技术壁垒（TBT）相关信息访问以下 URL：www.iso.org/iso/foreword.html。在 IEC 中，请参见 www.iec.ch/understanding-standards

本标准由 ISO/TC251 资产管理技术委员会编写。

有关本标准的任何反馈或问题，请直接向用户的国家标准机构提出。这些机构的完整列表可在 www.iso.org/members.html 上找到。

引言

0.1 总则

本标准旨在为在应用资产管理原则或资产管理系统要求时的数据管理提供指导。这些原则和要求分别在ISO 55000和ISO 55001中作了描述。资产管理的大部分工作涉及决策，而决策依赖于数据，尤其是在规模较大、情况较为复杂的情况下。

本标准旨在促进各组织在资产管理方面的数据管理。有效的资产管理通常依赖于对与资产相关的数据的适当管理。本标准涉及数据管理，既用于支持资产管理实践，也用于将数据作为资产处理。

注：在本标准中，“资产数据”一词指列出和描述资产的数据，而“数据资产”一词指具有资产属性的资产数据集合。

本标准旨在为以下人员提供指导：

- 确定数据的有用性或适用性，以实现组织的资产管理目标，包括履行其责任；
- 参与资产管理数据的建立、实施、保持、管理和改进；
- 与服务提供方一起参与策划、设计、实施和评审基于数据的资产管理活动；
- 资产所有者、资产管理者、信息管理者、服务提供者、维护者、合作伙伴、审核员、监管机构和投资者；
- 影响资产管理数据管理或受其（积极或消极）影响的内部和外部相关方，包括内部和外部人员。

数据管理可以在其他管理体系以及资产管理体系中发挥关键作用。同时，组织整合和实施多个管理体系可以带来很多好处。要实现与其他管理系统的相互协调，需要在组织内部进行适当的跨职能数据交换和分析。

0.2 本标准的背景

在信息技术不断进步、相关方的需求日益多样化的背景下，如何在资产管理中对数据进行管理已成为许多组织亟待解决的问题。随着组织规模的扩大和复杂程度的增加，需要可靠的数据来支持合理的决策变得越来越重要。数据的获取和维护是组织的一项成本，而数据的潜在价值则是在其被使用或在未来能够被使用时才得以实现。

因此，数据的作用正在发生变化，从支持管理活动的资源转变为一种无形资产，与其他有形或无形资产一样，通过协调管理，可以产生价值。

资产管理中的数据有以下特点：

- 与有形资产一样，资产数据也遵循一系列生命周期阶段；尽管数据的有用性会随着其生命周期的变化而变化，但它可以被多次使用；
- 如果保护不当，数据可能被盗；这种数据盗窃不会造成数据丢失，因此组织不会立即察觉，但会造成持续的负面影响；
- 数据易于复制、传输甚至损坏，但如果丢失、毁坏或损坏，则很难或不可能再现；
- 数据可用于多种目的：同一数据甚至可被多人同时使用；同样，许多人和流程可同时添加或更新数据。同样，很多人和过程可以同时添加或更新数据；
- 数据与其他资产结合可产生新的价值；
- 数据的多种用途往往会导致需要处理的数据增多；大多数组织都要管理日益增多的数据量和数据集之间的关系；
- 数据和信息对于在组织内部和/或两个职能部门或分部之间开展业务至关重要；从战略到业务层面的大多数业务决策通常都涉及数据共享。

虽然其中一些特征与其他资产相似，但从整体上看，它们在性质上与其他类型的资产不同，这就需要采取不同的方法来确保数据管理支持其在资产管理方面的目标。

不同的数据集可能被视为对组织的成功至关重要的资产。在这种情况下，组织可将这些数据集合视为数据资产。ISO 55000 中描述的资产管理原则应适用于数据资产的管理。

0.3 与 ISO 55000 和 ISO 55001 的关系

ISO 55000 是实施资产管理的基础，因此也是理解本标准的前提。

ISO 55001 可用于组织建立和实施资产管理体系，还可用于数据资产的资产管理体系。另一方面，由于一个组织的资产管理体系是通过基于信息或数据及其分析的决策来支持的，因此在符合 ISO 55001 要求的资产管理体系中，确定决策准则的过程通常包括管理数据的过程。因此，本标准有助于各组织将数据资产纳入其资产管理体系。

资产管理—数据资产管理规范

1 范围

本标准的数据管理提供指导，以支持组织实现其资产管理目标，并进而实现其组织目标。

本标准适用于任何组织，无论其类型如何或规模大小。

本标准不提供数据资产价值的获得或评估方法。

本标准并未就是否需要计算资产数据的财务价值向各组织提供指导。

2 规范性引用文件

下列文件中的内容通过文中的规范性引用而构成本文件必不可少的条款。其中，注日期的引用文件，仅注日期对应的版本适用于本文件。

ISO 55000：资产管理 综述、原则和术语

3 术语和定义

ISO 55000界定的术语和定义和下列术语和定义适用于本标准。

ISO和IEC设有用于标准化的术语数据库，地址如下：

——ISO 在线浏览平台：<http://www.iso.org/obp>

——IEC 电力维基百科：<https://www.electropedia.org/>

3.1

资产数据 asset data

列出和描述资产的数据。

注1：资产数据可以有多种格式，如结构化数据、成文信息、传感器数据等，需要不同的管理方法。

注2：支持资产管理决策的数据可视为资产数据。

3.2

数据资产 data asset

具有资产属性的数据。

注1：数据资产可根据 ISO55001 作为资产进行管理。

注2：资产数据（3.1）可以是多个数据资产的一部分。

3.3

数据类型 data type

以一组值、表示这些值的句法以及解释、操作或存储这些值的一组操作作为特征的命名数据类别。

[源自：ISO/IEC1539-1:2023, 3.144, 修改—增加了或存储]。

3.4

元数据 metadata

定义和描述其他数据的数据。

[源自：ISO 24531:2013, 4.32]

3.5

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2) 也可通过客服电话咨询 **025-85307007**。