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Standard**

ISO 55012

**Asset management — Guidance
on people involvement and
competence**

*Gestion d'actifs — Document d'orientation sur l'implication et les
compétences des personnes*

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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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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

The performance of an asset management system and its processes depend on the active involvement of competent people in the organization and their ongoing support and commitment to its operation and continual improvement. In addition, the identification, development and evaluation of the effective involvement of people (including outsourced resources) are critical for an organization's asset management system to achieve outcomes which are consistent and aligned with its strategies and values.

Overall, the involvement of people within an asset management system is enabled by activities and practices associated with leadership, planning, awareness, communication and competence.

0.2 Relationship to asset management system

The guidance given in this document is based on the requirements for an asset management system described in ISO 55001 and more generalized principles presented in ISO 55000. According to ISO 55001:2024, 4.1: "The organization shall determine external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended result(s) of its asset management system."

As people are a key component of an asset management system, the correlation between this document and ISO 55001 can facilitate the involvement of people and the development and management of their competence within the asset management system.

Within an asset management context, the need for the commitment of top management to support the asset management system is repeatedly and clearly outlined in ISO 55001. In particular, ISO 55001:2024, Clause 5, identifies requirements for specific actions by top management to demonstrate leadership for conformity to ISO 55001. For example, ISO 55001:2024, 5.1, highlights the responsibility of top management to demonstrate leadership and commitment with respect to the asset management system by:

- a) ensuring the establishment, use and alignment of asset management decision-making criteria with the organization's objectives;
- b) ensuring that the asset management policy, asset management system scope, strategic asset management plan (SAMP) and asset management objectives are established and are aligned and compatible with the strategic direction of the organization's objectives;
- c) approving the asset management policy, asset management system scope and SAMP;
- d) ensuring the integration of the asset management system requirements into the organization's business processes;
- e) ensuring that the resources needed for the asset management system are available;
- f) communicating the importance of effective asset management and of conforming to the asset management system requirements;
- g) ensuring that the asset management system achieves its intended result(s);
- h) directing, raising awareness of and supporting persons to contribute to the effectiveness of the asset management system;
- i) promoting continual improvement;
- j) supporting other relevant roles to demonstrate their leadership as it applies to their areas of responsibility.

If the vision and organizational strategies are not properly formulated and adjusted, the key leadership and management principles as defined in ISO 55000 are compromised, and the overall effectiveness of the asset management system is reduced.

Additionally, ISO 55001:2024, 7.1 and 7.2, establish that the organization is required to ensure sufficient resources and to establish competence requirements and to ensure sufficient resources are available to support the asset management system (including personnel resources). This requires not only determining what types of expertise are required by personnel, but also developing plans around how people can acquire required expertise and demonstrate proficiency.

Moreover, ISO 55001:2024, 7.3, highlights that it is important that people working within an organization's asset management system be aware of the asset management policy and how they contribute to the system and the implications of not conforming to the requirements of the system. ISO 55001:2024, 7.4, states that the organization is responsible for establishing what information is communicated to internal and external stakeholders with regards to the asset management system. This suggests that effective communication is required to ensure people are adequately aware and informed of their roles and responsibilities. Finally, ISO 55001:2024, 7.5, stresses the importance of documented information, and the implication is that this documented information includes aspects leading to a person's awareness within the asset management system.

0.3 People involvement and competence

This document establishes guidance for enhancing the involvement of people within an asset management system, as well as developing their required competencies to participate appropriately in asset management activities. This includes the involvement and competence of top management and other organizational manager, as well as people responsible for executing strategies and plans. Additional key attributes include knowledge and awareness of activities to be completed, as well as the establishment of continual improvement and monitoring through personnel development.

If people involvement and competence are monitored, measured and analysed within the asset management system (including top management), it can produce results which enable top management to make decisions for improvement, thus leading to enhanced overall system performance.

[Annex A](#) provides additional information on aspects of people involvement within an asset management system.

