CHARTERED
INSTITUTE OF PROFESSIONAL CERTIFICATIONS

CERTIFIED PREDICTIVE MAINTENANCE MANAGER™

CPdM™

Fully Accredited By:

Chartered Institute of Professional Certifications

CPD Certification Service

CPdM™
CERTIFIED PREDICTIVE MAINTENANCE MANAGER™

PROGRAM OVERVIEW

Predictive Maintenance dramatically reduces unexpected equipment failures by identifying potential issues before they occur. Studies by the U.S. Department of Energy have shown that **implementing predictive maintenance programs can reduce equipment breakdowns by 70-75% compared to reactive maintenance approaches**, leading to significantly improved operational reliability and decreased emergency repair situations.

This certified program is designed to equip maintenance and operations professionals with the knowledge, tools, and strategies needed to **implement robust predictive maintenance systems and achieve world-class operational efficiency**. Throughout the program, you will explore a broad range of core asset management topics such as **predictive analytics, condition monitoring, failure mode analysis, reliability-centered maintenance (RCM), and the integration of IoT and AI in maintenance operations**. By leveraging data-driven strategies, you will learn to identify **early warning signs of equipment failure, optimize maintenance schedules, and significantly reduce unplanned downtime**, ensuring greater reliability and sustainable performance across critical assets.

Additionally, this program will show you specialized predictive maintenance techniques such as **integrating digital twins, leveraging AI and machine learning for anomaly detection**, and prioritizing maintenance through equipment criticality assessments. You will explore the latest advancements in **machine learning algorithms, vibration analysis, thermography, and ultrasonic testing** to enhance predictive accuracy. Beyond technical expertise, this program will guide you in **designing and executing cost-effective predictive maintenance frameworks** that ensure optimal asset utilization and sustainable long-term performance.

ACCREDITATIONS

CPD CERTIFIED
The CPD Certification Service

Trustpilot
4.8

CHARTERED
INSTITUTE OF PROFESSIONAL CERTIFICATIONS
4.6

PROGRAM OVERVIEW

By the end of this program, you will be equipped to assume **high-level maintenance** leadership responsibilities, driving predictive maintenance strategies and fostering operational excellence with confidence and precision.

Upon completing the program and passing the Chartered exam, you will attain the **Certified Predictive Maintenance Manager (CPdM™)** designation, demonstrating your expertise in leading high-reliability, data-driven, and cost-optimized maintenance programs. This CPdM™ credential will distinguish you as a trusted leader in implementing world-class predictive maintenance initiatives across diverse industries. We look forward to welcoming you to this program.

ACCREDITATIONS

CPD CERTIFIED
The CPD Certification Service

Trustpilot
4.8

CHARTERED
INSTITUTE OF PROFESSIONAL CERTIFICATIONS
4.6

KEY SKILLS YOU WILL GAIN

From This Program

- PREDICTIVE ANALYTICS APPLICATION
- CONDITION MONITORING TECHNIQUES
- FAILURE MODE ANALYSIS
- RELIABILITY-CENTERED MAINTENANCE
- ROOT CAUSE IDENTIFICATION
- IOT-ENABLED MAINTENANCE
- AI-DRIVEN DIAGNOSTICS
- VIBRATION ANALYSIS METHODS
- THERMOGRAPHY INTERPRETATION SKILLS
- ULTRASONIC TESTING APPLICATION
- RISK-BASED MAINTENANCE PLANNING
- ASSET LIFECYCLE MANAGEMENT
- DOWNTIME REDUCTION STRATEGIES
- MAINTENANCE COST OPTIMIZATION
- DIGITAL TWIN INTEGRATION
- MACHINE LEARNING UTILIZATION
- CRITICALITY ASSESSMENT SKILLS
- PROACTIVE FAULT DETECTION
- DATA-DRIVEN DECISION MAKING

YOUR FACULTY DIRECTOR

Eduardo Schumann

Global Authority in Operational Excellence & Predictive Maintenance

Eduardo Schumann is a distinguished global operations leader with over 35 years of professional expertise and more than 25 years in executive leadership roles across industries including mining, food & beverage, chemicals, pharmaceuticals, auto parts, consumer goods, pulp & paper, and energy.

Having worked in 31 countries and spearheaded transformational initiatives in predictive maintenance and process optimization, Eduardo is widely recognized as **a thought leader in world-class maintenance and manufacturing optimization**. He is the **author of the World-Class Maintenance Playbook** and a sought-after lecturer and presenter. Eduardo is renowned for his ability to **design and implement advanced predictive maintenance frameworks, integrate AI and Industry 4.0 systems**, and apply data-driven strategies to reduce downtime, optimize costs, and maximize asset performance.

