Bridging the Gap to Flight: Access, Readiness, Cost



Danielle McCulloch
NASA'S FLIGHT OPPORTUNITIES PROGRAM

Norman Phelps
NASA'S LAUNCH SERVICES PROGRAM

Angela Melito
NASA'S COMMERCIAL LUNAR PAYLOAD SERVICES INITIATIVE

Aly Mendoza-Hill
NASA'S SPACE MISSION DIRECTORATE RIDESHARE

David Hitt
NASA'S SPACE LAUNCH SYSTEM

NASA'S FLIGHT OPPORTUNITIES PROGRAM



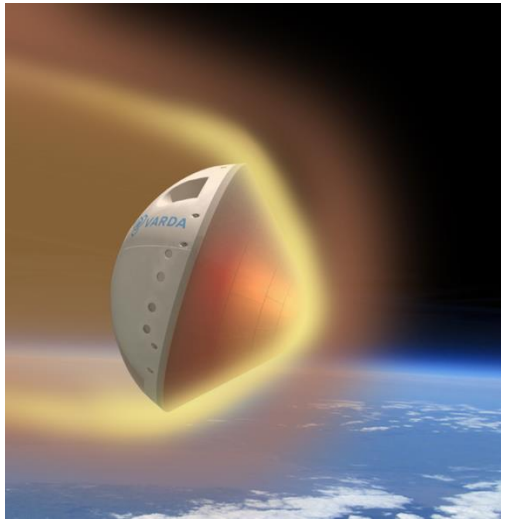


The **Flight Opportunities** program rapidly demonstrates promising technologies for space exploration, scientific discovery, and the expansion of space commerce through suborbital and hosted orbital testing with industry flight providers.

Program offers:

- Subject matter expexpertise on flight test with commercial providers
- Flight tests of technologies, instruments, and experiments through:
  - IDIQ contracts (available to all of NASA and OGAs)
  - Astute use of funding mechanisms
- Strategic investments in the growth of the U.S. commercial spaceflight industry











National Aeronautics and Space Administration

Credits (clockwise): Virgin Galactic, NASA/Matthew Kuhns, Blue Origin, Zero Gravity Corp., SpaceWorks Enterprises, Varda Space Industries., and Austin Buttlar

EXPANDING ACCESS TO COMMERCIAL CAPABILITIES VIA FLIGHT OPPORTUNITIES CONTRACTS

Suborbital Rocket-Powered Vehicles



Credits: Virgin Galactic

- Astrobotic
- Blue Origin
- Rocket Lab USA Inc.
- Virgin Galactic

High-Altitude Balloons



Credits: World View Enterprises

- Aerostar International LLC (acquired Near Space Corporation)
- Angstrom Designs
- World View Enterprises

Parabolic Flights



Credits: University of California, Berkeley

- Zero Gravity Corp.

Orbital Platforms Hosting Payloads



Credits: Varda

- Astro Digital
- Loft Federal
- Momentus Space
- Rocket Lab USA Inc.
- Space Exploration Technologies (SpaceX)
- Spire Global
- Tyvak Nano-Satellite Systems (Terran Orbital)
- Varda Space Industries

Links to payload user guides (PUGs) are available on Flight Opportunities website:
https://www.nasa.gov/stmd-flight-opportunities/flight-provider-overview/

National Aeronautics and
Space Administration

Venture-Class Acquisition of Dedicated and Rideshare (VADR)
&
CubeSat Launch Initiative (CSLI)



