

the professional body for
through-life management of physical assets



ISO 55000 and AM Landscape

*A framework for embedding asset
management excellence*

Dr Navil Shetty

IAM Faculty & Knowledge Committee

***UIC Global Asset Management Conference
3-4 October 2013, Paris***

Outline of the Presentation



- ISO 55000 Standards
 - The Journey
 - Status and timescales
 - Key requirements
 - Relationship with PAS 55
 - Relationship with UIC Asset Management Guidance
- GFMAM Asset Management Landscape
 - Background
 - AM Landscape
- IAM – Enabling organizations and individuals
 - Organizational Maturity Journey
 - Individual learning journey
 - Key IAM publications
- Summary

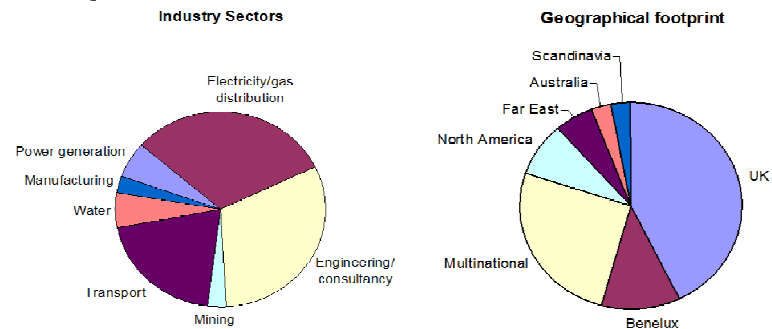
AM Systems - The Journey



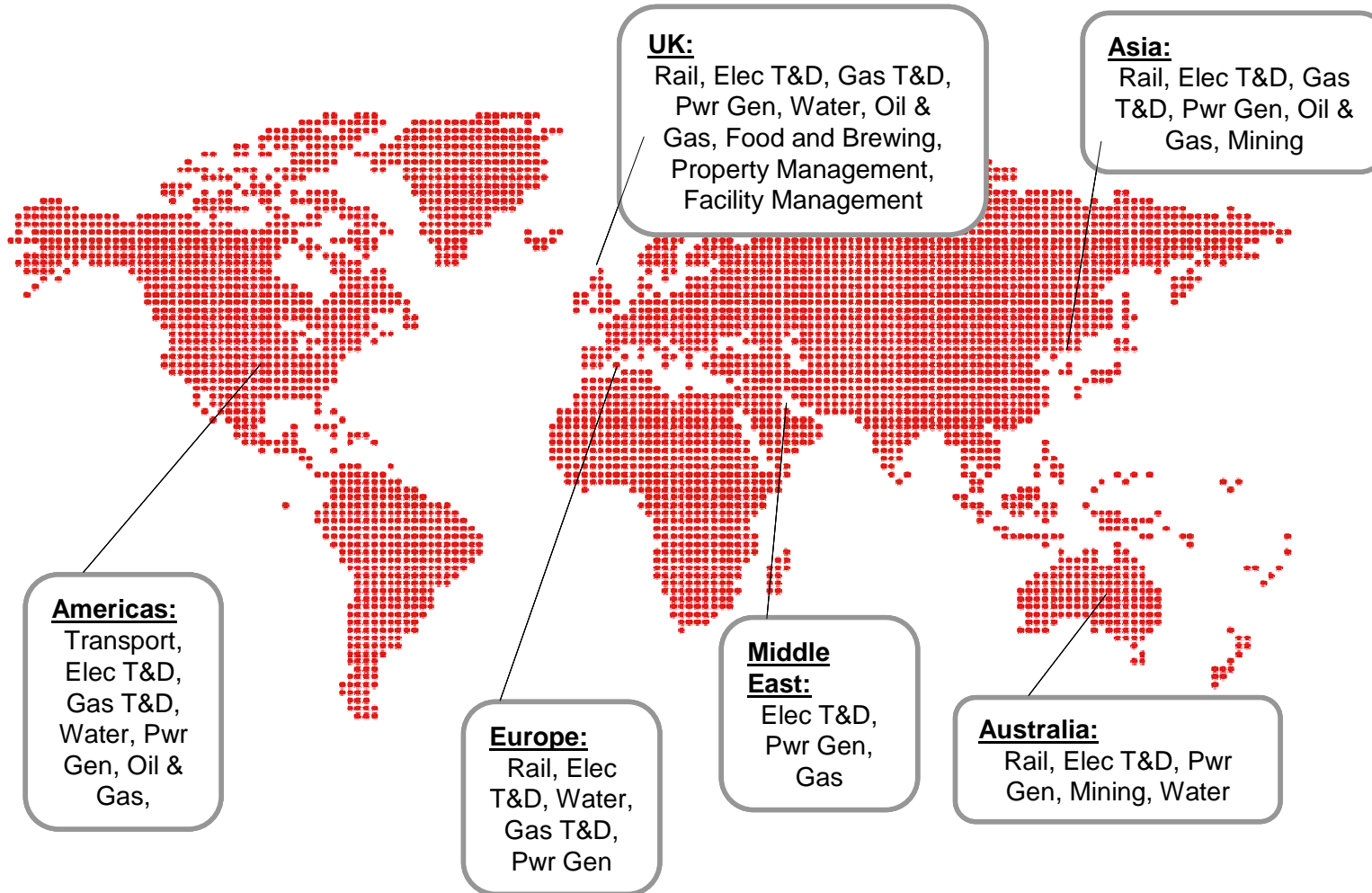
PAS55:2004 – Sponsors and review panel of 23 organisations predominantly from the UK

