

# ROOT CAUSE FAILURE ANALYSIS (RCFA): CUTTING-EDGE DIAGNOSTIC APPROACHES

*"Advanced Diagnostic Techniques to Eliminate Failures and Drive Sustainable Reliability"*

## Schedule

Date	Venue	Fees (Face-to-Face)
12 - 16 Oct 2026	London, UK	USD 3,495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

## Introduction

Modern industrial environments demand more than basic problem-solving to address recurring equipment failures and operational disruptions. Root Cause Failure Analysis (RCFA) has evolved into a powerful diagnostic discipline that integrates technical analysis, human factors, data analytics, and systems thinking to uncover true failure causes.

This intensive 5-day program provides participants with cutting-edge RCFA tools and advanced diagnostic approaches used in world-class reliability organizations. The course focuses on real-world application, enabling participants to conduct deep failure investigations, facilitate RCFA teams, and implement robust corrective actions that prevent recurrence and improve asset performance.

## Objectives

By the end of this course, participants will be able to:

- Apply advanced RCFA methodologies and diagnostic tools
- Distinguish symptoms, apparent causes, and true root causes
- Analyze complex technical, human, and systemic failures
- Facilitate structured RCFA investigations and workshops
- Develop sustainable corrective and preventive actions
- Verify effectiveness and prevent recurrence
- Embed RCFA into reliability and continuous improvement systems

## Why Attend

- Eliminate chronic and high-impact equipment failures
- Learn advanced diagnostic and analytical techniques
- Improve investigation depth and accuracy
- Strengthen facilitation and leadership skills
- Reduce downtime, maintenance costs, and operational risk
- Build a proactive reliability culture

## Target Audience

This program is designed for:

- Maintenance and reliability engineers
- Operations and production professionals
- Asset and engineering managers
- HSE and safety professionals
- Quality and continuous improvement specialists
- Supervisors and technical team leaders

## Individual Benefits

Key competencies that will be developed include:

- Advanced failure investigation capability
- Strong analytical and critical-thinking skills
- Ability to lead RCFA teams confidently
- Improved technical decision-making
- Enhanced communication and facilitation skills

## Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Reduction in recurring failures and incidents
- Improved asset reliability and availability
- Stronger corrective action effectiveness
- Enhanced learning and accountability culture
- Sustainable operational and maintenance improvements

## Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Advanced RCFA frameworks and diagnostic models
- Case Studies – Complex industrial failure investigations
- Workshops – Hands-on RCFA analysis and facilitation exercises
- Peer Exchange – Group discussions on real operational challenges
- Tools – RCFA templates, diagnostic checklists, and action tracking systems

## MAWA EVENTS

**Address:** No. 857, Block A2, Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

**Phone:** +601116373203 | **Email:** info@mawaevents.net

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## Course Outline

Detailed 5-Day Course Outline - ALL MODULES

Training Hours: 7:30 AM - 3:30 PM Daily Format: 3-4 Learning Modules Coffee Breaks: 09:30 & 11:15 Lunch Buffet: 01:00 - 02:00

Day 1: RCFA Foundations & Failure Understanding

Module 1: RCFA Principles & Failure Thinking (07:30 - 09:30)

- Evolution of RCFA and advanced diagnostic thinking
- Failure vs. defect vs. symptom
- Why traditional problem-solving fails

Module 2: Failure Data Collection & Evidence (09:45 - 11:15)

- Evidence-based investigations
- Data quality, bias, and validation
- Event timelines and failure sequencing

Module 3: Failure Classification & Loss Analysis (11:30 - 01:00)

- Technical, human, and systemic failures
- Loss mapping and consequence analysis

Day 2: Advanced Diagnostic Tools & Techniques

Module 1: Cause Mapping & Logic Trees (07:30 - 09:30)

- Cause-and-effect logic
- Cause mapping best practices
- Avoiding false root causes

Module 2: Fault Tree & Barrier Analysis (09:45 - 11:15)

- Fault Tree Analysis (FTA)
- Barrier and safeguard evaluation

Module 3: Human & Organizational Factors (11:30 - 01:00)

- Human error analysis
- Organizational and cultural contributors

Day 3: Deep Technical Failure Analysis

Module 1: Mechanical & Electrical Failure Diagnostics (07:30 - 09:30)

- Bearings, gears, lubrication, alignment
- Electrical, instrumentation, and control failures

Module 2: Condition Monitoring & Failure Evidence (09:45 - 11:15)

- Vibration, oil analysis, thermography
- Interpreting condition data for RCFA

Module 3: Complex & Repeating Failures (11:30 - 01:00)

- Chronic failure patterns
- Multi-cause and cascading failures

Day 4: Corrective Actions & RCFA Facilitation

Module 1: Developing Effective Corrective Actions (07:30 - 09:30)

- Strong vs. weak corrective actions
- Risk-based prioritization

Module 2: RCFA Facilitation Skills (09:45 - 11:15)

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Leading RCFA workshops

- Managing conflict and bias

Module 3: Implementation Planning & Accountability (11:30 – 01:00)

- Action ownership and tracking
- Change management considerations

Day 5: Sustainability, Verification & RCFA Culture Module 1: Verification of Effectiveness (07:30 – 09:30)

- Measuring corrective action success
- Performance indicators and audits

Module 2: Preventing Recurrence & Knowledge Capture (09:45 – 11:15)

- Lessons learned systems
- Knowledge management

Module 3: Embedding RCFA into Reliability Systems (11:30 – 01:00)

- Integrating RCFA with TPM, RCM, and Asset Management
- Building a sustainable RCFA culture

### Certification

Participants will receive a Certificate of Completion in Root Cause Failure Analysis (RCFA): Cutting-Edge Diagnostic Approaches, validating their advanced capability to investigate complex failures, lead RCFA teams, and implement sustainable solutions that enhance reliability and operational excellence.

### Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
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- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
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Interested in running this course for your team?

Please contact us:

TEL:

**+601116373203**

EMAIL:

**info@mawaevents.net**

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