



# Advanced Technical Project Management: Tools, Methods & Execution (10 Days)



**AGILE LEADERS**  
Training Center

08 - 19 Jun 2026

مدرّب



# Advanced Technical Project Management: Tools, Methods & Execution (10 Days)

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## Course Overview:

The Technical Project Management Training Course: Tools, Methods & Execution is a comprehensive, hands-on corporate training program designed to equip professionals with the strategic, technical, and managerial skills required to manage complex engineering and IT projects. Drawing upon globally recognized standards such as PMBOK, systems engineering frameworks, and hybrid project management approaches, this course empowers participants to integrate technical project management principles with real-world execution.

Participants will gain expertise in using Agile and Waterfall methodologies, understanding predictive vs. adaptive planning, applying the Work Breakdown Structure WBS, mastering tools like OpenProject and GanttProject, and effectively handling technical performance analysis, earned value management, and risk mitigation in engineering projects. Emphasis is placed on stakeholder analysis, change control, design thinking, and optimization within complex technical environments.

## Target Audience:

- Technical Project Managers
- Engineering Managers
- IT Project Leads
- Systems Engineers
- Project Management Professionals PMP candidates
- Software Development Team Leaders

## Targeted Organizational Departments:

- Project Management Office PMO
- Engineering & R&D
- IT & Software Development
- Product Development
- Quality Assurance
- Operations & Technical Support

## Targeted Industries:

- Information Technology IT
- Engineering & Construction
- Aerospace & Defense
- Telecommunications
- Manufacturing
- Oil & Gas
- Smart Infrastructure & Energy

## Course Offerings:

By the end of this course, participants will be able to:

- Apply technical project lifecycle concepts using predictive and adaptive models
- Manage stakeholder requirements and technical specifications
- Develop WBS, CPM, and project schedules using industry-standard tools
- Evaluate performance using Earned Value Management for engineers
- Identify, assess, and manage technical and project risks
- Integrate PMBOK tools with systems engineering processes
- Lead hybrid Agile-Waterfall project teams effectively
- Conduct technical performance analysis and drive project optimization
- Utilize OpenProject or GanttProject for schedule and resource planning
- Communicate effectively with technical teams and project stakeholders

## Training Methodology:

This course blends theoretical depth with practical application. Participants will engage in:

- Interactive workshops focused on Agile and Waterfall case simulations
- Hands-on software labs using OpenProject and GanttProject
- Stakeholder requirement elicitation and WBS structuring exercises
- Real-world case studies from engineering and IT projects
- Role-play scenarios for stakeholder communication and change control
- Performance evaluation drills using EVM and risk matrices
- Reflective review sessions to anchor learning outcomes

## Course Toolbox:

- Training slides and participant workbook
- WBS templates and CPM diagrams
- Risk management checklists
- Change control templates
- Software demos: OpenProject, GanttProject

## Course Agenda:



## Day 1: Foundations of Technical Project Management

- Introduction to Technical Project Management & Hybrid Approaches Topic 1: •
- Overview of Systems Engineering and Project Management Integration Topic 2: •
- Technical Project Lifecycle and Stakeholder Roles Topic 3: •
- Predictive vs. Adaptive Project Planning Models Topic 4: •
- Introduction to Project Scheduling Tools OpenProject, GanttProject Topic 5: •
- Strategic Roles of Technical Project Managers in Modern Enterprises Topic 6: •
- Lessons from Systems Engineering & PMBOK alignment Reflection & Review: •

## Day 2: Planning and Estimating in Technical Projects

- Stakeholder Requirements Analysis and Technical Definition Topic 1: •
- Creating Effective WBS and Critical Path Diagrams Topic 2: •
- Time and Cost Estimation Techniques for Tech Projects Topic 3: •
- Integrating Risk Management in Engineering Projects Topic 4: •
- Communication Management in Technical Teams Topic 5: •
- Cost-Benefit and Feasibility Analysis in Engineering Projects Topic 6: •
- Mapping PMBOK tools to project lifecycle phases Reflection & Review: •

## Day 3: Executing and Controlling Technical Projects

- Earned Value Management EVM for Engineers Topic 1: •
- Using Software Tools for Tracking and Performance Measurement Topic 2: •
- Change Control Management and Configuration Topic 3: •
- Leadership and Trust in Technical Teams Topic 4: •
- Performance Optimization Techniques Topic 5: •
- Engineering Constraints and Technical Quality Control Topic 6: •
- Case analysis of airport and aerospace projects Reflection & Review: •

