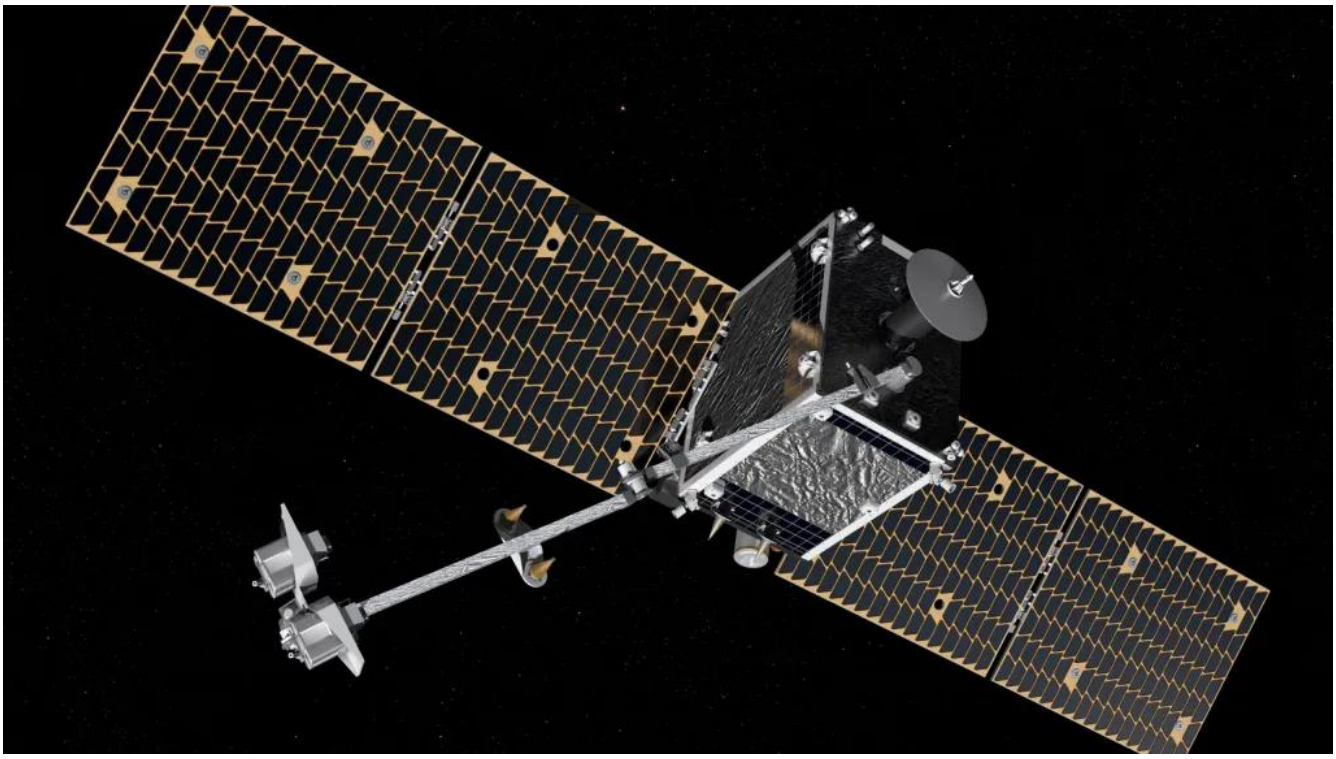
Northrop Grumman Growing SpaceLogistics



You may remember Northrop Grumman launched a couple of Mission Extension Vehicles (MEV-1 and MEV-2) in 2019 and 2020. Those missions may be considered more or less “technology demonstrator” missions. However, looks like they’ve got future orders for their new Mission Robotic Vehicles! These are more capable vehicles which include Mission Extension Pods, and may represent a transition to more “operational” servicing missions. Australia’s Optus was the first customer, with Intelsat now buying the two remaining pods

- https://spacenews.com/intelsat-orders-another-refueling-mission-from-northrop-grummans-spacelogistics/

Astrobotic Moving Beyond CLPS

Astrobotic (more to follow), the company behind the Peregrine lander, and first customer payload aboard ULA's Vulcan-Centaur will be conducting another mission aboard a Falcon Heavy, this time outside of the NASA CLPS program. Who will be the customers aboard this mission? Has CLPS succeeded in promoting the development of a real commercial service to the Moon?

