Department of Defense (DoD) Space Test Program

9 May 2025

U.S. Space Force (USSF)
Space Systems Command (SSC)
DoD Space Test Program
JSC Mail Code WR

Overview

- DoD Space Test Program (STP) Overview (What is STP?)
- DoD Space Experiments Review Board (SERB) Process Overview
- Mission Process
- Mission Overviews
- Opportunities

The DoD Space Test Program

- Established in 1965
  - DDR&E directed the Air Force to establish an office to consider the merits and feasibility of experiments for Titan III launches
  - Air Force Systems Command, led by General B.A. Schriever, delegated Space Systems Division to develop a process and program for space experiments
  - Space Payloads Panel, now called the Space Experiments Review Board (SERB), met on 11-12 January 1966 and every year since for the last 58 years
  - Space Experiments Support Program, now called the Space Test Program, had its first flight in 1967

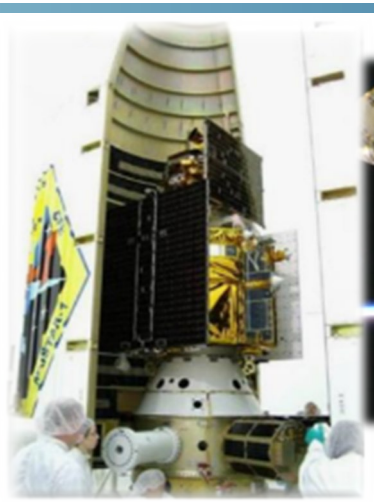
But What is STP?

DoD Space Test Program Mission

STP Mission Statement

- The DoD STP advances scientific knowledge and validates cutting-edge space technologies for future national security capabilities by supporting cost-effective, reliable access to space for research and development agencies of the USSF, the DoD, partners and allies. This is done through fostering collaborations, developing missions, acquiring hosting solutions and integrating services.

We are the connective tissue between science and war.



Specifics

- STP does not fund development of payloads, but serves as the "facilitator and integrator" for access to space
- Single manager for all DoD payloads on the International Space Station, future manned and unmanned National Aeronautics and Space Administration (NASA) launch vehicles
- STP AFI 10-1202; AR 70-43; OPNAVINST 3913.1B

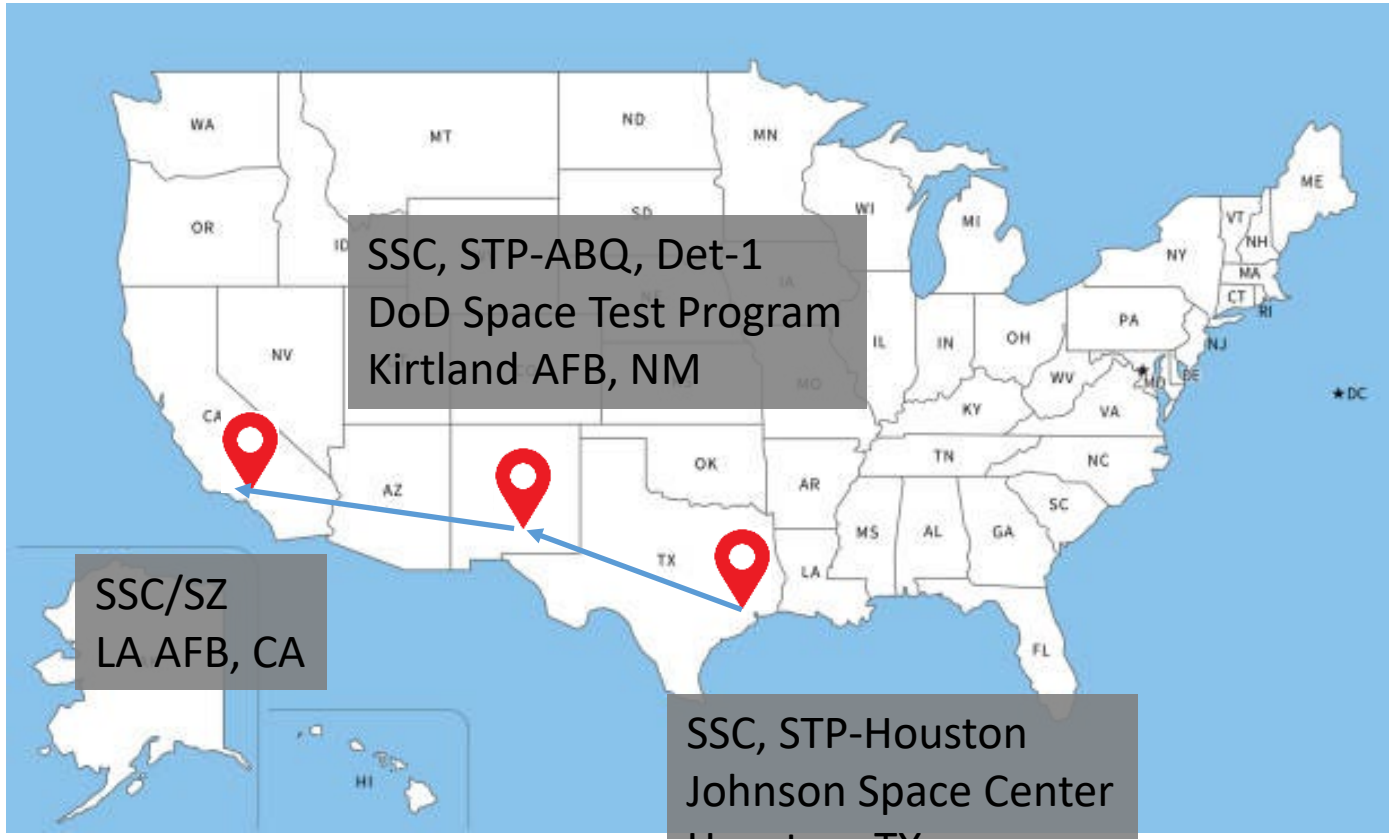
Access

Two ways to access:

- DoD Space Experiments Review Board (SERB)
  - Manifest based on:
    - SERB Rank, Flight opportunities, Mission requirements, available STP Funds
- Reimbursable Flights
  - Manifest based on:
    - Flight opportunities, available customer funds

58 Years Experience, 311 Missions, 665 Experiments and Counting…

DoD Space Test Program - Locations



Part of Space Systems Command (SSC) Space Domain Awareness and Combat Power Program Executive Office (SZ)

Two Locations:

- Kirtland AFB, NM (STP, or STP-ABQ)
  - STP leadership
  - All non-human rated space flight
  - International Rideshare
  - Free flyers / hosting on free flyers
- Johnson Space Center, TX (STP-Houston)
  - All human-rated space flight options
    - Hosting on ISS, Astronaut in loop
    - Artemis / Gateway missions
  - Cislunar / Lunar missions
  - Free flyers / hosting on free flyers
  - DoD presence at NASA's Johnson Space Center for over 40 years – last remnants of 'USAF Blue Shuttle'
  - Close integration/collaboration with International Space Station (ISS) Program and Johnson Space Center

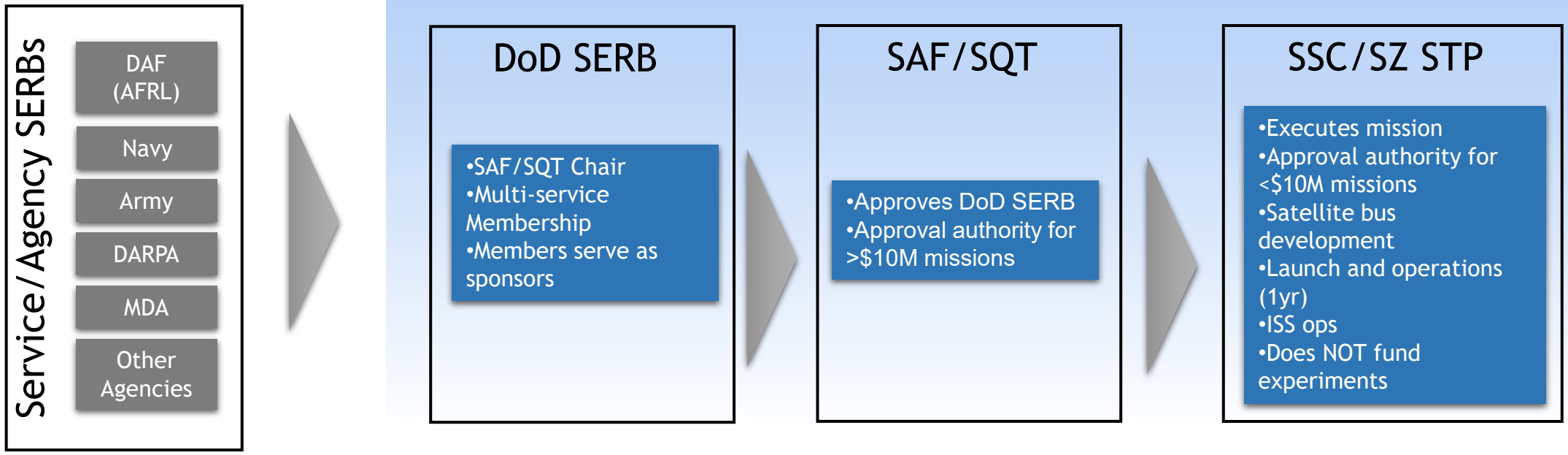
DoD SERB/STP Process Overview

- DoD Space Experiments Review Board (SERB)
  - 16 voting member board advising the SERB Chair (SAF/SQT)
  - Allows the DoD to rank space experiments by service need and military relevancy
  - 2 Meetings per year:
    - May – main board reviews submitted experiments and ranks them
    - November – board meets for mid-cycle SERB to discuss administrative issues, experiment out briefs, and out of cycle experiment reviews.
- Governing document for STP Management: AFI 10-1202, AR 70-2 and OPNAVINST 3913.1A
- STP is the executing agent of the DoD SERB
  - DoD's gateway to space for Research & Development / Science & Technology (R&D/S&T) experiments
  - The official DoD avenue to the ISS and human rated spaceflight

DoD SERB/STP Process Overview cont.

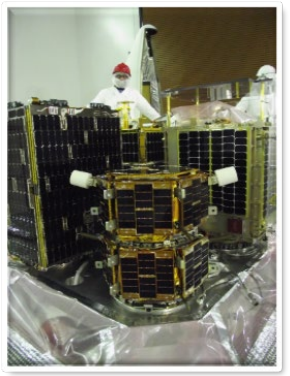
DoD SERB process:

- Do you have a DoD Sponsor?
- Multi-Service Space Experiments Review Board (SERB)
- Providing equal opportunity for all DoD space R&D experiments for spaceflight consideration
- Ensures future space support for the warfighter

