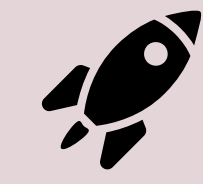

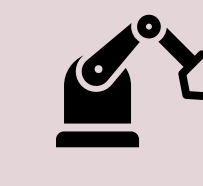
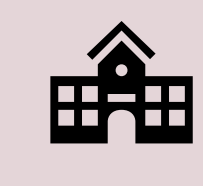


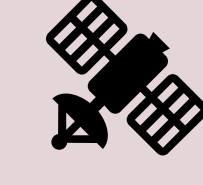
Objective

Produce a thrust stand that validates the force specifications of a 100mN green propellant thruster.

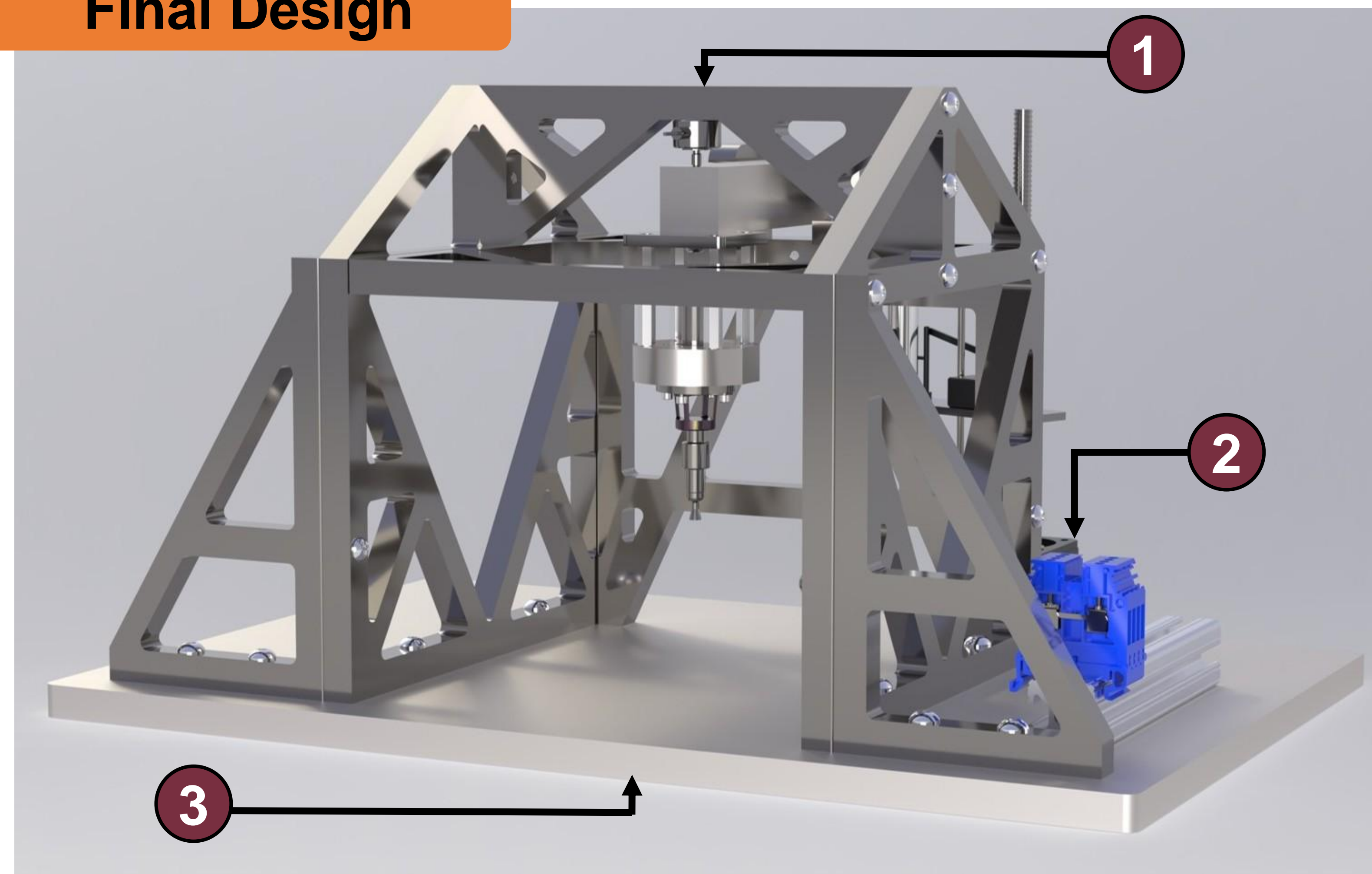
Key Goals

-  Accurately measure 100 mN thruster
-  Identify errors with post-processing
-  Perform autonomous calibration
-  Designed for university manufacturing

