Fly Foundational Robots (FFR)

SBIR Phase 3

Tech Leap Inputs

Motiv Space Systems, Inc.

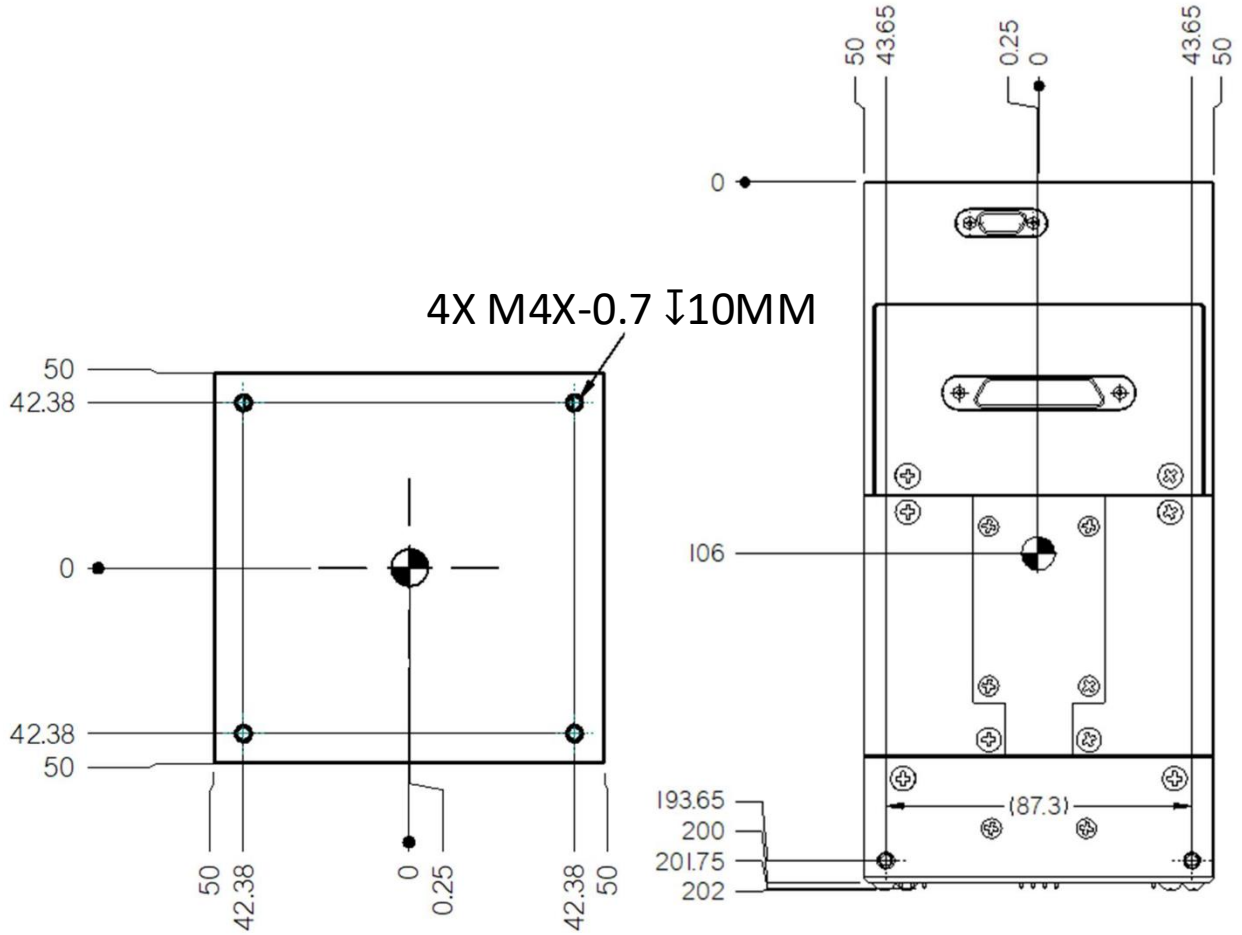
NSSC Contract: 80NSSC25C0423

