Overview
Speeco currently manufactures agriculture jacks at Changzhou Inter Universal in China. This facility has no knowledge of their production capabilities or concern for quality assurance. Students will evaluate efficient means of continuous flow manufacturing and establish entry level quality management.

Objectives
- Study and model potential production systems for CIU
- Establish measures to begin data collection for a quality control plan
- Recommend the most efficient production system and an effective quality assurance plan

Approach
- Perform time study to collect data on each task’s duration
- Analyze all data collected for continuity and assign representative distributions for input into simulation
- Design multiple manufacturing scenarios based on number of workers available
- Use Rockwell Software’s Arena for discrete event simulation, modelling each scenario and comparing it to the current system’s capacity
- Perform FMEA to conclude the top events critical to quality for the assembly
- Conduct EWMA to establish control charts for the process and each step
- Elaborate on further data collection for both EWMA, FMEA, and manufacturing systems

Outcomes
- New, standardized process increased production by an average of 15.53% per day
- Established production capacities allow facility to accurately forecast schedules, orders, and capabilities.
- FMEA illustrates assembly steps that are crucial to quality and likely culprits of disruptions.
- EWMA charts allow for early indications of disruptions to quality or production capacities.