



# Applying International Standards Beyond MAP-21 and Towards Global Best Practice in Asset Management

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11<sup>th</sup> National Conference on Transportation Asset Management - July 2016

# Agenda

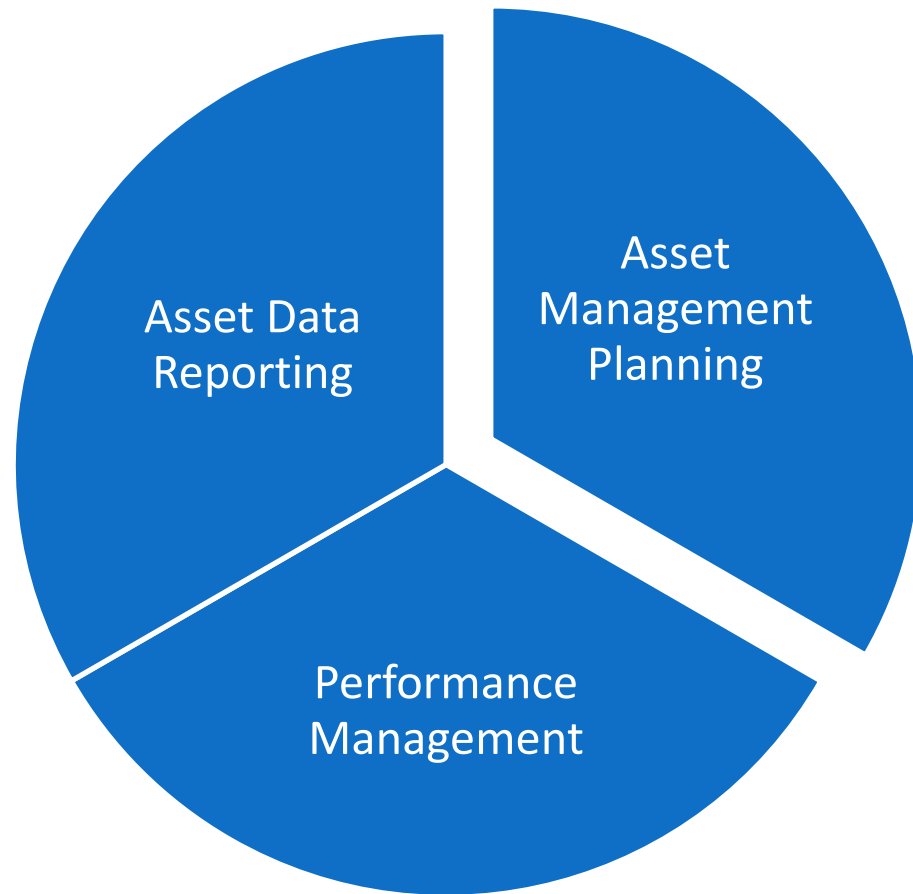
- MAP-21 Requirements
- ISO 55000 Standard
- Key themes of AM (as per ISO55001 and the IAM)
- AM Maturity: understanding, improvement, certification



# MAP-21

Moving Ahead for Progress in the 21<sup>st</sup> Century

# MAP-21 emphasizes three aspects of asset management



MAP-21 requires funding recipients to establish asset management practices and develop an asset management plan

### Transit Asset Management Requirements

1. Establish asset inventory
2. Determine performance targets and report on progress
3. Measure condition and report on change
4. Document the investment prioritization process
5. Capture in a Transit Asset Management Plan, which includes inventory, targets, performance, investment required etc.

