

Asset Management Maturity

A Position Statement

Second Edition

English Version



GFMAM

Global Forum on Maintenance
& Asset Management

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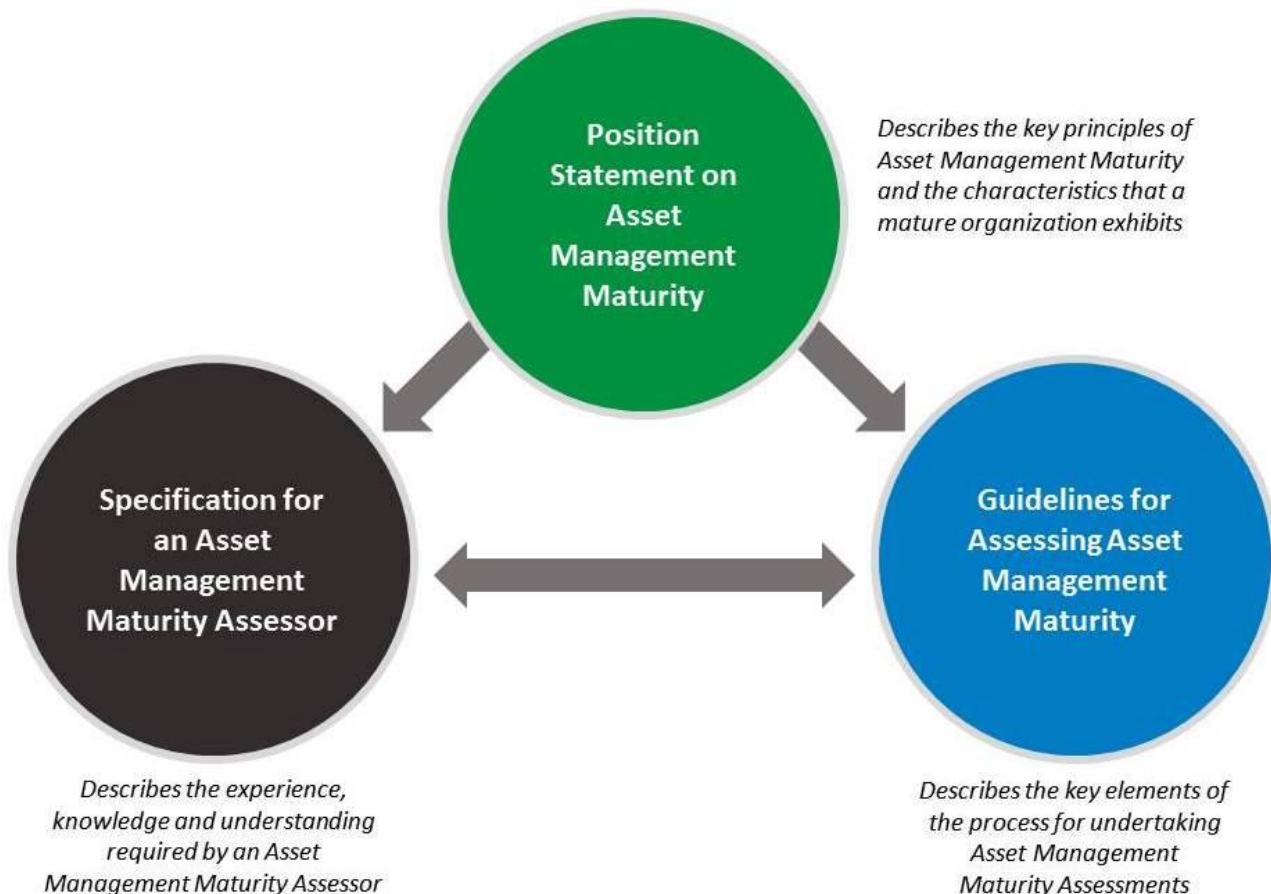
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Foreword

The Global Forum on Maintenance & Asset Management (GFMAM) has recognized that, with accelerating interest in Asset Management and adoption of the ISO55000 standards, some organizations (and people) would value more guidance on Asset Management Maturity.

