



Technical Asset Management (TAM)



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Introduction:

Technical Asset Management TAM is no longer just about maintaining equipment — it's a critical strategic function that drives reliability, reduces operational risk, optimizes lifecycle performance, and maximizes ROI across physical infrastructure and technology investments. This advanced program provides a deep dive into strategic, technical, and operational practices that enable organizations to control, monitor, and continuously improve the performance of their technical assets.

Targeted Groups:

- Asset Managers and Engineers.
- Maintenance and Reliability Engineers.
- Operations Managers.
- Facility Managers.
- Plant Managers and Industrial Engineers.
- Technical Consultants and Project Managers.
- Professionals responsible for CapEx/OpEx planning.
- Digital transformation leaders in asset-intensive industries.

Learning Course Objectives:

By the end of this advanced training, participants will:

- Understand the strategic value of Technical Asset Management across the full asset lifecycle.
- Master modern frameworks, standards, and KPIs related to TAM.
- Be equipped to integrate digital technologies into asset management operations.
- Identify and mitigate operational and financial risks related to technical assets.
- Design and implement performance-driven asset management plans.

Targeted Competencies:

- Lifecycle Asset Management.
- Reliability Engineering & Risk-Based Approaches.
- Performance Monitoring & Optimization.
- Financial Analysis for Asset Decisions.
- Compliance, Sustainability & Governance ESG in TAM.
- Strategic Maintenance Planning.
- Digital Asset Management IoT, CMMS, AI, Digital Twins.

Course Content:

Unit 1: Foundations of Technical Asset Management:

- Definition and scope of TAM in industrial and infrastructure environments.
- Distinction between Technical Asset Management and General Asset Management.
- Lifecycle perspective: from acquisition to decommissioning.
- Asset criticality and classification.
- Roles, stakeholders, and organizational integration of TAM.
- Key frameworks and standards ISO 55000 series, PAS 55, etc..

Unit 2: Asset Lifecycle Strategies and Planning Techniques:

- Lifecycle cost analysis LCCA and total cost of ownership TCO modeling.
- Capital project planning vs. operational expenditure strategies.
- Asset acquisition and commissioning best practices.
- Preventive vs. predictive vs. condition-based approaches.
- Lifecycle extension strategies and end-of-life planning.
- Decommissioning, disposal, and compliance risks.

Unit 3: Reliability, Risk, and Performance Optimization:

- Reliability-centered maintenance RCM principles and process.
- Failure mode and effects analysis FMEA and fault tree analysis FTA.
- Asset performance indicators APIs and failure metrics MTBF, MTTR, OEE.
- Risk-based inspection and maintenance RBI/RBM.
- Optimization models for maintenance intervals and resource allocation.
- Integration with safety, quality, and environmental compliance.

Unit 4: Digital Transformation in Technical Asset Management:

- Digital twins and virtual asset modeling.
- Internet of Things IoT applications in real-time monitoring.
- CMMS, EAM, and ERP systems integration.
- Predictive analytics and AI/ML for failure prediction.
- Data governance and cybersecurity in asset data systems.
- KPI dashboards and reporting automation.

Unit 5: Strategic Governance, Financial Control, and ESG Integration:

- Governance frameworks for asset-intensive industries.
- Budgeting and cost control for technical assets.
- Investment prioritization using risk-return analysis.
- Lifecycle sustainability and environmental impact assessment.
- ESG Environmental, Social, Governance in asset decisions.
- Audit readiness, regulatory compliance, and documentation.