Pulse2011

IBM EAM Maximo enabling asset management to PAS 55 standards

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Utilities solution executive

Agenda

- What is PAS 55
- Components of PAS 55
- How does maximo enable PAS 55
- The road to PAS 55

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- **What is PAS 55**
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What is PAS 55

PAS 55 is a public accessible specification for the management of the complete lifecycle of physical assets.

- First released 2004, subsequent review in 2008

- Developed by The Institute of Asset management (UK) and the British Standards Institute

- Defined for all Asset intensive industries

- Requires integration into overall business strategy and environment of an organisation. Not just the responsibility of Asset managers.

- Based on the PDCA cycle, (Plan Do Check Act) focus on continual improvement.
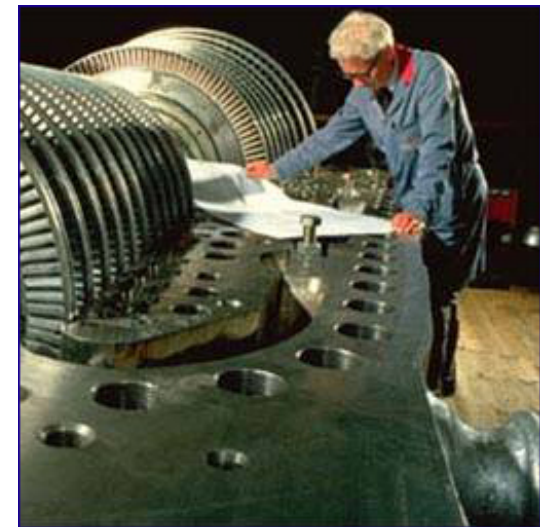
What is PAS 55

The Principles of PAS 55 are not new

- PAS 55 Guidelines for asset management defined as:

"systematic and coordinated activities and practices through which an organisation optimally and sustainably manages it's assets and asset systems, their associated performance, risks and expenditures over their lifecycles for the purpose of achieving it's organisational strategic plan"

- Total Productive Maintenance :

Total productive maintenance is an initiative for optimizing the reliability and effectiveness of manufacturing equipment. TPM is team-based, proactive maintenance and involves every level and function in the organization, from top executives to the shop floor. TPM addresses the entire production system life cycle and builds a solid, shop floor-based system to prevent all losses. TPM objectives include the elimination of all accidents, defects, and breakdowns.