PAS55:2008 – Review panel of 49 organisations 15 Industries 10 Countries

49 organisations from 15 industries in 10 countries



Uptake of PAS 55



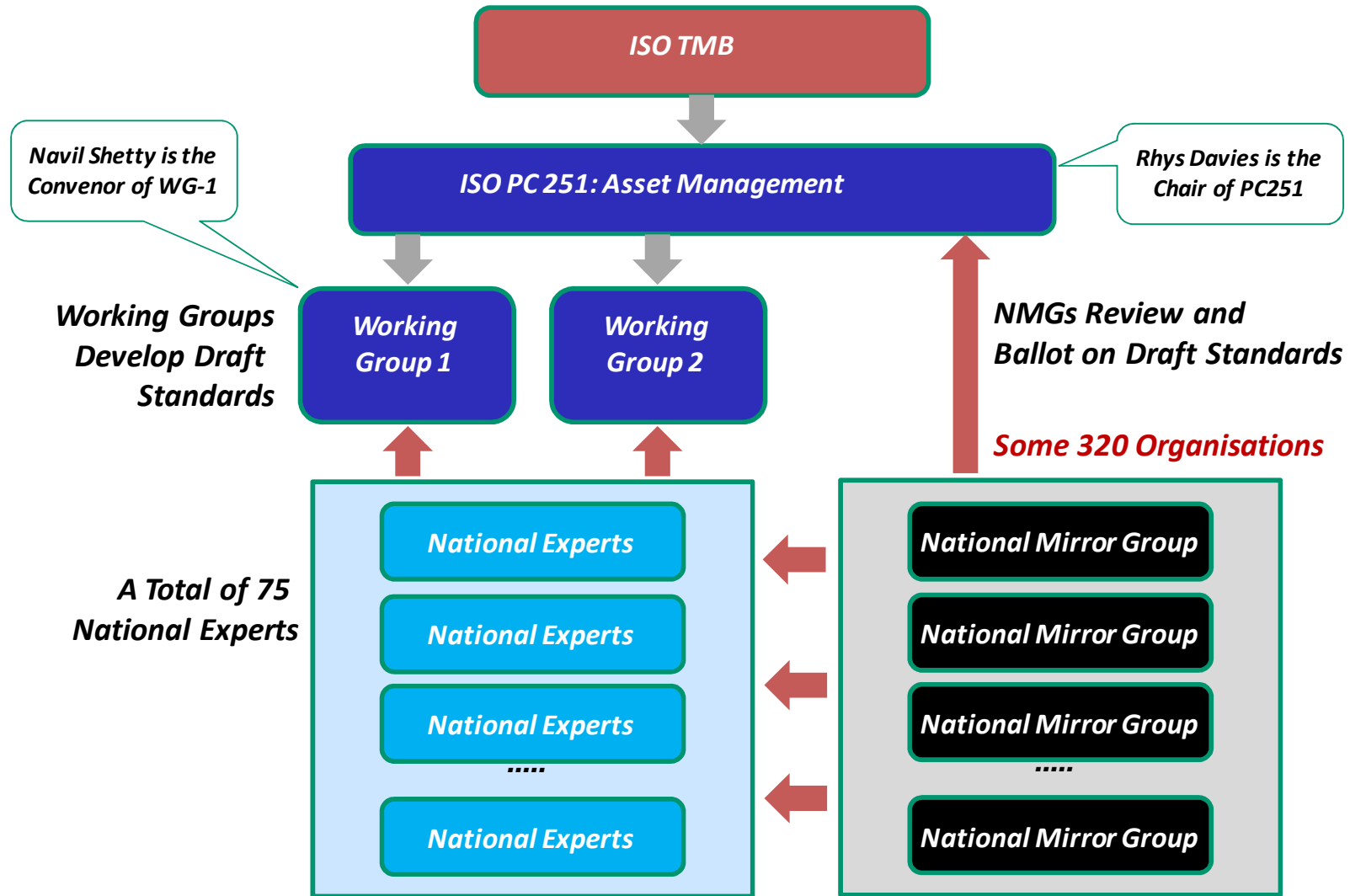
Diapositive 4

RCD1

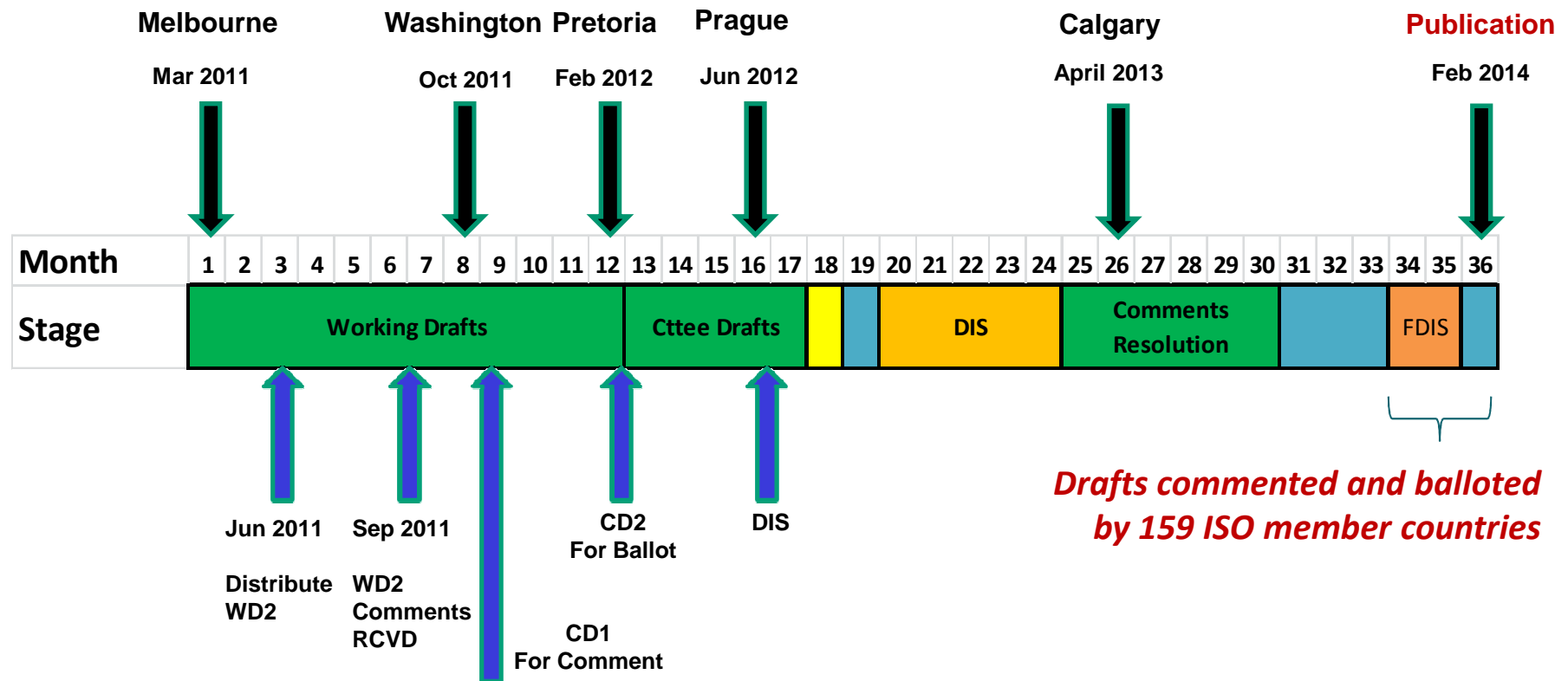
Change the world image

Rhys; 08/05/2012

ISO PC 251 Committee was set up to develop ISO 5500x standards



The Programme – 3 years



ISO 5500x – Asset Management Standards



- The International Standards Organisation has set up a project committee PC 251 to develop an ISO standard on asset management
- Three standards are being produced:
 - **ISO 55000** – Asset management – Overview, principles and terminology
 - **ISO 55001** – Asset management – Management systems – Requirements
 - **ISO 55002** – Asset management – Management systems – Guidelines for the application of ISO 55001
