Optimizing Functional Lab Space

Overview

Corning Inc. was looking to optimize their lab space and make it more functional. In the lab, engineers and technicians perform several types of tests to check for different properties to make sure they are of proper quality. There are many different tools and machines that are used to perform these tests, including furnaces, annealers, dry cutters, presses, and scales. The layout of the lab does not utilize standard facility layout design practices such as cellular arrangements or machine clustering, and thus has many areas in need of improvement.

Objectives

The objective of the project was to create a more organized, functional, and appealing lab facility. Our tasks include learning and understanding the purposes and processes for all of the different machines and equipment; analyzing the different processes that are performed in the lab; and lastly, designing a new layout that better utilizes the existing lab space while working within the constraints of the lab.

Approach

- Collect data and information about current layout during 1st on site visit
- Create a Visio drawing of the current Layout
- Estimate travel distances between common travel paths that were established from our first site visit
- Based on the analysis and the given constraints the team redesigned the space
- Create 3 Visio Layouts for sponsor to revise and then made adjustments accordingly
- Develop a final layout based on cellular manufacturing principles

Outcomes

- 30% decrease in distance traveled
- 21% average increase in machines per sq.ft
- Doubled number of simulation machines
- 12% increase in hood utilization