



Setting the Standard for Automation™

Assuring Automation Project Success

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Standards
Certification
Education & Training
Publishing
Conferences & Exhibits

Dave Adler

- Dave Adler is a Chemical Engineer with over 35 years of experience in the pharmaceutical industry. Dave retired from a major pharmaceutical company as a senior automation consultant within its central engineering group. Dave currently works for Brillig Systems consulting on automation best practices, strategies, and project management.



Raymond Teaster

- Raymond Teaster is a Professional Engineer with 25 years of Control Systems experience in a variety of industries. Raymond has managed automation projects for both owners as well as engineering service providers. Raymond is co-owner of Brillig Systems, an Automation Project Management company.



Today's Discussion

- What Makes Automation Projects historically difficult
- The Basics and Planning
- Defining Success
- Executing the Plan
- Communicating the Status

Why are automation projects so difficult



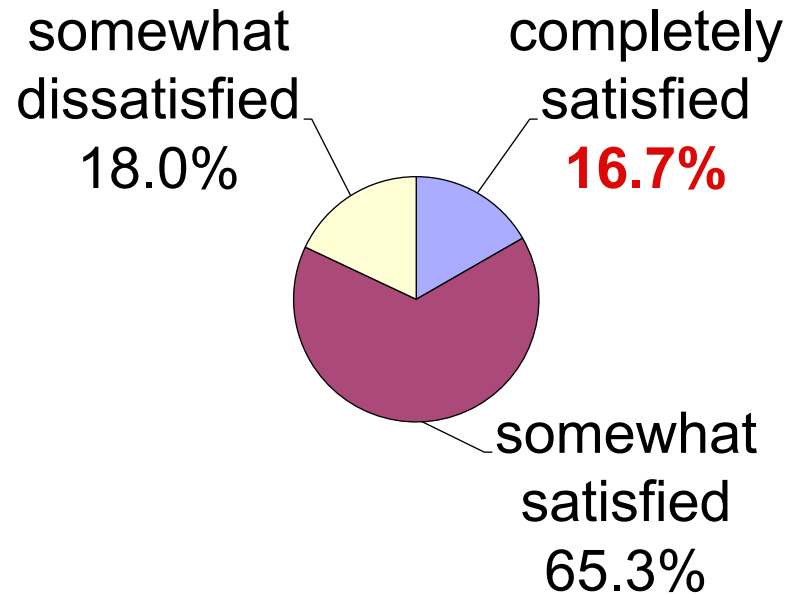
- Work processes poorly understood
- Difficult to track (Monitoring / Measurements)
- Often have poorly defined requirements
- Difficult to find enough talented automation professionals



Most Automation Projects Do Not Deliver What They Promise



20 users were interviewed and 100 users responded to a web-survey on automation. The effectiveness of controlling capital projects automation was surveyed.



*“Leveraging Project Funding with the Value of Automation” Dave Woll ARC ISA
Technical Conference Houston 2008*

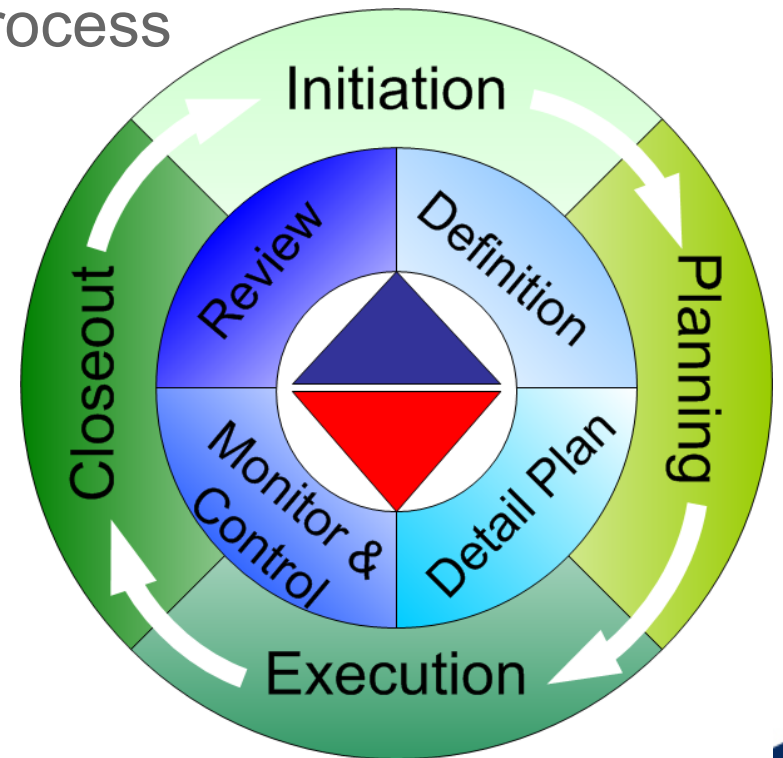
The Basics

Have a plan

- Execution Plan
 - Scope & Strategy definition
- Schedule - based on the work process
- Budget & Staffing plan
- Quality Plan – it needs to work
- They all need to match

Execute the plan

- If you're not working to plan then change the plan




Monitor the Plan

Internal project team

- Meet schedule
- Spend within budget
- Module written
- Test completed
- Documents approved
- Effort vs time spent

Client

- Application software works during start-up
 - Meet functional requirements
 - Meet technical specifications & standards
 - Solves customer's problem
 - Customer expresses satisfaction
- 
- A dark blue, curved shape located in the bottom right corner of the slide, resembling a stylized arrow or a decorative flourish.