April 14, 2026

FOR UNRESTRICTED DISRIBUTION

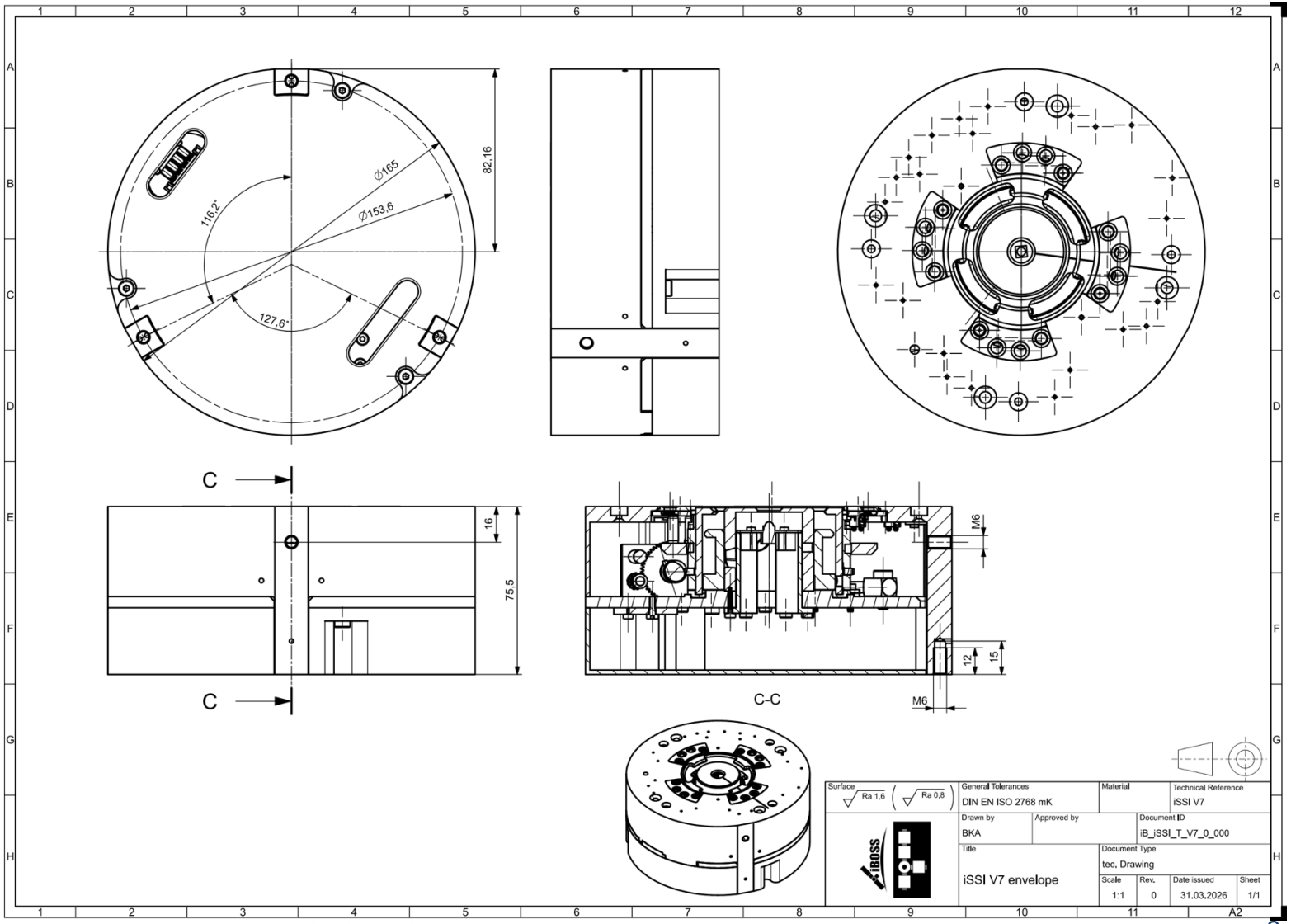
Mechanical Interfaces
Active FuseBlox Interface

