



a *Right Your Lab for Automation*

11.16.11

Lab Quality Confab

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Automation?

How do you define automation?

What stage are you at in the automation process?

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Objectives

- After this presentation, you will ...
 - Understand the importance of needs assessment, planning, and preparation
 - Recognize the 4Ps – Process, People, Product, Place
 - Understand the contribution process improvement initiatives make toward finalizing preparations
 - State and discuss the importance of capacity, consolidation, and integration towards fully automating the laboratory
 - Recognize the need to manage and plan for change and the pace of change and its affect on how people respond to change

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The Project



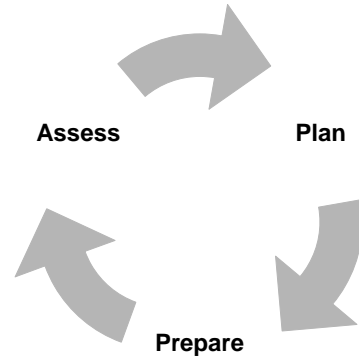
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The Foundation



Project Management

Change Management

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The Foundation

Project Management

- **Timeline and Milestones**
- **Resources**
- **Budget**

Change Management

- **Sponsorship Readiness and Support**
- **Communication Plan**
- **Stakeholder Analysis and Support**

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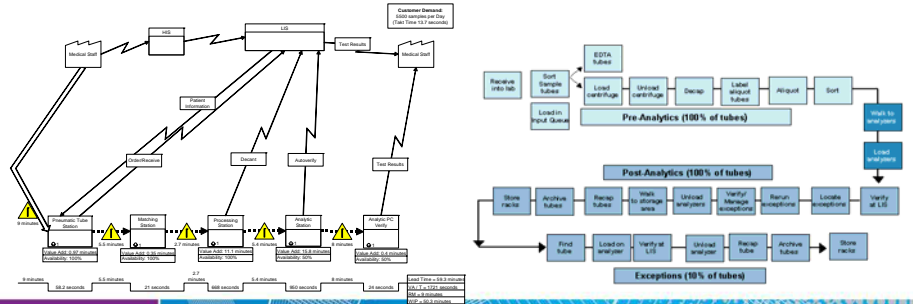


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Assess

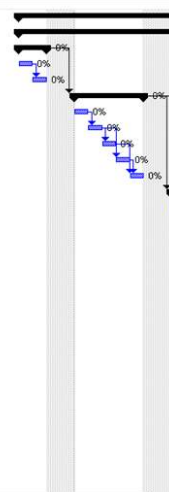
Process and Value Stream Mapping

- “Picture” of the process
- Recognize and eliminate waste
- Identify opportunities for improving flow



Plan

- Proposal Development Plan
 - Opportunity Qualification
 - Identify and Prospect
 - Identify and track opportunities
 - Qualify opportunity
 - Define Preliminary Strategy and Solution
 - Analyze opportunity
 - Develop winning strategy
 - Develop high-level technical solution
 - Develop high-level management approach
 - Develop pricing approach
 - Develop Preliminary Risk Assessment
 - Identify risks
 - Develop Proposal Budget
 - Prepare proposal project schedule
 - Develop proposal project budget
 - Make Bid-No-Bid Decision
 - Prepare bid/no-bid matrix
 - Conduct bid/no-bid meeting
 - Conduct reviews and approval process
 - Implement bid decision
 - Bid and Proposal
 - Manage Proposal Development Project
 - Initiate proposal project
 - Control proposal project
 - Close proposal project
 - Develop Technical Solution
 - Develop technical solution
 - Test solution components
 - Review solutions



Plan

Stakeholder Analysis

Group	Hostile Will block implementation of the solution at all costs	Opposed Will actively act on and state opposition to the solution	Uncooperative Will have to be prodded	Indifferent Won't help, won't hurt	Hesitant Holds some reservations, won't volunteer	Compliant Will do minimal acceptable and will try to erode the standard	Supportive Will lend appropriate support to implement solution	Enthusiastic Support Will work to make it happen
Lab Technical staff		Cultural						
Lab Processing Staff		Technical						
Pathologists					Technical	Political		
IT Staff						Technical		
Physicians						Cultural		
Hospital Leadership							Political	
Lab Leadership					Cultural	Political	Technical	
Infection Control					Cultural			

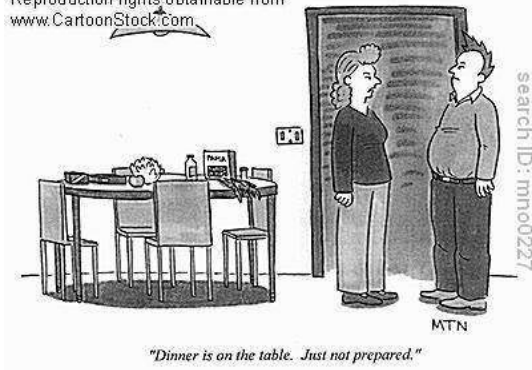
What happens when there is **NO** preparation?

In 2005-2009, roughly two-thirds of home fire deaths resulted from fires in properties without working smoke alarms, according to the report "Smoke Alarms in U.S. Home Fires," released by the National Fire Protection Association (NFPA).



What happens when there is **NO** preparation?

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Project + Change = 4Ps = Process + People + Product + Place

Process



People



Product



Place



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Process



- **Laboratory Process Improvement**

- Pre-Analytics
 - Specimen Management
- Post-Analytics
 - Verifying & Reporting Results

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Pre-Analytic Questions for Consideration

- What types of specimens are coming in to the lab?
- How are the specimens managed? Shared? Where?
- Which specimens will be placed on the automated line?
- When do the samples arrive?
- Condition of specimens when they arrive
 - Ordered in LIS?
 - Barcode Labeled?
 - Arrive in bags / racks?
 - Spun / Unspun?
- What is the percentage of STAT specimens? How do they arrive?
- How are we using analyzer software / middleware / LIS?