Background

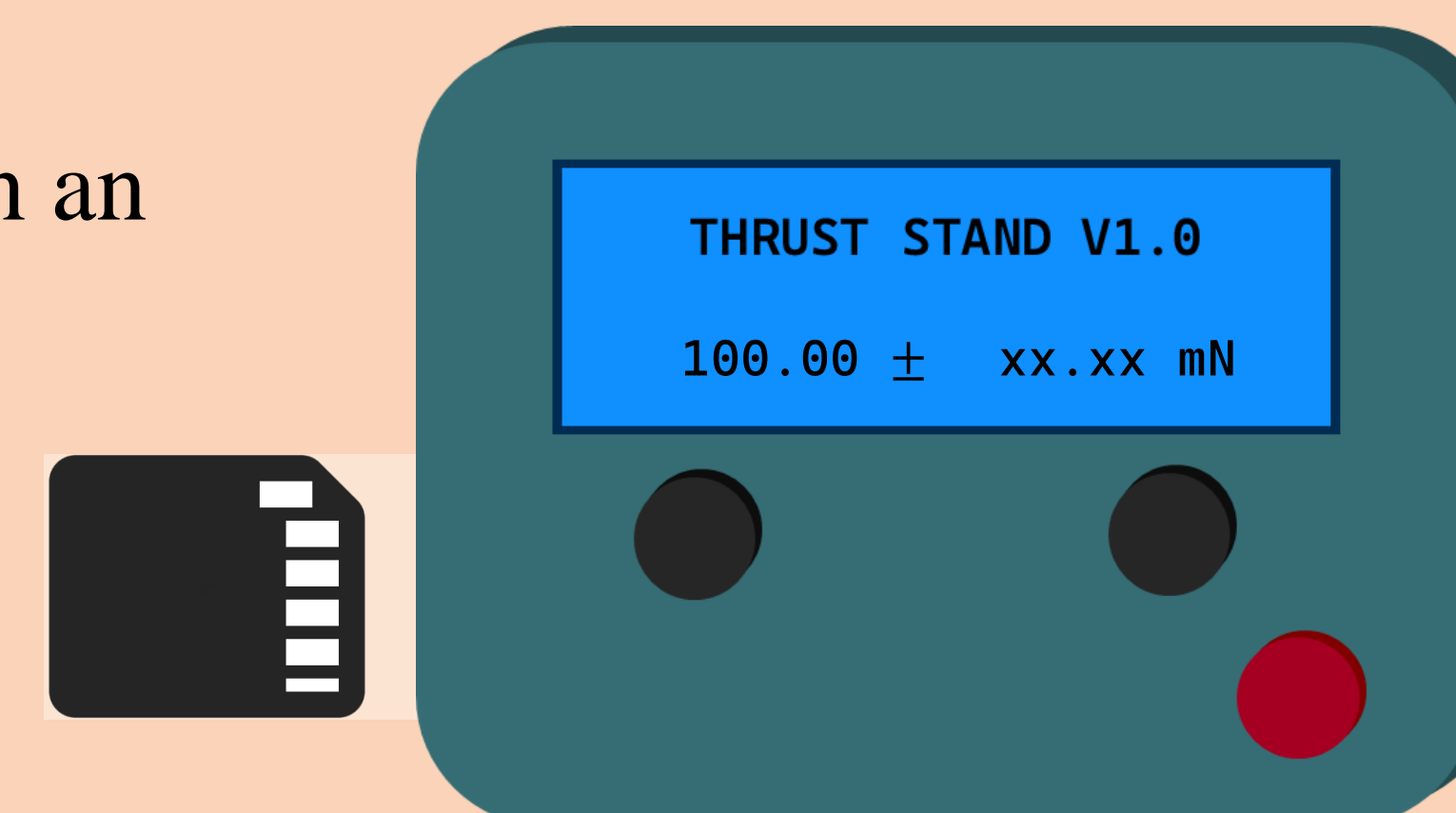
-  ASCENT is a safer alternative to Hydrazine
-  Requires less onboard propellant
-  Low manufacturing cost
-  Used in GPIM and Lunar Flashlight Missions

