



ASSETSCHOOLS

World Class Training

Maintenance and Reliability Training to
Build Competency & Develop Capability





For over **25 years**, Asset Schools has been sharing the knowledge of subject matter experts to help maintenance and reliability teams build competency and develop capability.

From deep, technical skills training to strategic asset management concepts, we've got you covered with public, onsite, or online courses. Courses are interactive and founded in extensive case history. Participants gain practical insights and tools that can be immediately applied to their work.

The recognition of our courses for Continuing Professional Development (CPD) participation ensures that the time invested in Asset Schools contributes to career advancement, ongoing professional growth, and development.



Training Courses

- Planners' School Level 1
- Planners' School Level 2
- Supervisor School Level 1
- Supervisor School Level 2
- Reliable Assets School
- Asset Management School
- Asset Management Masterclass
- Shutdown School
- Maintenance Leadership School
- Human Factors in Maintenance
- Asset Management in Dollars & \$ense
- MRO School
- Precision Maintenance School
- Lubrication School Level 1
- Lubrication School Level 2
- RCM School
- FMECA School
- Apollo RCA School
- RCA School
- Vibration Analysis Level 1
- Vibration Analysis Level 2
- Vibration Analysis Level 3
- CMRP Exam Preparation Course





Planners' School **LEVEL 1**

Level 1 (Fundamentals of Work Management) is an introductory level, suitable for planning practitioners who are starting out or for those wanting to brush up on the basics.

8 Core Modules • 15 hrs over 2 days

Work Management And Business Imperatives

- Business objectives and the maintenance strategy
- Annual and monthly budget controls
- Work flow – defining all the processes
- Stakeholders
- Performance measurement and continuous improvement

Identifying Work

- Nature of work and what initiates it
- Specify new work and user priorities
- Approval of work – technical and commercial approval
- Back log and risk reporting

Maintenance Planning

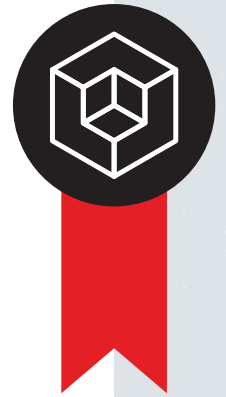
- Initial Estimation and the Forward Log
- Scoping: Interface between the Supervisor and the Planner
- Detailed Planning and using the Work Management System
- Specifying materials, resources, tools etc
- Requirements of a Work Order

Maintenance Scheduling And Dispatch

- Forecasting and committing the PM schedule
- Using the Forward Log and resource balancing
- Opportunistic work
- Handling work not done
- Standard meetings and work dispatch

Maintenance Work Execution

- Coordinating work and work site access
- Monitoring the work site and technical support to the team
- Handling urgent and emergency work
- Work order close out
- Financial reconciliation



Spares Management

- Supply management processes
- Catalogue and inventory
- Stock control
- Staging parts
- Goods issues and returns

Transitioning From Breakdown Maintenance

- Managing change
- Establishing the plant listing
- Statutory obligations
- Job Plans
- PM schedules

Performance Assessment And Measurement

- KPIs
- Response to KPIs
- Auditing
- Management reporting and strategy improvement





Planners' School

LEVEL 2

The course builds on Planners' 1 and explores why and how we plan and how work delivery can be optimised with existing teams, systems, and approach to work management. It explains the quality expectations of planning and scheduling which supports the field teams to help them deliver a great job. This includes consistency, tracking performance and ensuring people understand the expectations of their role.

8 Core Modules • 15 hrs over 2 days

The Enterprise Asset Management System

- Elements of the EAMS
- Links to other systems
- Competencies and Access to the System
- Contractors and the EAMS
- Reporting tools

Master Data Management

- Assets
- Preventive maintenance
- Supply and materials
- Safety and permits
- Inspection management

Configuration Management

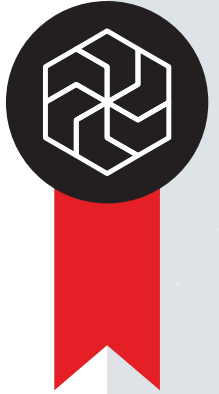
- Purpose of configuration management
- Configuration control
- Configuration auditing
- Configuration change
- Maturity in configuration management

Budget Management

- Annual works plan
- Provisions
- Monthly budget control
- Cost tracking in works delivery
- Management of contract expenditure

Planning Standard

- Requirements for specifying work
- Work scope management – managing specification of work plus stored jobs



- Materials management – consumables, stock and direct purchase
- Safety management and permits control
- Rough cut scheduling – work priorities, procurement and earliest start dates

Schedule Management

- Roster management
- Scheduling access including outages/turnarounds access plus parent jobs
- Schedule loading and resources levelling
- Forward log consolidation and standard meetings/approvals
- Schedule lock and reporting

Team Coordination

- Effective communication for teams to control work
- Weekly run sheets
- Balancing work in a week/daily scheduling
- Managing break-in work
- Handling work not started

Performance Measurement

- EAMS blueprint compliance measures
- Budget reporting
- Critical spares management
- Scheduled work delivery
- Plant reliability risks





Supervisor School **LEVEL 1**

This course assists Supervisors of maintenance teams with their dual purpose: to ensure that work by the maintenance teams is delivered safely on time and with requisite quality; and to provide immediate advice back to the organisation on equipment-based risks which can lead to operational downtime. The first is an essential leadership role and the second recognises that Supervisors must have the appropriate technical knowledge and experience to understand the equipment their teams work on. Participation in this course will help Supervisors balance their time between administration duties that support their team and its workflow with walking the sites, observing potential problems and driving continual improvement.

8 Core Modules • 15 hrs over 2 days

Leadership in Work Management

- Leading people and communicating goals
- Safety management in everything we do
- Moving on from breakdowns and continuous urgent work
- Prioritising the time of a Supervisor – what is a good day

Managing New Work

- Assessing risk to be addressed by new work
- Job estimation and scoping
- Making the case for the required date
- Coping with break-in work and shifting to planned work

Supervision in Maintenance Workflow

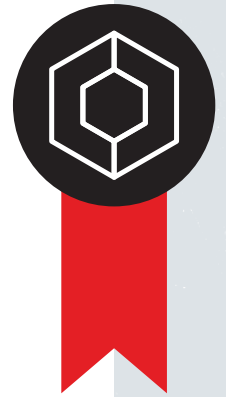
- Value of long term schedules for the team
- Protecting the schedule for the week
- Placing the right work with the team members
- Ensuring necessary feedback from completed work

Reporting for Supervisors

- Standard reports used by Supervisors
- Purpose of KPI's and explaining them to the team
- Using reports in standard meetings and team communications
- Special investigations and who can help with information

Delivering the Maintenance Strategy

- Understanding fmea and pm development
- Importance of good maintenance practices
- Stop the tick and flick pm
- Understanding and then acting on risks identified by inspections



Workplace Observations

- Identifying and acting on safety risks
- Planning and work delivery quality
- Using information from job observations
- Enhancing team awareness

Improving the Team

- Addressing maintenance induced problems
- Leading a united team for effective work
- Improve equipment performance and reliability
- Implementing team improvement plans

Personal Improvement

- Role of the Supervisor in continuous improvement
- Improving the performance of a maintenance department
- Managing stakeholders and their needs
- Improvement plans for Supervisors





Supervisor School **LEVEL 2**

This two-day intensive develops the core leadership and people capabilities frontline supervisors need to succeed. Learn to understand your leadership style, build trust, communicate effectively, delegate work, hold people accountable, lead safety culture, coach performance, resolve conflict, and manage competing priorities. Gain practical frameworks and tools to lead with confidence, create high-performing teams, and thrive in the demanding supervisory role.

8 Core Modules • 15 hrs over 2 days

Self-Awareness & Leadership Identity

- Understanding your behavioural style (DISC/Colours/Insights assessment)
- How your style impacts team performance
- Transitioning from technician to leader identity
- Your leadership values and purpose
- Building credibility and trust as a supervisor
- Managing the supervisor role: authority vs. influence

Emotional Intelligence for Maintenance Leaders

- What is emotional intelligence and why it matters
- The four EQ domains: self-awareness, self-management, social awareness, relationship management
- Identifying and managing your emotional triggers
- The STOP technique for emotional regulation
- Staying composed in high-pressure situations
- Reading emotions in team members and responding appropriately

Communication That Connects

- The communication gap: intention vs. reception
- Active listening as a core leadership skill
- Adapting communication style to different personalities
- Professional written communication (emails, reports, documentation)
- Moving from “tools” to “admin” environments
- Structured communication rhythms (daily huddles, weekly check-ins, meetings)
- Communication discipline prevents fire-fighting

Building Trust, Delegating Work & Holding People Accountable

- Trust as the foundation of leadership (consistency, competence, care, transparency)
- Supervising former peers effectively
- Why supervisors don't delegate (and why they must)
- The delegation framework: select, set expectations, provide resources, follow up



- Holding people accountable without being “the bad guy”
- The accountability conversation framework
- Building a culture of accountability

Safety Leadership – Creating a Culture of Care

- Safety leadership vs. safety management
- Leading by example in all safety behaviours
- The safety conversation framework (curious, not accusatory)
- Recognising safe behaviour publicly
- Addressing at-risk behaviours constructively
- Creating a speak-up culture where people raise concerns
- The two-challenge rule

Performance Coaching & Accountability

- Setting clear performance expectations
- Effective positive feedback and recognition (5:1 rule)
- The performance coaching conversation framework
- Providing constructive feedback (specific, timely, behaviour-focused)
- Progressive discipline when coaching doesn’t work
- Documentation best practices

Conflict Resolution, Stakeholder Management & Influence

- Understanding conflict: sources and types
- The conflict resolution process (for direct involvement)
- Mediating conflicts between team members (7-step process)
- Stakeholder mapping and management
- Understanding stakeholder needs and priorities
- Influence without authority (relationships, mutual benefit, data)

Leading Your Own Development & Thriving as a Supervisor

- Time management: Urgent vs. Important (Eisenhower Matrix)
- Time blocking and structured work rhythms
- Managing break-in work (assess, communicate, reprioritise, engage team)
- Running effective meetings (purpose, agenda, facilitation, follow-through)
- Participating effectively in meetings
- Stress management and building personal resilience
- Work-life balance in 24/7 operations
- Creating your 90-day action plan (30-60-90-day goals)





Reliable Assets School

Where data and reliability engineering meet planning, maintenance, and work management. Designed to assist in your understanding of the total approach to ensuring assets deliver their required level of reliability and performance throughout their operational life. This course will assist individuals who wish to understand more about improving the performance of their assets and deliver long term, sustainable benefits.

8 Core Modules • 15 hrs over 2 days

Work Management And Reliability Improvement

- Reliability improvement in workflow
- Stakeholders delivering reliability
- Determining opportunities for improvement
- Developing and prioritising the improvement plan

Reliability And Continuous Improvement

- Reliability framework
- Issues register
- Condition assessments
- Investigations
- Defect analysis

Operator Care

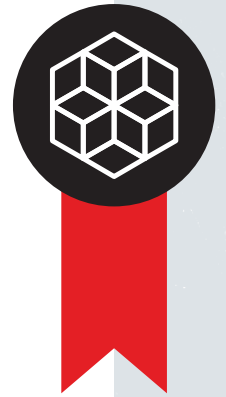
- Principles of Operator Driven Reliability (ODR)
- Front line observation
- Improving operator communication
- Autonomous maintenance

Improving The Maintenance Approach

- Elements of Preventive/Predictive Maintenance
- Asset criticality
- FMEA
- Improvement techniques – RCM, TPM, PMO
- RBD analysis of systems

Inventory Analysis And Obsolescence

- Stock out analyses and minimum holdings
- Critical spares analysis
- Obsolescence management
- Alternative supplier analysis



Condition Monitoring

- Condition monitoring framework
- Overview of technologies
- Using condition monitoring data
- Achieving value from condition monitoring

Handling Data

- Work order history
- Managing inspection data
- Forecasting future problems
- Reporting maintenance effectiveness

Defect Elimination

- Root Cause Analysis
- Handling evidence
- 5Y
- Fishbone analysis





Asset Management School

Asset Management School will assist individuals who wish to understand how to prioritise their expenditure, set up teams for both strategic and tactical success, and ensure they work well with other stakeholder groups associated with the overall business performance of the assets.

