ISO 55000
Managing Risk, Cost, Performance and Governance of all assets

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ISO 55000

1. AM Principles and Terminology

2. ISO 55000/1/2 - Overview
   - Background and establishment
   - Structure and fit to other standards
   - It’s content

3. Official Certification

4. Impressions
   - How will it play out
   - Its benefits and value
   - How can one use it. What are the options?
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Definition: Asset

An item, thing or entity that has potential or actual value to an organisation
- Assets
- Asset types
- Asset systems
- Portfolio of assets

Note: The value changes over time – depreciation or impairment
The period from the creation of an asset to the end of its life is the asset life. An asset’s life does not necessarily coincide with the period over which any one organisation holds responsibility for it; instead, an asset can provide potential or actual value to one or more organisations over its asset life, and the value of the asset to an organisation can change over its asset life.
The coordinated activities of an organisation to realise value from its assets. Asset management translates the organisation’s objectives into asset-related decisions, plans and activities, using a risk based approach.

**Note:** Realisation of value normally involves a balancing of costs, risks and performance. This balancing might need to be considered over different time frames.

ISO 55000:2014
Value Realisation - A Balancing Act

Balancing conflicting drivers

- Performance
- Cost
- Risk
Definition: Asset Management System

A set of interrelated or interacting elements of an organisation to establish asset management policies and objectives, as well as the processes to achieve those objectives.

Note: The asset management system is a subset of asset management.
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A standard for asset management?
What is PAS 55?

- PAS = Publically Available Specification
- Released by the British Standards Institution (BSI)
- Led by the Institute of Asset Management (IAM)
- Used input from global experts
- Released in 2004, revised in 2008
- Applicable to any organisation where physical assets are critical for success
- Available from IAM at GBP145 (members) and GBP 185 (non-members)

www.theiam.org
The History of ISO 55000

- 2004: PAS 55 published by BSI
- 2008: PAS 55 V2 released
- 2009: BSI proposed PAS 55 as the basis for an AM standard
- Jul 2010: Preliminary meeting of ISO AM Committee in London
- Sept 2010: ISO approval of TC251
- Jan 2011: 1st working draft of ISO 55000/1/2 released
- Jan 2014: Final release
The History of ISO 55000

- 2nd Review 2014
- Unpacks Asset Management in 39 subjects (categories)
- 1 page per subject - clarification of its scope
- Goal: To facilitate the exchange and alignment of maintenance and asset management knowledge and practices
ISO 55001 Clauses

10. Improvement

4. Context of the organisation
   5. Leadership
   6. Planning

9. Performance evaluation

7. Support
   8. Operation

Act

Do

Plan

Check
And finally...

ISO 55001 specifies the requirements of an asset management system, but does not specify the design of the system.

This International Standard does not provide financial, accounting or technical guidance for managing specific asset types.

ISO 55000
And finally...

"We thought that we had the answers, it was the questions we had wrong."
- Bono

"It's not that they can't see the solution. They can't see the problem."
- G.K. Chesterton
ISO -> systems, documents and processes must be

**in place** formal documents developed and implemented

**in use** records show actual usage

(Value adding)
Asset Management Elements

Managing the organisation

Asset management

Asset management system

Asset portfolio

Coordinated activity of an organisation to realise value from assets

Set of interrelated or interacting elements to establish AM policy, AM objective and processes to achieve those objectives

Assets that are within the scope of the asset management system

Source: ISO 55000:2014
Asset Management Elements

Managing the organisation

Asset management

Asset management system

Asset portfolio

GFMAM’s 39 Subjects and IIMM, etc.

ISO 55001: Management system for Asset Management

Applicable asset register
Asset Management System: PAS 55

Organisational strategic plan (OSP)
- Vision, mission, values, business policies, goals and the management of its risks

Planning
- Asset management policy
  - Mandated principles and requirements related to the assets and the framework for control
- Asset management strategy
  - Chosen long term approach and optimal scheme to apply the AM policy and support the OSP
- Asset management objectives
  - Specific and measurable outcomes required of assets, asset systems and asset management system
- Asset management plans
  - Which activities and associated resources shall be applied by whom and when to implement the asset management strategy and deliver the asset management objectives

Implementation
- Life cycle activities
  - Functional
    - Policies/strategies, standards, processes, procedures
  - Create/acquire
  - Utilise
  - Maintain
  - Renew/dispose
- Assets
  - Portfolio of asset systems and individual assets
Organisational plans and objectives

