Embry-Riddle Aeronautical University

Suborbital Reusable Vehicle

Getting to space cheaper and more often

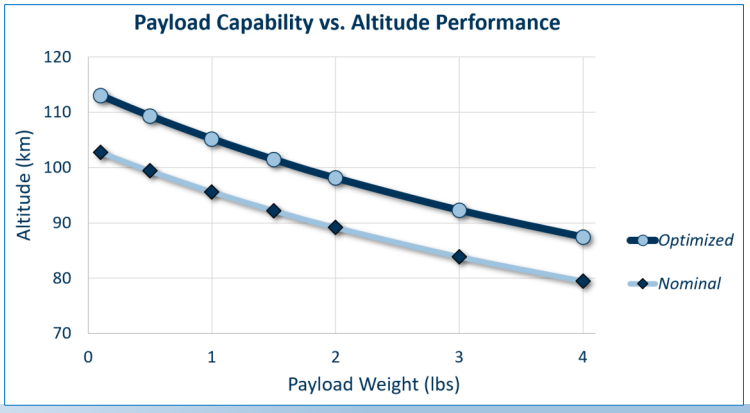
High performance test bed vehicle, aimed at frequent launch cadence with capabilities to take a payload to space (100+ km). Focus on vehicle reusability and reduced launch costs. Providing opportunity for researchers to perform mission planning, vehicle optimization, payload integration, design, and fabrication.

Operations

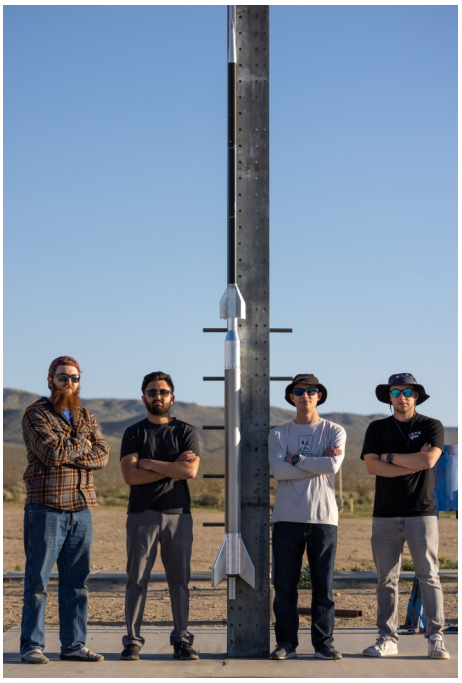
Flight Time	12.6 minutes
Cadence	< 5 hours
Cost	$15k—$20k Launch
Locations	Mojave, CA
Vehicle	100% recoverable

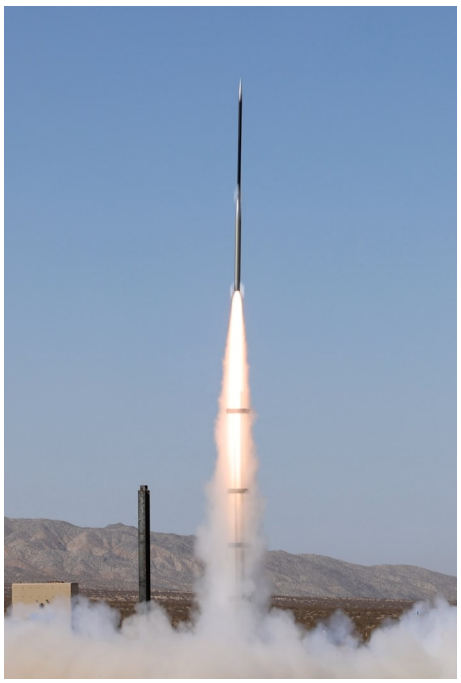
Mission

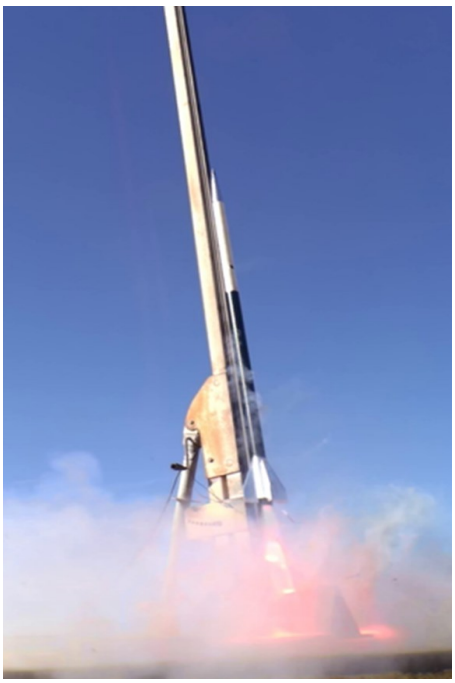
Altitude	Up to 120km MSL
Flexible Scheduling	Any weekend of the year
Data Acquisition	GPS throughout flight
Integration	On-site integration
Payload Access	Data access on landing



Suborbital Reusable Vehicle







Payload Specifications

Mass	4 lbs
Payload Bay	18” x 2” dia.
Deployment	Optional
RF Link	Two-way 928 MHz
Radio Range	100 miles
Static Load	50 g
Recovery	Parachute

Flight Envelope

Max Speed	Mach 6+
Max Altitude	120 km
Microgravity Time	<10 seconds
Hypersonic Condition	~4 seconds
Trajectory	Parabolic
Launch sites	Customizable

3 Test flights with more on the way

High altitude and high speed versions in development

Inquire Now

mercuryspear.space

Collaborators:

NASA

Raytheon Technologies

NORTHROP GRUMMAN

Sponsors:

EMBRY-RIDDLE URI UNDERGRADUATE RESEARCH INSTITUTE

AEROJET ROCKETDYNE

BLUE ORIGIN