

Project Management on Steroids: Staying on Time and on Budget while Orchestrating Change across Different Lab Departments

Presented by: John Butz Operations Administrator Mayo Medical Laboratories

Financial Disclosures

Nothing to disclose



Learning Objectives

- Understand basics and benefits of project management
- Distinguish roles and responsibilities to achieve project success
- Be able to apply PM in the context of business strategy
- Use PM to drive and manage change



Case Study: Automation Project

- End of life automation hardware for sorting specimens for delivery to testing laboratories
- Multi-building campus, many laboratories in an 11 story building
- Project scope limited to extramural (MML) work, but must be congruent with intramural (Mayo Clinic in Rochester) workflows.
- Limited space, budget, cost reduction over time expected



Why Project Management?



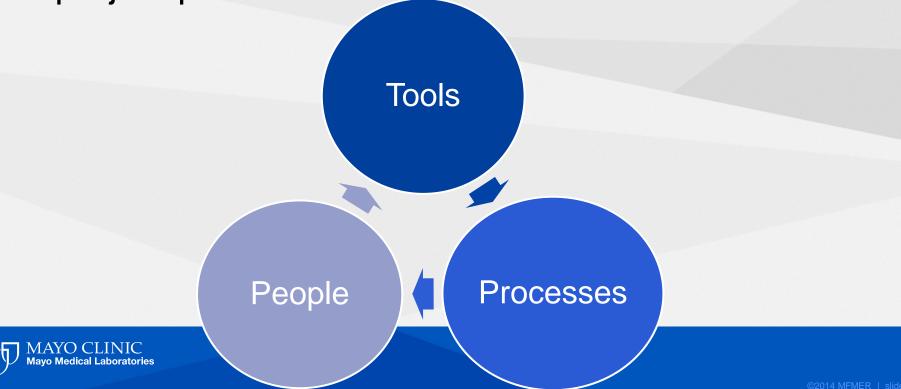


What Project Management isn't



Then What Is It?

 A structured, phased approach to completing projects that brings together tools, processes, and people to initiate, plan, execute, and close project plans.





Project Leadership Guide Checklist for use by Project Leadership team to position projects for success

			Execute	
	Initiate	Plan	(Continued planning and doing)	Close
People	Sponsor(s) identified Owner(s) identified Project Manager identified and skillset aligned with project need	Sponsors engaged Sponsors trained in PM & Sponsor Education Sponsors granted appropriate time commitment Project manager engaged Project managers trained (PM Education) Project manager granted appropriate time commitment Project has an engaged & accountable oversight committee Stakeholders and business partners are engaged Project team organization (representation) and skillsets needed identified	 Sponsors and functional leaders visibly supporting project planning for execution Project team members acquired and granted appropriate time Project team members are trained Project team members roles/assignments documented Project team understands expectations Organizational change management training complete Sponsors and functional leader visibly supporting project including removing barriers to project team is executing tasks agreed upon allocation level 	
Process	 Project aligned with MC Operating Objectives Project assigned to portfolio Approval and Funding is outlined High level project purpose clearly understood Identify Stakeholders (initial) Reference Business Plan (as applicable) Understand project roles and responsibilities 	Approval to Plan granted Approval and funding path is understood Funding approved Project organizational model created Project Management standards and tools are used Portolio's management processes are understood Project priority within overall portfolio is known Stakeholder Analysis refined Supporting areas or partners considered for appropriate levels of endorsement, support, and/or approvals (i.e. IMTAG / IT standards review, shared services, committees, etc.) Past 'lessons learned' incorporated Customer requirements/ expectations defined Interdependent projects/resources identified Benefits fully assessed and quantified wherever possible Operations Transition Plan initiated Initial project risks identified Organizational change management has started	 Project Planning finalized and set up for execution Approval to execute (proceed) granted Project status reported (as applicable) Work plan developed and agreed to Organizational Change Management plan developed and resourced Communication plans developed using organizational resources Vendor (or internal shared services) requirements documented Space and equipment allocated (co-location as appropriate) Risk management and review occurring regularly Project status reported (as applicable) Project assessment gate review in place Work Plan is being executed Organizational change management plan is being executed Frequent & Accurate Status reporting is occurring Issue & risk management process is being executed Quality management process is being executed with integrated testing team 	Coperational transition plan established and completed Final Status report completed Project results reported to applicable oversight / approval committees Lessons Learned documented
References and Process Tools	 Project Sizing Standard Portfolio Governance process (if exists) Mayo Clinic Strategic and Operating Plan Departmental or Shield Initiatives Project Charter Template Business Plan Template Stakeholder Analysis Template 	Project Charter Committee Approval Pathways EPMO PM Standards Website Project Management Plan Standard o Stakeholder Analysis Template o Cost Estimating tools Organizational Change Management Plan Vendor Contracts Statement of work (vendor or internal services) Overall and/or Vendor Risk Assessment (IAS)	Project Charter Project Management Plan Resource Assignment Matrix Resource Roles and Responsibilities Risk Management Tools Status Report Standard KS Risk Assessments	Ciosure Report Status Report Reference project documentation during project olocure: Project Management Plan Deliverables Risk Register Stakeholder Analysis and Management Plan