Norman Phelps: Norman.L.Phelps@nasa.gov
Caley Burke: Caley.A.Burke@nasa.gov

Launch Services Program

NASA-KSC

https://www.nasa.gov/kennedy/launch-services-program

Launch Services Program

VADR Launch Service Providers









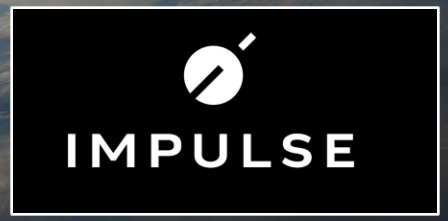










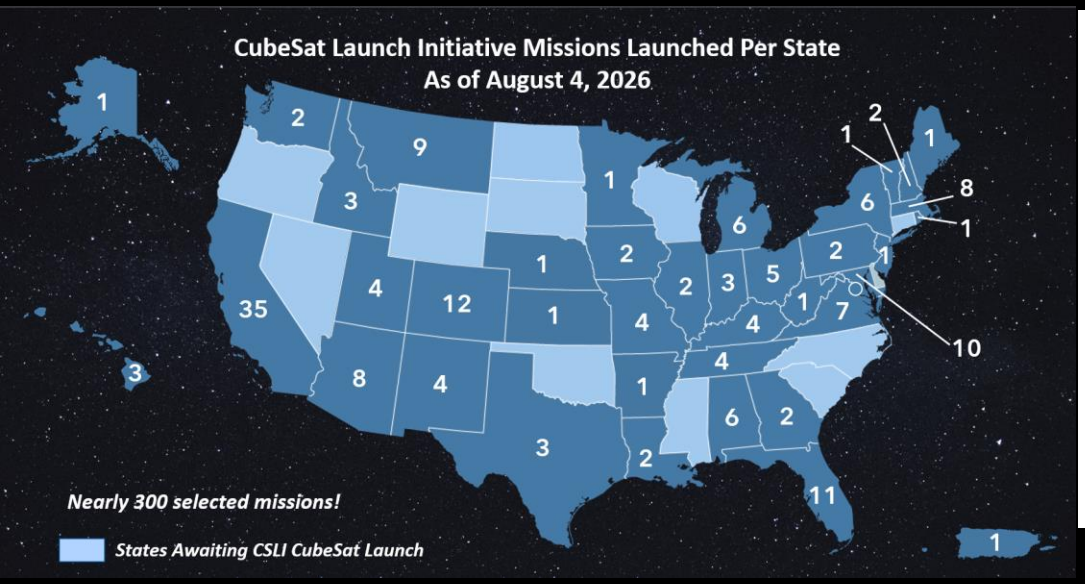


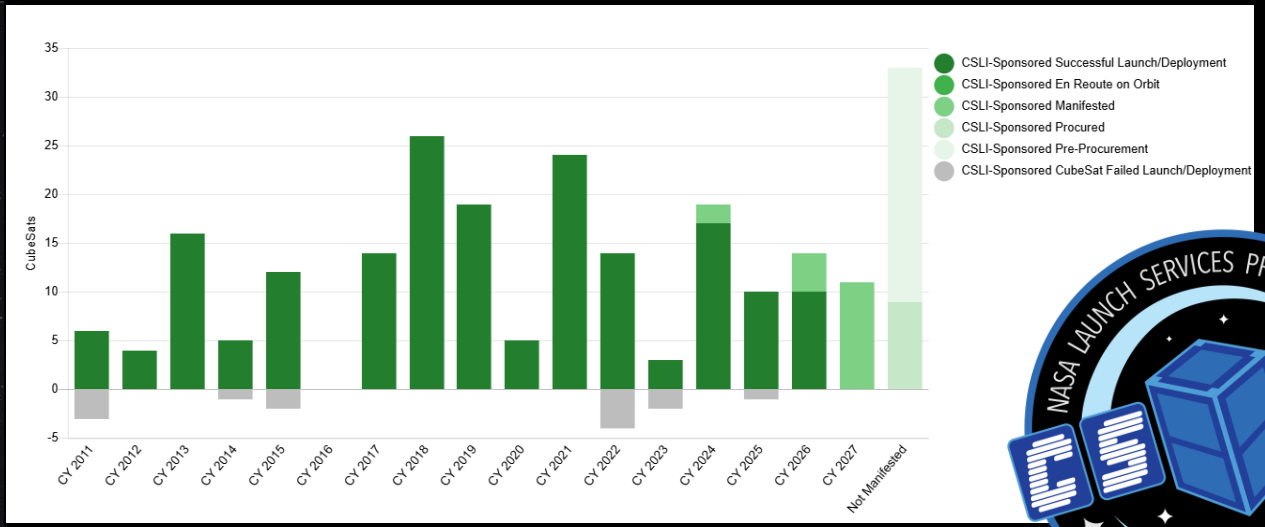




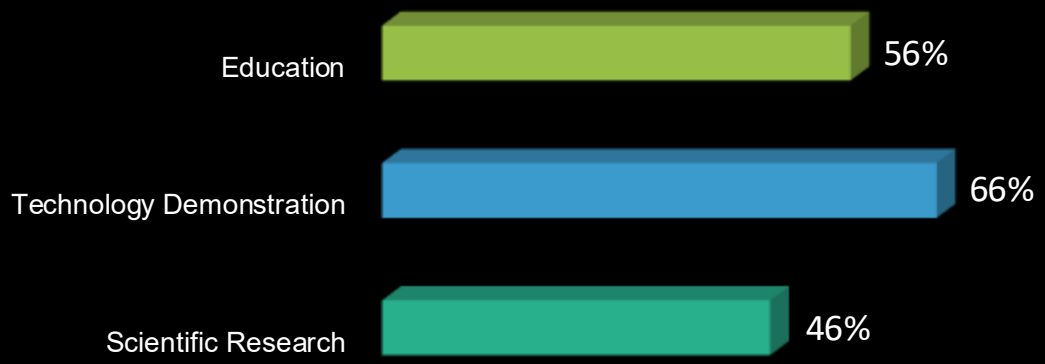


CSLI Still Alive… and Launching!





Mission Primary Focus Areas



- ***What is CSLI***
  - CSLI provides launch opportunities for US developed CubeSats
- ***What CSLI has done:***
  - Launched 190+ Missions across Academia, Non-profits, FFRDCs and NASA Centers
- ***What CSLI is doing this year:***
  - 11 missions launched in 2026; 4 more scheduled later this year
- ***Where CSLI is going:***
  - Next Announcement Of Partnership Opportunity (AoPO) in 2028, biannual releases planned