8 Core Modules • 15 hrs over 2 days

The Application of Asset Management

- Aligning Asset Management with Work Delivery
- Defining Continuous Improvement for Assets
- Interpreting the Asset Management Standards
- Engagement with Senior Management

Understanding the Organisation

- Working with Multiple Teams work to Deliver Asset Management
- Roles and Team Interfaces
- Results when Essential Functions are Missing
- Applying Policy and Strategy to People

Specifying Asset Management Strategy

- Defining the Asset Management Strategy
- Asset Management Objectives which are SMART
- Details of assets, their Design and Operational Requirements
- Applying Strategy
- Measuring the Performance of the Asset Management Strategy

Using Asset Management Plans

- Risk Management
- Measuring Risk in the Assets
- Asset Management Plan
- Forming Proposals of Work and Portfolio Management
- Avoiding Backlog in the Asset Management Plan

Condition Assessments, Life Cycle Costs and the Capital Plan

- Understanding Life Cycle Costs
- Requirements for Condition Assessments for Critical Assets
- Inspecting Assets and Adjusting Life Forecasts
- Generating the Capital Plan
- Technical Change Management



Feasibility Studies, Commissioning and Life Cycle Implications

- Specifications for the Pre-Feasibility Study
- Life Cycle Implications of the Feasibility Study
- Requirements for Manufacturing and Construction Quality
- Commissioning Assets

Operations, Maintenance and Reliability

- Life Cycle Management of In-Service Assets
- Avoiding Early Retirement and Unnecessary Waste
- Using Information Inform Asset Management Decision Making
- Tailoring Reliability Support for Decision Making
- Cultural implications of ISO 55000 s

Continual Improvement in Asset Management

- Continuous Improvement
- Measuring Improvement over the Long Term
- Internal Auditing
- Performance Measurement
- Reporting to Senior Management

This course has been recognised under the World Partners in Asset Management (WPiAM) Global Certification Scheme, aligning with the knowledge requirements for the Certified Practitioner in Asset Management (CPAM) designation. CPAM is an internationally recognised certification that demonstrates professional competence in applying asset management principles within an organisational context. Completion of this course contributes to the knowledge component of WPiAM certification pathways. Applicants must meet additional experience and competency requirements to achieve CPAM designation.





Asset Management Masterclass

This short course describes how an effective asset management system allows an organisation to best utilise its physical asset portfolio to achieve its business objectives. It describes expectations that the organisation's teams must meet including risk-prioritised planning, quality management of asset life cycle process and requirements for continual improvement. Importantly, it identifies the strategic functions and systems in which the organisation must invest to realise its required operational outcomes.

This course is specifically aimed at those teams who work adjacent to or alongside the Asset Management and Maintenance teams. The purpose of the course is to educate teams such as those in finance, projects, engineering, procurement, supply chain on the key asset management considerations. A fundamental understanding of the Asset Management System thinking employed by the organisation will foster better collaboration between these teams and the Asset Management organisation.

5 Core Modules • 7.5hrs over 1 day

Overview of Asset Management

- The Asset Management System
- ISO 55000 Series of Standards
- Global Guidance on Asset Management Practices
- The Asset Management Framework

Specifying Asset Management Strategy

- The Asset Management Policy
- Strategic Asset Management Plan
- Asset Management Objectives
- Asset Management Leadership
- Asset Information Systems
- Resourcing Asset Management

Risk-Optimised Asset Planning

- Risk Management
- Asset Management Plan (AMP)
- Asset Operations
- Planning Future Work
- Capital Investment Decision Making



Work Delivery

- Overview
- Approve work/ Cost commitments
- Resource work

Ensuring Asset Management Capability

- Measuring Performance
- Reliability Engineering
- Management of Improvement
- Assessing the Health of the Asset Management System
- Stakeholder Engagement
- Modern Challenges for the Asset Management Teams





Shutdown School

Designed to assist maintainers, operators, supply officers, engineers and managers understand work associated with the delivery of shutdowns and turnarounds.

8 Core Modules • 15 hrs over 2 days

Establishing The Shutdown

- Asset Management Plan – Shutdowns (Portfolio)
- Shutdown Initiation
- Establish the Steering Committee
- Appoint the Shutdown Manager
- Review the Shutdown Drivers
- Review Past Shutdowns (Continuous Improvement)
- Establish Shutdown Objectives
- Formulate Preparation Plan

Develop The Shutdown Organisation

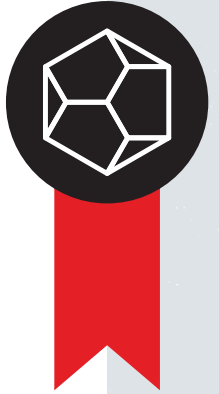
- Planning and Scheduling Team
- Projects Management
- Works Delivery Team
- Logistics Team
- Materials Team
- Safety Management
- Technical Engineering and QA
- Production / Operations Management

Shutdown Control Protocols

- Establish Information Systems Strategy
- Establish Control Documents
- Establish Communication Plan
- Establish Registers
- Establish Document Management System
- Auditing Framework (Progress Monitoring)

Preparation

- Kick Off Meeting
- Generate the Scope of Work
- Approved Capital Project Work Orders
- Corrective and Proactive Work Orders
- Non – Running Preventive Maintenance Work



- Provisional Scope of Work
- Provisional Scope of Work Budget Estimate

Detailed Work Planning

- Categorise Work
- Plan Internal Resources Work
- Contractor Planned Package Work

Scheduling

- Work Integration Analysis
- Header Level
- Long Lead Procurement
- Pre-Shutdown Work
- Contracting
- Run Down / Run Up
- Isolations Planning

Delivering Work

- Work Pack Issue
- Isolations Management
- Work Pack Return
- Adjust Shutdown Schedule
- Shutdown Timetable Change
- Emergent Work
- Track Shutdown Progress
- Daily Meeting Schedule
- Commissioning

Close-Out Of Shutdown

- Shutdown Close-out Program
- Finalise Commercial Arrangements
- Finalise Technical Data
- Specification of Further Work
- Documentation
- Post-shut Review





Maintenance Leadership School

This course equips maintenance and asset leaders with the strategic, cultural and people-leadership capability required to elevate organisational performance. Leaders must shape the environment in which great maintenance happens – setting strategy, building capability, and creating the culture that drives sustained reliability.

8 Core Modules • 15 hrs over 2 days

Self-Awareness and Leadership Identity

- Understanding your behavioural style (DISC/Colours/Insights assessment)
- How your style impacts your leadership and organisational culture
- Your leadership identity: from technician to manager to strategic leader
- Understanding your strengths, blind spots, and triggers
- Your leadership shadow: everything you do sends a message
- Building credibility and trust at the manager level
- Leading with authenticity, consistency, values and purpose

Emotional Intelligence for Senior Leaders

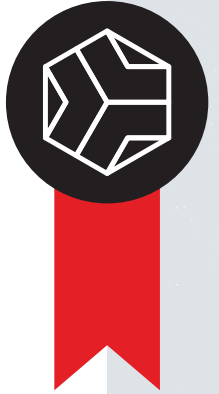
- Emotional intelligence at scale: managing yourself and reading your organisation
- Managing your emotional triggers and responses under pressure
- Reading organisational dynamics, morale, and culture
- Responding to emotions in your team (stress, resistance, conflict)
- EQ in decision-making: balancing logic and emotion
- Building emotionally intelligent culture and developing EQ in your team

Strategic Leadership in Maintenance

- From manager to strategic leader: your role as strategist, culture-builder, capability developer
- Strategic thinking: balancing short-term operations with long-term strategy
- Asset, reliability, and maintenance strategy alignment
- Leading through others: developing leadership capability in your organisation
- Moving from reactive firefighting to proactive management
- Creating clarity of roles and accountabilities across your organisation
- Making strategic trade-offs and your role in organisational performance

Building and Sustaining Organisational Culture

- Understanding culture: “how we do things when management isn’t watching”
- Assessing current culture and defining desired culture
- Culture is created through what you measure, reward, tolerate, and discuss
- Creating high-performance culture (proactive, collaborative, learning-oriented)
- Building a Just Culture and embedding continuous improvement mindset



- Managing culture change: resistance, communication, reinforcement, patience
- Systems and processes that shape culture (not just words)

Communication, Influence & Navigating the Organisation

- Strategic communication at scale: cascading vision, strategy, and priorities
- Adapting your communication style to different audiences and situations
- Managing up: influencing senior leadership, making business cases, managing expectations
- Managing across: building peer relationships and cross-functional influence
- Stakeholder management: mapping complex landscape and engagement strategies
- Navigating organisational politics with integrity, building coalitions & alliances for change
- Developing communication capability in your leadership team

Safety Leadership at the Organisational Level

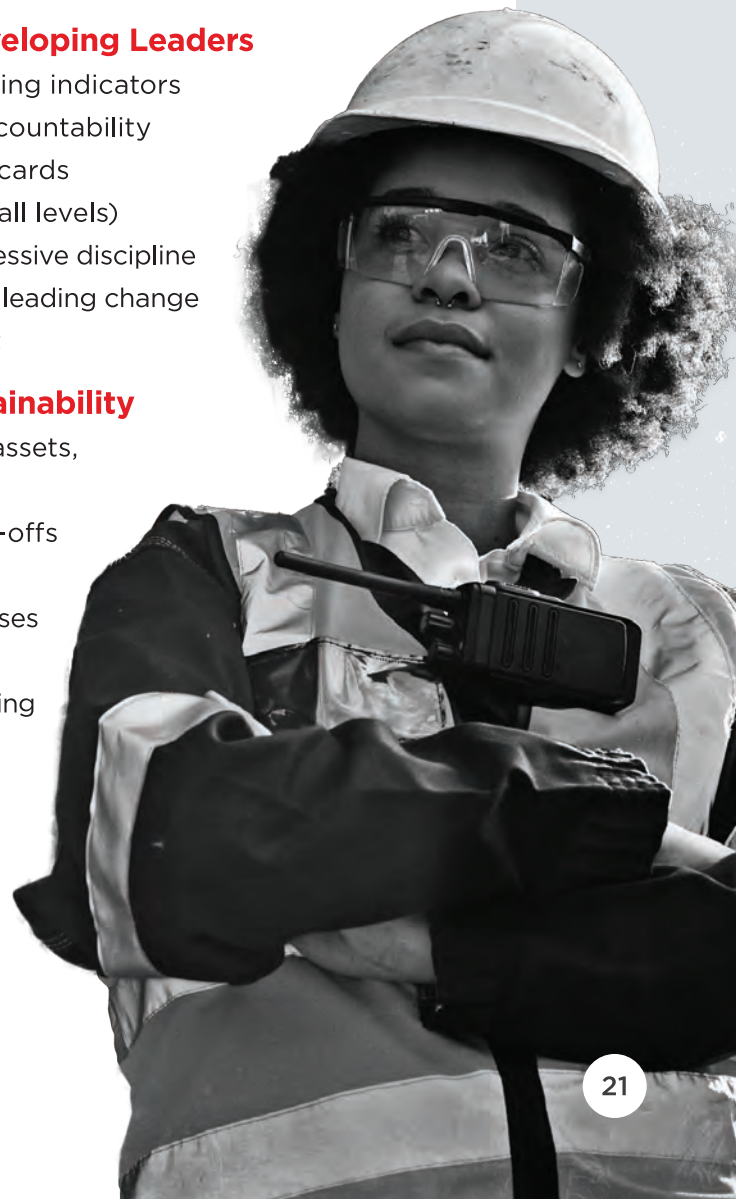
- Your role in safety culture: it starts with you, not the safety team
- From compliance to culture: building a culture where people care about safety
- Visible safety leadership behaviours: presence, questions, participation, recognition
- Developing safety leadership throughout your organisation (at all levels)
- Managing the production-safety tension: protecting against pressure
- Leading incident response, learning, and creating a speaking-up culture
- Fatigue management at organisational level: systemic solutions

