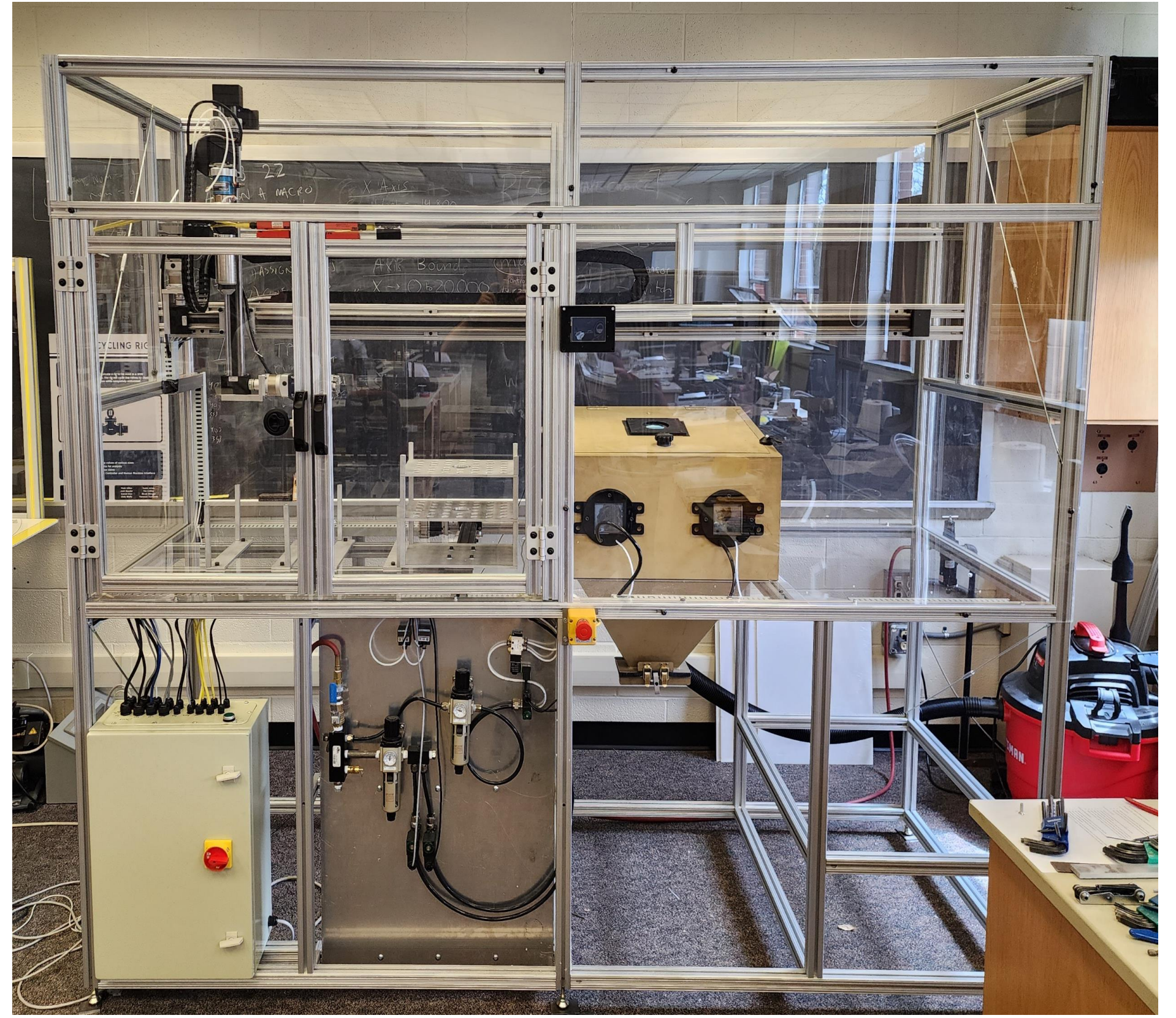


Project Overview

Yates Precision Manufacturing commissioned a senior capstone design project to design and build an automated unit for sandblasting safety razor components. YAMS picks up nested safety razor components from trays, moves them to the sandblast cabinet, blasts them, then returns them to the tray and moves onto the next part.