Case Study: How To Begin

- Clearly articulate the problem you are trying to solve
- Identify your stakeholders
- Develop business requirements necessary to solve the problem



But I Just Saw Your Slide And

• I don't have time for that





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But I Just Saw Your Slide And

- I don't have the infrastructure for that
- Who is going to do all of those things
- And besides...



I know what I want!!





Do You Really?

• Who are my customers?

Patients Clients Testing Laboratories

Providers



- Who else is impacted?
 - Accessioning upstream, distribution downstream

- How do you propose to get what you want anyway?
 - Funding, implementation, support, change management



What Do My Customers Want?

External Customers

Timely Laboratory Results

Internal Customers

More Detailed Requirements



I'm a customer too!







I'm a customer too!

- Someone needs to provide funding
- I need a place to put my equipment i.e. space
- Vendor to supply the equipment
- Somebody has to test this before I use it
- And of course, I need IT or it won't work



We Are Talking About People

- I thought this was an automation project
- You aren't talking about the equipment
- Without a common understanding amongst all stakeholders....



Common understanding



As proposed by the project sponsor



As specified in the project request



As designed by the senior analyst



As produced by the programmers



As installed at the user's site



What the user wanted



Project Roles

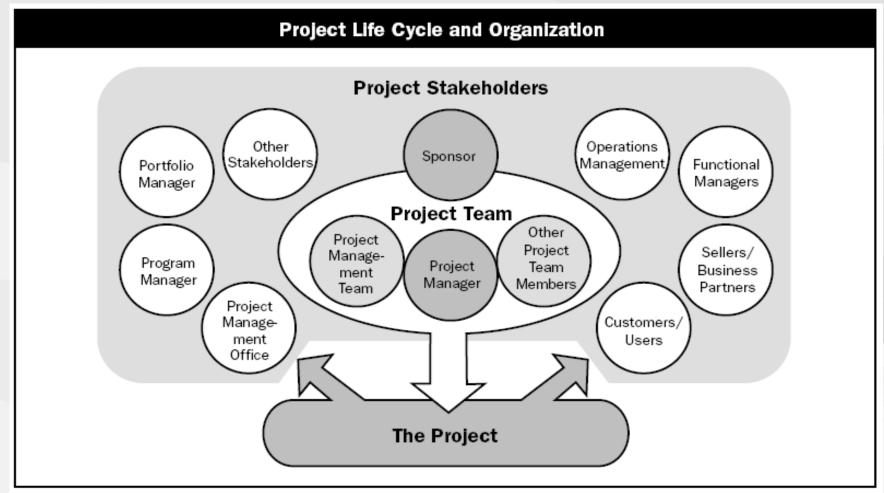


Figure 2-6. The Relationship Between Stakeholders and the Project



Another Chart (Yet Again)

- Okay, people are important, but that is way too many
- Too complicated
- Looks suspiciously like bureaucracy in a new wrapper
- May be fine for Mayo, but not my organization
- More people is not necessarily the solution...







What Do We Really Need?

- Scale the project infrastructure with size
- One person can serve multiple roles
- Some roles exist today outside of your laboratory
 - Vendors
 - Supply chain
 - Finance
- Appropriate level of engagement and coordination of effort.