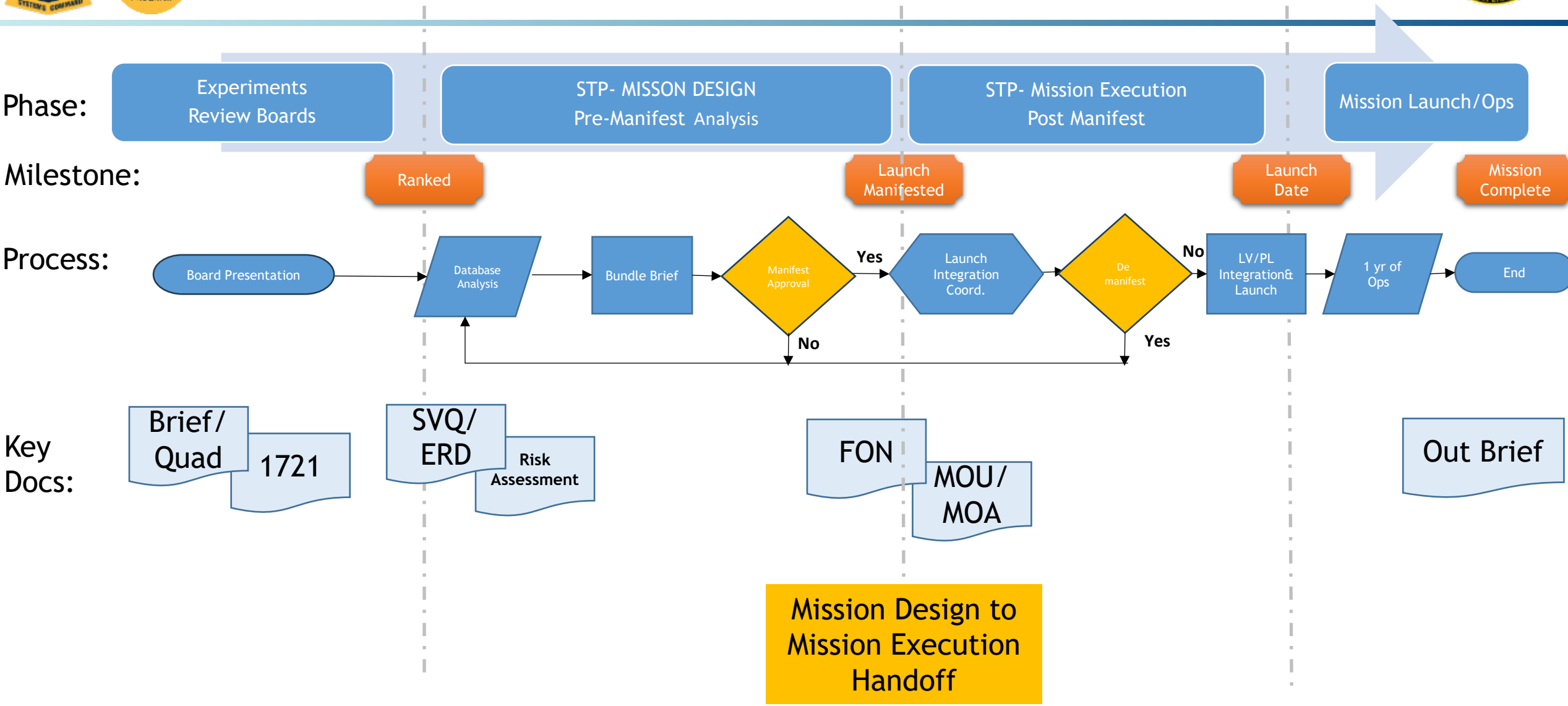


Post SERB

- Mission Design is the section responsible for developing flight opportunities
  - Shortly after the May SERB, Mission Design will assign experiments to Albuquerque or Houston based on mission requirements.
  - Mission Design will establish regular contact with experimenters to verify status and check for updates.
  - Once an experiment is selected for a mission, manifest paperwork and integration efforts are begun.
  - While rank is important, **experiment readiness, launch opportunity, and available funding drive mission selections**.
- Moved to Mission Execution and a STP Mission Manager assigned
  - Responsible for coordinating launch and integration to host bus for payloads
- If the experiment drops from the launch, it will be de-manifested and returned to Mission Design
- STP supports one year of on orbit operations.
- Experiments expected to provide an outbrief and share any publications

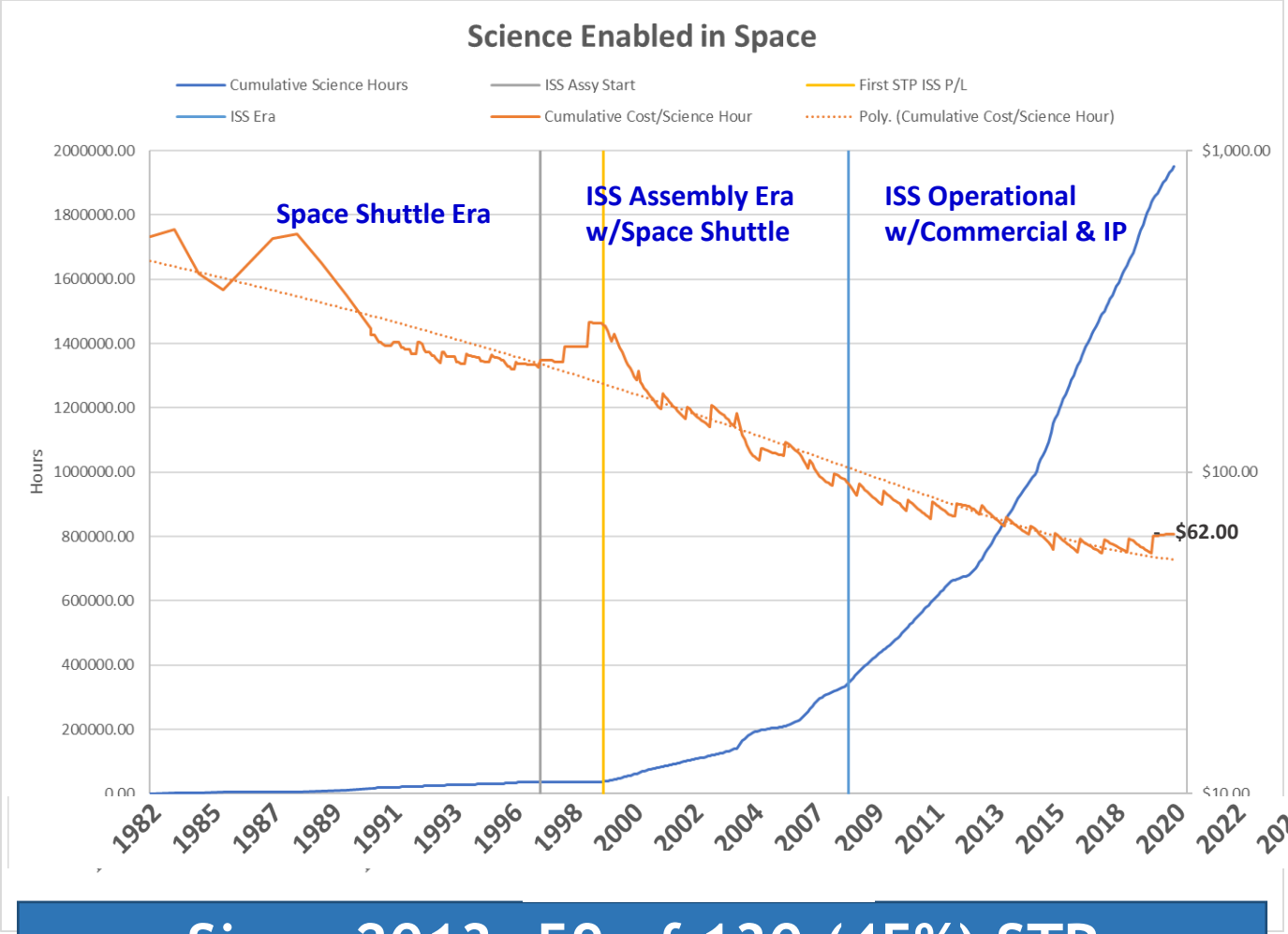


Mission Design Manifest Process Recap



STP-Houston Missions

1.89M Experiment Science-Hours



- Since 1982 (42 years) STP-Houston has contributed ~ 1.89M experiment-hrs from Space Shuttle (STS-4) through the ISS era
  - Expect to cross 2M experiment hours ~Jun 2025
- Transitioned from 2-week Shuttle missions to long duration experiments on the ISS
  - Typically, 1-2 years on orbit operations
  - Drove down costs per experiment-hr
- Cumulative Cost/Experiment-hr is stabilizing at ~$62

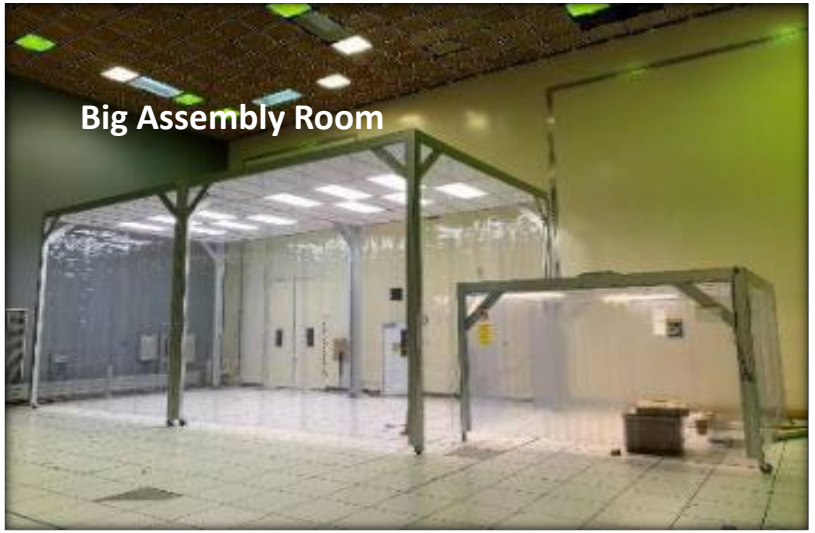
Since 2013, 59 of 130 (45%) STP experiments flown on the ISS

Houston Payload Types

- Developmental Missions
  - Examples: STP-H10/11/12, STPSat-7, etc.
  - ‘Cradle-to-Disposal’ development of space flight payload with multiple experiments
  - Full Systems Engineering processes, heavy Mission Design
  - Hardware/software design, build, integrate, system/environmental test
  - Experimenter management/coaching, experiment integration
- Operational Missions
  - Examples: STP-H7/8/9
  - Developmental missions transitioned to Ops
  - Robotic installation and disposal
  - Payload level operations, interface with ISSP/HOSC for operations
  - Experimenter operations support (‘keeping the lights on’)
  - No full-time ops personnel, very low expenditures
- Services Only Missions
  - Examples: MGST, MELSP, Rodent Research, RSAT, ISS Deployables
  - Integration services only (ISSP integration, safety, ops support)
  - Normally internal/pressurized payloads
  - Launch site support
  - Use of commercial providers on the ISS:
    - Cubesat/Sattellite Deployments
    - MISSE-FF, Nanoracks, Rhodium, etc

Hardware Integration Labs

- **Payload laboratories**
  - Electronics lab
  - Ground system dev environment
  - FlatSat development environment
  - Large clean room integration labs
- **Payload Operations Control Center (POCC)**
  - Supports ISS and free flyer ops
- **Secure Facility/Area 47**
  - IOC CY24
  - Office space, networks, and clean room



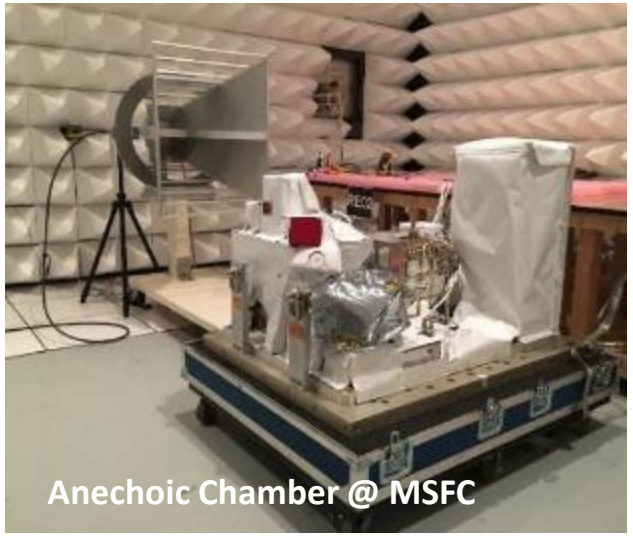
Organic Integration Labs - Low Cost Con Ops

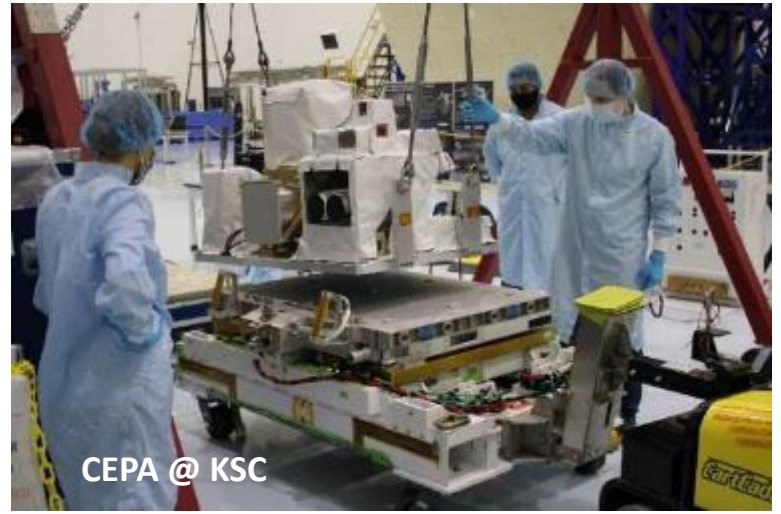
Test Resources

- **Structures test labs**
  - Sine sweeps & random vibe
  - X-Y-Z axes
  - Loads & structural modes
  - Loads model verification
- **Anechoic chambers**
  - EMI/EMC
- **TVAC chambers**
  - Bakeout
  - Thermal cycles (min/max)
  - Thermal model verification
- **Space Station Processing Facility**
  - C&DH End-to-End testing (HOSC & POCCs)
  - Launch Site processing for ISS payloads