- ***CSLI needs you:***
  - Accredited Educational Organizations, US Non-profits and NASA Centers/FFRDCs invited to apply

CSLI
CubeSat Launch Initiative

Scan the QR code
for more information about
NASA's CubeSat Launch Initiative

NASA Launch Services Program

Data current as of 08/04/2026

Commercial Lunar Payload Services

Through the Commercial Lunar Payload Services (CLPS) initiative, NASA is working with American companies to deliver scientific, exploration, and technology payloads to the Moon's surface and orbit.

CLPS enables rapid, affordable, and frequent access to the lunar surface via a growing market of American commercial providers

Task orders are awarded to CLPS vendors to transport NASA payloads end-to-end – to the lunar surface

NASA wants to be one of many customers for CLPS vendors

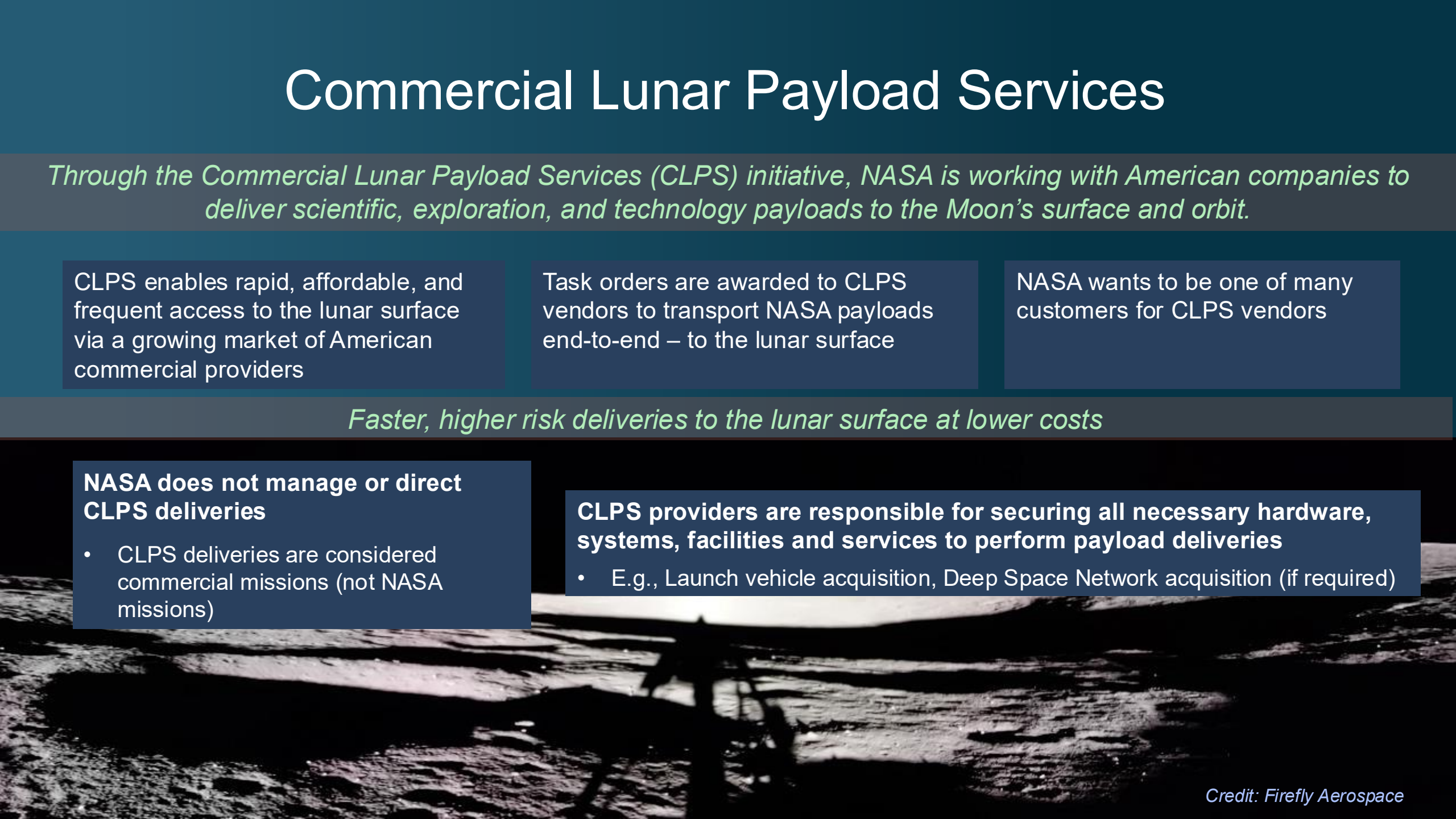
Faster, higher risk deliveries to the lunar surface at lower costs