Project Sponsor

Member of the leadership team

Strong interest in project success

Financial control

Charter and develop the project plan

Mentor, assist, and direct project team and project manager



My Role as a Sponsor



Administrative oversight. Formal authority and influence

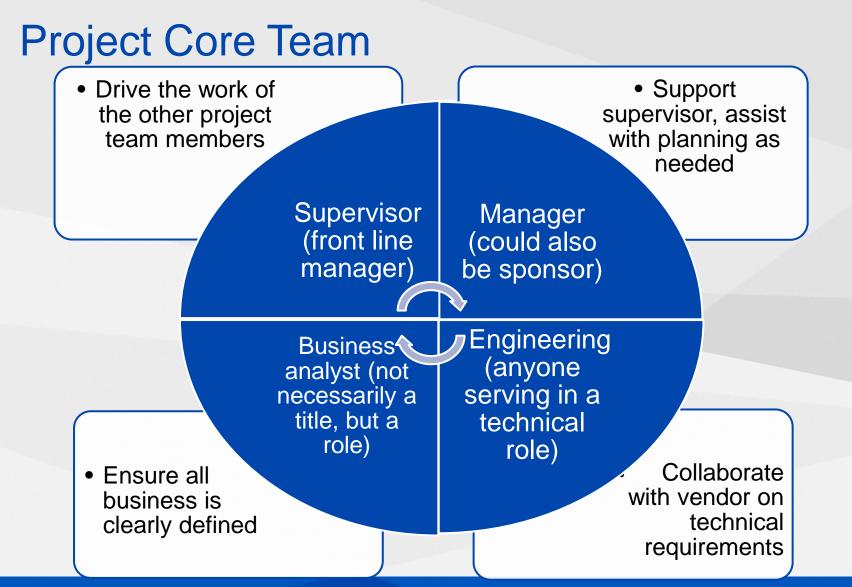
Part of the leadership team and high level decision making process

Advocate for and champion of project success

Active in developing business requirements and project charter

Part of funding authorization process







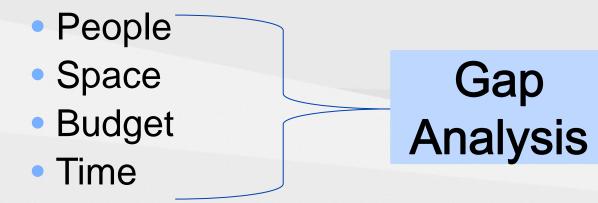
Role of Project Manager

- Directly accountable for the project results, schedule, and budget
- The main communicator
- Responsible for the planning and execution of the project
- Works on the project from start to finish.
- The project manager often must get things done through the power of influence since his or her formal power may be limited.



Project Process

- Build out project plan
- Assess available resources





Scope Is Critical





• Available resources





- Available resources
- Time to completion





- Available resources
- Time to completion
- Life cycle of completed project





- Available resources
- Time to completion
- Life cycle of completed project
- Design for purpose





- Available resources
- Time to completion
- Life cycle of completed project
- Design for purpose
- Discipline with agility





Building a Project Plan

- Outline basic problem statement
 - Sort automation is at end of life and nearing full capacity use. Need to continue to service laboratories.
- Describe initial, high level business requirements
- Estimate initial capital budget
 - Explore options with an open mind
- Identify people needed and how much time



Caution: Planning Slides Ahead





Mayo Clinic Enterprise Project Management Standards Project Charter

Denotes minimal data – Request for Approval to Initiate
 Denotes minimal data – Request for Approval to Plan
 Full Charter required for Approval to Proceed

Project Charter Reference Document

Project Name: MML Replacement of the CAM Sorters

Brief Project Description

Replacement of the current Automated Sortation System at Superior Drive based on the factors list below.

Hourly processing rates, the current system cannot manage the volumes that are currently coming off the floor. Because of this there are no expansion capabilities for expected growth.

Age of the current System, the current system is well beyond its expected life cycle in both years and system cycles.

Quality, 95% of the Automation related test cancelations are coming from the CAM sorters.

Portfolio:	▲Program:	EPMO Use Only		
Rochester		Project Number:	Project Priority No:	
▲ Project Size:	▲ Project Tier: (Represents	▲ Project Tier: (Represents level of project oversight and governance)		
Small X MediumLarge M	ega X Tier 1 (BOT, MT, EOT)	_Tier 2 (Dept./Div.)	_Tier 3 (Section/Work Unit)	

Project Approval Status						
Approvals Status (In-process, complete) Approval Person or Group Approval Da						
Approval to Initiate	Complete	<mark>▲</mark> IMPT	<mark>▲</mark> 09/05/12			
Approval to Plan	▲ Complete	IMPT & IMPC	10/08/12 &			
			10/22/12			
Approval to Proceed						



