Training Title

CONDITION MONITORING ENGINEER: EQUIPMENT MONITORING & PERFORMANCE ANALYSIS

Training Duration

5 Days

Training Venue and Dates

ReF. No. ME096	**Condition Monitoring Engineer: Equipment Monitoring & Performance Analysis**	**5**	**25 – 29 Aug 2025**	**$6,500**	**Vienna, Austria**

In any of the 4 or 5 star hotel. Exact venue will be informed soon.

Training Fees

- **6,500 US$ per participant for Public Training including Course Materials/Handouts, Tea/Coffee, Refreshments & Lunch**

Training Certificate

Define Management Consultancy & Training Certificate of course completion will be issued to all attendees.

TRAINING DESCRIPTION

This course provides a comprehensive understanding of equipment monitoring and performance analysis, focusing on condition monitoring techniques used to assess the health of industrial machinery. You will learn how to collect and analyze data from various sensors, interpret performance trends, and apply predictive maintenance strategies to improve reliability and prevent unplanned downtime. The course covers essential monitoring tools such as vibration analysis, thermography, and ultrasonic testing, along with practical applications of condition monitoring technologies.

OBJECTIVE

- **Understand** the principles of condition monitoring and its role in equipment maintenance and reliability.
- **Utilize** various diagnostic tools, such as vibration analysis, infrared thermography, and ultrasonic testing, to assess equipment condition.
- **Analyze** data from sensors and other monitoring systems to detect performance issues and predict potential failures.
- **Implement** predictive maintenance strategies to reduce unplanned downtime and improve operational efficiency.

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- **Diagnose** equipment anomalies and recommend corrective actions based on data analysis and performance trends.
- **Collaborate** with engineering, maintenance, and operations teams to optimize equipment performance and maintenance schedules.

WHO SHOULD ATTEND?

- Maintenance Engineers
- Reliability Engineers
- Equipment Technicians
- Asset Managers
- Operations Managers
- Industrial Engineers
- Predictive Maintenance Specialists
- Reliability Centered Maintenance (RCM) Professionals

TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions, and motivate everybody find the right answers. The delegates will also be encouraged to raise their own questions and to share in the development of the right answers using their own analysis and experiences.

- **30% Lectures**
- **30% Workshops and work presentation**
- **20% Group Work& Practical Exercises**
- **20% Videos& General Discussions**

COURSE OUTLINE

Day 1: Introduction to Condition Monitoring & Equipment Performance

- Overview of Condition Monitoring and its Importance
- Key Principles of Equipment Health Monitoring
- Common Equipment Failures and Their Causes
- Introduction to Condition Monitoring Tools and Technologies

Day 2: Vibration Analysis & Diagnostics

- Fundamentals of Vibration Monitoring
- Vibration Sensors and Data Acquisition
- Interpreting Vibration Data for Fault Diagnosis

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- Hands-on Vibration Analysis Techniques

Day 3: Infrared Thermography & Ultrasonic Testing

- Introduction to Infrared Thermography for Condition Monitoring
- Identifying Equipment Issues Using Thermal Imaging
- Basics of Ultrasonic Testing for Leak Detection and Thickness Measurement
- Practical Applications of Thermography and Ultrasonic Testing

Day 4: Predictive Maintenance & Data Analysis

- Introduction to Predictive Maintenance Strategies
- Data Collection and Analysis Techniques
- Using Condition Monitoring Software for Predictive Analytics
- Case Studies on Predictive Maintenance in Industrial Environments

Day 5: Troubleshooting & Maintenance Strategies

- Common Troubleshooting Techniques for Equipment Issues
- Using Condition Monitoring Data to Improve Maintenance Planning
- Integrating Condition Monitoring into Maintenance Management Systems
- Final Assessment and Practical Exercises

Discussions and Last Day Assessments will be carried out.

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