- Units: Millimeters



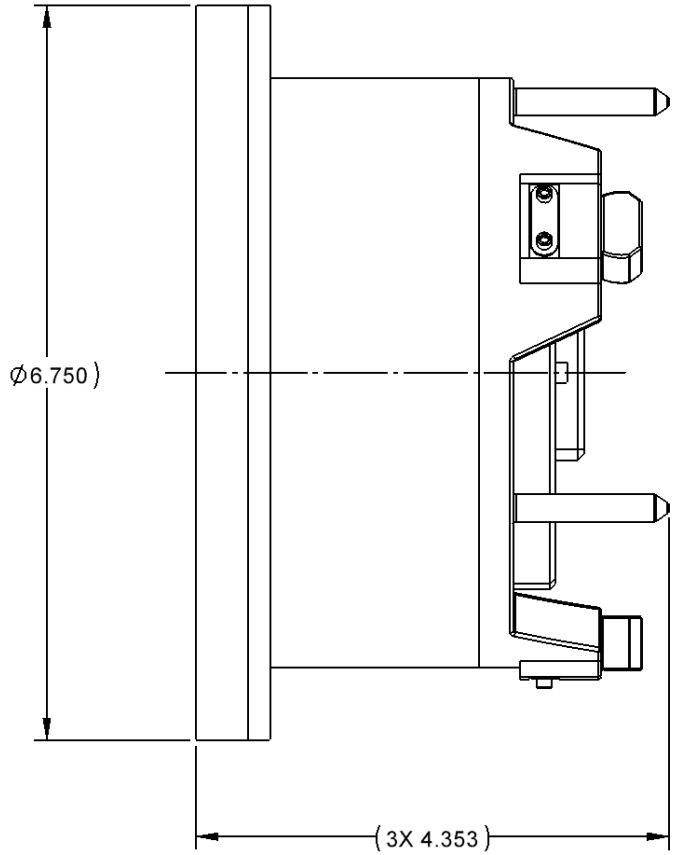
Mechanical Interfaces
Active/Passive iSSI

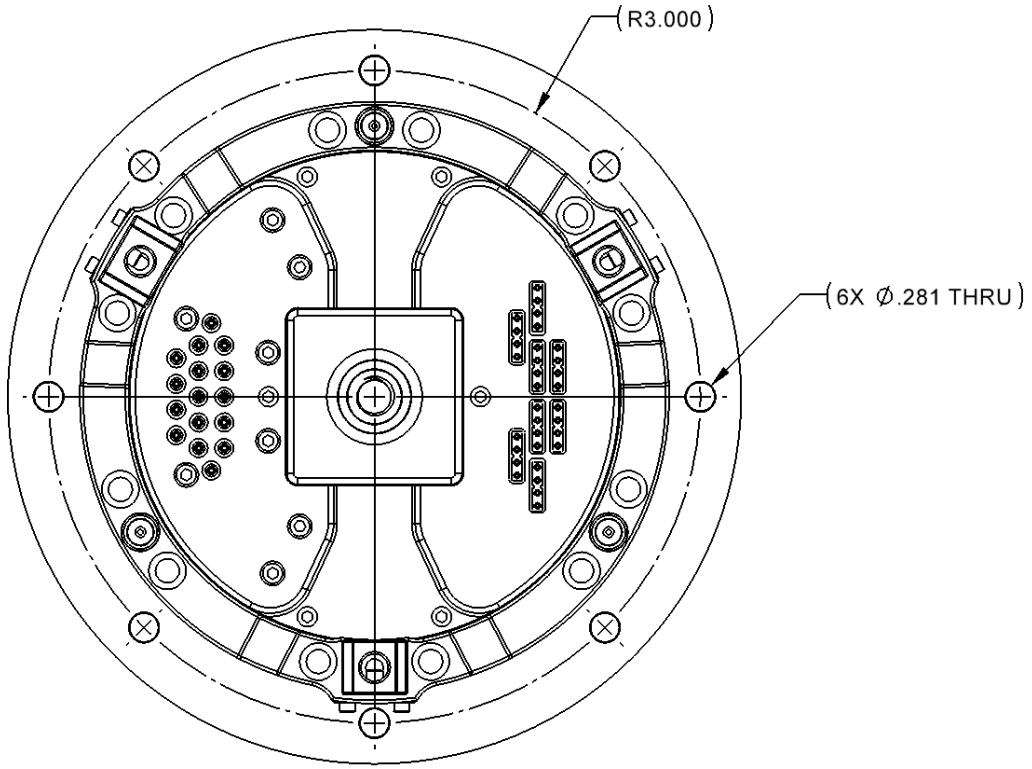
- Units: mm
- Bolt pattern subject to change