## Day 4: Agile, Waterfall, and Hybrid Approaches in Practice

- Agile Technical Project Management Essentials Topic 1: •
- Waterfall Project Management in Tech Contexts Topic 2: •
- Hybrid Implementation Models: Sequential & Parallel Topic 3: •
- Managing Complex Projects: Systems & Socio-Political Dimensions Topic 4: •
- Scenario-Based Planning and Decision Making Topic 5: •
- Systems Engineering Methods for Integration and Testing Topic 6: •
- Evaluating Project Complexity and Strategic Fit Reflection & Review: •

## Day 5: Final Integration and Handover

- Validation, Verification, and Transition Processes Topic 1: •
- Design Thinking for Project Innovation Topic 2: •
- Optimization & Value Management in Technical Projects Topic 3: •
- Closing Projects and Managing Knowledge Transfer Topic 4: •
- Lessons Learned and Post-Implementation Review Topic 5: •
- Tailoring Processes for Technical Project Environments Topic 6: •
- Final handover and documentation wrap-up Reflection & Review: •

## Day 6: Certification and Strategic Execution

- Preparing for Technical Project Manager Certification PMP, CAPM, PgMP Topic 1: •
- Certification Exam Content and Strategies Topic 2: •
- Building a Personal Learning and Career Development Plan Topic 3: •
- Strategic Portfolio Management in Engineering Organizations Topic 4: •
- KPI and Metric Design for Technical Projects Topic 5: •
- Audit and Compliance Considerations in Technical Environments Topic 6: •
- Certification readiness Q&A and wrap-up activities Reflection & Review: •

## Day 7: Case Studies, Simulations, and Presentations

- Team-Based Simulation: Full Lifecycle Project Execution Topic 1: •
- Role-Based Exercises: Stakeholder Engagement and Conflict Resolution Topic 2: •
- Advanced Project Scenario Deconstruction Topic 3: •
- Group Presentations and Peer Feedback Topic 4: •
- Expert Review of Project Strategies and Outcomes Topic 5: •
- Final Wrap-Up and Reflection Activities Topic 6: •
- Debrief, feedback, and certificates of completion Reflection & Review: •

## Day 8: Advanced Systems Integration and Architecture

- Technical Architecture Design Patterns for Project Managers Topic 1: •
- System Integration Lifecycle and Interface Management Topic 2: •
- Interoperability, Standards, and Technical Debt Reduction Topic 3: •
- Verification & Validation for Complex System-of-Systems Topic 4: •
- Architecture Tradeoff Analysis Method ATAM Topic 5: •
- Academic Case Study: Failures in Systems Integration Topic 6: •
- Academic insights into integration missteps and solutions Reflection & Review: •

## Day 9: AI, Data-Driven Decision Making & Automation in Tech Projects

- Using AI and ML for Project Forecasting and Planning Topic 1: •
- Automating Technical Project Tasks with AI Tools Topic 2: •
- Data Visualization and Predictive Analytics in Engineering Projects Topic 3: •
- Digital Twin and Smart Project Monitoring Techniques Topic 4: •
- Ethical Implications and Bias in AI-Based Decisions Topic 5: •
- Advanced Lab: Integrating Data-Driven Dashboards with Project KPIs Topic 6: •
- Data maturity and readiness for AI adoption in TPM Reflection & Review: •

## Day 10: Governance, Ethics, and Innovation in Technical Program Management

- Technical Governance Structures and Decision Gate Reviews Topic 1: •
- Ethics and Compliance in Complex Project Environments Topic 2: •
- Innovation Frameworks and Disruptive Thinking in TPM Topic 3: •
- IP, Standards, and Technical Contract Management Topic 4: •
- Systems Thinking and Sustainability in Project Execution Topic 5: •
- PhD-Level Research Trends in Technical Project Management Topic 6: •
- Policy alignment, innovation case studies, and ethical reviews Reflection & Review: •

### FAQ:

What specific qualifications or prerequisites are needed for participants before enrolling in the course?

A background in engineering, IT, or project environments is recommended. Prior exposure to project coordination or stakeholder engagement is helpful but not required.

How long is each day's session, and is there a total number of hours required for the entire course?

Each day's session is generally structured to last around 4-5 hours, with breaks and interactive activities included. The total course duration spans seven days, approximately 28-35 hours of instruction.

What is the difference between a technical project manager and a traditional project manager?

A traditional project manager focuses on time, budget, and scope. A technical project manager also dives into systems engineering, technical feasibility, stakeholder requirements analysis, and tool-based execution.

