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VIBRATION ANALYSIS & MACHINERY DIAGNOSTICS

Start Date:	23/11/2026	**End Date:**	27/11/2026
Categories:	Engineering & Maintenan	**Venues:**	Barcelona
Formats:	In Person	**Instructors:**	

OVERVIEW

This course develops expertise in diagnosing rotating machinery issues using vibration data. Participants will interpret signal patterns, detect misalignment, imbalance, looseness, and gear/bearing faults.

OBJECTIVES

By the end of this course, participants will be able to: • Understand vibration principles and machinery dynamics. • Operate and interpret vibration analysis tools and sensors. • Detect and diagnose mechanical faults in rotating equipment. • Recommend corrective actions based on vibration data trends. • Document and report findings for maintenance decision-making.

COURSE OUTLINE

1. Fundamentals of Vibration and Signal Processing 2. Equipment Setup, Data Acquisition, and Frequency Analysis 3. Diagnosing Common Faults (Imbalance, Misalignment, Looseness) 4. Advanced Analysis: Bearings, Gears, and Resonance 5. Case Studies and Corrective Action Recommendations

TARGET AUDIENCE

Condition monitoring technicians, vibration analysts, mechanical engineers, and rotating equipment specialists.

METHODOLOGY

Hands-on use of analyzers, fault simulation labs, vibration case analysis, and corrective action planning.

CONCLUSION

Participants will develop strong diagnostic skills for early fault detection and enhanced machinery reliability.

DAILY AGENDA

Day 1: Vibration Analysis Basics

Understanding vibration theory, parameters, and measurement systems.

Day 2: Signal Collection and Interpretation

Collecting and processing time waveform and spectrum data.

Day 3: Fault Detection in Rotating Machinery

Identifying imbalance, misalignment, and mechanical looseness.

Day 4: Bearing and Gear Diagnostics

Analyzing high-frequency resonance and fault signatures.

Day 5: Reporting and Maintenance Planning

Compiling diagnostic reports and planning corrective measures.

For more information, please contact us:
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