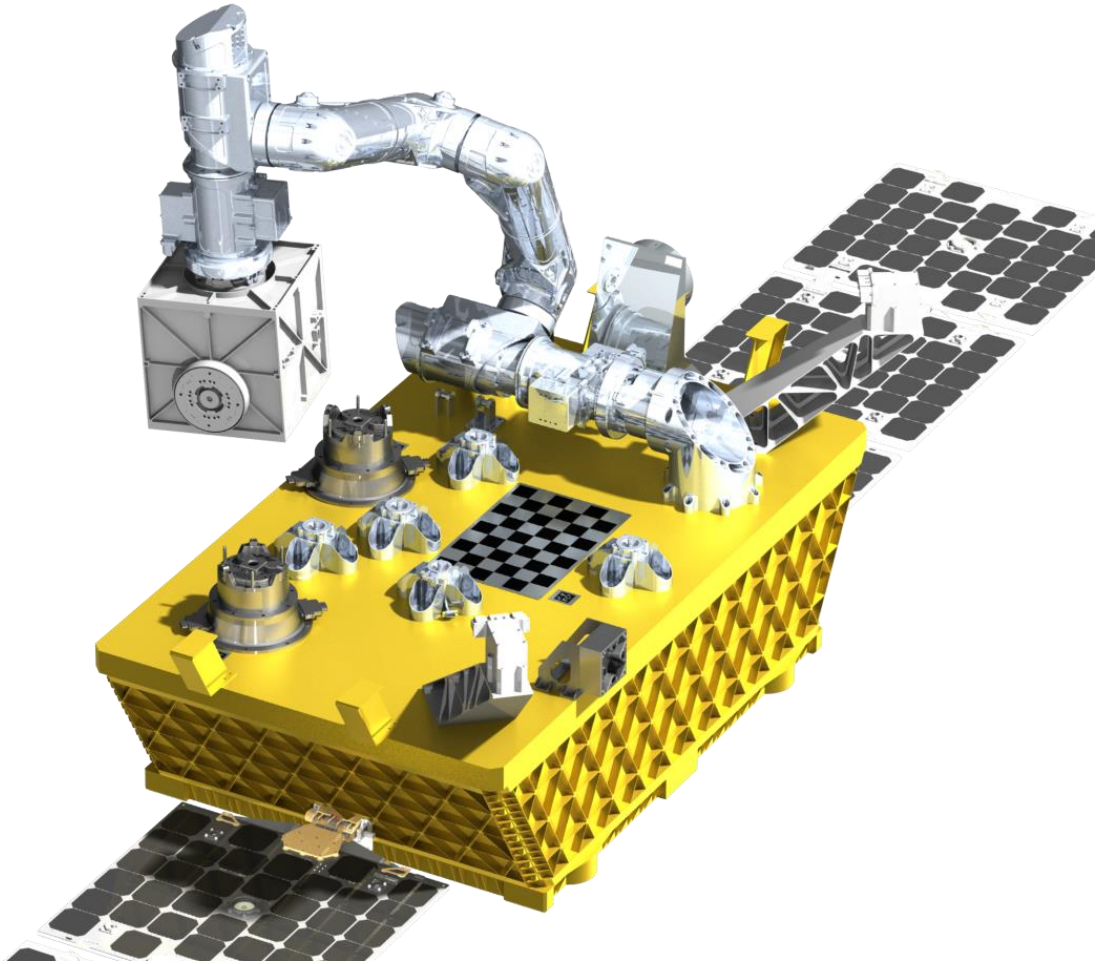
Mechanical Interfaces
Passive CrossLink Cleat

- Units: Inches
- Bolt pattern subject to change



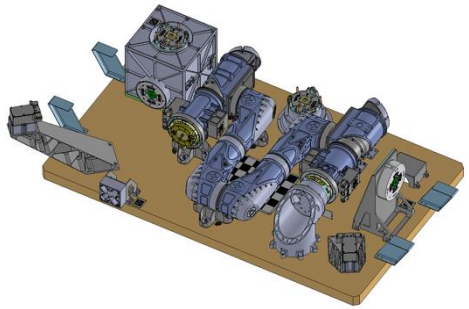


Overview Picture



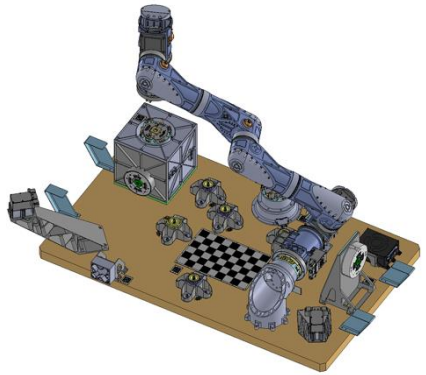
The Fly Foundational Robots Payload shown with the CrossLink robotic arm, separable interfaces, and an ORU Module

