



Orbital ATK's Cygnus Successfully Berthed to ISS, Carrying NanoRacks NextGen Platforms and External CubeSat Deployer

Houston, TX-October 24, 2016 – Orbital ATK's Cygnus spacecraft successfully berthed to the International Space Station (ISS) Sunday early morning after launching Monday night from the Mid-Atlantic Regional Spaceport (MARS) at NASA's Wallops Flight Facility in Wallops Island, Virginia. Onboard Cygnus are four of Spire's LEMUR-2 CubeSats in a NanoRacks External Deployer, and Black Box, NanoRacks' NextGen research platform.

OA-5 is the second flagship mission where NanoRacks is providing opportunities for CubeSat deployment from Cygnus after the vehicle departs from the station. The External Deployer is installed on the exterior of the Cygnus service module with the capability to deploy satellites after Cygnus' completion of its primary ISS resupply mission.

Cygnus carried approximately 2,400 kg (5,290 lbs.) of supplies, CubeSats, and research experiments for the ISS. After the cargo is removed and any disposal items are added, Cygnus will depart from the station and begin secondary payload missions. We anticipate Cygnus going into a higher orbit, pending nominal operations, that will enable the deployment of several CubeSats from the NanoRacks Cygnus External Deployer.

On this mission, NanoRacks integrated four of Spire's Lemur-2 satellites in the External Deployer. Once deployed from the Cygnus vehicle itself, these satellites will build on Spire's mission to provide close to real time information from anywhere on Earth via their small satellites. This mission will allow Spire to validate specific elements of its technology, as well as its market offering for maritime and weather data..

Additionally, NanoRacks is excited to be adding to the U.S. National Laboratory research capacity via the Black Box internal payload platform, part of our series of next generation ISS platforms. This new platform is specially designed to provide near-launch payload turnover of autonomous payloads while providing advanced science capabilities for customers, including use of robotics, new automated MixStix and NanoLab-style research. Black Box is a locker-sized platform that accommodates up to 18U of payloads.

OA-5 provides the first technology demonstration mission to test the NanoRacks Black Box platform, NanoRacks own payload hardware, and customer experiments.

Technology demonstrations includes:

- A Microsoft IoT NanoLab designed by junior high school students from Valley Christian Schools to test the behaviors of different metals and materials in microgravity environments with status and magnetic forces.

- Sphero and Edge of Space's Sphero-SPRK payload which includes both Sphero's education program and a special edition model of their Sphero robot. SPRK is a series of lessons, tools, and apps to aid teachers and provide an enriching learning experience. The payload will test how their robots function in space and create complementary Sphero activities that explore related STEM principles.
- Finally, NanoRacks will be running a technology demonstration of Automated Mixstix, its updated MixStix platform where automation eliminates the need for crew time on mixture tube experiments while also allowing for more advanced materials/fluid sciences.

NanoRacks would like to thank Orbital ATK, the NASA International Space Station program, all ISS partners, and all of our customers for their continued support of NanoRacks operations on the space station.

About NanoRacks, LLC

NanoRacks LLC was formed in 2009 to provide commercial hardware and services for the U.S. National Laboratory onboard the International Space Station via a Space Act Agreement with NASA. NanoRacks' main office is in Houston, Texas, right alongside the NASA Johnson Space Center. The Business Development office is in Washington, DC. Additional offices are located in Silicon Valley, California and Leiden, Netherlands.

In July 2015, NanoRacks signed a teaming agreement with Blue Origin to offer integration services on their New Shepard space vehicle. NanoRacks, along with partners at ULA and Space Systems Loral was also recently selected by NASA to participate in the NextSTEPS Phase II program to develop commercial habitation systems in low-Earth orbit and beyond.

As of July 2016, over 375 payloads have been launched to the International Space Station via NanoRacks services, and our customer base includes the European Space Agency (ESA) the German Space Agency (DLR,) the American space agency (NASA,) US Government Agencies, Planet Labs, Urthecast, Space Florida, NCESSSE, Virgin Galactic, pharmaceutical drug companies, and organizations in Vietnam, UK, Romania and Israel.

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