Asset management — Guidance on people involvement and competence

1 Scope

This document gives guidance on enhancing the involvement and commitment of personnel within an asset management system to improve the overall efficiency of translation of asset management objectives into results. This involves an evaluation of human and cultural factors that influence:

- a) the effectiveness of adoption of operational requirements and policies established by the organization's strategic asset management plan (SAMP) across the organization;
- b) the degree of involvement that personnel have in the development and execution of asset management plans and strategies;
- c) the level of knowledge and awareness that personnel have of required activities established by asset management plans and strategies;
- d) the impact of competence on the ability of personnel to execute these activities;
- e) the process by which establishing development plans drives continual improvements in asset management system efficiency;
- f) the recognition of mutual dependencies in teams that contribute to organizational performance.

These elements apply to the leadership accountable for the overall functioning of the asset management system, as well as to personnel responsible for the development and execution of plans, strategies and activities.

This document is applicable to any organization, regardless of its type or size. Additionally, while asset management is not necessarily conducted within the construct of an asset management system, the principles within the guidance set out in this document can be more broadly applied regardless of the nature of asset management within an organization.

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 involvement

taking part in an activity, event or situation

Note 1 to entry: Involvement is applicable to both people within an organization and those from external third parties.

Note 2 to entry: Involvement is applicable to both internal and externally provided resources.

[SOURCE: ISO 9000:2015, 3.1.3, modified — Notes to entry added.]

3.2 commitment

level of work and dedication given to the asset management system

3.3 engagement

involvement (3.1) in, and contribution to, activities to achieve shared objectives

[SOURCE: ISO 9000:2015, 3.1.4]

3.4 leader

person who influences a group of people towards the achievement of a goal, and in turn recognizes the contribution of this, and mutual dependency with other groups, in achieving an organizational goal

3.5 competence

ability to apply knowledge and skills to achieve intended results

Note 1 to entry: Competence also applies to the collective performance of teams.

[SOURCE: ISO 55000:2024, 3.3.11, modified — Note to entry added.]

3.6 organizational culture

values, beliefs and practices that influence the conduct and behaviour of people and organizations

[SOURCE: ISO 30400:2022, 3.1.3]

4 Context of the organization

4.1 Considerations

Organizational culture is the collection of values, beliefs and practices that may be held individually or collectively that determine how people and management interact and handle transactions internally and externally to the organization. This is applicable to all organizations, although the level of formalization in terms of defining specific aspects of culture varies in terms of the complexity and size of the organization. The organizational culture may contain formal aspects such as documented policies and procedures, as well as informal aspects such as shared values, communication and communication styles, social norms and social networks. Additionally, it should be expected that the culture adapts over time to the operating context of the organization.

It is important to ensure that personnel throughout the organization are engaged with, committed to and involved in the asset management system. This implies cultivating an organizational culture around the asset management principles and practices described in ISO 55000 and ensuring that all personnel involved are aware of the need for asset management to maximize value (while considering the asset-related costs, risks, opportunities, performance, benefits, and liabilities throughout the asset life cycle) to be achieved, as well as a genuine commitment to the realization of that vision. These form the set of collective beliefs and behaviours to be integrated into the organizational culture.

To establish this culture, top management should have a unified vision for the asset management objectives to be achieved. Top management also should express these concepts effectively using tools such as the asset management policy and the SAMP. People within the organization should know and be engaged with the organization's asset management policy and asset management system scope, be committed to the SAMP and understand how their roles contribute to the achievement of the asset management objectives.