- The standards are due to be published in Feb/Mar 2014
- Some 36 countries around the world have participated in the development
- The ISO 5500x standards are applicable to all types of asset (tangible and intangible) across any industry sector.

ISO 55000 definitions



ISO 55000
Asset Management
Overview, Principles
and Definitions

(FDIS)

Asset

item, thing or entity that has potential or actual value to an organization

Asset Management

coordinated activity of an organization to realise value from assets

Asset Management System

*set of interrelated or interacting elements of an **organization** to establish asset management **policy** and **objectives**; and **processes*** to achieve those objectives*

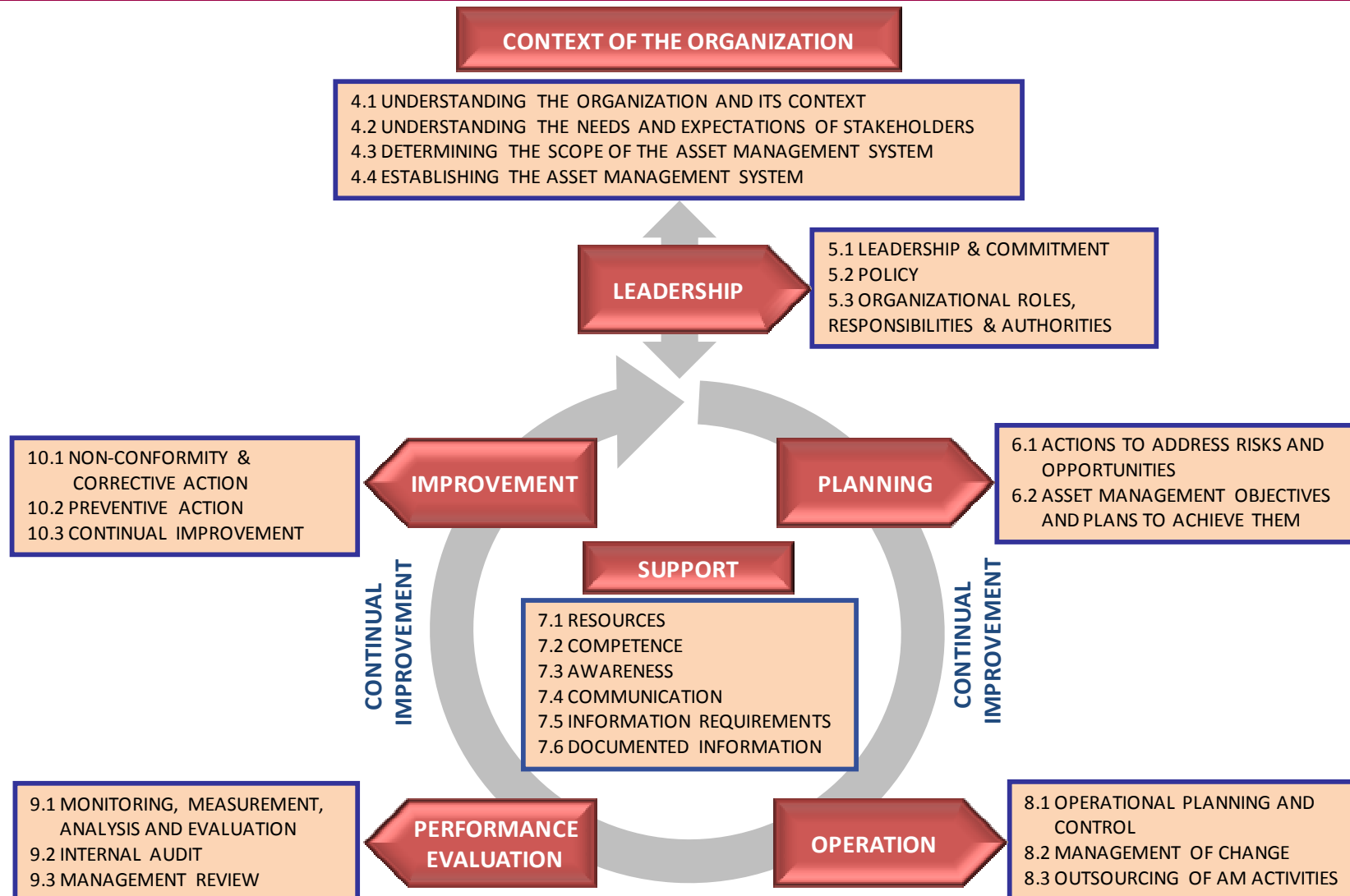
**processes include people, resources, processes, information and technology*