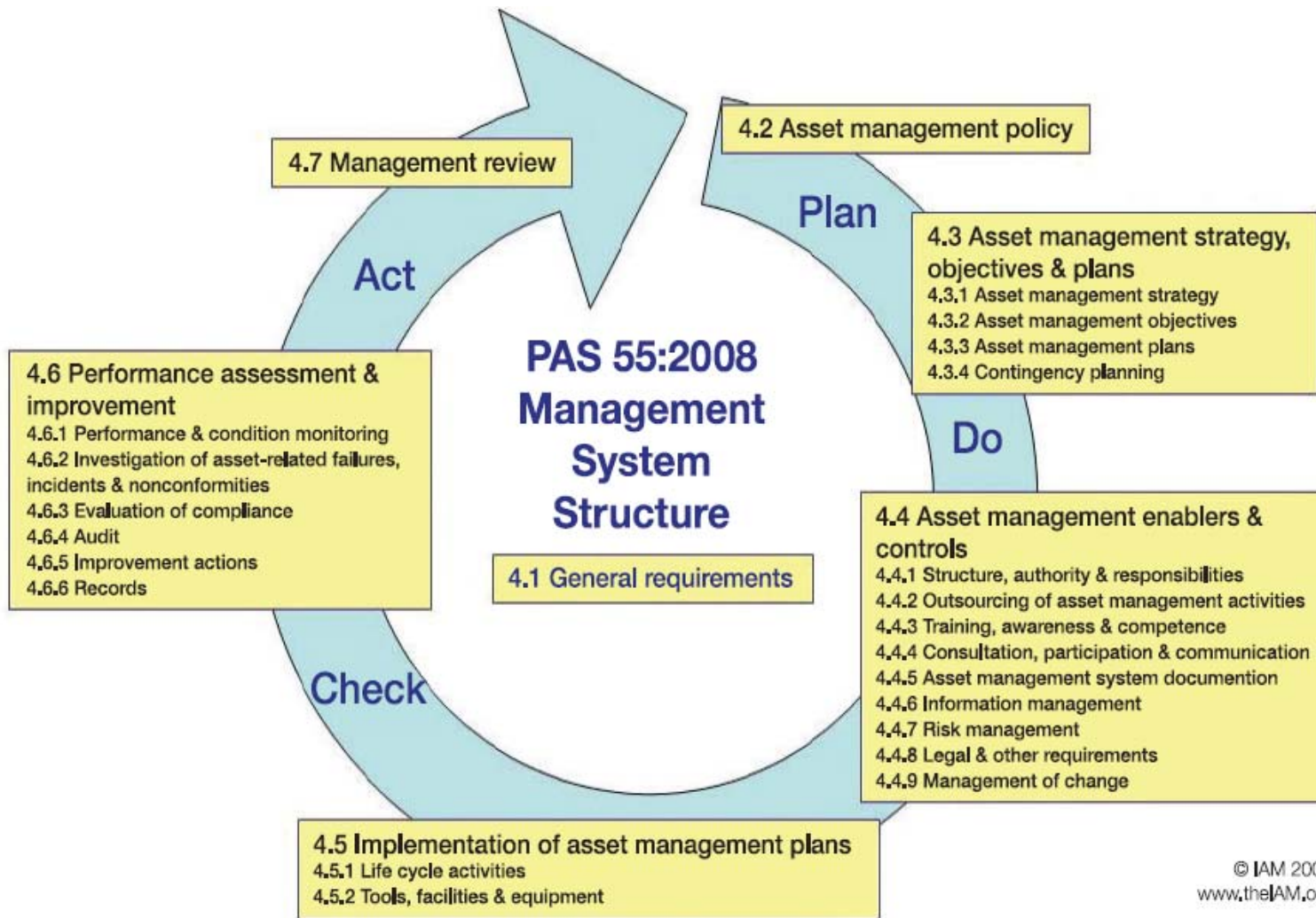- Similar concepts also seen in RCM and Lean maintenance philosophies

