
Workshop AGENDA

ENGINEERING AND PRODUCT DEVELOPMENT MANAGEMENT – Integrated Product Development (IPD) and Concurrent Engineering (CE)

1-5 Day Seminars

ABOUT THE SEMINAR

Engineering and New product development is a must-do activity in today's business environment. Product launches involve a multi-disciplinary process which, to be effective, must get quality product to market rapidly and cost effectively. But many new products launched every year fail to meet their objectives. Attempts to improve engineering operational performance fail because too much emphasizes are put on technology, and not enough on people and process. There are various bodies of knowledge (BOK) that are used to manage engineering operations. Applying 1 or 2 BOK results in minor improvement. Step change improvement can only be achieved when a holistic approach is used. The holistic approach encompasses all BOK.

This three-day seminar addresses the needs of project teams charged with the introduction of a new product or managing sustaining engineering operations who want to improve their chance of success. It provides a framework from idea generation to market introduction that is based on proven, successful approaches and steers clear of past mistakes. Integrated product team composition and activities, procedures, tools, selection among conflicting concepts and step-by-step project execution is discussed on both the technical and commercial side of the process. Practical case studies will illustrate what works, what not, and who does what, when and why in a process oriented product development system.

OBJECTIVE

To provide an understanding of a holistic integrated approach to managing engineering and product development operations.

WHO SHOULD ATTEND

Engineers, scientists, technologists, Project, product, R&D and marketing managers, manufacturing engineers, Integrated team leaders and members, project coordinators and other individuals with a role in engineering and product development management. Executives from technology based companies will learn the key concepts of effective management from a practical point of view.

DAY 1 UNDERSTANDING ENGINEERING PROCESS MANAGEMENT

**Session 1
The Holistic Approach to Managing Engineering Operations**

- **Separate Bodies of Knowledge**
 - Integrated Product Development & Concurrent Engineering, Project Management, Process Management, Managing Organizational Change, Product Data Management
 - Systems Engineering
- **The Holistic Approach**
- **The Motivation for taking an Holistic Approach**
- **Benefits of the IPD/CE Approach**
- **Overview of the IPD/CE Philosophy**
- **Critical Success Factors in Implementation**
- **The Integrated Enterprise Framework**

**Session 2
An Overview of Engineering Process Management**

- **Engineering Process Framework**
 - **Work Breakdown Structure**
 - **Customer Deliverables**
 - **Milestones and Maturity Gates**
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- **Process Maturity**

Session 3 Organization of Engineering Tasks

- **Single Number Tracking System**
- **Integrated Master Plan**
- **Integrated Master Schedule**
- **Developing a Work Planning Template**

DAY 2 APPLYING ENGINEERING PROCESSES TO PROGRAM MANAGEMENT

Session 4 Roles and Responsibilities

- **The Customer**
 - **The Partner**
 - **The Sponsor**
 - **The Program Director**
 - **The Functional Director**
 - **The Project Manager/Engineer**
 - **The Functional Manager**
 - **The Program Coordinator**
 - **The IPT (Integrated Product Team) Leader**
 - **The Team Member**
 - **Support Functions**
 - **Skill Types**
 - **Training Guidelines**
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**Session 5
Approach to Program and Project Management**

- **What is Program/Project Management?**
- **Why Are Programs Offices Necessary?**
- **Critical Success Factors-Secrets of Success**
- **Program Management Elements**
- **Program Management and Business Initiatives**
- **Framework for Program Management**
- **Elements of the Program Office**

**Session 6
An Integrated Team Member's Guide to Performing a Task**

- **Integrated Product Development Team Member Responsibilities**
- **Performing a Specific IPD Task**

**Session 7
Program Structuring and Planning**

- **Program Structuring**
- **Selecting and Tailoring IPD Subphases and Deliverables**
- **IPD Program Planning – The Integrated Master Plan (IMP)**

**Session 8
Risk Assessment**

- **Performing A Risk Assessment**
- **Strategies for Managing Risks**

Session 9

Program Initiation and Execution

- Program Initiation
- Program Execution

Session 10 Program Reviews

- Quality Assurance Factors
- What is Quality Assurance?
- Defining and Measuring Quality
- Quality Assurance through the Holistic Approach
- Tailoring the Program Review Process
- Elements of the Program Review Process

Session 11 Engineering Change Management and Product Data Management

- What is Engineering Change?
 - How to Deal with Engineering Change
 - Managing Engineering Change through Design Freezes
 - The Engineering Change Management Process
 - Product Data Management
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DAY 3 DEPLOYING ENGINEERING PROCESS MANAGEMENT

Session 12 Organizing for Deployment

- Initiative Program Organization
- Engineering Initiative Program Charter
- Using an External Consultant
- Program Planning
- Setting Objectives
- General Program Plan
- Budgeting for the Engineering Initiative
- Sample Deployment Plan
- Roles and Responsibilities of Project Team Members
- Presenting the Program Plan
- Special Considerations for Divisional and Corporate Initiatives
- Pitfalls to avoid

Session 13 Overcoming Resistance to Change

- Organizational Politics
- Adopting The Team Based Approach to the Engineering Organization
- Team Leader Change Management Skills
- Team Behavior Management

Session 14 Implementing Process based engineering - Lessons Learned Case Study

- Leadership and Commitment
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- **IPT Setup**
- **Decision Making**
- **Roles and Responsibilities**
- **Communication**
- **Team Skills and Training**