4.2 Actions recommended

When establishing or reviewing an asset management system, the top management should take the following preliminary steps:

- a) define and establish asset management objectives and ensure that they are consistent with the asset management policy (which should be retained as documented information);
- b) integrate references to asset management objectives into the SAMP, such as financial reporting, risk management, information technology, procurement and human resources;
- c) align their behaviour to consistently support the SAMP statements;
- d) have a clear and well-defined organizational structure aligned to its objectives and processes which can help realize the cascade of governance within the organization; in particular, this involves establishing roles, responsibilities and authority for each asset management team;
- e) have effective support (such as information technology, communication plans and management of change processes) to communicate the asset management objectives and policies and to allow for feedback and improvement;
- f) demonstrate how an established asset management culture can support achievement of asset management outcomes.
- g) foster collaboration and co-ordination across groups and individuals engaged in asset management activities; this may include personnel (including external service providers) involved in areas such as engineering, operations, maintenance, finance, procurement, information technology and marketing.

4.3 Potential benefits

An asset management culture which supports people in recognizing and aligning with the organization's vision can improve the organization's performance, motivate people and coordinate their behaviour, which in turn can help achieve the organization's overall asset management objectives.

5 Leadership

5.1 Considerations

For people within the organization, leadership provides a clear focus and enables them to follow a path to achieve the organizational objectives. Since asset management impacts and supports many aspects of an organization and is often not well understood by personnel who are outside of a core asset management team, such leadership expands to include advocating for how asset management and the purposeful implementation of an asset management system (and the use of asset management principles more broadly) can positively support outcomes across the organization.

While top management is responsible for the overall success of the asset management system in contributing towards achieving asset management objectives, the concept of leadership extends beyond top management, to anyone in an organization who is responsible for developing and delivering strategies and plans related to their scope of influence or role.

Top management establishes the strategic direction and objectives of the overall organization, but successive layers of leaders within the organization establish plans for their respective areas of responsibility. These individual plans should all be aligned towards the overall organizational objectives. From an asset

management perspective, this may result in a hierarchy of asset management plans pertinent to various functional groups each with distinct assets (and related management activities) under their control.

Leaders also allocate required resources to achieve objectives and create and maintain an internal environment in which people can be involved. While management focuses on the organization of resources (including labour) to achieve objectives and the monitoring of results of activities, it is distinct from leadership. Successful achievement of organizational objectives requires both effective leadership (to establish direction, to create an enabling environment and culture) and management (to ensure that objectives are efficiently and effectively achieved). Finally, once effective leadership and management are in place, the support and cooperation of personnel results in the execution of required activities.

Since leaders at different levels in the organization have differing perspectives and expertise with regards to service provision and asset management activities, their involvement in the development of these individual plans is critical to ensure context-specific costs, risks, opportunities, performance, benefits and liabilities are considered throughout the asset life cycle. However, during the process of creating these asset management plans, leaders should work together to ensure they are all coordinated with the overall SAMP.

5.2 Attributes of effective leadership

5.2.1 General

To accomplish the aspects of asset management leadership given in ISO 55000, leaders should demonstrate the attributes described in [5.2.2](#) to [5.2.9](#).

5.2.2 Vision

Effective leaders have a clear vision for the organization which they articulate and communicate to all personnel in the organization. This allows personnel throughout the organization to effectively understand organizational priorities.

5.2.3 Commitment

Effective leaders are passionate about their work and are committed to seeing their vision become a reality. As a result, they are active participants in planning and execution of activities and share this enthusiasm with those involved, and this motivation is also a way to achieve greater success.

5.2.4 Integrity

By embracing and advocating for the principles and values that underlie their strategic plans, and in particular by ensuring that their own actions reflect these principles, positive leaders act as important examples to other personnel of the expectations of the organizational culture.

5.2.5 Communicative

Competent leaders know the importance of communicating with relevant people within the organization and they are effective at selecting the appropriate means of communication to maximize understanding and alignment depending on context.

5.2.6 Domain knowledge

Although a leader is not necessarily a technical subject matter expert, they should have sufficient domain knowledge to be able to appropriately evaluate risk and opportunities and ensure that strategies established are operationally correct. For example, with regards to asset management, a leader should understand the principles, benefits and application of asset management in the organization, as well as the nature of the components that comprise an asset management system and how they interrelate.