Asset Management Fundamentals



- a) **Value** - Assets exist to provide value to the organization and its stakeholders.
- b) **Alignment** - Asset management translates the organizational objectives into technical and financial decisions, plans and activities.
- c) **Leadership** - Leadership and workplace culture are determinants of realization of value.
- d) **Assurance** - Asset management assures that assets will fulfill their required purpose.

Structure of ISO 55001

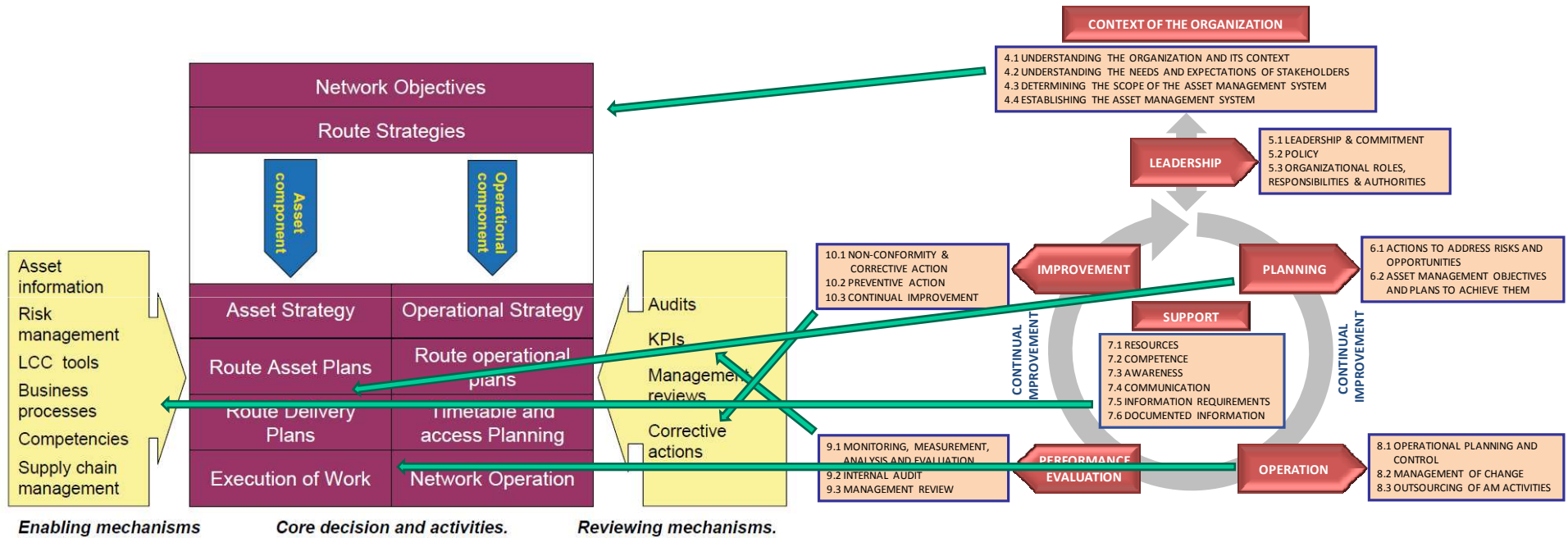


PAS 55: 2008

ISO 55001

Clause	Title	Clause	Title
4.1	General Requirements	4	Context of the organization
4.2	Asset Management Policy	4.1	Understanding the organization and its context ✓
4.3.1	Asset Management Strategy	4.2	Understanding the needs and expectations of stakeholders ✓
4.3.2	Asset Management Objectives	4.3	Determining the scope of the asset management system
4.3.3	Asset Management Planning	4.4	Asset management system
X 4.3.4	Contingency Planning	5	Leadership
4.4.1	Structure, Authority and Responsibilities	5.1	Leadership and commitment ✓
4.4.2	Outsourcing of Asset Management Activities	5.2	Policy
4.4.3	Training, Awareness and Competence	5.3	Organizational roles, responsibilities and authorities
4.4.4	Communication, Participation and Consultation	6	Planning
4.4.5	Asset Management System Documentation	6.1	Actions to address risks and opportunities for the AMS
4.4.6	Information Management	6.2	Asset management objectives and planning to achieve them
4.4.7	Risk Management	6.2.1	Asset management objectives
4.4.8	Legal and Other Requirements	6.2.2	Planning for asset management
