



Predictive Maintenance & Condition Monitoring: A Hot Seat Q&A Session with XMPro Intelligent Digital Twins

WEBINAR – NOVEMBER 2023



Gavin Green, VP Strategic Solutions



Timothy White, Engineering Consultant

Today's session what we will cover:

- Condition monitoring and predictive maintenance are essential for optimizing equipment performance, reducing costs, and improving safety.
- Intelligent digital twins amplify these benefits by providing accurate, real-time data and sophisticated analytical tools, leading to more informed decision-making and operational efficiency.
- Today's format is a bit different than previous webinars we have done; we will be going through some discussion points around condition monitoring and predictive maintenance from an Engineers perspective.

Tim White

MBA, B.S. Mechanical Engineering

2 years Process Reliability Engineer specializing in BI, IoT, and PDM

1 year Open Pit Reliability Engineer specializing in BI and RCA

Engineering Consultant

Led Projects Weir and Nutrien that focused on downtime mitigation and Process Improvement through Event Intelligence



Fundamentals of Condition Monitoring and Predictive Maintenance

Data Integration & Simulation

Real-Time Data & IoT Integration

Implementation Challenges & Data Analytics

Some Best Practices in PDM

Before
we **START**





Some Terminology Alignment

Working Definition of Common Terms

- **Condition monitoring** is the process of continuously monitoring and assessing the performance and health of machinery or systems to detect potential issues and prevent unplanned downtime.
- **Predictive maintenance** is a proactive approach that utilizes data analytics and machine learning to predict equipment failures, allowing timely maintenance to be performed before breakdowns occur.
- **Prescriptive maintenance** is a proactive approach that leverages data analytics and machine learning to recommend specific actions and optimal timing for maintenance tasks to maximize equipment reliability and minimize downtime.
- A digital twin is a model-based virtual representation of real-world entities and processes, synchronized at a specified frequency and fidelity.

Fundamentals of Condition Monitoring and Predictive Maintenance

- Companies looking to implement a predictive maintenance (PdM) solution, often tell me that they're not ready for it., they don't know where to start, and that this is probably not a fit for them. How would you approach those discussions?
- How does condition monitoring (CM) and PdM benefit from the integration of digital twins and event intelligence platforms?

Data Integration & Simulation

Real-Time Data & IoT Integration

Implementation Challenges & Data Analytics

Some Best Practices in PDM

Fundamentals of Condition Monitoring and Predictive Maintenance

Data Integration & Simulation

- What role does data integration and simulation play in CM and PDM?
- What challenges exist in integrating these data sources?

Real-Time Data & IoT Integration

Implementation Challenges & Data Analytics

Some Best Practices in PDM

Fundamentals of Condition Monitoring and Predictive Maintenance

Data Integration & Simulation

Real-Time Data & IoT Integration

- In your experience, what are the biggest challenges and opportunities when integrating IoT devices with intelligent digital twins for real-time data monitoring in predictive maintenance?
- Could you share a success story where IoT integration with digital twins significantly improved common or predictive maintenance outcomes?

Implementation Challenges & Data Analytics

Some Best Practices in PDM

Fundamentals of Condition Monitoring and Predictive Maintenance

Data Integration & Simulation

Real-Time Data & IoT Integration

Implementation Challenges & Data Analytics

- Could you share a success story where IoT integration with digital twins significantly improved common or predictive maintenance outcomes?
- How does data analytics and machine learning enhance predictive capabilities?

Some Best Practices in PDM

Fundamentals of Condition Monitoring and Predictive Maintenance

Data Integration & Simulation

Real-Time Data & IoT Integration

Implementation Challenges & Data Analytics

Some Best Practices in PDM

1. Can you highlight some best practices in condition monitoring and predictive management?

Next Steps - Register for next Month's Webinar

1

Option 1 CST DEC 5 8am - Root Cause Analysis

Application - How to capture recommendations, value and impact all within one application - <https://xmp.ro/RCACST>

2

Option 2 AEDT DEC 6, 8.30am - Root Cause Analysis

Application - How to capture recommendations, value and impact all within one application - <https://xmp.ro/RCAAEDT>

3

Contact our team for more information – sales@xmpro.com





info@xmpro.com

Global HQ

10000 North Central Expressway
Suite 400
Dallas, Texas, 75231
Tel: (+1) 214 890 4093

Australia

Level 6
124 Walker Street
North Sydney, NSW 2060
Tel: +61 (0) 2 8437 4100

UK/Europe

4th Floor, Tennyson House
159–165 Great Portland Street
London, W1W 5PA
Tel: +44 (0) 2072 689 800

South Africa

Block 11, Cambridge Office Park
5 Bauhinia Street
Technopark Centurion, 0169
Tel: (+27) 12 880 0121

XMPRO.COM