UIC Railway Application Guide of Practical Implementation of Asset Management through ISO 55001

An Introduction

David McLeish, AMCL
What are we talking about?

- UIC publication
- A practical Asset Management guide for railway infrastructure managers
- Based on a standardised approach (ISO55000 series)
- Translates ISO55001 into a railway context
### Where did it come from?

<table>
<thead>
<tr>
<th>UIC AMWG Members</th>
<th>Individuals</th>
<th>Reviewing Organisation</th>
<th>Name</th>
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<tbody>
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<td>Sweco</td>
<td>Per Norrbin</td>
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<td>World Bank</td>
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Why?

- **Opportunity** - Railways are not yet operating at their full potential in terms of providing customers and funders with a safe, quality service that is demonstrably value for money

- **Relevance** - Asset Management is the only system-wide approach that has the breadth, depth and whole life focus necessary to help infrastructure managers to realise this potential

- **Benefits** - Asset Management integrates decisions and activities, and it creates a clear ‘line of sight’ or alignment between organisational objectives and the delivery of work on the ground

- **Need** - ISO55000 has replaced PAS 55 but is generic...
What is ISO55000?

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<td>Support</td>
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<td>Operation</td>
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<td>9</td>
<td>Performance evaluation</td>
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<td>10</td>
<td>Improvement</td>
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</table>

Source: ISO 55000

Designates Asset Management system boundary
10 Clauses and 72 ‘Shall’ Statements

Source: ISO 55000
Planning to meet objectives – Clause 6.2

Aligned organisational / Asset Management objectives

Delivered through activities planned on the assets

and the increasing capability of the organisation

Source: ISO 55000
How does it fit?

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 objectives and processes to achieve those objectives

Assets that are within the scope of the asset management system

Source: ISO 55000

www.railway-asset-management.org
How is the Guide structured?

1. Introduction to Asset Management & ISO
   - Introduction
   - Asset Management maturity
   - Benefits of Asset Management
   - Principles of the ISO55000 series
   - Definitions
   - UIC Asset Management Framework

2. ISO55001 Requirements of an Asset Management System
   - Clause by clause breakdown of ISO55001:
     - Definition and intent of each sub-clause
     - Key considerations and practical guidance for each ‘shall’ statement in railway context
     - Definition of potential evidence in railway context to support compliance with each ‘shall’ statement
     - Simple tabular structure

3. Implementation guide
   - Indicative implementation process
   - Implementation tips
   - Certification and audit guide:
     - Certification overview
     - What auditors will typically seek
     - How to prepare
Alignment of ISO 55001 Clauses

Asset Management Framework

4.1 Understanding the organization and its context
4.2 Understanding the needs and expectations of stakeholders
4.3 Determining the scope of the asset management system
4.4 Asset management system
5.2 Policy
5.1 Leadership and commitment
5.3 Organizational roles, responsibilities, and authorities
7.2 Competence
8.1 Operational planning and control
8.2 Management of Change
10.1 Nonconformity and corrective action
10.2 Preventive Action
10.3 Continual improvement
6.1 Actions to address risks and opportunities for the asset management system
6.2 Asset Management Objectives and planning to achieve them
6.3 Asset Management Objectives
7.1 Resources
7.3 Awareness
7.4 Communication
7.5 Information requirements
7.6 Documented information
8.3 Outsourcing
9.1 Monitoring, measurement, analysis and evaluation
9.2 Internal audit
9.3 Management review
10.1 Nonconformity and corrective action
10.2 Preventive Action
10.3 Continual improvement
9.1 Monitoring, measurement, analysis and evaluation
9.2 Internal audit
9.3 Management review
10.1 Nonconformity and corrective action
10.2 Preventive Action
10.3 Continual improvement

www.railway-asset-management.org
### 2.5 CLAUSE 5: LEADERSHIP

#### 2.5.1 Clause 5.1 - Leadership and Consultation

This clause consists of a single but lengthy "shelf" statement which is focused on organisational management teams demonstrating commitment to the Asset Management System and achievement of objectives. This demonstration should be through outcomes and review & improvement actions rather than simple intent.

