



CRASH CARRIER T4804

Enhancing Safety and Functional Convenience of the Stratospheric Balloon Gondolas



OPPORTUNITY:

Stratospheric balloons are the most **accessible** means of near-space experimental transportation available to **researchers** and **students**.

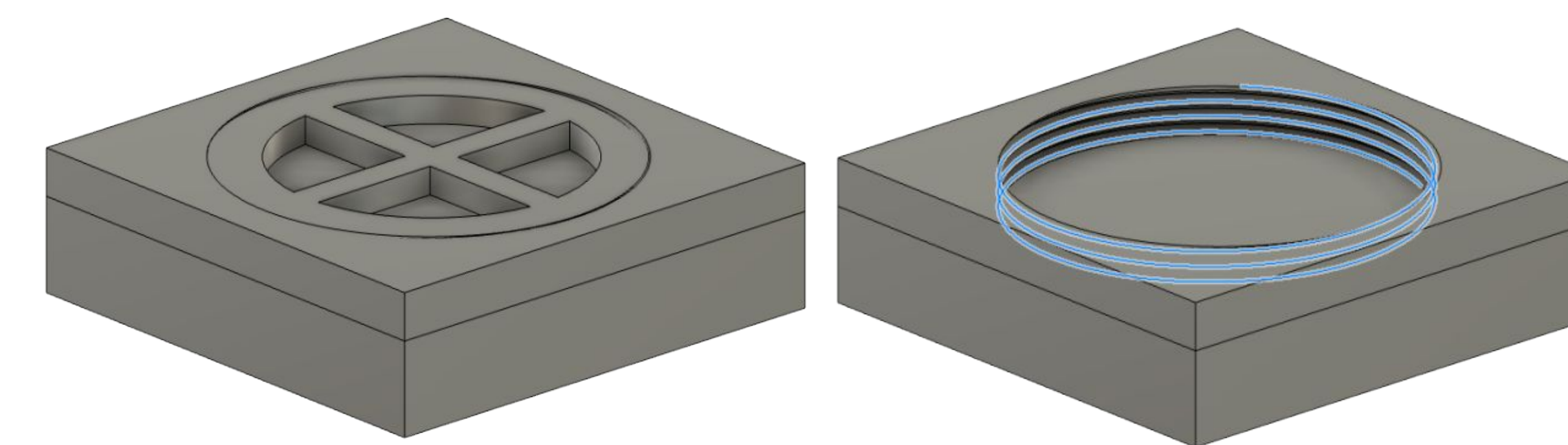
- **Unsafe:** Trees /natural factors damage internal cargo and external gondola during flight and landing
- **Inconvenient:** lack of adjustable sizing and standardized mounting system creates ambiguity and design restrictions for cargo teams.

