

OPERATIONALLY  
RESPONSIVE SPACE

# ORS



## Operationally Responsive Space-3 "The Enabler Mission"

### Mission Description

The ORS Office is dedicated to building the enabling infrastructure allowing for decreased launch timelines and overall cost savings. The ORS-3 Mission will deliver an Integrated Payload Stack to a 500km, 40.5 degree circular orbit using a Minotaur I launch vehicle (LV). The IPS consists of a larger space vehicle (SV) integrated on CubeStack Wafers that are filled with numerous CubeSats. Once the larger SV has separated, the CubeSats will be deployed in a manner that avoids risk of re-contact. Enabling technologies such as automated LV trajectory targeting and range safety process will be demonstrated. These enablers not only focus on the ability to execute a rapid call up mission, they reduce engineering hours from months to days in both cases, resulting in decreased launch costs.

### Mission Goals

- Demonstrate, test and verify ORS enabling technologies
- Automated targeting and mission data load development
- Joint Automated Range Safety System
- Autonomous Flight Safety Assembly
- Commercial-like launch operations
- CubeSat adapter – low risk CubeSat integration and deployment

#### Partners:

Space Test Program  
NASA Ames  
SOCOM, SMDC, NASA LSP, CalPoly, NRO  
Many aerospace industry partners

#### Major Milestones:

Manifest Decision June 2012  
Payload Delivery to KAFB May 2013  
Launch: 4th Quarter FY13

### The ORS-3 Mission will:

- 1 Demonstrate an Autonomous Flight Safety Assembly which will have the most enduring impact on how flight safety is achieved for all launch systems.
- 2 Demonstrate alternative execution methods for launch services that reduces overall launch costs using an FAA license.
- 3 Demonstrate new hardware that allows small launch vehicle to fly multiple CubeSats in a manner that is benign to the primary mission.

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