



# An Effective Asset Management Framework with the Maximo Application Suite

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Maven Asset Management

*Driving Asset Management Forward*



***Pacific Maximo Users Group***

***July 17 - 18, 2024***

***San Diego, CA***



# Abstract

In today's fast-paced industrial landscape, an effective asset management program is crucial for maintaining operational efficiency and reducing downtime. This presentation explores the implementation of a comprehensive asset management framework leveraging the IBM Maximo Application Suite. We will look at the core components of asset management, including asset tracking, maintenance scheduling, and performance analytics, and demonstrate how Maximo's robust functionalities can enhance these processes. Gain insights into best practices for Maximo with existing systems, optimizing asset lifecycle management, and achieving data-driven decision-making. Understand the potential transformative impact of Maximo on asset-intensive industries, ensuring a proactive approach to asset management.



# Asset Management

## Goals of this discussion

- Understand what Asset Management is
- Understand the value and importance of Asset Management
- Understand how the Maximo Application Suite plays a vital role in an Asset Management Program
- Next steps to improved Asset Management



# Asset Management

Asset Management is the management of assets across departments, locations, facilities and/or business units over the full lifecycle of the asset.

The goal of Asset Management is for organizations to maximize the return on investment from their asset base by managing the asset throughout its life.

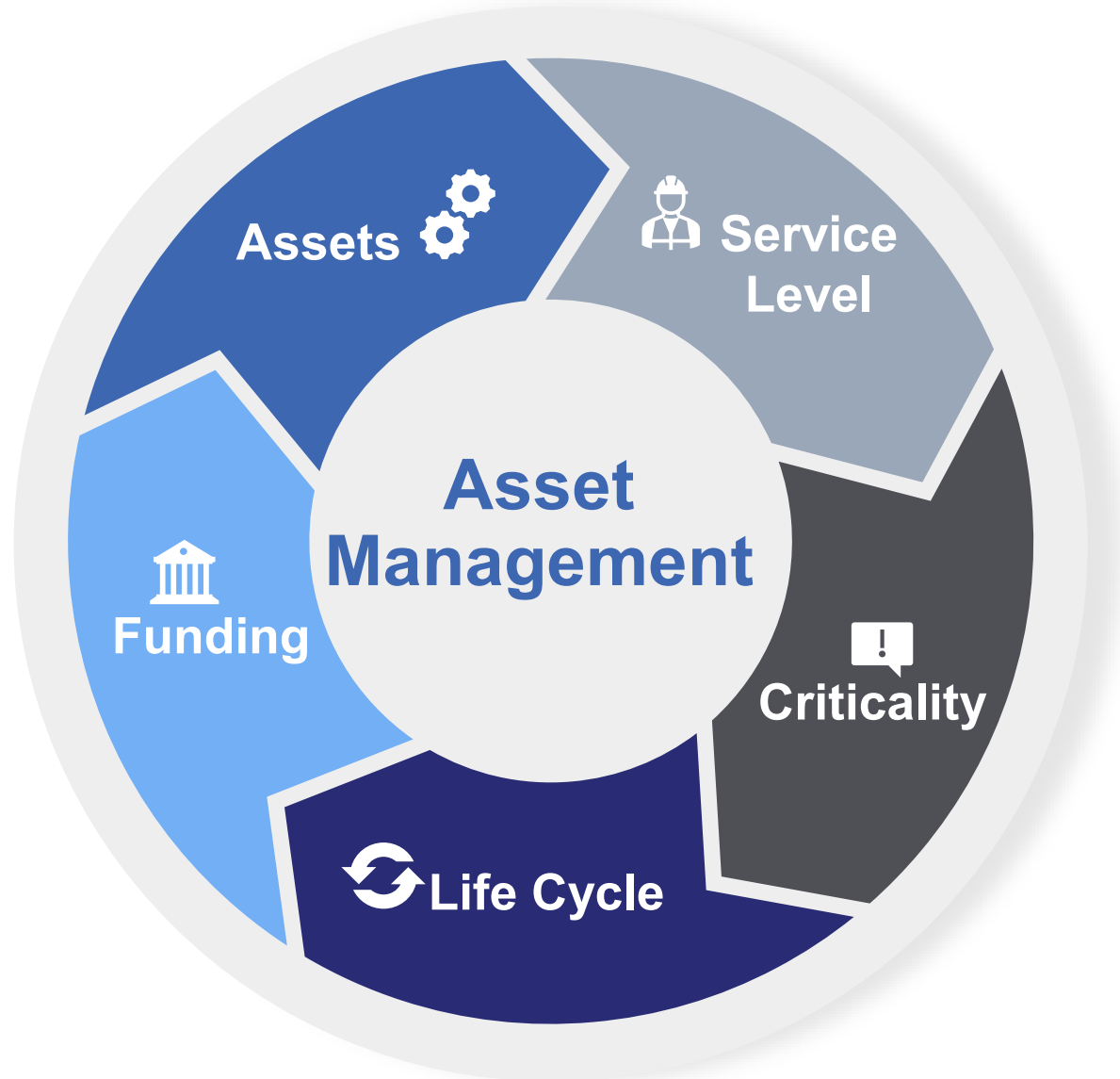
- Acquisition (design, construction, commissioning)
- Operations
- Maintenance
- Decommissioning/Replacement

## Goals of Asset Management

- Maximize the long-term value of the assets.
- Alignment with objectives and purpose.

