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# World's Finest Chocolate Automated Palletizing System

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Sam Kuehl, Craig Peterson, Jacob Roberson

## World's Finest Chocolate Automatized Palletizing System



Client: World's Finest Chocolate, Chicago, IL

### Problem Statement

- WFC currently hand stacks or uses a suction cup device to stack pallets of finished goods
- Leading to strain on employee's backs, arms, and hands, which can result in recovery time off of work, medical bills, and poor pallet stacking

### Objectives

- Identify the various technologies of palletizing systems including robotic, conventional, and hybrid based systems
- Identify pro and cons to each technology as it applies directly to WFC
- Provide technical layouts and cost estimates for equipment and installation

### Constraints

- Surrounding area of production lines
- Height of ceiling around production lines
- VS1 capable of handling 30 cases per minute
- VS2 capable of handling 4 cases per minute (2 systems needed)
- Access to VS1 "supermarket"



Floor level palletizing system



Robotic palletizing system

### Methods

- Develop a Decision Matrix to determine the best solution for an automated palletizing system
  - Floor Level
  - High Level
  - Robotic
  - Hybrid

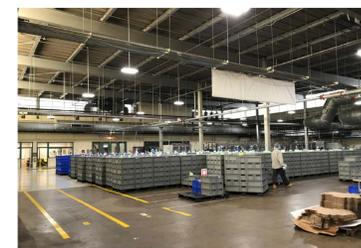


High level palletizing system



Hybrid palletizing system

1. VS1 (Value Stream 1) - Packaging line for fundraising product
2. VS2 (Value Stream 2) - Packaging line for Queen Anne (chocolate cordial cherries) product
3. VS1 "supermarket":



### Major Outcomes

- Determine the best possible solution of automated palletizing systems for World's Finest Chocolate.
- Provide cost estimates for equipment and installation
- Make recommendation for proposed solutions and rationale for recommendations
- Measures of success: Improvement will be measured by comparing improvements from old systems vs new systems

### Benefit to Client

- Minimize shipping/warehouse damage
- Minimize risk of injuries
- Reduce number of defected pallets
- Cost savings on training, labor, warehouse space, and time

### Proposed Solutions

- Create a facility design layout using AutoCAD software to illustrate the implementation of the ideal palletizing system for each production line
- Floor level palletizing system
- High level palletizing system
- Robotic palletizing system
- Hybrid palletizing system