

Course No. 1341

Maintenance KPIs Training Course

MAINTENANCE ENGINEERING
INDUSTRIAL ENGINEERING, MAINTENANCE & OPERATIONS

DURATION

5 Days

DELIVERY

Classroom



Course Overview

The Maintenance KPIs Training Course provides a structured and practical approach to designing, implementing, interpreting, and improving maintenance key performance indicators. The course enables organizations to use maintenance data more effectively to monitor asset reliability, work management, maintenance efficiency, cost control, operational risk, and continuous improvement. It is designed for organizations that require clear performance visibility across facilities, infrastructure, equipment, fleets, utilities, plants, and other critical operational assets.

Maintenance performance indicators are essential for transforming maintenance information into meaningful management insight. Without clearly defined KPIs, organizations may struggle to identify recurring failures, maintenance backlogs, weak planning practices, resource constraints, poor preventive maintenance compliance, or ineffective use of maintenance budgets. A well-designed KPI framework helps leaders and operational teams focus on the measures that support asset availability, service continuity, safety, quality, compliance, and lifecycle value.

The Maintenance KPIs Training Course examines the principles of performance measurement and the relationship between maintenance strategy, work management, reliability, asset management, and business objectives. Participants will learn how to select relevant leading and lagging indicators, define calculation methods, establish data ownership, assess data quality, set practical targets, and develop dashboards and reports that support timely action rather than passive reporting.

The course also addresses common performance measurement challenges, including excessive reliance on isolated metrics, inconsistent definitions, incomplete CMMS data, misleading targets, lack of accountability, and reports that do not lead to decisions or improvement actions. Participants will learn how to link maintenance KPIs to management reviews, risk assessments, maintenance planning, workforce capability, contractor performance, and asset reliability initiatives.

Through practical exercises, performance scenarios, and implementation planning, participants will gain the ability to create a balanced maintenance KPI system that meets the needs of executives, managers, planners, supervisors, engineers, technicians, and operational stakeholders. The course provides a practical foundation for building a performance-driven maintenance culture based on transparent information, informed decisions, accountability, and continuous improvement.

Objectives

- Analyze the relationship between maintenance strategy, asset performance, operational risk, and maintenance key performance indicators during the course.
- Assess current maintenance reporting practices and identify data, process, ownership, and decision-making gaps.
- Develop a balanced maintenance KPI framework that includes reliability, work management, cost, safety, quality, and continuous improvement measures.
- Evaluate the difference between leading and lagging maintenance indicators and select suitable measures for specific operational objectives.
- Define calculation methods, data sources, reporting frequency, ownership, target ranges, and escalation requirements for selected KPIs.
- Apply CMMS, EAM, maintenance history, operational data, and asset records to calculate and interpret maintenance performance measures.
- Design practical KPI dashboards and reports for executives, maintenance managers, planners, supervisors, and technical teams.
- Improve data quality by establishing standards for work orders, failure codes, equipment records, labour, materials, and maintenance closeout information.
- Strengthen maintenance decision-making by linking KPI trends to root cause analysis, work planning, resource allocation, and reliability improvement.
- Implement performance review routines that convert KPI results into defined actions, responsibilities, deadlines, and follow-up measures.
- Assess contractor maintenance performance using clear service, safety, quality, responsiveness, and delivery indicators.
- Develop a time-bound maintenance KPI implementation or improvement plan for the participant's organization.

Who Should Attend

The Maintenance KPIs Training Course is designed for maintenance managers, reliability managers, asset managers, engineering managers, facilities managers, operations managers, technical services leaders, plant managers, and performance management professionals. It is especially relevant for executives, directors, and decision makers responsible for asset availability, maintenance budgets, operational resilience, service delivery, compliance, risk management, and performance improvement.

The course is suitable for maintenance engineers, reliability engineers, mechanical engineers, electrical engineers, instrumentation and control engineers, planners, schedulers, maintenance supervisors, CMMS and EAM administrators, maintenance analysts, data analysts, asset performance specialists, inspectors, and condition monitoring professionals. It supports professionals who are responsible for maintenance records, work orders, preventive maintenance programs, asset condition data, labour utilization, inventory information, failure history, and performance reporting.

Procurement, supply chain, finance, HSE, quality, internal audit, risk, digital transformation, contractor management, and operational excellence professionals will also benefit where their work involves maintenance contracts, spare-parts performance, maintenance cost, safety compliance, asset risk, service levels, data governance, or performance dashboards. The course supports cross-functional teams seeking a consistent and practical approach to measuring, managing, and improving maintenance performance.