Nominal Con-Ops

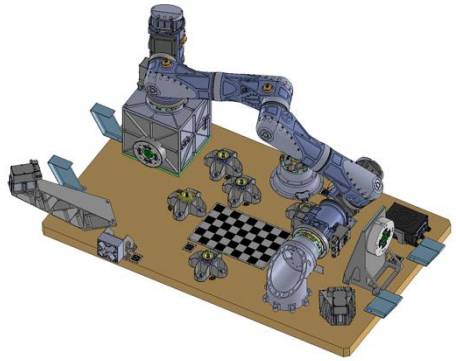


i) Launch configuration

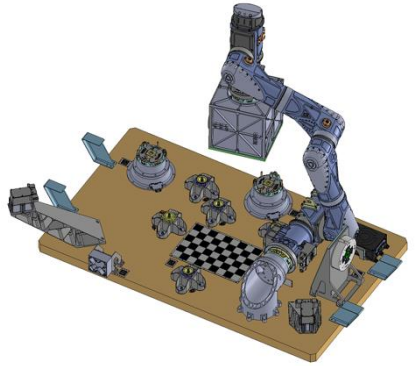
ii) Arm commissioning



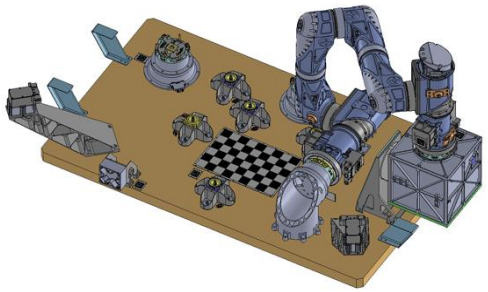
iii) Arm positions above CrossLink interface on ORU



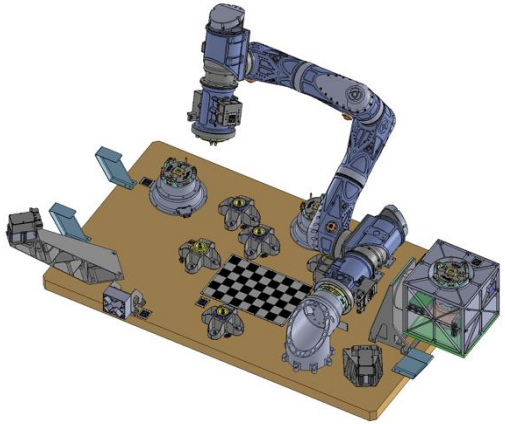
iv) Arm grapples CrossLink interface on ORU



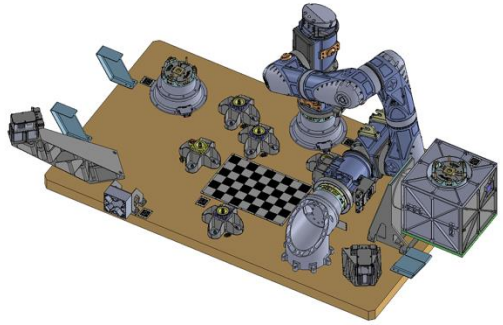
v) Payload releases ORU from CrossLink on deck



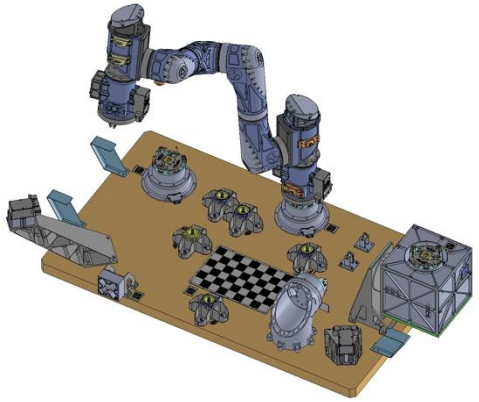
vi) Box is placed on 3rd party interface and secured