4.4.9	Management of Change	7	Support
4.5.1	Lifecycle Activities	7.1	Resources
X 4.5.2	Tools, Facilities and Equipment	7.2	Competence
4.6.1	Performance and Condition Monitoring	7.3	Awareness
4.6.2	Investigation of asset related failures, incidents, etc.	7.4	Communication
4.6.3	Evaluation of compliance	7.5	Information requirements
4.6.4	Audit	7.6	Documented Information
4.6.5	Improvement Actions	8	Operation
X 4.6.6	Records	8.1	Operational planning and control
4.7	Management Review	8.2	Management of change
		8.3	Outsourcing
		9	Performance evaluation
		9.1	Monitoring, measurement, analysis and evaluation
		9.2	Internal audit
		9.3	Management review
		10	Improvement
		10.1	Nonconformity and corrective action
		10.2	Preventive action
		10.3	Continual improvement

Relationship of ISO 55001 with UIC Asset Management Guidance



Key Differences between ISO 5500x and PAS 55

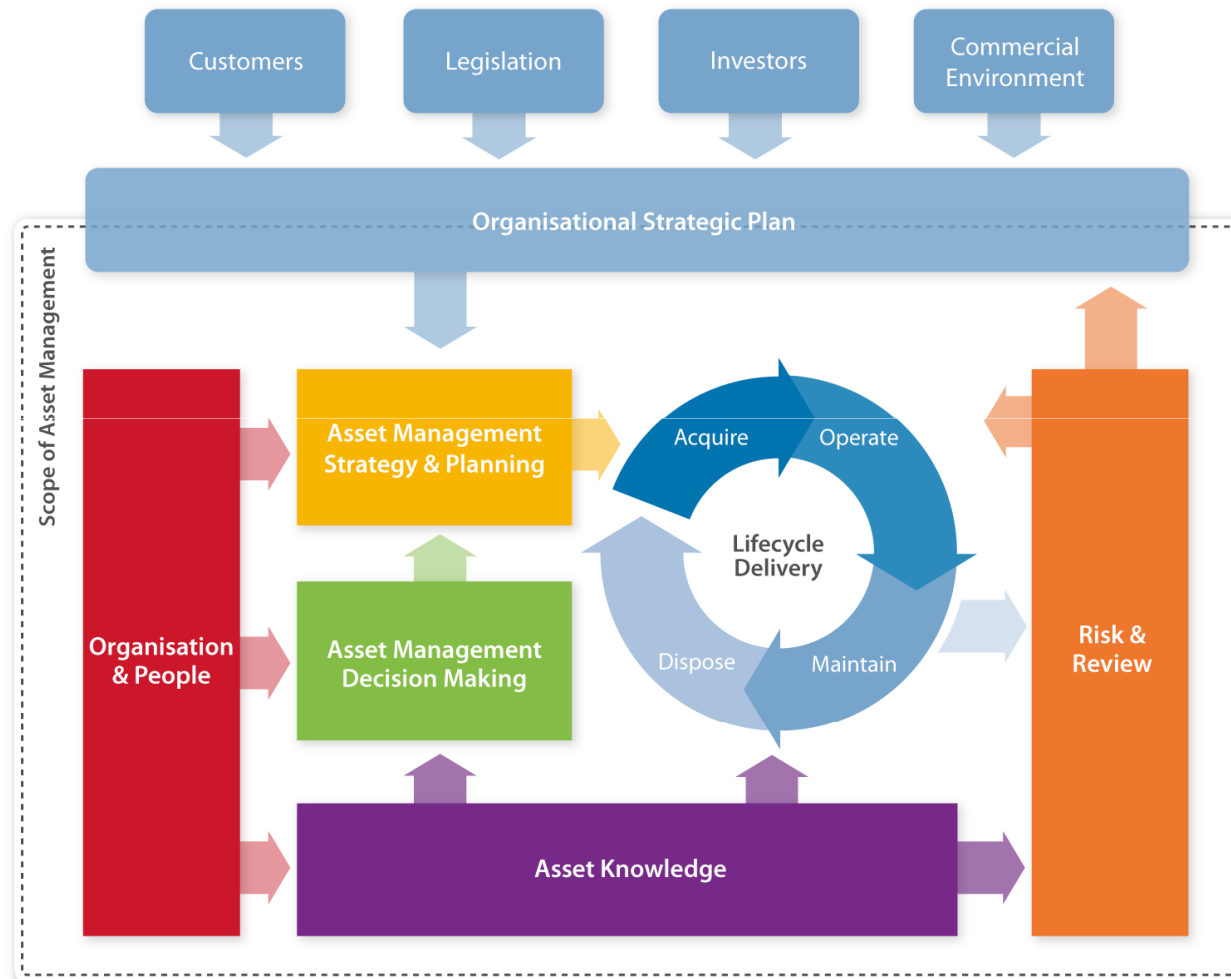


1. Applies to all asset types NOT just 'physical' assets
2. Significant changes to terminology
3. Based on the standard ISO template for all future Management System Standards
4. Different structure of requirements; but broadly cover the same areas as PAS 55
5. Distinguishes between 'asset management' and 'management system' requirements
6. AM principles in PAS 55 replaced by four 'AM fundamentals'
7. Introduces concepts of 'asset life', 'life cycle' and 'period of responsibility'
8. Strong emphasis on understanding the context of the organization, engagement with stakeholders and leadership accountability
9. 'Asset Management Strategy' broadly replaced by 'Strategic Asset Management Plan'

