

Asset Information Maturity Model

28 September 2021

Asset Information Managers' Forum

Purpose:

1. Develop and agree standards, guidelines and maturity assessment for managing asset information.
2. Hold an annual workshop to understand how other asset information managers from electricity generation, transmission and distribution are dealing with challenges that are common across the industry.
3. Create relationships that are useful when making contact throughout the year to discuss issues that affect other organisations in the industry.

Benefits of the AIM Forum

1. Develop a common approach
2. Connect with others to create network
3. Some shared sites and asset connections points between organisations which benefit from a common approach to information definition and exchange
4. Identify where asset information standards are required and either adopt international ones or come up with NZ specific ones
5. Learn from others and collaborate on solutions
6. Facilitate cross industry data exchange by developing a common approach or adopting standards
7. Understand more about the impact of changing platforms and technologies so we can get the best outcomes for our stakeholders

Agenda (May 2021)

| Start | Topic |
|---------|--|
| 9.00am | Welcome |
| 9.05am | Round table / introductions |
| 9.30am | Purpose of the AIMF and recap on last year |
| 10.00am | Planning for remainder of day |
| 10:30am | Break |
| 11.00am | Discussion Topic 1: Asset Information Maturity Model |
| 12.00pm | Discussion Topic 2: Common data standards |
| 12.30pm | Lunch break |
| 1.00pm | Discussion Topic 3: Smart Meter Data |
| 1.30pm | Discussion Topic 4: Aligning reporting |
| 2:00pm | Discussion Topic 5: Data & Analytics |
| 2:30pm | Break |
| 2.45pm | Discussion Topic 6: Photos and multimedia |
| 3:15pm | Other Topics – suggestions invited |
| 3:45pm | Future direction |
| 4.00pm | End |

Background to Asset Info Maturity Model

1. May 2017: First Asset Information Managers' Forum held at Transpower in Wellington
2. May 2018: Identified as a useful initiative at 2018 AIMF
3. September 2018: Emailed attendees from May 2018 AIMF
 - a) Asked for input into a proposal to AMG to see if there is AMG support
 - b) Asked who would be interested in co-developing a draft
4. December 2018: AMG confirmed their support
5. January 2019: Started work on a draft with Roger Oed (WEL Networks) and Iain Sanders (Powerco)
6. May 2019: Presented overview at 2019 AIMF
7. June 2019 – April 2020: Chris Franks (Vector) and Andrew Spackman (Alpine) joined Roger, Iain & Jules complete a final draft
8. May 2020 – Presented final draft at 2020 AIMF
9. June 2020 – Draft submitted to EEA to review and publish as an industry guideline
10. May 2021 – Reviewed latest version and walked through an example using the model
11. July 2021 – Commerce Commission highlights needs for EDBs to have robust data quality and governance standards

Intended Use

This document can be used to:

- **Assess capability:** Provide a maturity model for assessing an electricity asset management organisation's capability in managing its asset information, and
- **Improve capability :** Provide direction and examples to help an electricity asset management organisation's improve capability in managing its asset information.

Principles for What to Include

Information has been included or excluded from the document using the following principles

| Use | Includes | Does not include |
|---|--|---|
| Assess capability | Requirements that should be met by all organisations Based on external standards (e.g. IAM, AMMAT and ISO55001) but applied to Management of Electricity Assets | Requirements that could be used but are not required by all organisations |
| Improve capability (i.e. improve asset information maturity) | Examples of good practise that may not apply to all organisations but have been successfully used at one or more organisations Examples of how to meet the requirements outlined in the above capability maturity model | Ideas that have not been tested and proven. |

Document Structure



Part A

- Overview of concepts
- Read this to understand the core concepts



Part B

- Maturity Model
- Use this to assess an organisation's asset information capability maturity
- Maturity levels relate to AMMAT clauses 62 to 64 and ISO55001 clause 7.5



Part C

- Examples
- Use these examples from asset information management systems to help develop your own

