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COURSE BROCHURE

# Advanced Physical Asset Lifecycle Management Training Course

4 – 15 October 2027
Barcelona

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Registered in the United Kingdom and Saudi Arabia

# Advanced Physical Asset Lifecycle Management Training Course

**Ref:** 240_7515 **Date:** 4 – 15 October 2027 **Location:** Barcelona **Fees:** 11100 GBP

Physical Asset Lifecycle Management is a 2-week advanced training course for asset managers, maintenance and reliability leads and infrastructure owners, built around one work product, a strategic asset management plan SAMP for an asset portfolio. Ageing plant, tighter capital budgets and rising expectations of service reliability force owners to justify every renewal and repair decision. Jupiter Prime Training delivers this course on Physical Asset Lifecycle Management.

## Why Physical Asset Lifecycle Management Matters Now

Three pressures meet on the same balance sheet. Much industrial and building infrastructure is reaching the end of its design life at once. Finance directors and boards expect capital requests backed by risk and cost evidence, not engineering preference. Regulators, insurers and customers ask owners to show that critical equipment is controlled across its whole life. An organisation that links its organisational objectives to asset decisions spends less over the life of each asset and avoids failures that halt production or services; one that does not oscillates between neglect and emergency spending. The course rests on ISO 55001, the international standard for asset management systems.

## Who Gains Most from Physical Asset Lifecycle Management

- Leaders accountable for the asset management policy and its alignment with organisational objectives
- Reliability and maintenance heads who set intervention strategies for critical equipment
- Capital planning leads who prioritise renewal, refurbishment and disposal budgets
- Infrastructure owners responsible for network, utility or estate asset portfolios
- Asset information leads who own registers, hierarchies and condition records

An asset-intensive operator gains most when its engineering, finance and asset information leads attend together and agree one line of sight from objectives to work orders.

## Physical Asset Lifecycle Management Capabilities

Participants leave able to turn condition evidence, failure consequences and lifecycle cost into a defensible investment sequence.

- Assess asset management maturity against ISO 55001 requirements — senior sponsors
- Build asset criticality rankings from consequence and likelihood of failure — reliability engineers
- Calculate whole-life cost and net present value of renew, repair or replace options — finance partners
- Weigh risk, cost and performance to prioritise a capital renewal portfolio — investment committees

- Specify asset information requirements for registers and hierarchies — maintenance planners
- Design lifecycle intervention strategies for each asset class — operations managers

## Key Physical Asset Lifecycle Management Terms

- Strategic Asset Management Plan SAMP — the document that translates organisational objectives into asset management objectives and the approach to achieve them.
- Asset Criticality — a ranking of assets by the consequence of their failure on safety, service, cost and the environment.
- Whole-Life Cost — the total cost of acquiring, operating, maintaining and disposing of an asset over its life.
- Line of Sight — the traceable link from organisational objectives through asset plans down to individual maintenance tasks.
- Asset Hierarchy — the structured breakdown of a portfolio into systems, assets and components for recording and planning.
- Remaining Useful Life — the estimated period an asset can continue to perform its function before renewal is needed.

## Physical Asset Lifecycle Management Day by Day

## Day 1: Portfolio Context and Lifecycle Pressures

- Asset Portfolio Profiling — Age, Condition and Replacement Value Mix
- Stakeholder Expectations Mapping — Service Levels Owners and Users Demand
- Lifecycle Stages Model — Acquire, Operate, Maintain, Renew and Dispose
- Ageing Infrastructure Scenarios — Funding Gaps and Renewal Waves
- Asset Management Maturity Self-Assessment — Setting the Improvement Baseline

## Day 2: The Asset Management System

- ISO 55001 Requirements Structure — Context, Leadership, Planning and Support
- Asset Management Policy — Committing Leadership to Lifecycle Principles
- Line of Sight Mapping — Objectives to Asset Plans to Work Orders
- Roles and Competence Framework — Assigning Asset Accountabilities
- Management Review and Audit Cycle — Sustaining System Effectiveness

## Day 3: Asset Information Foundations

- Asset Hierarchy and Taxonomy Design — Structuring the Register
- Asset Information Requirements — Defining Data Owners Must Hold
- Data Quality Assessment — Completeness, Accuracy and Timeliness Scores
- EAM and CMMS Configuration — Linking Assets to Work History
- Handover Information From Projects — Capturing As-Built Records

