MAKING SPACE FOR EVERYONE

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END-TO-END SPACE TRANSPORTATION

LAUNCH

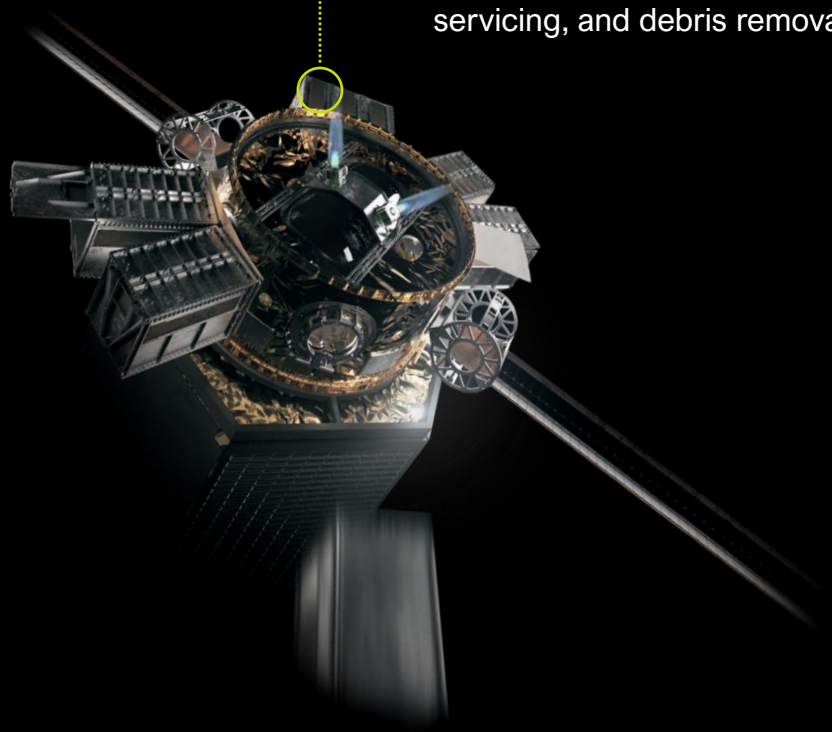
Alpha & MLV/Antares

Launching small & medium payloads to LEO

IN-SPACE

Space Utility Vehicle

In-space transportation, satellite servicing, and debris removal



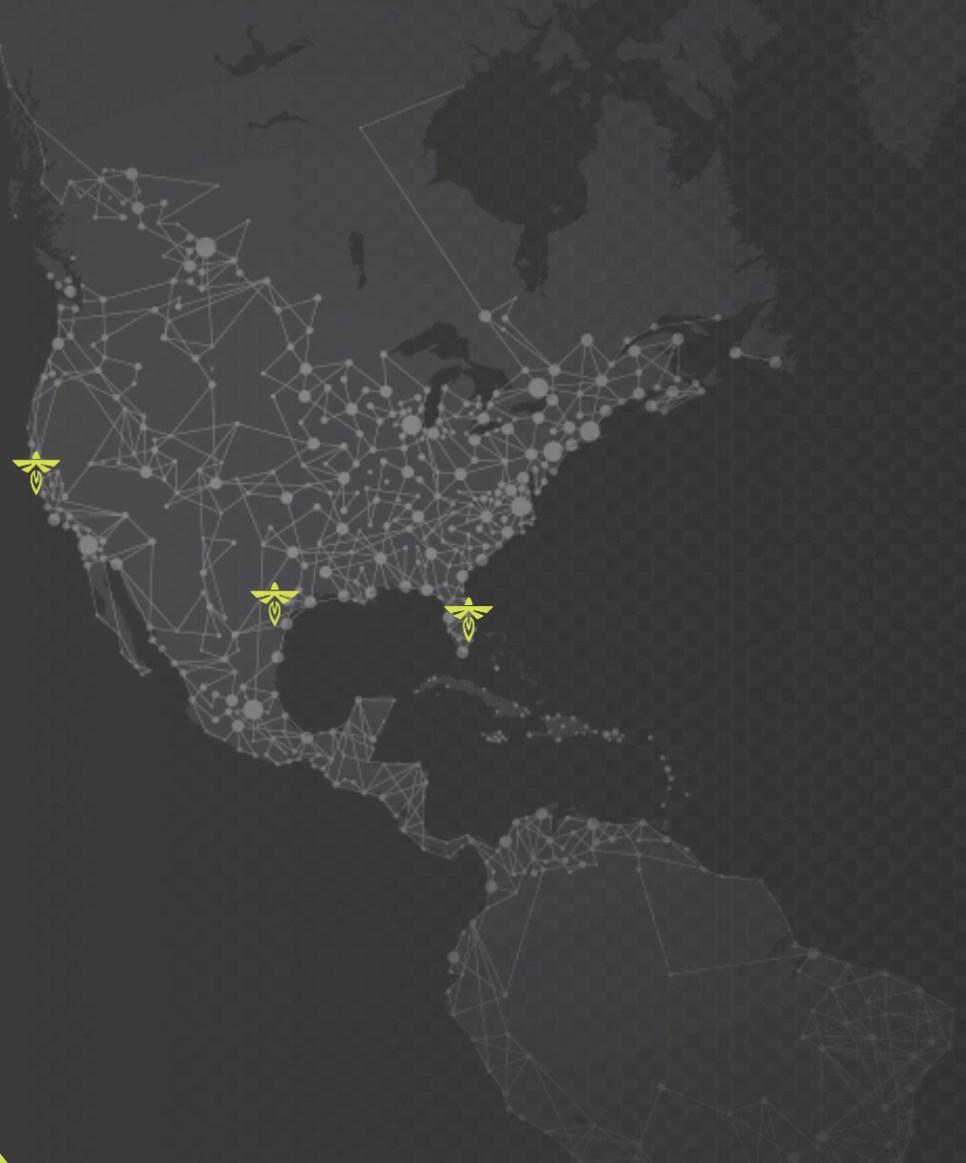
LANDING

Blue Ghost Lunar Lander

Payload delivery and operations in lunar orbit and on lunar surface

COMMON COMPONENTS / SYSTEMS / PEOPLE / TEAMS / TOOLS / FACILITIES / PROCESSES

WORLD-CLASS INFRASTRUCTURE AND FACILITIES



Cedar Park, TX - Headquarters & Spacecraft Production

- 50,000 sq ft spacecraft facilities
- 2,500 sq ft ISO8 cleanroom

Briggs, TX – Launch Vehicle Production & Test Site