Part B – Maturity Models

| | Asset Information Strategy | Asset Information Standards | Asset Information Systems | Data and Information Management |
|----------------|---|---|---|--|
| Level 5 | Continuous improvement phase | Overall data quality is associated with asset management risks | The system is recognised as an integral and essential part of the overall businesses management systems and is seamlessly integrated into its processes | Organisation targets, matches and sustains best practice integration and application of the data strategy and data standards throughout the data and information asset lifecycle |
| Level 4 | Implemented throughout the organisation | Data quality requirements for each information requirement documented | Systems are implemented throughout the organisation as part of BAU workflow with clear procedures and management backing | Organisation has implemented a continuous data and information mgt. improvement process |
| Level 3 | Implementation begun | Information requirements documented | Systems are implemented and in general use | Organisation is able to demonstrate information assurance |
| Level 2 | Strategy document written and approved | Reports on non-conformance against standards are produced | Some systems are in place with others planned | Organisation is starting to develop, test and implement solutions to address the requirements identified |
| Level 1 | No information strategy exists | Standards for data collectors exist | No recognition of the need for formal asset information management systems | Organisation is starting to identify, prioritise and define data and info mgt. deliverables |

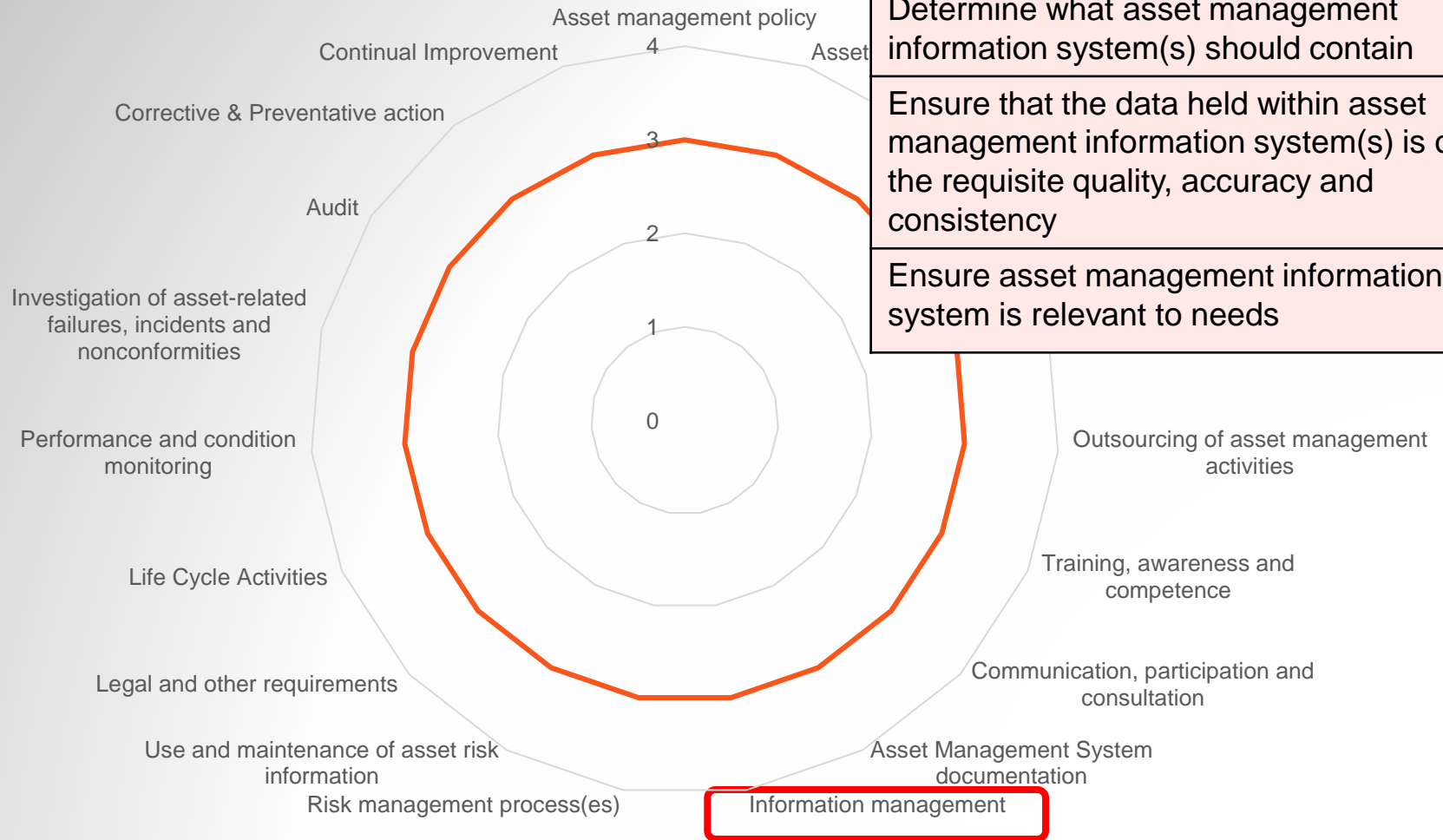
Part C – Examples

| | |
|-------------------------------|---|
| PART C- Examples | |
| 1 | Overview |
| 1.1 | Artefacts for each area of asset information |
| 2 | Organisation A |
| 2.1 | Asset Information Document Framework |
| 2.2 | Asset Information Strategy |
| 2.3 | Asset Information Management Procedures |
| 2.4 | Asset Information Requirements - Example |
| 2.5 | Asset Information Guide - Example |
| 2.6 | Asset Information Standard – Example |
| 3 | Organisation B |
| 3.1 | Template for a Strategy to Improve Asset Information Maturity . |
| 3.2 | Template for Implementation Plan..... |
| 4 | Organisation C |
| 4.1 | Asset Information Improvement Template..... |
| 4.2 | Asset Information Strategy Self-assessment table |

AMMAT

Information Management

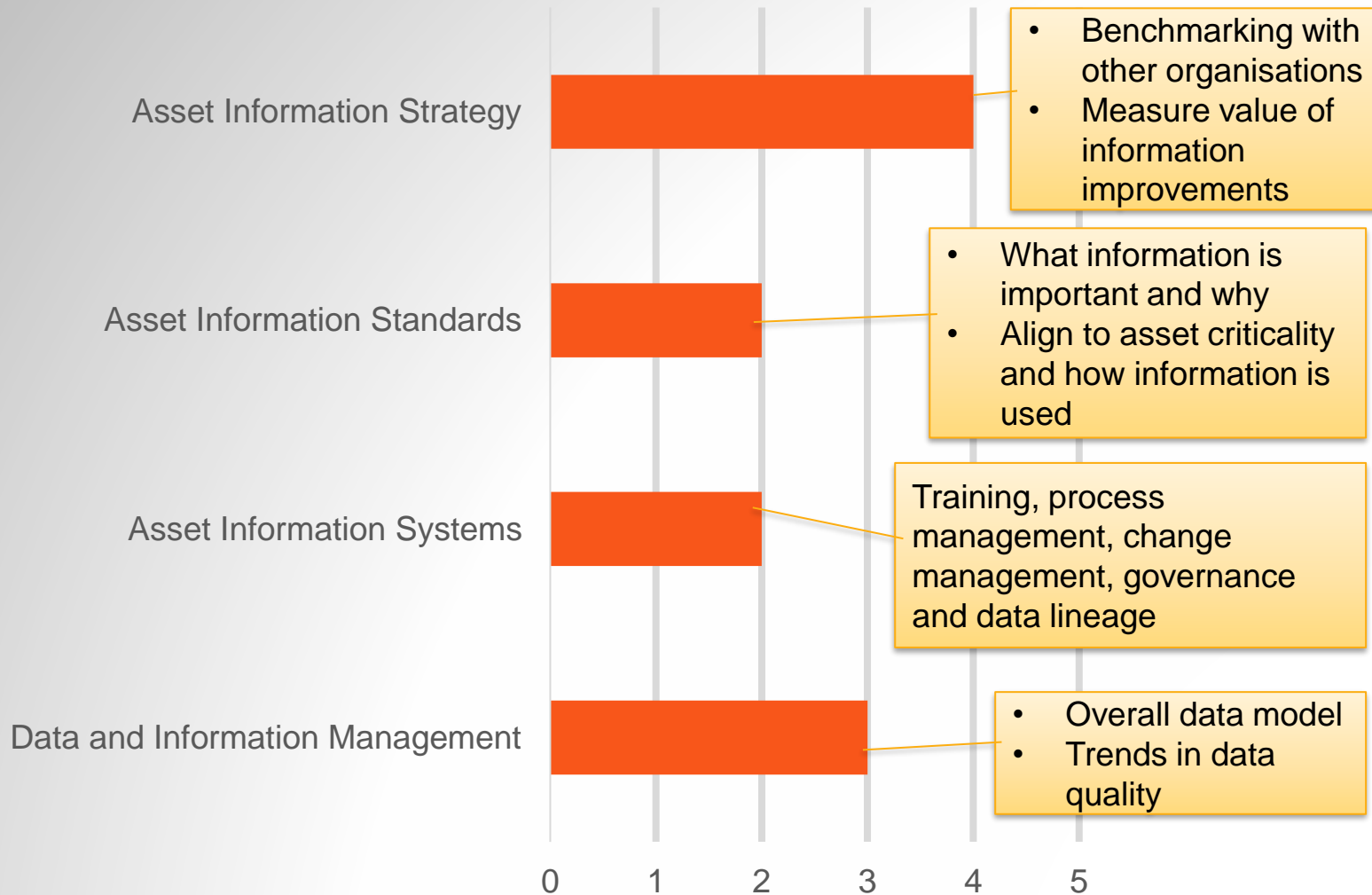
- Determine what asset management information system(s) should contain
- Ensure that the data held within asset management information system(s) is of the requisite quality, accuracy and consistency
- Ensure asset management information system is relevant to needs