NASA does not manage or direct CLPS deliveries

- CLPS deliveries are considered commercial missions (not NASA missions)

CLPS providers are responsible for securing all necessary hardware, systems, facilities and services to perform payload deliveries

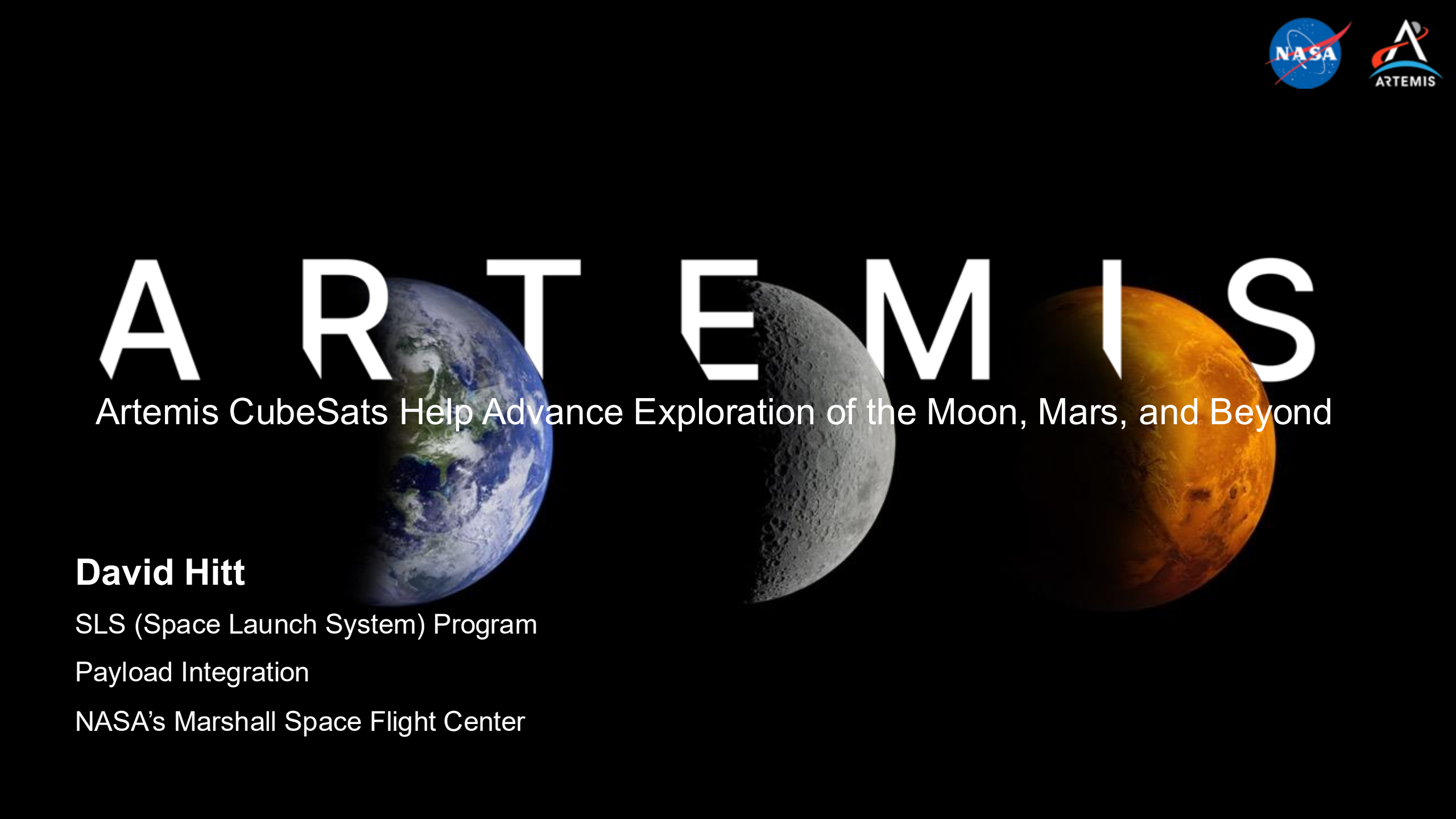
- E.g., Launch vehicle acquisition, Deep Space Network acquisition (if required)