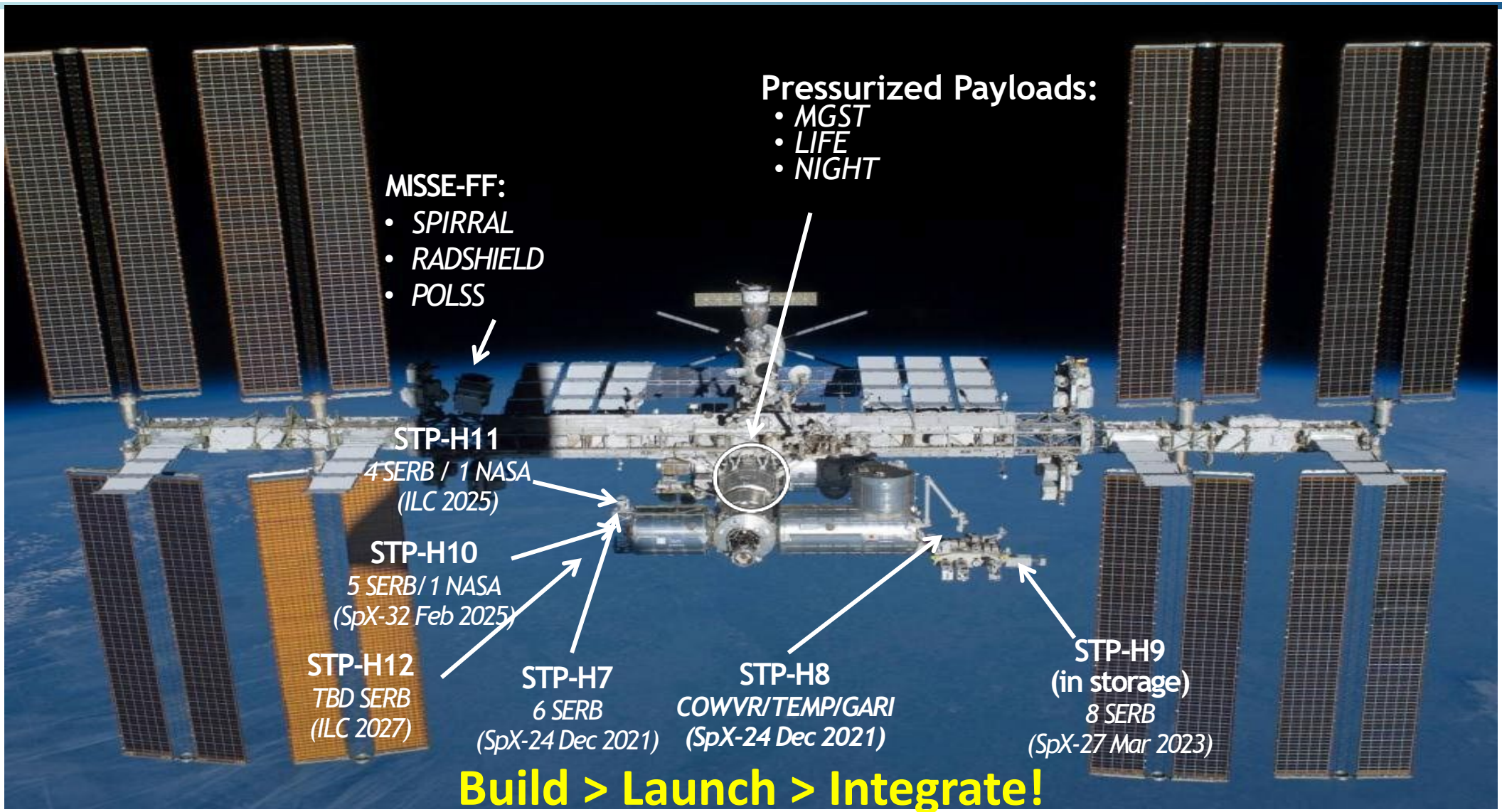

Structures Lab @ JSC


TVAC Chamber @ MSFC


Anechoic Chamber @ MSFC


CEPA @ KSC

STP-Houston on the ISS



Build > Launch > Integrate!

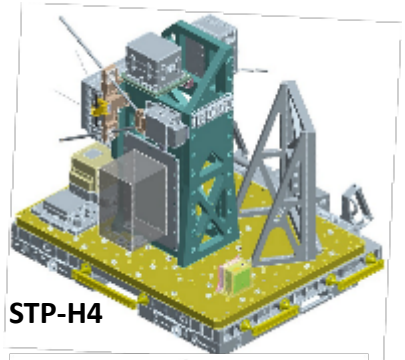
STP Common Platform Missions

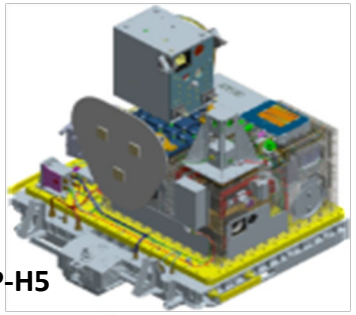
- LEO Hosted Experiment Platform on ISS
  - ~1m^3 to ~2m^3, ~250kg to ~500kg
  - Up to 14 Experiments
- Responsive: Nominal Kickoff to SV Ship: 2.5 yrs
  - Integrate to launch vehicle L-36 days
- Repeatable:
  - STP-H4 (disposed)
  - STP-H5 (disposed)
  - STP-H6 (disposed)
  - STP-H7 (on-orbit)
  - STP-H8 (on-orbit)
  - STP-H9 (powered down)
  - STP-H10 (dwell)
  - STPSat-7 (Integration)
  - STP-H11 (Integration)
  - STP-H12 (pre-kickoff)

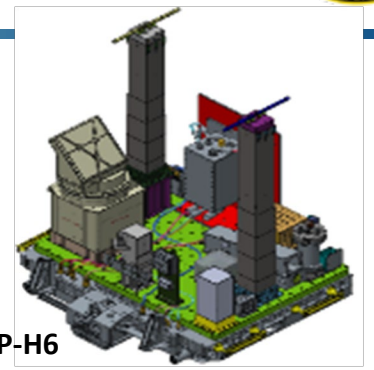
Common platform Gen 1

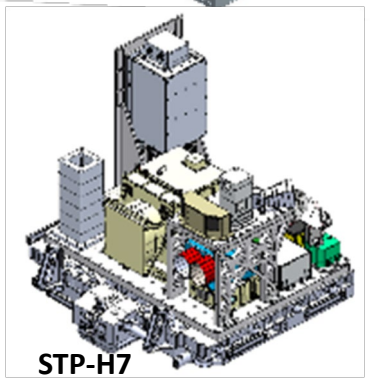
Common platform Gen 2

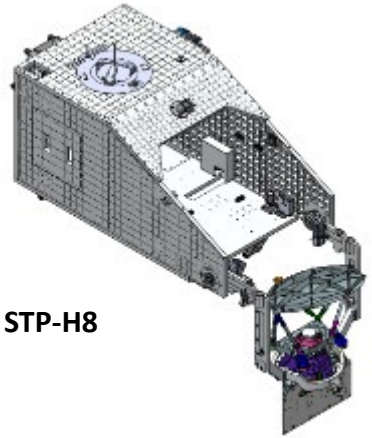
- 59 Total experiments on Common Platform missions
- Extend common platform to GEO
  - 2-5 Experiments, ~60kg
  - Reduce timeline via lessons learned from ISS
  - Leverage common platform (same flight computer, software, ICD) as LEO platform to reduce costs and increase responsiveness
  - Experiments integrate to common platform (LEO or GEO), increases flexibility