Throughout his career, Eduardo has consistently built and led high-performing, cross-functional teams that deliver measurable and sustainable improvements in global operations. His expertise lies in combining advanced technologies such as IoT, digital twins, and machine learning with proven management methodologies to help organizations **achieve world-class reliability, maintenance efficiency, and long-term competitive advantage**.

OUR PARTICIPANTS

Over 70% of FORTUNE 500 Companies Have Attended Our Accredited Programs Before

PROGRAM AGENDA

MODULE 1: THE EVOLUTION OF MAINTENANCE AND THE PREDICTIVE IMPERATIVE

- Overview: The Evolution of Maintenance and the Predictive Imperative
- Lesson 1: Maintenance History
- Lesson 2: Common Acronyms
- Lesson 3: Some Basic Maintenance Concepts
- Lesson 4: Technology and the Changing Scenario
- Lesson 5: Importance of Predictive Maintenance
- Lesson 6: Maintenance Maturity Levels
- Lesson 7: Maintenance as a Strategic Partner

MODULE 2: FOUNDATIONAL ELEMENTS FOR EFFECTIVE PREDICTIVE MAINTENANCE

- Overview: Foundational Elements for Effective Predictive Maintenance
- Lesson 1: Maintenance Fundamentals
- Lesson 2: Safety
- Lesson 3: Asset Documentation and Numbering System
- Lesson 4: Short Interval Control
- Lesson 5: Active Supervision
- Lesson 6: Troubleshooting
- Lesson 7: Work Order System
- Lesson 8: Daily Plan & Schedule
- Lesson 9: 5S / Housekeeping
- Lesson 10: Daily Maintenance KPIs
- Lesson 11: Maintenance Cost Structure
- Lesson 12: Production Loss Reporting
- Lesson 13: On-the-Job Training & Coaching

MODULE 3: PLANNED MAINTENANCE AND EQUIPMENT CRITICALITY ASSESSMENT

- Overview: Planned Maintenance and Equipment Criticality Assessment
- Lesson 1: Planned Maintenance
- Lesson 2: More PMs Do Not Improve Maintenance Results
- Lesson 3: CMMS
- Lesson 4: Not All Equipment is the Same
- Lesson 5: Criticality Ranking
- Lesson 6: Ranking Distribution
- Lesson 7: Different Ways to Consider Criticality
- Lesson 8: Lubrication

PROGRAM AGENDA

MODULE 4: INTRODUCTION TO RELIABILITY-CENTERED MAINTENANCE (RCM) AND PREDICTIVE MAINTENANCE (PDM)

- Overview: Introduction to Reliability-Centered Maintenance (RCM) and Predictive Maintenance (PdM)
- Lesson 1: RCM
- Lesson 2: P-F Curve
- Lesson 3: Equipment Inception
- Lesson 4: Precision Maintenance
- Lesson 5: Reliability Studies
- Lesson 6: Root Cause Analysis (RCA)
- Lesson 7: 5 Whys
- Lesson 8: Ishiwaka
- Lesson 9: Fault Elimination
- Lesson 10: Detailed Equipment History
- Lesson 11: Continuous Improvement
- Lesson 12: SMED

MODULE 5: PREDICTIVE TECHNOLOGIES AND DATA ACQUISITION

- Overview: Predictive Technologies and Data Acquisition
- Lesson 1: CBM
- Lesson 2: Vibration
- Lesson 3: Ultrasound
- Lesson 4: Thermography
- Lesson 5: Oil Analysis
- Lesson 6: Tribology
- Lesson 7: Voltage, Current, and Resistance
- Lesson 8: Impedance Imbalance, and Magnetic Symmetry
- Lesson 9: Insulation Integrity
- Lesson 10: Cavitation
- Lesson 11: High-Speed Cameras

MODULE 6: DATA ANALYSIS AND INTERPRETATION FOR PREDICTIVE INSIGHTS

- Overview: Data Analysis and Interpretation for Predictive Insights
- Lesson 1: Data Collection and Preparation
- Lesson 2: More Detailed Equipment History
- Lesson 3: Data Cleaning and Organization
- Lesson 4: Analysing Data and Patterns
- Lesson 5: Anomalies and False Alarms
- Lesson 6: Statistical Analysis
- Lesson 7: Machine Learning Algorithms
- Lesson 8: The Need for Good Data