42 km
-56° C
250 hPa

MAIN OBJECTIVES: SAFETY AND CONVENIENCE

1. MAXIMIZE PROTECTION

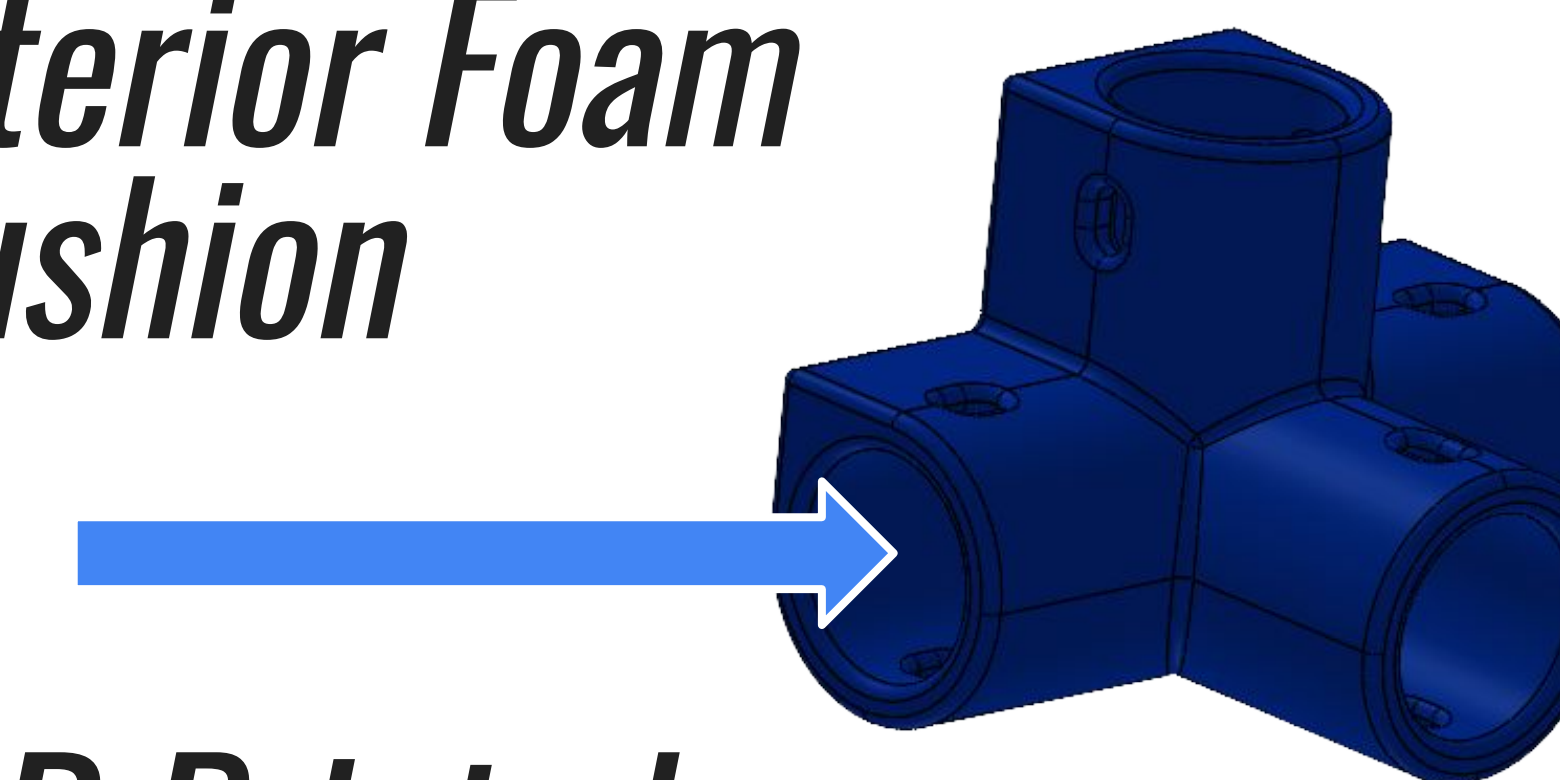
Avionics Waterproof Isolation



Netting

Joint Shock Absorber

- *Interior Foam Cushion*