Credit: Firefly Aerospace

CLPS Contract Provider Pool





Artemis CubeSats Help Advance Exploration of the Moon, Mars, and Beyond

David Hitt

SLS (Space Launch System) Program

Payload Integration

NASA's Marshall Space Flight Center

SLS CUBESAT ACCOMMODATIONS





ARTEMIS I

First Mission
(Uncrewed Test Flight)



COMPLETE

ARTEMIS II

First Artemis Crew



COMPLETE

ARTEMIS III

First Artemis Docking in Space
With Human Landing System



ARTEMIS IV

First Artemis
Human Surface Landing



ARTEMIS V+

Annual Mission Cadence
Sustained Lunar Presence



National Aeronautics and Space Administration

Bridging the Gap to Flight: Access, Readiness, and Cost

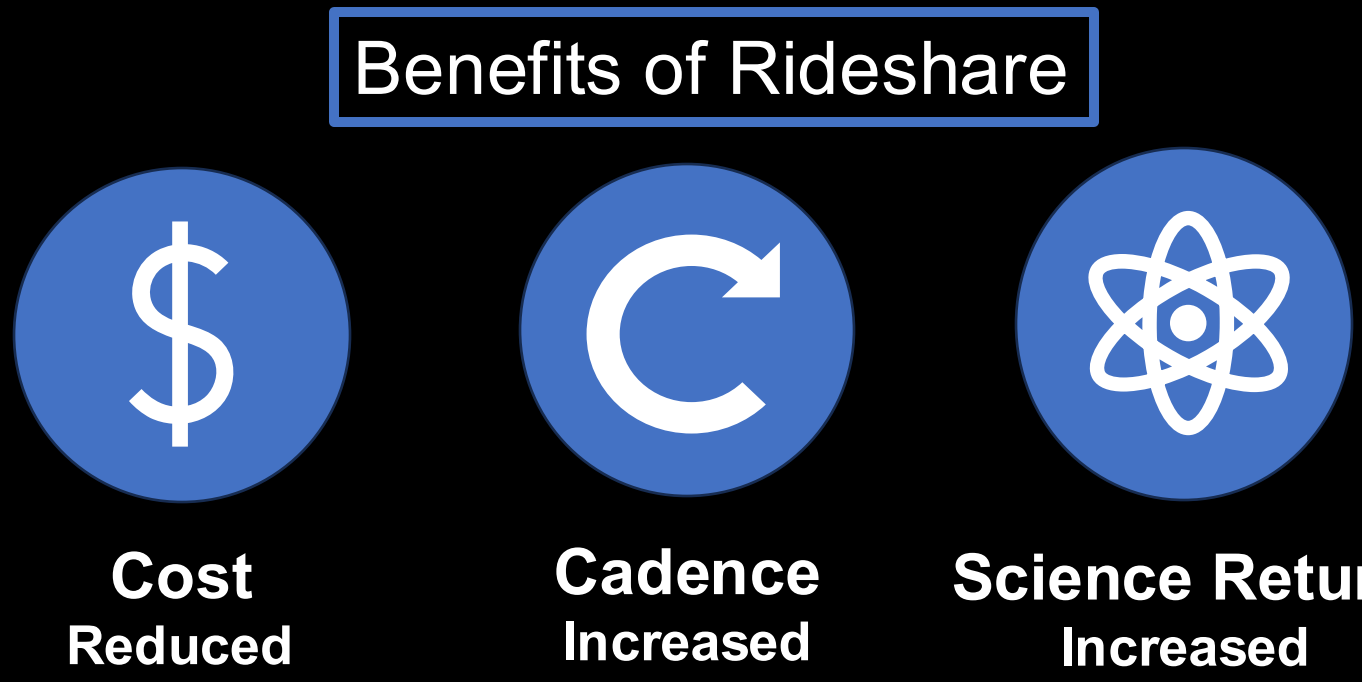
40th Annual Small Satellite Conference
Wednesday, August 26, 2026
10:00- 10:45 AM