MAP-21 also includes risk identification, assessment, and management as a requirement of agency safety plans and asset management planning

# 2015 FTA Proposed TAM Plan Elements: Forthcoming Federal Rulemaking

## Transit Asset Management Plan Elements – All Providers

1. Inventory of (Capital) Assets
2. Condition Assessment
3. Decision Support Tools (approaches to decision making)
4. Investment Prioritization (approaches to prioritization)

## Transit Asset Management Plan Elements – Tier 1 Larger Operators Only

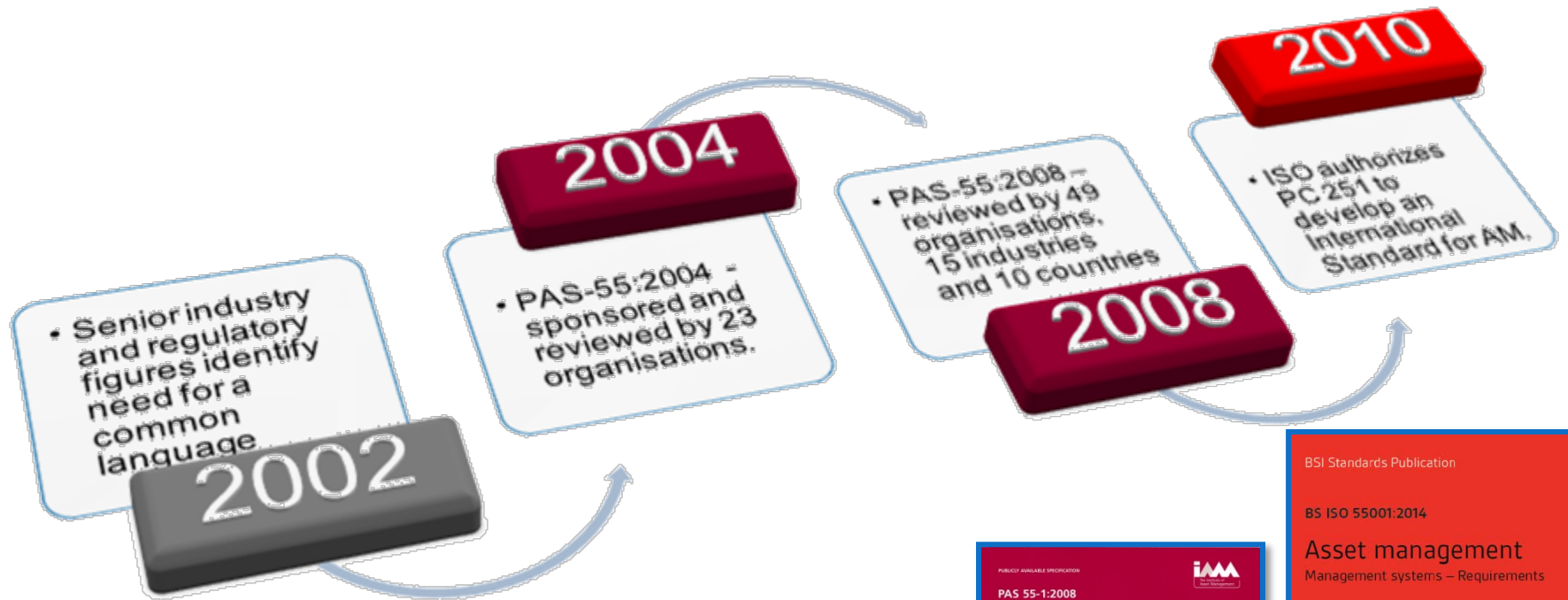
5. TAM and SGR Policy (Asset Management Policy)
6. Implementation Strategy (Strategic Asset Management Plan)
7. List of Key Annual Activities
8. Identification of Resources
9. Evaluation Plan



