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COURSE BROCHURE

Digital Maintenance Roadmap and Asset Twin Business Case Training Course

27 September – 1 October 2027
Singapore

Digital Maintenance Roadmap and Asset Twin Business Case Training Course

Ref: 1476_54769 **Date:** 27 September – 1 October 2027 **Location:** Singapore **Fees:** 9300 GBP

Digital Maintenance Roadmap and Asset Twin Business Case is a 1-week training course for reliability engineers and asset performance managers, built around a digital maintenance investment case that ranks candidate assets, sets out the sensor and data needs, estimates benefits and phases the rollout of an asset twin. Many plants buy sensors and platforms before deciding which failures they are trying to prevent, and the spend never pays back. Jupiter Prime Training offers this digital maintenance roadmap and asset twin business case course.

Why Digital Maintenance Roadmap and Asset Twin Business Case Matters Now

Three groups shape digital maintenance decisions today: finance leaders who want a clear payback before approving sensor and software spend, operations managers who need fewer unplanned stops rather than more dashboards, and IT and OT teams who must connect plant data securely to new platforms. Organisations that build a sound roadmap target the assets and failure modes where early warning changes outcomes; those that start with technology end up with stranded pilots and unused data. The course draws on ISO 55001 for linking digital investment to asset objectives and EN 13306 for consistent failure and maintenance terms in the data model.

Who Gains Most from Digital Maintenance Roadmap and Asset Twin Business Case

- Engineers who select assets and failure modes for condition monitoring
- Managers who own availability targets and maintenance budgets
- Specialists who define sensor, historian and data quality requirements
- Engineers who must justify digital pilots to finance and leadership
- Managers who coordinate maintenance, operations and IT around new platforms

An asset performance group gains most when its reliability engineers, maintenance manager and an IT or OT counterpart attend together and agree one roadmap.

Digital Maintenance Roadmap and Asset Twin Business Case Capabilities

Participants learn to start from failure consequences and decisions, then choose only the data, analytics and twin scope those decisions need.

- Assess asset criticality and failure modes to select digital candidates — informing where to invest first
- Specify sensor, data and integration needs for each candidate — guiding IT and OT counterparts
- Design a maintenance data model with asset hierarchy and failure codes — supporting analytics and reporting
- Calculate benefits, costs and payback for a twin or monitoring pilot — informing finance approval
- Weigh build, buy and partner options for analytics platforms — supporting procurement decisions
- Build a phased rollout with success measures and stage gates — serving leadership oversight

Key Digital Maintenance Roadmap and Asset Twin Business Case Terms

- Asset twin — a digital representation of a physical asset fed by live data and used to predict condition and performance.
- IIoT — the Industrial Internet of Things, linking plant sensors and devices to data platforms over networks.
- P-F interval — the time between the first detectable sign of failure and functional failure, setting monitoring frequency.
- Data historian — a system that stores time-stamped process and equipment readings for trending and analysis.
- Stage gate — a decision point where a pilot must show agreed results before further funding is released.
- Payback period — the time it takes for cumulative benefits of an investment to equal its costs.

Digital Maintenance Roadmap and Asset Twin Business Case Day by Day

Day 1: Digital Maintenance Landscape

- Maturity Path from Reactive to Predictive Maintenance — Locating the Current Position
- ISO 55001 Objectives and Digital Investment — Aligning Spend with Asset Goals
- Asset Twin Types and Scope Options — Matching Ambition to Need
- IIoT Architecture from Sensor to Platform — Mapping the Data Journey
- Stakeholder Map for Finance, Operations and IT — Securing Early Support

Day 2: Selecting Assets and Failure Modes

- Criticality Ranking for Digital Candidates — Prioritising High-Consequence Assets
- Failure Mode Review and P-F Interval Estimation — Judging Monitoring Value
- Condition Monitoring Technique Selection — Matching Sensors to Failure Modes
- Existing Data Audit in CMMS and Historian — Finding Usable History
- Examples from Power Generation and Mining Fleets — Comparing Candidate Choices

Day 3: Data Model and Analytics Options

- Asset Hierarchy and EN 13306 Failure Coding — Structuring the Maintenance Data Model
- Data Quality Rules and Ownership — Making Analytics Trustworthy
- Rule-Based Alerts, Trend Limits and Predictive Models — Choosing Analytics Depth
- Integration of Alerts with Work Orders — Closing the Loop to Action
- Cyber Security and OT Network Considerations — Protecting Plant Connectivity

Day 4: Building the Business Case

- Benefit Estimation from Avoided Failures and Downtime — Quantifying Value
- Cost Breakdown for Sensors, Platforms and People — Sizing Total Investment
- Payback, Sensitivity and Risk Adjustment — Testing Case Robustness
- Build, Buy and Partner Platform Options — Weighing Supplier Routes
- Pilot Design with Success Measures — Proving Value Before Scaling

Day 5: Practising the Digital Maintenance Investment Case

- Candidate Asset Shortlist for a Sample Plant — Confirming First Targets
- Sensor and Data Requirement Sheet — Agreeing Scope with IT and OT
- Benefit and Payback Calculation for the Pilot — Presenting to Finance
- Phased Rollout and Stage Gate Plan — Scheduling Expansion Decisions
- Digital Maintenance Investment Case — Completing the Roadmap Document

Applying Digital Maintenance Roadmap and Asset Twin Business Case After the Course

- Lead a criticality and failure mode review of the top ten assets to produce a shortlist of digital candidates with estimated P-F intervals.
- Prepare a one-page benefit and payback estimate for the strongest candidate and review it with finance and operations.

Digital Maintenance Roadmap and Asset Twin Business Case Questions FAQ

What is a digital maintenance roadmap and asset twin business case and why does it matter now?

It is a plan that selects assets, data and twin scope from failure consequences and proves the value before spending. Pressure on budgets and stranded pilots make this discipline essential.

Which roles gain most from digital maintenance roadmap and asset twin business case training?

Reliability engineers, asset performance managers, maintenance managers and data specialists gain most. You benefit if you must propose, justify or oversee condition monitoring and twin projects.

How does digital maintenance roadmap and asset twin business case differ from a twin engineering course?

A twin engineering course builds physics and data models in depth over a longer period. This course focuses on choosing where twins pay off, defining data needs and building the investment case and rollout.

What do you bring back from digital maintenance roadmap and asset twin business case training?

You bring back a digital maintenance investment case with a candidate shortlist, data requirements, payback estimate and phased rollout plan ready for leadership review.

Digital Maintenance Roadmap and Asset Twin Business Case: The Way Forward

The digital maintenance investment case first informs which asset receives a monitoring or twin pilot. Reliability engineers, maintenance managers and finance partners use it to approve spend and track results at each stage gate. After the pilot, revisit the benefit assumptions with real failure and downtime data, since actual results decide how far to scale.