Stations

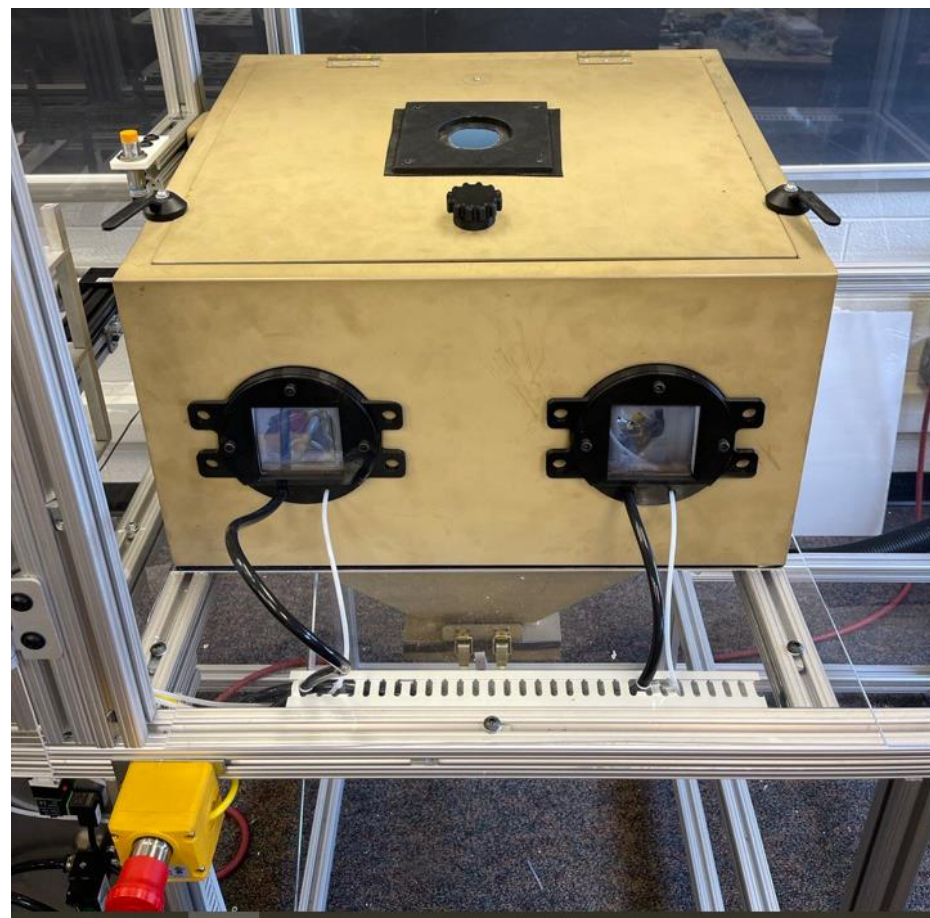
Tray Load/Unload

Simple and effective trays to house top caps, baseplates, and handles



Sandblast

Cabinet holds sufficient media, seals with gripper, houses guns, and allows for easy access for customer