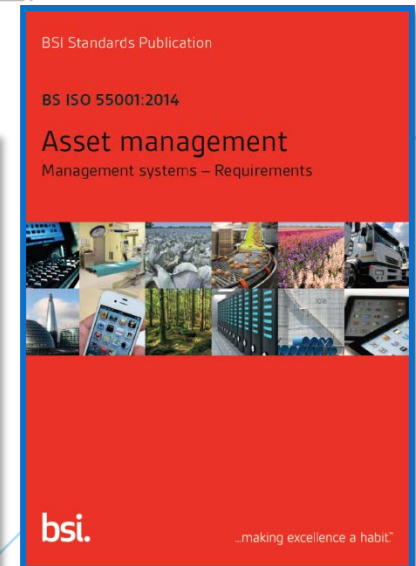
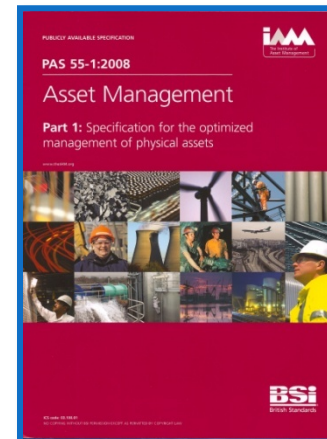
# International Standards for Asset Management

Introducing ISO-55001:2014 and other relevant industry standards

# History of development



PAS-55 was the first attempt at documenting the necessary checklist for good practice asset management





# ISO-55000 Documents

## → ISO 55000: Overview, Principles and Terminology

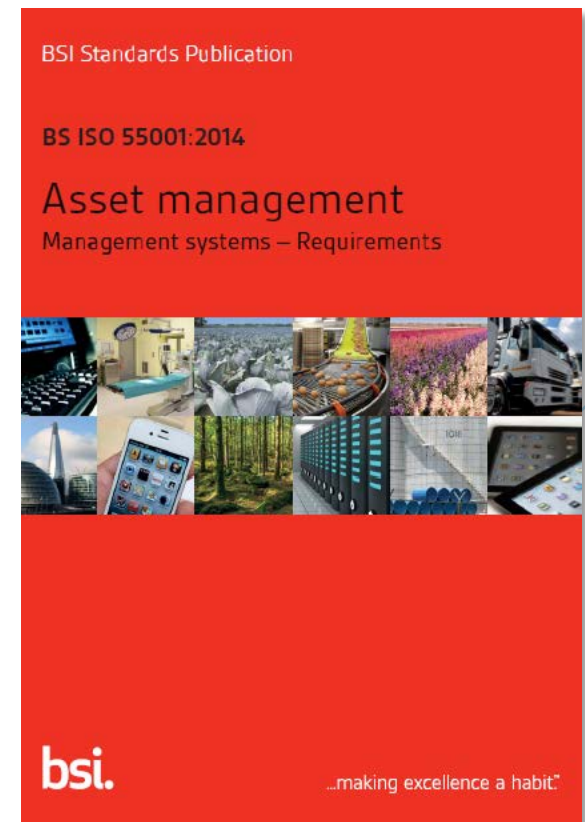
- A marketing document (why) –  
Designed for CEO's/ Senior Managers

## → ISO 55001: Requirements

- The “shall” statements (what)

