



ASSET MANAGEMENT
DECISION-MAKING

DECISION-MAKING

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1 PREFACE

1.1 INTRODUCTION TO SUBJECT SPECIFIC GUIDANCE

This Subject Specific Guidance (SSG) is part of a suite of documents designed to expand and enrich the description of the asset management discipline as summarized in the Institute of Asset Management (IAM) document 'Asset Management – an Anatomy' (referred to throughout this document as the 'Anatomy').

The SSGs cover the subjects in the Anatomy directly as a 'one-to-one' (where a subject is very broad) or grouped (where subjects are very closely related).

1.2 PURPOSE OF THE SSGS

This document provides guidance for good asset management.

ISO 55001 sets out the requirements necessary for establishing, implementing, maintaining, and improving a management system for asset management. The Global Forum on Maintenance and Asset Management (GFMAM) Asset Management Landscape establishes a globally shared understanding of the subjects which comprise the asset management discipline, emphasizing its wide-ranging nature and breadth of scope. Neither ISO55001 nor the GFMAM Asset Management Landscape explain how to implement asset management.

The Anatomy is a good introduction for people seeking to understand asset management. It is intended to:

- Explain the asset management approach and introduce the asset management subjects;
- Help individuals see how asset management can assist their professional development, and integrate their contribution with the work of colleagues and other teams; and
- Help organizations decide whether to adopt asset management or how to improve their asset management capabilities.

The SSGs develop the next level of detail for each

subject in the Anatomy. They are guidance intended to help individuals and organizations by providing a consolidated view of good practice drawn from experienced practitioners across many sectors and geographies.

The SSGs include guidance for simple and complex operational environments, together with real examples from different geographies and sectors, to support the explanatory text. This is because there are widely different operational environments, constraints, cultures and opportunities in asset management. In particular, levels of sophistication, refinement and optimization that are worthwhile and possible in one environment may not represent either a possibility or a worthwhile investment in another. In addition, organizations will be at different stages of adoption of asset management; some may be relatively mature while others are at the beginning of the journey.

The guidance in this SSG recognizes each organization needs the flexibility to adopt its own 'fit-for-purpose' practical approaches and solutions that are economic, viable, understandable, and usable and that organizations will adapt their asset management approaches as part of continual improvement.

1.3 THE SSGS IN CONTEXT

The SSGs are a core element within the IAM Body of Knowledge. They have been peer-reviewed by subject matter experts identified by the IAM Knowledge Leadership Group. They align fully with the IAM's values and beliefs, which relate to the development of excellence in the asset management discipline and the provision of support to those who seek to achieve that level of excellence.

1.4 SSGS AND COMPLEXITY VERSUS MATURITY

It is important to understand and contrast these terms. Put simply:

- The complexity of the organization's operational environment will drive the complexity of the

solution required; and

- The maturity of the organization will determine its ability to recognize and implement an appropriate solution.

A mature organization may choose a simple solution, while a naive organization may think that a complex solution will solve all its problems. In truth, there is no universal best practice in asset management - only good practice appropriate for the operating context of any particular organization. What is good practice for one organization may not be good practice for another. For example, an organization that is responsible for managing 100 assets, all in the same location, could use a spreadsheet-based solution for an asset register and work management system.

This is arguably good practice for that organization. However, for a utility business with thousands of distributed assets, this is unlikely to represent a good practice solution.

It is important to understand the organization's complexity and maturity to best apply the guidance in this SSG.

1.5 FURTHER READING

In addition to the Anatomy and SSGs, the IAM provides a range of knowledge and professional development resources which are accessed through the IAM website.



2 SCOPE OF THIS SSG



Figure 1 Context of this SSG in relation to the IAM 10-Box Capabilities Model

Figure source: Asset Management – an anatomy (Version 4), The Institute of Asset Management, July 2024

2.1 INTRODUCTION

Effective decision making is a fundamental element of asset management, shaping an organization's ability to optimize value, manage risk, enhance asset performance, ensure longevity and achieve long-term sustainability across the entire asset life cycle. This document provides guidance on decision-making in asset management including, but not limited to:

- Capital Investment decisions. Structured approaches to evaluating, prioritizing, and justifying capital investments in assets.
- Operational & Maintenance decision-making. Decisions about operations, inspection, maintenance and spares, including optimal (best value) combinations of risk, cost, performance and sustainability.
- Decisions about the Asset Management System (AMS) and the establishment of an organizational framework for Asset Management decision-making.

These areas are essential for ensuring that organizations make informed, consistent and value-based decisions that support long term organizational performance, financial sustainability, and service delivery.

It should be noted that the elements above are combined into one (1) category called Decision Making in both the IAM Asset Management – An Anatomy (Version 4) and GFMAM Asset Management Landscape (Version 3). [1] [5]

The scope of this SSG and guidance presented in this document aligns with:

- Asset Management – An Anatomy (Version 4), published by the Institute of Asset Management (IAM);
 - The IAM 10-Box Asset Management Capabilities Model defines core competencies and subject areas required for effective asset management. This explicitly includes good decision-making, which is also a required attribute in asset management maturity models (see Figure 1). [1]
- Asset Management Landscape (Version 3), developed by the Global Forum on Maintenance and Asset Management (GFMAM) – identifies asset management decision-making as a specific discipline within a wide range of subjects that comprise the field of asset management [5];
- ISO 55001:2024 requires a structured framework, with specified characteristics, for decision-making within an asset management system [4];
- ISO 55014 (*draft*): ISO guidance on asset management decision-making and the development, usage and maintenance of a decision-making framework in line with ISO 55001:2024 requirements. *Standard expected to be published in 2027.*

The landscape subjects shown in Figure 1 can be used to describe the elements of asset management referenced in Asset Management - an Anatomy (Version 4) and other IAM publications. Asset management includes a combination of strategic, tactical and operational decisions that collectively determine the success of an organization's asset portfolio. From setting organizational objectives and developing Asset Management Policy, Asset Management Strategy, and Asset Management Planning to making informed decisions on investment and managing assets throughout their life cycles, each step requires careful consideration and alignment with the organizational goals, and people, and alignment with the strategic direction from the organizational strategic plan. In this SSG, various stages of asset management decision-making are examined, including early-stage investments, operations and maintenance strategies, the management of ageing assets, behavioural influences, data and analytics (including the growing role of Artificial Intelligence (AI)).

