



AASTU

Internship Report

**College of electrical and mechanical
engineering**

**Department of Electromechanical
Engineering**

Title: Reducing Waste and Increasing Efficiency
with a Reusable System for Mislabeled Rejected
Bottles



GROUP MEMBERS

ID

Yohanes Geremew	ETS0691/12
Amanuel Minale	ETS0086/12
Melke Reda	ETS0876/12

Advisor: Abera Mulatu
ADDIS ABEBA, ETHIOPIA
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Content

Introduction

0
1

About the
Internship

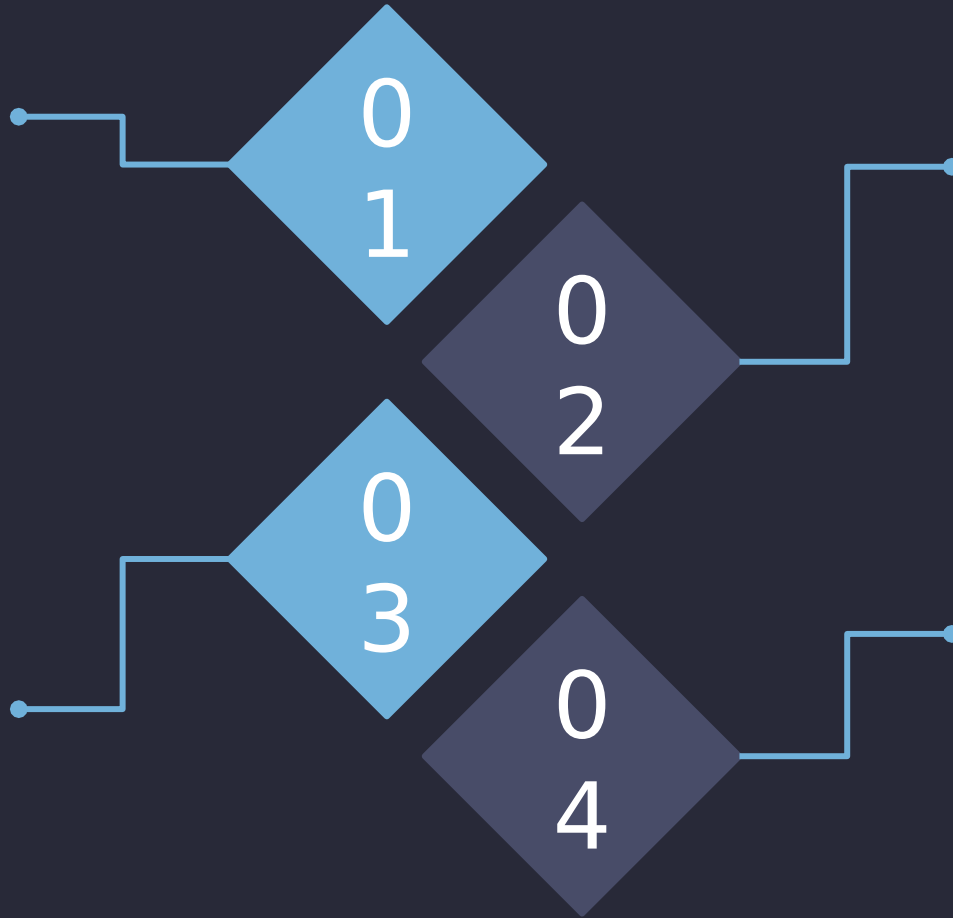
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About the
project

0
3

The Project

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4



Historical Background of HBSC

Heineken was
founded in 1864
by Gerard Adrian
Heineken



- Have over 165 breweries in more than 70 countries
- In 2011, Heineken acquired Harar and Bedele Breweries
- Have over 165 breweries in more than 70 countries
- over 90% of its raw materials come from Ethiopian suppliers