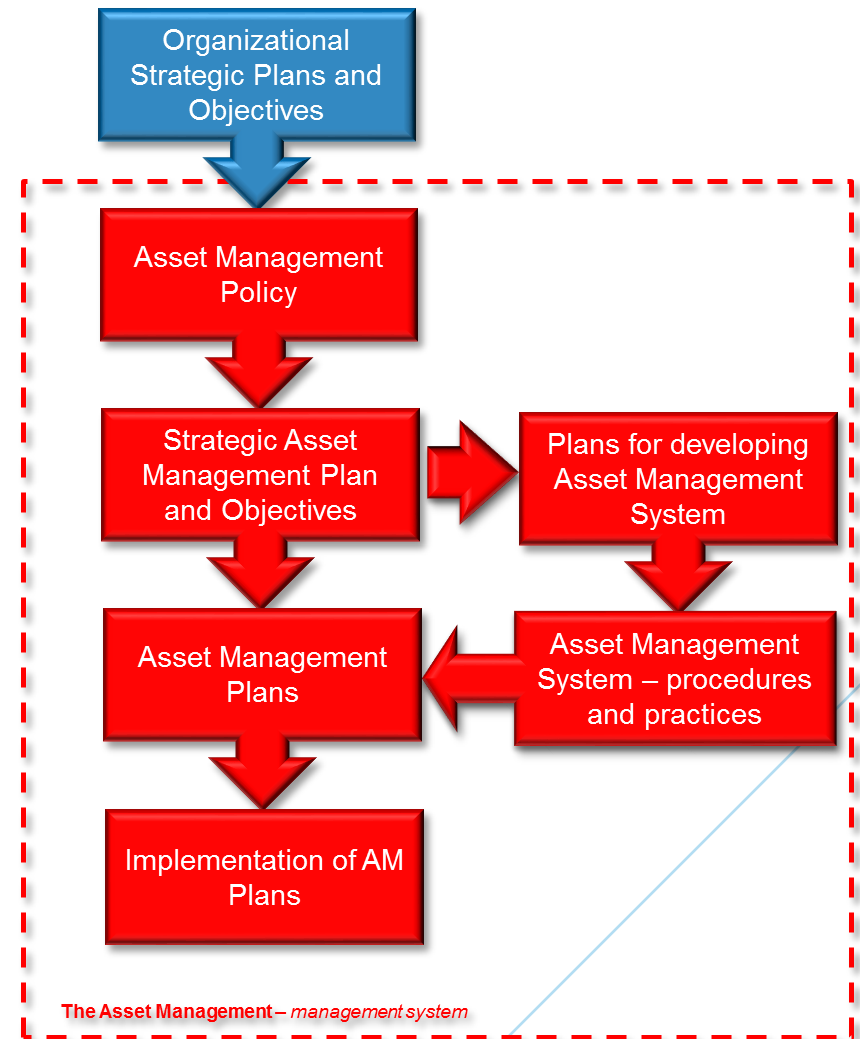
## → ISO 55002: Guidelines

- Explanations and examples (how)



# ISO:55001 provides the structure and guidance on the implementation of an Asset Management System

- 4. Context of the Organization
- 5. Leadership and Commitment
- 6. Planning
  - *(risks and opportunities)*
- 7. Support
  - *(resources and information)*
- 8. Operation
  - *(Lifecycle activities)*
- 9. Performance Evaluation
- 10. Improvement



# ISO-55001:2014 – defines WHAT to do and not HOW to do it *(how to implement yes – but not how to manage your assets).*

## What it will do:

- ✓ Connect asset activities to organization goals
- ✓ Structure and guide for an AM *system*
- ✓ Establish a consistent approach to decisions
- ✓ Establish organization control and management
- ✓ Enable better understanding of asset needs

## What it won't do:

- ✗ Give you the requirements for an Enterprise Asset Management (IT) System
- ✗ Tell you what data to collect and how often
- ✗ Tell you what to measure
- ✗ Tell you what to do fix and when
- ✗ Tell you how to improve maintenance (RCM etc)

