NASA image: Prototype robot with smartphone to test 3-D mapping, navigation inside space station

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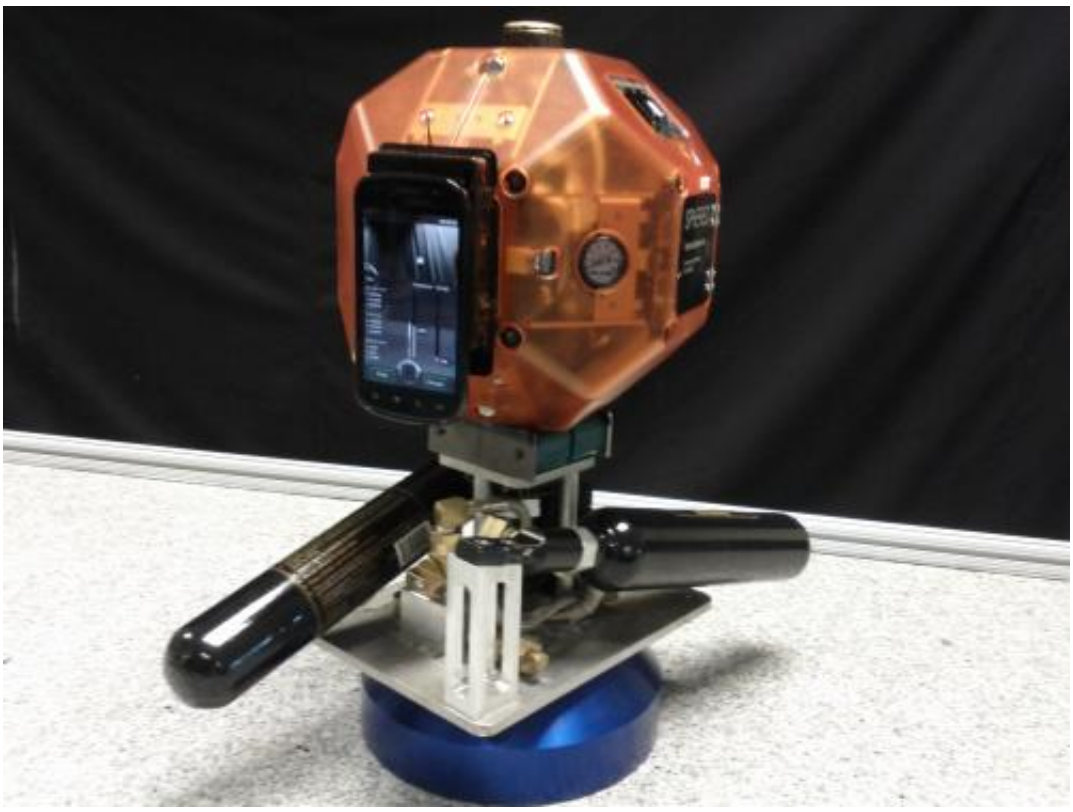

Credit: NASA/Ames

Orbital Sciences Corporation's Cygnus spacecraft will carry 3,293 pounds (1,493.8 kg) of cargo on its upcoming commercial resupply mission to the International Space Station, including crew supplies,

nanosatellites, student research and this prototype free-flying space robot equipped with a smartphone, known as Smart SPHERES (Synchronized Position Hold, Engage, Reorient Experimental Satellites).

NASA has been testing SPHERES on the space station since 2011. This summer, astronauts will upgrade these existing space robots to use Google's "Project Tango" smartphone, which features a custom 3-D sensor and multiple cameras. NASA will then use the Smart SPHERES to test free-flying 3-D mapping and navigation inside the space station.

NASA is developing the Smart SPHERES to perform work on the space station that requires mobile sensing, such as environmental surveys to monitor levels of radiation, lighting and air quality. They also will be used to monitor inventory and conduct experiments. The development and testing of Smart SPHERES is funded by the Space Technology Mission Directorate at NASA Headquarters in Washington.

Provided by NASA

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