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Asset management — Vocabulary, overview and principles

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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).

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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*.

This second edition cancels and replaces the first edition (ISO 55000:2014), which has been technically revised.

The main changes are as follows:

- the document has been restructured to provide an insight and understanding of asset management and its principles, its outcomes and benefits, the relationship between asset management, an asset management system and the assets of an organization, and indicators of asset management maturity;
- the principles of asset management have been revised;
- the outcomes of asset management have been introduced;
- the benefits have been rephrased and extended;
- the explanation of the elements of an asset management system has been deleted;
- the integration of management systems has been introduced;
- the maturity of an asset management organization has been introduced;
- the annexes have been deleted.

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 Purpose

This document provides an overview of asset management, its principles, and the outcomes and expected benefits from adopting asset management, and introduces the asset management system and relevant terminology.

This document sets the context for ISO 55001 and ISO 55002, and also later documents in the ISO 55000 family of standards.

0.2 Relationship with other standards in the ISO 55000 family of standards

ISO 55001 specifies requirements for an asset management system. ISO 55002 gives guidance on the design and application of the asset management system.

This document, ISO 55001 and ISO 55002 can be used in combination with relevant sector-specific or asset-type-specific standards and technical specifications to achieve the objectives of asset management.

Other standards on asset management developed by ISO/TC 251 can be used in the context established by this document, ISO 55001 and ISO 55002, including:

- ISO/TS 55010, which provides guidance on aligning financial and non-financial functions in asset management, and promoting understanding, implementation and improvement of this alignment for organizational benefits;
- ISO 55011, which offers guidance for developing public policy to promote asset management, focusing on the external context of organizations responsible for assets, with the aim of creating an enabling environment through consistent public policy instruments;
- ISO 55012, which focuses on people involvement and competence within an asset management system, offering guidance to enhance personnel commitment, effectiveness, knowledge and awareness, and promoting continual improvement;
- ISO 55013, which provides guidance on managing data assets, helping organizations increase and sustain the usefulness of data assets to meet asset management and organizational objectives.

0.3 Target audience

This document is primarily intended for use by:

- senior executives who wish to adopt asset management and implement an asset management system in their organization;
- those involved in asset management or intending to become practitioners;
- anyone who would benefit from a short introduction to asset management.

Asset management — Vocabulary, overview and principles

1 Scope

This document defines terms and establishes principles and outcomes for asset management. It describes:

- the benefits of asset management and an asset management system;
- the relationship between asset management, the asset management system and asset portfolio;
- asset management improvement and maturity.

This document is applicable to all types of assets and all types and sizes of organizations.

This document does not provide financial, accounting, human resources nor technical guidance for managing specific asset types.

NOTE For the purposes of this document, ISO 55001 and ISO 55002, the term “asset management system” is used to refer to a management system for asset management.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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 Terms relating to assets

3.1.1

asset

item, thing or entity that has potential or actual *value* (3.3.28) to an *organization* (3.3.1)

Note 1 to entry: Assets can be physical or non-physical.

Note 2 to entry: A grouping of assets referred to as an *asset system* (3.1.6) can also be considered as an asset.

3.1.2

asset life

period from *asset* (3.1.1) ideation to asset end of life

Note 1 to entry: “Useful life” is the period over which an asset is capable of fulfilling a purpose to an entity.

Note 2 to entry: Asset life can differ from the period the *organization* (3.3.1) holds responsibility for the asset.

Note 3 to entry: End-of-life is when the asset can no longer cause any residual obligations.

3.1.3

life cycle

stages of an *asset* (3.1.1) during its life

Note 1 to entry: Each stage identifies different activities and *processes* (3.3.10).

Note 2 to entry: The naming of the stages and the activities under each stage can vary in different industry sectors and is determined by the *organization* (3.3.1). An example of the naming of the stages is: conception of need, design, construct, operate and maintain, renew/replace, dispose and extinguishment of liabilities.

Note 3 to entry: The contractual liability of an entity can involve less than one or multiple life cycle stages and may be shorter than an *asset life* (3.1.2).

3.1.4

life cycle management

applying *asset management* (3.2.1) over the *life cycle* (3.1.3) of *assets* (3.1.1)

3.1.5

asset type

grouping of *assets* (3.1.1) having common characteristics that distinguish those assets as a group or class

3.1.6

asset system

set of *assets* (3.1.1) that interact or are interrelated

3.1.7

asset portfolio

assets (3.1.1) that are within the scope of an *asset management system* (3.3.5)

Note 1 to entry: A portfolio is typically established and assigned for managerial control purposes.

3.1.8

critical asset

asset (3.1.1) having the potential to significantly impact the achievement of an *organization's* (3.3.1) *objectives* (3.3.7)

Note 1 to entry: Assets can be safety-critical, environment-critical or *performance-critical* (3.3.14) and can relate to legal, regulatory or statutory *requirements* (3.3.17).

Note 2 to entry: Critical assets can refer to those assets necessary to provide services to critical customers.

Note 3 to entry: *Asset systems* (3.1.6) can be distinguished as being critical in a similar manner to individual assets.

3.1.9

object (noun)

anything perceivable or conceivable

Note 1 to entry: An object can be physical (e.g. a pump, a bridge, a building), or non-physical (e.g. a project plan, copyright, software).