GFMAM Asset Management Landscape



Asset Management Conceptual Model



39 Asset Management Subjects



Asset Management Strategy and Planning	<ul style="list-style-type: none"> • Asset Management Policy • Asset Management Strategy • Demand Analysis • Strategic Planning • Asset Management Plans 	Asset Knowledge Enablers	<ul style="list-style-type: none"> • Asset Information Strategy • Asset Knowledge Standards • Asset Information Systems • Asset Data & Knowledge
Asset Management Decision-Making	<ul style="list-style-type: none"> • Capital Investment Decision-Making • Operations & Maintenance Decision-Making • Life Cycle Cost and Value Optimisation • Resourcing Strategy and Optimisation • Shutdowns & Outage Strategy and Optimisation • Aging Assets Strategy 	Organisation and People Enablers	<ul style="list-style-type: none"> • Contract & Supplier Management • Asset Management Leadership • Organisational Structure & Culture • Competence & Behaviour
Lifecycle Delivery Activities	<ul style="list-style-type: none"> • Technical Standards & Legislation • Asset Creation & Acquisition • Systems Engineering • Configuration Management • Maintenance Delivery • Reliability Engineering and Root Cause Analysis • Asset Operations • Resource Management • Shutdown/Outage Management • Incident Response • Asset Rationalisation & Disposal 	Risk & Review	<ul style="list-style-type: none"> • Criticality, Risk Assessment & Management • Contingency Planning & Resilience Analysis • Sustainable Development • Weather & Climate Change • Assets & Systems Performance & Health Monitoring • Assets & Systems Change Management • Management Review, Audit and Assurance • Accounting Practices • Stakeholder Relations

The IAM Asset Management Anatomy explains the 39 subjects

the professional body for
through-life management of physical assets



Institute of Asset Management

*Enabling organizations and individuals on their
asset management journey*

The Institute of Asset Management (IAM)



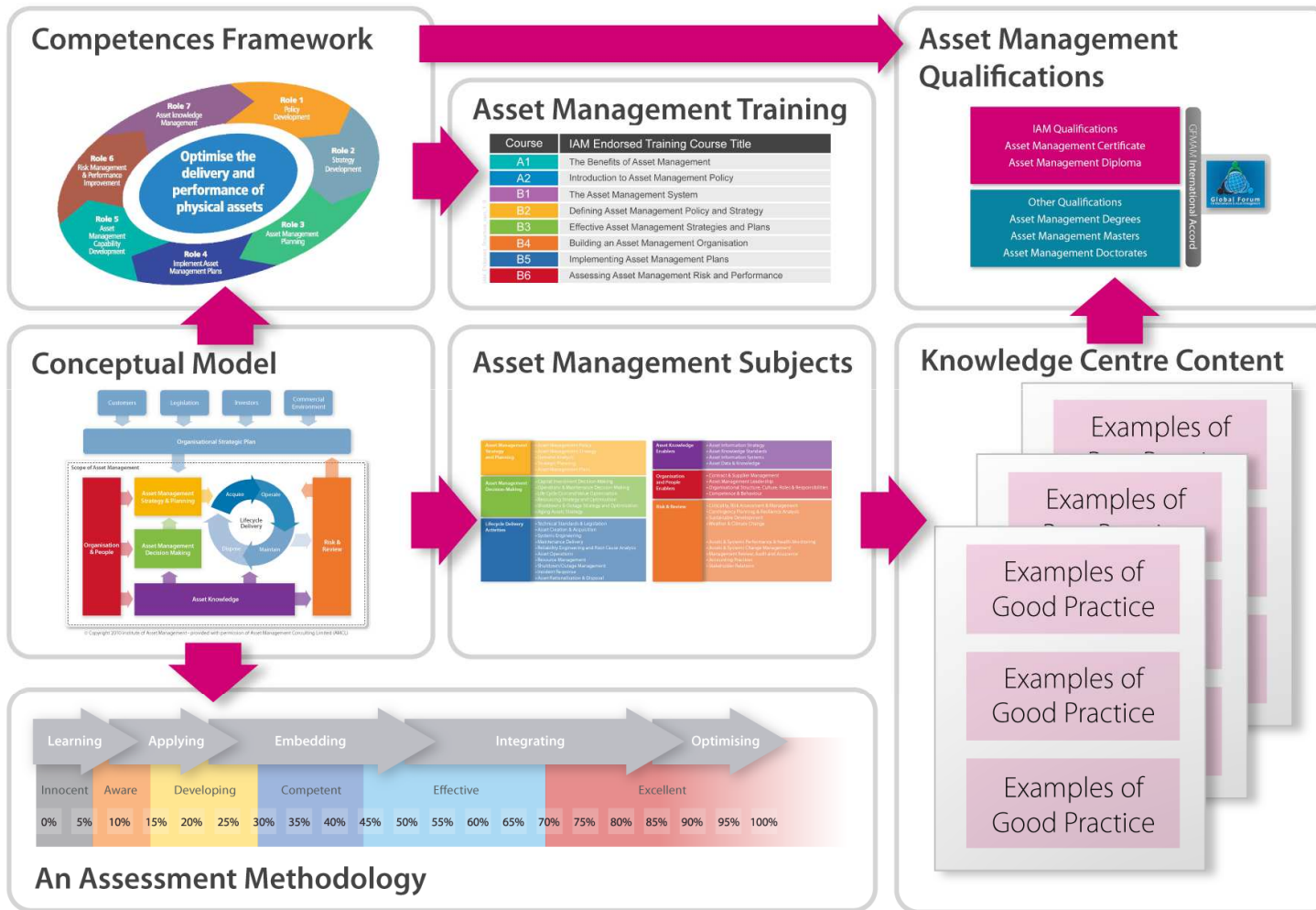
The IAM exists to:-

- Advance for the public benefit the science and practice of asset management
- Promote and recognise high standards of practice and professional competence
- Generate widespread awareness and understanding of the discipline.

