

# INDUSTRIAL, MANUFACTURING, & SYSTEMS ENGINEERING

## CAPSTONE PROJECT /INTERNSHIP SUMMARY



**Your Name:** Cristina Enriquez, Edgar Lopez, Georgina Dominguez

**Type of Capstone (research, teaching, practical application):** Practical application

**Capstone Project Title:** Standardization of operations in production line #1

**Year and semester:** Spring, 2016



### INTRODUCTION

- The team work on Coca Cola Refreshment developing new standards and/or improving the ones already in use for the operators in every station of the can line. By developing this new standards, the team create new paperwork on every station and help on the continuous improvement of each work station by adding new tools for the operator and actualizing the existing visual aids.
- The team goal was to standardize the processes of the worker on each station in the process line, while elimination non-value added activities and improving each worker's efficiency by at least 5%, and consequently the production line efficiency. The goal of incrementing the efficiency by at least 5% on every station were achieved for 2 of the stations on both shifts, for one of the stations in one shift, and for other of the stations it wasn't achieve. However, efficiency was incremented in every station at least 2%.
- The purpose of this project was to create a standard for each operation, stablish what are the operations each operator should develop and given the new standards establish an easier way of teaching new employees its work.
- A company as big as Coca Cola, should have a standard on how doing things. Moreover, this is a company that work whit aliments, so working without order is not a proper way of doing things. Taking this project is a great way of learning what industrial engineer is about and helping a great company as Coca Cola.
- The team follow a PDCA approach which stands for Plan, Do, Check, Act. This approach gives the team an organizational order of the project by first observing what were the operations the operator perform and how to improved. The doing all the new documentation in order to improve the worker performance and implanting. Later checking the implementation and if it works. Finally, checking everything to work in order with what is plan.

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### PROJECT OUTCOMES

- There was an improvement on both 1<sup>st</sup> and 2<sup>nd</sup> shifts efficiency on the Depal/Palletizer operator. On both of them at the first time study before implementation the result of the efficiency was of 54%. However, both shifts increment their efficiency by at least 5% which was the goal stipulated at the beginning of the process. The first shift after implementation gave a total efficiency of 60% which demonstrates an increment of 6% on the total efficiency. The second shift after implementation gave a total efficiency of 70% which gave the higher increment of the efficiency with an increment of 16%.
- There was an improvement on both 1<sup>st</sup> and 2<sup>nd</sup> shifts efficiency on the Filler operator. On both of them at the first time study before implementation the result of the efficiency was of 81% that was a pretty acceptable number. However, both shifts increment their efficiency by at least 5% which was the goal stipulated at the beginning of the process. The first shift after implementation gave a total efficiency of 86% which demonstrates an increment of 5% on the total efficiency which was the exact goal. The second shift after implementation gave a total efficiency of 94% which gave the higher increment of the efficiency with an increment of 13% and meets almost the goal of any work station and operation, that is 100% efficiency.
- There was an improvement on both 1<sup>st</sup> and 2<sup>nd</sup> shifts efficiency of the Riverwood packer. On the first shift the efficiency was of 60% and on the second shift efficiency was of just 52%. Even that just the second shift increments their efficiency by at least 5% which was the goal stipulated at the beginning of the process, at the end both shifts are up with the same total efficiency. The first shift after implementation gave a total efficiency of 62% which demonstrates an increment of 2% on the total efficiency. The second shift after implementation gave a total efficiency of 62% which gave the higher increment of the efficiency with an increment of 8%.
- There was an improvement the 1<sup>st</sup> shift efficiency of the Douglas packer. The first time study before implementation shows an efficiency of the 56%. However, incrementing the efficiency by at least 5% which was the goal stipulated at the beginning of the process wasn't met. The first shift after implementation gave a total efficiency of 58% which demonstrates an increment of 2% on the total efficiency.
- There were several benefits for the client, creating a better paperwork and standardizing operator operations will give them the possibility of incrementing efficiency. Moreover, as a training tool for new employees, will reduce the training time. At the end these two benefits translate on less costs for the company.
- As the team said before, the implementation of new paperwork, will help on many aspects to the company. Given them the opportunity of knowing exactly what are the workers' duties will make easier continue with improvements on their lines.

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### **INDUSTRIAL ENGINEERING PROGRAM ASSESSMENT**

- The two things we enjoy the most were having an opportunity of knowing what real world is and not just knowing the theory by working with a company as Coca Cola and knowing how a production line work.
- It will be a great experience for future works as an industrial engineer on how to make professional projects and not just working with what we already know, but always innovate and improve.