Performance Management, Accountability & Developing Leaders

- Driving organisational performance: leading and lagging indicators
- Creating a performance culture: clarity, capability, accountability
- Setting meaningful targets, KPIs, and balanced scorecards
- Performance conversations with your direct reports (all levels)
- Managing poor performance: coaching, support, progressive discipline
- Building high-performing teams, breaking down silos & leading change
- Succession planning and talent pipeline development

Managing Complexity, Priorities & Personal Sustainability

- The manager's complexity challenge: multiple teams, assets, priorities, stakeholders
- Strategic prioritisation frameworks and making trade-offs consciously
- Managing resource constraints and making business cases
- Decision-making under uncertainty
- Managing your time & energy: strategic time vs. firefighting
- Building personal resilience: physical, mental, emotional, social wellbeing
- Managing stress and preventing burnout; work-life integration and leading sustainably
- Your leadership legacy and 90-day development plan





Human Factors in Maintenance

Maintenance errors are preventable, but human error is inevitable. This comprehensive course transforms maintenance operations by revealing the human factors behind equipment failures and safety incidents. Participants master error prevention skills and organisational strategies through real-world case studies. Learn to identify error traps, strengthen communication, and build resilient systems that catch mistakes before they become costly failures. The course covers strengthening safety culture, learning from incidents, and developing tailored error-management strategies for your department.

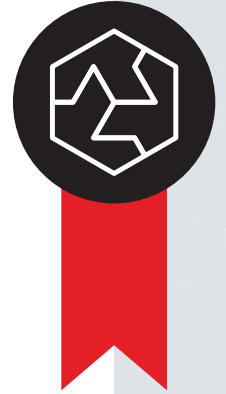
3 Core Modules • 15 hrs over 2 days

Introduction to Human Error in Maintenance

- Role of human factors in accidents and incidents
- Human reliability statistics
 - What can error probability statistics tell us?
- What makes maintenance different to other types of work?
- Common maintenance problems related to maintenance error
- The different types of errors and procedure violations
- Two approaches to error management
 - Reduce and eliminate errors
 - Capture, correct, and (if necessary) reduce impact of error
- Why do maintenance errors occur?
 - Error-producing conditions in maintenance
- The Dirty Dozen: Twelve conditions that produce error

Managing Maintenance Error: Non-technical Skills for all Personnel

- Communication skills for maintenance personnel
- Best practices for handovers
- Effective task briefings
- Replacing negative norms with positive norms
- Assertiveness
- Managing pressure (self-imposed and external)
- Managing distractions and interruptions
- Awareness of error-producing traps built into equipment design
- Best practices for decision-making
- Professionalism
 - What does the concept mean in maintenance?
- Threat and error management
- Task assignment and planning
- Leadership styles



Managing Maintenance Error at the Level of the Organisation

- Documentation
 - Dealing with mismatches between procedures and practice
 - Creating better maintenance documentation
- Barriers to protect systems from maintenance errors
 - Assessing and strengthening barriers to prevent, capture, and correct maintenance errors
- Fatigue
- Management of fatigue for maintenance personnel
- Safety Management Systems (SMS)
 - Human factors and SMS
- Safety culture
 - Individual responsibility
 - How do organisations learn from experience?
 - And why do they sometimes repeat the same mistakes?
- Removing the barriers to reporting
- Disciplinary policies and individual responsibility
- Just culture policies and how to make them work
 - Applying a just culture policy to case studies



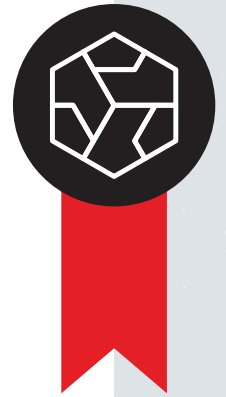


“Asset Management School was absolutely fantastic! Not just the content, but also the networking evening, the whole experience. Despite 23 years as a maintenance engineer and planner, I learnt so much to take back to apply in my business.”

Salman Rashed

Asset Maintenance Planner
Waikato Regional Council

Asset Management in Dollars & \$ense



Organisations often invest heavily in maintenance, digital tools, and capital projects — yet fail to unlock the full economic, safety, and sustainability value of their physical assets. The missing link is not software or effort. It is governance. This two-day course bridges strategy and execution.

Participants leave with a clear value thesis for asset management, a governance architecture for risk-scaled execution, defined ownership across strategy, engineering, operations, and maintenance, and a 12-24 month transformation roadmap aligned to measurable outcomes. It's designed for leaders, asset managers, operations leaders, reliability engineers, and cross-functional stakeholders responsible for safety, performance, and capital stewardship.

10 Core Modules • 15 hrs over 2 days

- What Drives Enterprise Value?
- Lifecycle Asset Value Creation
- Human Factors & Organisational Reality
- Sustainability, Energy & External Stakeholders
- Maturity & Economic Opportunity
- Governance Foundations (Tier I)
- Design & Acquisition Discipline (Tier II)
- Operate & Maintain with Precision (Tier III)
- Environment, Energy & External Risk (Tier IV)
- Capability, Assurance & Scaling (Tier V)





MRO School

Bringing maintenance and supply chain practitioners together. While maintenance is focused on reducing risk, supply chain practitioners are goaled at lowering costs. These world views are hard to reconcile and cause friction. This course gets cross functional teams to think and act beyond their silo. It covers both the strategic focus providing context 'why' as well as the tactical or operational focus teaching the 'how to.'

7 Core Modules • 15 hrs over 2 days

Begin with the END in Mind! What Good Looks Like – MRO Supply Chain

- Demand signal quality
- Catalogued materials usage vs Free Text
- High stock accuracy
- High stock turns
- Good relationship and control of vendors
- Strong control via KPIs and Metrics
- Master Data is core

What Gets Measured, Gets Improved!

- Supply Chain Effectiveness %
 - Demand Signal Quality %
 - Catalogued Material Spend %
 - Stock Accuracy %
 - Stock Turns %
 - PO Automation %

Master Data

- Material Master Data
 - Lead Times
 - ROP & ROQ
 - Segmentation capability (MRP Controller)
- EAM Master Data
 - Structures like Functional Locations & Equipment
 - BoM's
- Purchasing Master Data
 - Vendor specific data (part numbers, lead time, price)

Warehouse Operations

- Following the demand signal
 - Stock on Hand process flow



- Buy-to-Order process flow.
- **Stocktaking & the Importance of Stock Accuracy**
 - Importance of counting
 - Cycle Counting
- **Stock Preservation**
- **P3DR Concept**

Inventory Management

- Reducing risk at the lowest possible cost
- Stock or Non-Stock Decision Process
- Linking EAM and SCM together
- Stock Turns
- Repairable Materials
- POTOBS – Potentially Obsolete Materials Management
- Obsolescence Provision
- Carrying Cost Calculation

Purchasing

- Free Text spend process and its impacts.
- Catalogued material spends and impacts.
- **Purchasing Master Data**
 - Info Records
 - Source Lists
 - Lead Times
- **PO Automation**

Procurement Overview

- Goods vs Services
- Materials on Contract
- Cost AND Lead Times focus

Other Takeaways

- Sample Calculators
- Material Review Template
- Cycle Counting Calculator
- Sample Cataloguing Template (Taxonomy)





Precision Maintenance School

This intensive two-day interactive workshop is intended to prepare plant technicians, engineers and managers to take dead aim at Precision Maintenance (Fasteners, Lubrication, Alignment and Balance) in the plant and significantly improve the operational reliability of plant equipment and the plant processes they serve. The course also equips them with instructions to properly design, justify and implement a Precision Maintenance initiative.

9 Core Modules • 15 hrs over 2 days

The Business Case For Precision Maintenance Management

- Macro and microeconomic benefits for your organization
- our journey to world-class, proactive maintenance

Taking A Microscope Look At Precision Maintenance Fundamentals – An Introduction

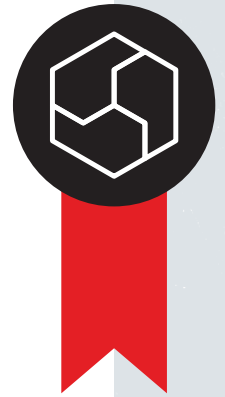
- Fastening to reduce mechanical vibration
- Lubrication to cushion the effects of mechanical vibration
- Alignment to reduce mechanical vibration
- Balance to reduce mechanical vibration
- How managing Precision Maintenance to reduce vibration and improve lubrication extends machine life
- Electrical applications of Precision Maintenance management

The Physics Of Machine Failure

- Failure mechanisms connect failure modes to failure causes
- Right design and operation to manage stress-strength interference
- Understanding mechanical failure modes and mechanisms
- Understanding electrical failure modes and mechanisms

Modern, Machine Condition Monitoring – A Must For Precision Maintenance Management

- Proactive versus predictive condition monitoring and condition-based maintenance
- Vibration analysis fundamentals
- Lubricant analysis fundamentals
- Thermographic analysis fundamentals
- Ultrasonic acoustic emissions fundamentals
- Motor evaluation fundamentals
- Non-destructive testing techniques
- The “eyeometer” – visual and sensory inspections should create your foundation
- Designing a machine condition monitoring program
- The P-F interval for determining how and how often to monitor machine health
- How condition monitoring drives down maintenance costs
- How condition monitoring drives down maintenance inventories



Reliability Engineering Methods For Precision Maintenance Management

- The basics of reliability engineering
- How to manage risk over the life cycle of equipment assets

Fasteners

- Bolting theory – how fasteners really work to hold machines together
- The difference between tension and torque
- How much tension? – Hooke's Law
- How friction and lubrication influence torque and tension
- Proper bolting sequence
- Bolt basics – grades, standards and strength
- Wrong and right choices for washers
- Torque wrenches – 101

Lubrication

- Lubrication basics – the many roles of a lubricant
- Lubrication basics – the anatomy of a lubricant – it's a bundle of performance properties
- How a lubricant protects the machine under full film, mixed film and boundary contact conditions
- Extending machine life with contamination control
- Machine set-up for lubrication maintainability
- Grease – not too much, not too little, but just right and just at the right time!
- Precision greasing with ultrasonic tools

Alignment

- The consequences of angular and offset misalignment
- How misalignment influences bearing life
- How misalignment influences coupling life
- How to detect misalignment with vibration analysis
- Laser alignment
- Managing pipe strain with alignment

Balance

- The basics of balancing
- Causes of imbalance
- How imbalance induced relative centrifugal force (RCF) robs your machines of life
- Balancing standards – ISO and API
- Single plane field balancing





Lubrication School

LEVEL 1

Lubrication School Level 1 provides the essentials of proper lubricant application while instilling proven industry methods for selecting, storing, filtering and testing lubricants for improved machine reliability. You will move beyond the dated methods of vague, non-specific lubrication procedures to understand what to do and why there is a right way to do it.