# Important themes in ISO-55001:2014

Strategic Direction

Risk and Management

Planning

Lifecycle Delivery Activities

Performance Evaluation and Improvement

Asset Knowledge

People and Organization

# Growing Beyond MAP-21

Aligning the Standards and Growing Beyond

# ISO-55001:2014 is consistent with the asset management requirements of MAP-21

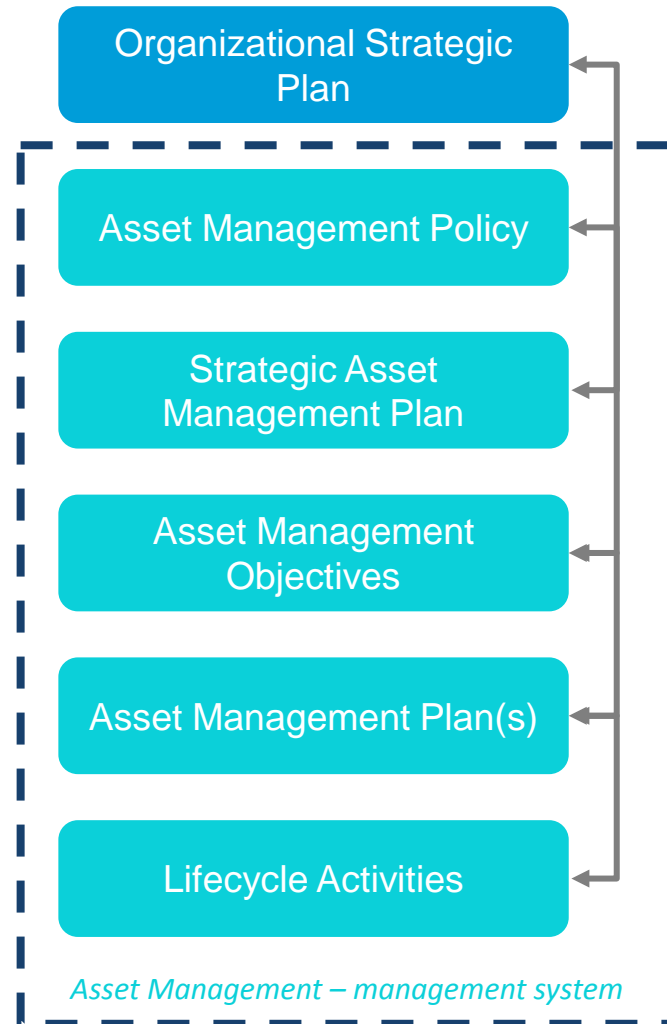


Scope	ISO-55001:2014	MAP-21
<b>ENTERPRISE LEVEL</b>		
Asset Management intentions, principles and directions	Asset Management Policy	<ul style="list-style-type: none"> <li>TAM and SGR Policy</li> </ul>
High Level approach, Specific objectives, Performance measures, Decision criteria/ investment prioritization	Strategic Asset Management Plan	<ul style="list-style-type: none"> <li>Implementation Strategy</li> <li>Decision Support Tools (approaches to decision making)</li> <li>Investment Prioritization (approaches to prioritization)</li> <li>Evaluation Plan</li> </ul>
Improvement actions necessary to implement strategy	Plans for developing Asset Management System	<ul style="list-style-type: none"> <li>Implementation Strategy (Strategic Asset Management Plan)</li> </ul>
<b>ASSET CLASS LEVEL</b>		
Specific asset activities, resources and timescales required to achieve objectives and performance measures	Asset Management Plan	<ul style="list-style-type: none"> <li>Inventory of (Capital) Assets</li> <li>Condition Assessment</li> <li>List of Key Annual Activities</li> <li>Identification of Resources</li> </ul>