Asset Information Maturity Framework

| Topic | Asset Information Strategy | Asset Information Standards | Asset Information Systems | Data and Information Management |
|--------------------|---|---|---|--|
| Description | Is there an agreed view of where the organisation is going with asset information and is this aligned with asset management strategy? | Are these standards for asset information collection and are these effective? | Are the necessary information systems in place, are these used effectively and are there effective processes to govern these systems? | Is the required information available to those who need it and is it managed effectively? |
| Level 5 | Continuous improvement phase | Overall data quality is associated with asset management risks | The system is recognised as an integral and essential part of the overall businesses management systems and is seamlessly integrated into its processes | Organisation targets, matches and sustains best practice integration and application of the data strategy and data standards throughout the data and information asset lifecycle |
| Level 4 | Implemented throughout the organisation | Data quality requirements for each information requirement documented | Systems are implemented throughout the organisation as part of BAU workflow with clear procedures and management backing | Organisation has implemented a continuous data and information improvement process |
| Level 3 | Implementation begun | Information requirements documented | Comprehensive systems are implemented and in general use | Organisation is able to demonstrate information assurance |
| Level 2 | Strategy document written and approved | Reports on non-conformance against standards are produced | Limited systems are in place but not all associated processes, responsibilities, training and governance | Organisation is starting to develop solutions to address the data requirements |
| Level 1 | No information strategy exists | Standards for data collectors exist | No recognition of the need for formal asset information management systems | Organisation is starting to identify, prioritise and define data deliverables |

Asset Information Maturity Scores*



*Using EEA Asset Information Maturity Framework

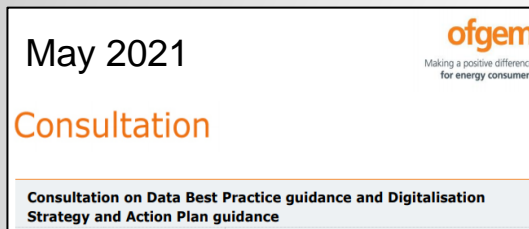
Triggers for change

1. This document is expected to evolve over time.
2. Part A and B are not expected to change frequently.
 - Changes to these sections are expected to be triggered by external changes, e.g. AMMAT changes or a new version of ISO55001 being released.
3. Part C is expected to change more frequently and be added to on an on-going basis.
 - This intended to be resource that gets added to over time and may include case studies and other material organisations are willing to share, e.g. examples of Asset Information Strategies.
 - If this content grows, at some stage it may be useful to consider moving this content to a knowledge management system to enable it to be searched and accessed more efficiently.

Why Is This Important

1. Helps manage asset information related **risks** and provide assurance for those accountable
2. Identifies **opportunities** for improving asset information practices
3. Sets **expectations** for what asset information practices should be in place
4. Enables benchmarking and **reporting** of asset information maturity

For example...



OFGEM in the UK are consulting on **regulatory requirements that energy network companies will have to comply with**. These requirements are two sets of guidance: Data Best Practice (DBP) and Digitalisation Strategy and Action Plan (DSAP) guidance.



Given the increasing reliance on data in asset management practices, EDBs should ensure that they have robust data quality and governance standards. **We strongly encourage all EDBs to review data quality and governance**



Information on power flows and hosting capacity – **distributors need greater visibility of their low-voltage networks** to manage reliability and make efficient investment decisions. **Third parties also need information on hosting capacity** to make informed business decisions and compete on a level playing field.

Next Steps

1. Provide feedback using the consultation feedback form on the EEA website – open until 15 October
2. Review, finalise and then publish as industry guide
3. If there is interest, could use asset information maturity model for self assessing or cross auditing, i.e. one person audits another organisation

Questions?

- Is this useful?
- Would you use it?
- Would it be useful to create a tool (e.g. spreadsheet) for doing an maturity assessment?