5.2.7 Team building

Cooperative leaders recognize that a team can achieve more than a single individual; working across roles and functions can bring energy, ideas and new solutions to any task.

5.2.8 Decision-making

People often look to their leadership for prompt, thoughtful and insightful decisions so that they can focus on the achievement of the asset management objectives within agreed priorities.

5.2.9 Openness

Good, supportive leaders always consider the views of others and encourage open dialogue to foster innovation and knowledge sharing.

5.3 Potential benefits

The benefits of effective leadership can include:

- a) enhanced vertical and horizontal alignment of all operational functions and enhanced understanding and contribution of the value of operational activities throughout the organization;
- b) increased engagement of staff in the execution of required activities;
- c) reduction in overall organizational risk through more effective communication and awareness of objectives, processes, activities, responsibilities and performance needs;
- d) improved financial performance through increased efficiency and effectiveness;
- e) improvement of non-financial performance in dimensions such as environmental, social and governance;
- f) achievement of organizational objectives and stakeholder needs, including against both financial and non-financial performance metrics;
- g) enhancement of the reputation of the organization.

6 Strategy and planning

6.1 Considerations

Leaders at all levels should behave in a manner aligned with the overall asset management strategy as they provide an example for the behaviours of others within the organization. Leaders are also responsible for identifying and maintaining an appropriate level of asset management maturity within the organization, and then enabling the continual improvement of the management system.

The organization should leverage risk management principles with regards to its approach to maximizing value in the development of its asset management strategy and plans. Personnel at all levels of the organization should incorporate risk-based decision-making with regards to asset management through alignment with the overarching organizational strategies.

In addition, change management is a critical component of successful implementation of an asset management system, as well as for supporting future iterations of the management system and ensuring it is adaptable. If there is not a dedicated strategy in place with regards to how changes to an asset management system are communicated, implemented and monitored across the organization, it is likely that conformity and progress are inconsistent.

To evaluate the success of a given change in the asset management system, the organization should have metrics to measure changes in behaviour and how they lead to progress in achieving the asset management objectives. The asset management plans themselves should have specific and measurable objectives that relate

to the asset management activities defined within them. These objectives should provide the opportunity for alignment of asset management plans with the organizational plan and other supporting plans.

6.2 Actions recommended

To support the implementation of an asset management system in conformity to ISO 55001, top management should align the asset management policy, SAMP and asset management plans with the organizational vision, strategy and objectives. An appropriate change management strategy supports the effective execution of the SAMP.

Furthermore, engagement with those at various human and cultural elements are also key. Personnel at these levels have valuable experience and insight into how strategies are translated into operational activities in practice, the effectiveness of organizational initiatives, and logistical roadblocks to successful achievement of asset management objectives. These experiences become valuable in developing an appropriate SAMP.

Effective engagement across multiple levels of the organization should include:

- a) identification of suitably qualified personnel (at multiple organizational levels) to provide input into the development of the SAMP and asset management objectives;
- b) conscious focus on consulting a diversity of viewpoints to support risk management and equity in a transparent decision-making;
- c) establishment of appropriate engagement approaches for different personnel;
- d) clear delineation of required contributions from groups identified across the organization in the strategic planning activities, as well as their roles in the overall asset management system;
- e) communication of the benefits of an asset management system to all personnel within the organization.

6.3 Potential benefits

6.3.1 General

Although top management is responsible for the development of the organization's vision and strategy to achieve it, an organization can benefit from the contributions of a wider range of people when developing its vision and strategy. Some potential benefits from utilizing stakeholder input into the vision and strategic direction of the organization are described in [6.3.2](#) to [6.3.5](#).

6.3.2 Learning

Engaging with different personnel and stakeholder perspectives provides opportunities for learning and potentially changing the organization's approach to ensure it fits the needs of stakeholders; this leads to clear vision and policy development, with assumptions and approaches that benefit both the organization and stakeholders.