Keep the Execution Plan updated

- Requirements change
- Features get utilized
- Compromises are made



Stakeholders

What Does Success Mean?



Determine the requirements

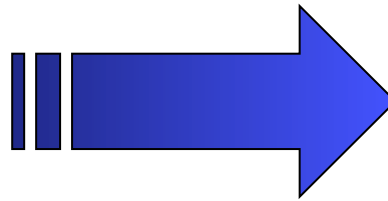
- Understand your business partners problems
- Deliver real solutions
- Anticipate future problems
- Interviews and questionnaire
- Resolve the conflicts before the project gets started



Business Drivers

Connect the Stakeholder requirements to the features of the system

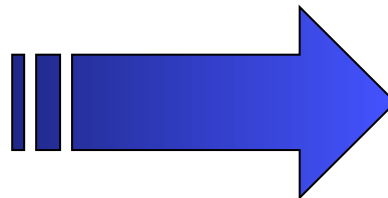
**Facility
Requirements**



**Automation
Systems
Consequences**

Example:

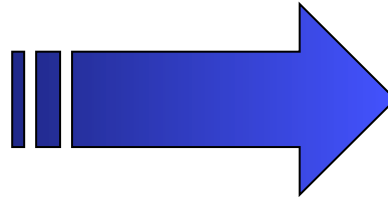
High Throughput



- **Level of Automation**
- **Control Strategies**
- **Workstations**

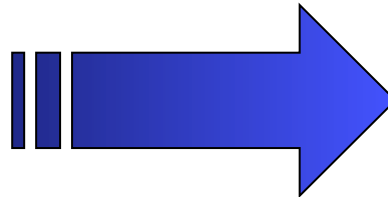
Business Drivers

Integration to
Business
Systems



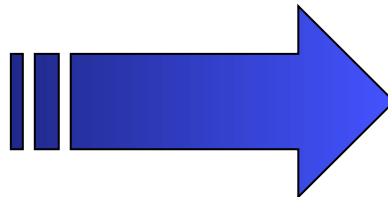
- MES System
- Data Collection
- System Architecture

Remote Access



- System Architecture
- Firewall Placement
- SW Licensing

Paperless
Operation



- Data Collection
- Workstations
- Electronic Work Instructions

Communicate Success and Status Frequently



Dashboard

What is a dashboard?

- One or two slides at the most
- Snapshot of the project – How are we doing against the plan
- Identifies risk, issues and opportunities
- Pictures over words
- Must be accurate



Dashboard

What to Leave in

- Key Performance Indicators and Metrics
- Major milestones and current progress
- Near term smaller milestones
- Predictive information
- Issues & concerns – Anything keeping you from staying on plan

What to leave out

- Activities already accomplished
- Details
- Issues you have solved or know how to solve

Metrics

SCOPE

\$20 million upgrade to automation to support fast-track startup.





ACCOMPLISHMENTS





➤ All required Hardware is on site. Contractor is aligned for site support.

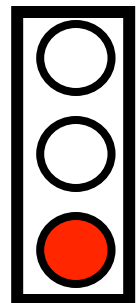
ISSUES & MITIGATION

➤ Software module testing is lagging. Project needs to add resources to mitigate.

Legend

-  Project on-track
-  Risk identified, mitigation in place
-  Significant risk, escalation required
-  Stage is complete

<i>Upcoming Milestones</i>	<i>Baseline</i>	<i>Revised</i>	<i>Health</i>
Instruments & Control	Dd-MMM-yy	Dd-MMM-yy	
HW & Licenses procurement & deployment	Dd-MMM-yy	Dd-MMM-yy	
Software Development	Dd-MMM-yy	Dd-MMM-yy	
Project Plan	Dd-MMM-yy	Dd-MMM-yy	



Dashboard Examples

Progress				Performed or Upcoming Activities		Challenges & Needs	
Activity	% Plan	% Actual	Finish Date	Description	Target	Description	Need Date
Up Stream <ul style="list-style-type: none"> Tank Modifications 	100%	100%	Complete	Down Stream Tank Commissioning Complete	2/24/2012	Need to resolve I/O card issues on Skid #1 to complete turnover	2/7/2012
<ul style="list-style-type: none"> Filter Modification 	100%	100%	Complete	Buffer Tank Cool Down Complete	2/15/2012	Need to resolve tank level issue prior to starting Skid #1 Commissioning	2/7/2012
Down Stream <ul style="list-style-type: none"> New Product Lines 	100%	100%	Complete	Skid #1 Commissioning Start	2/8/2012		
<ul style="list-style-type: none"> Tank Modifications 	67%	56%	02/24/12 Forecast: 02/22/12				
<ul style="list-style-type: none"> Skid #1 Modification 	71%	68%	02/20/12 Forecast: 03/01/12				
<ul style="list-style-type: none"> Skid #2 Modification 	33%	33%	05/04/12 Forecast: 05/04/12				
Overall Project	83%	80%					