

# € TRAINING

Mastering Project Cost Estimation With  
Budgeting and Value Engineering

A group of four smiling business professionals (three men and one woman) are seated at a table in a meeting room. They are all wearing white shirts. The woman in the foreground is wearing a black top and a multi-strand necklace. The background is a bright, modern office environment.

9 - 20 September 2024  
Bangkok (Thailand)



# Mastering Project Cost Estimation With Budgeting and Value Engineering

REF: P258 DATE: 9 - 20 September 2024 Venue: Bangkok (Thailand) - Fee: 11835 Euro

## Introduction:

This training program offers a series of estimating techniques and processes. It presents the value engineering methodology which emphasizes the return-on-investment aspect of decision-making in terms of lifecycle costs during project planning, procurement, and execution.

## Program Objectives:

At the end of this program the participants will be able to:

- Acquire expertise in project estimating techniques, spanning from conceptualization to detailed estimates.
- Understand diverse estimate types for accurate and progressive cost estimation throughout projects.
- Comprehend contract variations based on risk distribution among parties involved.
- Implement incentive structures to optimize contract outcomes effectively.
- Gather and organize project-relevant information and costs for informed decision-making.
- Incorporate stakeholder input in project charter development and report project alternatives convincingly to top management.

## Targeted Audience:

- Project Managers.
- Project Cost Estimators.
- Cost Controllers.
- Project Planners.
- Contract Professionals.
- Project Procurement Staff.

## Program Outlines:

Unit 1:

Cost Estimating Basics:

- Explore the Estimating Life Cycle and Phases of the Design Process.
- Understand various types of Cost Estimates and Contract Structures.
- Learn Basic Estimating Procedures and techniques for Lump-sum, Unit-price, and Cost-plus contracts.
- Differentiate between conceptual and detailed estimates.
- Understand the importance of contingencies in cost estimation.

## Unit 2:

### Broad Scope Cost Estimating Techniques:

- Dive into Advanced Cost Estimating Techniques including PERT analysis and Standard Deviation calculations.
- Understand adjustments for Project Cost Estimates based on previous projects and economic factors.
- Learn to estimate project durations and costs using Learning Curves and Economic Price Adjustment.
- Apply trend analysis for cost forecasting.
- Incorporate inflation and market conditions into estimates.

## Unit 3:

### Budget Estimating Process:

- Master the process of Budget Estimating across different project phases.
- Develop budget estimates for programming, schematic design, and design development stages.
- Understand the importance of pre-construction services estimates and budget control mechanisms.
- Explore cash flow analysis and its role in project budgeting.
- Learn techniques for handling project scope changes during budgeting.

## Unit 4:

### Bid Contract Estimating Process:

- Explore the intricacies of Bid Contract Estimating, including work breakdown structures and subcontractor management.
- Learn the process of soliciting lump-sum bids and pricing self-performed work.
- Understand the accuracy validation and finalization steps in the bidding process.



- Analyze bid comparison techniques to ensure competitive pricing.
- Examine strategies for managing bid adjustments during contract negotiations.

## Unit 5:

### Unit Price Estimates:

- Understand the process of developing unit price bid forms and estimating direct and indirect costs.
- Master risk analysis techniques and variations-in-quantity contract provisions.
- Finalize bids through comprehensive risk analysis and bid finalization processes.
- Learn how to account for material and labor cost fluctuations.
- Explore methods for handling change orders in unit price contracts.

## Unit 6:

### Negotiated Contract Estimating:

- Explore the process of developing Guaranteed Maximum Price Estimates and negotiating contracts.
- Understand the fee determination and reimbursement structures for negotiated contracts.
- Develop strategies for responding to requests for proposals and negotiating subcontracts effectively.
- Learn techniques for managing contingency funds in negotiated contracts.
- Explore the benefits and risks associated with negotiated contract agreements.

## Unit 7:

### Contract Types and Compensation Arrangements:

- Understand the distribution of risk in contracting and project risk profiles.
- Explore various contract types, including fixed-price contracts, cost-plus contracts, and time-and-materials contracts.
- Master the intricacies of fee determination and cost savings strategies in different contract types.
- Understand performance incentives and penalties in contracts.
- Analyze compensation structures for cost savings and project efficiency.

## Unit 8:

## Narrow Scope Cost Estimating Techniques:

- Delve into specific cost estimating techniques such as power-sizing, factor estimates, and parametric cost estimating.
- Understand adjustments for project type, quality level, and economic constraints.
- Analyze estimating accuracy and apply techniques to adjust for project size and location.
- Explore ways to handle uncertainties in narrow scope projects.
- Understand the role of historical data in developing narrow scope estimates.

## Unit 9:

### Framework for Applying Value Engineering in Projects:

- Gain insight into the concepts and principles of Value Engineering and its importance in project optimization.
- Understand the Value Engineering process from project definition to initiation and value analysis.
- Learn techniques for identifying relationships between value, cost, and worth, and initiating Value Engineering phases effectively.
- Explore cost-saving opportunities through the application of Value Engineering.
- Learn how to prioritize functions based on cost and value impact.

## Unit 10:

### Function Analysis and Creative Problem Solving:

- Explore the role of Function Analysis in projects and how it helps define project constraints and cost estimates.
- Foster creativity within project teams and apply creative thinking techniques to optimize project value.
- Understand the output of the Evaluation Phase and its significance in making informed project decisions.
- Apply brainstorming techniques to uncover innovative cost-saving solutions.
- Learn to integrate Function Analysis with overall project goals for enhanced outcomes.