Mission and Vision



Mission

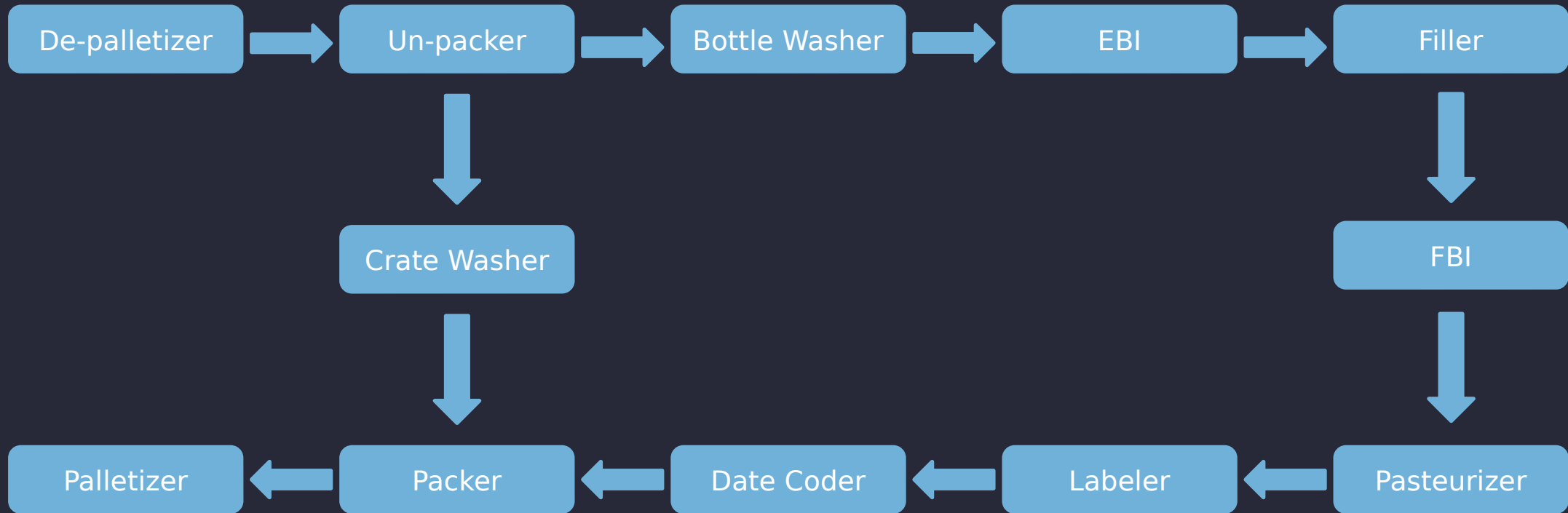
To deliver consistently high-quality products, on time in full, at the lowest possible cost, adapting to changing market circumstances, while working safely and engaging our people.