the professional body for
through-life management of physical assets



IAM Asset Management Toolkit



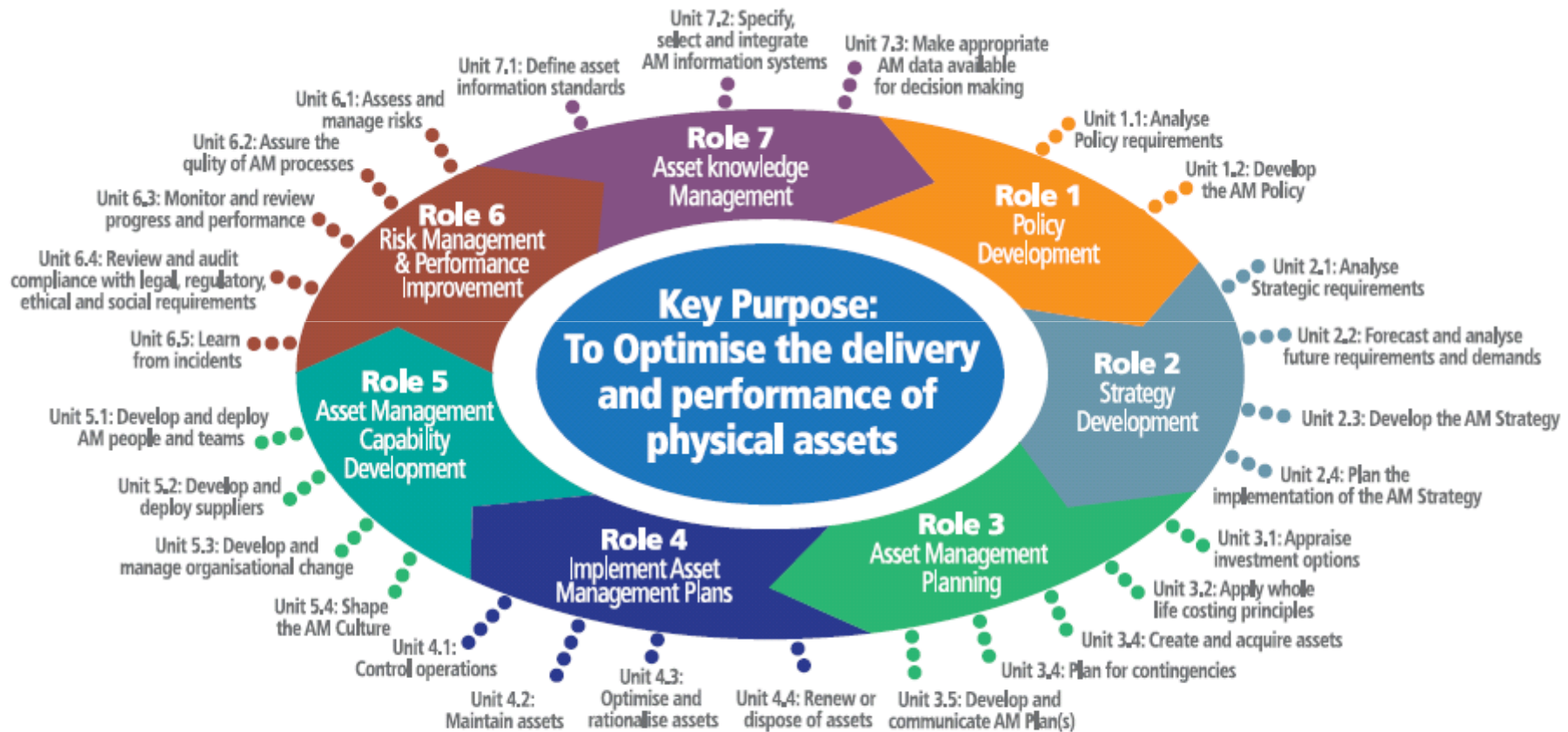
ISO describes Asset Management System Requirements

Current IAM Initiatives



- Contribution to ISO 55000 development
- Leading the GFMAM Asset Management Landscape
- IAM Asset Management Anatomy – being revised
- Subject Specific Guidance – for 39 subjects in phases
- AM Maturity Assessment Tool – will be ready in Feb 2014
- IAM Certificate and Diploma – launched in June 2013
- Knowledge Centre - maturing
- Endorsed Trainer & Endorsed Assessor Schemes – in place
- Asset Management Competency Framework – completed

AM Competences Framework



IAM Asset Management Qualifications



IAM Certificate

- Designed for people who are new, or relatively new, to asset management
- Involves 5 mandatory modules
- Expected 150 hours of learning, of which 50% would be taught and 50% personal study