6.3.3 Decision-making

Understanding the views and interests of personnel and stakeholders can lead to more effective decision-making; understanding stakeholder issues and concerns provides an opportunity to reflect on what-if scenarios and what is and is not working, and why.

6.3.4 Credibility and trust

Effective personnel and stakeholder engagement builds lasting credibility and trust in the organization and its asset management.

6.3.5 Risk management

Being open to different personnel and stakeholder perspectives on risk can improve risk management, through potentially highlighting issues the organization has been aware of and helping it to prioritize.

7 Awareness and communication

7.1 Considerations

To ensure effective achievement of asset management outcomes, people involved within an asset management system should first be aware of their impacts on asset management objectives, of their roles and responsibilities within the system and to understand overall how the system functions, including opportunities for improvement and inter-relationships with other management systems. A key enabler of individual awareness of these aspects is good communication within the organization and established processes for the dissemination of information related to the asset management system.

7.2 Awareness and method for communication

Awareness within an asset management system requires the ability to know a person's responsibilities within the asset management system, as well as an understanding of how a person can receive relevant information. Communication for improving awareness include, but are not limited to:

- a) establishment of documented information on job descriptions and organizational charts that outline the roles and responsibilities, competence and knowledge for various personnel operating within the asset management system;
- b) implementation of role-specific onboarding processes which provide an opportunity to outline responsibilities and to provide information on available asset management policies, plans and training materials, for internal as well as external resources and contractors working within the organization;
- c) documentation of information on operational or informal knowledge held within the organization (such as that obtained through the experience of senior personnel);
- d) creation of accessible and updated libraries of documented information or knowledge management systems, containing information relevant to the asset management system;
- e) periodic planned communications on updates to the asset management system and dissemination of performance information and the results of management reviews;
- f) if applicable, development of an asset management skills matrix that lists the asset management competencies required by personnel in the different domain areas.

Effective communication is not simply demonstrated by the existence of communication channels and the dissemination of documented information. Instead, effective communication also requires a feedback mechanism wherein personnel can demonstrate that they have received information and understand its meaning within the context of the asset management system.

NOTE To develop the concept of "knowledge" in personnel, the organization can refer to ISO 30401.

7.3 Potential benefits

The benefits of an enhanced organizational awareness and communication can include:

- a) better alignment of individual understanding of role responsibilities conforming to the organization's purpose, objectives, SAMP and policy, resulting in increased engagement and achievement of expected results;
- b) better decision-making through an improved understanding of organizational context and overall objectives;

- c) individual development, innovation and growth through an understanding of available development pathways and knowledge-building resources;
- d) more efficient transmission of knowledge across the organization, including tacit knowledge;
- e) reduced risk of knowledge loss resulting from personnel turn-over through increased availability of documented information on workflow processes;
- f) reduction in the time to achieve objectives, and an increase in the probability of achieving organizational objectives.

8 Competence

8.1 Considerations

Personnel should be aware of their roles and what activities and results are expected of them within the asset management system. Additionally, they should have the tools, knowledge and skills required to complete these activities and to achieve desired outcomes. As a result, it is important to assess competence requirements for various roles within an asset management system, and to ensure people have the ability to access the training and resources needed to fulfil their roles appropriately.

8.2 Knowledge and skill

Competence can be viewed from the two perspectives of individual and organizational capability. Individual competence relates to the knowledge and skill encompassed by one individual, while organizational competence is a broader concept that relates to the overall aggregation of individual competencies across the organization.

In both cases, competence is defined by both establishing the topics under consideration (e.g. geographic information systems versus financial accounting processes) and the depth of technical expertise required within the field for a particular role. The depth of technical expertise is in turn a combination of both the level of education in a subject and the experience gained in implementing knowledge in practice.

Individual competence within an asset management system can be further subdivided into:

- a) technical competencies related to asset management;
- b) leadership competencies related to the establishment and execution of strategies and plans;
- c) leadership competencies focused on how to organize and motivate personnel and monitor their performance, as well as coordinating the additional resources required for the delivery of the asset management objectives;
- d) financial competences.