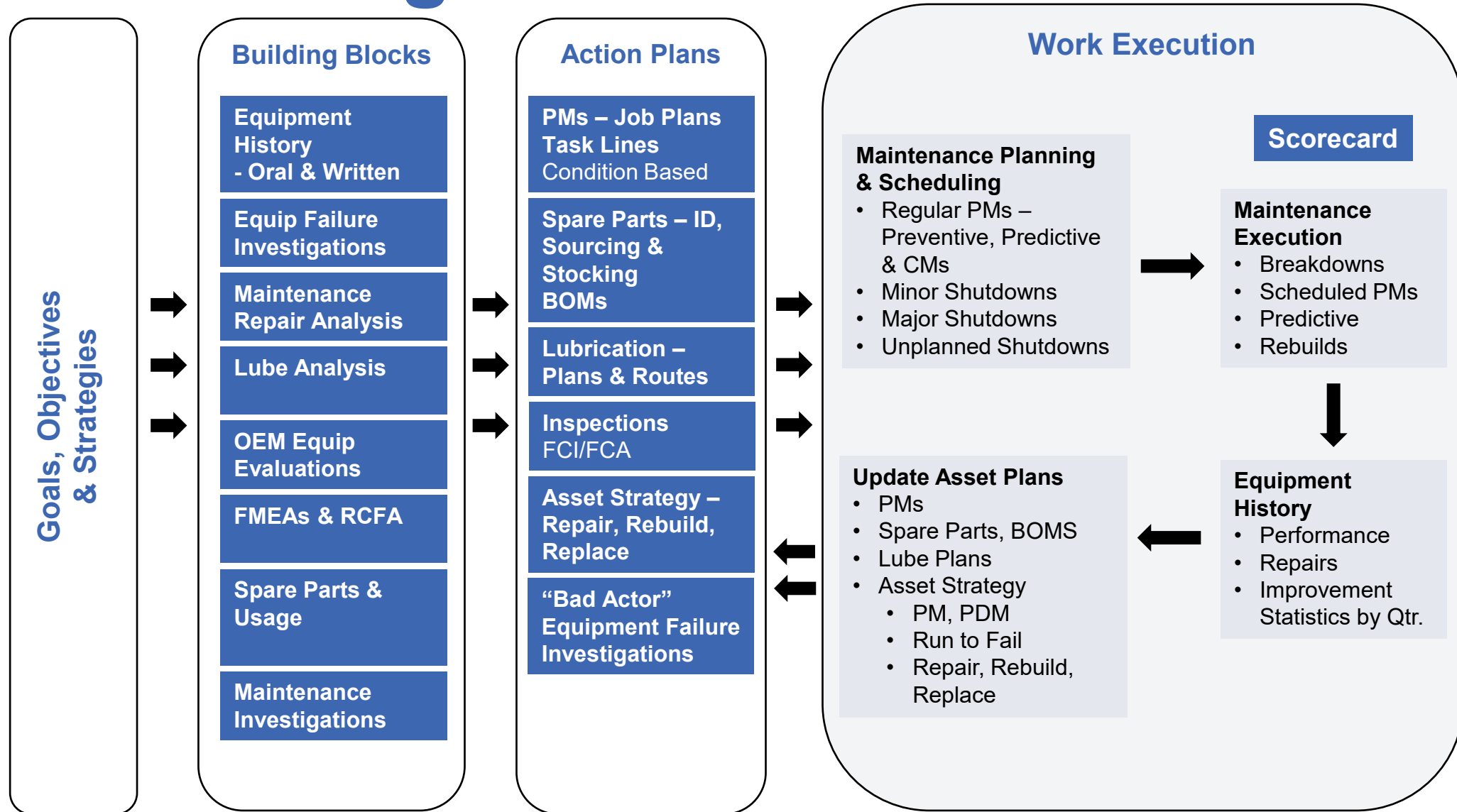


# 5 Factors of Asset Management



- Cost
- Condition
- Capacity
- Configuration
- Compliance
- Consequence

# Asset Management



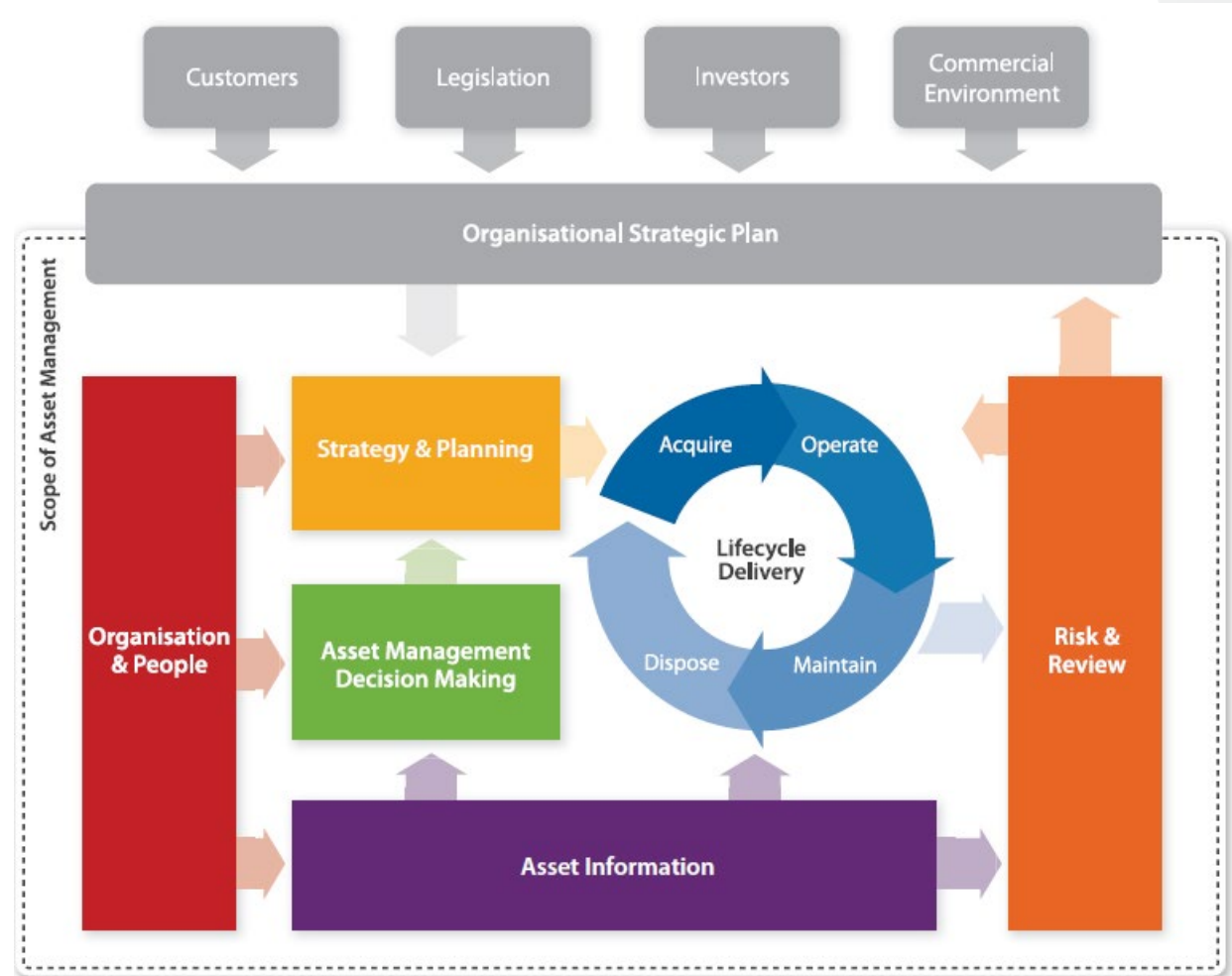
# Asset Management Framework

Institute of Asset Management (IAM)

1. Basics
2. Foundational & Fundamental Items
3. Importance to the Organization
4. Continuous Improvement

6 Subject Groups covering a total of 39 Asset Management Subjects

[www.theIAM.org](http://www.theIAM.org)







# Asset Management Framework

SMRP – Society of Maintenance and Reliability Practitioners

## 5 Pillars

1. Business & Management
2. Manufacturing Process Reliability
3. Equipment Reliability
4. Organization and Leadership
5. Work Management



[www.SMRP.org](http://www.SMRP.org)