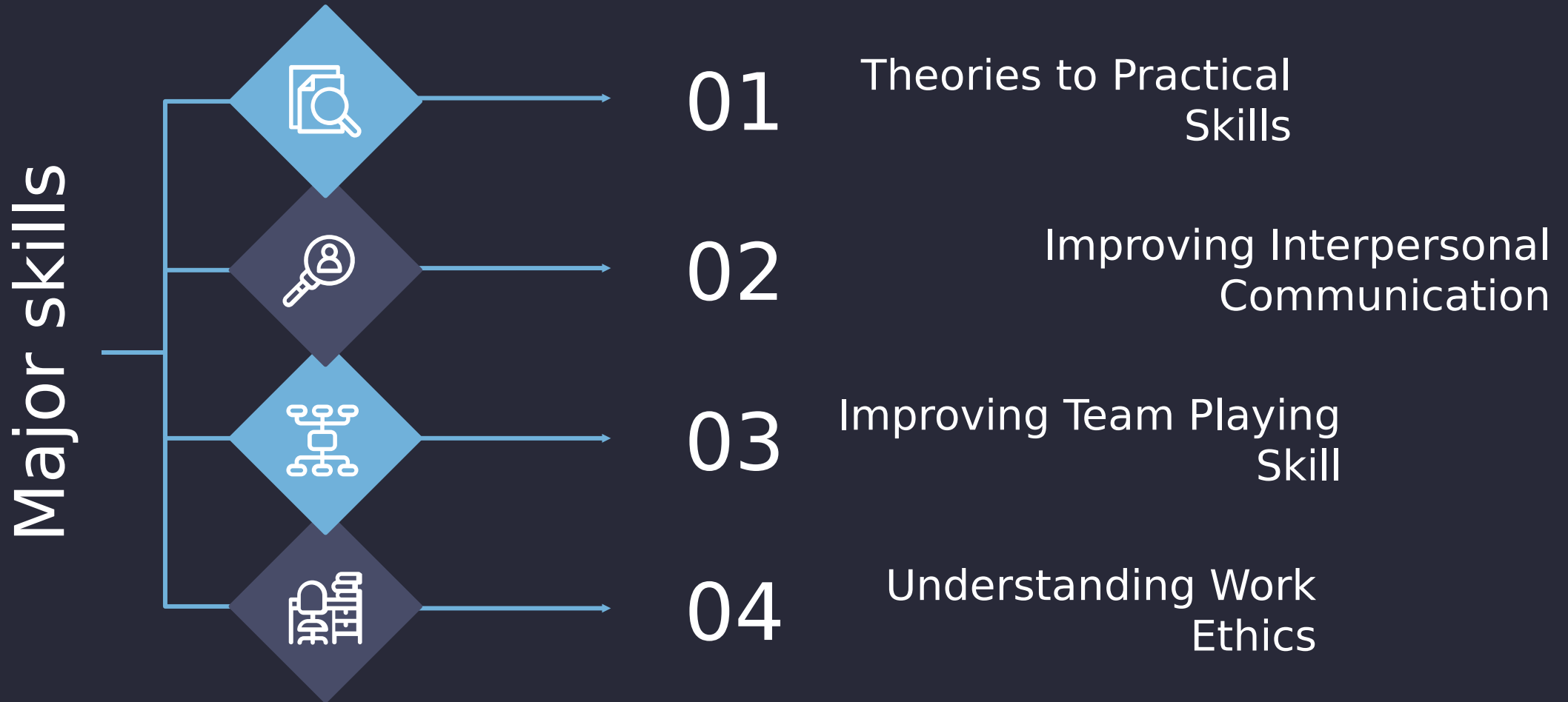
Vision

To be a reliable and competent brewery Organization in meeting customer's demand

Packaging



Overall experience



Mejor activities



July

Working principles of the machines. And reporting



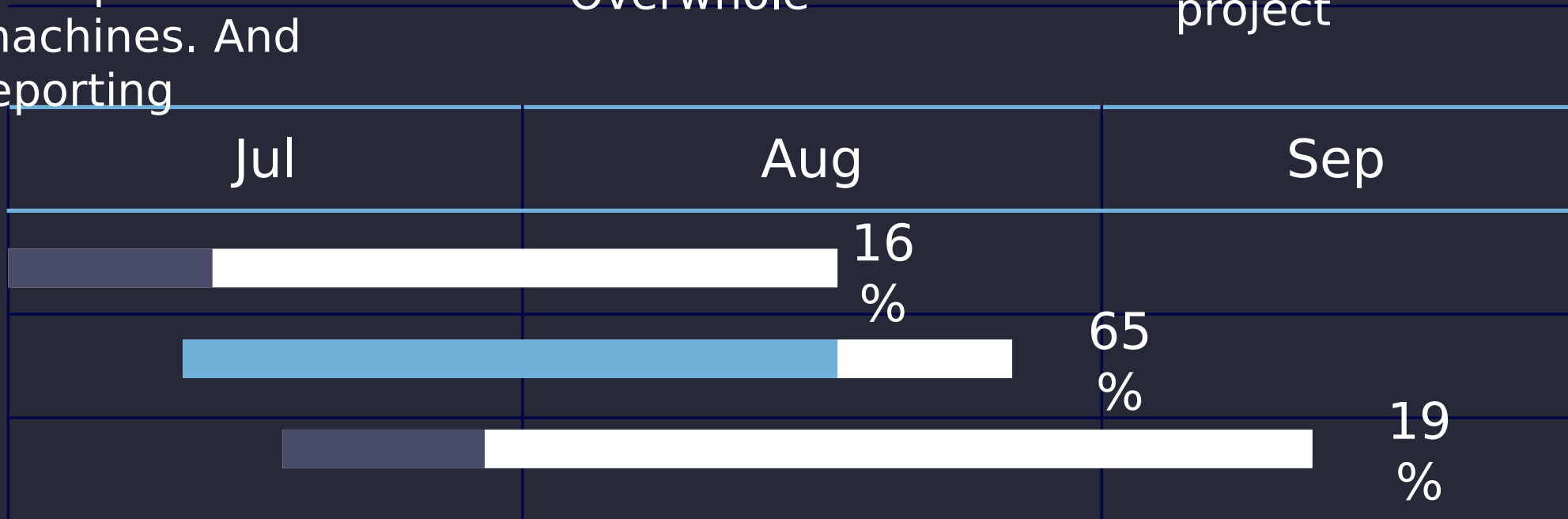
August

Working on Overwhole



September

Working on the project



Challenges

Challenges We Faced During Internship			
01		Skills	Unfamiliarity with the latest machines
02		Experience	Difficulty in accessing internal components
03		Learning	Limited access to Technicians

Objectives

General Objective

- Reducing Waste and Increasing Efficiency with a Reusable System for Mislabeled Rejected Bottles

