Training Program:

Planning, Justifying, and Executing Automation and Control Projects

INTRODUCTION

This course teaches both justification of automation projects -- including how to identify benefits and how to scope the project; and also best practices for structuring and leading the project execution (i.e. project management). The coverage is from the perspective of both the end user company and the engineering organization which helps both types of organizations better understand the total project. This course goes well beyond the general project management techniques of planning, cost, and schedule and focuses on the specific techniques needed for control and automation projects.

WHO SHOULD ATTEND?

This Intensive five-day instructional program covering the educational needs of Instrumentation and Control Engineers & Technicians, Mechanical Engineers & Technicians, Projects Engineers, Operation Engineers, Project Managers , and Technical Supervisory personnel involved in Planning, Justifying, and Executing Automation and Control Projects. No specific prerequisite training or experience required for registration.

METHODOLOGY

This interactive Training will be highly interactive, with opportunities to advance your opinions and ideas and will include;

- Lectures
- Workshop & Work Presentation
- Case Studies and Practical Exercise
- Videos and General Discussions

CERTIFICATE

BTS attendance certificate will be issued to all attendees completing minimum of 80% of the total course duration.

COURSE OBJECTIVES

Participant will be able to:

- Identify new operating benefits from control and automation using the best technique for the situation.
- Optimally scope and justify control system upgrade projects.
- Justify all types of automation and control projects.
- Utilize the special techniques needed in automation and control projects to deal with the special characteristics of these projects.
- Outsource automation and control work effectively and deal with contracts.
- Balance the four objectives critical to automation and control projects rather than the three objectives typical of other types of projects.
- Do the full range of planning needed for automation and control projects - not just cost, schedule, and work plan.
- Achieve the optimum relationships among vendors, industrial, and engineering organizations.
- Execute projects in the phases unique to automation and control projects and achieve the specific deliverables needed from each phase.
- Apply management and teambuilding skills to automation and control projects.

COURSE OUTLINES

1- Top Ten Issues in Leading Control and Automation Projects:

- Deliver Benefits to Operations,
- Justify Projects,
- Work Efficiently with Providers,
- Execute First What, Then How, and Only Then Do

- Freeze Design,
- Partner With Suppliers,
- Plan for Risk Events,
- Monitor Cost and Schedule Continuously,
- Do Milestone Reviews,
- Customer First

2- Characteristics and Objectives of Control and Automation Projects:

- Role of Projects in Industrial Organizations,
- Project Benefits to Operations, Marketing, and Strategic Direction,
- Execution Objectives of Cost, Schedule, Scope, and Customer Satisfaction

3- New Approaches for Identifying Control and Automation Benefit Opportunities:

- Benchmarking Benefits vs. Practices,
- Direct Identification of Benefits: Brainstorming, Dynamic Performance Measure, Six Sigma, and Opportunity Assessment,
- Typical Results of Opportunity Assessment Approach,
- Details of the Procedure for Opportunity Assessment

4- Upgrade Projects - Selection and Justification:

- Levels of Upgrades,
- Reasons to Upgrade,
- Reasons Not to Upgrade,
- Vendor Product Obsolescence Strategies,
- When and How to Upgrade

5- Project Phase Concept:

- Project Phases vs. Project Management Phases,
- Importance of Phases,
- What, How, and Do Segments,

- Overview of Each Phase,
- Allowable Overlap Between Phases,
- Selling the Phase Concept

6- Phases of a Control and Automation Project - Content and Deliverables of Each:

- Conception,
- Development - Scope and Justification,
- Significance of Company Project Selection and Approval Process,
- Customer Requirements Definition,
- Planning - Work Breakdown, Cost, Schedule, Resources, Safety, Change, Quality, Risk, Communications, Procurement, Checkout,
- Front End Engineering - what's included and what is left for Detail Design,
- Design Freeze,
- Management of Detail Design - Application of Earned Value to Automation and Control, Dealing with Big Decisions, Managing Change, Managing the Plan
- Simulation / Testing / Customer Demonstration / Operator Training,
- Construction,
- Checkout / Commissioning / Startup Support / Long Term Support,
- Project Closeout - Final Reviews, Lessons Learned

7- Project Reviews:

- Reasons for Reviews,
- When to do Project Reviews,
- How to Structure and Staff Reviews for Maximum Results and Team Benefit

8- Outsourcing:

- Reasons to Outsource,
- How Much and When,
- Advantages of Different Contract Forms,

- Managing Outsourcing Relationships

9- Vendor Relationships:

- Purchasing Leverage,
- Value of Vendor Partnerships,
- Vendor Reaction to Partnerships,
- Managing Vendor Relationships

10- Project Organizations:

- Project vs. Discipline vs. Matrix organizations,
- Relationships among Customer Engineering, Customer Company, and Provider Organizations

11- Team and Management Skills for Lead Engineers:

- Role of the Lead Engineer | Teams | Communications | Relationships