- Understand the options and pathways to getting your payload to space – from hosted payload options to launch opportunities to Earth and lunar destinations.
- This session tackles readiness gaps, funding challenges, and cost realities to help you successfully navigate the journey to flight.

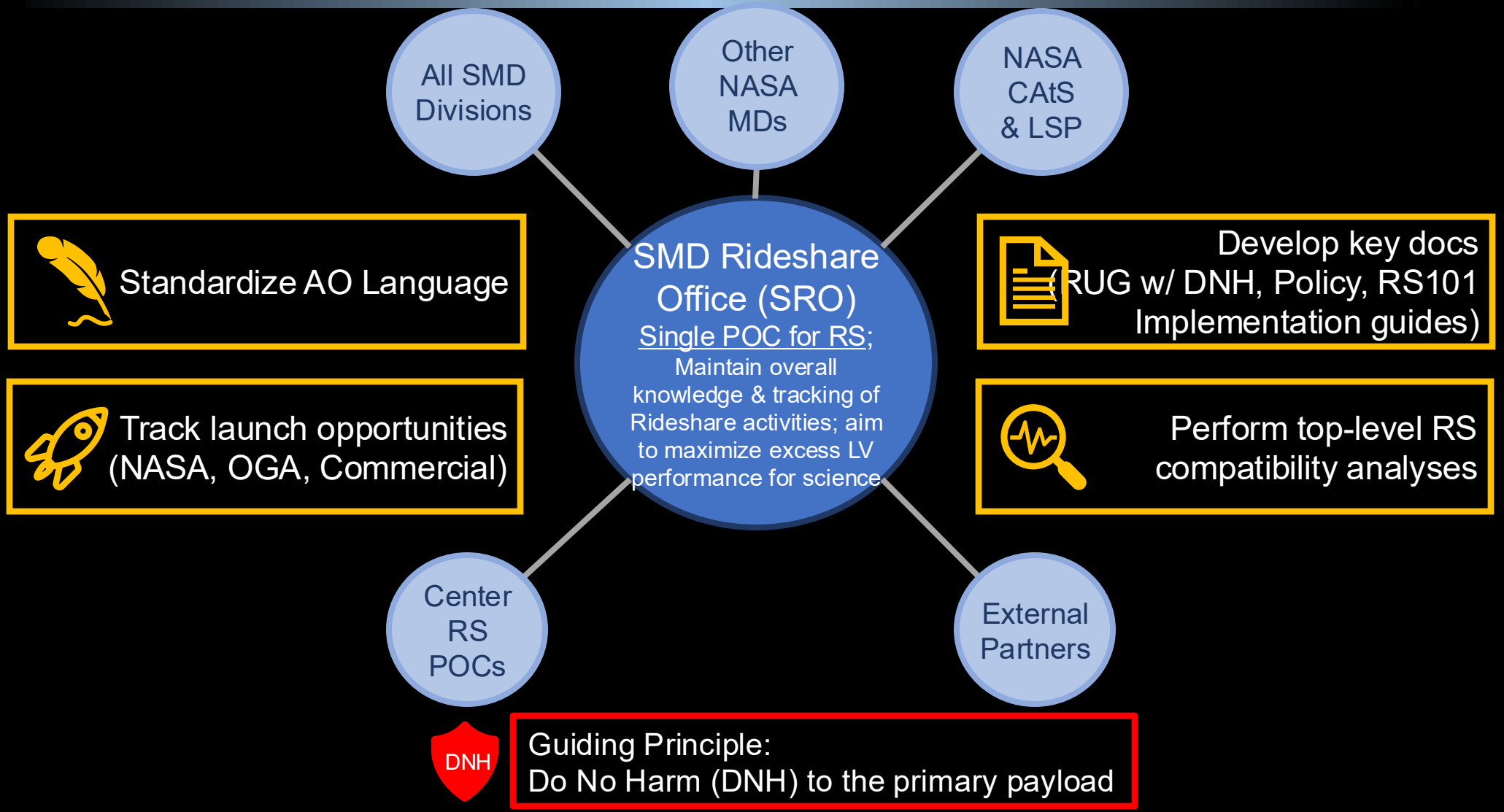
Aly Mendoza-Hill
SMD Rideshare Lead (& Access to Space)
- NASA Heliophysics Division Program Executive for the SMD Sounding Rocket Program and Wallops Flight Facility Research Range, JEDI, & Carruthers