MODULE 7: FAULT ELIMINATION AND ROOT CAUSE ANALYSIS

- Overview: Fault Elimination and Root Cause Analysis

PROGRAM AGENDA

- Lesson 1: Typical Causes of Failures
- Lesson 2: Applying Failure Mode and Effects Analysis (FMEA)
- Lesson 3: Applying Single Point of Failure (SPOF)
- Lesson 4: Applying Root Cause Analysis (RCA)
- Lesson 5: Fault Elimination
- Lesson 6: Alternative Spare Parts
- Lesson 7: Windows of Opportunities

MODULE 8: ADVANCED PREDICTIVE AND PRESCRIPTIVE MAINTENANCE

- Overview: Advanced Predictive and Prescriptive Maintenance
- Lesson 1: Equipment Lifecycle Management (ELM)
- Lesson 2: Risk-Based Analysis
- Lesson 3: Online Monitoring (Sensors and AI)
- Lesson 4: Digital Twins
- Lesson 5: Prescriptive Maintenance
- Lesson 6: Precision Maintenance/Engineering
- Lesson 7: Spare Parts Standardization

MODULE 9: OPTIMIZING COSTS

- Overview: Optimizing Costs
- Lesson 1: Purchasing Costs
- Lesson 2: Total Cost of Ownership (TCO) Concept
- Lesson 3: Integrating PdM with TCO
- Lesson 4: Optimizing Other Costs
- Lesson 5: Maintenance as Value Driver

MODULE 10: IMPLEMENTING AND OPTIMIZING A WORLD-CLASS MAINTENANCE PROGRAM

- Overview: Implementing and Optimizing a World-Class Maintenance Program
- Lesson 1: Implementing a World-Class Maintenance Program
- Lesson 2: Optimizing a World-Class Maintenance Program
- Lesson 3: Measuring Success and Sustaining Excellence
- Lesson 4: People as a Cornerstone
- Lesson 5: Wrapping-up

EXAMINATION

YOUR CHARTER DESIGNATION

Chartered Institute of Professional Certifications' programs are unique as they provide you with professional charter designations and marks that can be used across your lifetime once you have completed our programs.

Upon successfully attending this program, you will be awarded with the **Certified Predictive Maintenance Manager (CPdM™)** designation. that can be used in your resume, CV and other professional credentials. This certification is industry-recognized with lifelong validity.

Globally recognized, this certification affirms your expertise in leading high-reliability, data-driven, and cost-optimized predictive maintenance programs across diverse industrial sectors. It demonstrates your ability to apply advanced maintenance strategies, integrate Industry 4.0 technologies, oversee asset reliability frameworks, and ensure operational efficiency and safety across complex manufacturing environments. Developed by **Chartered Institute of Professional Certifications**, the content of this program has been independently accredited by **CPD Certification Service** as adhering to the highest standards of continuing professional principles.

ABOUT US

49,525 Business Leaders Have Attained Their Chartered Certifications Since 2009

390 Certified and Fully Accredited Programs

87% Chartered Leaders Have Reported Career Promotions and Enhancements

Chartered Institute of Professional Certifications

All of Chartered Institute of Professional Certifications programs are fully accredited programs. The professional charters and designations are trademarked credentials that can only be used by professionals who have completed and passed our accredited program. It is also independently accredited by CPD as adhering to the highest standards of continuing professional principles.

OUR FACULTY DIRECTORS

We Collaborate With Instructors From Renowned Institutions

HARVARD UNIVERSITY

Wharton University of Pennsylvania

Stanford University

UNIVERSITY OF MICHIGAN

LSE THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

Columbia Business School

London Business School

CONTACT US TODAY

We Thank You for Your Ongoing Support of Our Programs

Singapore and Asia Pacific Enquiries

Email: advisor@charteredcertifications.com
Phone: +65 6716 9980
Address: Chartered Institute of Professional Certifications
1 Gateway Drive
#20-04 Westgate Tower
Singapore 608531

Australia and New Zealand Enquiries

Email: advisor@charteredcertifications.com
Phone: +61 3 9909 7310
Address: Chartered Institute of Professional Certifications
530 Little Collins Street, Level 1
Melbourne VIC 3000, Australia

UK, Europe and Middle East Enquiries

Email: advisor@charteredcertifications.com
Phone: +44 (020) 335 57898
Address: Chartered Institute of Professional Certifications
86-90 Paul Street
London, EC2A 4NE

USA Enquiries

Email: advisor@charteredcertifications.com
Phone: +1 888 745 8875
Address: Chartered Institute of Professional Certifications
99 Wall Street #3936
New York, NY 10005