

Company Background

Sweetwater Valley Farm is a dairy in Philadelphia, Tennessee. The dairy was started in 1917 and since then has grown to 1500 cows and recently they became the first dairy in Tennessee to milk 500 cows with Robotic Technology. They started producing cheese using milk from their dairy in 1998.

Project Background

UT Food Science Dept. has worked with Sweetwater for years and created the "Power T" cheese as a scholarship fundraiser. Our design team is the next phase in the overall project with the following goals for the cheese production process.

- 80% increase in cutting and packaging capacity
- 50% decrease in cycle time of cutting "Power T" cheese
- \$160,000 increase of added value and cost savings



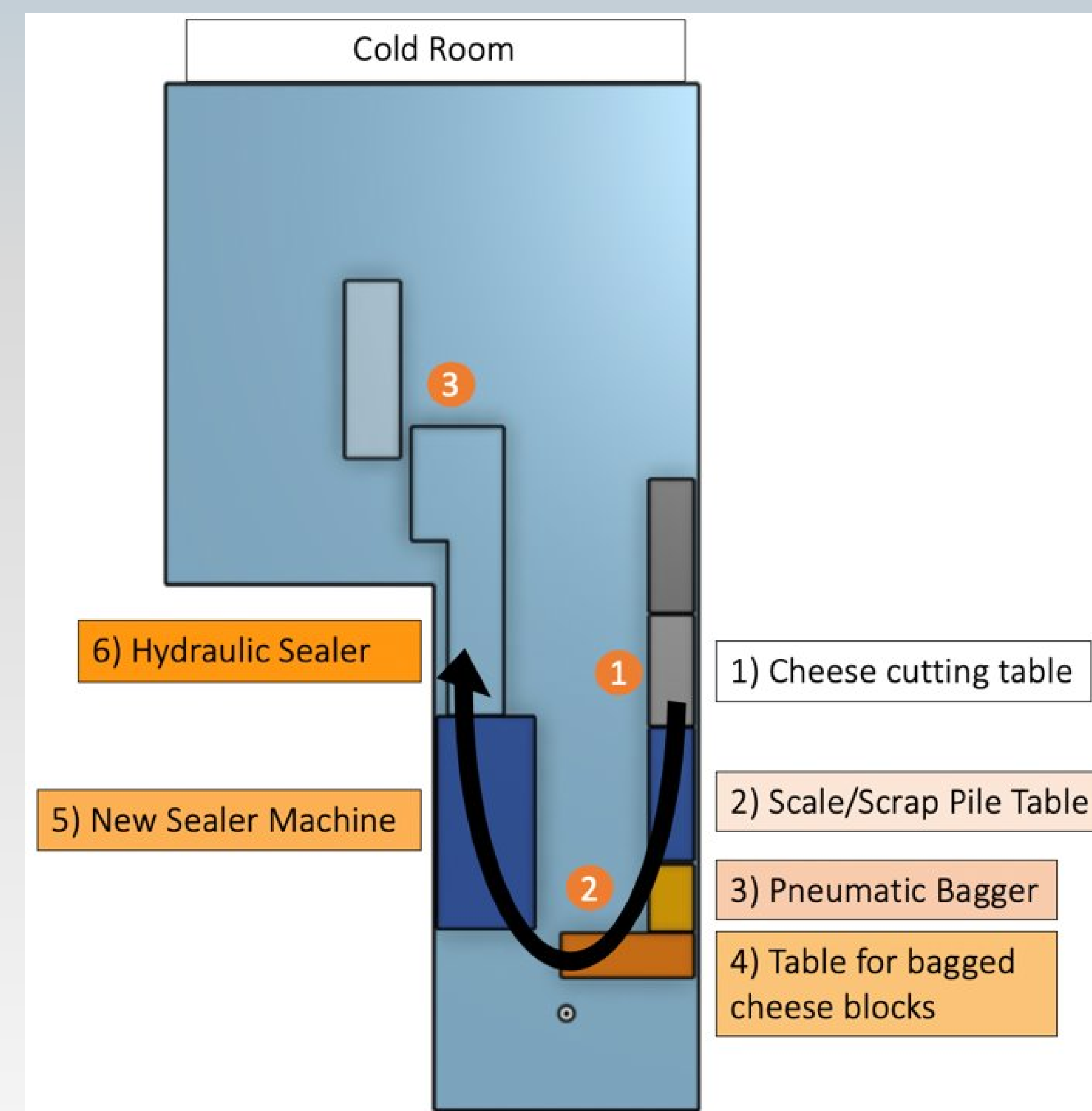
"Power T" Cheese

ISE Tools

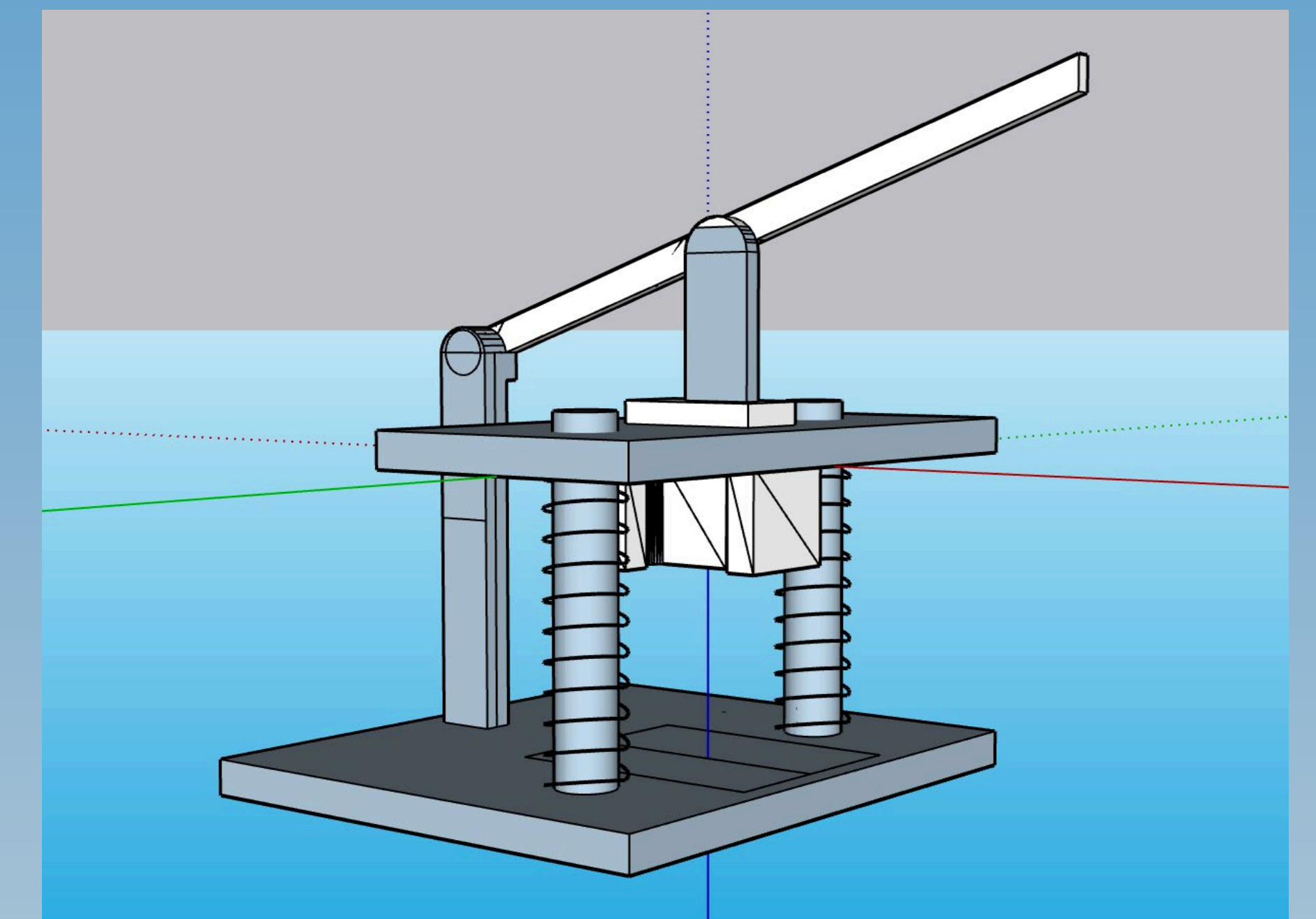
- Time Studies/ Value Stream Mapping
- Simulation
- Human Factors
- Process Improvement/ Lean Techniques

Project Steps

We started by conducting a time study and created a value stream map and simulation, Identified areas of improvement for the "Power T" cutting press and for the floor layout of process.



Future State Layout



Proposed "Power T" Press

Conclusion

Based on our VSM and Simulation the Sealing machine is the bottleneck. After conducting a Multi-Criteria decision-making matrix, we identified the best replacement for the sealing machine. The new machines requires an initial investment of \$77,000 but has an IRR of 15% over the next 5 years.

We designed a floor layout that reduces material handling time.

We designed a press to supplement the current "Power T" cutting device that will reduce the amount of strain on the operator and improve cycle time.

Summary

- Increased cheese production
- Reduced material handling
- Added capacity to the "Power T" cheese