# Asset Management Framework

## Reliability Web Uptime Elements

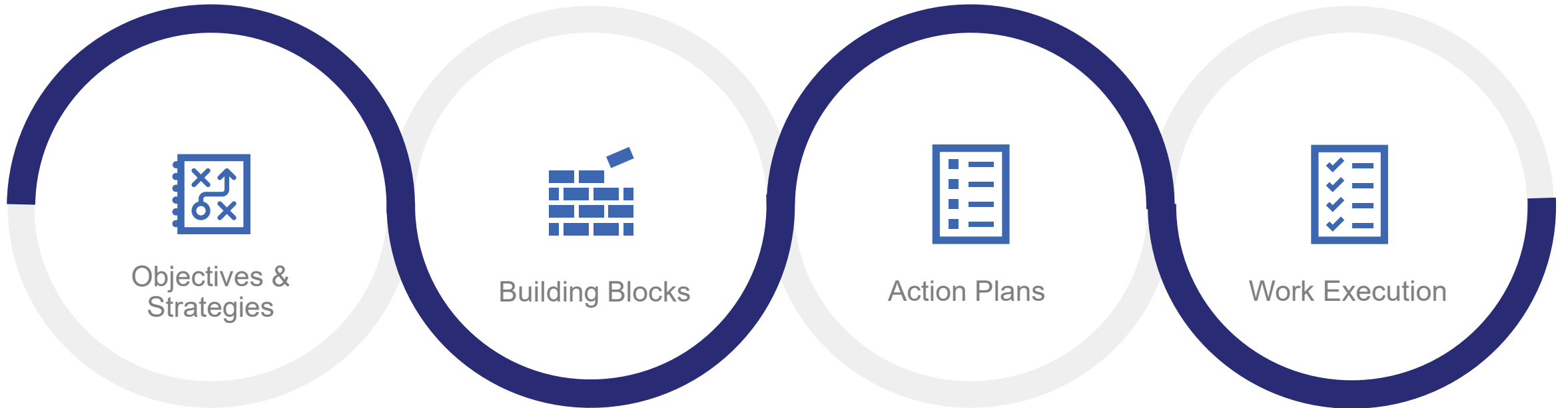
- REM – Reliability Engineering for Maintenance
- ACM -Asset Condition Management
- AM - Asset Management
- WEM - Work Execution Management
- LR - Leadership for Reliability
- IoT - Internet of Things Digitalization

[www.reliabilityweb.com](http://www.reliabilityweb.com)



# Behind the Scenes

Of the Asset Management Program



KPIs & Metrics  
Data Driven Decisions  
Continuous Improvement

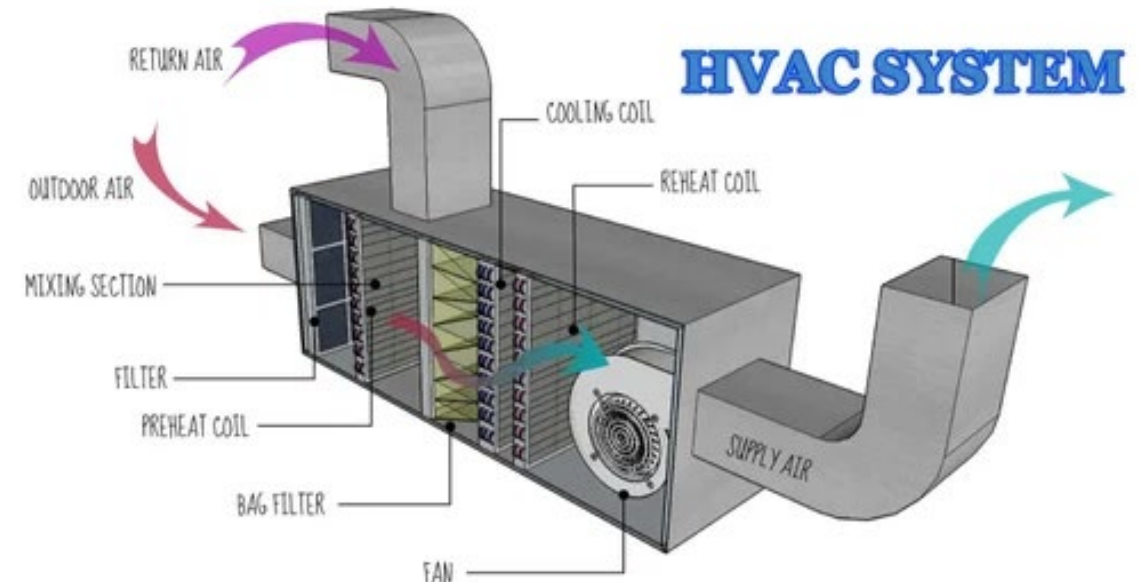
# Foundational & Fundamentals Items



## Asset Lifecycle Management

- Inventory and Asset Registry
  - Asset Classification
  - Asset Attributes
  - Asset Criticality
  - Spare Parts
  - PMs/Backlog
  - Job Plans
  - Replacement Plans
  - Condition – FCI/FCA

What do we **have**, what are the **costs**, what is the **condition** and plan for **replacement**?