- https://spacenews.com/astrobotic-purchases-falcon-heavy-for-third-lunar-lander-mission/

SpaceX / Starship

SpaceX is planning the third integrated test flight of its Starship vehicle in February, aiming to demonstrate key technologies for lunar landings. Jessica Jensen, SpaceX's Vice President of Customer Operations and Integration, highlighted the importance of securing an updated Federal Aviation Administration launch license, with hardware readiness targeted for January. SpaceX is addressing corrective actions from the second Starship test flight on November 18, where the Super Heavy booster exploded after stage separation. The third flight aims to demonstrate propellant transfer capabilities, a critical technology for NASA's Human Landing System program. Jensen estimated "ten-ish" propellant transfer launches may be required for a lunar mission. She emphasized leveraging SpaceX's experience with rendezvous, docking, and rapid launches from previous programs. The iterative process of flight and ground tests will determine the number of missions needed to achieve propellant transfer in orbit.

- https://spacenews.com/spacex-targets-february-for-third-starship-test-flight/

Virgin Galactic / Blue Origin

Blue Origin is making significant progress around its Kennedy Space Center and Cape Canaveral facilities as it aims to achieve major milestones in 2024. Recent sightings include a New Glenn first-stage tank section, referred to as the "First Stage Mid Module," outside Blue Origin's manufacturing facility. This module, a combination of liquid natural gas and liquid oxygen tanks, is a crucial part of the New Glenn booster. Blue Origin is also working on the Aft Module, Forward Module, and payload fairings, with tests conducted at Launch Complex 36. Additionally, the company is developing a large jig to support New Glenn first stages at Port Canaveral, indicating progress toward recovery operations. Blue Origin has introduced a new spacecraft platform named Blue Ring, designed for in-space services, including payload transportation, data relay, and refueling. The Blue Ring platform is expected to support payloads over 3,000 kilograms, demonstrating Blue Origin's entry into the growing market for in-space services.

- https://x.com/_mgde_/status/1745090999875949013?s=20
- https://www.nasaspaceflight.com/2023/11/new-glenn-milestones/

ULA / Vulcan

United Launch Alliance's (ULA) Vulcan Centaur successfully launched on its debut mission, designated Cert-1, from Cape Canaveral. The primary payload, Astrobotic's Peregrine lunar lander, was deployed from the Centaur upper stage, with a second payload from Celestis remaining attached. Peregrine is on a mission to land on the moon, carrying 20 payloads, including five from NASA as part of the Commercial Lunar Payload Services (CLPS) program. The launch marked a milestone for ULA, as Vulcan Centaur aims to replace the Atlas V and Delta 4 rockets. After releasing Peregrine, ULA planned tests of the Centaur upper stage to validate future mission objectives. The success is crucial for ULA's certification by the U.S. Space Force for national security payloads, with a second Vulcan Centaur flight scheduled for April.

- https://spacenews.com/vulcan-centaur-launches-peregrine-lunar-lander-on-inaugural-mission/

Peregrine Lander Lost

Astrobotic's Peregrine moon lander, launched atop the United Launch Alliance's Vulcan Centaur rocket on January 8, experienced a propellant leak that prevented it from landing on the moon. Astrobotic suspects that a valve failure between the helium pressurant and the oxidizer caused a rush of high-pressure helium, exceeding the oxidizer tank's operating limit and resulting in tank rupture. Despite the setback, Astrobotic remains transparent about the issue, providing updates and noting that the propulsion anomaly did not occur as a result of the launch itself. The company had aimed for Peregrine to be the first private spacecraft to softly land on the moon and was carrying payloads, including NASA's scientific instruments, which will not reach their intended destination.

- https://www.space.com/astrobotic-peregrine-moon-lander-anomaly-valve

Research / Emerging Technologies

Regulatory