This Position Statement is intended to be a high-level statement only, that sets out the principles and characteristics associated with Asset Management Maturity and does not describe the detail. It replaces the first edition, published in 2015.

It should be read in conjunction with the other two documents on Asset Management Maturity published at the same time: the *Specification for an Asset Management Maturity Assessor* and the *Guidelines for Assessing Asset Management Maturity*. The relationship between these documents is shown here.



What is the value of maturity in asset management?

A level of maturity represented by conformance to the requirements of ISO 55001 may not deliver all the value desired by the organization's stakeholders. There is also a substantial and growing body of evidence that there are significant benefits to organizations that develop their maturity in Asset Management beyond conformance with ISO 55001.

The GFMAM recognizes that the extent to which organizations will wish to develop their Asset Management capabilities will vary and that this will be driven by the potential for business benefits.



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Why is GFMAM guidance on maturity needed?

Different professional bodies in Asset Management, and individual organizations working in Asset Management, have been developing their thinking on Asset Management Maturity for many years. These initiatives have taken different approaches and the GFMAM recognized the opportunity to build on this work by developing a consensus on Asset Management Maturity.

By aligning our general understanding of the subject, we can better help others understand what to look for – and increase the value that Asset Management can provide. So the lessons learned from their work have been fed back into this updated Position Statement

Who is the target audience?

This document is a Position Statement, intended for organizations who wish to develop guidance on Asset Management Maturity and how to assess it. The document will be most beneficial to people with experience in Asset Management.

This document is not a tool for assessing Asset Management. Asset Management Maturity is subtle and complex, particularly at higher levels of maturity. It is expected that each GFMAM member society will develop their own detailed guidance on Asset Management Maturity that: is consistent with this Position Statement, aligns with their body of knowledge and meets the specific needs of their members and stakeholders.

Feedback

All feedback on this document is welcome – especially from anyone else that is developing guidance on Asset Management Maturity. Please email info@gfmam.org



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The Global Forum on Maintenance and Asset Management

The Global Forum on Maintenance and Asset Management (GFMAM) has been established with the aim of sharing collaboratively advancements, knowledge and standards in Maintenance and Asset Management.

The members of GFMAM (at the time of issue of this document) are:

- Asset Management Council (AM Council), Australia;
- Brazilian Asset Management and Maintenance Association (ABRAMAN), Brazil;
- Belgian Maintenance Association (BEMAS), Belgium
- European Federation of National Maintenance Societies (EFNMS), Europe;
- Gulf Society for Maintenance and Reliability (GSMR), Arabian Gulf Region;
- Institut Français d'Asset Management Industriel et Infrastructures (IFRAMI); France
- Institute of Asset Management (IAM), UK
- Japan Institute of Plant Maintenance (JIPM), Japan
- Japan Association of Asset Management (JAAM), Japan
- PEMAC Asset Management Association of Canada (PEMAC), Canada
- The Society for Maintenance and Reliability Professionals (SMRP), USA.
- The Southern African Asset Management Association (SAAMA), South Africa

The enduring objectives of the GFMAM are:

- 1) To bring together, promote and strengthen the maintenance and asset management community worldwide.
- 2) To support the establishment and development of associations or institutions whose aims are maintenance and asset management focused.
- 3) To facilitate the exchange and alignment of maintenance and asset management knowledge and practices.
- 4) To raise the credibility of member organizations by raising the profile of the Global Forum.



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1 References

The following documents, in whole or in part, are listed as relevant References. They may be considered to be 'normative' references in that the reader needs to be familiar with their content in order to understand Asset Management Maturity. Unless a date is specified the latest version should be used.