# Maximo Application Suite



## Manage

- Core for all asset related data
- Work Management
- PMs and Job Plans
- Inventory
- Asset Portfolio
- Asset Classes/Criticality
- Attributes
- User profiles



## Health

- View of asset performance
- Asset rankings
- Dashboards
- Health based notifications
- Health Factors
- Weighting
- Classes



## Monitor

- Monitor and detect anomalies
- AI based anomaly detection
- Actionable dashboards
- True condition monitoring
- IoT Sensors
- Digital Twin
- ALM
- APM

# Maximo Application Suite



## Predict

- Use asset data to predict failures
- Asset Condition
- Failures
- AI based
- ALM
- APM
- Cost control



## Schedule

- Plan and Schedule all work
- Forecast PM
- Balance resource availability and work loads
- Manage backlog
- More control on vendors
- Dispatching
- Optimization



## Reliability Strategies

- Libraries of data
- PMO - Preventive Maintenance Optimization
- FMEA - Failure Mode Effects Analysis
- CbM, JPs, PMs
- Inspections

# MAS Health



Global view of Asset Health with condition-based actions and replacement planning



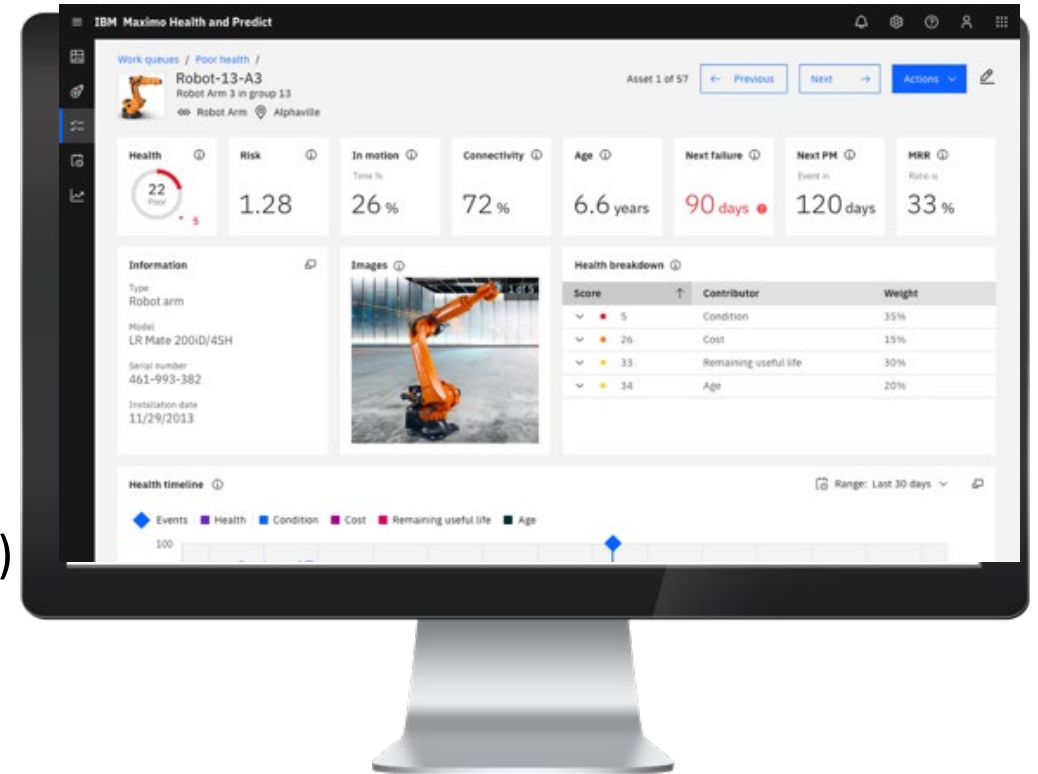
## Capabilities

- Dashboard with cards, map view, spreadsheet view
- Organizational view and health drilldown
- Health based notifications and actions
- Flexible health scoring by asset type or groups
- Sensor data integration
- Refurbish / replace prioritization



## Benefits

- Seamless integration with Manage (Same Database)
- Reduce operational risk by focusing on right assets
- Increase asset availability
- Reduce unnecessary preventive maintenance
- Reduce time to make capital replacement planning decisions