Ottat	egic Alignment		
People	Processes		
Create the healthcare workforce of the future that sustains Mayo's values (People)	<u>Transform Mayo Clinic's knowledge management and healthcare delivery</u> <u>process (Process)</u>		
 D1. Improve staff's ability to deliver high value care a. Facilities/Equipment b. Training/support for process changes D2. Implement individual provider scorecards including quality and cost metrics (outcomes, safety, service, cost, competence, adherence to standardized practice guidelines) D3. Invest in continuous staff development to improve staff satisfaction and retention D4. Increase diversity of staff and development of diverse staff D5. Improve leadership training and mentoring D6. Increase the number and skill of physicians and clinical and basic scientists engaged in generating new knowledge D7. Increase our capacity and skill in comparative effectiveness and health care delivery research 	 C1. Provide solutions and hope for patients a. Clinical Trials b. Implement Individualized Medicine into the practice c. Regenerative medicine d. Advance commercialization of Mayo discoveries C2. Standardize, improve effectiveness (outcomes, safety, service), and reduce cost a. Standardization b. Outcomes & Safety c. Service d. Manage to Reimbursement C3. Explore new payment mechanisms C4. Generate, evaluate, integrate, and manage knowledge and information a. Practice Analytics b. Information Exchange c. Knowledge Management d. Decision Support at Point of Care C5. Create global value-adding relationships, alliances, and partnerships a. Patients and Consumers b. Providers C6. Increase our offerings for health and healthy living a. Wellness for Mayo Employees b. Wellness for Patients and APN Partners c. Wellness For Patients and Services for Consumer and Clients 		

🞽 Secondary Operating Objective Optional (Choose one from above, need sub-objective where applicable): C2B

Business Need (Problem or Opportunity Statement / Background of Need)

SBAR

Situation

The Automated Sortation System at Superior Drive needs to be replaced based on the following factors: Hourly processing rates, Age of the current system, and current quality issues. This replacement has been planned for the 'ast 3 years and is now being requested for implementation in 2013.

Background

Hourly processing rates

Our current automation throughput is 3600 tubes per hour maximum. The Operations floor can process up to 5000 tubes per nour in bursts lasting up to 2 hours in duration. This is leading to delayed cycle times for tubes getting delivered to the labs. This also does not allow for any annual business growth. The plan right now calls for roughly a 5% annual growth for the next 5 years.

Age of the current system

Many parts of the current system are going on 8 years old and have far exceeded their 5 year expected life span. Beckman Coulter the maker of the Automate 2500's says that we have more cycles on our machines than any other machines in the field or machines that they have seen. Based on this at the end of this Preventative Maintenance Contract hey are no longer offering us a service plan. The CAM sorters are considered at the end of their lifecycle based on hours of "untime and number of cycles.

Quality issues

On average, Mayo Medical Lab's weekly automation through put is 115,000 samples. The average weekly volume is split 55% (Downtown Lab's samples) through the Beckman-Coulter Automate 2500 sorters and 45% (Superior Drive Support Center Lab's samples) through the Allient Technologies Group (ATG) CAM sorters. Even though there is only a 10% difference in volume, the CAM sorters have produced, over the last 18 months, 95% of the automation events that have led to test cancellations.

Assessment



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Assessment

Based on the fact that our systems are as old as they are it is just a matter of time before we start to experience large scale failures of the sorters. Add to this the fact that the vendor will not offer maintenance programs the cost to maintain the outdated systems will become prohibitive.

Replacement of the sorters won't fix the limited throughput problems that we see today. The conveyance and routing system is the limiting factor to our hourly throughput.

Based on this full system replacement is the best option.

Recommendation

After detailed evaluation of a system designed by Motoman Robotics we have determined they are the best fit. They can provide a scalable system that meets our hourly needs as well as future growth projections.

The system will include 5 sorters and all necessary routing and association hardware.

The system will sort at an hourly rate of 6000 tubes per hour and can be easily scaled up to 9000 per hour with additional hardware. Motoman who is part of the Yaskawa Electric Corporation family of companies has installed several large sortation systems in the US and has a large amount of experience with reference labs. This minimizes the risk for us and ensures that they understand our business model.

Business Value Impact

Business Value (choose only one): ____ Transform X Grow X Run

Brief Description of Business value (how transform, grow, or run):

Based on our projected growth, MML Operations is requesting to purchase a system that will increase our hourly sort throughput, improve our overall quality, significantly decreases our rate of cancelled tests, and supports a scalable increase in pre analytic volume. Estimates suggest that MML volumes will grow at roughly 5% per year for the next 5 years.