Lubrication School Level 1 is designed to help you prepare for Level I Machine Lubrication Technician (MLT I) OR Level I Machine Lubricant Analyst (MLA I) ICML Certification Exams.

15 Core Modules • 22 hours over 2.5 days

Establishing the Importance of Good Lubrication

- How lubrication affects machine reliability and life-cycle cost
- Direct and indirect financial benefits of lubrication excellence
- Equipment maintenance strategies (run-to-failure, preventive, predictive, proactive)

Lubrication Theory

- Functions of lubricants in use
- Fundamentals of friction, wear, and lubrication regimes (boundary, mixed, hydrodynamic, elastohydrodynamic)
- How oil film thickness protects surfaces
- Critical clearances in machine components
- The Stribeck curve and its applications in machine design and maintenance

Raw Materials (Base Oils, Additives & Thickeners)

- Where base oils come from
- API's five base oil groups and their significance
- Synthetic base oils, properties and selection in lubricants
- The role of base oil viscosity in protection of equipment
- Functions of additives
- Properties that are affected by additives
- Grease thickeners and selection
- Simple versus complex greases
- NLGI grease grades

Manufacturing Lubricants

- Overview of lubricant blending
- Quality assurance in blending and additive treat rates
- How formulation impacts performance and cost
- Setting expectations from suppliers
- The importance of product traceability



Lubricant Properties

- Key performance properties of lubricating oils (viscosity, VI, pour point, flash point, demulsibility, air release, foaming tendency)
- Key properties of lubricating greases (consistency, dropping point, water resistance)
- How properties impact selection

Selection of Lubricants

- Selection of lubricants for plain bearings
- Selection of lubricants for rolling element bearings
- Calculating speed factors and kappa ratios
- Choosing between oil and grease for bearing lubrication
- Factors impacting lubrication of reciprocating engines
- Viscosity selection of engine oils
- API and ACEA classifications
- How modern engine oil additives impact exhaust aftertreatment systems
- Lubricant selection for geared systems, including automotive, industrial and open gears
- Lubricating requirements of hydraulic oils
- How hydraulic system components affects selection
- Mobile versus fixed plant hydraulics
- How types of compressors affect selection
- How gas type affects compressor oil selection
- Turbine oils and their selection criteria
- The impact of varnish on turbine systems
- Other ancillary lubricants
- Lubricant consolidation programs

Storage and Handling

- Understanding the impact of contaminants on asset life
- Identifying sources of contaminants
- Target cleanliness setting
- Understanding the journey of lubricants from manufacturing to the customer
- World-class lube room design and setup
- Bulk oil storage dos and don'ts
- Drum and tote handling guidelines
- Grease storage best practices to prevent hardening/drying
- Lubricant identification and colour-coding systems
- Shelf-life management
- Dispensing best practices

Application of Lubricants

- Oil application methods (bath, splash, circulation, mist, spray, constant-level oilers)
- Understanding the impact of oil level control on the lubrication of the system
- Grease application methods (manual, centralised, single-point, multi-point, ultrasonic-assisted)
- Consequences of under – or over-greasing

- Understanding the health and safety risks of manual and battery-powered grease guns
- Calculating grease re-lubrication intervals and quantities
- Maintenance requirements for centralised grease systems

Maintenance of Lubricants

- How to set up and maintain lube routes and schedules
- Visual inspection of lubricant systems
- Maintaining constant oil level
- Headspace management to reduce lubricant contamination
- Selection and maintenance of dessicant breathers
- Condition-based vs interval-based oil changes
- Bleed-and-feed strategy for extending drains
- Best practices for oil changes, flushing, and reservoir cleaning
- Metrics for tracking lubricant consumption and efficiency

Contaminant Removal

- The seven most destructive contaminants (particles, water, air, fuel, soot, glycol, process chemicals)
- Filtration and separation technologies (depth, surface, centrifugal, vacuum dehydration)
- How tight can we safely filter oil?
- Portable filter cart use and best practices
- Exclusion vs removal strategies
- Types of water in oil, and measuring water content
- Water removal, and selection of water removal equipment
- Understanding the different types of air in oil
- Consequences of foaming and entrained air in oil
- Strategies for reducing entrained air in oil
- Measuring air release and foam performance

Degradation of Oil

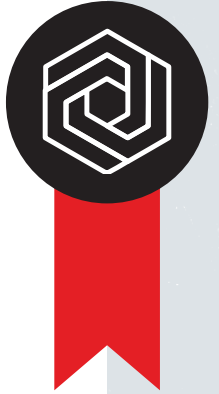
- Causes of oxidation, thermal breakdown, and additive depletion
- Understanding degradation accelerators
- Identifying applications where oil degradation is a going concern
- Varnish formation and its consequences
- By-products of degradation (sludge, acids, deposits, viscosity loss through shear)
- Recognising degradation through oil analysis tests (RULER, FTIR, MPC, TAN/TBN)

Machine Wear

- Common wear mechanisms: adhesive, abrasive, corrosive, fatigue, erosive
- Debris generation and secondary wear
- Surface fatigue from contamination
- Wear particles as indicators of machine condition
- Most common wear mechanisms in engine bearings, rolling bearings, gears and hydraulic pumps

Used Oil Sampling

- Sampling theory and why it matters
- “Getting a representative sample”



- What information should be recorded at time of sampling
- Primary and secondary sampling points
- Sampling methods for circulating, splash, and hydraulic systems
- High-pressure hydraulic sampling safety
- Common sampling errors and how to avoid them
- Optimising sampling frequency

Testing of Used Lubricants

- Core oil analysis tests (viscosity, water, particle count, elemental spectroscopy)
- Differences in spectrometric methods and how it impacts results
- Specialised tests for degradation (FTIR, RULER, MPC)
- Understanding the different way to measure iron in oil
- Grease analysis methods and applications
- Choosing the right tests for the machine/application
- Program justification

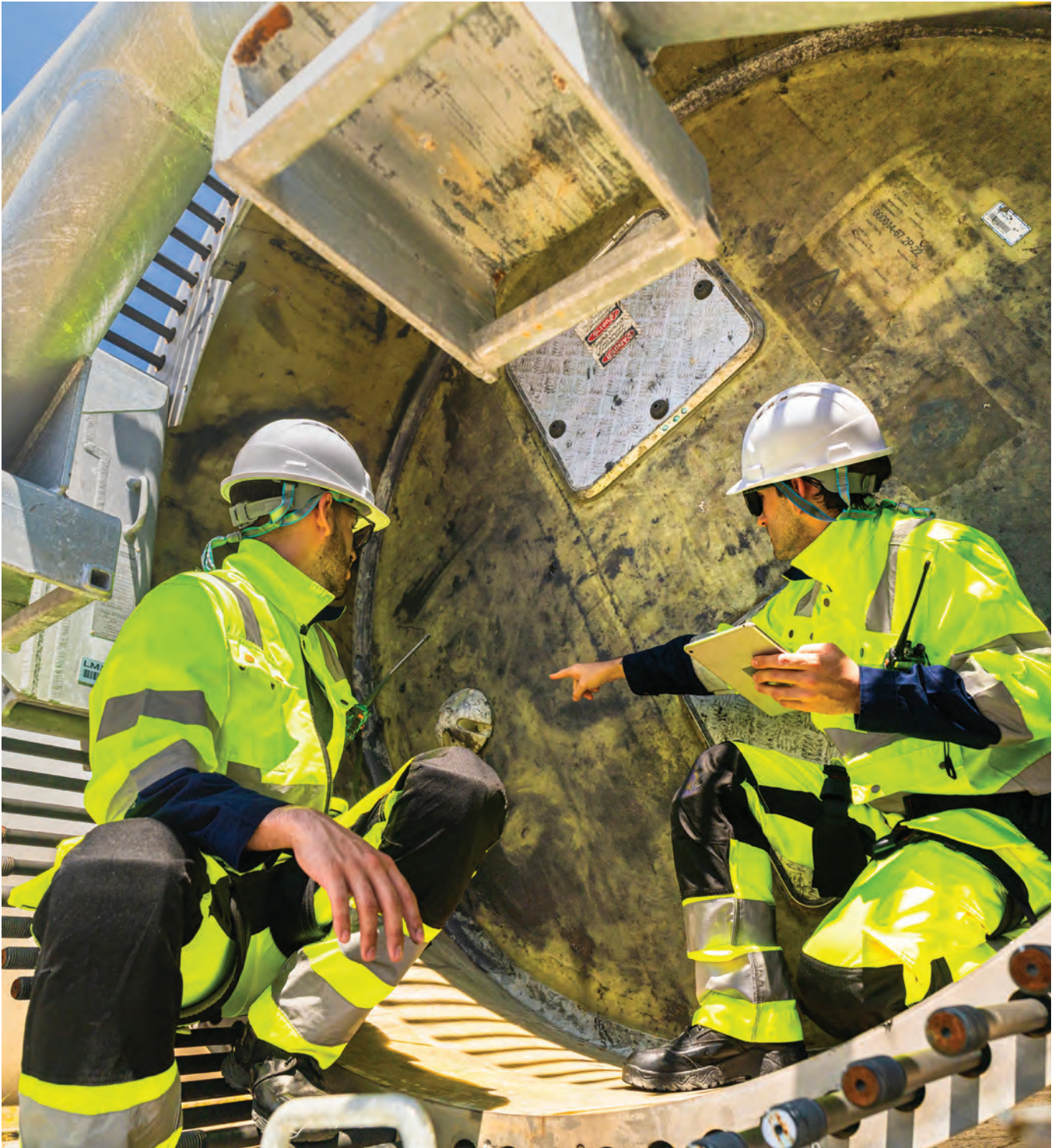
Analysis of Used Lubricants

- Trending data vs single-point interpretation
- Setting alarms and limits
- Interpreting results for wear, contamination, and degradation
- Integrating oil analysis into reliability programs
- Application-specific trends
- Case studies of failure prevention through oil analysis

Certification With ICML

Upon course completion, you are eligible to get certified through the International Council for Machinery Lubrication (ICML). Please note the certification process is to be booked and paid for directly through the ICML and is not part of the course. Visit <https://www.icmlonline.com/>





“The knowledge and practical steps imparted during Asset Schools have proven to be invaluable for the overall improvement across the business in greater availability and reduced unit lifecycle costs. **Attendance at the Asset Schools portfolio of courses is now a foundation requirement** for our team of planners due to the business and personal development benefits.”

Ash Davis

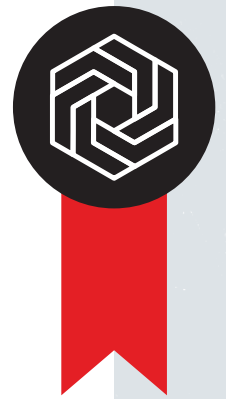
OAM, Senior Mines Systems Planner
Fortescue

Lubrication School

LEVEL 2

This course is designed to elevate your understanding and skills in the field of machinery lubrication, aligning with both the International Council for Machinery Lubrication (ICML) requirements for MLA II certification and the relevant ISO standards.