# Key ISO Elements to Consider for improved asset management practice

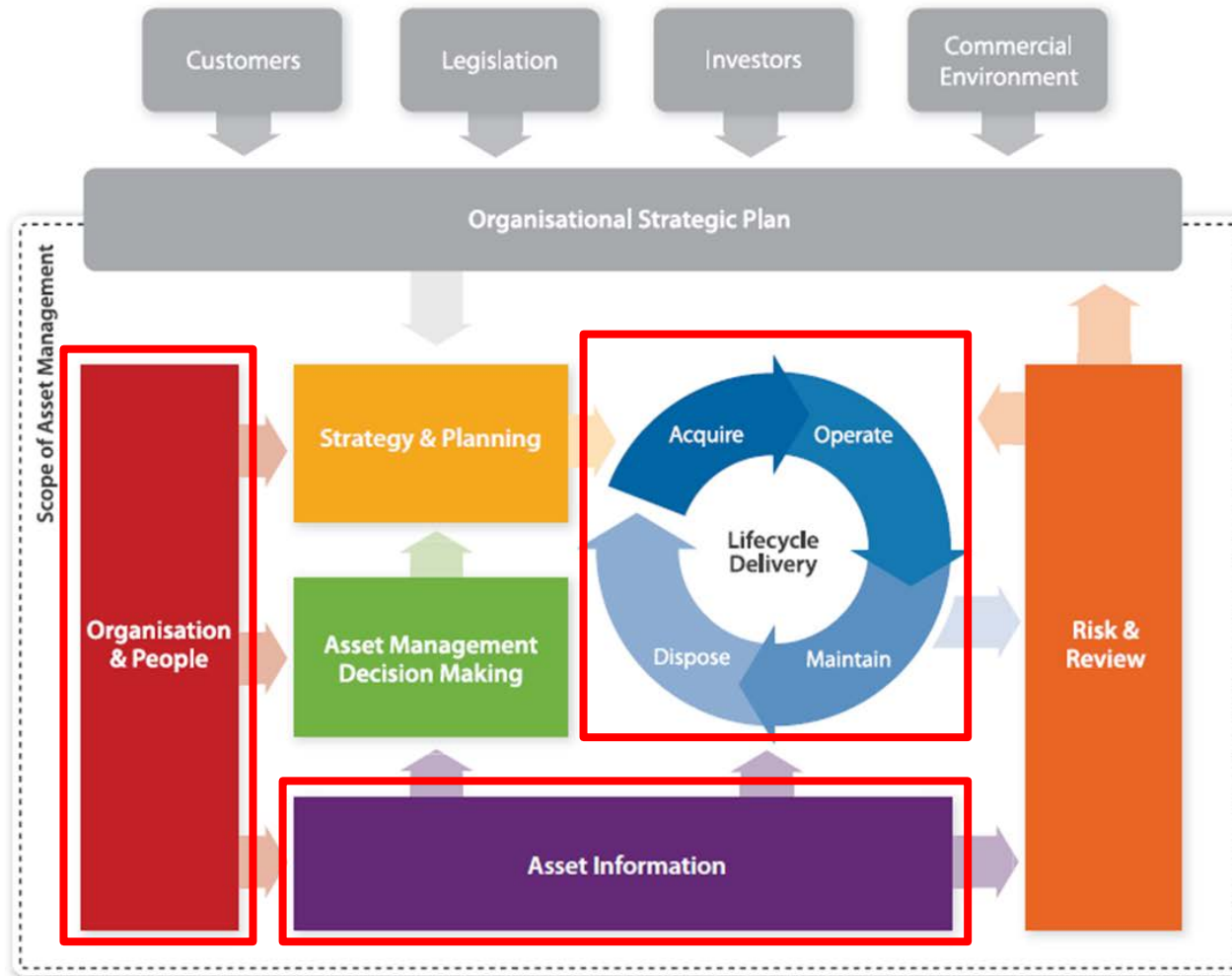
- Line of Sight
- Lifecycle Delivery Activities
- Asset Knowledge Management
- People and the Organization