Final Design



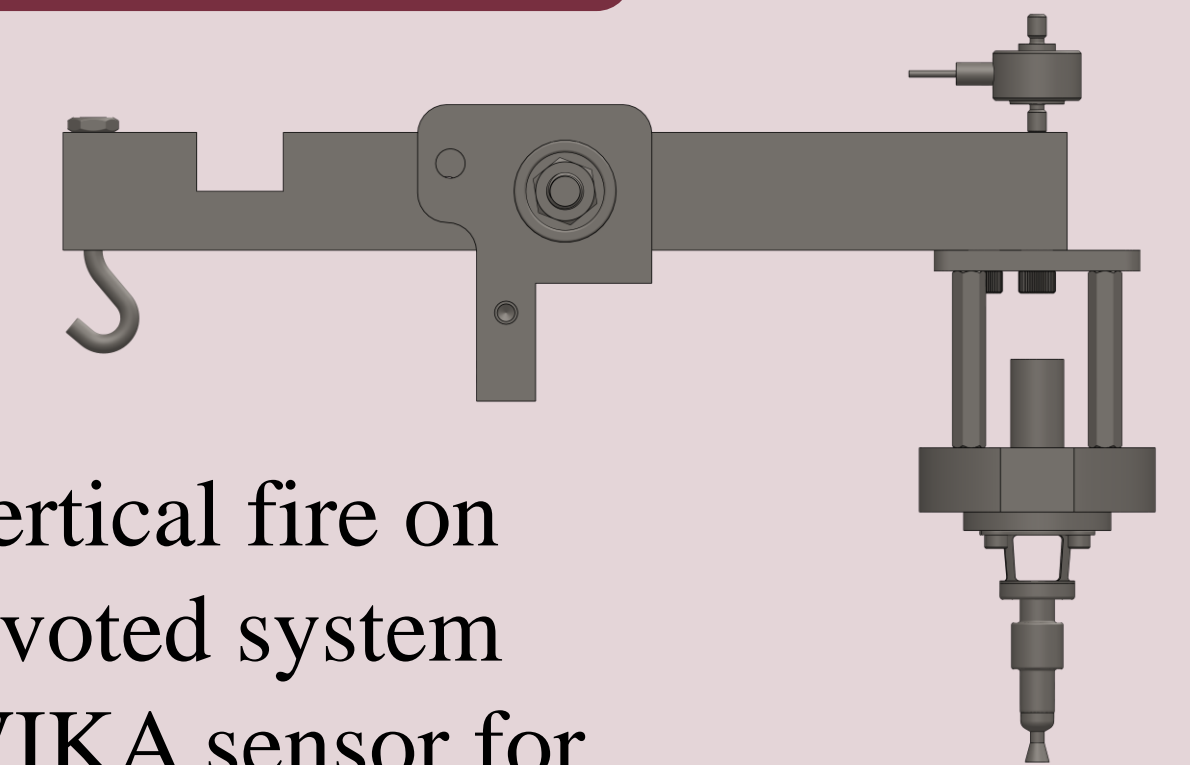
Data Collection

- Live thrust reading shown on an LCD screen
- Force data with associated error stored on an SD card