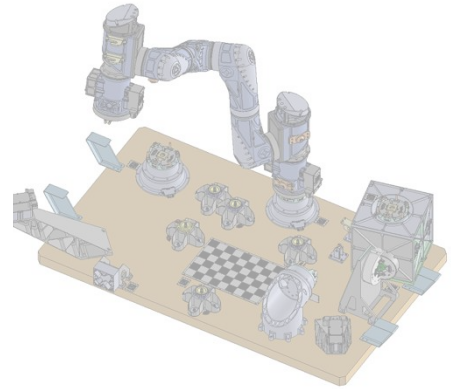
vii) Arm releases ORU and re-positions



viii) Arm then attaches to the empty CrossLink Interface

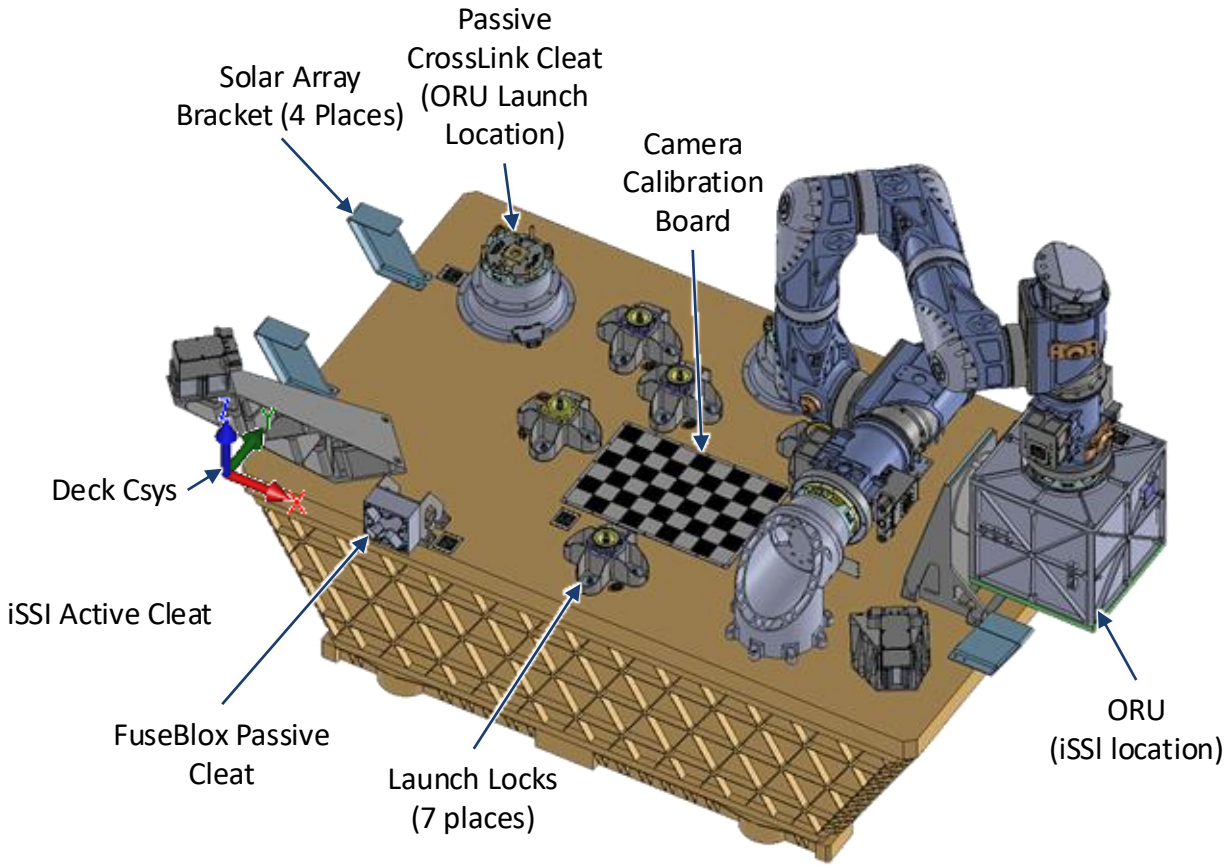


ix) Arm releases from original base location demonstrating mobility

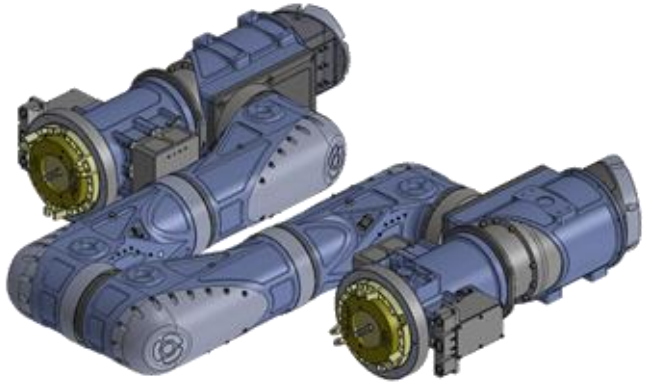


