

# Electronic Precision Adjustment Device



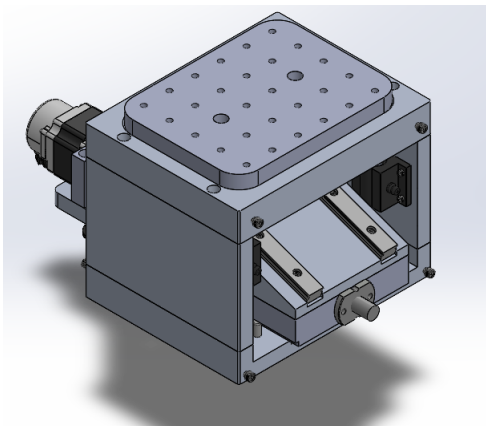
**From left to right:** Oreoluwa Ero, Ryan Seitz, Mason McGonigle, Ellie Rosso, and William Howell

## PROJECT SUMMARY:

Ascential Technologies designs and builds custom machines to automate manufacturing processes in the medical and life science industry. There is a need for a standardized electronic precision adjustment device which is an electronically automated linear positioning stage that can vertically position attached tooling precisely while holding a static load. The device was designed to be configurable to individual user identified precision, stroke, and load specifications.

## DESIGN GOAL:

Utilize CAD, PLC programming, and engineering design concepts to create a linear positioning stage that can hold various tooling and move vertically with high precision, intended for use in custom automation systems for medical and life sciences manufacturing.



SolidWorks model of electronic precision adjustment device.



## TEAM 5

### INDUSTRY REPRESENTATIVE

Brodie Runez and JP West

### FACULTY ADVISOR

Mohamed Moustafa

## DESIGN CONSTRAINTS:

- Electronically automated
- Operate along a linear axis
- Cost less than \$10,000
- No larger than 14 " x 10 " x 5 "
- Vertical output stroke range of 0" - 0.5"
- Load capacity of 0 lbs - 20 lbs
- Accurately position itself within a precision range of 0" - 0.001" and with less than 0.001" of backlash