AM policy

Plans for developing AM system plus support elements

AM system plus support elements

Implementation of AM plans

Asset portfolio

Performance evaluation and improvements

Stakeholder and organisation context

4.1 Understanding the organisation and its context
4.2 Understanding the needs and expectations of stakeholders
5.1 Leadership and commitment
5.3 Organisational roles, responsibilities and authority

4.3 Determining scope of AM system
6.1 Actions to address risks and opportunities for AM system

4.4 AM system
6.2.1 AM objectives
6.2.2 Planning to achieve AM objectives
8.3 Outsourcing (scope)

6.1 Actions to address risks and opportunities for AM system
8.1 Operational planning + control
8.3 Outsourcing (control)
8.2 Management of change

5.2 Policy

7.1 Resources
7.2 Competence
7.3 Awareness
7.4 Communication
7.5 Information requirements
7.6 Documented information

8.1 Operational planning + control
8.2 Management of change
8.3 Outsourcing (control)
8.2 Management of change
9.1 Monitoring, measurement, analysis and evaluation
9.2 Internal audit
9.3 Management interview
10 Improvement

ISO 55002:2014
Appendix B

AM System: ISO55000
Clause 4: Context of the Organisation

4.1 Understanding the organisation and its context
• Align AM objectives with organisational objectives
• Identify and record relevant external issues
• Identify and record relevant internal issues

4.2 Understanding the needs of stakeholders

4.3 Determining the scope of the AM system

4.4 Asset management system
Clause 5: Leadership

5.1 Leadership and commitment

5.2 Policy
- Develop and communicate an AM policy (Statement of Intent)

5.3 Organisational roles, responsibilities and authorities
- Assign and communicate roles and authorities for asset management
Clause 6: Planning

6.1 Actions to address risks for the AM system

6.2.1 Asset management objectives

• Develop AM objectives for relevant functions and levels (AM KPIs with targets)

6.2.2 Planning to achieve the objectives
Clause 7: Support

7.1 Resources
7.2 Competence
• Determine required competencies
• Ensure competencies

7.3 Awareness
7.4 Communication
7.5 Information Requirements
7.6 Document Information
Clause 8: Operations

8.1 Operational planning and control
- Document operational processes
- Treat and monitor risks
- Keep records of all activities

8.2 Management of Change

8.3 Outsourcing
Clause 9: Performance evaluation

9.1 Monitoring, measurement, analysis and evaluation
• Monitor the performance of assets
• Monitor the effectiveness of the AM system
• Document monitoring processes and responsibilities

9.2 Internal audit
9.3 Management review
Clause 10: Improvement

10.1 Non-conformity and corrective action
10.2 Preventive action
10.3 Continual improvement

• Continually improve asset management and the asset management system
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Certification Requirements

1. Documents / Specifications
   - ISO 55001: Asset Management System Spec
   - ISO 17021: Conformity assessment spec.
   - ISO 17021-5: Conformity assessment spec on Asset Management

2. Organisations / Bodies
   - IAF – International Accreditation Body
   - National (i.e. SA) Accredited bodies (Sanas)
   - Certification Bodies (SABS, NOSA, BSI in UK, ...)

3. Actual Accreditation

Accredited vs Unaccredited Certifications

Certification Client

Management System consultancy
National CAABs: South Africa

South Africa

South African National Accreditation System (SANAS)

Ms. Christinah Leballo

South African National Accreditation System
Private Bag X23
Sunnyside, 0132
South Africa

Telephone: +27 12 394 3760
Facsimile: +27 12 394 4762
Email: christinahl@sanas.co.za
Website: http://www.sanas.co.za

Code of Conduct Adopted: 18 August 2004

IAF MLA
Main scopes
- Management system certification - ISO/IEC 17021

Sub scopes
- Level 4
  - none
- Level 5
  - ISO 9001 - 29 Oct 1998
  - ISO 14001 - 9 Oct 2004

Find Certified bodies
Re-certify every 3 years (same as ISO9001)
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How will it play out

- How did others ISO 9000 play out
  - Launched 1987 (27 years); 4th release (2008), next 2015
  - Currently over 1m companies certified worldwide
  - Change in scope in 1994 – look not only for “in place and in use” but “will it help, i.e. is it a good process or is there a way to do it better?”
  - Possible reason for adoption: client requirements on suppliers
  - The global adoption of ISO 9001 may be attributable to a number of factors:
    - Better financial performance
    - Won new business
    - Achieved superior return on assets
    - Superior performance
  - However – no proof of direct causation, although it might be. Others say the improvement is thanks to the better companies that certifies.
How will it play out