The MLA II preparation course offers a comprehensive curriculum covering advanced topics in lubrication, oil analysis, and machinery maintenance. Key areas of focus include tribology fundamentals, oil sampling methods, maintenance strategies, lubrication regimes, and in-depth analysis of both mineral and synthetic lubricants. This course is structured to provide both theoretical knowledge and practical insights, ensuring you are well-equipped to apply these concepts in real-world settings.



9 Core Modules • 22 hours over 2.5 days

Lubricant Roles and Functions

- Fundamentals of tribology and the science of friction, wear, and lubrication
- Hydrodynamic lubrication: full-film separation and its role in reliability
- Elastohydrodynamic lubrication: high-pressure film formation in rolling contacts
- Mixed and boundary lubrication: when surface asperities interact
- Functions of base oils in carrying load and transferring heat
- Categorisation of base oils by API groups (I-V)
- Molecular structure of base oils and how it affects performance
- Synthetics versus mineral oils, and the effect on lubricant selection

Machinery Strategies

- Types of machine failure and how lubrication relates to each
- The role of lubricants in preventing and contributing to failures
- Maintenance types: run-to-failure, preventive, predictive, proactive
- Maintenance philosophy: cost, risk, and reliability balance
- Linking lubrication practices to overall equipment reliability
- Reliability roles across the organisation (operators, technicians, engineers)
- Asset management principles and how lubrication fits within ISO 55000

Oil Sampling

- Objectives for oil sampling: trending, root cause detection, condition monitoring
- Sampling methods: drain, drop-tube, live-zone, valve-based, vacuum pump
- Identifying the right sampling zones for meaningful data
- Importance of bottle cleanliness to avoid false positives
- Sampling valves and hardware recommendations
- Primary and secondary sampling points, and when to use them

- Sampling methods for circulating, splash, and hydraulic systems
- High-pressure hydraulic sampling safety
- Common sampling errors and how to avoid them
- Data collection standards and documentation best practices
- Determining sampling frequency based on machine criticality and operating environment

Lubricant Health Monitoring

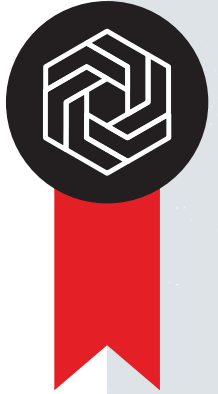
- Oxidation processes and how they shorten lubricant life
- Nitration in combustion-related systems and its effects
- Thermal failure: causes, symptoms, and prevention
- Additive depletion: how to detect loss of protection
- Electrostatic discharge (ESD) in lubricants and damage mechanisms
- Varnish and sludge: causes, consequences, and monitoring techniques
- Establishing baselines for oil analysis programs
- Identifying and interpreting trends in used oil data
- Measuring viscosity and understanding viscosity index
- Acid number (AN) and base number (BN) and what they reveal
- FTIR analysis for oxidation, nitration, and contamination detection
- RPVOT for oxidative stability assessment
- ICP metals analysis for wear, contamination, and additive monitoring

Particle Contamination Control

- Effects of particulates on machine wear and fatigue
- Sources of particles: manufacturing, ingress, wear debris
- Types of particles: metallic, non-metallic, environmental
- Filtration philosophy: exclusion vs removal strategies
- Particle counting systems (ISO codes, laser counters)
- Visual particle identification and patch testing
- Particle count testing for trending cleanliness
- Storage and handling practices to prevent contamination
- Breather technologies for controlling ingress
- Filter types (depth, surface, magnetic) and their uses
- Filtration types: offline, in-line, kidney-loop, portable carts
- Filter rating and selection best practices
- Centrifuging as a method for contaminant separation

Water Contamination Control

- Effects of water on oil performance, additives, and machine surfaces
- Sources of water: condensation, process leaks, ingress during handling
- States of coexistence: dissolved, emulsified, and free water
- Understanding miscibility and its effect on lubricant selection
- Demulsibility testing and significance for performance
- Water-in-oil measurement techniques (Karl Fischer, crackle test, relative sensors)
- Strategies for controlling water ingress
- Water prevention practices during storage and use



- Desiccant breathers for preventing humidity entry
- Nitrogen blankets as a barrier against moisture
- Water separation methods: gravity, coalescing, centrifuge
- Filtration and vacuum dehydration technologies
- Choosing the right water removal method for the application

Air Contamination Control

- Types of air in oil: entrained, dissolved, foam
- Sources of air: agitation, leaks, improper design
- Effects of air: cavitation, oxidation, varnish formation
- Physics and chemistry of air-oil interaction
- Foam sequence testing to evaluate performance
- Air release testing for hydraulic and turbine oils
- Antifoam additives and their limitations
- Troubleshooting aeration and foam problems

Glycol, Soot and Fuel Contamination

- Soot formation in combustion engines and its lubricant impacts
- Effects of soot on viscosity, oxidation, and wear
- Testing methods for soot in oil (thermogravimetric, elemental carbon)
- Strategies for controlling soot through formulation and maintenance
- Sources of fuel dilution and ingress in lubricants
- Effects of fuel in oil: viscosity loss, volatility, deposits
- Testing for fuel dilution (gas chromatography, flash point)
- Sources of glycol contamination and failure modes
- Effects of glycol on lubricant properties and machine surfaces
- Testing for glycol contamination (FTIR, patch tests)

Wear Debris Monitoring and Analysis

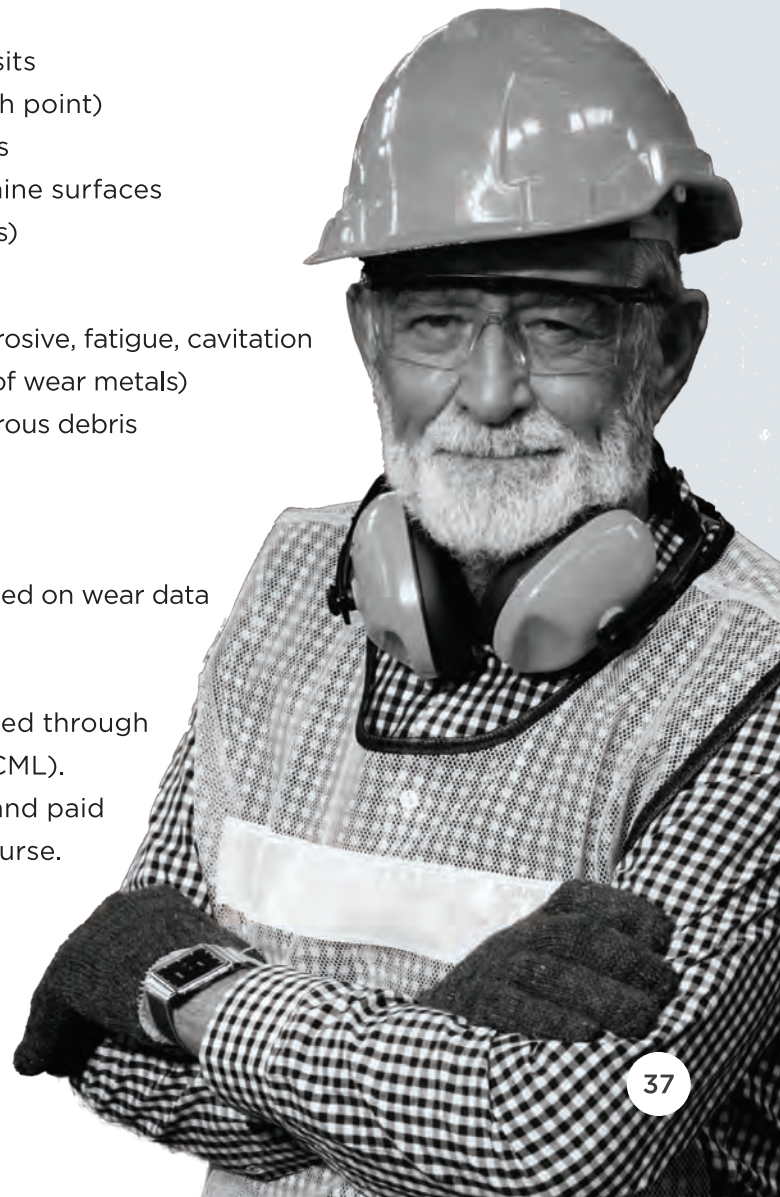
- Common wear mechanisms: abrasive, adhesive, corrosive, fatigue, cavitation
- Detecting wear with ICP spectroscopy (ppm levels of wear metals)
- Using the Particle Quantifier Index (PQ) for total ferrous debris
- Direct ferrography for visual particle classification
- Ferrogram preparation techniques
- Basic analysis of wear particle morphology
- Decision points for escalating corrective actions based on wear data

Certification With ICML

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Visit <https://www.icmlonline.com/>



RCM School



This course teaches participants how to develop proactive asset management strategies using best practice Reliability Engineering principles, with practical exercises and access to Isograph Availability Workbench™ software.

Participants will explore the application of Asset Maintenance Strategy Development and Optimisation, Maintenance Strategy Simulation, and Work Management practices to make optimised maintenance and reliability decisions. With access to Isograph Availability Workbench™ reliability modelling software, practical exercises are also undertaken by the class to incorporate reliability principles and methods.

The course is ideal for leaders and engineers in various roles looking to improve the reliability and efficiency of their Asset Management Strategies. Upon completion, participants will be equipped to forecast spares, resources, budgets, and risks, and run maintenance strategy optimisation simulations.

4 Core Modules • 15 hrs over 2 days

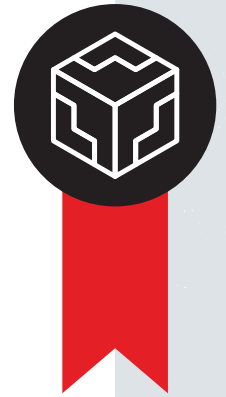
- Introduction to Reliability Engineering
- Asset Maintenance Strategy Optimisation
- Asset Maintenance Strategy Simulation
- Work Management – Planning, Performance and Productivity

This course equips organisations with strategies to optimise asset performance, reduce downtime, and improve resource management.

- Develop proactive asset management and maintenance strategies to enhance reliability and reduce costs.
- Gain the ability to forecast resources, budgets, and risks, leading to more efficient operations.
- Participants will gain the skills to create optimised maintenance plans and improve execution efficiency, enhancing their professional expertise.
- Learn to develop and optimise maintenance strategies to minimise equipment failures.
- Improve work management processes to increase maintenance efficiency and effectiveness.



FMECA School



This instructor led course teaches participants how to develop and conduct their own FMECA studies, enhancing the reliability of their assets through practical exercises and core facilitation skills.

9 Core Modules • 15 hrs over 2 days

- Introduction to FMEA/FMECA
- Setting Up For FMECA
- The FMECA Process
- Functions
- Functional Failures
- Failure Modes and Causes
- Failure Severity and Effects
- Criticality Ranking
- Mitigating tasks

The course covers:

- Improved Risk Management – Identifies potential failure points and their impact, allowing proactive risk mitigation.
- Enhanced Product Reliability – Reduces failures by addressing critical weaknesses in design or processes.
- Cost Savings – Lowers maintenance, warranty, and failure costs by preventing issues early.
- Regulatory Compliance – Ensures adherence to industry standards and safety regulations.
- Optimized Maintenance Strategies – Supports predictive and preventive maintenance planning.
- Better Decision-Making – Provides data-driven insights for resource allocation and design improvements.
- Increased Customer Satisfaction – Leads to higher-quality products with fewer defects or failures.
- Improved Safety – Reduces the risk of accidents and enhances workplace safety.