Agenda

- What is PAS 55
- **Components of PAS 55**
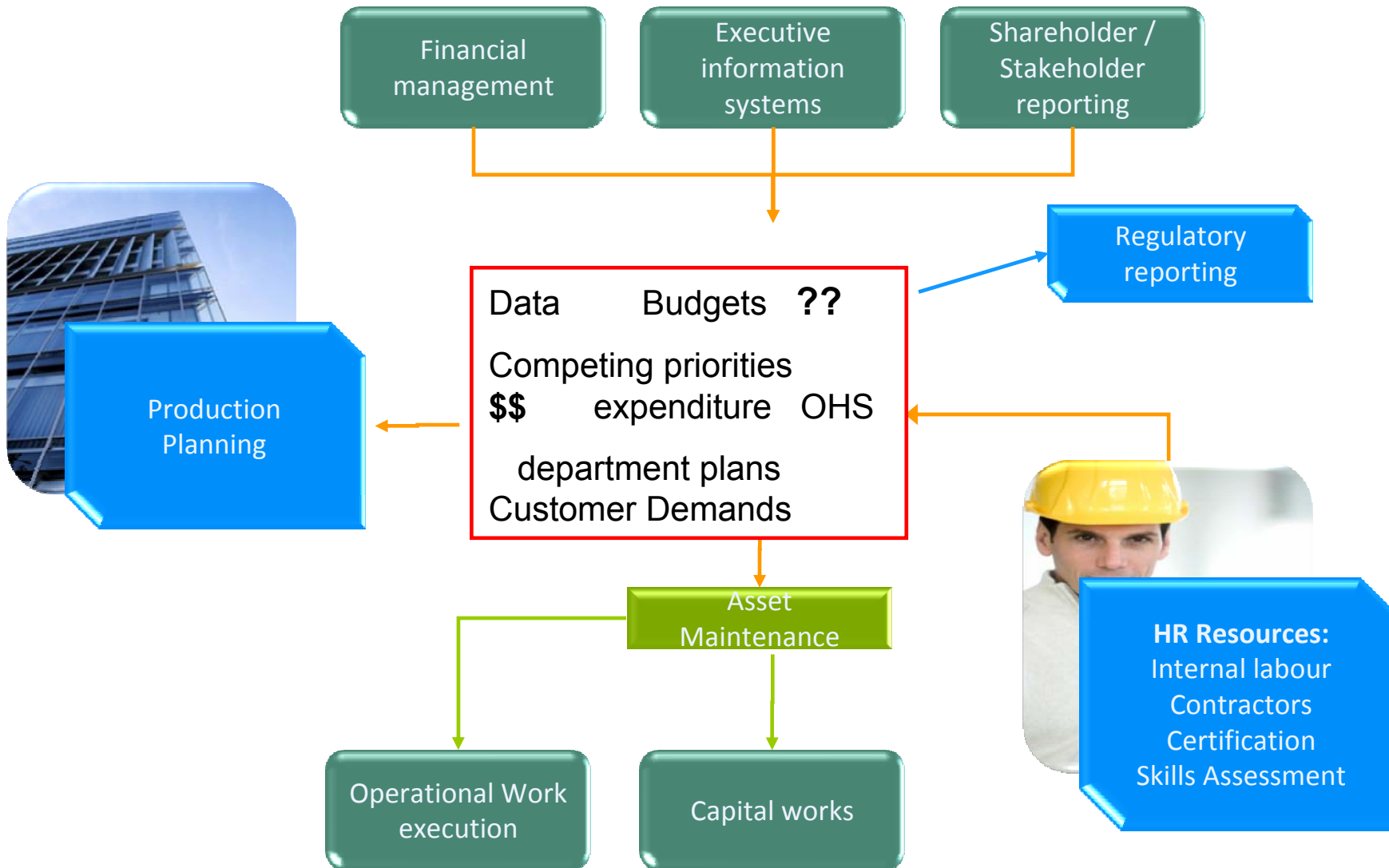- How does maximo enable PAS 55
- The road to PAS 55
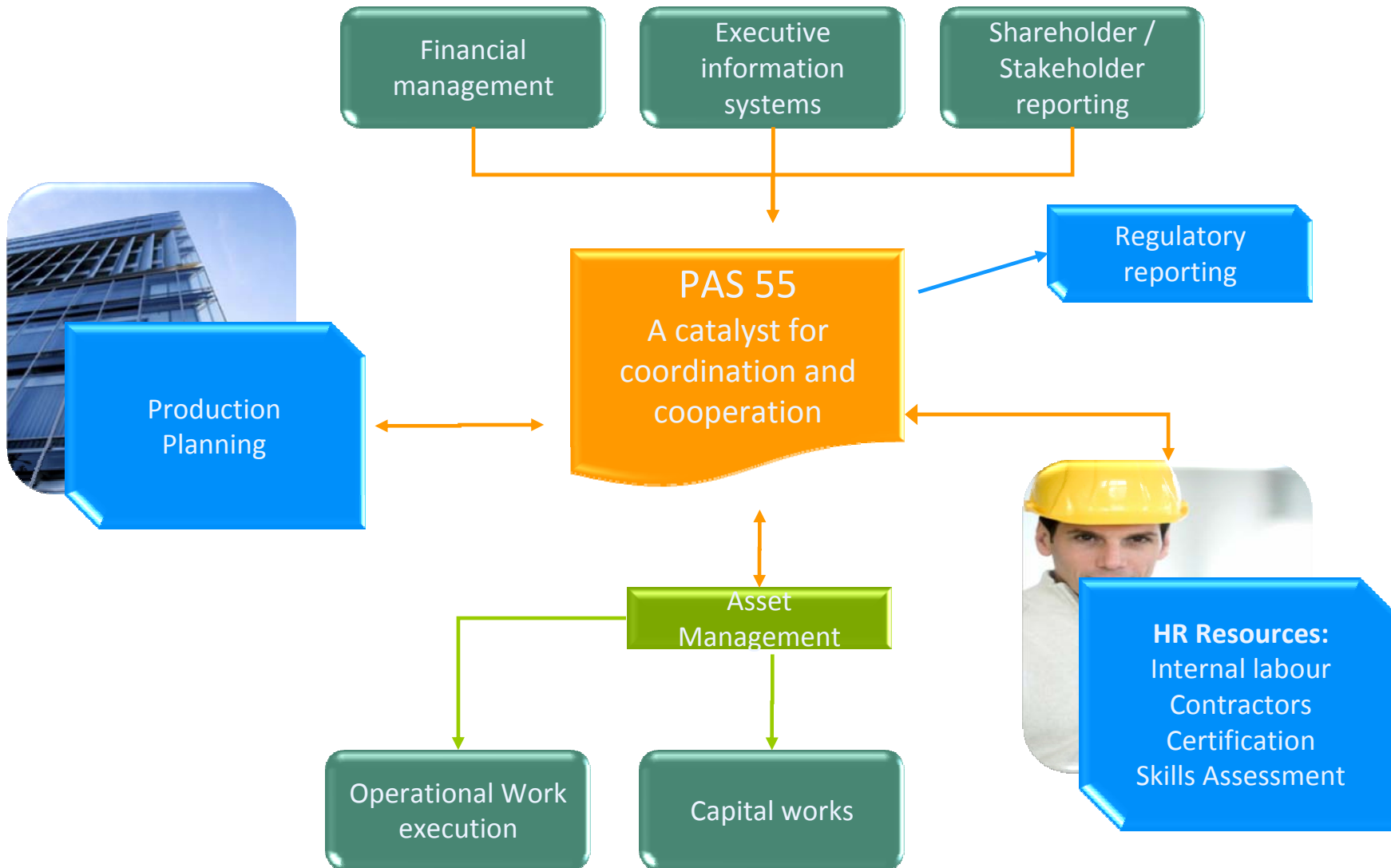
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The Components of PAS 55