# MAS Monitor

Enterprise-wide monitoring and AI-based anomaly detection



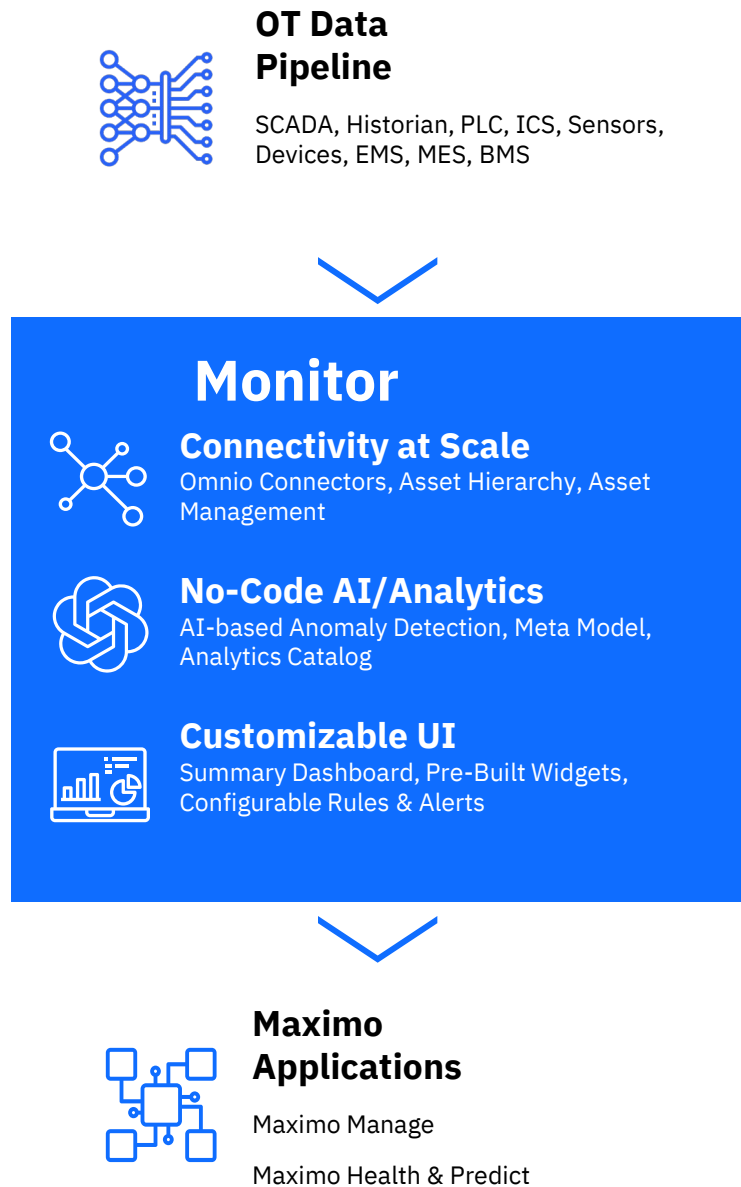
## Capabilities

- Rapid data integration
- Scalable dashboard filtering and management
- Utilization of Manage Asset Hierarchies
- Custom models, rules and KPIs
- Auto-generation of work orders



## Business Value

- Reduce unplanned downtime
- Shorten outage duration
- Reduce operational time investigating false-positive alerts