Specific Objectives

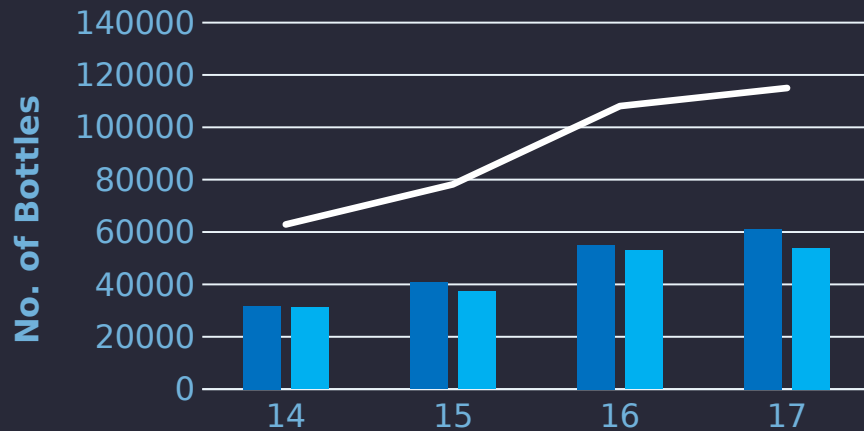
- Create a system that is affordable and easy to maintain.
- Reduce the number of mislabeled bottles that are discarded.
- Improve the efficiency of the bottling process.

Solution

Problem



REJECTION CHART



Solution

The proposed solution is to improve the original machine by adding an extra pusher and conveyor that specifically rejects mislabeled bottles.

Basic Materials



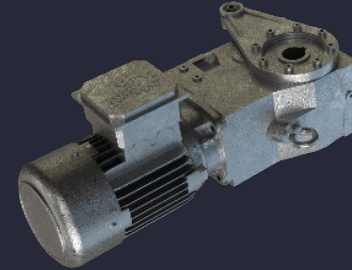
Pusher



PE sensor



Coaxial
cable



Motor



PLC



Conveyor



Base

Methods

- Conduct a survey
- Analyze the data we gathered
- Develop a systematic diagram
- Figure out the materials we need
- Draw the wiring and PLC connections
- Develop a prototype

Implementation

Step 01



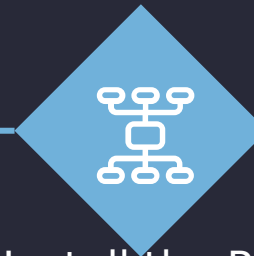
Design the system

Step 02



Modify the Checkmat machine

Step 03

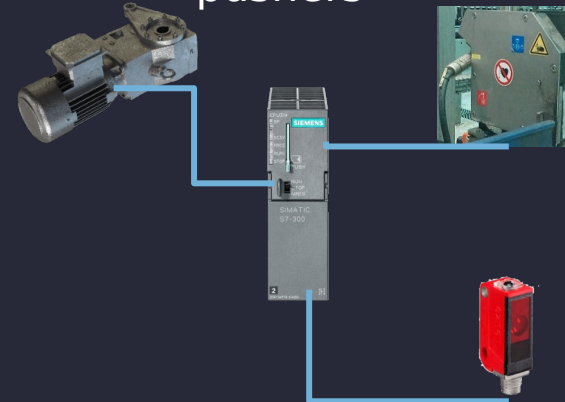
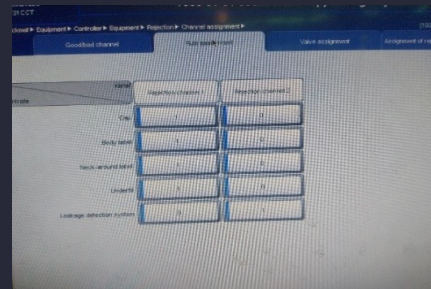
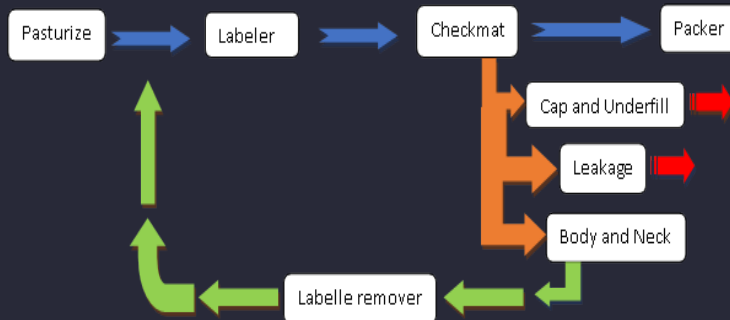


Install the PE sensors and pushers

Step 04



Integrate the system with the existing bottling line



Conclusion

- Valuable and rewarding internship experience
- Learned the importance of cooperation and communication in teamwork
- Learned complex technical concepts regarding operation and maintenance
- Saves time and resources

Recommendation

- Mentorship program
- Surplus components
- Waste reduction

THANK YOU