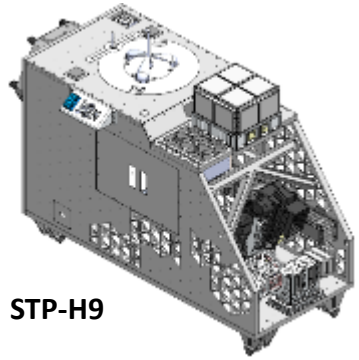

STP-H4

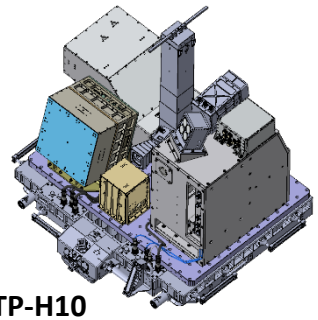

STP-H5

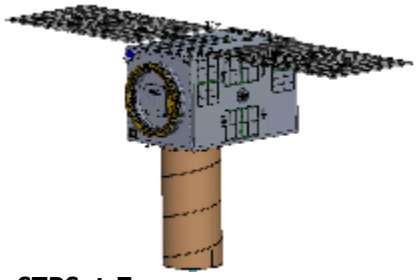

STP-H6

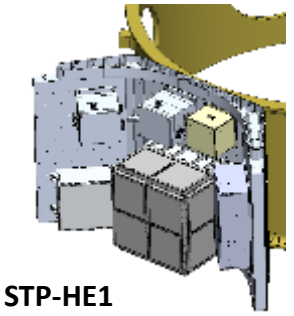

STP-H7


STP-H8


STP-H9

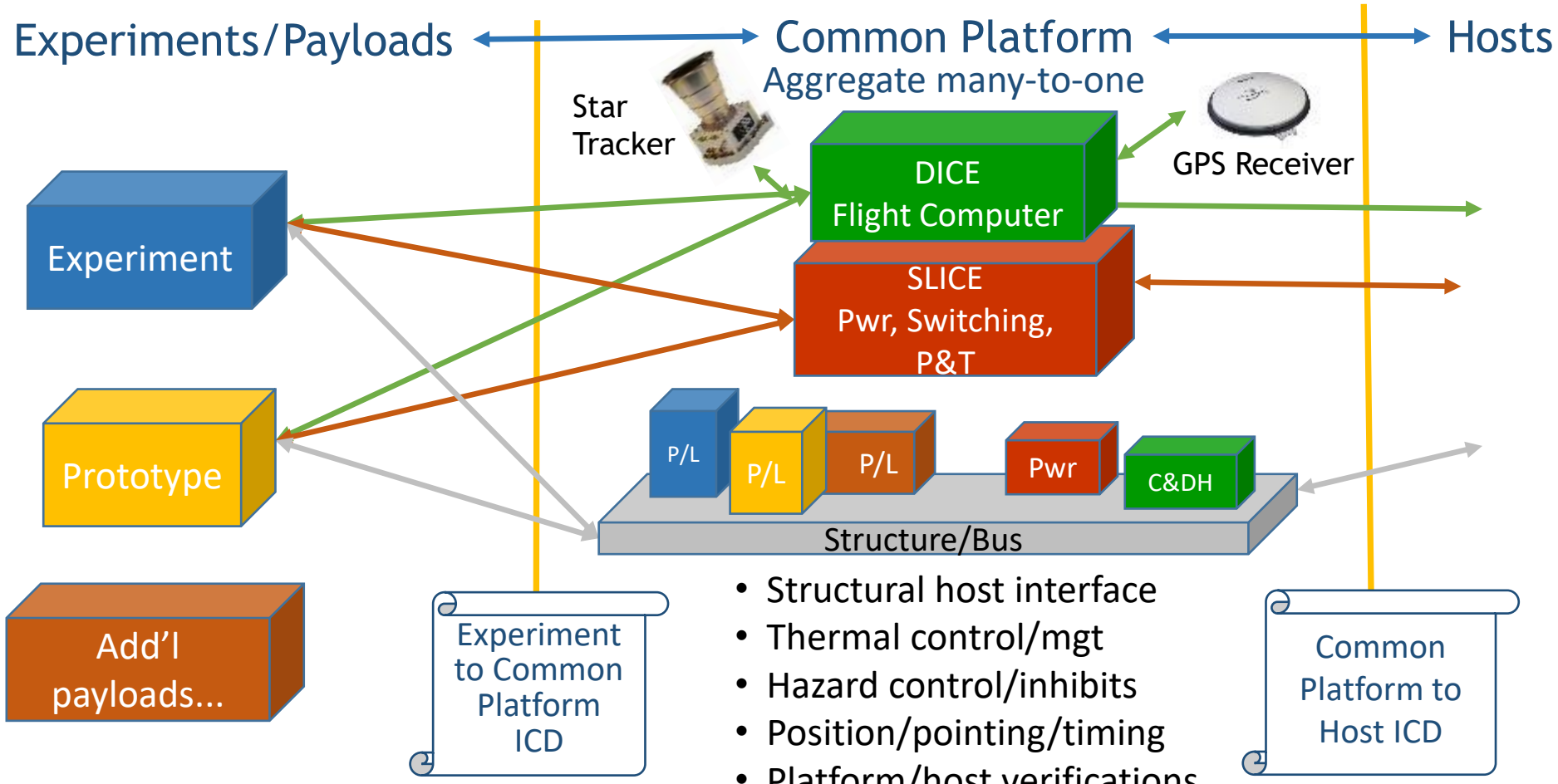

STP-H10

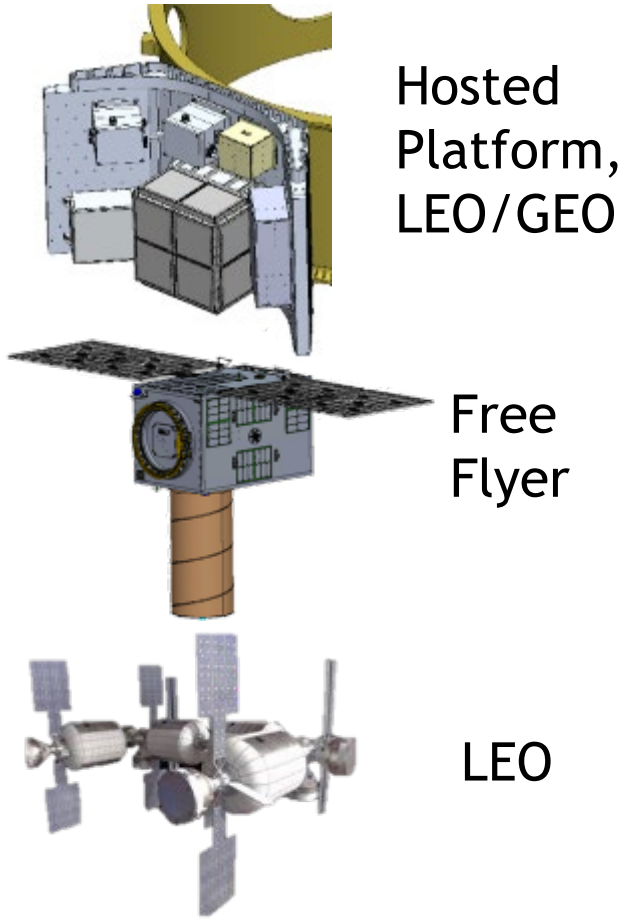

STPSat-7


STP-HE1

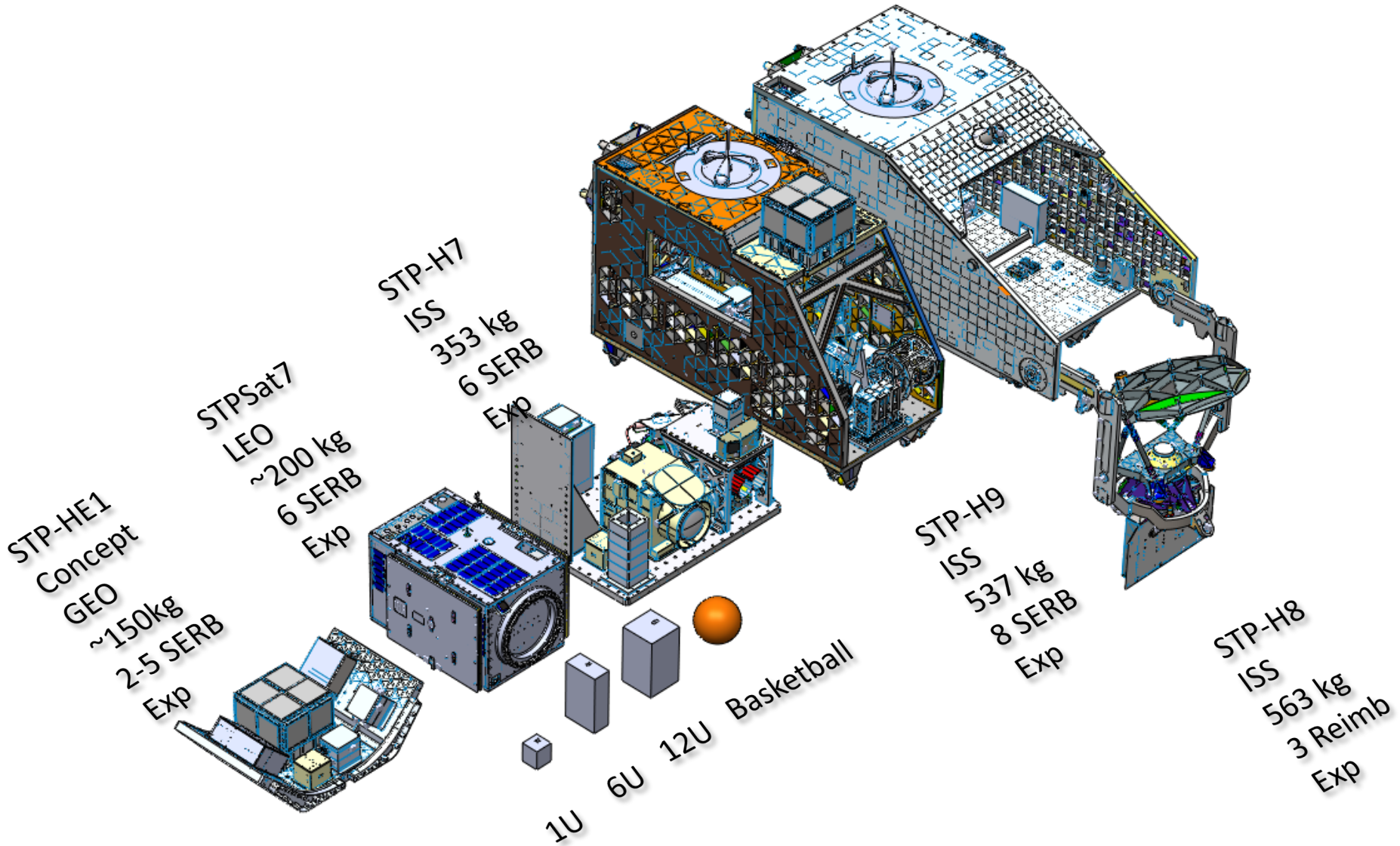
Common Platform

- Key Attributes: Reuse, Reliability, Responsiveness, Cost Efficient, Manifest Flexibility – Many-to-One Standard Interface



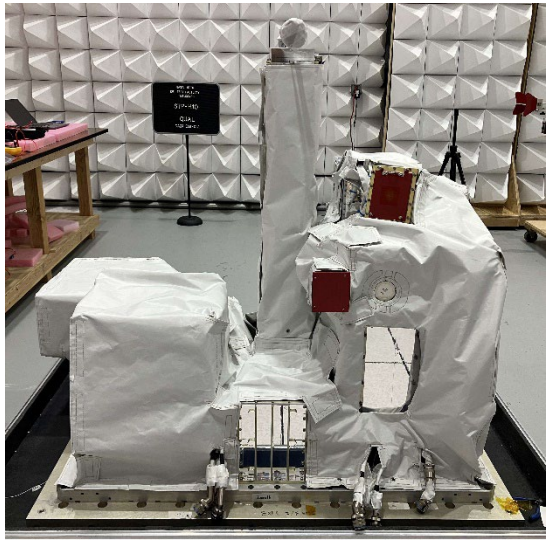


Common Platform Comparison



Developmental Missions

STP-H10 Overview



Milestones

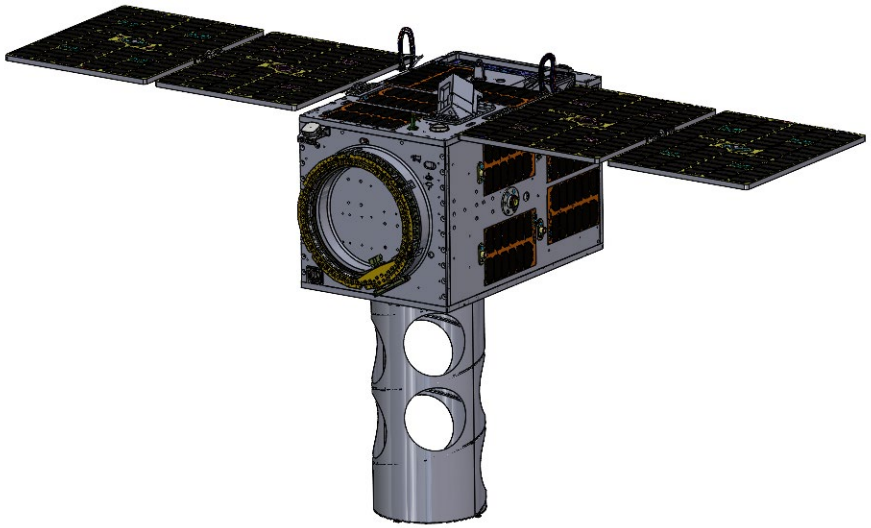
- ✓ Apr '22 - Kickoff
- ✓ Jan '23 - Preliminary Design Review
- ✓ Aug '23 - Critical Design Review
- ✓ May '24 - Experiments Delivery complete
- ✓ Aug '24 - Environmental Testing complete
- ❑ Aug - Feb '25 – Launch Site Processing/dwell
- ❑ Mar '25 – Turnover to SpaceX
- ❑ 2 Apr '25 - ILC

Mission

- Mission Payloads:
  - NeRDI-1B
  - Falcon ODIN
  - TERI
  - SPADE-3
  - SEED
  - SFXTI (NASA)
- Mission Assurance: Class D R&D Mission
- Launch mass: <400 kg
- Mission Life: Nominal 1 year
- Orbit: LEO (ISS), 416 x 409 km, 51.65° orbit

Specifics

- Major Customers: NRL, USAFA, MDA, NASA
- SV Contractor: Aegis Aerospace, Inc.
- Ground System: DoD STP-Houston Payload Ops Control Center (POCC)



Milestones

- ✓ Phase 1 RFP – 10 Feb 2021
- ✓ Phase 1 Award - 19 Apr 2021
- ✓ Phase 2 RFP - July 2021
- ✓ Phase 2 Award - Sep 2021
- ✓ Identify Experiments – Oct 2021
- ✓ SRR – Dec 2021
- ✓ PI Kick-Off – Feb 2022
- ✓ PDR – June 2022
- ✓ CDR – Feb 2023
- ❑ Payload Integration Complete – Dec 2024
- ❑ Environmental Testing Complete – March 2025
- ❑ Pre-Ship Review – July 2025