### OT Data Pipeline

SCADA, Historian, PLC, ICS, Sensors, Devices, EMS, MES, BMS

## Monitor



### Connectivity at Scale

Omni Connectors, Asset Hierarchy, Asset Management



### No-Code AI/Analytics

AI-based Anomaly Detection, Meta Model, Analytics Catalog



### Customizable UI

Summary Dashboard, Pre-Built Widgets, Configurable Rules & Alerts

### Maximo Applications

Maximo Manage  
Maximo Health & Predict

Flow of Insights



# MAS Predict



Predict asset failures and understand factors that contribute to failures

## Capabilities

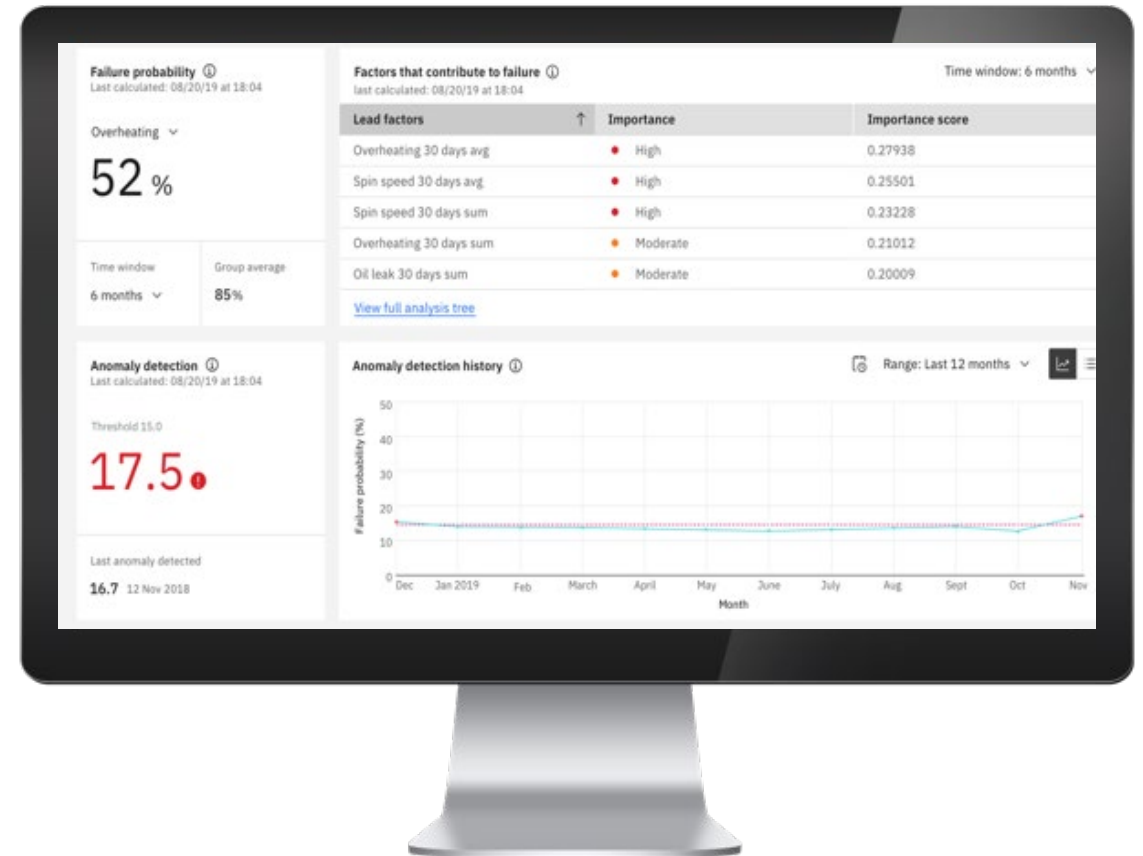


- Utilize templates to build common predictive models
- Incorporate sensor data into models
- Score predictive models using Watson Machine Learning (ML)
- View pre-built visualizations

## Benefits



- Reduce failures
- Reduce maintenance costs
- Improve asset utilization
- Extend life of asset

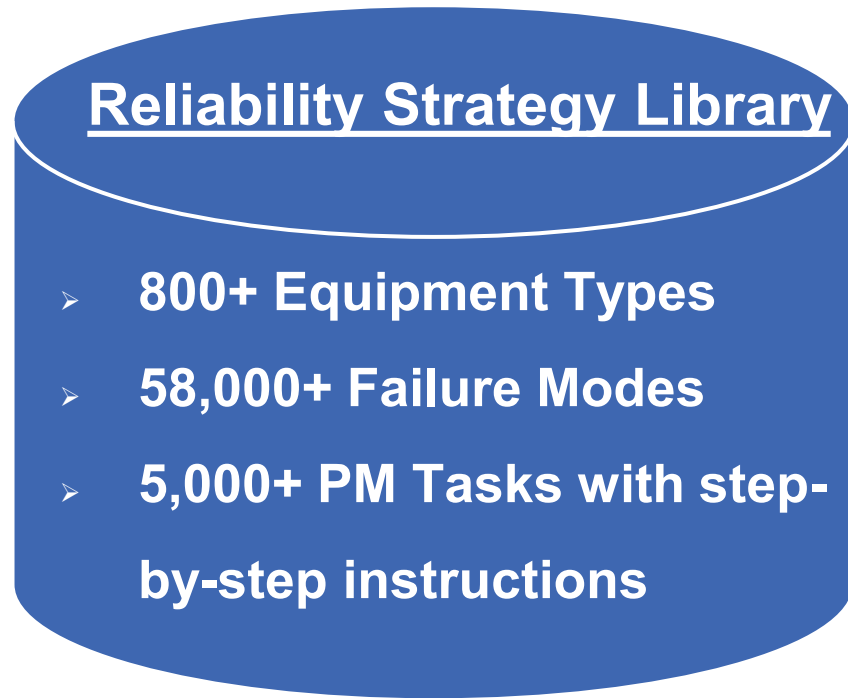


# MAS Reliability Strategies



Pre-Built Strategies for 800+ Asset Types

Based on 25 years of large-scale RCM studies and 32,000 years of professional industry experience