Project Value– Quantitative and Qualitative Metrics of Success

Critical Success Factor (CSF) (an objective that must be met in order for the project to be considered successful).



Project Team – Governance								
Role (Add/delete as applicable)	Name(s) (First initial. Last name, MD)	Α	R	С	I	V	D	
Executive/Physician/Owner/Sponsor/Cha Maximum of 2	mpion(s):	Dr. Alicia Algeciras-Schimnich						
Administrative Owner/Sponsor(s): Maximu	m of 2	🔤 John Butz	\boxtimes	\boxtimes				
Oversight Committee/Group(s): Maximum c	of 2	▲IMPC/IMPT DLMP Leadership			X	X	X	\boxtimes
Dversight Committee/Group Sponsor(s): <i>Maximum</i> of 2; 1 ber committee/group		Automation CCB		\boxtimes				
Required Committee Approval(s): Maximum of 3 including committees/groups listed above.		IMPC/IMPT, DLMP Leadership			\boxtimes	\square	\square	
Additional: e.g. area								
F	Project Tea	am - Management						
Role (Add/delete as applicable) Name(s) (Last name, First name		e(s) (Last name, First name, Middle initial.)	Α	R	С	I	V	D
Project Manager: Only 1	Kevin Ander	son	\square					
Business Analyst: Project dependant	TBD			\bowtie				
T/Technical Lead: Project dependant Mark Reeping		ing – Kevin Anderson		\square				
Additional: Operations Systems Support	ional: Operations Systems Support Paul Tjosaas			\square				
Dperations Management Jeff Wills				\square				
Operations Management	Josh Lee			\square				

Initial Business Partners and Resource Requirements Estimate						
Internal/External Partner	FTE needed					
(e.g. IT, S&P, QMS, Communications, Finance, EPMO)	(e.g. Project Mgr, Business Analyst, Software Architect, Analyst/Programmer)					
	Project Manager	.3 FTE for 1 year				
▲ SQA	SQA Tester	.3 FTE for 6 months				
Т	Report writer	.01 FTE as needed				
п	STS resource in case of issues (troubleshooting only)	.01 FTE as needed				

Project Financials					
Financial Return (description if not a dollar amount)	Increase of hourly throughput to meet the needs of planned growth				
	Reduction in test cancelations				
Funding Estimate					
Costs	Recommended Funding Source (if known)	Original Estimate	Budget		
▲Total Capital (C)	▲ MML Operations	\$ 1,128,000	\$2,750,000		
▲Total Operational Expense (OP)	▲ MML Operations	▲ \$143,206	\$162,000		
▲Ongoing Annual Expense (OAE)		▲ TBD			

larget limeline Estimate					
Description	Start Date (mm/yyyy)	End Date (mm/yyyy)			
Estimated Project Timeline Requested by Proponent	09/2012	2/2013			
Overall Project Timeline	09/2012	12/2013			
Initiation	09/12	11/12			
Planning	11/12	01/13			
Implementation	02/13	10/13			
Run in production	10/13	12/13			

Initial Risks - Threats and Opportunities

Risk – We may be the first company to implement the new Motoman series 4 sorters. There is a risk that the sorters will not perform as designed. - Low probability. Low impact as company will be contractually obligated for delivery requirements. Risk – A catastrophic failure of one or more of the existing sort units if this project is not approved. Low to modest probability.

Risk – Implementation timeline may be affected by available vendor resources.

Risk - If we don't proceed with this project cycle time and quality will continue to be an issue that compounds with volume growth



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Risk – If we don't proceed with this project cycle time and quality will continue to be an issue that compounds with volume growth

Opportunity – Increased capacity and throughput in the same or smaller footprint with no increase in FTE. – High probability

Project Interdependencies and Interrelationships

We are planning to design the software to be autonomous same as it is today.

May share resources with the Auto Aliquot Project.