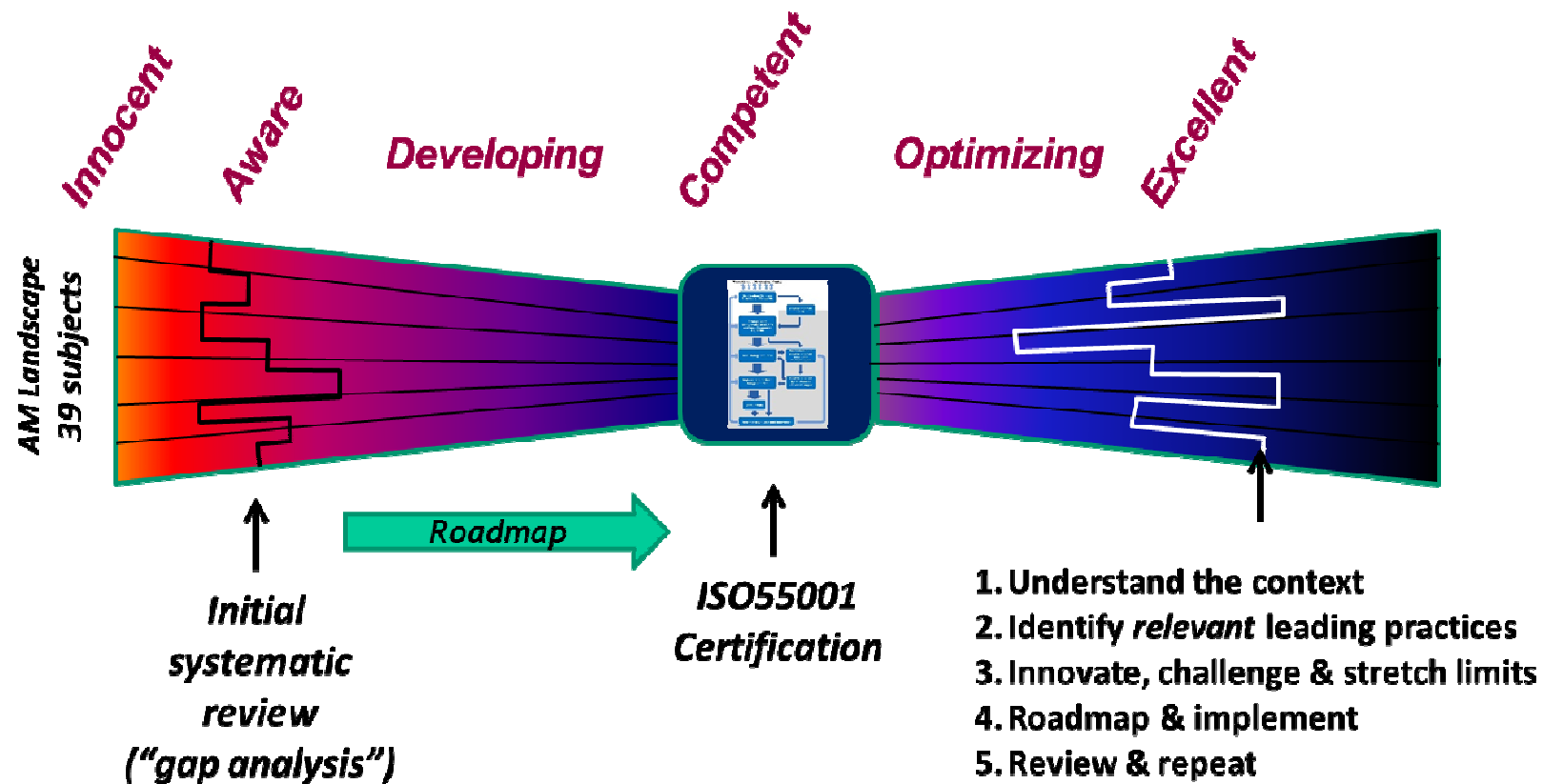
IAM Diploma

- Designed for people with knowledge and experience and will help to prepare them for more specialised or managerial roles
- 12 modules – 6 mandatory and 4 optional
- Expected 350 hours of notional learning, of which 30% is expected to be taught, 30% taken up with assignments and a project and 40% by personal study

- The modules are aligned with the IAM Competency Framework, PAS 55, ISO 55000 and the IAM Anatomy
- Assessment for the qualifications will be through an examination set by the IAM
- The training providers will be endorsed by the IAM
- The Qualifications will have international recognition under an accord reached by the members of the Global Forum for Maintenance and Asset Management

<http://theiam.org/products-and-services/iam-qualifications>

Measuring Asset Management Maturity



Assessment methodology and tool being developed to assess maturity against the ISO 55001 requirements and the 39 subjects in the AM Landscape

Summary



- The ISO 5500x standards provide a sound management system framework for embedding asset management in an organization
- The ISO 5500x standards represent a consensus view of 36 countries and more than 300 organizations from different sectors.
- The GFMAM AM Landscape defines 39 subjects (or capabilities) constituting Asset Management which is accepted worldwide
- The IAM is developing a suite of guidance documents, competency frameworks, qualifications and quality assurance frameworks to help organizations and individuals to progress on their AM maturity journey
- IAM would be pleased to collaborate with UIC and its members to embed good asset management practice into the railway sector.

Contact



Dr Navil Shetty

Director & Technical Chair for Asset Management, ATKINS
Member, Faculty & Knowledge Committee, IAM

M: +44 (0) 780 3260402

Navil.Shetty@theIAM.org

www.theIAM.org

Navil is a specialist in asset management and risk management of infrastructure assets with experience in oil & gas, railways, and highways sectors. Navil is co-author of the PAS 55:2008 standard on asset management. He is also a convenor of one of the two international expert groups developing the ISO 55000 standards on asset management.

Navil has served on the Council of the Institute of Asset Management for six years and currently serves on the IAM Knowledge Committee and IAM Faculty. He is contributing to the IAM Asset Management Maturity Assessment and GFMAM Asset Management Landscape projects.

Navil is employed with Atkins Management Consultants as Director and Technical Chair for Asset Management with responsibility for promoting best practice in asset management across the Atkins Group worldwide.