## Day 4: Condition and Criticality Assessment

- Condition Grading Scales — Inspecting and Scoring Asset Health
- Consequence of Failure Matrix — Safety, Service, Cost and Environment
- Likelihood of Failure Estimation — Using Age, Condition and History
- Criticality Ranking — Focusing Resources on High-Risk Assets
- Remaining Useful Life Estimation — Timing Renewal Interventions

## Day 5: Failure Modes and Maintenance Tactics

- Failure Mode and Effects Analysis — Identifying How Critical Assets Fail
- Reliability-Centred Maintenance Logic — Choosing the Right Task Type
- Run-to-Failure Versus Preventive Choices — Balancing Cost and Exposure
- Spares and Obsolescence Strategy — Protecting Critical Equipment Availability
- Maintenance Task Optimisation — Removing Low-Value Routines

## Day 6: Lifecycle Costing

- Whole-Life Cost Modelling — Capital, Operating and Disposal Elements
- Net Present Value Comparison — Renew, Refurbish or Replace Options
- Optimal Replacement Timing — Rising Maintenance Cost Versus New Capital
- Energy and Operating Cost Drivers — Efficiency in Replacement Choices
- Sensitivity Testing — Discount Rate and Life Assumption Effects

## Day 7: Risk-Based Investment Decisions

- Risk Monetisation — Expressing Failure Exposure in Comparable Terms
- Investment Prioritisation Matrix — Ranking Competing Capital Requests
- Portfolio Optimisation — Funding Scenarios and Service Trade-Offs
- Capital Business Case Writing — Evidence Boards and Funders Expect
- Deferred Investment Consequences — Communicating Risk of Under-Funding

## Day 8: Performance and Service Levels

- Asset Performance Indicators — Availability, Reliability and Cost per Unit
- Levels of Service Framework — Linking Asset Outputs to Customer Outcomes
- Leading and Lagging Measures — Spotting Deterioration Early
- Benchmarking Across Sites — Comparing Asset Classes and Practices
- Performance Reporting to Boards — Clear Line of Sight Dashboards

## Day 9: Lifecycle Plans by Asset Class

- Asset Class Strategies — Pumps, Substations, Buildings and Fleet Examples
- Acquisition Specification — Designing for Maintainability and Life Cost
- Disposal and Decommissioning Planning — Ending Asset Life Responsibly
- Long-Term Renewal Forecast — Ten-Year Investment Profile Building
- Change Management for Asset Practices — Engaging Field Teams

## Day 10: Practising the Strategic Asset Management Plan

- Portfolio Criticality Review — Applying Condition and Consequence Scoring
- Lifecycle Option Appraisal — Applying Whole-Life Cost Models to the Case
- Capital Prioritisation Exercise — Applying the Investment Matrix
- Peer Review Panel — Testing Objectives and Line of Sight
- Strategic Asset Management Plan — Completing and Presenting the SAMP

## Applying Physical Asset Lifecycle Management After the Course

- Lead a criticality ranking session with engineering and operations staff on one asset class and publish the top-risk list with recommended interventions.
- Prepare a whole-life cost comparison for one asset approaching renewal and present the preferred renew, refurbish or replace option to the capital planning group.

## Physical Asset Lifecycle Management Questions FAQ

### What is Physical Asset Lifecycle Management and why does it matter now?

Physical Asset Lifecycle Management is the coordinated planning of how equipment and infrastructure are acquired, operated, maintained, renewed and disposed of. It matters now because ageing assets, limited capital and higher reliability expectations require owners to justify every investment with risk and cost evidence.

### Which roles gain most from Physical Asset Lifecycle Management?

Asset managers, reliability and maintenance heads and infrastructure owners gain most. Capital planners and asset information leads also benefit because the course links registers, condition data and lifecycle costing to the investment decisions they prepare.

### How does Physical Asset Lifecycle Management differ from a predictive maintenance analytics course?

It covers the whole asset management system and investment logic rather than one technology. A shorter analytics course focuses on condition monitoring models, while this 2-week course covers policy, criticality, lifecycle costing, capital prioritisation and the strategic plan across a portfolio.

### What do you bring back from Physical Asset Lifecycle Management?

You bring back a strategic asset management plan for a real portfolio. It contains asset objectives, criticality rankings, lifecycle strategies by asset class and a prioritised renewal forecast that you can present to finance and leadership.

## Physical Asset Lifecycle Management: The Way Forward

The strategic asset management plan SAMP gives the investment committee a single basis for its next capital round, starting with which critical assets to renew first. Reliability leads, capital planners and finance partners use it to align budgets with risk. After the first funding cycle, revisit the criticality scores and remaining life estimates against real failure history and condition inspections.