# Line of sight is a key concept for an asset management – management system reinforced throughout ISO-55001:2014





# The Institute of Asset Management (IAM) Conceptual Model identifies subjects that are captured in the ISO Standard

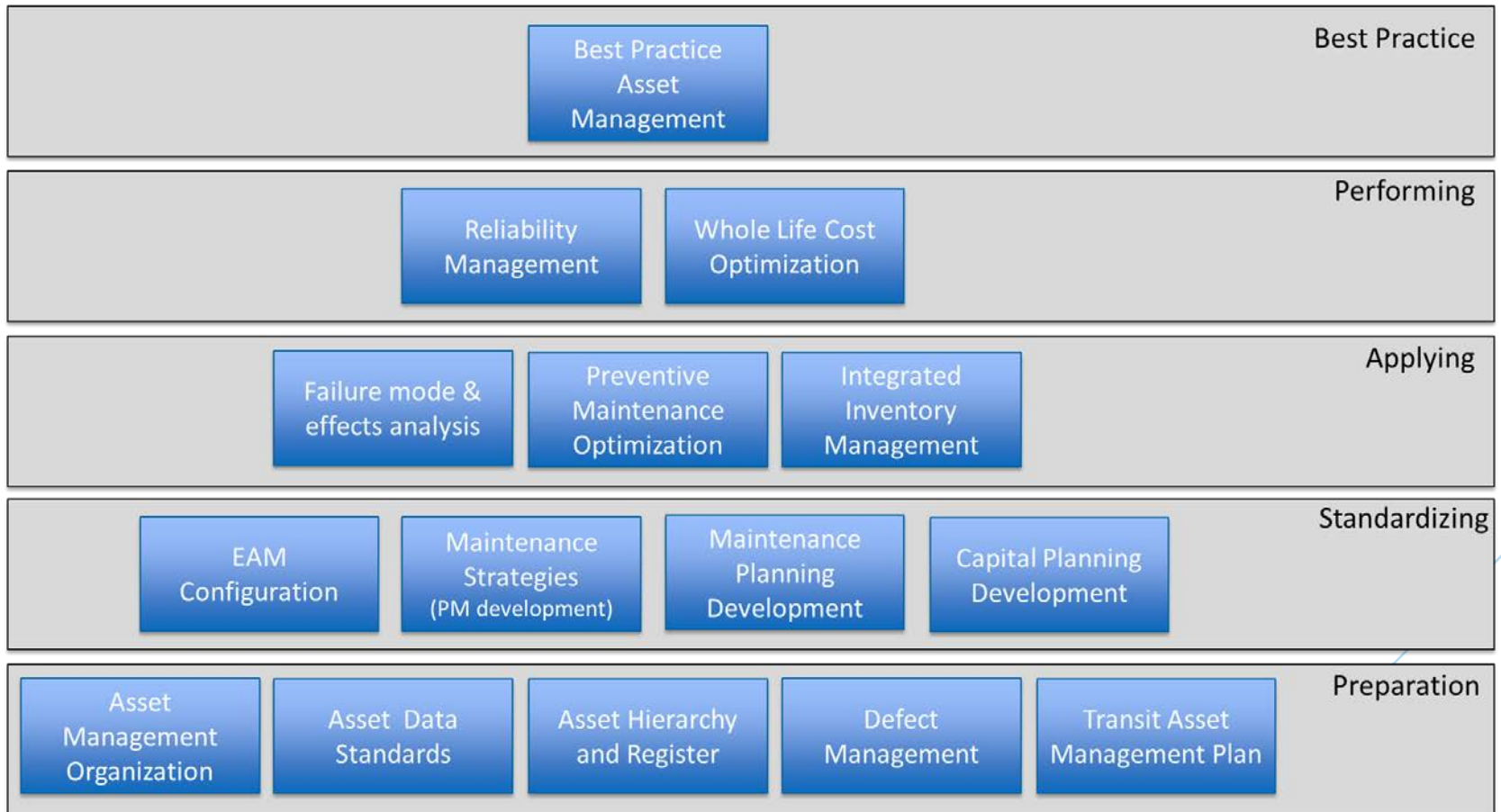


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# IAM Anatomy – 39 subjects

<i>Strategy &amp; Planning</i>	Asset Management Policy	<i>Asset Information</i>	Asset Information Strategy
	Asset Management Strategy & Objectives		Asset Information Standards
	Demand Analysis		Asset Information Systems
	Strategic Planning		Data & Information Management
	Asset Management Planning		Procurement & Supply Chain Management
<i>Asset Management Decision-Making</i>	Capital Investment Decision-Making	<i>Organisation &amp; People</i>	Asset Management Leadership
	Operations & Maintenance Decision-Making		Organisational Structure
	Lifecycle Value Realisation		Organisational Culture
	Resourcing Strategy		Competence Management
	Shutdowns & Outage Strategy		Risk Assessment & Management
<i>Lifecycle Delivery</i>	Technical Standards & Legislation	<i>Risk &amp; Review</i>	Contingency Planning & Resilience Analysis
	Asset Creation & Acquisition		Sustainable Development
	Systems Engineering		Management of Change
	Configuration Management		Asset Performance & Health Monitoring
	Maintenance Delivery		Asset Management System Monitoring
	Reliability Engineering		Management Review, Audit & Assurance
	Asset Operations		Asset Costing & Valuation
	Resource Management		Stakeholder Engagement
	Shutdown & Outage Management		
	Fault & Incident Response		
	Asset Decommissioning & Disposal		