If the LED table project can be worked on early next year

Assumptions and Constraints

SQA resources may be a constraint

Priority (Quality is assumed. Rank in order of priority.)						
	Least flexible ←					
	1	2	3			
Scope Priority: 1		Schedule Priority: 3	Budget Priority: 2			

Estimated Organizational Change Impact (Stakeholders)

Types of Change: (List all of the following that apply: Organization / Governance, integration & Standardization, Process & Procedures, Policies, Practice Models)

Staff / Groups Affected by the Change (e.g. Patients, physicians, clinical, research, education,	Impact High, Medium, Low	Impact Description
administrative, facilities, nursing, outpatient, inpatient, etc)		
Project Impact – Patients	Low	Should only be an improvement to delivery time
Project Impact – Physicians	Low	Should only be an improvement to delivery time
Project Impact – Allied Health	Medium	Without adequate sort capacity FTE's would have to be added or delivery times would be delayed
Project Impact – Other Areas	Low	TBD
Other areas description: Laboratories		

Ongoing Operational Owner

Josh Lee MML Specimen Distribution

Additional Information (Optional)

Links to Relevant Documents (Optional)				
Document Name (e.g. Business Plan, Stakeholder Analysis, FEA, Communication Plan)	Document Location/Hyperlink			

Revision History					
Date	Date Version Synopsis of Change				
08/13/2012 1.0 Initial Release					

Please contact a member of the EPMO with any questions – EPMO@mayo.edu



One last word about planning





Beware!! Scope Creep Lurks!





Business Requirements



Technical requirements

Operational requirements



Our Questions To Consider

Customized v. standard

Configuration of standard equipment

Flexibility

- Conveyance
- Setup changes
- Future laboratory needs

Supplier stability and organizational fit



For Our Particular Needs

Vendor	Conveyance	Operational Flexibility	Design readiness	Software Support
A	No	Good	Yes	Yes
В	No	Fair	Yes	Yes
С	Some	Fair	Yes	Unknown
D	Yes	Good	No	Yes, with risk
E	Yes	Excellent	Yes	Yes

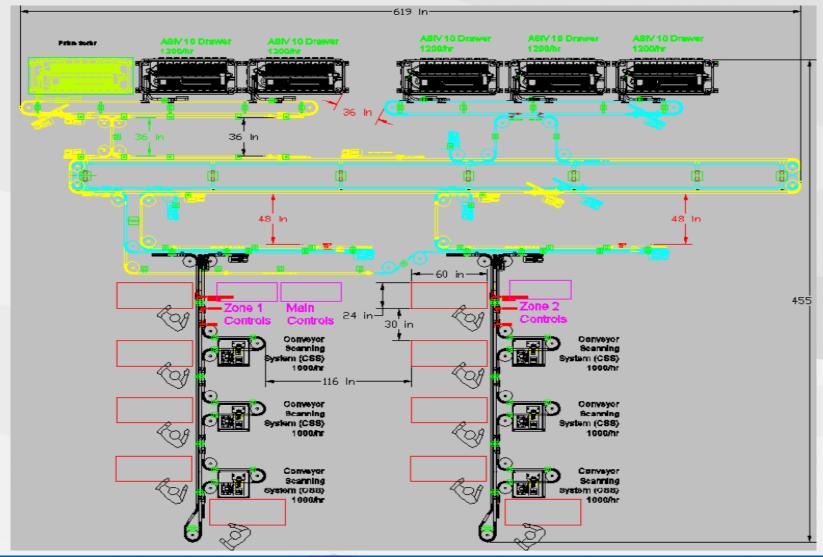


Project Execution

- Vendor engagement
 - Counterpart PM, business requirements
- Secure final approval for funding
- Communicate plans back to stakeholders
 - Pay careful attention to work handoffs
- Ensure directly impacted staff are included and kept up to date



Agreement On Product





Keep the Dialogue Going

- Regular updates with project team, vendor, stakeholders
- Identify problems or gaps early on
 - Here is what we are doing, here is what we found
- Manage risks in appropriate order
 - Don't try to solve everything at once
 - Anticipate discovering new risks along the way



Business Readiness

- Testing on-site prior to sign off
- Train users before equipment ships
- Changes in process flow are documented and communicated
- Stakeholders understand risks and mitigation plan during final implementation
 - 100% manual sort during installation
- Set realistic goals



Automation Pictures







Automation Video

<u>Automation Factory Testing</u>



Key Takeaways

- A project management approach requires upfront investment
- Stakeholder analysis and scope need to be defined before a project plan
- Project plans provide a timeline and discipline to maintain budget
- Project manager coordinates effort and communication among project team and stakeholders



Acknowledgements

- Jim Strong, Brian Kelly, DLMP PMO
- Kevin Anderson, Project Manager
- Josh Lee, Supervisor
- Jeff Wills, Operations Manager
- Val Nelson, Paul Tjsossas, Engineering
- Mark Reeping, Business analysis
- Yaskawa Robotics





Questions

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