• ISO Certification Growth

Top 10 countries for ISO 9001 certificates (2010)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>No. of certificates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>China</td>
<td>297,037</td>
</tr>
<tr>
<td>2</td>
<td>Italy</td>
<td>138,892</td>
</tr>
<tr>
<td>3</td>
<td>Russian Federation</td>
<td>62,265</td>
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<td>India</td>
<td>33,250</td>
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<td>9</td>
<td>United States</td>
<td>25,101</td>
</tr>
<tr>
<td>10</td>
<td>Korea, Republic of</td>
<td>24,778</td>
</tr>
</tbody>
</table>
How will it play out

Other ISO’s?

• 14001 – Environment
  – Launched 1996 in 10 years: 154k (it took ISO 9000 223k)
  – Reason for growth? Environmental groups.

• ISO 22001 – Food safety management system –
  Requirements for any organisation in the food chain
  – Launched 2005, in 5 years: 2,597 (slow take-up)
  – HACCP is strong already and with ISO9000 it covers the spec.
  – Note value chain demand for control
How will it play out

• Take-up: Carrot and stick
  – will a demand be put on companies for compliance/certification (Ensurers for insurance, banks for funding, Shareholder etc.)
  – Will companies comply/certify for the good business sense it seems to make (higher value from their assets – financial benefit)

• It will be the standard all look to?
Asset Management System Benefits

Managed risk
- Reducing financial losses
- Improving health and safety, good will and reputation
- Minimising environmental and social impact

Results in reducing liabilities (e.g., insurance premiums, fines and penalties)

Demonstrated social responsibility
Improving the organisation's ability to:
- reduce emissions
- conserve resources
- adapt to climate change

Demonstrated compliance
Transparently conforming with
- legal, statutory and regulatory requirements
- adhering to AM standards, policies and processes
Asset Management System Benefits

Enhanced reputation
Through improved client satisfaction, stakeholder awareness and confidence

Improved organisational sustainability
Effectively managing:
• short and long-term effects
• expenditures
• performance
Thereby improving sustainability of operations and the organisation

Improved efficiency and effectiveness
• Reviewing and improving processes, procedures and asset performance
• Achievement of organisational objectives
ISO 55001 Certification Benefits (an Asset Management System)

The adoption of ISO 55001, ISO 55002 and this International Standard enables an organisation to achieve its objectives through the effective and efficient management of its assets. The application of an asset management system provides assurance that those objectives can be achieved consistently and sustainably over time.

ISO 55000:2014
ISO 55001 Certification Benefits
(an Asset Management System)

1. Asset management as a professional discipline
2. Certification improves organisation’s credibility
3. Sustainability through formalised processes
4. Brings AM awareness to top management
5. Insurance prerequisite
6. Internationally accepted standard
7. Establishes process of review and improvement
Options

- From scratch to compliance: 1,5 to 3 years.
- Options:
  - Do Nothing: i.e. Ignore it, Continuing using current system
  - Use it to give you visibility/airtime with top management, irrespective of certification aspirations
  - Go for certification for
    • the prestige and marketing nature of the certification (maybe not a too strong argument)
    • For the demand and the benefits that it holds
  - Go for certification with poor qualification (i.e. paper only, not interested in the benefits)
  - Go for qualification, without accreditation: benchmark current system with the specification and take it from there.
Recommendations

- RAG Assessment (Gap analysis) of both the system and the full AM practices
- Roadmap of improvement (note RAG status, its importance to you and sequencing logic)
- Certification a bonus, compliance to a certain level an imperative.

Asset management System: ISO 55000

Asset Management practices / design: GFMAM

Policy
- Strategy
- objectives

people
- process
- Support system

PDCA cycle

Strategy and planning (5)

Lifecycle Delivery (11)

Organisation and People (5)

Asset management decision making (5)

Asset Information (4)

Risk and Review (9)
In conclusion ... on ISO 55000 ...

"Judge a man by his questions rather than his answers."
- Voltaire

"He who asks a question is a fool for five minutes; he who does not ask a question remains a fool forever."
- Chinese proverb
Questions?
The End