## How This Course is Different from Other Technical Project Management Courses:

Unlike generic project management training, this course uniquely blends systems engineering principles with PMBOK methodologies to address the complex demands of technical environments. It provides hands-on exposure to both predictive and adaptive models, enabling participants to navigate between Agile, Waterfall, and hybrid project delivery approaches.

Case studies from aerospace, construction, and IT infrastructure projects ground the learning in real-world applications. We also integrate tools like OpenProject and GanttProject, and cover Earned Value Management, technical performance analysis, and stakeholder-driven planning.

This course provides unmatched depth, relevance, and professional application. No software is provided, but participants will receive templates, examples, and tool walkthroughs to apply post-training.

This makes it ideal for professionals targeting Technical Project Manager Certification, a PMP for engineers, or aiming to enhance their technical execution leadership skills.



## فئات الدورات التدريبية



HR TRAINING & DEVELOPMENT

دورات إدارة و تطوير الموارد البشرية



دورات إدارة و تحليل البيانات ودورات علم البيانات



دورات إدارة الجودة وتطوير العمليات



الدورات التدريبية في مجال البيئة والاستدامة



دورات التسويق وإدارة علاقات العملاء وإدارة المبيعات



دورات التدريب القانوني والمشتريات والتعاقدات



دورات الاتصال الجماهيري و السياسات والعلاقات العامة



دورات النظم السيبراني ودورات تقنية المعلومات



دورات الصيانة ودورات المجالات الهندسية المتنوعة



دورات الصحة والسلامة والأمن المهني



دورات السكرتارية و إدارة المكاتب



دورات الحوكمة وإدارة المخاطر والامتثال



## فئات الدورات التدريبية



دورات معتمدة بشهادة CPD



دورات في مجالات القيادة والإدارة



دورات المهارات الشخصية وتطوير الذات



دورات المحاسبة و التمويل و دورات الإدارة  
الهائية



دورات مكتب إدارة المشاريع وإدارة المشاريع  
الرشيقة



دورات معتمدة من قبل هيئات دولية

## مدن التدريب



اسطنبول - تركيا



أمستردام - هولندا



أنقرة - تركيا



أثينا - اليونان



الرياض - المملكة العربية السعودية



الدوحة - قطر



الدار البيضاء - المغرب



الجبيل - المملكة العربية السعودية



باريس - فرنسا



المنامة - مملكة البحرين



الكويت - الكويت



القاهرة - مصر



براغ - جمهورية التشيك



بانكوك - تايلاند



بالي - جمهورية إندونيسيا



باكو - أذربيجان

## مدن التدريب



جاكرتا - جمهورية اندونيسيا



تيليسي - جورجيا



بوكيت - تايلاند



برشلونة - اسبانيا



روما - ايطاليا



دبي - الامارات العربية المتحدة



جوهانسبرغ - جنوب افريقيا



جنيف - سويسرا



شرم الشيخ - مصر



سيول - كوريا الجنوبية



سان دييغو - الولايات المتحدة  
الامريكية



زنبار - تنزانيا



طوكيو - اليابان



طشقند - اوزبكستان



طرابزون - تركيا



شيكاغو - الولايات المتحدة  
الامريكية

## مدن التدريب



كوالالمبور - ماليزيا



فيينا - النمسا



عن بعد - منصة زووم



عمان - المملكة الأردنية الهاشمية



ماربيا - اسبانيا



لندن - المملكة المتحدة



لانكاوي - ماليزيا



كيب تاون - جنوب إفريقيا



ميلان - إيطاليا



مونترنو - سويسرا



مسقط - سلطنة عمان



مدريد - إسبانيا



نيس - فرنسا



نيروبي - كينيا



ميونخ - ألمانيا

# WHO WE ARE

Agile Leaders is a renowned training center with a team of experienced experts in vocational training and development. With 20 years of industry experience, we are committed to helping executives and managers replace traditional practices with more effective and agile approaches.

## OUR VISION

We aspire to be the top choice training provider for organizations seeking to embrace agile business practices. As we progress towards our vision, our focus becomes increasingly customer-centric and agile.

## OUR MISSION

We are dedicated to developing value-adding, customer-centric agile training courses that deliver a clear return on investment. Guided by our core agile values, we ensure our training is actionable and impactful.

## WHAT DO WE OFFER

At Agile Leaders, we offer agile, bite-sized training courses that provide a real-life return on investment. Our courses focus on enhancing knowledge, improving skills, and changing attitudes. We achieve this through engaging and interactive training techniques, including Q&As, live discussions, games, and puzzles.



**AGILE LEADERS**  
Training Center

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