Small Sats have Changed SMD

- Small spacecraft technology transformed how SMD thinks about science
- Since 2018, NASA has recognized rideshare as a strategic enabler that expands access to space and accelerates the delivery of more scientific missions in a cost-effective way.



SMD Rideshare Office (SRO) Intro



LAUNCHED
March 11

SPHEREx
PUNCH

National Aeronautics and Space Administration

NASA SMD RIDESHARE

Maximizing science return on investment.

We deliver small sats anywhere
from LEO to L1 and beyond.

2025 NLS-II Launches

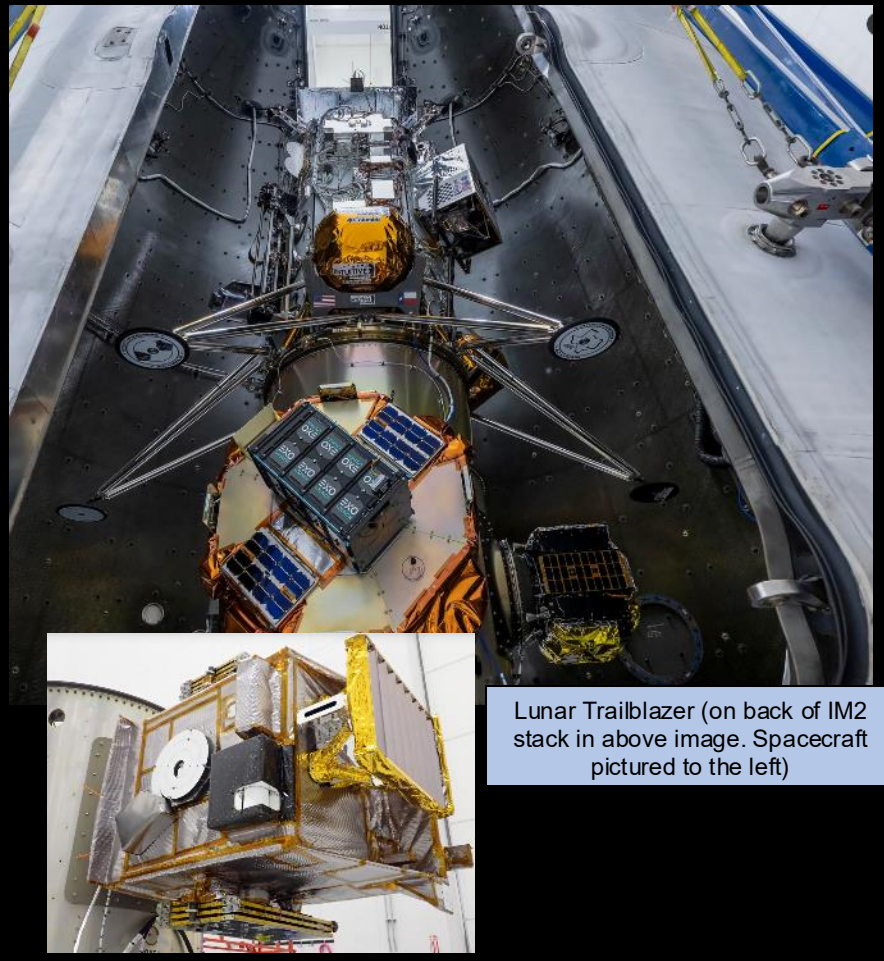


LAUNCHED
Sept 24

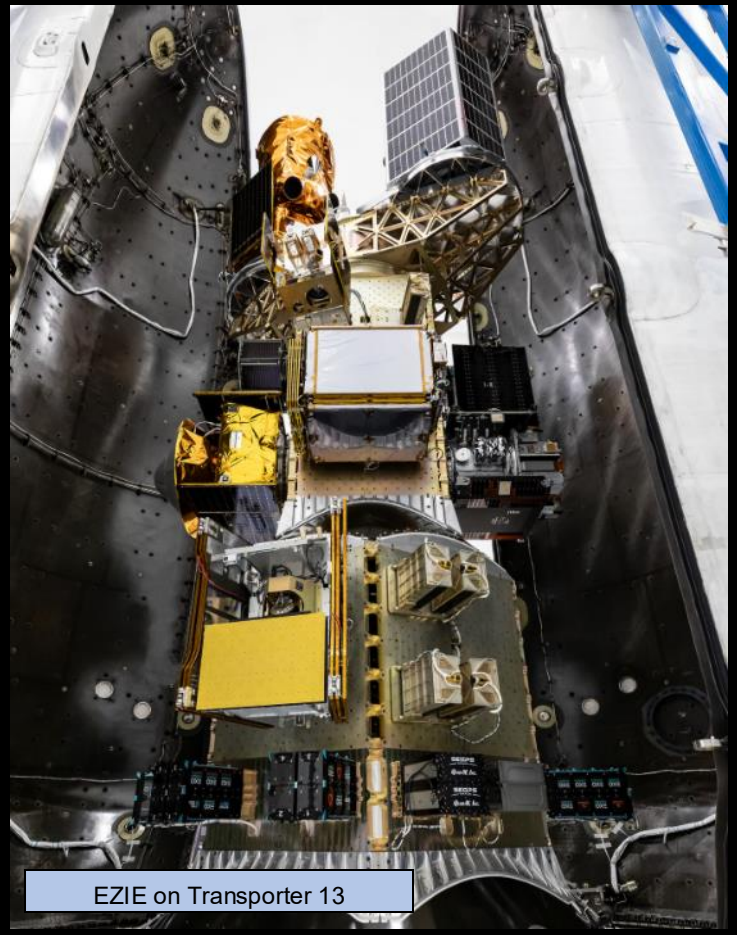
IMAP
CARRUTHERS
SWFO-L1

nasa.gov

Other 2025 NASA Rideshare Launches



Lunar Trailblazer (on back of IM2 stack in above image. Spacecraft pictured to the left)



EZIE on Transporter 13



TRACERS
w/ NASA PExT, Athena EPIC, and REAL

NASA HQ
Science Mission Directorate
Rideshare Office (SRO)

National Aeronautics and Space Administration

Aly Mendoza-Hill – SMD Rideshare Lead, HPD Program Executive
