Overview:
The pump and the shell drive assemblies are processes that can be improved if some changes were implemented to the current facility layout. Currently, the layout, the batching rule, and the number of test stands are not optimal as there are several areas that include a significant amount of waste that can be reduced. As provided, the test stands are the bottleneck of the current process, thus investigating the appropriate number of stands needed to reduce the impact of the bottleneck is necessary.

Objectives:

The group's main objectives:
• To suggest a new facility layout that incorporates both current and future test stands
• To analyze how Future Test Stands, with different batching rules, will impact pump production.

Approach:

• The team gathered the processing times from Scientific Systems and used them to create a simulation of the process
• Time studies were conducted to capture the process flow and detect areas of improvement
• The team visited the facility to obtain an accurate depiction of the layout and get the required measurements
• The team created an adjacency table to rank the relationship between workstations
• A simulation was done to determine the ideal number of test stands that should be used at the facility by examining the point in which the process reaches the steady state

Outcomes:

• 3 Future Test Stands should be used while producing 100 M1 pump types.
• Drive, pump, and shell assembly are produced in batches of 50, 10, 10 or 50, 4, 10 respectively