- **'Shelf' Statement 5.1.1 - Demonstrate Leadership and Commitment**
  - The phrase "top management" is used by ISO 55001 to define top level or executive decision makers in an organisation. Normally, for a rail organisation, this would include CEO, Board and Executive level sponsorship; governance, continual review and authorisation of the Asset Management System, Asset Management Policy and SAMP.
  - Many organisations have a single "top management" sponsor, often a Director of Engineering, Director of Finance, Director of Maintenance or Director of Operations, or even a Director of Asset Management. However, due to the cross business nature of Asset Management, it is good practice to have multiple Board or Executive level sponsors to ensure the Asset Management System is fully embedded and continually improved across its entire scope.
  - The best individuals or function leads for these roles will vary by organisation but the specifics are not critical, as long as the business-wide Asset Management approach is sponsored at the right level and is not seen as the presence of a single function.
  - A common approach for many organisations is the establishment of an Asset Management Committee, or similar mechanism, with top management attendance, to drive, govern and oversee all aspects of Asset Management within the organisation.

- **Recommended Evidence**
  - Clear ownership, governance and continual improvement of the Asset Management System at a senior level within the organisation, usually through a cross-functional Asset Management Committee or equivalent.
  - Asset Management Policy physically signed-off by the CEO, or equivalent & SAMP.
  - Asset Management Objectives signed-off by the CEO or a member of the organisation's Executive.
  - SAMP signed-off by a member of the organisation's Executive.
  - Awareness at senior (top level) management.
  - Corporate Vision / Objectives and how whether there is reference to assets and good Asset Management.
How do you implement ISO55001?

<table>
<thead>
<tr>
<th>Why, who and what needs to be done?</th>
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<tbody>
<tr>
<td>Define and develop your Asset Management System, Policy and Objectives</td>
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<td>Develop Plans to deliver your Objectives</td>
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<td>Develop processes and mechanisms to deliver Plans</td>
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<tr>
<td>Develop processes and mechanisms to review efficacy of Plans, processes and achievement of Objectives</td>
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<tr>
<td>A defined and continually improving management system</td>
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A good practice Asset Management System

- Define the scope of your Asset Management system:
  - Who in the organisation? Which organisations?
  - Where geographically?
  - Which assets and which activities?

- Establish, document, implement, maintain and continually improve the Asset Management system and its key processes and procedures – set your Asset Management objectives

- Define roles and responsibilities, ensure the Asset Management system is effectively communicated and implemented by competent people

- Internally review your Asset Management system regularly to ensure its continuing suitability, adequacy and effectiveness in delivering your Asset Management objectives

Make a start...and work to continually improve!
What Assessors will look for...

- **Leadership**
  - Senior level commitment and leadership – demonstrated through regular attendance at AM System governance meetings and ability to articulate an understanding of the AM System

- **Awareness**
  - Relevant staff, contractors and service providers are aware of the AM System and its role, and how each contribute to achieving the defined AM Objectives

- **Collaboration**
  - Asset Strategy & Planning, Maintenance, Operations, Engineering, etc. collaborate together with common objectives

- **Coordinated**
  - All AM related improvement initiatives are coordinated, prioritised, scheduled, monitored and appropriately resourced

- **Clear Framework**
  - Consistent understanding of how the business works that is supported through a top-down strategic framework – with adequate detail and clarity

- **Alignment**
  - Decision making is aligned to a common set of AM Objectives that are embedded through strategies, plans and operational activities

- **Closed Loop**
  - A Plan, Do, Check, Act process across all aspects of the Asset Management System. Includes auditing of processes, data, and implementation of activities

- **Clear Scope**
  - A clearly defined scope of the AM System that sets out the boundaries in relation to assets, processes and procedures, business functions and other management systems

- **Integrated**
  - The AM System is integrated with other Management systems and it is not managed in isolation

- **Enablers**
ISO 55001 is not the ‘final answer’...

The maturity scale has six maturity states as follows:

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<tr>
<td>1</td>
<td>Innocent</td>
<td>The organization has not recognised the need for this requirement and/or there is no evidence of commitment to put it in place.</td>
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<td>2</td>
<td>Aware</td>
<td>The organization has identified the need for this requirement, and there is evidence of intent to progress it.</td>
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<td>3</td>
<td>Developing</td>
<td>The organization has identified the means of systematically and consistently achieving the requirements, and can demonstrate that these are being progressed with credible and resourced plans in place.</td>
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<td>4</td>
<td>Competent</td>
<td>The organization can demonstrate that it systematically and consistently achieves relevant requirements set out in ISO 55001.</td>
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<td>5</td>
<td>Optimizing</td>
<td>The organization can demonstrate that it is systematically and consistently optimizing its Asset Management practice, in line with the organization’s objectives and operating context.</td>
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<td>6</td>
<td>Excellent</td>
<td>The organization can demonstrate that it employs the leading practices, and achieves maximum value from the management of its assets, in line with the organization’s objectives and operating context.</td>
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