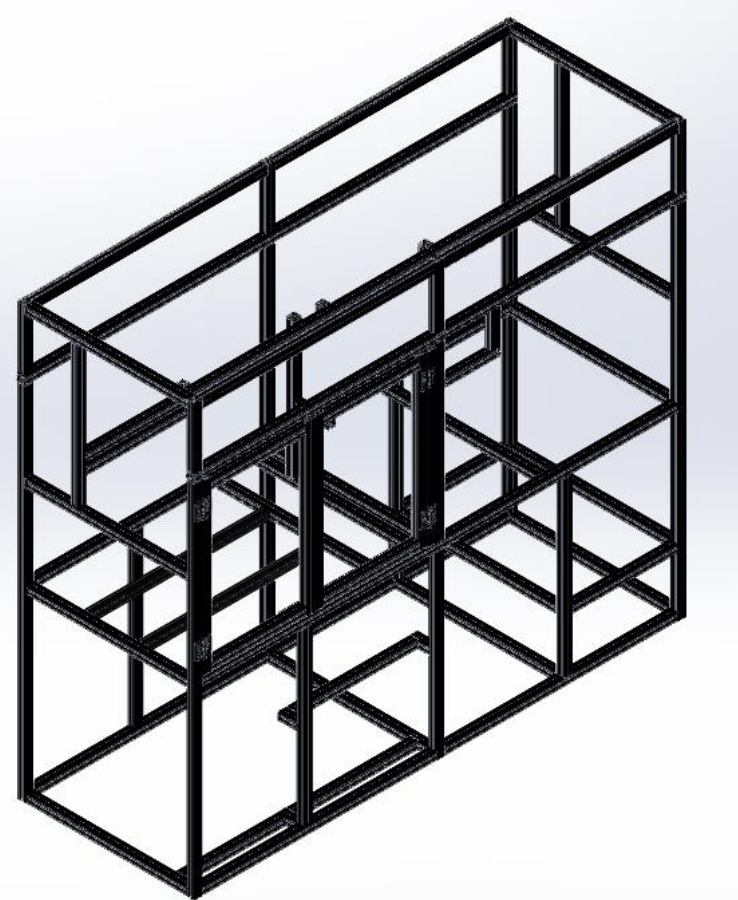
Pick and Place/Gripper

Transports parts between the trays and the sandblast cabinet
Gripper picks up each component and seals with sandblast cabinet



Chassis

Extruded 80/20 enclosure that accommodates each sub-assembly and allows for future expansion.



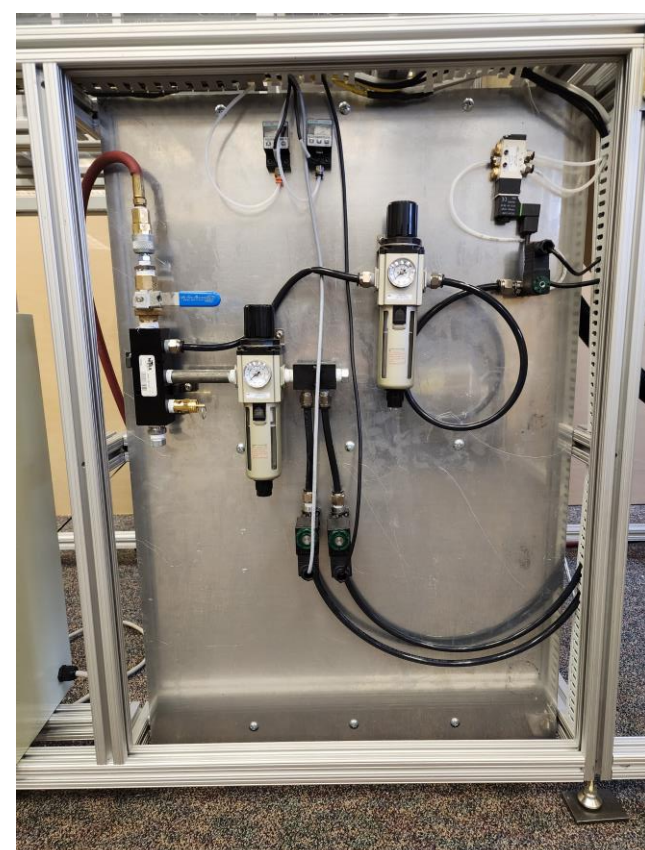
Hardware and Wiring

Connects peripherals to controller and interlocks control with safety components



Pneumatics

Allows controller to operate sandblast guns and gripper via solenoids



Programming

Controls all motors, solenoids, and sensors, automating the entire system



Team Members

Top: Nico Campagna, Joey Reed, Hunter Jones, Jared Winters

Bottom: Matthew Equi, Marc Dieter, Jared Custer, Jacob LaValle, Alex S

Team Advisor

Mr. Brian Montgomery