- A. ISO 55000, *Asset management — Overview, principles and terminology*
- B. ISO 55001, *Asset management — Management systems – Requirements*
- C. ISO 55002, *Asset management — Management systems – Guidelines for the application of ISO 55001*
- D. *GFMAM Landscape – ISBN 978-0-9871799-2-0 March 2014*
- E. *GFMAM Guidelines for Assessing Asset Management Maturity – ISBN 978-1-7774676-3-0*
- F. *GFMAM Specification for an Asset Management Maturity Assessor – ISBN 978-1-7774676-5-4*
- G. *GFMAM Competency Specification for an ISO 55001 Asset Management System Auditor/Assessor First Edition, Version 2 (ISBN 978-0-9871799-5-1 2014).*
- H. *ISO/IEC 17000 Conformity assessment — Vocabulary and general principles*
- I. *ISO/IEC 17021-1 - Conformity assessment - Requirements for bodies providing audit and certification of management systems*
- J. *ISO/IEC TS 17021-5 - Conformity assessment — Requirements for bodies providing audit and certification of management systems — Part 5: Competence requirements for auditing and certification of asset management systems*
- K. *ISO 31000 Risk management — Guidelines*
- L. Bloom's Taxonomy¹ – *A Revision of Bloom's Taxonomy* by David R. Krathwohl, 2002. https://www.academia.edu/33808588/Theory_Into_Practice_A_Revision_of_Blooms_Taxonomy_An_Overview (An excerpt is shown as Appendix A to Reference F.)
- M. *ISO 19011 Guidelines for auditing management systems*
- N. *ISO/IEC 17024:2012 Conformity assessment — General requirements for bodies operating certification of persons*

¹ There is no single authoritative source so we have provided one we found useful



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2 Purpose and Scope

2.1 Terms & Definitions

'AMMA' means *Asset Management Maturity Assessor*

'AMS' means *Asset Management System*

'Assessment' means the act of judging or deciding the amount, value, quality, or importance of something, or the judgment or decision that is made

'Asset Management Capability' means the extent to which an organization has developed its people, processes, technology, leadership and culture in Asset Management and the extent to which these are integrated to deliver its asset management objectives

'Asset Management Maturity' means the extent to which the capabilities, performance and ongoing assurance of an organization are fit for purpose to meet the current and future needs of its stakeholders, including the ability of an organization to foresee and respond to changes in its operating context

'Audit' means a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled (ISO 9001)

Note: An audit can be an internal audit (first party) or an external audit (second party or third party), and it can be a combined or integrated audit (combining two or more disciplines).

2.2 Purpose

This is the second edition of this Position Statement on Asset Management Maturity, from the Global Forum on Maintenance and Asset Management (GFMAM), to support organizations in their implementation of Asset Management. This Position Statement is high-level: it sets out the principles and characteristics associated with Asset Management Maturity and does not describe the detail.

It is expected that each GFMAM member society will develop their own detailed guidance on Asset Management Maturity that: is consistent with this Position Statement, aligns with their body of knowledge and meets the specific needs of their members.

3 Background

The Global Forum on Maintenance & Asset Management (GFMAM) has recognized that, with accelerating interest in Asset Management and adoption of the ISO55000 standards, some organizations (and people) would value more guidance on Asset Management Maturity.

GFMAM has therefore undertaken research on other ‘Maturity’ models, which are sometimes called Excellence Models. We have used the following headings to collect some relevant factors:

- Stakeholders & Context
- Leadership & Culture
- Decision-making
- Continuous Improvement; and
- Outcomes & Value

Stakeholders & Context

- The internal and external context of the organization can have a significant influence upon what is possible and what is worthwhile in terms of asset management maturity.
- Maturity often entails a dynamic adaptive approach to achieve continual alignment to changing objectives or stakeholder needs or changes in the business environment
- Both leadership and the workforce need to be able to sense and respond to changing stakeholder needs including the external business environment

Leadership & Culture

- Higher levels of maturity often require changes in leadership styles, organizational structures, roles, responsibilities and competencies.
- Leadership processes and organizational culture have an influential / dominant role and may need to adapt over time.

Decision-making

- Maturity involves consistent and auditable decision-making, along with the supporting processes, enabling technology and necessary data / information managed as an asset as well.