3.1.10

data

facts about an *object* (3.1.9)

[SOURCE: ISO 9000:2015, 3.8.1]

3.1.11

information

meaningful result of organizing and processing *data* (3.1.10)

EXAMPLE Make/model/type of a pump in a specific location, span of a bridge, *asset* (3.1.1) *performance* (3.3.14) indicator, an asset's current total cost of ownership.

3.2 Terms relating to asset management

3.2.1 asset management

coordinated activity of an *organization* (3.3.1) to realize value from *assets* (3.1.1)

Note 1 to entry: Realization of value normally involves a balancing of costs, *risks* (3.3.8), *opportunities* (3.3.9) and *performance* (3.3.14) benefits.

Note 2 to entry: Activity can also refer to the application of the elements of an *asset management system* (3.3.5).

Note 3 to entry: The term “activity” has a broad meaning and can include, for example, the approach, planning and plans, and their implementation.

3.2.2 organizational objective

overarching *objective* (3.3.7) that sets the context and direction for an *organization's* (3.3.1) activities

Note 1 to entry: Organizational objectives are established through the strategic level planning activities of the organization.

3.2.3 organizational plan

documented information (3.3.13) that specifies the plans to achieve the *organizational objectives* (3.2.2)

3.2.4 management

coordinated activities to direct and control an *organization* (3.3.1)

Note 1 to entry: Management can include establishing strategies, *policies* (3.3.6) and *objectives* (3.3.7), and *processes* (3.3.10) to achieve those objectives.

Note 2 to entry: Management includes the processes of planning, organizing, directing and controlling (e.g. the outcomes of people, groups or organizations).

Note 3 to entry: Control can include defining roles, appointing authority, assigning tasks, establishing incentives and rewards, and empowering and engaging people.

Note 4 to entry: The word “management” sometimes refers to people, i.e. a person or group of people with the authority and responsibility for the conduct and control of an organization. When “management” is used in this sense, it should always be used with some form of qualifier, e.g. “top management”.

Note 5 to entry: The term “management” can be qualified by a specific domain it addresses. Examples include public health management, environmental management and *risk* (3.3.8) management.

[SOURCE: ISO 9000:2015, 3.3.3, modified — “strategies” added to Note 1 to entry. Note 2 to entry shortened and renumbered as Note 4 to entry. Notes 2, 3 and 5 to entry added.]

3.2.5 asset management plan AMP

documented information (3.3.13) that specifies the activities, resources, costs and timescales required for an individual *asset* (3.1.1), or a grouping of assets, to achieve an *organization's* (3.3.1) *asset management objectives* (3.2.1)

Note 1 to entry: The grouping of assets may be by *asset type* (3.1.5), asset class, *asset system* (3.1.6) or *asset portfolio* (3.1.7).

Note 2 to entry: An asset management plan is derived from the *strategic asset management plan* (3.2.5).

Note 3 to entry: An asset management plan may be contained in, or may be a subsidiary plan of, the strategic asset management plan.

3.2.6

capability

measure of capacity and the ability of an entity (system or *organization* (3.3.1)) to achieve its *objectives* (3.3.7)

Note 1 to entry: *Asset management* (3.2.1) capabilities include *processes* (3.3.10), resources, *competences* (3.3.12) and technologies to enable the effective and efficient development and delivery of *asset management plans* (3.2.5) and *asset life* (3.1.2) activities, and their *continual improvement* (3.3.15).

3.2.7

level of service

parameters, or combination of parameters, which reflect social, political, environmental and economic outcomes that an *organization* (3.3.1) delivers

Note 1 to entry: The parameters may include safety, customer satisfaction, quality, quantity, capacity, reliability, responsiveness, environmental acceptability, cost and availability.

3.3 Terms relating to asset management system

3.3.1

organization

person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its *objectives* (3.3.7)

Note 1 to entry: The concept of organization includes, but is not limited to, sole-trader, company, corporation, firm, enterprise, authority, partnership, charity or institution, or part or combination thereof, whether incorporated or not, public or private.

Note 2 to entry: If the organization is part of a larger entity, the term “organization” refers only to the part of the larger entity that is within the scope of the *asset management system* (3.3.5).

3.3.2

stakeholder

interested party

person or *organization* (3.3.1) that can affect, be affected by, or perceive itself to be affected by a decision or activity

3.3.3

top management

person or group of people who directs and controls an *organization* (3.3.1) at the highest level

Note 1 to entry: Top management has the power to delegate authority and provide resources within the organization.

Note 2 to entry: If the scope of the *management system* (3.3.4) covers only part of an organization, then top management refers to those who direct and control that part of the organization.

3.3.4

management system

set of interrelated or interacting elements of an *organization* (3.3.1) to establish *policies* (3.3.6) and *objectives* (3.3.7), as well as *processes* (3.3.10) to achieve those objectives

Note 1 to entry: A management system can address a single discipline or several disciplines.

Note 2 to entry: The management system elements include the organization’s structure, roles and responsibilities, planning and operation.

3.3.5

asset management system

management system (3.3.4) for *asset management* (3.2.1)

3.3.6

policy

intentions and direction of an *organization* (3.3.1) as formally expressed by its *top management* (3.3.3)