Physical Asset Management and ISO 55001: SAMP, Life-Cycle Cost and Risk-Based Renewal

11 – 15 January 2027
Barcelona - Eixample district four-star



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Ref: 48_8726 **Date:** 11 – 15 January 2027 **Location:** Barcelona - Eixample district four-star **Fees:** 23500 SAR

Introduction:

Physical asset management often breaks down between the boardroom and the asset base: renewal budgets follow last year's spend, asset registers are incomplete, and nobody can show how a pump, pipeline or substation replacement supports organisational objectives. This Core Concept course equips managers to build that line of sight using the ISO 55000 series, from policy and the Strategic Asset Management Plan to life-cycle cost, criticality and risk-based renewal decisions. Participants model a multi-sector asset portfolio and leave with a draft SAMP outline, asset criticality register and ten-year renewal investment plan.

Course Objectives:

- Translate organisational objectives into an asset management policy, asset management objectives and a Strategic Asset Management Plan structured on ISO 55001:2024
- Assess asset register completeness and asset data quality, and set an improvement plan for asset information
- Calculate life-cycle cost and whole-life value for competing asset options using discounted cash flow methods
- Rank assets by criticality and risk to decide maintenance, refurbishment and renewal timing
- Prioritise capital investment across a portfolio under funding constraints using multi-criteria scoring and scenario comparison
- Produce a draft SAMP outline, asset criticality register and ten-year renewal investment plan for an own portfolio

Target Audience:

- Managers who own the performance and budget of an infrastructure, utility, facility or plant asset portfolio
- Engineering leads responsible for asset condition assessment and renewal recommendations
- Maintenance and reliability leads who set maintenance strategy for critical asset classes
- Capital planning and investment staff who build multi-year renewal programmes
- Finance partners who evaluate asset spending, depreciation and funding scenarios
- Asset information and systems leads who manage asset registers and enterprise asset management data

Course Outline:

Day 1: Asset Management Foundations and Current-State Review

- ISO 55000:2024 Terminology: Asset, Asset Portfolio, Asset Management and Asset Management System
- Value Realisation and Line of Sight from Organisational Objectives to Asset Decisions
- Asset Life-Cycle Stages: Acquire, Operate, Maintain, Renew and Dispose
- Stakeholder Requirements Mapping for Asset Portfolios
- Asset Management Maturity Gap Assessment Scorecard

Day 2: The ISO 55001 Management System and Planning Hierarchy

- ISO 55001:2024 Clause Structure and Changes from the Previous Edition
- Asset Management Policy Drafting Under Clause 5.2
- Strategic Asset Management Plan Content Under Clause 6.2.1
- Asset Management Decision-Making Framework and Criteria Under Clause 4.5
- Asset Management Plans by Asset Class Under Clause 6.2.2

Day 3: Asset Data, Life-Cycle Cost and Criticality

- Asset Register Hierarchy, Attribute Standards and Data Quality Scoring
- Asset Data and Knowledge Plans Under Clauses 7.6 and 7.7
- Life-Cycle Costing Method Under IEC 60300-3-3 and Net Present Value Comparison
- Asset Criticality Matrix: Consequence of Failure and Likelihood of Failure Scoring
- Condition Grading and Asset Health Index Construction

Day 4: Risk-Based Renewal, Performance and Investment Prioritisation

- Risk-Based Maintenance Strategy Selection by Asset Criticality Band
- Repair, Refurbish or Replace Decision Model and Optimal Renewal Timing
- Capital Investment Prioritisation with Multi-Criteria Decision Analysis
- Asset Performance KPI Set: Levels of Service, Risk Exposure and Renewal Backlog
- Internal Audit and Management Review of the Asset Management System

Day 5: Portfolio Modelling Build and the Draft SAMP

- Water Network and Electricity Substation Case: Portfolio Risk and Cost Baseline
- Criticality Register Build for an Own Asset Portfolio
- Ten-Year Renewal Investment Model with Constrained and Unconstrained Funding Scenarios
- Draft SAMP Outline Assembly with Objectives, Decision Criteria and Plan Links
- Investment Plan Presentation and Peer Challenge

Skills You Will Gain:

- Strategic Asset Management Planning
- Asset Information Governance
- Life-Cycle Cost Analysis
- Asset Criticality Assessment
- Asset Health Indexing
- Renewal Investment Modelling
- Capital Portfolio Prioritisation
- Asset Management System Auditing

Why Attend This Course:

- Return with a draft SAMP outline, asset criticality register and ten-year renewal investment plan built on your own portfolio data
- Defend renewal budget requests to executives and finance with risk and cost evidence rather than historical spend
- Know what an ISO 55001 management system requires before starting implementation or a certification readiness review
- Compare asset planning practice with peers from water, power, transport, facilities and industrial plants across several countries

Conclusion:

Asset portfolios deliver value when spending decisions trace back to organisational objectives and are backed by reliable data, cost and risk evidence. This course moves from asset management principles and current-state review, through the ISO 55001 planning hierarchy and decision-making framework, to asset data, life-cycle cost, criticality and health indices, and then to risk-based renewal, investment prioritisation and system audit. The final day applies these methods in a portfolio modelling build, producing a draft SAMP outline and ten-year renewal investment plan ready for internal review.