Apollo RCA School

Participate in our instructor led training course to become a certified Apollo RCA™ facilitator. This course lays down the foundations and practical application of the Apollo methodology while teaching you how to lead and facilitate group problem-solving efforts in your organisation. This course is an ideal option for individuals who facilitate RCA and problem-solving investigations.

Gain the knowledge and skills to facilitate RCA and incident investigations utilising Apollo RCA™ methodology and Reality Charting® / RC Pro® software – from defining the problem and analysing cause and effect, through to identifying effective solutions and implementing and tracking outcomes.

5 Core Modules • 15 hrs over 2 days

Introduction to Problem Solving and the Apollo RCA™ Methodology

- Understanding ineffective problem solving
- Differentiating between Issue Resolution and Issue Elimination and Prevention
- Overview of the Apollo RCA™ four-step methodology
- Understanding Cause and Effect Principles
- Introduction to RealityCharting® / RC Pro® software (each attendee will receive their own RC software licence with access for 12 months)

Step 1 – Define the Problem

- Understanding the elements of Problem Definition
- Understanding the Importance of the “Significance” and RCA Threshold Criteria
- Exercise: Apply Problem Definition to real-world case studies

Step 2 – Cause & Effect Analysis and the Reality Chart™

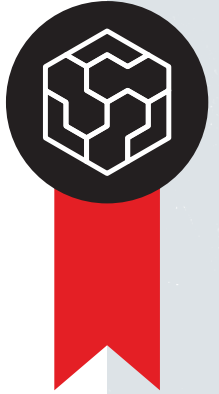
- Understanding the Principles of Cause & Effect
- Learn how to Identify and Arrange Causes
- Learn how to create a RealityChart®
- Understanding the Importance of Evidence
- Exercises: Apply Cause & Effect Principles and Analysis to real-world incidents

Step 3 – Identify Effective Solutions

- Know the Criteria of Effective Solutions
- Apply Creative Solutions Process and determine Root Causes
- Understand importance of acceptable risk relative to problem solving
- Exercises: Apply Cause and Effect Principles and Analysis to complex case studies

Step 4 – Implement, Track and Facilitate

- Know the elements of an Effective Report
- Know how to Implement and Track Solution Effectiveness



- Be Able to Facilitate an Incident Investigation
- Develop group facilitation skills to lead teams through high-complexity RCA investigations
- Understand Common Traps
- Capstone two-hour team case study exercise (Employee Injury or Plant Shutdown)

Learnings are reinforced with instructor facilitated “hands-on” exercises that allow students to apply the Apollo RCA™ process to real world problems, and in doing so demonstrate their facilitation skills.





RCA School (ROOT CAUSE ANALYSIS)

Stop firefighting and start solving problems permanently. This intensive two-day course equips supervisors, engineers, and technical leaders with proven Root Cause Analysis methodologies to investigate workplace failures and recurring issues systematically.

Master four powerful RCA techniques – 5 Whys, Fishbone diagrams, STEP, and Causal Trees – and learn when to apply each based on problem complexity. Through hands-on workshops using real industrial scenarios, you'll develop skills to facilitate collaborative investigations, distinguish symptoms from true root causes, and craft effective problem statements.

8 Core Modules • 15 hrs over 2 days

Introduction to Root Cause Analysis

- Understanding what RCA is and why it matters for workplace problem-solving
- Distinguishing between finding fault vs. methodical problem-solving
- Learning the core RCA objectives: identify problems, improve communication skills, develop solutions
- Recognising when to trigger an RCA (significance categories: Safety, Cost, Environmental, Stakeholder Impact)
- Exploring RCA methodologies overview: 5 Whys, Fishbone, STEP, Cause & Effect Trees
- Understanding the importance of documentation and traceability in RCA processes

Problem Definition & Significance

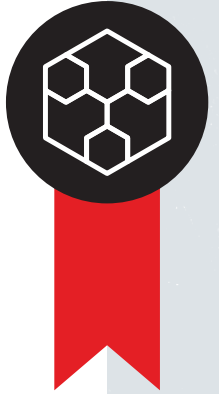
- Crafting effective problem statements using the “What + Where + When + Impact” formula
- Determining significance of events to justify resource allocation
- Distinguishing between symptoms and root causes
- Establishing RCA boundaries and scope (what's in/out of scope)
- Setting up the RCA team and identifying key stakeholders
- Understanding the “no blame” culture essential for successful RCA

Cause & Effect Principles

- Understanding fundamental cause and effect relationships in problem-solving
- Distinguishing between actions (momentary causes) and conditions (dormant causes)
- Learning how effects can become causes for other effects
- Exploring the logic of working backward from end effects through causes
- Practicing with real-world examples (e.g., fire triangle: heat, fuel, oxygen)
- Building cause and effect chains to map problem logic

The 5 Whys Technique

- Learning the foundational 5 Whys methodology for simple to moderate problems
- Understanding when 5 is not a “hard and fast” number – following logic to viable solutions



- Practicing brainstorming and listing potential causes collaboratively
- Developing initial problem statements quickly through iterative questioning
- Identifying gaps in knowledge (facts vs. assumptions) during the process
- Conducting hands-on exercises with real workplace scenarios (e.g., dosing pump failure)

Fishbone (Ishikawa) Diagrams

- Understanding the Fishbone structure and when to use it for complex problems
- Learning the standard categories: 6Ms (Methods, Machinery, Management, Materials, Manpower, Mother Nature) and 4Ps/4Ss
- Organising causes into logical streams/categories
- Brainstorming and categorising possible causes systematically
- Drawing effective Fishbone diagrams that communicate clearly
- Working through detailed case studies (e.g., grain screw conveyor failures)

Sequence Time Event Plotting (STEP)

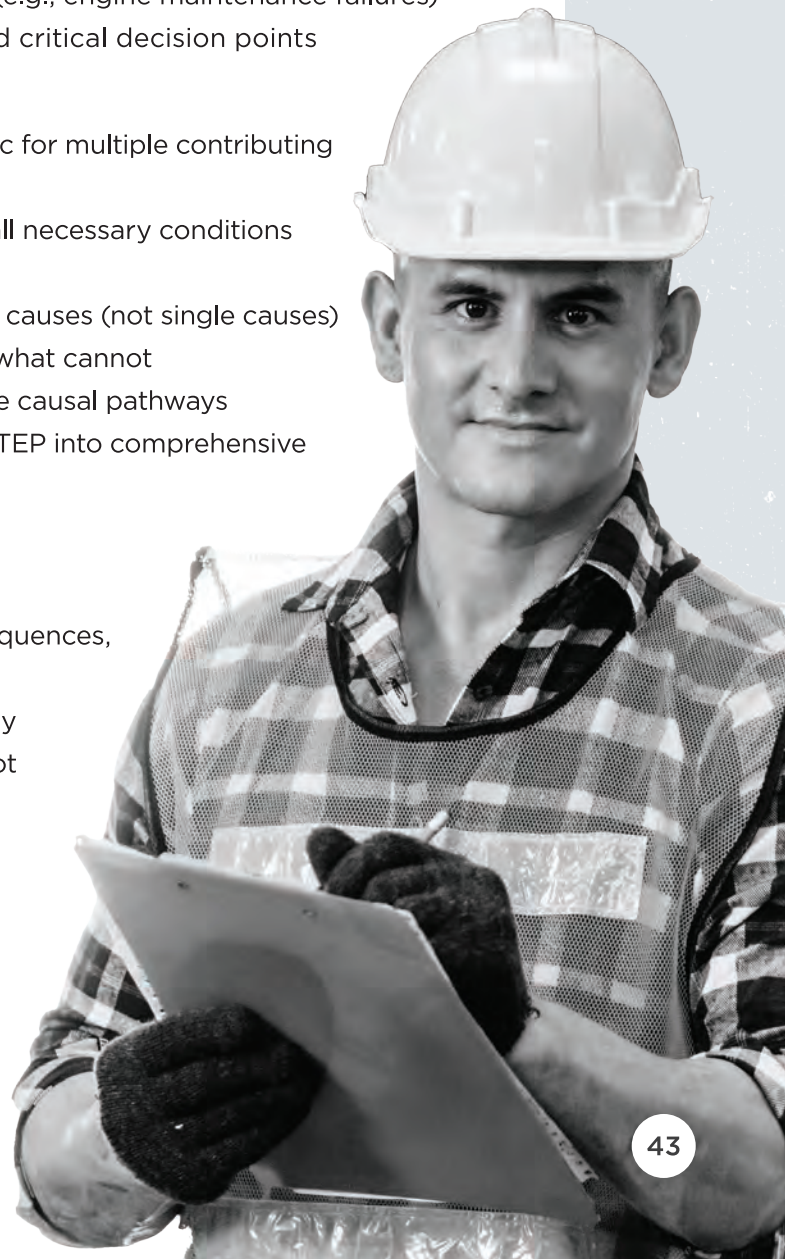
- Understanding STEP as a timeline-based RCA technique for complex sequences
- Plotting events chronologically along a timeline with multiple “actors”
- Identifying interactions and dependencies between events
- Using STEP for problems involving multiple stakeholders and timeframes
- Analysing event sequences to prevent recurrence (e.g., engine maintenance failures)
- Synthesizing timeline data to identify patterns and critical decision points

Causal Trees & Advanced Analysis

- Learning Causal Tree methodology using “and” logic for multiple contributing factors
- Working backward from the end effect to identify all necessary conditions and actions
- Understanding that effects require combinations of causes (not single causes)
- Distinguishing between what can be controlled vs. what cannot
- Practicing with complex scenarios requiring multiple causal pathways
- Integrating learnings from 5 Whys, Fishbone, and STEP into comprehensive analysis

Developing & Implementing Solutions

- Applying the hierarchy of control
- Understanding solution factors: mitigation of consequences, reduction of probability, feasibility
- Comparing and ranking multiple solutions effectively
- Distinguishing between repairs (temporary) and root cause elimination (permanent)
- Creating actionable implementation plans with accountability
- Documenting RCA findings and communicating results to stakeholders for buy-in and continuous improvement





“Asset Schools give peace of mind that the investment in our Maintenance and Reliability professionals will **provide a great return to both them and the business.**”

Gwyn Garland

Global Head of Plant
Anglo American

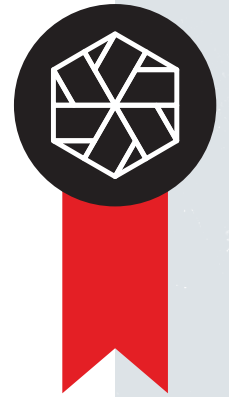
“The training provided by Asset Schools was exceptional, **offering a highly educational experience** that enabled us to learn a wealth of new knowledge and skills.”

Ali Sahin

Senior Engineer, Reliability
Rio Tinto

Vibration Analysis

LEVEL 1: ENTRY



Begin your journey to becoming a vibration specialist with this course that empowers you to deliver accurate, reliable data and gain a solid understanding of condition monitoring, vibration theory, and fault analysis following ISO 18436-1 and ISO 18436-2. The purpose of this training is to empower you to deliver safe, reliable, and accurate vibration data. Upon completion of this course, you will become a key contributor to the field of vibration analysis and condition monitoring.