Critical Subsystems

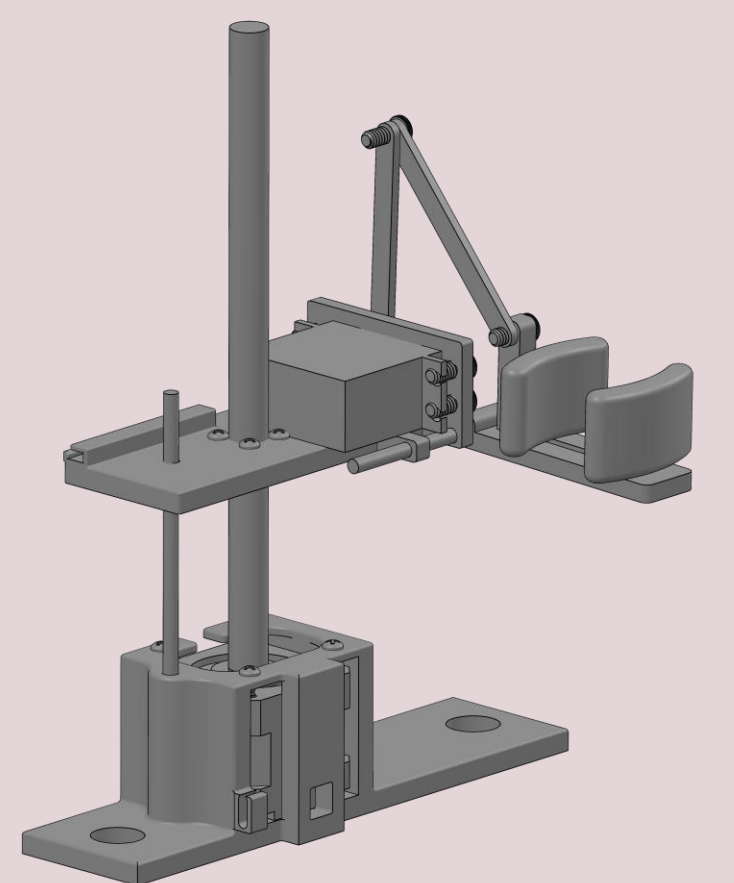
1. Measurement



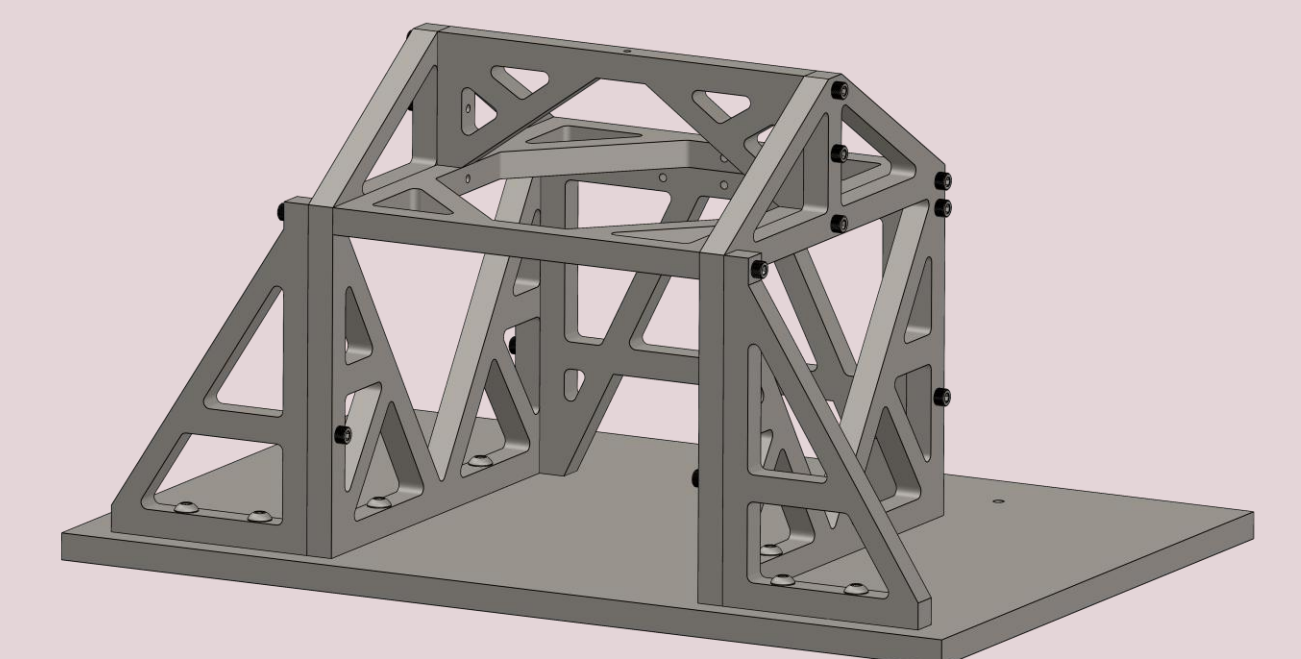
- Vertical fire on pivoted system
- WIKA sensor for mN accuracy

2. Calibration

- Autonomous loading system
- Precision dual-motor setup



3. Structure



- 304 Stainless Steel
- Lightweight with high stiffness