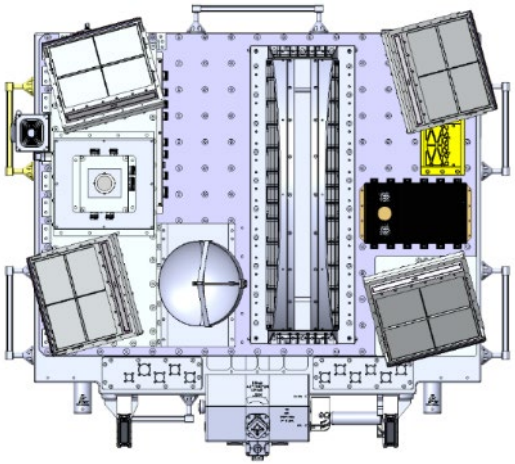
Mission

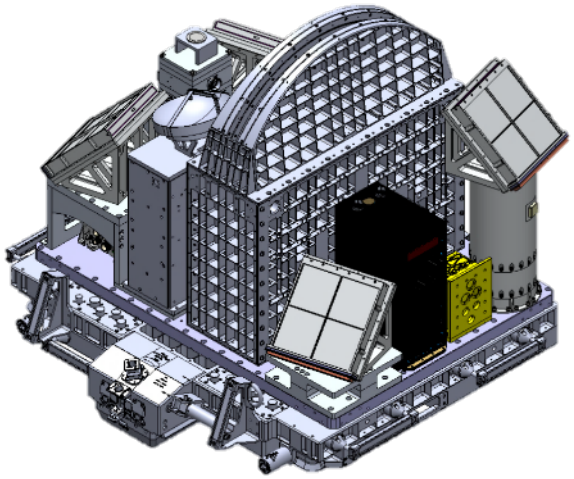
- Mission Payloads:
  - NanoUHF Comms
  - LARADO
  - GARI-1C
  - GOSAS
  - SFPE
- Mission assurance: Class D
- Launch mass - 200kg
- Mission life: Min 1 year
- Deployment orbit – LEO, 500km/60°
- Operating orbit - LEO, 500km/60°
- Propulsion – None

Specifics

- Major Customers: AFRL, NRL, USN
- SV Contractor: Aegis Aerospace, Inc
- Ground System: Houston POCC/STPOPS, OrbitXchange

STP-H11 Overview





Milestones

- ✓ Jun ’22 – ATP
- ✓ Apr ’23 - STORIE SRR, NASA funding milestone
- ✓ Aug ’23 - Kickoff
- ✓ Jan ’23 - Preliminary Design Review
- ✓ Aug’24 - Launch Vehicle Selection
- ✓ Aug ’24 - Critical Design Review
- ❑ Oct ‘24 – Jan ’25 - Experiment Delivery
- ❑ Mar-Jun ‘25 - Environmental Testing
- ❑ Aug ‘25 - Turnover Ready
- ❑ TBD ‘25 - Launch

Mission

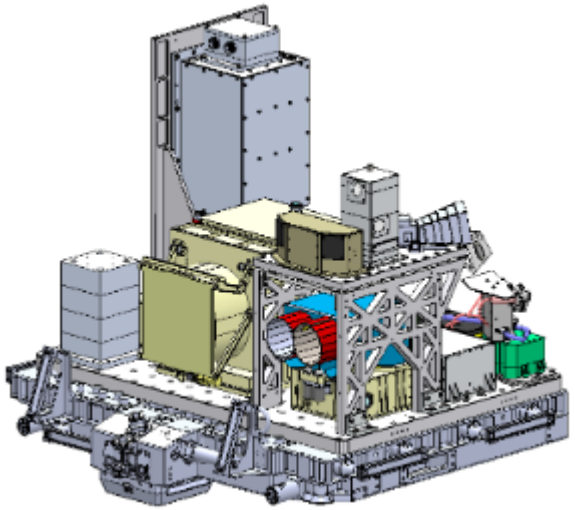
- **Mission Payloads:**
  - **AIMSS**
  - **DIADEM**
  - **Glowbug-2**
  - **SCARIF**
  - **STORIE(NASA)**
- **Mission Assurance: Class D R&D Mission**
- **Launch mass: <400 kg**
- **Mission Life: Nominal 1 year**
- **Orbit: LEO (ISS), 416 x 409 km, 51.65˚ orbit**

Specifics

- Major Customers: NASA (reimbursable), NRL, USA, LANL, AFRL, USAFA
- SV Contractor: Aegis Aerospace, Inc.
- Ground System: DoD STP-Houston Payload Ops Control Center (POCC)
- Launch: Dream Chaser DCC-2

STP-H12 Rideshare Requests

Payload



(STP-H7 representative)

Milestones

- Finalizing experiment selection/Bundle Baseline

Mission

- Current status: Mission Design (pre kickoff)
- Up to 12 DoD SERB Approved Experiments:
- ExPA Form Factor, same as STP-H7
- Launch mass: <400 kg
- Nominal 1 year mission life; 416 x 409 km, 51.65° orbit
- Launched on a commercial resupply vehicle to the ISS
- Class D R&D Mission

Specifics

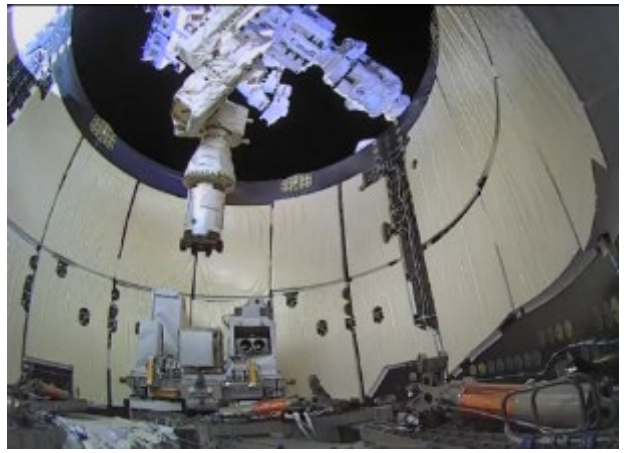
- ISS location selected – COL-SDX
- STP-H12 kickoff planned for March 2025

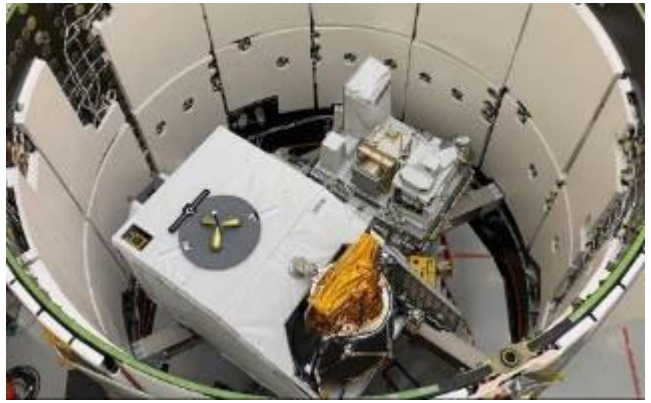
Mission Operations

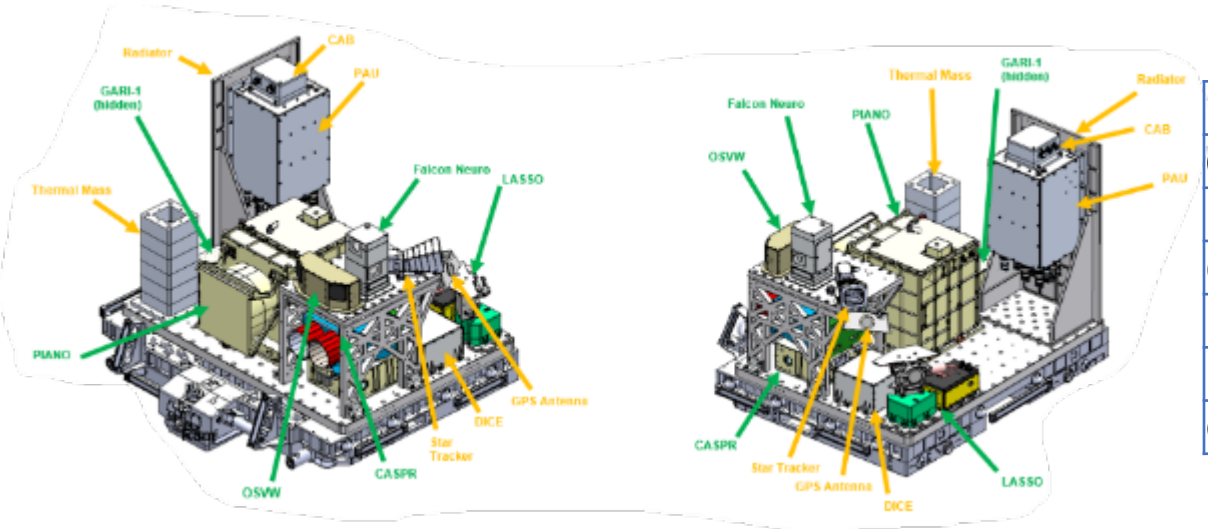
STP-Houston Concept of Ops

- General concept of operations
  - ‘Lights out’ as much as possible
  - Push experiment ops to the PI’s
  - Low ops overhead, minimize ops personnel needs, costs
- STP-HX Ops
  - Utilizes NASA’s communications
  - HOSC personnel can take limited action on STP-HX payloads if needed (hit limits, anomaly safing)
  - Principle Investigators POCCs are primary location for SERB experiments, Houston manages the Common Platform
- STPSat-7
  - Leverage STPOPS from STPSat-4
  - Experimenters generate commands for integration into payload plan