Continuous Improvement

- Maturity is strongly dependent on continuing action and continuous improvement over the long-term.
- Higher levels in maturity often require new governance arrangements, management processes and workforce empowerment.

Outcomes & Value

- Maturity involves the ability to continually achieve organizational objectives and stakeholder needs, over both short and long-term.

ISO 55000 states that Asset Management is founded on a set of Principles (Fundamentals in the 2014 version of Ref A). If any one of these Principles is missing, the organization is unlikely to realize maximum value from its assets. The four Principles defined by ISO 55000 directly influence an organization's Asset Management System and are explained below. They also influence factors outside the AMS. (NB This is not a precise copy of ISO 55000:2014 and includes additional text.)

a) **Value:** Assets exist to provide value to the organization, to stakeholders and the community.

Asset Management does not focus on the asset itself, but on the value that the asset can provide to the organization. This value, which can be tangible or intangible, financial or non-financial, will be determined by the organization and its stakeholders, in accordance with the organizational objectives.

This includes:

- A clear statement of how the Asset Management objectives align with the organizational objectives;
- The use of a life cycle management approach to realize value from assets;
- The establishment of decision-making and associated risk management processes that reflect stakeholder need and define value; and
- The establishment of agreement and consensus setting processes with stakeholders including customers and the community.

b) **Alignment:** Asset Management translates the organizational objectives into technical and financial decisions, plans and activities.

Asset management decisions (technical, financial and operational) collectively enable the achievement of the organizational objectives.

This includes:

- Implementation of risk based, information driven, planning and decision making processes;
- Activities that transform organizational objectives into Asset Management plans;
- Integration of the Asset Management processes with the functional management processes of the organization, such as finance, human resources, information systems, logistics and operations;
- Specification, design and implementation of a supporting Asset Management System; and
- Undertaking only those activities that are sufficient and aligned to the Asset Management objectives.

c) **Leadership:** Leadership and workplace culture are determinants for the realization of value.

Leadership and commitment from all managerial levels is essential for successfully establishing, operating and improving Asset Management to achieve the organizational objectives.

This includes ensuring that:

- Leadership is developed at all levels of the organization;
- Roles, responsibilities and authorities are clearly defined;
- Employees are aware, competent, and empowered; and
- Leadership is aligned to the desired culture of the organization.

d) **Assurance:** Asset management gives assurance that assets will fulfil their required purpose.

The need for assurance arises from the need to effectively govern an organization and to provide safe outcomes.

Assurance applies to Assets, Asset Management and the Asset Management System. This includes:

- Developing and implementing processes that connect the required purposes and performance of the assets to the organizational objectives;
- Implementing processes for assurance of capability across all life cycle stages;
- Implementing processes for monitoring and continual improvement;
- Implementing agreement and consensus processes with stakeholders including the community in relation to changes to, or requirements upon, the organizational and Asset Management objectives; and
- Providing the necessary resources and competent personnel for demonstration of assurance, by undertaking Asset Management activities and operating the Asset Management System.

Each Principle is relevant both to Asset Management and to the assessment and measurement of Asset Management Maturity. But to what extent are these Principles sufficient to ensure that organizational objectives are met and the desired value is realized? Do they characterize a mature approach to Asset Management? To answer these questions, reviews were conducted of case study material and of results from over a decade of awards in Asset Management. Distinctive advantage was evident in organizations that, in addition to the four Principles, were also adaptive to the context of the organization.

The environment (external context), existing asset portfolio and capabilities (internal context) of the organization exert constraints and provides opportunities. These will shape the degree to which increased maturity in asset management is desirable and achievable. So geography, industry sector, political and regulatory framework, societal culture and other contextual factors need to be understood and considered to ensure that asset management can deliver the desired value.