As asset management is an inherently multi-disciplinary field of work, it is not possible for all personnel involved in an asset management system to be a technical expert on each facet involved. However, it is reasonable to expect that personnel involved in an asset management system have a basic level of awareness of the allocation of responsibility to achieve required collaboration between technical experts, and that general competence requirements at an organizational, team and individual level can be established. This includes not only the core principles of asset management practice, but also an understanding of the new methodologies, technologies and informational systems involved in asset management practice.

8.3 Establishing competence requirements

When considering competence needs, organizations should determine the competence required to achieve expected results at the organizational, team, group and individual levels, taking into account:

- a) assessments of the work breakdown structure of technical tasks associated with the asset management system to identify specific role functions and to determine capabilities required to execute those functions;
- b) identification of managerial and leadership activities within the organization and an assessment of competence requirements in terms of establishing strategy, implementing change, supervising work and monitoring performance;
- c) the organization's context (e.g. changes in external or internal issues), the needs and expectations of stakeholders and the adopted level of service the assets have to meet, which have a significant impact on competence needs;
- d) continually reviewing competencies to ensure that they are appropriate for the achievement of organizational objectives;
- e) the potential impact of the lack of competence on the asset management system and how these impacts will vary over time as the asset management system itself evolves;
- f) the potential for personnel changes (including retirement or lack of retention) on the availability of required competencies within the organization;
- g) approaches of evaluating competence, including a consideration of available qualifications, training opportunities and work experience;
- h) availability of methods to increase competence internally, or the availability of external expertise to bridge identified competence gaps (including the assessment of competence requirements itself).

In addition to the above, the organization should review pertinent industrial, professional, and legislative requirements and guidance to ensure that personnel are working within allowable scopes to their particular functions.

Once baseline competence requirements are established for roles throughout the asset management system, the organization should:

- evaluate existing competence levels using a standardized approach detailed in documented information;
- compare them with required competence levels;
- use a risk-based approach to prioritize actions to address competence gaps and create documented information for competence management plans.

8.4 Competence management and development

When establishing a competence management plan related to roles within the asset management system, the organization should evaluate opportunities for increasing competence, including:

- a) formal training activities such as courses provided by universities, technical institutes, colleges, professional and industrial associations, and third-party trainers (activities which typically include an evaluation to demonstrate that the training has been completed to a consistent standard);
- b) activities such as self-directed study, and attendance at conferences, seminars and technical presentations;
- c) participation in industrial/professional activities such as service on asset-management-related committees and technical groups;

- d) participation in mentoring opportunities, including being mentored by senior asset management practitioners and mentoring junior practitioners; these mentoring opportunities can be within the organization itself, or span across organizations;
- e) contributions to improve knowledge in the domain of asset management through the development of standards and best practices, internal or external communications and presentations on topics related to asset management, and the publication of reference materials on asset management or the editing and evaluation of such materials;
- f) experience gained in the practice of asset management, including experience gained in a person's current primary role, and in internship and job-shadowing opportunities.

The organization should ensure that it can support people's competence development through adequate resource provision, as well as monitor their progress through periodic review, evaluation and audit. At its simplest, this involves embedding competence and training requirements into job descriptions and role profiles. However, this may also involve the creation of individual annual competence development plans that allow a practitioner to identify required training in the context of risks associated with their practice.

8.5 Potential benefits

The potential benefits of establishing asset-management-related competence requirements and associated competence management plans include:

- a) higher levels of performance due to the identification of opportunities to increase competence to appropriate levels;
- b) identification of risks within the organization due to potential lack of competence in specific functional roles;
- c) enhanced compliance with local regulations and legislation regarding competent practice;
- d) increased engagement and commitment from staff in the performance of asset management activities due to self-awareness of capacity and competence levels;
- e) establishing a strong collaborative work culture that is focused on delivering the asset management objectives;
- f) contributing to personal and career development in asset management and the operation of the asset management system.