All Sections of the Process Need to be Considered

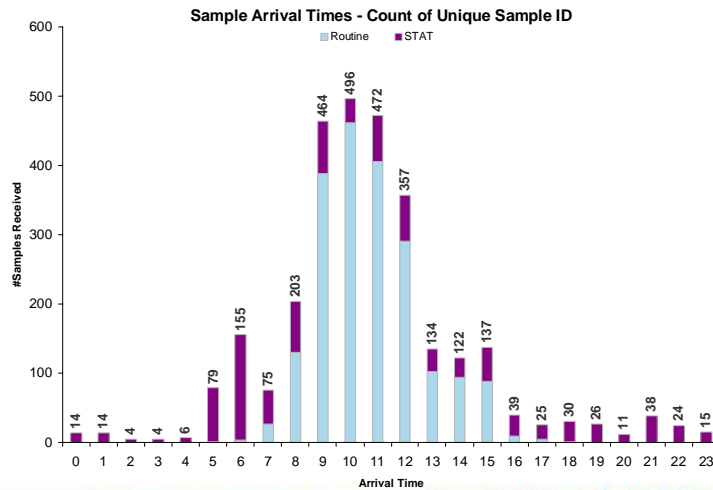
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How do Specimens Arrive?



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Workload Leveling

- Smooths out peaks in volume.
- Prevents a unbalanced amount of work going to a worker, team or equipment, while others are idle.
- The objective is to maximize capacity utilization and level staffing.



Large batches slow processes – including automated processes!

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Post-Analytic Questions for Consideration

- What are the add-on ordering patterns?
- What is the current process for archiving specimens?
 - Where and how are the specimens retained?
 - Refrigerated
 - Frozen
 - Room Temp
 - What is the policy on retention of specimens?
- What off-line testing is required?
 - How are specimens prepared for off-line testing?
- How are we using analyzer software / middleware / LIS?
 - Auto-verification?

All Sections of the Process Need to be Considered

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Post-Analytical Area Preparation Prior to Automation

- Review and update specimen retention and add-on testing policies
 - Specimen retention – may be more conservative
 - Add-on testing – may be more amenable due to ease of finding specimens
- Review process for tracking of specimens



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People



- Administration
- Support Staff
 - Phlebotomy
 - Nursing
 - Physicians
- Laboratory Staff
 - Lab Assistants
 - Technologists

All Stakeholders of the Process Need to be Considered

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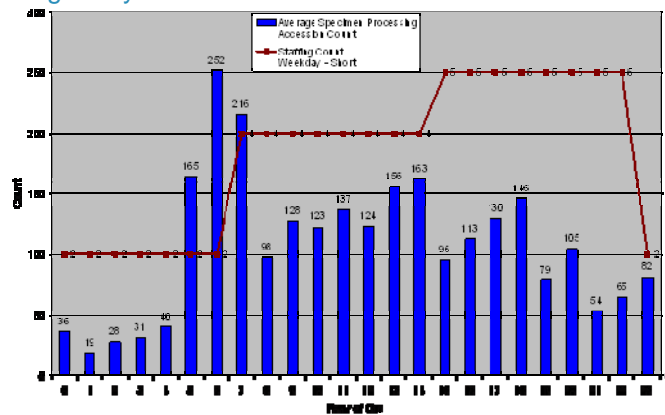
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People

FTE Staffing Analysis



All Stakeholders of the Process Need to be Considered

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Product Characteristics



- Reagent & Specimen Capacity > Consolidation > Integration > Automation
- Specimen handling
- Throughput
- Footprint
- Flexibility & Scalability
- Direct sampling
- Maintenance
- Service & Support

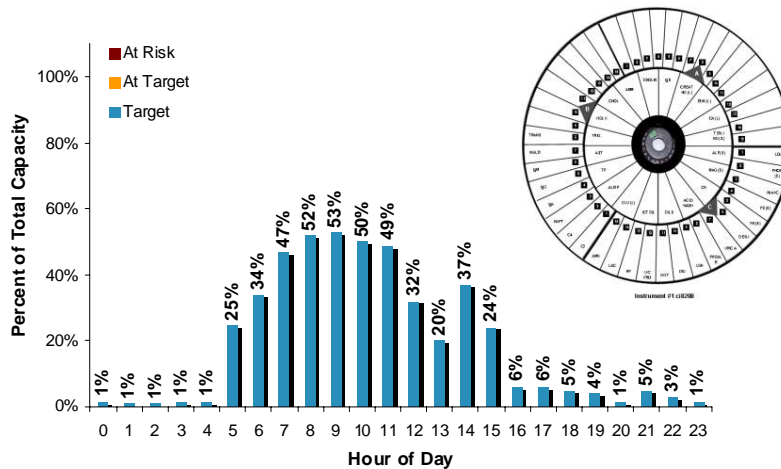
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Capacity Analysis



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Place



- 5S the area
 - makes room for automation
 - cleans up unnecessary paperwork
 - organize supplies
- Construction or Remodeling
 - Architectural blueprints / CADs
 - Electrical, Plumbing, IS/IT

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The 5S System

1. Sort

Sort through all items and determine needed and un-needed items

2. Set in Order

Organize area and find a place for everything

3. Shine

Clean everything thoroughly
Keep cleanliness as priority

4. Standardize

Create rules to promote S 1-3

5. Sustain

Continue training and education for lasting success

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Summary



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*Whether you think you can,
or think you can't,
you are absolutely right.*

Henry Ford

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Thank You!

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