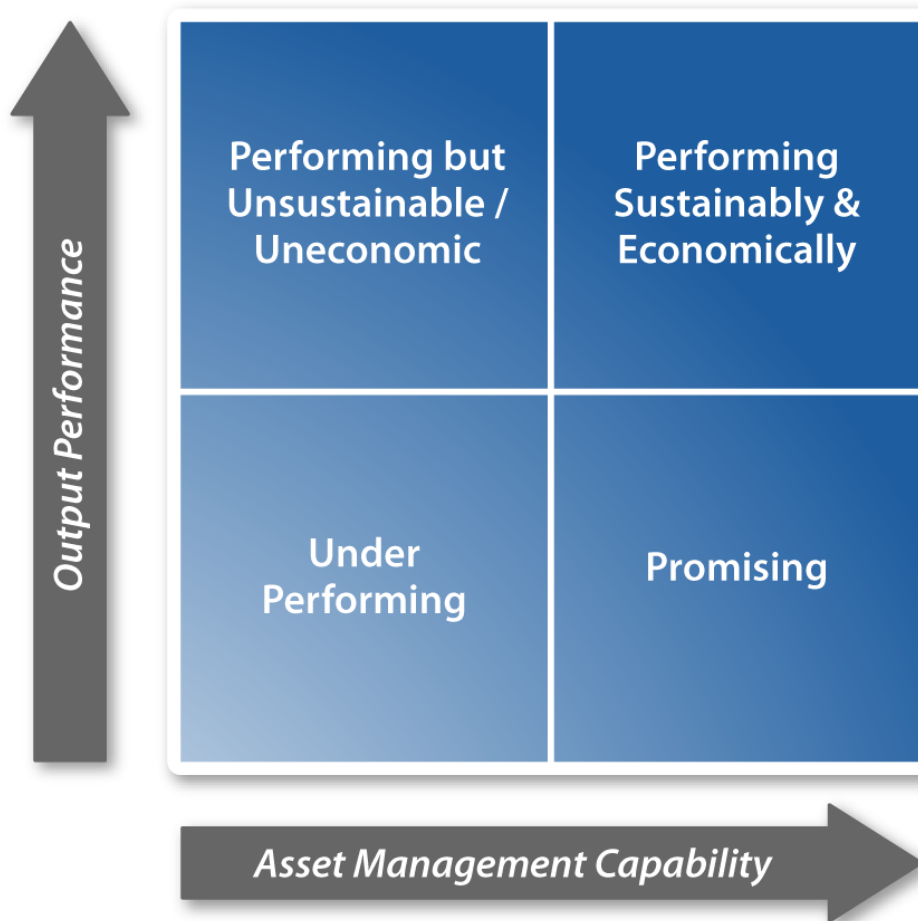
An 'adaptable' organization is able to sense and respond to changes in the organization's context and stakeholder's expectations faster than the rate at which such changes would otherwise take place. Despite changes in the purpose and environment, an adaptable organization can continually maintain stakeholders' support, achieve its organizational objectives and realize value while providing relevant goods and/or services. In order to be 'adaptable', an organization must be able to handle both fast response and long time horizon changes appropriately.

An organization that has a mature approach to Asset Management must therefore also be adaptable and be able to:

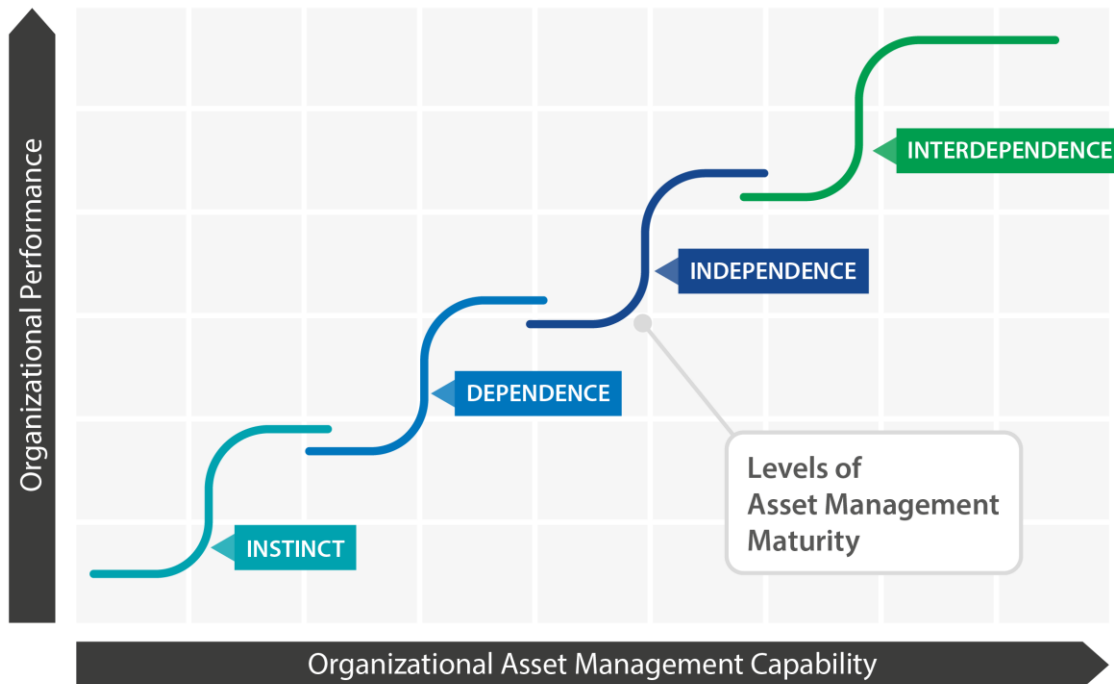
- Identify and respond to changes in context or stakeholder needs, including tacit requirements, in a timely manner;
- Identify trends in new demands and approaches to evolution in society
- Continually look for opportunities to create further value
- Support the organization's ability to adapt, manage uncertainty, and engage with its stakeholders to determine direction and priorities;
- Create and adjust organizational capabilities to meet changing needs;
- Develop leadership qualities that shape and clarify the purpose of the organization and engage the workforce with clear standards of behaviour; and
- Develop governance arrangements that assure:
 - Coordination of resources, capabilities and activities; and
 - Clarity of responsibilities and accountabilities, including internal and external agreements, performance and decision-making criteria.

4 The Path to Asset Management Maturity

The diagram below illustrates the relationship between Asset Management Capability, Asset Management Maturity and outcomes. This shows that an organization may appear to be delivering the outcomes or performance but without properly understanding its underlying capabilities, it is not possible to determine whether this is sustainable in the longer-term. Asset Management Maturity must consider both dimensions.



It should be emphasized that improvements in organizational outcomes and/or performance will often plateau at differing levels of Asset Management Capability and Maturity, as illustrated in the diagram below. These step changes (or “S curves”) are a result of the natural stages in developing and stabilizing new processes, competencies, culture and leadership as Asset Management Maturity develops. These take time (can be years rather than months) and the improvement journey should be seen as strategic rather than tactical. The organizational performance improves as each new state of maturity is reached.



An example of different Asset Management Maturity levels on this journey are:

1. **Instinct:** Management by instinct, with no collective values or norms. Usually delivers high variability in results and generally does not create any value and is reactive in nature.
2. **Dependence:** Dependent on the existence of rules maintained by senior management that conveys to people the values and beliefs of that society. Will only deliver what is led by senior management and nothing more. People achieve only the minimum expected value; and results tend to plateau at a lower level of performance, once initial improvements are gained.
3. **Independence:** Independent leadership begins to be a process. Will deliver good results aligned to the objectives of the organization but is still not fully embedded at all levels of the organization. Will not fully deliver the value desired for long term sustainability.
4. **Interdependence:** Interdependent leadership becomes a process where standards of conduct for all are guided by the purpose of the organization and its values and beliefs, which is consistent with its culture and context. Will deliver the highest value against the objectives of the organization in a sustainable way over the long term. Can be sustained even with major changes to key staff.

