

Predictive equipment maintenance scheduling

Automatically monitors equipment sensor data to predict failures and schedule maintenance before breakdowns occur, reducing unplanned outages and extending asset lifespan.

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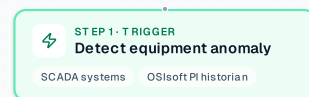


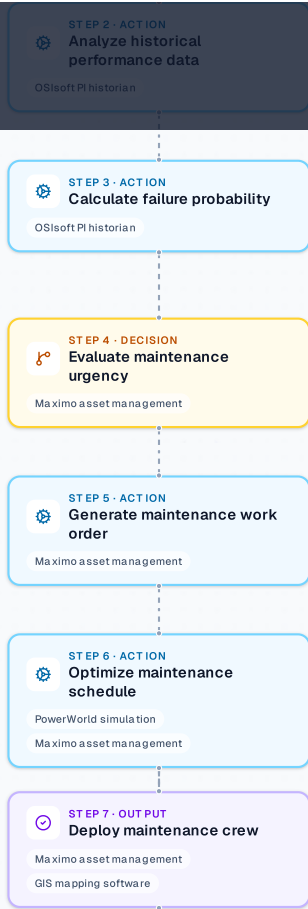
WORKFLOW TRIGGER

Equipment sensor data exceeds threshold values or shows anomaly patterns

Visual Flow

Each node represents an automated step. Connections show how data and decisions move through the workflow.





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Step-by-Step Breakdown

Detailed explanation of each automated stage in the workflow.

1

⚡ TRIGGER

Detect equipment anomaly

SCADA system identifies abnormal sensor readings from transformers, generators, or transmission equipment. Real-time monitoring flags deviations from normal operating parameters.

2

 ACTION

Analyze historical performance data

PI historian retrieves equipment performance trends and failure patterns from the last 2-5 years. Data includes temperature, vibration, oil quality, and load metrics.

OSisoft PI historian

3

 ACTION

Calculate failure probability

AI algorithms process current anomaly data against historical patterns to predict failure probability and estimated time to failure. Machine learning models assess multiple equipment parameters simultaneously.

OSisoft PI historian

4

 DECISION

Evaluate maintenance urgency

System determines if predicted failure requires immediate attention (within 7 days), scheduled maintenance (within 30 days), or continued monitoring based on criticality scores.

Maximo asset management

5

 ACTION

Generate maintenance work order

Maximo creates work orders with specific maintenance tasks, required parts, and skilled technicians. System checks parts inventory and technician availability automatically.

Maximo asset management

6

 ACTION

Optimize maintenance schedule

PowerWorld simulation validates that planned equipment downtime won't compromise grid stability. System reschedules if necessary to maintain reliable power delivery.

PowerWorld simulation

Maximo asset management

7

 OUTPUT

Deploy maintenance crew

Finalized work orders are dispatched to field crews with equipment locations from GIS mapping. Technicians receive detailed maintenance instructions and safety protocols.

Maximo asset management

GIS mapping software



Outputs

- Scheduled maintenance work orders

AI Business OS

- Equipment failure risk assessments
- Optimized crew dispatch schedules



Key Metrics

- Equipment uptime percentage
- Mean time between failures (MTBF)
- Maintenance cost per asset



Tools & Integrations

- SCADA systems
- OSIsoft PI historian
- Maximo asset management
- PowerWorld simulation
- GIS mapping software

AI Business OS

Actionable AI implementation strategies for business leaders ready to transform their operations.

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