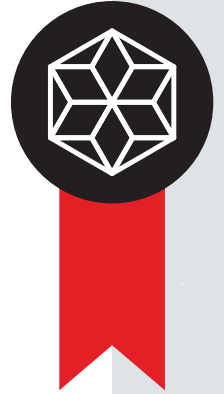
6 Core Modules • 30 hrs over 3.5 days

- Introduction to Condition Monitoring
- Condition Monitoring Technology
- Vibration Theory
- Capturing Data
- Fault Analysis
- Equipment Knowledge



Vibration Analysis

LEVEL 2: INTERMEDIATE



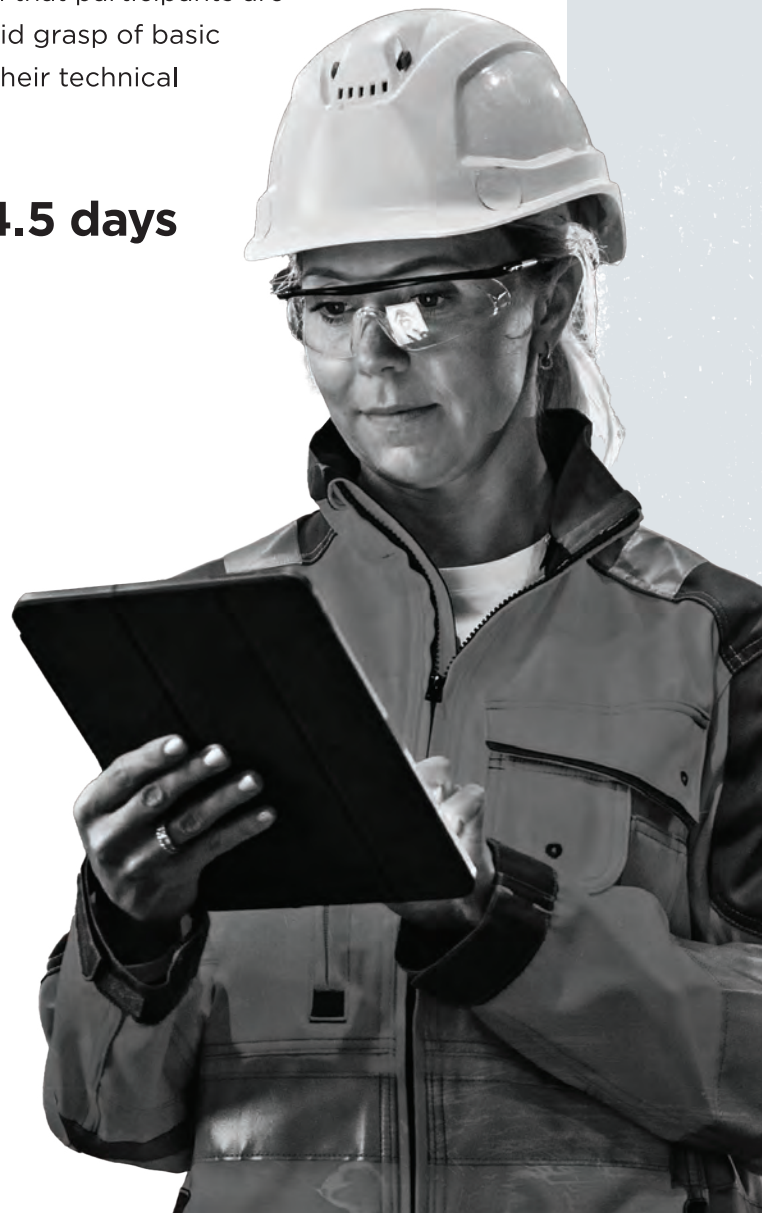
Deepen your expertise to become a senior vibration analyst with advanced training in vibration analysis, digital signal interpretation, and precision maintenance aligned with ISO 18436-1 and ISO 18436-2 to elevate your skills and confidence in condition monitoring.

Congratulations on challenging yourself to reach a higher level of competence in the field of vibration analysis. As the second instalment in your journey to becoming a vibration specialist, this course invites you to develop a deeper understanding of the key principles, tools, and applications that define vibration science.

Guided by the ISO 18436-1 and ISO 18436-2 standards, this programme builds on your foundational knowledge to prepare you for intermediate-level analysis and specialised applications in the field. It is expected that participants are already proficient in data collection and possess a solid grasp of basic vibration theory, along with an eagerness to expand their technical knowledge and analytical skills.

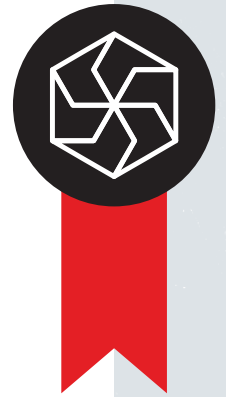
9 Core Modules • 38 hrs over 4.5 days

- Introduction
- Vibration Theory
- DSA Fundamentals
- Site Survey
- Shaft Centreline Introduction
- Natural Frequency Intermediate
- Precision Maintenance
- Reporting
- Equipment Knowledge



Vibration Analysis

LEVEL 3: ADVANCED



Become a recognised vibration analysis specialist capable of diagnosing the most complex rotating machinery faults with confidence and technical authority.

Aligned with ISO 18436-1 and ISO 18436-2, the programme advances your capability through in-depth training in signal processing, waveform analysis and complex fault diagnostics. Participants develop specialist expertise in resonance, isolation and advanced failure analysis, equipping them to manage sophisticated fault conditions, strengthen condition monitoring programmes and drive reliability performance within their organisation.

9 Core Modules • 38 hrs over 5.5 days

- Principles of Vibration
- Data Acquisition
- Signal Processing
- Vibration Analysis
- Equipment Testing and Diagnostics
- Fault Analysis in Detail
- Corrective Action
- Successful Condition Monitoring programme
- Acceptance Testing and ISO Standards





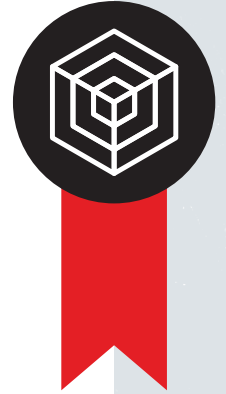
“Asset Management School is a great investment for experienced Maintenance Practitioners who want to fine tune their skills, or for new entrants to use it as a sound starting base to the industry.”

Roh Perera

Planning Supervisor

Macmahon

CMRP Exam Prep Course



Validate your expertise in maintenance, reliability, and asset management by earning the industry's leading professional certification. Passing the rigorous CMRP examination assures your competency in the maintenance, reliability, and physical asset management profession.

Our three-day Maintenance and Reliability Excellence workshop provides in-depth training on key reliability principles and aligns with the Society for Maintenance and Reliability Professionals (SMRP) Body of Knowledge.

Designed to enhance expertise in asset management and reliability, this instructor-led course equips participants with the knowledge and strategies needed to successfully complete the Certified Maintenance and Reliability Professional (CMRP) exam.

16 Core Modules • 24 hrs over 3 days

Day 1 Introduction to Reliability Excellence

- Introduction to Reliability
- Lubrication Management
- Defect Elimination
- Threats and Vulnerabilities
- Design for Reliability
- Reliability Leadership
- Asset Strategy Optimisation
- Condition Monitoring
- Work Management
- The Reliability Journey

Day 2 & 3 – SMRP Body of Knowledge

- Pillar 1 – Business and Management
- Pillar 2 – Manufacturing Process Reliability
- Pillar 3 – Equipment Reliability
- Pillar 4 – Organization and Leadership
- Pillar 5 – Work Management
- CMRP Overview and Practice Examinations





Private Training

Whether you have 15 or 1500 people to train, we can tailor onsite training that works for you. Benefits include:



Customisation

Training can be tailored to meet the specific needs of your organisation. Content, examples, and case studies can be customised to align with your industry, culture, and strategic objectives.



Relevance

Onsite training can focus on topics that are directly applicable to your organisation's operations and industry. This ensures that the training content is highly relevant to the employees' day-to-day work.



Cost & convenience

Onsite training is always more cost-effective compared to public training, especially when a large number of employees requires training. Your company can save costs associated with travel, accommodation, and registration fees.



Confidentiality

Onsite training allows for open discussions and sharing of sensitive or confidential information. Employees can freely discuss their challenges, experiences, and specific issues related to their work.



Productivity & engagement

Onsite training provides an opportunity for employees to participate in training sessions together, fostering teambuilding and collaboration. By sharing a learning experience, employees can strengthen relationships.



Long-term impact

Onsite training has a lasting impact on culture and performance. Since the training is specifically designed to address the organisation's needs, it can contribute to long-term changes in behaviour, processes, and practices.

These Leading Companies Trust Asset Schools for Private Training:



Meet Our Instructors



Drew Troyer

**Principal Director,
Bootleg Advisors**

30+ years of expertise in sustainable manufacturing, asset management, energy & reliability engineering. Renowned author & keynote speaker. Certified Reliability Engineer & Energy Manager.



Peter Durrant

**Adjunct Principal,
Covaris**

Navy veteran, diverse maintenance career. Senior roles in Navy, mining, and resources. Maintenance consultant. Expert in work management, sustainable change. Dip Eng & MBA Tech Mgmt.



Gary Tyne

**Founder,
Pro-Reliability Solutions**

Founded Pro-Reliability Solutions. Four decades of maintenance and reliability expertise across UK, Ireland, Australia, US, Thailand, Turkey, and the Middle East. Author of 40 Years, 40 Lessons. Global conference speaker and reliability consultant.



Rafe Britton

**Technical Director,
Lubrication Expert**

Independent lubrication specialist and founder of Lubrication Expert. 15+ years across mining, power generation, and transport. ICML Machinery Lubrication Engineer, Chartered Professional Engineer. Serves on ICML Exam Board and STLE Technical Editor. Global consultant transforming lubrication into strategic asset.



Luke Bayly

**Chartered Reliability Engineer
(CPEng) & Apollo RCA Trainer
Strategic Systems Thinker**

Luke is a reliability engineering professional with over 15 years of experience across asset-intensive industries, including mining and utilities. With a background in Mechanical Engineering, he has held key roles such as Senior Reliability Engineer, Maintenance Manager, and Reliability Consultant.



Scott Henderson

**Founder / Director / Trainer,
Condition Monitoring Group**

Scott's reliability journey began with 14 years in the British Army as a senior maintainer of rotary aviation assets. After relocating to Australia and gaining six years of industry experience, he founded Thermalign.



John Searls

**Asset Management
& Resources Executive Leader**

A reliability and asset management engineer at heart, John is an executive leader with more than 30 years of experience leading transformational change, especially to leverage technology and innovation, at both the strategic and hands on implementation and operations levels.



Tim McLain

**PCOO & Global Director, MRO,
Missing Link Supply Solutions**

30+ years MRO/Materials specialist. National & Global roles for top companies. Cross-border project manager & team trainer. US-born, NZ & Aus experienced. Proud All Blacks supporter!



Kylie Nash

**Principal Engineer,
Provecta Process Automation**

30+ years engineer in electricity generation. AGL Macquarie veteran – asset management, reliability, team leadership. Skilled in problem-solving, change projects. BEng & MBA Tech Mgmt.



Mike Greyling

**Adjunct Principal,
Covaris**

Seasoned asset management leader with 35+ years in aviation, smelting, mining. Proven excellence in maintenance, reliability, risk management, stakeholder engagement, Six Sigma expertise, SAP leadership.



Richard Jeffers

**Managing Director,
Two6 Services**

Fellow of IMechE specialising in asset management and reliability. Leads Two6 Services Ltd optimising manufacturing reliability. Advises Ensemble AI on intelligent automation. Applies AI and ISO 55001 for measurable asset performance improvements.