STP-H7 Operations





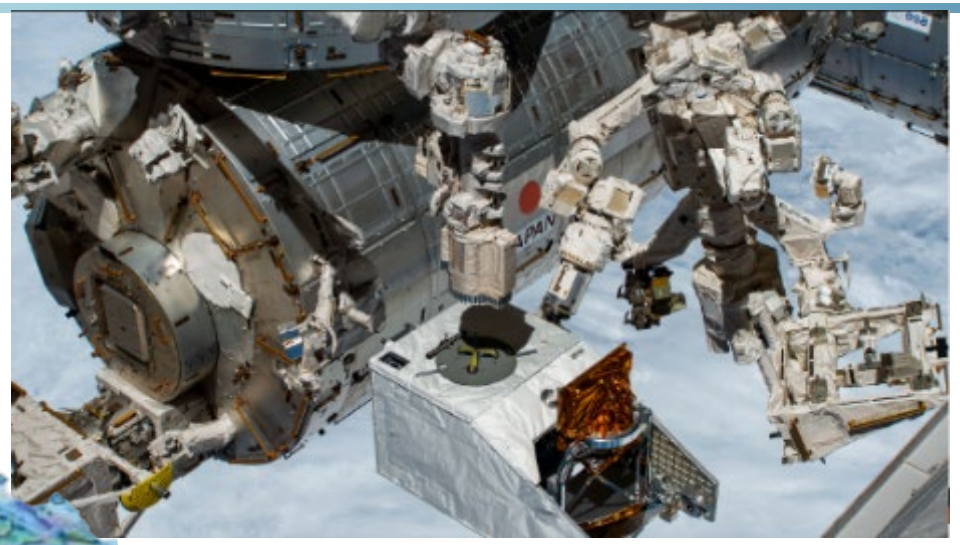


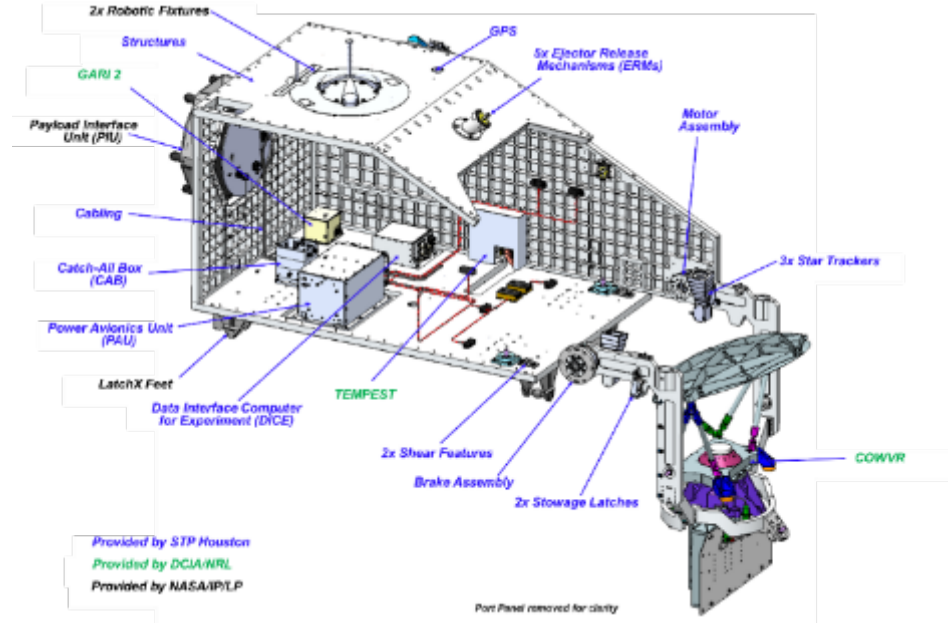
Launch: 21 Dec 2021

Experiment Science Objectives Progress - Extended Ops

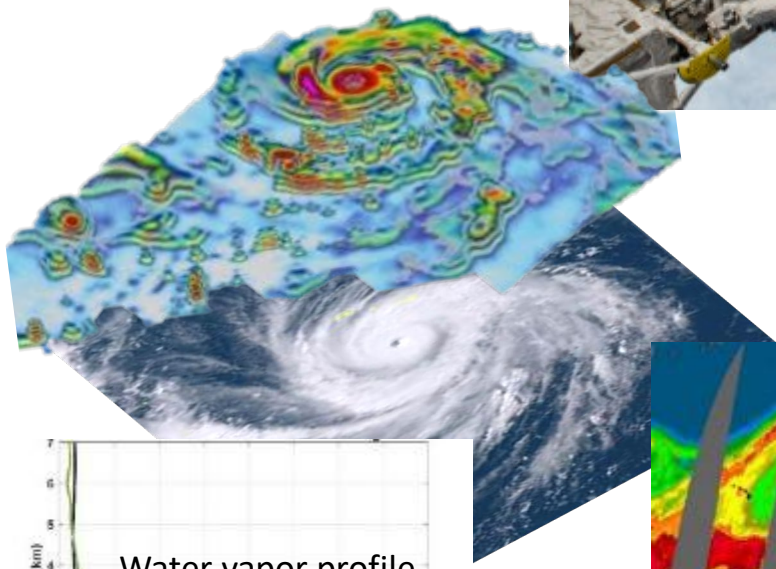
Experiment	Current (Apr 24)	Extended Ops	EOL (TBD)
OSVW	Max Complete	Ongoing to EOL	
PIANO	Min Complete	Ongoing to EOL	
CASPR	Max Complete	Ongoing to EOL	
FALCON NEURO	Max Complete	Ongoing to EOL	
LASSO	Min Complete	Ongoing to EOL	
GARI	Max Complete	Ongoing to EOL	

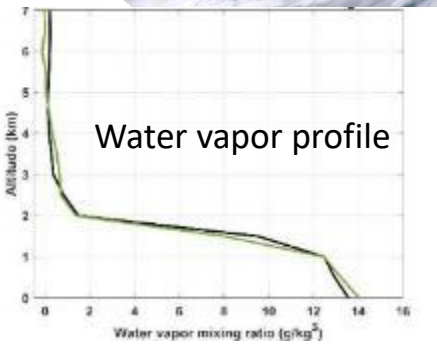
STP-H8 Operations

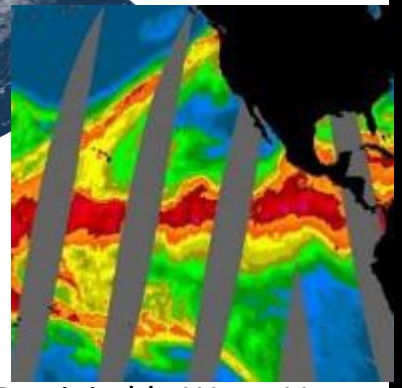




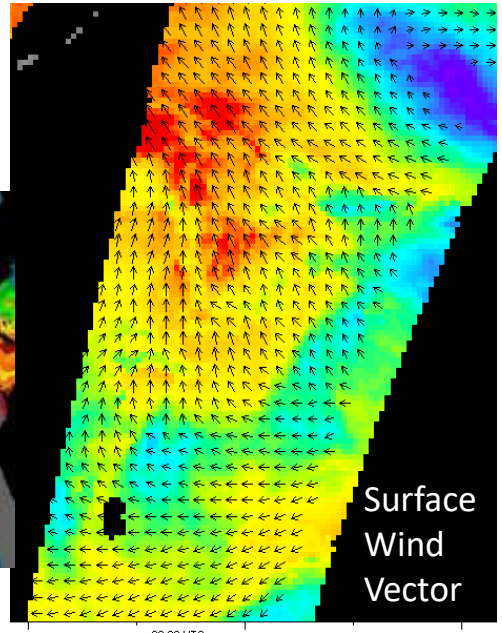
Convective precipitation and ice water path







Precipitable Water Vapor

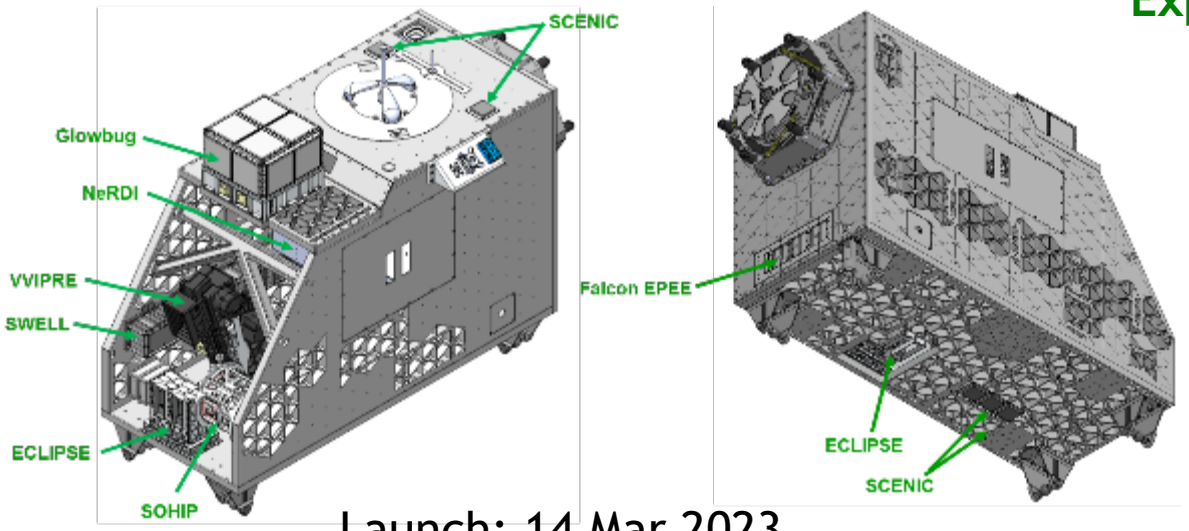


Experiment Science Objectives Progress

Experiment	Current (Apr 24)	Jan 25	EOL – Sep 25
COWVR	Min Complete	Max Complete	
TEMPEST	Max Complete		
GARI	Max Complete		

STP-H9 Operations



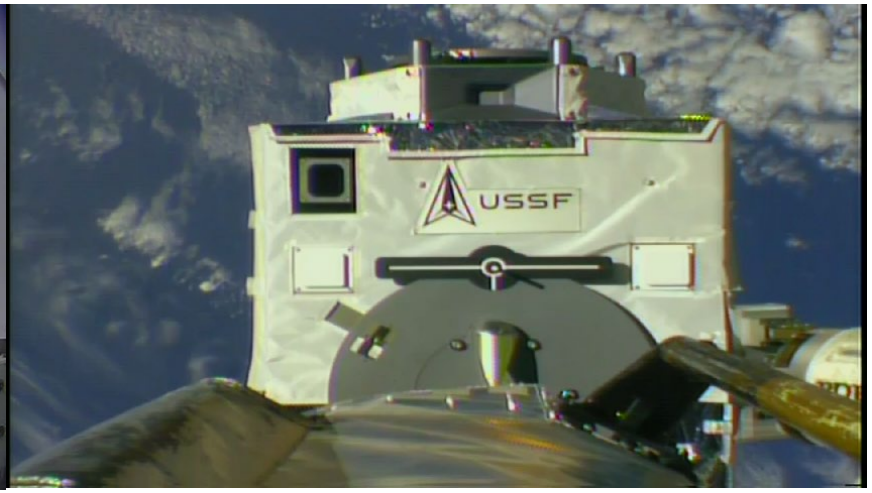


Launch: 14 Mar 2023

Experiment Science Objectives Progress - Mission Complete

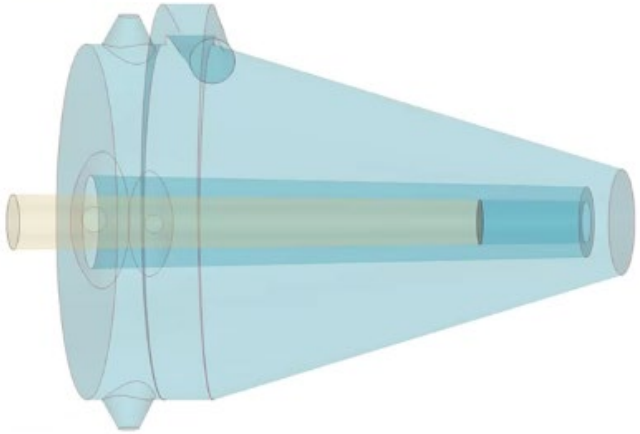
Experiment	Current	EOL – Apr 24
SCENIC	Max Complete	Max Complete
ECLIPSE	Max Complete	Max Complete
NeRDI	Max Complete	Max Complete
Glowbug	Max Complete	Max Complete
Falcon EPEE	Max Complete	Max Complete
VVIPRE	Max Complete	Max Complete
SWELL	Max Complete	Max Complete
SOHIP	Max Complete	Max Complete

STP-H9 Images



Services Only Missions

MicroGravity Sediment Trap (MGST) Description Overview



- Current as of: 11 Apr 24

Milestones

✓ Kickoff	30 Aug 22
✓ PDR	10 Jul 23
✓ Phase 0/1 Safety Review	18 Jul 23
✓ CDR	04 Dec 23
✓ Environmental Test	22 May 24
✓ Phase III Safety Review	31 May 24
✓ SpX-31 Turnover	12 Jul 24
✓ Launch to ISS	17 Sep 24
❑ MSG Installation & Operations	01 Nov 24
❑ Return on SpX-32	26 Feb 25

Mission

Concept overview

- Create passive filtration device to remove contamination from spacecraft pumped fluid loops (PFLs) in microgravity

Designed for

- Low pressure drop (0.5-1.0 psid)
- Targeting microscale particles (less than 200um)
- No moving parts
- Operational for a wide range of flowrates
- Will be circulating not pressurizing. This is to measure flow rate, not pressure.

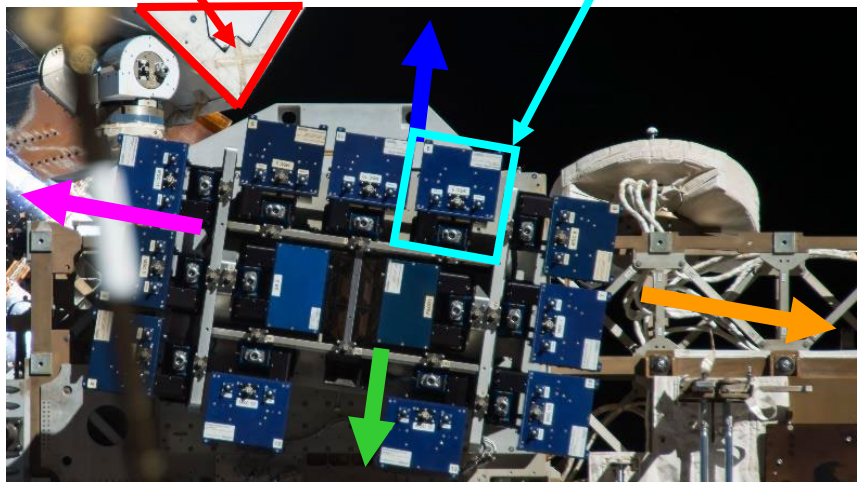
Deployed: IVA – days to weeks experiment timeline

Specifics

- Requirements Basis: 2020 DoD SERB, #54
- Major Customers: AFRL
- Contractor: (P) Aegis Aerospace, Inc.
- Ground System: N/A