Learning Outcomes

- Explain how maintenance KPIs support asset reliability, maintenance efficiency, operational continuity, cost control, safety, and compliance.
- Distinguish between leading and lagging indicators and select appropriate measures for maintenance and asset management objectives.
- Assess existing maintenance reports and identify KPI gaps, inconsistent definitions, weak data sources, and ineffective reporting practices.
- Develop a balanced set of maintenance KPIs for work management, reliability, preventive maintenance, cost, inventory, safety, quality, and contractors.
- Define clear formulas, data sources, measurement periods, owners, targets, thresholds, and reporting requirements for selected indicators.
- Calculate and interpret common maintenance KPIs using maintenance management system data and operational information.
- Identify trends, exceptions, and performance risks that require management attention, investigation, or corrective action.
- Develop role-based maintenance dashboards and reports that support executive oversight and frontline operational decisions.

- Improve CMMS and EAM data quality through accurate work-order coding, asset records, failure reporting, and timely closeout processes.
- Link KPI results to maintenance planning, root cause analysis, reliability improvement, resource allocation, and budget decisions.
- Establish structured performance review meetings and action tracking processes to ensure that KPI findings lead to improvement.
- Produce a practical maintenance KPI implementation plan that is relevant to the participant's workplace.

Course Outline

DAY 01

Maintenance Performance Management and KPI Strategy

- The role of maintenance KPIs in asset management, reliability, operational performance, safety, compliance, and business continuity.
- Maintenance strategy and performance measurement: linking organizational objectives to maintenance outcomes.
- Characteristics of effective KPIs: relevance, clarity, consistency, actionability, ownership, timeliness, and data integrity.
- Leading and lagging indicators, performance drivers, performance outcomes, and balanced measurement frameworks.

PRACTICAL APPLICATION OR DISCUSSION

Reviewing current maintenance reporting and identifying performance measurement priorities.

DAY 02

Designing Maintenance KPIs and Establishing Data Standards

- Selecting maintenance KPIs for planned maintenance, schedule compliance, backlog, work order quality, repeat work, downtime, availability, and reliability.
- Reliability and asset performance measures: mean time between failures, mean time to repair, failure frequency, asset availability, and equipment criticality.
- Cost, materials, inventory, labour, contractor, safety, quality, and compliance indicators.

DAY 02 — CONTINUED

- KPI definition sheets: formulas, data sources, reporting periods, owners, targets, thresholds, assumptions, and escalation rules.

PRACTICAL APPLICATION OR DISCUSSION

Developing KPI definition sheets for a selected maintenance department, site, or asset portfolio.

DAY 03

Data Quality, CMMS Reporting, and KPI Calculation

- CMMS and EAM data requirements for accurate maintenance performance reporting.
- Work order data quality, asset hierarchy, failure coding, work types, priorities, labour capture, material usage, and closeout standards.
- Data validation, cleansing, governance, ownership, audit trails, and reporting controls.
- Calculating and interpreting maintenance KPIs using trends, comparisons, exceptions, baselines, and performance ranges.

PRACTICAL APPLICATION OR DISCUSSION

Reviewing sample maintenance data, identifying data quality gaps, and calculating selected KPIs.

DAY 04

Dashboards, Analysis, and Performance Improvement

- Designing executive, management, planning, supervisory, and technical dashboards for different decision-making needs.
- Trend analysis, variance analysis, Pareto analysis, performance segmentation, and identification of recurring problems.
- Using KPI results to support maintenance planning, resource allocation, preventive maintenance review, and reliability improvement.
- Integrating maintenance KPIs with root cause failure analysis, risk management, contractor review, and continuous improvement initiatives.

DAY 04 — CONTINUED

PRACTICAL APPLICATION OR DISCUSSION

Developing a role-based maintenance dashboard and identifying priority improvement actions.

DAY 05**Governance, Reviews, and KPI Implementation**

- KPI governance, data ownership, reporting cycles, management review meetings, escalation, and action tracking.
- Setting realistic targets, reviewing performance fairly, avoiding unintended behaviour, and maintaining KPI relevance.
- Contractor performance measurement, service level monitoring, quality assurance, safety performance, and accountability.
- Building a performance-driven maintenance culture through communication, leadership engagement, capability development, and continuous learning.

FINAL WORKSHOP, ACTION PLAN, OR IMPLEMENTATION EXERCISE

Developing a 90-day maintenance KPI implementation plan with selected indicators, owners, data requirements, reporting cycles, targets, and improvement actions.

Register or Request More Information

Course page: <https://quest-training.com/courses/maintenance-kpis-training-course>

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