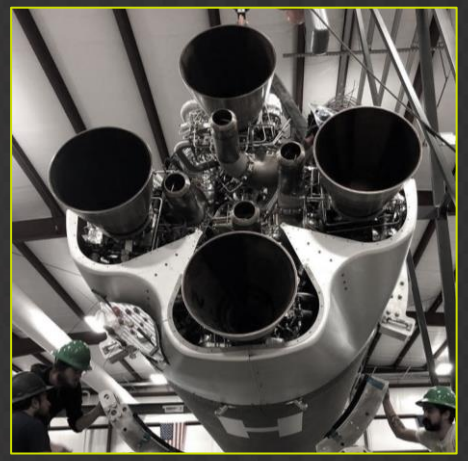
- 200 acres with 7 test stands (4 operational, 3 under construction)

Lompoc, CA – Vandenberg Space Force Launch Site, Base SLC-2

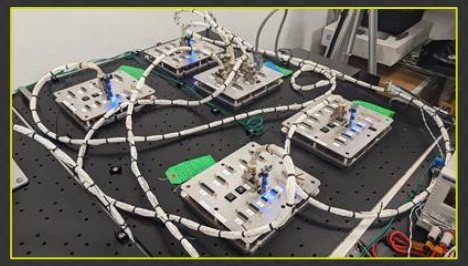
Cape Canaveral, FL – Cape Canaveral Space Force Launch Site, Station SLC-20

LEADING EDGE TECHNOLOGY

Carbon Fiber Composites
Alpha is the world's largest all-composite rocket



Tap-off Cycle Rocket Engines
World's simplest high-performance rocket engines



Avionics
Cross-platform in-house avionics

Spacecraft
Lunar Lander and Space Utility Vehicle

Robotic Composites Production (AFP)
Superior 21st century structural materials /manufacturing methods

Metallic 3D Printing and Artificial Intelligence
Structures and fluid systems components