MISSE-FF on ISS

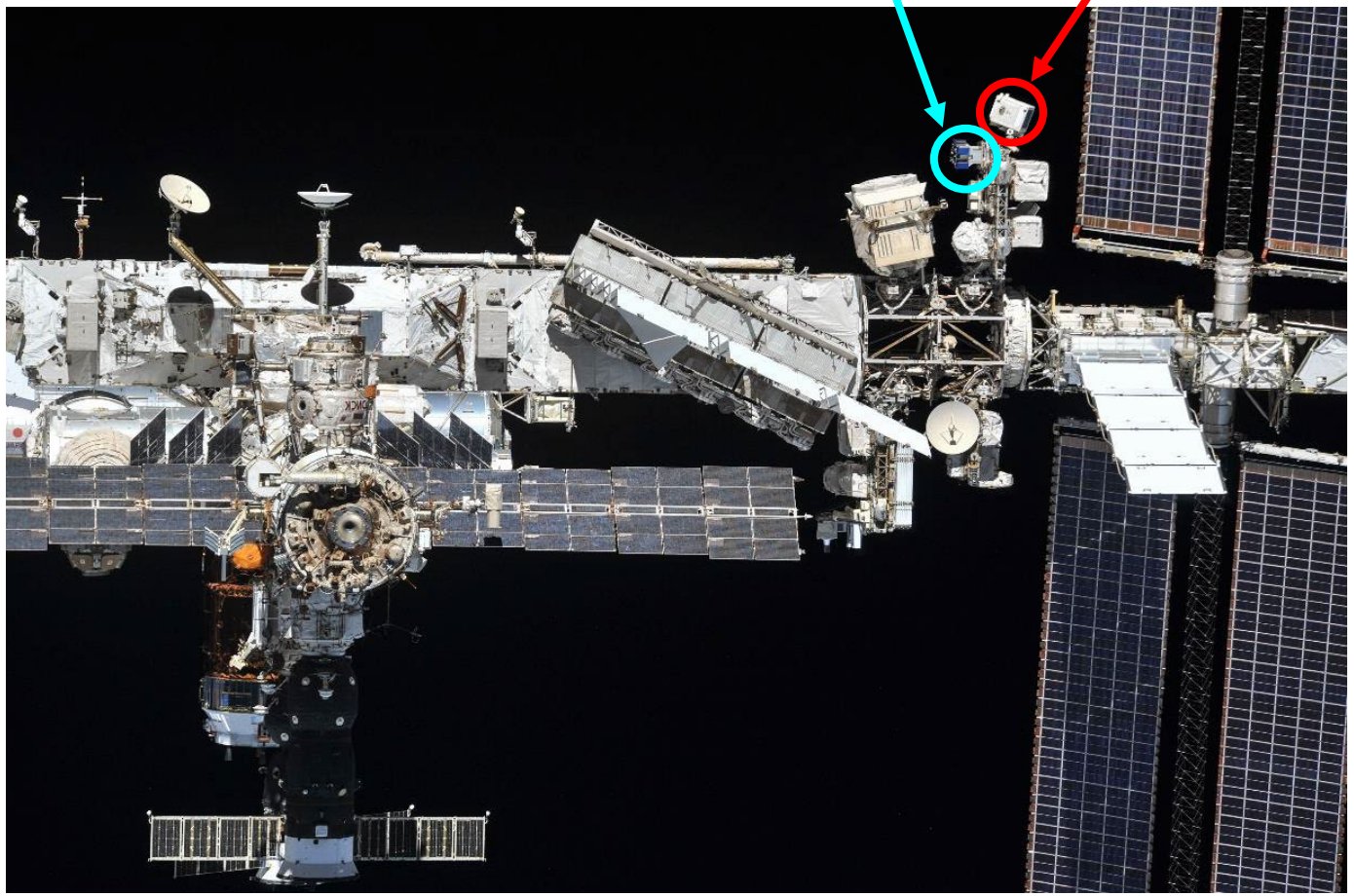
NICER SPIRRAL



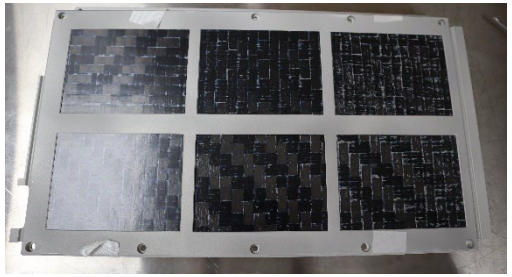
- Zenith view is unobstructed
- Nadir View is unobstructed
- Ram view is unobstructed
- Wake View is unobstructed

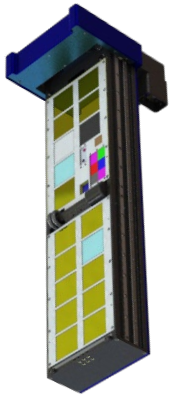
MISSE-FF on Express Logistics Carrier 2 Payload Site 3

NICER



RadShield & POLSS Overview





Milestones

- ✓ Contract Award: Mid October ’23
- ✓ TIM: Mid October ‘23
- ✓ Integration start: NLT 6 Nov ’23
  - ✓ Includes Environmental testing, NASA processes, 10K clean room integration
- ✓ Launch: SpX-30 21 Mar 2024 (MISSE-19)
- ❑ Operations: ~6 months
- ❑ Sample Return: ~SpX-31 Oct 24

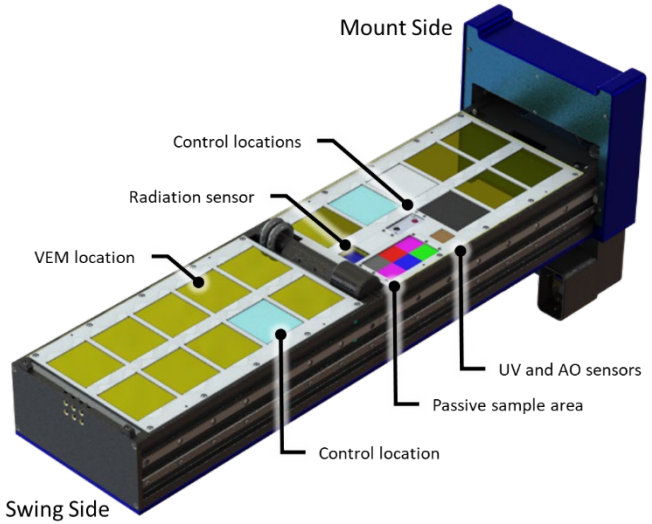
Mission

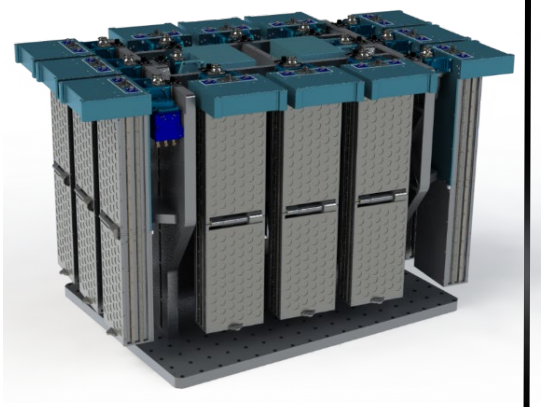
- 2 DoD SERB approved experiments
  - POLSS (#19, FY23 DoD SERB) - Planar Optics for Low SWAP Space
  - RadShield (#12 FY23 DoD SERB)
- POLSS: Demonstrate novel planar optical material space worthiness
- Radshield: Demonstrate layered polymeric radiation shield panels
- AFRL experiments will be hosted on Materials International Space Station Experiment (MISSE) Science Carrier
- One-year nominal mission on ISS/MISSE-FF
- LEO (413-422 km), 51.6° inclination

Specifics

- Requirements Basis: AFRL and DoD SERB
- Major Customers: AFRL
- Contractor: Aegis Aerospace Inc (Prime), Alpha Space (Sub)
- Ground System: Aegis Aerospace Inc. Control Room for MISSE-FF

SPIRRAL Overview





Milestones

- ✓ Kickoff: 15 Dec 2021
- ✓ Mech/Elec Design: Mar 22
- ✓ Procurement and Test: Jul 22
- ✓ Software Design: Aug 22
- ✓ Assembly: Sep 2022
- ✓ Integrated System Testing: Mar 23
- ✓ AFRL selected 3rd party to re-design/build SPIRRAL experiment.
- ✓ Redesign #2 Contract Mod: 29 Sep 23
- ✓ De-integration of old decks: 3 Oct 23
- ✓ Approve redesign #2: Dec 23
- ✓ MSC Integration: May 24
- ✓ Vibe & Thermal Testing: June-July 24
- ✓ EMI Testing: 8-11 Jul 24
- ✓ Turnover to CMC: 26 Jun 24
- ✓ Launch: 16 Oct 24 on SpX-31
- ❑ Operations: Nov 24 to Mar 2026
- ❑ Return from ISS: Apr 26 on SpX-33
- ❑ Return to AFRL: May 2026

System Capability

- 1 DoD SERB approved experiments

SPIRRAL (#10, FY21 DoD SERB)
- Space Power InfraRed Regulation and Analysis of Lifetime

- Variable Emissivity Materials for next-gen space vehicle thermal systems
- AFRL experiment will be hosted on Materials International Space Station Experiment (MISSE) Science Carrier
- One-year nominal mission on ISS/MISSE-FF
- LEO (413-422 km), 51.6° inclination

Specifics

- Requirements Basis: AFRL and DoD SERB
- Major Customers: AFRL
- Contractor: Aegis Aerospace Inc (Prime), Alpha Space (Sub)
- Ground System: Aegis Aerospace Inc. Control Room for MISSE-FF

LEO Integrated Flori-culture Experiment (LIFE) Overview

Milestones

- ✓ **DoD SERB Approval: 2023**
- ✓ **Kickoff: Apr 2024**
- ✓ **Turnover Ready: Aug 2024**
- ✓ **Launch: 28 Sep 2024**
- ✓ **Return: 23 Oct 2024**

Mission

- LIFE is the first in a series of USAFA experiments approved by the DoD SERB to investigate the impact of gravitational forces, radiation, and other factors on plant and root development
- LIFE flew 12 sealed samples in a USAFA-designed facility called the Space Optimized Plant Habitat In Array (SOPHIA)
- Each cuvette held germinating mustard seeds grown vertically in transparent medium under constant white/blue light

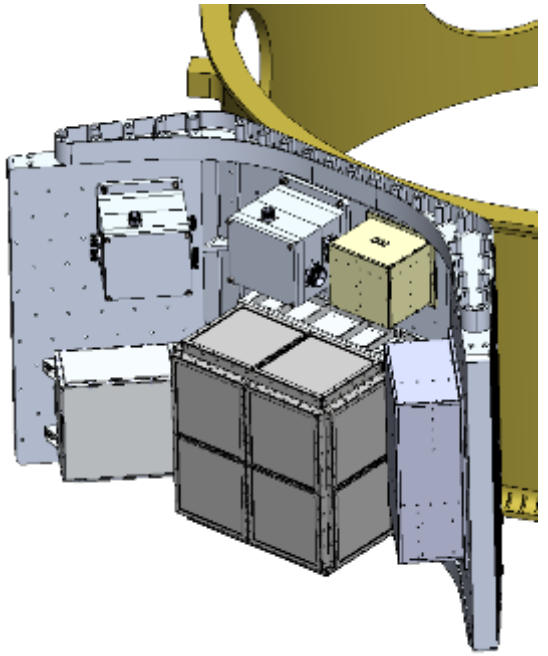
Specifics

- **Major Customers: USAFA**
- **SV Contractor: Rhodium Scientific**
- **Ground System: Normal ISS Comms**
- **Launch: NASA Crew-9, Return: Crew-8**

Other Houston Projects

STP-HEx Overview

- Expand STP-Hx Series to GEO - reimbursables and/or Prototypes
- Hosted ESPA-sized payload platform
- Repeatable common platform interface
  - Rad-hard parts upgrade
  - Streamline Experiment integration, reduce PI costs and timelines, reuse ISS platform simulators
  - Repeatable common platform interface from mission to mission
  - Single operational face to bus (ROOSTER, LDPE, etc.) operations



Notional representation

LEO to GEO - Common platform for STP experiments

Lunar Access through STP and NASA

Cislunar Opportunities

- Artemis Missions:
  - NASA funded mission - need to fund integration costs
  - Dependent on NASA timelines
  - Artemis systems:
    - Launch System
    - Orion Spacecraft
    - Gateway (Lunar Station)
    - Human Landing System
    - Artemis Base Camp
- Commercial Opportunities
  - 14 vendors under NASA's Commercial Lunar Payload Services (CLPS)
    - Access via NASA, STP-Houston or possible DIU pathway
  - Customer funded (STP)
    - Not in current STP budget
  - More options, flexible timelines
    - Options to deploy in TLI and Lunar Orbit
    - Options to land on surface