x) Guest Roboticist No. 1 (NASA GSFC) Operations (Details TBD)

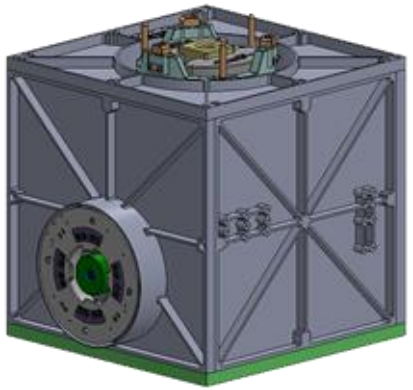
Post ORU Move



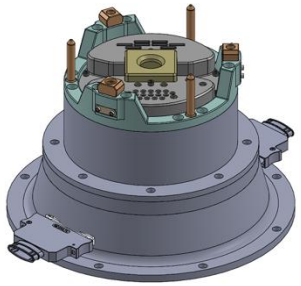
Arm, Cleats, and ORU



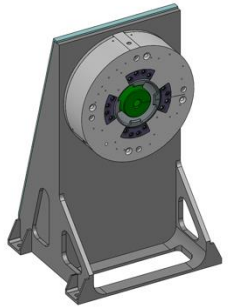
Arm



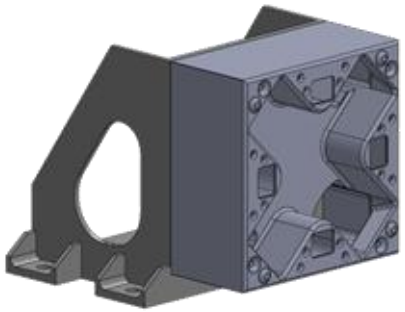
ORU



CrossLink Passive Cleat (2 Places)