Joe Westlake, HPD Division Director
Nicole Rayl, HPD Deputy Division Director
Asal Naseri, HPD Assoc Director for Flight Programs
Katie Nelson, SMD Rideshare Process Analyst

Aly



Katie



Current Opportunities & S3VI Resources:

- NASA Launch Portal: https://s3vi.ndc.nasa.gov/launchportal/
- Upcoming SmallSat Mission solicitations: https://www.nasa.gov/smallsat-institute/nasa-smallsat-opportunities
- NASA SMD Rideshare Guide: https://www.nasa.gov/wp-content/uploads/2023/09/smd-spa-rug-with-dnh-generic-july2023.pdf?emrc=c623f9

For SMD Rideshare inquiries, contact us at:
HQ-SMD-Rideshare@mail.nasa.gov

Access to Space Options



Free flyers

Dedicated Vehicles

- NLS II
- VADR
- PI Procured Launch

Rideshare

- NLS II
- RS on OGAs or Intl Partners
- VADR
- PI Procured Launch
- Artemis Cubesats
- CSLI
- Other Cubesats

Co-manifest

- NLS-II
- VADR

Instruments

Hosted Payloads

- CLPS
- ISS
- Flight Ops Hosted Services

Suborbital

- Sounding Rockets
- High Altitude Balloons
- Flight Ops Hosted Services