Decision-making needs to support the creation of long-term and short-term plans for capital investment, operations & maintenance, and asset repurposing/renewal/retirement. This is a simplified picture to assist in understanding how the activities fit together and does not show all interactions. Specifically, tactical decisions made across the entire asset life cycle should be guided by criteria, policies and procedures

that are consistent with longer-term strategic decision-making. Depending on the nature of the organization and the decision, the management of tactical decisions may be more or less formal and documented in procedures, however in all scenarios, roles and responsibilities for decision making should be clearly defined, unambiguous and well communicated. This SSG also includes guidance for effective decision making and discusses techniques to enable optimization strategies, and prioritization.

This document specifically addresses Decision-Making as one of the 10 'boxes' of the IAM 10-Box (Asset Management Capabilities) Model and the clause 4.5 of ISO 55001:2024 requirements of an asset management system.

2.1.1 Benefits of Good Decision-Making in Asset Management

Benefits of good decision-making in asset management include:

- **Efficiency and effectiveness** – Ensure timely, well-informed decisions that optimize asset performance, cost, and risk.
- **Alignment with strategic objectives and stakeholder expectations** – Decisions are made in line with organizational goals, regulatory requirements, and stakeholder priorities.
- **Optimize use of available resources** – Enables the best possible decision under given conditions, leveraging available data, knowledge, processes, tools, and time.
- **Consistency across the organization** – Ensures decision-making is structured, repeatable, and scalable, maintaining coherence across geographies, teams, and their time spent on tasks.
- **Transparency and justification** – Provide clear reasoning and accountability, reducing uncertainty and enabling trust among stakeholders.
- **Stakeholder engagement and buy-in** – Encourages collaboration and consensus, increasing support for chosen solutions and reducing resistance to implementation.
- **Knowledge capture and continuous improvement** – Creates a foundation for organizational learning, improving future

decision-making and asset management maturity.

2.2 PURPOSE OF THIS SSG

This SSG document provides guidance on developing a structured framework for making asset management decisions at all stages in the asset life cycle. This SSG supports organizations in developing, implementing, and optimizing decision-making processes that align with asset management objectives and the realization of value that takes account of different stakeholder needs and expectations.

2.2.1 Objectives

This SSG will:

1. Define Decision-Making in Asset Management by
 - a. Establishing a structured, risk-based approach to decision-making that integrates technical, financial, and behavioural considerations.
 - b. Expanding on concepts from the IAM Anatomy (Version 4)
2. Enhance Capital Investment Decision-Making
 - a. Provides methodologies and frameworks for evaluating capital investments in assets, ensuring alignment with life cycle value realization.
 - b. Introduces tools such as Cost-Benefit Analysis (CBA), Life Cycle Costing (LCC), and cost/risk/performance/sustainability modelling Decision Support Tools (DST).
3. Improve Operations & Maintenance Decision-Making
 - a. Defines structured approaches to maintenance strategy selection, covering predictive, preventive, and corrective maintenance methodologies.
 - b. Incorporates Root Cause Analysis (RCA), Reliability-Centered Maintenance (RCM), Failure Mode & Effects Analysis (FMEA) and cost/risk/performance/sustainability modelling Decision Support Tools (DST)
4. Support Ageing Assets Decision-Making
 - a. Defines decision points and options for ageing assets at the end of their life cycle.
 - b. Defines structured approaches in decision-making of ageing assets and to manage asset replacement, maintenance, modification,

repurpose, refurbishments, and disposals.

5. Promote Risk-Based, Evidence-Supported Decisions
 - a. Aligns with ISO 55001's risk-based approach, ensuring decisions are data-driven, justifiable, and scalable. [4]
 - b. Supports organizations in embedding a structured Decision-Making Framework (DMF) that enhances transparency, consistency, and defensibility.
6. Ensure alignment and effectiveness
 - a. Establish alignment of asset management decisions with organizational strategy and business objectives.
 - b. Ensure stakeholder engagement in decision-making processes, enhancing governance, consensus, commitment and accountability.
7. Provide Practical Guidance and Tools
 - a. Introduces examples of available methods, templates and decision support tools (DST) and their typical applicability
 - b. Includes real-world examples, case studies, and best-practice implementation guides.

2.2.2 Benefits

By following this SSG, organizations can:

- Develop and embed a structured framework for decision-making, called the Decision-Making Framework (DMF) that includes appropriate processes, required information, governance, support methods and stakeholder acceptance.

2.2.3 Relationship to other SSGs

This document, covering Decision-Making SSG, is part of the broader Subject Specific Guidance (SSG) suite developed by the Institute of Asset Management (IAM). Each SSG is designed to expand upon and provide practical insights into specific areas of asset management, as defined in ISO 55001, Anatomy (Version 4), and the Asset Management Landscape (Version 3, GFMAM). [1] [4] [5]

This document is closely interconnected with other SSGs that address complementary areas of decision-making, resource allocation, and asset life cycle management. Table 1 below outlines mapping of such asset management subjects related to the Decision-Making subject.