PAS 55:2008 Management System Structure

4.1 General requirements

4.2 Asset management policy

Plan

4.3 Asset management strategy, objectives & plans
4.3.1 Asset management strategy
4.3.2 Asset management objectives
4.3.3 Asset management plans
4.3.4 Contingency planning

Do

4.4 Asset management enablers & controls
4.4.1 Structure, authority & responsibilities
4.4.2 Outsourcing of asset management activities
4.4.3 Training, awareness & competence
4.4.4 Consultation, participation & communication
4.4.5 Asset management system documention
4.4.6 Information management
4.4.7 Risk management
4.4.8 Legal & other requirements
4.4.9 Management of change

4.5 Implementation of asset management plans
4.5.1 Life cycle activities
4.5.2 Tools, facilities & equipment

Check

4.6 Performance assessment & improvement
4.6.1 Performance & condition monitoring
4.6.2 Investigation of asset-related failures, incidents & nonconformities
4.6.3 Evaluation of compliance
4.6.4 Audit
4.6.5 Improvement actions
4.6.6 Records

Act

4.7 Management review

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The components of PAS 55

Financial management

Executive information systems

Shareholder / Stakeholder reporting

Regulatory reporting

Production Planning

Data   Budgets   **??**

Competing priorities
$$ expenditure   OHS

department plans
Customer Demands

Asset Maintenance

Operational Work execution

Capital works

HR Resources:
Internal labour
Contractors
Certification
Skills Assessment

Financial management

Executive information systems

Shareholder / Stakeholder reporting

Regulatory reporting

PAS 55
A catalyst for coordination and cooperation

Production Planning

Asset Management

Operational Work execution

Capital works

HR Resources:
Internal labour
Contractors
Certification
Skills Assessment

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IBM EAM enabling PAS 55

- No such thing as PAS 55 EAM system certification

- An EAM system is an enabler for PAS 55, it is not a guide on how to achieve PAS 55