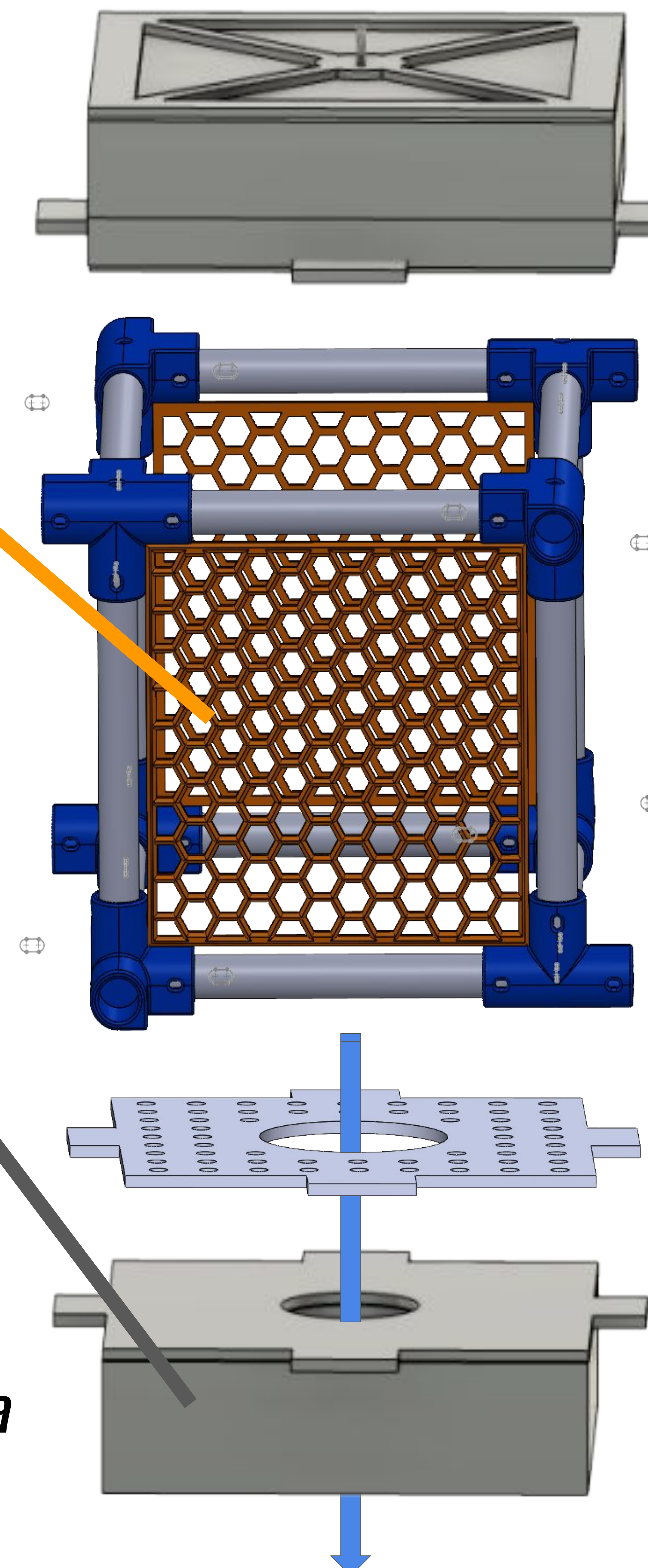
- *3-D Printed*

Bottom Foam Layer

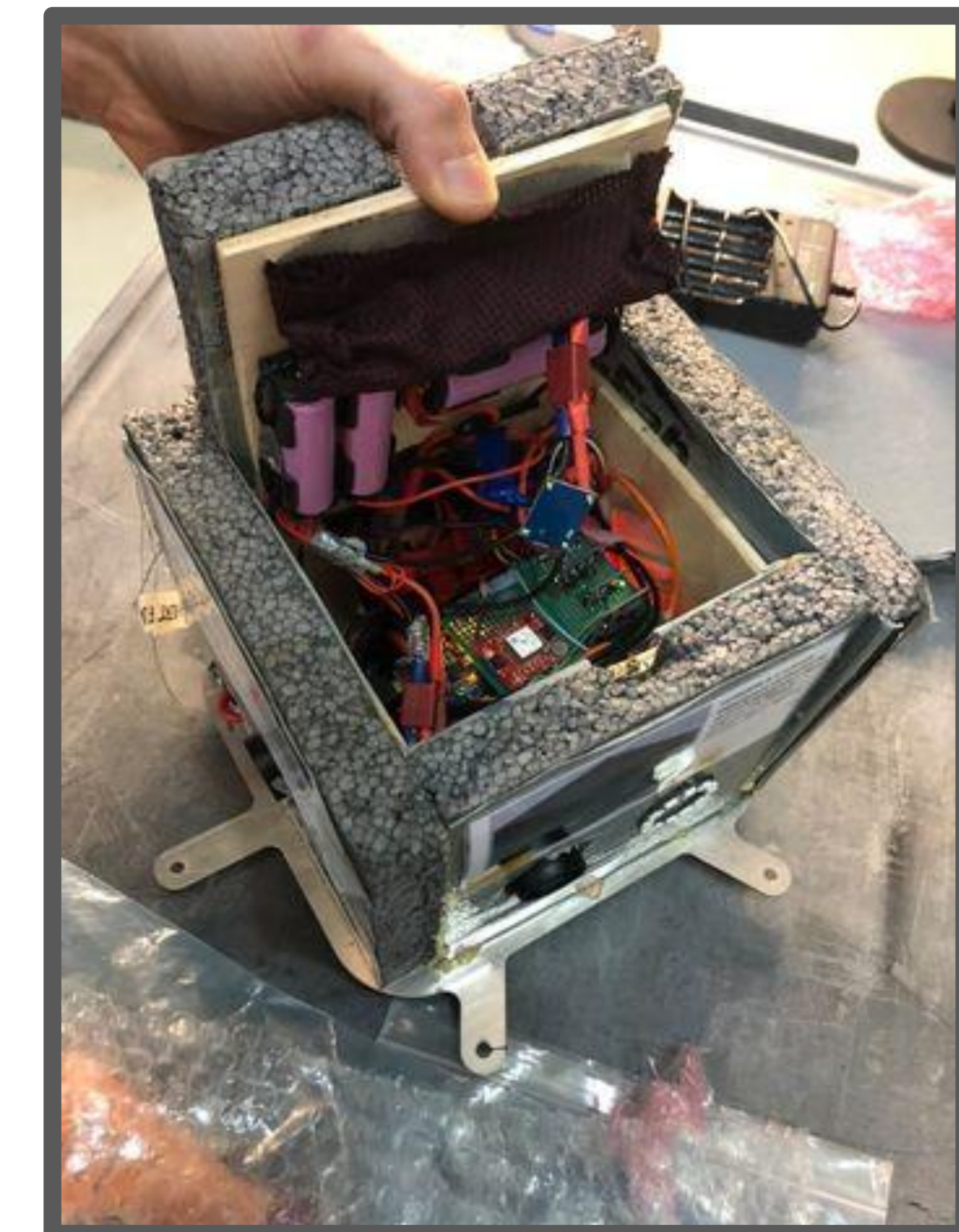
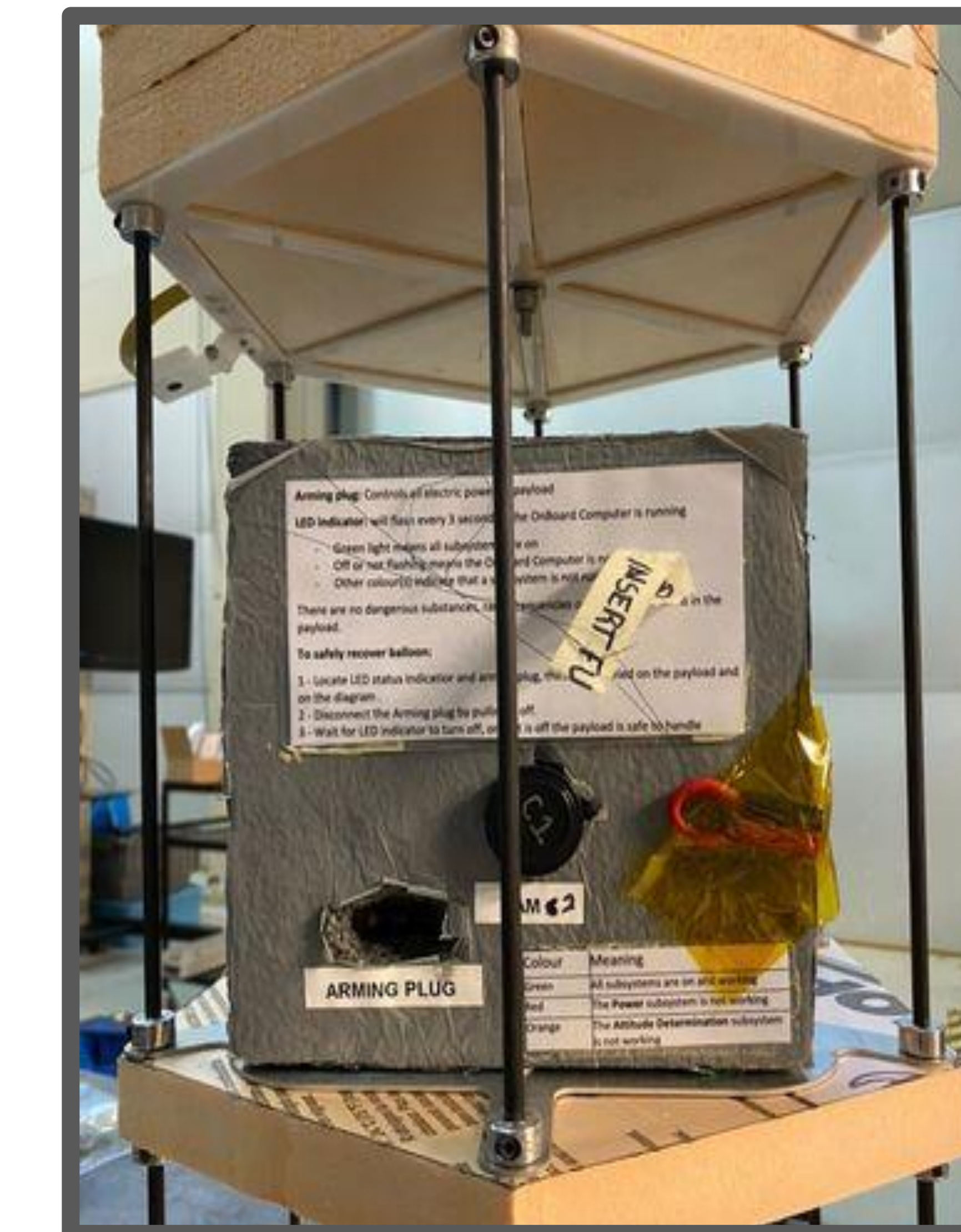
2. IMPROVES FUNCTIONALITY

Nadir View

Clear downward view for nadir camera and dipole antenna



VALIDATION & VERIFICATION



Queen's University: CubeSat Design Team

3. ACCOMMODATES ALL CARGO

Modular PVC Frame

- *Light*
- *Easy assembly*
- *Accommodates different payload shapes*



Mounting plates

Standardized mounting screw holes