Cliff Williams

**Principal Advisor – Asset Management,
Maintenance and Reliability,
Total Maintenance Solutions**

Asset management specialist since ISO 55001's inception. Former Corporate Maintenance Manager and Humber College lecturer. Author of "People – A Reliability Success Story." Champions people-focused reliability: cultivating human initiative and brain power to drive maintenance excellence across diverse organisational cultures.

Meet Our Instructors



Matthew Laskaj

**Director,
Project Engineering Management**

Chartered Mechanical Engineer and IMechE Fellow with international energy and manufacturing experience. Director of Project Engineering Management Ltd. Delivers ISO 55001-aligned training and improvement projects across oil & gas, renewables, and process industries. PRINCE2 certified practitioner.



Sanya Mathura

**Founder, CEO,
Strategic Reliability Solutions**

Registered Engineer with dual engineering degrees. First Caribbean ICML Machinery Lubrication Engineer. First woman globally with ICML Varnish Badges. International tribology board member championing maintenance education access.



Shane Scriven

**Lubrication Specialist, Data Scientist,
AI/ML, Asset Mgt Consultant**

20+ years experience combining knowledge of lubrication, cutting edge technology and holistic asset management approaches to deliver well-rounded solutions.



Floris Mostert

**Maintenance Planning Trainer
& Educator**

Former Engineering & Asset Management Manager, City of Cape Town, overseeing R60 billion in infrastructure. Led South Africa's first PAS55-certified municipal department. Multiple national awards including SABS President's Award. First in African practitioner to obtain the PAS55 specification of asset management.



Rob Whitehead

**Maintenance and SAP
Thought Leader**

With 50+ years' experience in heavy industry, mining and power generation, Rob has led maintenance improvement, SAP transformation and operational excellence across CS Energy and Origin Energy. Today, he mentors planners, supervisors and maintenance professionals, sharing practical expertise to improve reliability, performance and continuous improvement.



Alan Hobbs

**Human Factors Researcher and Author,
SJSU Foundation/NASA Ames**

World-renowned human factors expert. Has trained maintenance professionals globally across aviation, mining, oil & gas, and manufacturing industries. Combines academic research with real-world investigation experience. Co-author of influential book "Managing Maintenance Error". Ph.D. in Psychology from the UNSW.



Greg Romer

**Lubrication Technical Specialist,
Hydrocarbon Program Consultancy**

20+ years Specialised Maintenance Technician in Lubrication. Expert in strategies, risk mitigation, 5S, & training courses for tangible results. Qualifications: ICML-LLA1, MLT1, MLA3, MLE, and more.



Justina Stromnes

**Organisational Psychologist &
Leadership Coach**

Justina Stromnes is an organisational psychologist and leadership development specialist with 25 years' experience across rail, energy, and infrastructure.



Neil Smith

**Director,
Jeps Advisory**

An accomplished Maintenance and Asset Management professional, Neil has extensive operational leadership experience across Resources, Manufacturing, Defence, and Utilities sectors. His expertise spans maintenance, projects, and productivity improvement, striving for excellence in safety, performance, and cost management.



Chris Hill

**CAT IV in Vibration Analysis/
Senior Analyst/ Trainer, Condition
Monitoring Group**

Chris is a highly experienced Senior Analyst with more than 25 years in condition monitoring. Certified to ISO CAT IV in vibration analysis since 2014, he brings extensive real-world expertise across walkaround and online systems.



Chris Cunningham

**Principal,
Covaris**

Leading asset management specialist with 20+ years experience. Diverse industries: power, nuclear, mining, defence, and more. Globally renowned in change & risk management, optimised asset performance.



Leigh Gould

**Consulting Specialist Asset
Management**

Leigh has extensive knowledge of Heavy Mining construction, Operations, and Maintenance. His experience spans both Surface and Underground mining in hard Rock and coal, as well as Smelting, Refining, and Chemical Process plants. His primary area of expertise is in asset maintenance and reliability, specialising in heavy fixed processing plants.

Learning Pathways

Many companies use Asset Schools as part of a Learning Pathway. Each course builds on the previous one, promoting a deeper understanding and mastery of the subject matter.

The step-by-step progression helps in the development of critical thinking, problem-solving skills, and the ability to apply knowledge in practical scenarios.

01. Maintenance Practitioner Pathway



Planners' School
Level 1



Planners' School
Level 2



Reliable Assets
School



Asset Management
School

02. Supervisor Pathway



Planners' School
Level 1



Supervisor School
Level 1



Supervisor School
Level 2



Reliable Assets
School

03. Machinery Lubrication Pathway



Lubrication School
Level 1



Lubrication School
Level 2

04. Condition Monitoring Pathway



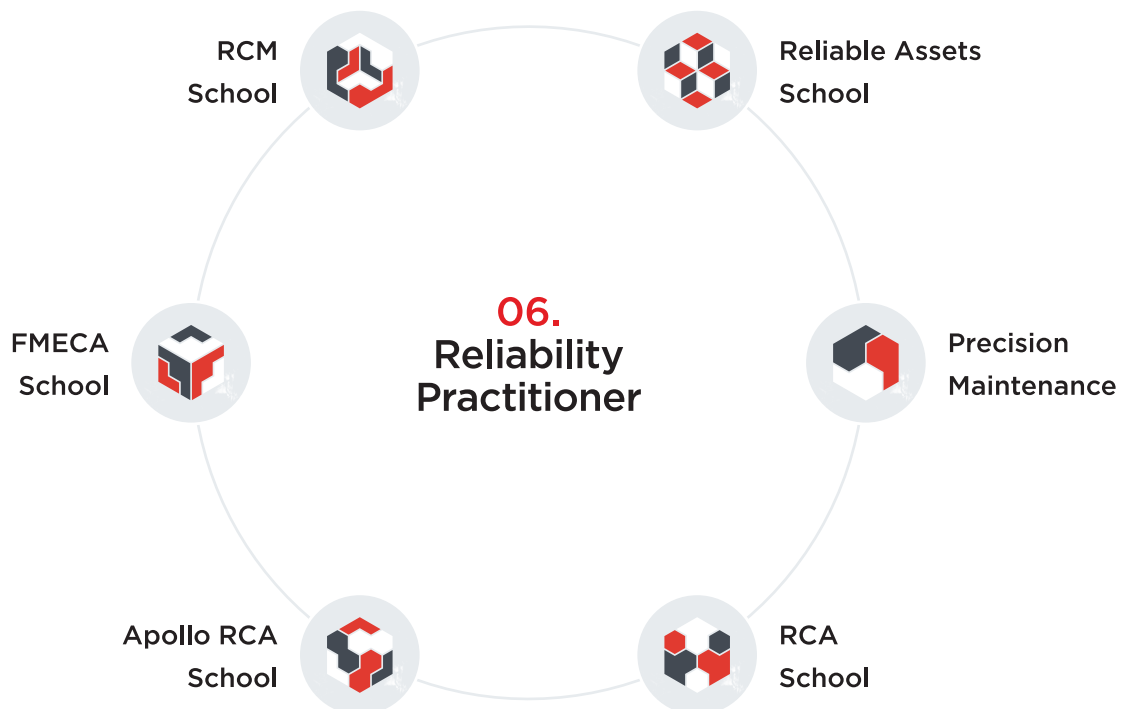
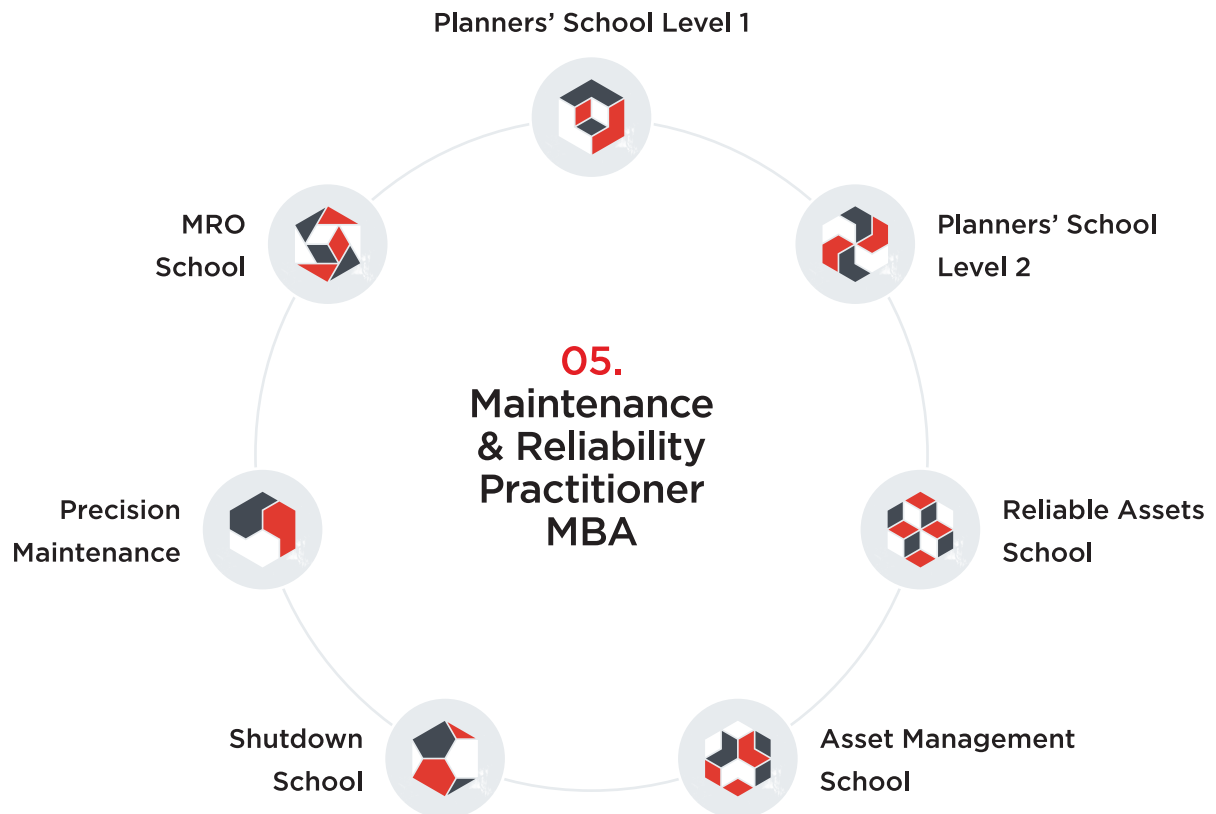
Vibration Analysis
Level 1



Vibration Analysis
Level 2



Vibration Analysis
Level 3



Meet Our **Team**





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MAINSTREAM

Asset Schools is part of the MAINSTREAM group.

Founded in 1996, MAINSTREAM serves asset-intensive industries with research, information, events, and training courses that celebrate the successes, accelerate the careers, and optimise the performance of Asset, Reliability and Maintenance professionals.



LIVE EVENTS

Unmissable Conferences & Summits with brilliant content and incredible networking.
Melbourne Conference | Perth Summit | UK Summit



ASSET SCHOOLS

Training courses and capability development for maintenance, reliability, trades, operators, and teams



NETWORK

Online platform offering case studies, content, discussion forums, workshops, and networking round tables.



MASTERCLASSES

Expert-led online masterclasses, including interactive Q&A.



UPSTREAM

Fortnightly community newsletter featuring maintenance and reliability tips, tricks, and case studies.



INFORMATION

Research, polls, surveys, and sentiment reports.



RELIABILITY HERO

Podcast series featuring interviews with global maintenance and reliability leaders and special guests.



ASSET SCHOOLS

World Class Training

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