

OPERATIONALLY RESPONSIVE SPACE **ORS**



SpaceLoft-6

The Department of Defense's Operationally Responsive Space Office (ORS) located at Kirtland AFB has contracted a commercial sub-orbital launch service with UPAerospace Corporation on their SpaceLoft™ XL rocket. The SpaceLoft™ XL launch vehicle is targeting 70 miles (112 km) in altitude and 33.7 miles downrange on a sub-orbital trajectory flight profile carrying multiple ORS payloads. Launches of the SpaceLoft™ XL are conducted from Spaceport America's Launch Pad One in New Mexico and recovered after landing from the White Sands Missile Range (WSMR).

The sixth launch of the SpaceLoft vehicle will be the first fully manifested DoD flight. ORS has flown three previous missions with UPAerospace as individual payloads. This rocket provides ORS with a flight test platform that allows enabling technology experiments, low cost demonstrations, and future missions supporting hardware to experience spaceflight dynamic environments. Standardized integration processes and a standard six-month (Contract-to-Launch) mission timeline make for a cost effective, time efficient, and ultra responsive development tool for ORS space hardware testing.

The mission is currently scheduled for launch on 5 Apr 2012. The mission highlights and team members are:

ORS Mission Manifest

Payload Name	Provider	Purpose
Data Logger Experiment (EDL-A)	Operationally Responsive Space (ORS)	Records environmental conditions payloads are exposed to during flight and recovery
Data Logger Experiment (EDL-B)	Operationally Responsive Space (ORS)	Demonstrates the capability to isolate a sensitive payload from the extremes of dynamic loading and shock
Low Cost Camera Demonstration (LCCD)	Operationally Responsive Space (ORS)	Verify a commercial product can survive and perform full recording operations throughout the entire launch event
ORS GPS Beacon (GPB)	Florida Institute of Technology	Test the ability to provide a low cost, very small, architecture approach to real time position tracking of small and very small launch vehicles
UT IMU	University of Texas WIALD	Provide flight verification of a subset of commercial off the shelf IMU devices
ADS-B	Federal Aviation Administration (FAA) / New Mexico Space Grant Consortium (NMSCG)	GPS based tracking and position reporting system for near real time rocket position
Droidsat	NASA Ames	Demonstrate onboard processing and sub-experiment management of a commercial phone restructured and packaged as a Cubesat

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