Cyanco: Journey to Predictive Maintenance with AVEVA™ PI System™

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Agenda

• About Cyanco
• Where We Started and Where We Are
• Benefits Within Last Year
• Where We Want To Be
• Questions
About Cyanco

• Cyanco is the global leader in mineral extraction chemicals for the gold and silver mining industries.

• Formed in 1990, Cyanco sells cyanide in both solids and solutions and delivers competitively-priced, quality products and services around the world.

• With manufacturing facilities and distribution terminals located in the heart of key mining regions, Cyanco provides fast, safe and reliable delivery.
Logistical advantages for Nevada Mines

- The only Tier 1+ sodium cyanide producer in Nevada
- Large plant capacity is supported by a robust supply chain, delivering cyanide safely and consistently.
- Proximity to customers enables a differentiated, fully-managed service with efficient, just-in-time delivery.
Where We Started And Where We Are

• AVEVA™ PI System™ is the one of the wheels on which Cyanco’s digital journey is progressing and moving ahead. It has provided us with real-time visibility into our production, raw material consumption, helped implement condition-based maintenance while providing us real-time information on plant operations and environmental health and safety information supporting OEE in a continuous manufacturing environments

• Predictive Maintenance
• Overall Equipment Effectiveness (OEE)
• Digital Twin
• Overall Value Chain

• Real-Time Data Processing ✓
  • Inventory, Raw Material, Environmental
• Automated Data Feeds to DW ✓
  • Better Data -> Better Reporting
• Condition Based Maintenance ✓
  • Proactive Maintenance ✓
• Real-Time Environment Notifications ✓
• Asset Reliability ✓
Benefits (RTE, Usages, Status and more....)
• 20+ critical environmental tags are configured in PI System to provide real time alerts. These alerts are sent out as text messages and/or emails in real time in case of any failures or issues.
• Critical tags are extracted and provide near real time plant operation information
• 25+ PI System extraction programs extract hundreds of PI System tags and feed into our DW to support reporting
• Feeding PI System data into our DW
  • Real-time, hourly, daily, weekly
# AVEVA PI System Enabled - Overall Value Chain

We identified a series of use cases across the value chain, where PI System integrated with AI systems can augment decision making and drive value for the business.

## Potential areas where PI System data and AI can drive value for the business

<table>
<thead>
<tr>
<th>Procurement / Parts and Raw Material Sourcing</th>
<th>Overall Equipment Effectiveness (OEE)</th>
<th>Sales &amp; Operations Planning (S&amp;OP)</th>
<th>Logistics &amp; Distribution</th>
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<tbody>
<tr>
<td><strong>ROP/ROQ/MRP Optimization</strong></td>
<td><strong>Live Monitoring:</strong> Live monitoring system to automate manual monitoring, increase visibility, and better plan capital improvements. Drive performance and overall OEE.</td>
<td><strong>Digital Twin:</strong> Extension of Operational Intelligence system. Using decision rules and demand forecasts above, enable the simulation of end-to-end operations. In this way, can run scenarios and better plan downtime, etc.</td>
<td><strong>Managing Distribution Logistics:</strong> Optimize time to load and unload logistics equipments with a goal to reduce overall cost of loading and shipping product</td>
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<td>Utilize Predictive/Preventives maintenance orders data and optimize planning for critical spares and MRO items and help with OEE</td>
<td>Predictive Maintenance: Predict failures and performance degradation. Use Decision Intelligence to automatically reorder spare parts and maintain right safety stock based on predicted maintenance. Manage shared inventory across plants</td>
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<td>Plan raw material availability and intake of new materials during routine maintenance and shutdowns</td>
<td>Optimize catalyst process to increase conversion percent and yield.</td>
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The table above outlines the potential areas where PI System data and AI can drive value for the business. By integrating PI System with AI systems, we can augment decision making and drive value for the business across the value chain.
Using AVEVA™ PI System™ to enable conditional and proactive maintenance

Challenge
• Technology stack not supporting Cyanco’s vision and digital journey
• Increasing cost of plant maintenance
• Lack of visibility to operational, production and raw material data

Solution
• Implemented AVEVA PI System technology including PI Server Asset Framework and PI Vision to serve as a foundation for Cyanco’s digital transformation
• Moved to a web-based tool to provide plant health and productivity anytime and anywhere
• Implemented PI Notifications to provide insight of real-time events
• Sourcing data from PI into ERP and Data warehouse

Results
• Real-time visibility to plant operations and health by utilizing PI Vision dashboard
• Enabled conditional and proactive maintenance
• Enabled real-time notifications into equipment status and environmental issues
• Increased OEE
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Questions?

Please wait for the microphone.
State your name and company.

Please remember to...

Navigate to this session in the mobile app to complete the survey.

Thank you!