Hosting Rideshare Opportunities

- STP always open to hosting rideshare opportunities if room allows
- “Reimbursable” Payloads
  - STP-H5: LIS from MSFC
  - STP-H10: SFXTI from JSC
  - STP-H11: STORIE from GSFC
  - STP-H12: Room for small addition
  - STP-H13: Expect kickoff end of 2025 with flight in 2028

Summary

- STP is the DoD leader in Space R&D
- Developed the Common Platform through necessity of flying payloads on the ISS and need for efficient and timely access to space
- Extensive Skill set across Gov't, FFRDC, and Contractor
- Proven track record of payload development, integration, safety, operations
- STP is the DOD Single Face to NASA for Human Rated Spaceflight
- Open to rideshare opportunities – please contact the mission design team at: jsc-dl-wr-mission-design@mail.nasa.gov

For More Information

- The STP 50th Anniversary Video (2017): https://www.youtube.com/watch?v=ndkEcFIIpMs

- STP video (2014): https://youtu.be/TcnXwIyZh3w?si=pRBds_FAxLl8h0pC

For STP/STEM awareness:

- LECTENNA, a wireless power beaming experiment from NRL on the ISS: https://www.youtube.com/watch?v=zo7w0D6vz5g

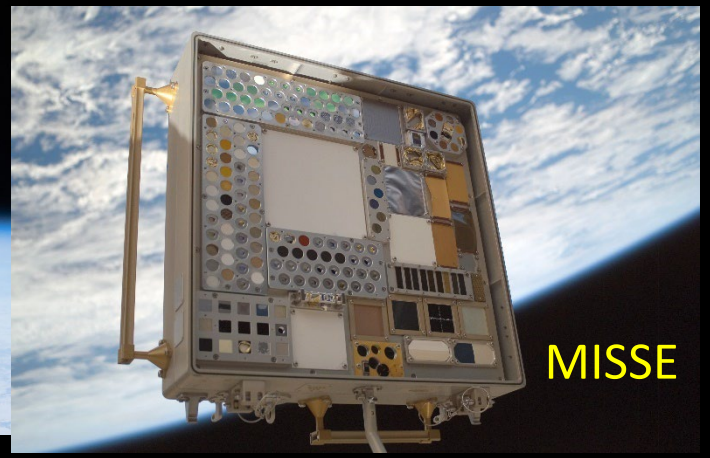
- The US Naval Academy robotic arms on the ISS videos: https://drive.google.com/file/d/1OTFVcIH773WJ-4_BlvFdEiQ08GJQusVD/view

STP-Houston Firsts

- 1st DoD payload on Shuttle mission STS-4 in 1982
- 1st internal DoD payload on Mir
- 1st internal payload on ISS (MACE II, 2000)
- 1st external payload on ISS (MISSE 1&2, 2001)
- Payload on 1st ISS Science Expedition (Oct 00-Mar 01) and all 71 Expeditions since
- 1st U.S. payload on RSA Progress re-supply vehicle (SPHERES, 2003)
- 1st U.S. payload on ESA's Columbus module (MISSE-6, 2008)
- 1st U.S. payload on JAXA's JEM-EF (HREP, 2009)
- 1st payload on 1st launch of HTV and H-IIB rocket (HREP, 2009)
- 1st (and 2nd and 3rd) Express Logistics Carrier payloads
- (MISSE-7 in Nov 2009, STP-H3 and MISSE-8 in May 2011)
- 1st payload to collect space vehicle reentry data (REBR, Mar 2011)
- 1st ISS ELC payload disposed of on JAXA HTV (STP-H3, 2013)
- 1st ISS deployment of a Small Sat using Cyclops (ESP-LDQ, Nov '14)
- 1st Duplex Space-to-Ground comm over Globalstar (GEARRSat, Mar 15)
- 1st Deployment of a USSF satellite – STPSat-4, Jan 20. It launched as a USAF satellite, but deployed from ISS as a USSF satellite
- 1st USSF swearing in on ground from Space (Col Hopkins, USSF astronaut on ISS, swore in 2 USSF captains on the ground) Feb 2021
- 1st USSF logo imaged in space – STP-H9, March 2023

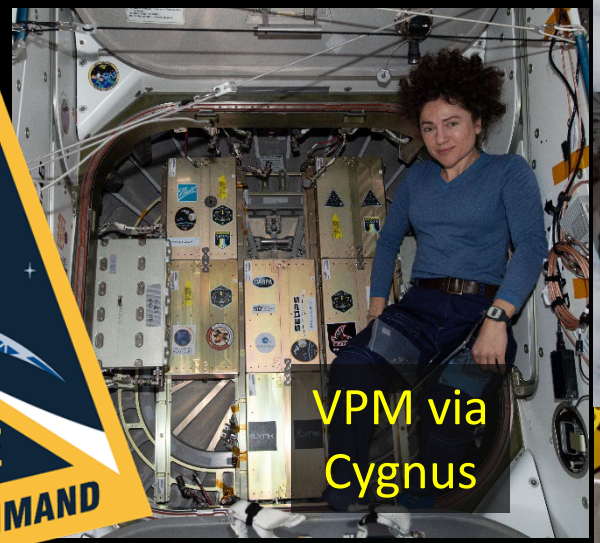
Questions?


STPSat-4

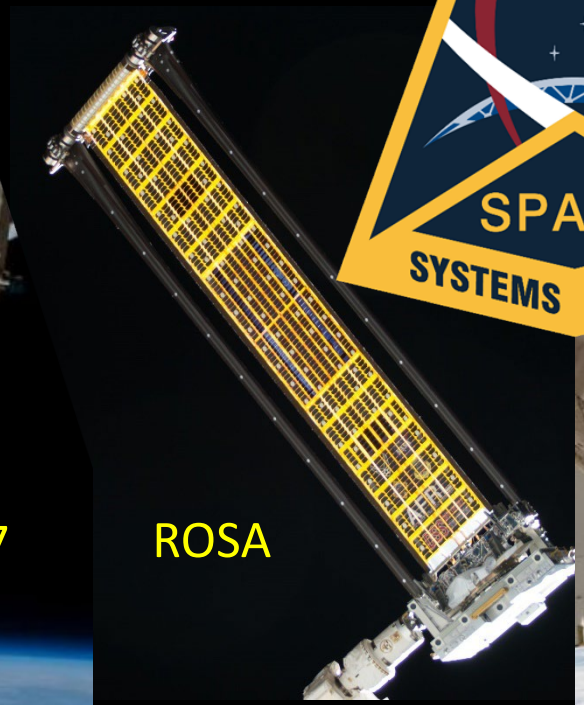

MISSE


Kestrel Eye


STP-H8


VPM via Cygnus


STP-H7


ROSA


STP-H5

STP-H9

Acronym List

ABQ	Albuquerque
AFB	Air Force Base
AFI	Air Force Instruction
AFRL	US Air Force Research Laboratory
AIMSS	Autonomous Ion Mass Spectrometer Sentry
AR	Army Regulation
C&DH	Command and Data Handling
CASPR	Configurable & Autonomous Sensor Processing Research
CDR	Critical Design Review
COL-SDX	ISS Location on outside of Columbus Module
COWVR	Compact Ocean Wind Vector Radiometer
CPFF	Cost Plust Fixed Fee
Cyclops	Space Station Integrated Kinetic Launcher for Orbital Payload Systems
DAF	Department of the Air Force
DARPA	Defense Advanced Research Projects Agency
DCC	Dream Chaser Mission Identifier
DHSTO	STP-Houston Contract Identifier
DIADEM	Diamond Drive for Enhanced Mobility
DICE	Data Interface Computer Experiments
DoD	Department of Defense
ELC	ExPRESS Logistics Carrier
EMI	Electro-Magnetic Interference
ERD	Experiment Requirements Document
ESA	European Space Agency
ESPA	Evolved Secondary Payload Adapter
ESTL	Electronic Systems Test Laboratory
ExPA	ExPRESS Pallet Adapter
FALCON NEURO	Neuromorphic Cameras for Sprite Detection and Imaging
Falcon ODIN	Falcon Optical Defense and Intelligence through Neuromorphics
FFP	Firm Fixed Price

FON	Flight Opportunity Notice
FOV	Field of View
GARI	GAGG Radiation Instrument
GEO	Geostationary Orbit
GOSAS	GNSS Orbital Situational Awareness Sensor
GPS	Global Positioning Sysem
HOSC	Huntsville Operations Support Center
HTV	HII Transfer Vehicle
ICD	Interface Control Document
ICD	Inteface Compliance Document
ILC	Initial Launch Capability
ISS	International Space Station
ISSP	Internation Space Station Program
JAXA	Japanese Aerospace Exploration Agency
JEM-EF	Japanese Experiment Module – Exposed Facility
KSC	Kennedy Space Center
LA	Los Angeles
LANL	Los Alamos National Laboratory
LARADO	Laser-sheet Anomaly Resolution and Debris Observation
LASSO	Local Area Space Surveillance Observation
LEO	Low Earth Orbit
LIFE	Low Earth Orbit Integrated Flori-culture Experiment
LIS	Lightning Imaging Sensor
LV	Launch Vehicle
MDA	Missile Defense Agency
MELSP	Melanized Microbes for Multiple Uses in Space
MGST	Microgravity Sediment Trap
MISSE-FF	Materials ISS Experiment Facility
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSFC	Marshall Space Flight Center

Acronym List

NanoUHFComms	Communication Solution for Nanosatellites in the UHF Band
NASA	National Aeronatics and Space Administration
NeRDI	Neutron Radiation Detection Isntrument
NIGHT	Non-Photosythetic Inquiry into Growth Habit Traits
NRL	US Naval Research Laboratory
OL-S	Operating Location - S (STP-Houston's Official Identifier)
OPNAVINST	Navy instruction
OSD	Office of the Secretary of Defense
OSVW	Ocean Surface Vector Winds
PAU	Power Avionics Unit
PDR	Preliminary Design Review
PI	Principal Investigator
PIANO	Phenomenology Imager and Nighttime Observer
PL	Payload
POCC	Payload Operation Control Center
POLSS	Planar Optics for Low SWaP Space
R&D	Research and Development
RadShield	Radiation Shield
RFP	Request For Proposal
ROOSTER	Rapid On-Orbit Space Technology and Evaluation Ring
RSAT	Robotic Arm Repair Satellite
S&T	Science and Technology
SAF	Secretary of the Air Force
SAF/SQT	Office of the Assistant Secretary for Space Acquisition and Integration Science, Technology & Engineering Directorate
SCARIF	Sensor to Calibrate and Analyze RF waves and Interstellar Frequencies
SEED	Space Edge Experiments and Demonstrations
SERB	Space Experiments Review Board
SFPE	Satellite Fingerprint Encryption with Ternary Key Management
SFXTI	Solar Flare X-Ray Timing Investigation
SLICE	Spacecraft power Loading and Inhibit Control to Experiments
SOHIP	Stellar Occultation Hypertemporal Imaging Payload
SOPHIA	Space Optimized Plant Habitat In Array

SPADE-3	Space PlasmA Dianostic suiteE
SPIRRAL	Space Power InfraRed Regulation and Analysis of Lifetime
SpX	SpaceX Mission
SRR	Systems Requirement Review
SSC	Space Systems Command
STORIE	Storm Time O+ Ring Current Imaging Evolution
STP	Space Test Program
STPOPS	STP Ground Station
STS	Space Transport System (Space Shuttle)
SVQ	Space Vehicle Questionaire
SZI	Innovations and Prototyping Delta
SZIS	Space Test Program's Identifier (SSC/SZIS)
TEMPEST	Temporal Experiment for Storms and Tropical Systems
TERI	Cadmium zinc Telluride Radiation Imager
TIM	Technical Interface Meeting
U	Cubesat size metric
USAF	United States Air Force
USAFA	United States Air Force Academy
USN	US Navy
USSF	United States Space Force
WR	STP-Houston Mail Code at JSC
SCENIC	SpaceCube Edge-Node Intelligent Collaboration
ECLIPSE	Experiment for Characterizing the Lower Ionosphere and Production of Sporadic-E
Falcon EPEE	Falcon Electric Propulsion Electrostatic Analyzer Experiment
VVIPRE	Variable Voltage Ion Protection Experiment
SWELL	Space Wireless Energy Laser Link