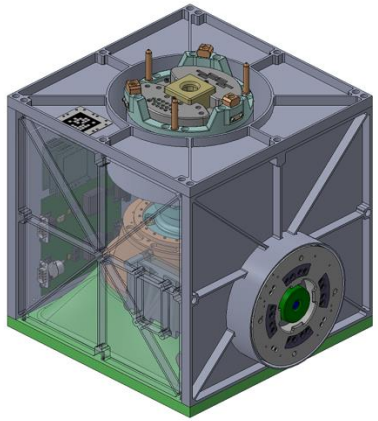


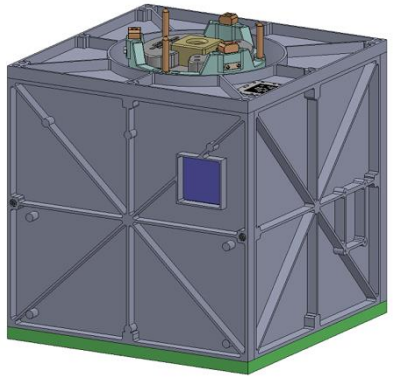
iSSI Active Cleat & bracket



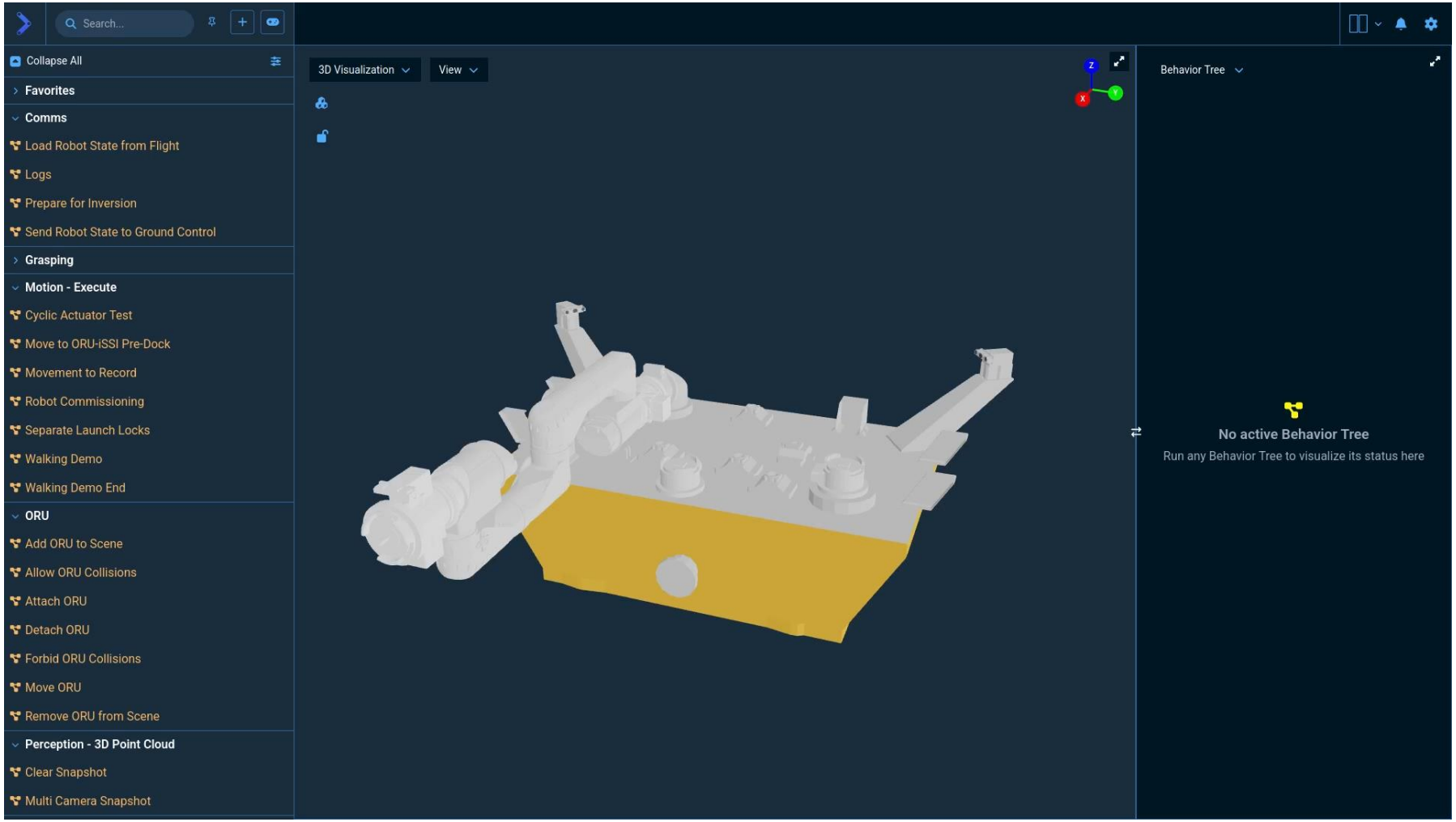
Fuseblox (Passive)

ORU





Simulation


Search...
Collapse All
Favorites
Comms
Load Robot State from Flight
Logs
Prepare for Inversion
Send Robot State to Ground Control
Grasping
Motion - Execute
Cyclic Actuator Test
Move to ORU-iSSI Pre-Dock
Movement to Record
Robot Commissioning
Separate Launch Locks
Walking Demo
Walking Demo End
ORU
Add ORU to Scene
Allow ORU Collisions
Attach ORU
Detach ORU
Forbid ORU Collisions
Move ORU
Remove ORU from Scene
Perception - 3D Point Cloud
Clear Snapshot
Multi Camera Snapshot
3D Visualization
View
Behavior Tree
No active Behavior Tree
Run any Behavior Tree to visualize its status here