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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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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

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This document was prepared by Technical Committee ISO/TC 251, *Asset management*.

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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;

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.