LAUNCH

ALPHA FLIGHT 2 SUCCESS

Vandenberg Air Force Base, October 1, 2022

Successful deployment of three customer payloads to orbit

SMALL & MEDIUM LAUNCH VEHICLES

100% MANUFACTURED IN THE USA

95 ft

Alpha

- World's largest all-composite rocket
- Responsive, low-cost launch solution
- Two-stage rocket with future option of Space Utility Vehicle third stage
- Successfully reached orbit on Oct. 1, 2022
- Payload capacity: 1,170 kg to LEO

151 ft

Antares 330

- Providing first-stage upgrade for Northrop Grumman's Antares 330 rocket
- Leverages Firefly composites technology for first-stage structures and tanks
- Utilizes 7 Firefly Miranda engines
- Increases payload capacity to 10,500 kg to LEO
- **First flight projected for 2024**

IN-SPACE

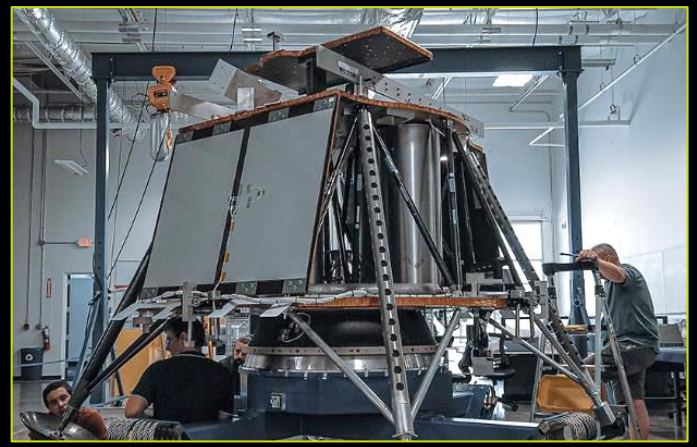
SUV REDEFINING IN-SPACE TRANSPORTATION & OPERATIONS

- Space Utility Vehicle capable of precision transportation and hosting of large payloads
- Extends reach past LEO to GTO, TLI and beyond
- Vertically integrated core spacecraft bus
- Accommodates either chemical or electric propulsion
- Design reference missions include:
  - Large altitude and plane changes
  - Satellite life extension
  - Refueling
  - Debris mitigation and de-orbiting
  - Surveillance
- **First flight scheduled for 2023 on Alpha launch**

LUNAR

A LEADER IN COMMERCIAL LUNAR SERVICES

- World-class team with demonstrated planetary landing and in-orbit delivery successes
- Supporting NASA, DoD, and commercial lunar market
- Providing unparalleled lunar payload services:
  - >100 kg payload capacity to lunar surface
  - <10-meter landing accuracy
  - 10 Mbps downlink from lunar surface
  - 196 W peak power
  - Extended operations beyond lunar sunset



LANDING ON THE MOON IN 2024

Blue Ghost Mission 1

- Awarded $93M NASA CLPS 19D Task Order
- **Landing site:** Mare Crisium
- **Mission duration:** Lunar day (~14 Earth days) and into the lunar night
- **Mission objective:** Deliver & operate 10 NASA-sponsored payloads to measure radiation, demonstrate sample collection, and investigate lunar soil

BGM1 Progress

Feb 2021	Oct 2021	April 2022	Dec 2022	Q1 2023	Q2 2023	Q4 2023	Q1 2024	Mid-2024
Task Order Awarded	CDR Complete	IRR Complete	Key Hardware Delivery Complete	Structure Assembly	Electrical Integration	Propulsion Integration	Environmental Testing	Land on the Moon

LUNAR LANDER EVOLUTION

- Maturing into fully-integrated cislunar service provider: Launch > Transfer Stages > In-Space Services > Landing > Sample Return
- Evolving Blue Ghost lander to support larger, more complex lunar missions:
  - Lunar night survivability
  - Mobility with rovers
  - Multiple landing sites (hops)
  - Lunar farside operations
- Leveraging SUV as a transfer stage, enabling:
  - Communications relay for farside operations
  - Larger payloads
  - Sample return
- Preparing to internalize launch for lander missions through MLV

Blue Ghost lander shown in a rover deployment configuration


FIREFLY
AEROSPACE
MAKING SPACE FOR EVERYONE