Improving Collins Aerospace's Quality Clinics to Meet Quality Clinic System Certification Requirements

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Capstone Design Project II IE4995-39 | SP 23
Sponsor: Eng. Edidia Davila
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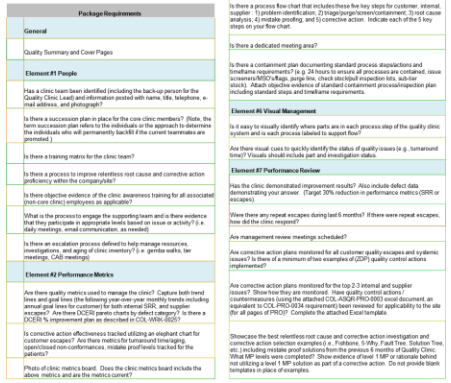
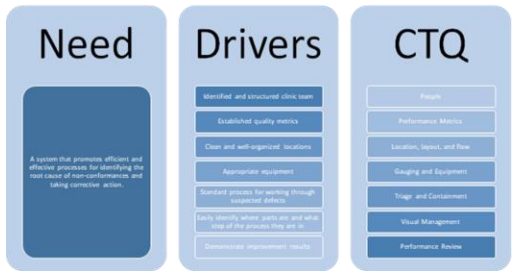
Collins Aerospace is a technology corporation that specializes in aerostructures, avionics, interiors, mechanical systems, mission systems, and power and control systems. They provide services to six different sectors, including airports, helicopters, space, business aviation, military & defense, and commercial aviation. Almost 2.5 million Collins Aerospace parts are in the air daily. To ensure high-quality products and safety, Collins Aerospace devised a Quality Clinic System and Certification system, which all locations must comply with to continue their operations. Despite of this, only 72% of the Santa Isabel facility's certification requirements had been met, which led to the creation of a DMAIC project with the goals of increasing compliance to 100%, reducing scrap, rework, and repair, and increasing customer satisfaction by 20%.

DEFINE

During the Define phase the team defined the project's objectives, identified important metrics, produced problem and goal statements, built a CTQ Tree, finished a Stakeholder Analysis, put together a Gantt Chart, spoke with quality engineers, and wrote a Project Charter to secure the project approval.





Project Charter				
Project Title:	Improving Collins Aerospace's Quality Clinics to Meet Quality Clinic System Certification Requirements			
Project Team		**Stakeholders**		
Role	**Name**	**Role**	**Name**	**Contact**
Project Sponsor	Edidia Dávila	Senior Quality Manager	Glendaliz Rivera	glendaliz.rivera@collins.com
		Quality Manager PR5/PR6	Wigberto Robles	wigberto.robles@collins.com
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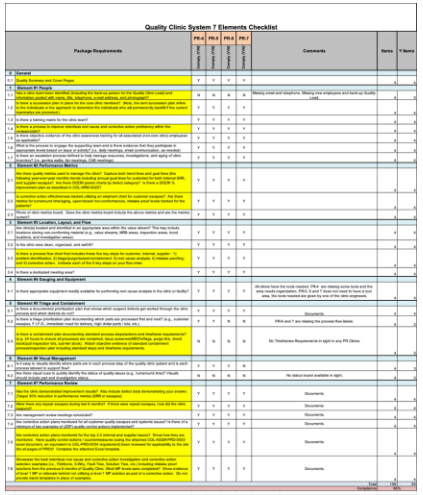
	Stephanie Muñiz	Operations Manager	Jean Bonilla	jean.bonilla@collins.com
		Operations Manager	William Cabeza	william.cabeza@collins.com
Problem Statement		**Goal Statement**		
The Collins Aerospace PR-4, PR-5, PR-6, and PR-7 Quality Clinics at Puerto Rico have been meeting minimum requirements for the Quality Clinics Certification for years. The clinics currently meet 72% of the requirements for the 7 elements of the Certification: (1) People, (2) Performance Metrics, (3) Location, layout, and flow, (4) Gauging and Equipment, (5) Triage and Containment, (6) Visual Management, and (7) Performance Review. This has resulted in an increase in Scrap, Rework, and Repair expenditure and threatened customer satisfaction.		Increase the percentage of compliance with each of the 7 elements of the Quality Management System Certification from 72% to 100% to reduce Scrap, Rework, and Repair by 20% and increase customer satisfaction in the next 6 months.		
Financial Impact	Currently, the Collins Aerospace quality clinics in Puerto Rico spend $964M in Scrap, Rework, and Repair. Meeting the requirements for the 7 elements of the Quality Management System Certification will help reduce this number by 20% which could result in spending of $770M, instead.			
Scope		**Project Plan**		**Dates:**
The 7 elements (People, Performance Metrics, Layout and flow, Gauging and Equipment, Triage and Containment, Visual Management, and Performance Review) of the Quality Clinic Certification for PR-4, PR-5, PR-6, and PR-7.		Start of Project		12-Oct
		End of Define		17-Oct
		End of Measure		10-Nov
		End of Analyze		19-Dec
		End of Improve		18- Ene
		End of Control		15-Feb

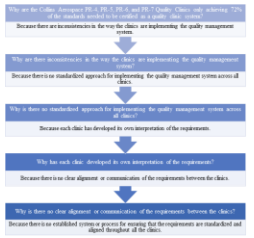
MEASURE

During the Measure phase the team concluded that the quality clinics only conformed with 72% of the requirements after organizing a checklist, conducting a Gemba Walk, and comparing the checklist to the Voice of Customer data.



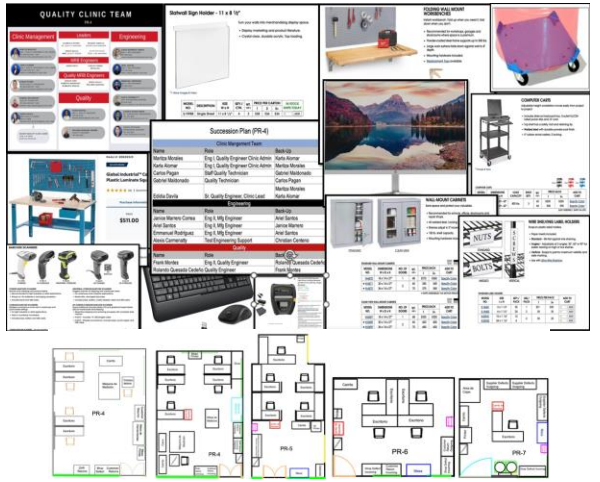
ANALYZE

In the Analyze phase, the team examined the data that had been gathered, investigated the root causes behind the problems, produced some possible solutions, and created a mind map to help us visualize the issues that needed to be addressed.



IMPROVE

During the Improve phase the team assembled a variety of potential enhancements improvements, chose the best possibilities, and carried out a cost-benefit analysis to highlight the advantages of the suggested solutions.



By effectively increasing compliance from 72% to 100%, our DMAIC project was able to significantly reduce spending on scrap, rework, and repair. The organization was spending 964 million dollars on these efforts before the project. However, the corporation will only spend 770 million dollars in the next 6 months, saving a total of 194 million dollars thanks to increased compliance levels after it was finished.

CONTROL

During the Control phase the team established a description of the anticipated process flow, implemented continual measurement, and maintained long-term continuity of all changes.

TEAM MEMBERS