Global Horizon
TRAINING CENTER

Training Course:
Vibration Analysis – Category III

2 - 6 November 2025
Cairo (Egypt)
Holiday Inn & Suites Cairo Maadi, an IHG Hotel

Training Course:
Vibration Analysis Category III

Training Course code: EN235912 From: 2 - 6 November 2025 Venue: Cairo (Egypt) - Holiday Inn & Suites Cairo Maadi, an IHG Hotel Training Course Fees: 4200 Euro

Introduction:

Vibration Analysis - Category III is designed for experienced professionals who already have a foundational understanding of vibration analysis and are ready to delve into advanced techniques. This program, developed by Global Horizon Training Center, will enhance participants ability to perform complex vibration diagnostics, detect subtle mechanical issues, and implement effective predictive maintenance strategies. By focusing on high-level techniques and applications, this course provides the tools necessary to analyze advanced fault conditions and contribute significantly to machinery reliability and performance.

This training will not only deepen the participant's theoretical understanding of vibration analysis but also empower them with practical skills to make critical decisions on machinery health. The program ensures that participants are well-equipped to address complex vibration-related issues in industrial environments, contributing to greater operational efficiency.

Objectives:

- Provide participants with advanced vibration analysis tools and techniques.
- Equip participants to identify, analyze, and diagnose complex machinery faults.
- Train participants to interpret advanced vibration data and apply corrective actions.
- Enhance skills in the interpretation of complex spectral data and advanced frequency analysis.
- Strengthen understanding of machinery dynamics and their effects on vibration.
- Develop the ability to perform in-depth condition monitoring and predictive maintenance.
- Enable the implementation of vibration-based strategies to improve machinery uptime and reliability.

Course Methodology:

- Instructor-led sessions: Theoretical knowledge delivered by industry experts, providing advanced concepts in vibration analysis.
- Hands-on workshops: Practical application of advanced vibration analysis tools to perform real-life diagnostics.
- Case studies: Study of complex, real-world scenarios to reinforce learning and problem-solving techniques.

- Interactive discussions: Facilitated group discussions to enhance understanding of advanced vibration concepts.

Organizational Impact:

- Enhanced diagnostic capabilities: Participants will be capable of diagnosing complex mechanical failures, resulting in fewer unplanned breakdowns.
- Improved maintenance strategies: Implementation of predictive maintenance techniques will extend machinery life and improve system reliability.
- Cost reduction: By identifying and addressing faults early, organizations can avoid costly repairs and improve asset management.
- Increased operational efficiency: With fewer interruptions and enhanced machinery performance, companies can achieve higher productivity and reduce downtime.
- Data-driven decision-making: The program will enable participants to base maintenance decisions on advanced vibration data, optimizing operational strategies.

Target Audience:

- Senior reliability engineers
- Maintenance managers and supervisors
- Mechanical engineers with prior vibration analysis experience
- Condition monitoring professionals
- Asset management specialists
- Technicians looking to deepen their expertise in vibration analysis
- Anyone interested in mastering complex vibration analysis techniques for large-scale machinery systems

Outlines:

Day 1: Advanced Vibration Theory and Techniques

- Overview of advanced vibration analysis principles
- In-depth discussion of machinery dynamics and vibration behavior
- Review of vibration signatures and their implications for fault detection
- Advanced sensor placement and measurement techniques

- Frequency analysis and advanced spectral interpretation
- Hands-on session: Using advanced vibration analysis tools for data acquisition

Day 2: Advanced Fault Diagnosis and Analysis

- Understanding complex fault frequencies and their significance
- Diagnosis of misalignment, imbalance, and bearing issues through vibration analysis
- Gearbox failure analysis and diagnosing complex faults in rotating machinery
- Advanced techniques for fault classification and root cause analysis
- Hands-on session: Identifying complex mechanical faults in rotating equipment

Day 3: Condition Monitoring and Predictive Maintenance

- Setting up a comprehensive vibration-based condition monitoring program
- Introduction to predictive maintenance and its role in reliability-centered maintenance
- Data trending and analysis for early fault detection
- Establishing vibration-based alarms, thresholds, and limit checks
- Hands-on session: Implementing condition monitoring techniques in real-world scenarios

Day 4: Complex Vibration Data Interpretation and Troubleshooting

- Spectral analysis and interpretation of complex vibration data
- Advanced troubleshooting methods for complex vibration issues
- Understanding and solving complex fault conditions e.g., resonance, cavitation, high-frequency noise
- Correlating vibration data with physical machinery conditions for accurate diagnostics
- Hands-on session: Advanced troubleshooting of real machinery systems

Day 5: Implementing Corrective Actions and Reporting

- Developing corrective actions based on vibration analysis results
- Planning and executing machinery repairs based on advanced vibration data
- Effective reporting and documentation of vibration analysis findings

- Introduction to advanced vibration modeling and simulation tools
- Final assessment: Comprehensive hands-on evaluation of learned techniques

Registration form on the Training Course: Vibration Analysis Category III

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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

Delegate Information

Full Name (Mr / Ms / Dr / Eng): .....
Position: .....
Telephone / Mobile: .....
Personal E-Mail: .....
Official E-Mail: .....

Company Information

Company Name: .....
Address: .....
City / Country: .....

Person Responsible for Training and Development

Full Name (Mr / Ms / Dr / Eng): .....
Position: .....
Telephone / Mobile: .....
Personal E-Mail: .....
Official E-Mail: .....

Payment Method

☐ Please find enclosed a cheque made payable to Global Horizon

☐ Please invoice me

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Easy Ways To Register

Telephone: +201095004484 to provisionally reserve your place.	Fax your completed registration form to: +20233379764	E-mail to us : info@gh4t.com or training@gh4t.com	Complete & return the booking form with cheque to:Global Horizon 3 Oudai street, Aldouki, Giza, Giza Governorate, Egypt.