5 Characteristics of Mature Organizations

This section contains the characteristics that organizations would typically exhibit at higher levels of Asset Management Maturity. These have been grouped into the following:

- Purpose & Context
- Leadership & Culture
- Decision-making
- Measurement & Continuous Improvement; and
- Outcomes & Value

Stakeholders & Context

- The organization has a clear, common over-arching purpose
- The organization can demonstrate that its capabilities, performance and ongoing assurance across the Asset Management landscape are fit for purpose for their operating context
- The organization anticipates, and is responsive to, changing demands and context
- Activities across all disciplines in an organization are integrated and decisions are demonstrably aligned to stakeholders' requirements
- Everyone in the organization is striving to deliver value in line with organizational objectives

Leadership & Culture

- All levels of the organization are aligned in a clear common over-arching purpose
- Leadership and aligned commitment are evident at all levels in the organization
- Everyone in the organization is striving to deliver greater value in line with organizational objectives
- A fair and 'no blame' culture is evident throughout the organization
- There is a culture of 'doing what is best for the organization as a whole'

Decision-making

- The appetite for costs, risk, performance is understood at all levels in the organization
- Analysis of risks, costs and performance, in data collection, analysis and in decision-making methods are proportional to the criticality of the assets
- Decisions and actions are shown to represent the required value options and timings, and the impacts of alternative options or timings are known and documented
- A commitment to quality in information and decision-making exists at all levels of the organization and the adherence to the principle of a 'single source of truth'
- Uncertainties in information are understood and managed throughout the organization
- The organization recognizes information and knowledge as valuable assets and manages it like any other asset.

Continuous Improvement

- The organization continually improves both its Asset Management System and the elements

of Asset Management outside of the Asset Management System

- Performance monitoring makes use of both leading and lagging Key Performance Indicators to predict and influence outcomes
- There is evidence of proactive research in the identification of improvement opportunities, including adaptations and refinements from other industry sectors
- There is awareness of the organization's performance compared to competitors or peer groups, and it can be demonstrated how and why the organization outperforms such competitors or peers
- There is widespread and consistent understanding of asset performance and asset management performance throughout the organization
- Current and forecast performance is communicated with external stakeholders for assurance and the management of expectations

Outcomes & Value

- The organization consistently delivers organizational objectives, meeting the needs and expectations of its stakeholders
- Organizational interfaces (internal and external) are collaborative, with a focus on total value and outcomes

6 Benefits of Maturity in Asset Management

Improved maturity increases and sustains the business benefits and value achievable from Asset Management. Such outcomes should therefore be considered when defining or assessing levels of Asset Management Maturity. These outcomes have been grouped into the same headings as before:

Stakeholders & Context

- Confidence in the adaptability of the organization to anticipate the need for, and to manage, change in context, objectives, stakeholder needs and available practices

Leadership & Culture

- Clarity about the goals and future direction of the organization;
- A positive and co-operative work environment, with higher productivity;
- Wider understanding and acceptance of the value that Asset Management provides to different stakeholders;
- Alignment of leadership, culture and behaviours

Decision-making

- Clearer, consistent and better quality decision-making;
- Improved risk management;
- Resolution of different perspectives of value and consensus about the basis and criteria for decision-making;

Continuous Improvement

- Improved organizational efficiency and effectiveness;
- Improved life cycle costs
- Alignment of the continual development of Asset Management capabilities with the needs and opportunities of the organization

Outcomes & Value

- Consistently achieve improved financial performance (e.g. return on investment and preservation of asset value);
- Improved health, safety and environmental outcomes;
- Improved quality and reliability of products and services;
- Demonstrated social responsibility;
- Demonstrated regulatory and legal compliance;
- Enhanced reputation;
- Improved organizational sustainability;
- Consistency between predicted outcomes and those achieved



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Appendix A – Further Reading

The following are references to work that has been undertaken by members of GFMAM on Asset Management Maturity:

- AM Council definition of maturity and maturity model - <https://www.amcouncil.com.au/knowledge/asset-management-body-of-knowledge-ambok/ambok-models.html>
- IAM Asset Management Maturity Scale and Guidance - www.theIAM.org/Maturity
- Living Asset Management - <http://www.amcouncil.com.au/knowledge/publications/living-asset-management.html>