BLACKBIRD FOR TRAINING

Optimization of Preventive and Predictive Maintenance

23 – 27 November 2026
Düsseldorf (Germany)



Optimization of Preventive and Predictive Maintenance

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Introduction

Predictive maintenance and preventive maintenance are essential strategies for ensuring equipment efficiency and reducing unexpected failures in industrial facilities. This training course is designed to equip participants with the knowledge and skills needed to define predictive maintenance, understand what is predictive maintenance, and integrate it with preventive maintenance strategies for optimal performance.

Participants will explore predictive maintenance techniques, best practices for predictive maintenance programs, and how to use predictive maintenance analytics to anticipate failures and improve asset management.

Course Objectives

By the end of this course, participants will:

- Understand predictive maintenance definition and how it differs from preventive maintenance.
- Develop and implement a customized predictive maintenance strategy for their organization.
- Use predictive maintenance analytics to forecast failures and optimize maintenance schedules.
- Apply predictive maintenance solutions using data and modern technologies.
- Integrate predictive maintenance in industry into a comprehensive asset management framework.



Course Outlines

Day 1: Introduction to Predictive and Preventive Maintenance

- What is predictive maintenance? Definition and importance in improving asset reliability.
- Comparing predictive and preventive maintenance: When to use each strategy.
- Benefits of predictive and preventive maintenance: Reducing downtime, improving equipment reliability, and lowering operational costs.
- Types of predictive maintenance: Data-driven maintenance, sensor-based maintenance, and AI-driven predictive maintenance.
- How to do predictive maintenance: Steps for implementing predictive maintenance programs effectively.

Day 2: Developing a Preventive Maintenance Program

- Scheduling preventive maintenance tasks: Determining frequency and scope of preventive maintenance.
- Tools and techniques for preventive maintenance: Inspections and performance monitoring to ensure continued operation.
- Task prioritization: Identifying critical assets that require regular preventive maintenance.
- Compliance and record-keeping: Ensuring preventive maintenance aligns with regulatory standards.
- Measuring preventive maintenance quality: Key performance indicators KPIs for evaluating maintenance effectiveness.



Day 3: Implementing Predictive Maintenance

- Predictive maintenance techniques: Using vibration analysis, infrared thermography, and ultrasonic testing to identify potential failures.
- Data collection and analysis: Leveraging operational and historical data to predict failures.
- AI and machine learning in predictive maintenance: Enhancing predictive maintenance with smart analytics.
- Integration of predictive maintenance with CMMS: Linking predictive data with computerized maintenance management systems.
- Best practices for predictive maintenance: Planning and executing proactive maintenance strategies.

Day 4: Optimizing Maintenance Programs

- Optimizing maintenance schedules: Adjusting programs based on predictive data and analysis.
- Balancing predictive and preventive maintenance: Knowing when to transition from preventive to predictive maintenance.
- Resource management in maintenance: Allocating personnel, tools, and budgets efficiently.
- Performance tracking and feedback loops: Using field data to enhance maintenance performance.
- Cost reduction through predictive maintenance: How predictive maintenance solutions lower operational expenses.



Day 5: Integrating and Sustaining Predictive Maintenance Strategies

- Building a comprehensive maintenance strategy: Merging predictive, preventive, and corrective maintenance.
- Using predictive maintenance software: Tools to plan, execute, and monitor maintenance activities.
- Creating a proactive maintenance culture: Encouraging staff engagement in predictive maintenance training.
- Root cause and failure mode analysis: Identifying recurring failures and improving asset reliability.
- Future trends in predictive maintenance: Exploring AI, IoT, and next-generation predictive maintenance technologies.

Why Attend this Course: Wins & Losses!

- Gain advanced skills in predictive maintenance strategy and implementation.
- Learn how to do predictive maintenance using cutting-edge tools and analytics.
- Develop expertise in data-driven decision-making for maintenance planning.
- Improve asset reliability with predictive maintenance programs.
- Reduce operational costs by enhancing maintenance efficiency.

Conclusion

Mastering predictive maintenance and preventive maintenance is a crucial step toward achieving maximum operational efficiency and equipment reliability. This course provides participants with the tools and expertise to define predictive maintenance, implement predictive maintenance programs, and leverage predictive maintenance analytics effectively. By exploring predictive maintenance training, cutting-edge predictive maintenance techniques, and data analysis, participants will be well-equipped to enhance maintenance practices in their organizations.

Enroll now to leverage the power of predictive maintenance solutions for a more reliable and cost-efficient future!

