

*October 25, 2007*

11th Annual CMS Workshop | *Chad Stackhouse* | *Houghton International*

## Introducing New Technology on the Plant Floor



**CMSFORUM**  
a program of the Chemical Strategies Partnership

## Overview

---

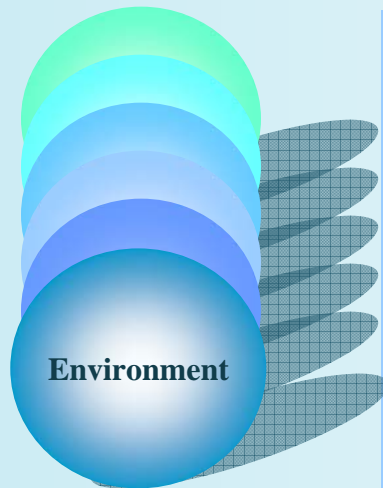
- Defining new technology in CMS industry
- Is the technology appropriate
- ROI study
- Capitalizing on the Pros
- Managing the Cons
- Project Planning
  - **Plan, Brief, Execute, Debrief**
- Continuous Improvement
- Case Studies

## New technology - Definition

---

- It can be a product or a service
  - Ex : A new bio-resistant product technology  
A new service to recycle process fluids
- Generic definition of new technology
  - “ A new invention or a discovery that uses a scientific approach to the application of this new knowledge that results in either solving a problem or making an existing process more efficient”.
  - Ex : Improved productivity, reduction in total operating costs, improved quality, safer for the environment, etc...
- Direction of new technology in CMS industry
  - “Design for the environment, implement for your bottom-line”

## Is this technology appropriate for my client ?



- Understand Existing Process / Product
- Identify Bottlenecks
- Identify Opportunities
- Environmental Impact
- Can this technology solve issues / improve the process?
- How effectively will the technology work?
- What are the risks associated with the technology
  - Will it be an added variable to production?
  - What is the level of complexity in using it?
- What resources are needed to implement and maintain?
  - Human, Utility, Floor Space, etc.
- Can they afford it? – ROI study

## ROI Study – Considering all the variables...

---

- Sum of :
  - Cost of New Technology
  - Cost of Implementation
  - Cost of Training
  - Cost of Maintenance

VS. (time taken to realize)

- Sum of
  - Expected Benefits
    - Improved Quality
    - Improved Productivity
    - Improved Process Efficiency
    - Reduced Impact on EHS

## Capitalizing on the pros

---

- A new successful technology can fail because of “lack of motivation” to make it successful
  - Communicate the expected benefits efficiently and effectively
  - Make the customer see value thru a formal “value engineering proposal”
  - Talk to all stakeholders involved
    - Operators
    - Production
    - Purchasing
    - Manufacturing
    - Plant Management
- Ensure proper planning and implementation during launch phase
  - With an unplanned launch, even the best technology can fail

## Managing the cons

---

- Effective Change Management
  - Do not assume “everything will fall in place” as soon as the technology is launched
  - Obtain plant commitment to support the launch
  - Provide training for plant personnel
    - When the customer is familiar with the “How’s?” of the technology, launch is easier
  - Focus on the Pros
- Unproven technology
  - Offer incentive to stakeholders to conduct product trials
  - Provide scientific evidence supporting that this technology will work for proposed applications

## Project planning - Plan

---

- When planning to implement New Technology, consider the following:
  - All process variables are carefully evaluated
  - Collect as much relevant baseline data on existing process variables
  - Determine the length of product evaluation period
  - Determine what data will be collected
  - Establish data collection and reporting formats
  - Develop actual vs. estimated cost analysis (Consider soft savings)
  - Determine Implementation schedule
  - Ensure resource availability
  - Communicate the plans to all stakeholders involved



## Project planning - Brief

---

- Brief the plant personnel on expected technology benefits
- Review the data collection methods
- Provide issue resolution protocols
- Assemble & distribute information on project resources that can:
  - Troubleshoot
  - Provide emergency response
  - Provide technical support
  - Additional project support
- Review expected non-critical changes that may be associated with new technology implementation
  - Odor, color, etc..
- Review expected benefits

## Project planning - Execute

---

- Execute the project
- Collect data
- Consult with stakeholders on initial data trends
- Communicate both Good and Bad news
- If technology is performing to satisfaction
  - Validate the data
- Update the team on final outcome
- Conclude trial with a formal report and recommendation

## Project planning - Debrief

---

- Discuss Proposed vs. Actual outcome
- Discuss what worked
- Discuss what did not work
- Determine if further trials are necessary
- Determine if customer expectations are met
- Determine if customer is satisfied

# Continuous Improvement

---

- If technology is implemented
  - Make changes to existing process control plans
  - Develop & implement new operating procedures
  - Re-train plant personnel on working with new technology as they migrate from the old technology
  
- If technology is not implemented
  - Determine the reason for the failure
    - Did the technology fail?
    - Was the technology not suited for the process?
    - Did the implementation fail?
    - Why?
    - What are the lessons learned?

Questions - ???

---