- An EAM system is engaged as a tool used to achieve goals defined in sections

  4.4 Asset management enablers and controls

  4.5 Implementation of asset management plans

  4.6 Performance assessment and improvement
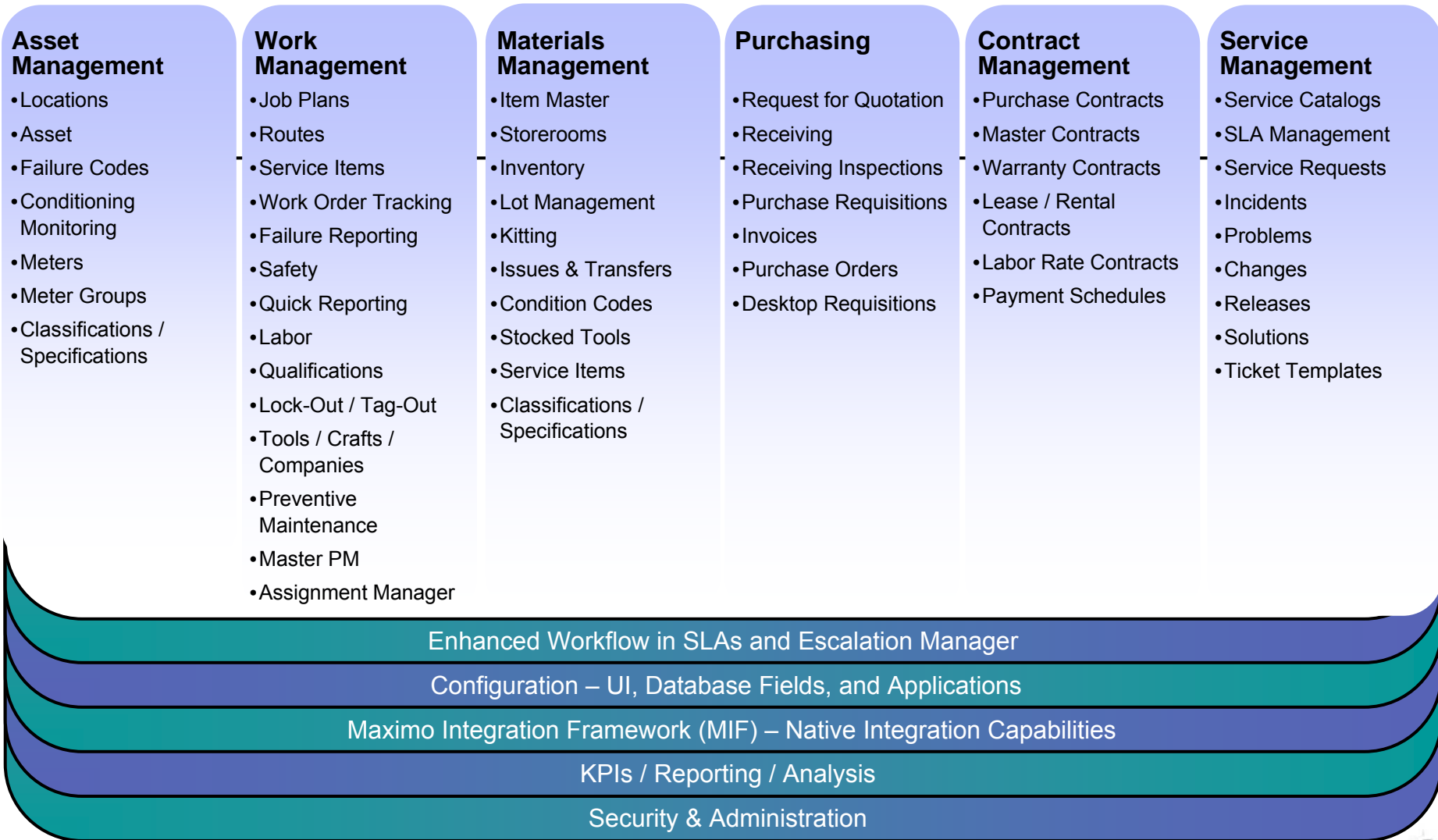
  4.7 Management review

IBM EAM enabling PAS 55

A single solution for all asset types

Fossil Generation	Nuclear Generation	Transmission & Distribution	Vehicle Maintenance	Corporate Functions: IT Asset Mgmt Facilities Mgmt
• Work Mgmt	• Work Mgmt	• Work Mgmt	• Work Mgmt	• Work Mgmt
• Plan & Sched	• Plan & Sched	• Plan & Sched	• Plan & Sched	• Plan & Sched
• Asset Mgmt	• Asset Mgmt	• Asset Mgmt	• Asset Mgmt	• Asset Mgmt
• Contract Mgmt	• Contract Mgmt	• Contract Mgmt	• Contract Mgmt	• Contract Mgmt
• Supply Chain	• Supply Chain	• Supply Chain	• Supply Chain	• Supply Chain
• Configuration Mgmt	• Action Tracking	• Compatible Units	• Warranty Mgmt	• Service Desk
	• Configuration Mgmt	• Configuration Mgmt		• Configuration Mgmt
		• Spatial Assets		
		• Linear Assets		