# Best Practice Asset Management is a result of maturity in asset-related practices



# IAM/ISO-Based Gap Assessments can initiate the process of maturing towards best practice asset management



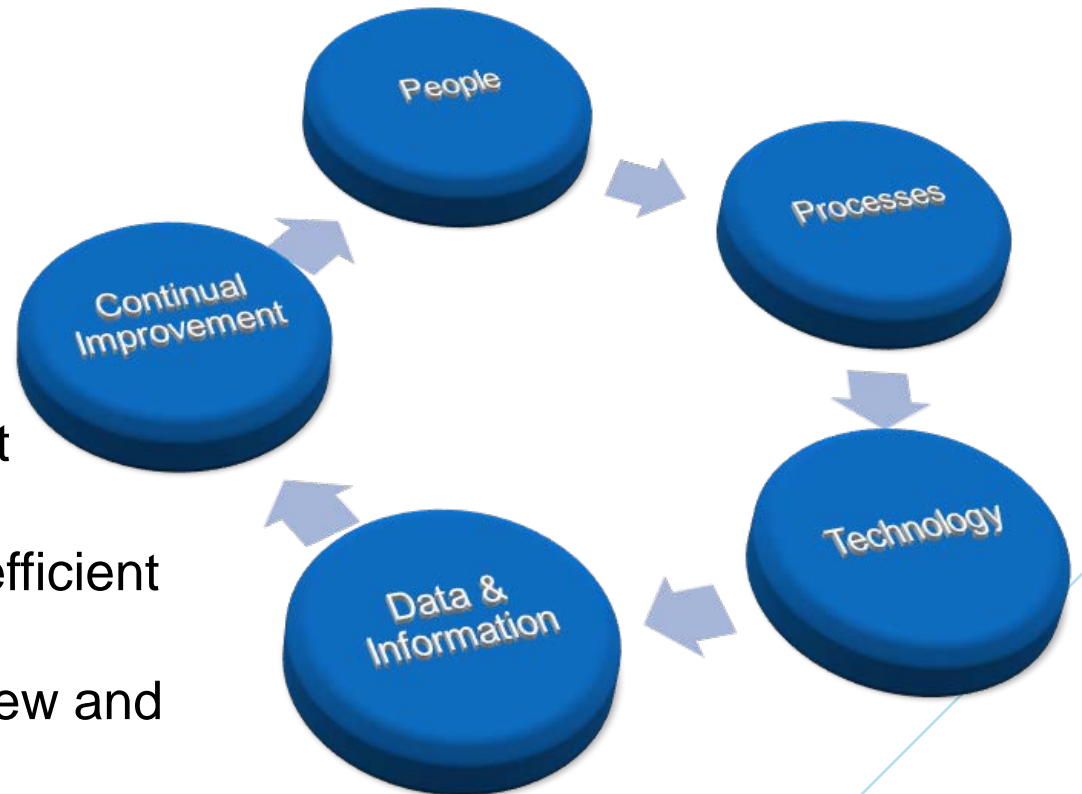
## IAM/ISO-Based Certification can convey the quality of your AM system

- Reckon your AM System is compliant?
- Invite in the auditors
- Prove to your staff and stakeholders you've gone beyond MAP-21
- Not a one-off event:
  - An annual and three-yearly cycle
  - Demonstration of continuous improvement

# Asset Management is not just about maintenance and it is more than technology

To be successful:

- Clear vision and strong leadership
- A framework within which to undertake decisions.
- Reliable, accurate asset information
- Technology to support efficient management
- Mindset to monitor, review and continually improve



*Remember that PEOPLE do asset management !*

# Thank You

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