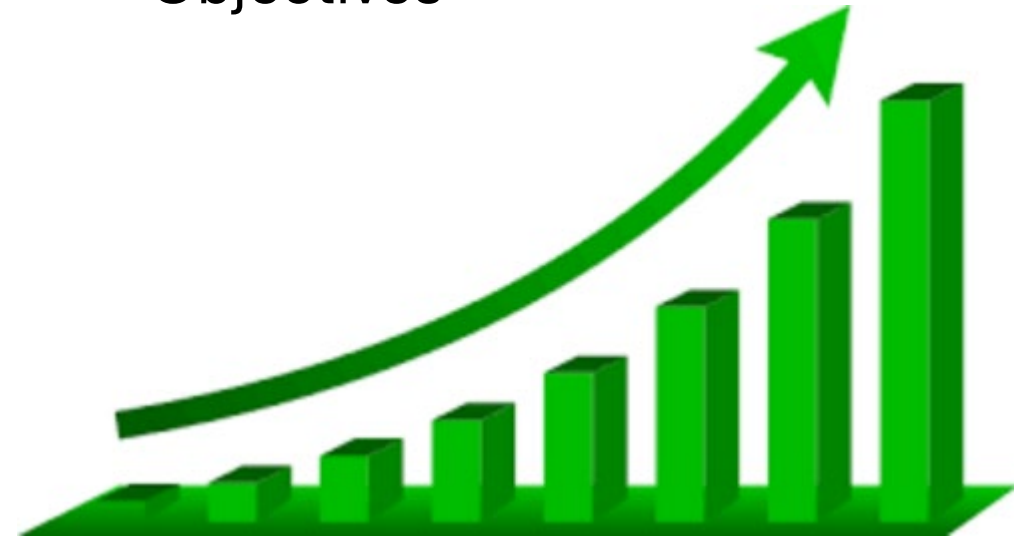
## Features for each asset include

- Defined Boundary Conditions
- PM tasks and intervals organized by operating context (criticality, duty cycle and service conditions)
- PM tasks one to one mapping with failure modes
- PM effectiveness ranking at detecting specific failure modes
- Cross industry asset coverage

# Benefits of Asset Management



- Reduce Unplanned Downtime
- Increase production output
- Maximizes Asset Life
- Optimizes Maintenance Budgets and Resources
- Offers insights, not just alerts
- More accurate data > better KPIs and Reports
- Allows more time to plan and schedule work
- Improves efficiency and effectiveness
- Improves safety
- Improves morale
- Improves Reliability
- Reduces backlog
- Reduced overall costs
- Improve spare parts consumption
- Meet Organizational Objectives



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**Thank You**

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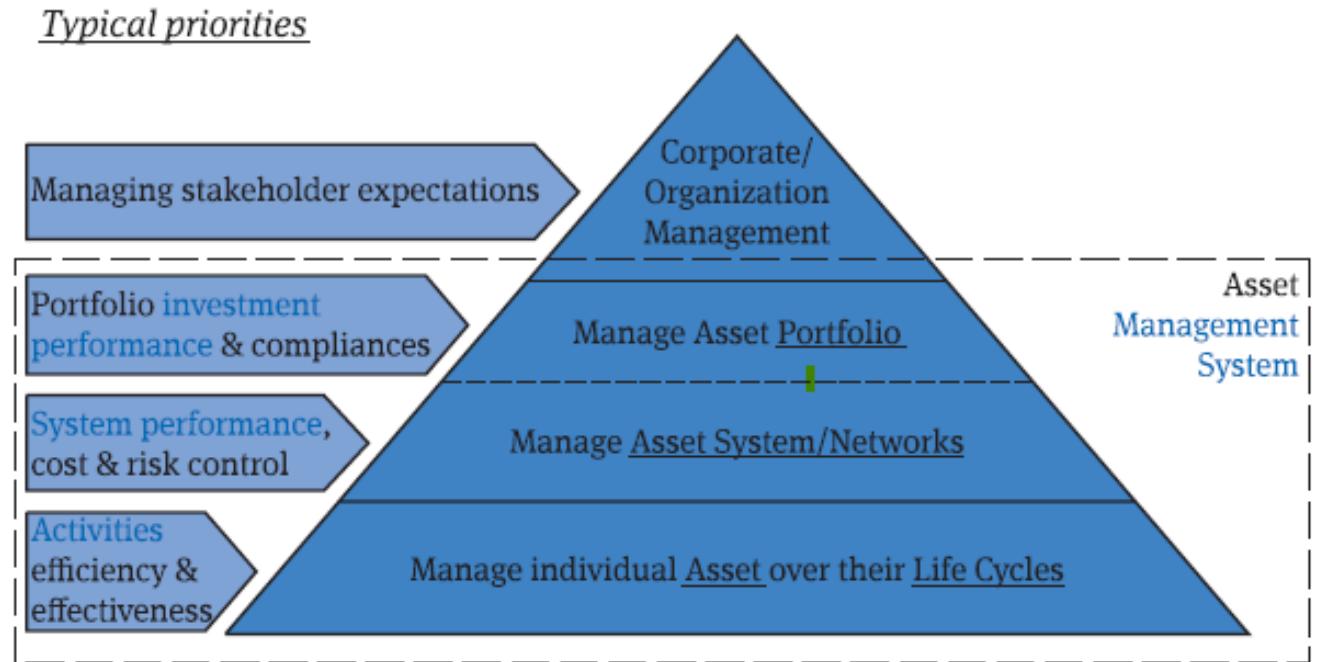
[mavenasset.com](http://mavenasset.com)



# Asset Management Framework

## ISO 55000 Asset Management

1. Deliver greatest net value
2. Provide clearer strategic direction
3. Ensure better quality and consistency of decision-making,
4. Create more consistent prioritization of what needs to be done
5. Encourage better management of risk, uncertainty and changes, and
6. Establish a genuine habit of continual improvement.



**Figure 1** — A portfolio of asset systems and assets