Plant Redesign for Efficiency and Safety Improvement

Overview
TMP Manufacturing Company (TAFCO) is a company that been producing custom-made walk-in coolers and freezers for over 60 years. The company currently operates in a building that is 115 years old and therefore is relocating their current facility to a new 100,000 square foot building. The company believes that the process flow can be more ergonomic and efficient. Redesign of the interior layout of the plant was needed.

Objectives
To redesign the current plant layout using AutoCAD for their new manufacturing plant to improve process' efficiency by improving the process ergonomically, by minimizing the amount of lifting motions and walking distance done by employees.

Approach
- The team visited the current plant multiple times to get familiar with the manufacturing processes
- The processes were videotaped at each workstation to use as a reference while creating the new layout
- After evaluating customer needs, it was decided that the new layout be designed around improving safety and efficiency.
- An initial first draft of the layout was made using AutoCAD
- Modifications to each draft created was made depending on the feedback given by the sponsors
- A final redesign layout was created

Outcomes
- The new layout reduced the walking distance of employees by 450 ft/production cycle
- It saved 3.75 hours/day (assuming 5ft/sec walking time & 150 cycles/day)
- The new layout eliminated lifting in pre-processing by extending conveyor and relocating tables
- The shipping/receiving area was relocated to the same side to improve process flow
- Storage space was optimized and increased