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IBM Maximo Core EAM Solution

Asset Management	**Work Management**	**Materials Management**	**Purchasing**	**Contract Management**	**Service Management**
• Locations	• Job Plans	• Item Master	• Request for Quotation	• Purchase Contracts	• Service Catalogs
• Asset	• Routes	• Storerooms	• Receiving	• Master Contracts	• SLA Management
• Failure Codes	• Service Items	• Inventory	• Receiving Inspections	• Warranty Contracts	• Service Requests
• Conditioning Monitoring	• Work Order Tracking	• Lot Management	• Purchase Requisitions	• Lease / Rental Contracts	• Incidents
• Meters	• Failure Reporting	• Kitting	• Invoices	• Labor Rate Contracts	• Problems
• Meter Groups	• Safety	• Issues & Transfers	• Purchase Orders	• Payment Schedules	• Changes
• Classifications / Specifications	• Quick Reporting	• Condition Codes	• Desktop Requisitions		• Releases
	• Labor	• Stocked Tools			• Solutions
	• Qualifications	• Service Items			• Ticket Templates
	• Lock-Out / Tag-Out	• Classifications / Specifications			
	• Tools / Crafts / Companies				
	• Preventive Maintenance				
	• Master PM				
	• Assignment Manager				

Enhanced Workflow in SLAs and Escalation Manager

Configuration – UI, Database Fields, and Applications

Maximo Integration Framework (MIF) – Native Integration Capabilities

KPIs / Reporting / Analysis

Security & Administration

IBM EAM Enabling PAS 55

ISO 14224 Failure Codes
ISO14224 (API 689) standards Failure Class, Problem and Remedy Tables

Risk Assessments
Define your own risk matrix
Identify Hazard classes with MSDS and related regulatory references.
Conduct and record risk assessments, identifying hazards and mitigation precautions.
Record risk assessment data on Job plans, work orders, Incidents, Investigations and Change Requests.
Link risk assessments to Physical Locations

Regulatory Compliance
Provides for Regulatory Frequency Scheduling and Tracking, associates regulations and subsections to an asset, location, work order.

Incident Management
High context incident reporting and management for incidents occurring during operations and maintenance.

Defect Tracking
Equipment or procedure defect reporting and tracking application. Incorporate escalation for reoccurring defects

Investigations
Investigation Management for Incidents or defects.
Incorporates After action reviews, lessons learned & Root Cause Failure Analysis recording.

Maximo Core App

Management of Change
Application to manage equipment or process integrity change requests and subsequent approvals related to engineering, operations and maintenance.

Location details
Identify physical location zones, Hazardous areas, permits req'd, Predefine Production Impact, Risk rating, Priority Codes, Plant unit section taxonomy

Action Tracking
Application for managing actions agreed upon with regulatory authorities or internal audit.

Work Priority
Using a combination of reason for work and location priority calculates the work order priority. I.e. location and a work type of safety related results in a high priority..

Improvements
Application to record suggestions for improvements to plant operations and maintenance.

Benefits and Losses
Benefit and loss reporting application, links and identifies benefits with solutions and improvements.

Solutions
A repository for proven solutions learned by an organization.
Identify Symptom, cause and resolution along with resulting benefits gained by implementing the solution.

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The Road to PAS 55 Certification

Implementing PAS 55 standards is an evolutionary process

- Identify what you have, where is it, what condition it is in and what is it's criticality
- Review organisation strategic plans and policies – is asset management identified
- Identify the impact of non performing assets, costs, direct & indirect, risks
- Review existing procedures for work planning and prioritisation
- Identify asset performance metrics and reporting mechanisms
- Identify regulatory and legal reporting requirements
- Skills capability assessment
- Define Management communications protocols and processes
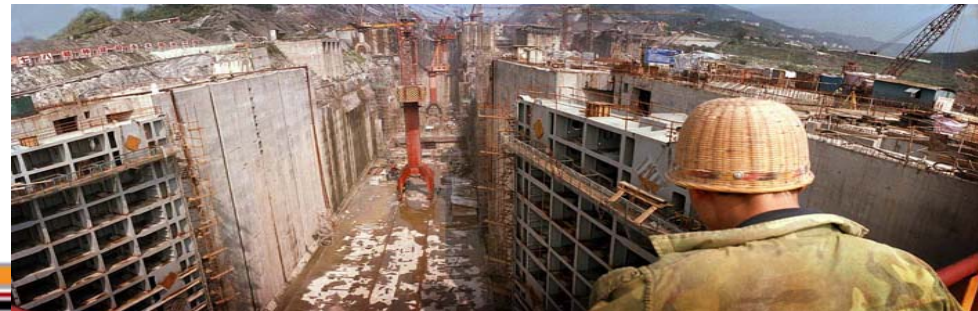
The Road to PAS 55 Certification

Progressing along the PAS 55 path

- Implement failure reporting and analysis to start on RCM path

- Review asset performance results

  - From an asset reliability perspective

  - From a service delivery position

  - Are assets meeting requirements outlined in strategic plan

- Review work execution performance

- Introduce Inventory and spares procurement optimisation

- Review work plans and standard job processes

- Refine management reporting outputs

- Introduce skills training and knowledge transfer activities

Summary

- PAS 55 is a process not a product
- PASS 55 is a **public accessible specification for the management of the complete lifecycle of physical assets**
- Maximo can help organizations to achieve PAS 55
- Lot of information available online e.g.

  http://pas55.net/default.asp

Thank You….
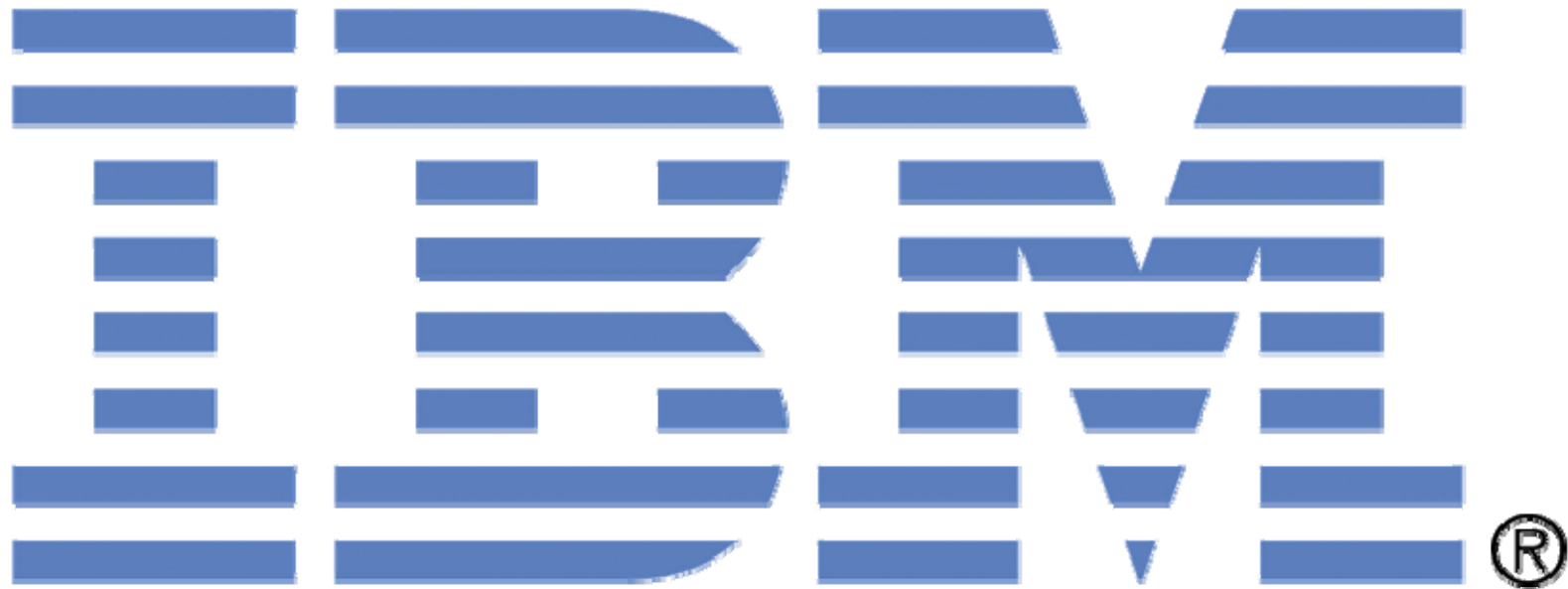
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