

Space and Missile Systems Center

Launch Enterprise Program Overview



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Col Robert Bongiovi

Director, Launch Enterprise



81 successful launches; >\$63B in capability successfully placed on-orbit



Atlas V
(7 On Contract)
Next: NROL-101
~21 Oct 20



Delta IV Heavy
(5 on Contract)
Next: NROL-44
~ 26 Aug 20



Falcon 9
(5 On Contract)
Next: GPS III-4
~ 30 Sep 20



Falcon Heavy
(3 On Contract)
Next: USSF-44
~28 Feb 21



Vulcan
(2 On Contract)
Next: TBD

Responsive Access to Space



700+ successful small launches

Launch Enterprise

Transitioning to New Launch Vehicles



Innovating Multi-Mission Payloads

Space Vehicle →
Full Secondary Payload Adapter →



Air Force launches the most critical National Security Space (NSS) satellites:

- Nation's eyes and ears
- Secure communications
- Position, Navigation & Timing
- Space warfighting capability



Provide Government Mission Assurance until satellite separation

Launch is Key to Space Warfighting Operations



NSSL Tenets for Mission Success



NSSL Priorities

- Mission success
- Transition National Security Space payloads to new launch vehicles
- Assure access for current and future space architectures
- Cultivate innovative mission assurance

Delivering Mission Success While Transitioning the Future of Launch



20+ Years of NSSL Success

Unprecedented Record of 100% Mission Success

1998 - 2006

- Standardized Interfaces
- Encapsulated payloads in processing facility versus on-pad
- Incorporated lessons learned from 1990s launch failures
- Re-instituted rigorous mission assurance process

Assuring Access to Space & Reducing the Cost of Launch

2006 - 2013

- Restructured acquisition strategy to adapt to commercial market collapse
- Focused sole-source contracts on Assured Access and Mission Assurance
- Saved \$4 Billion with Phase 1 Block Buy
- Developed new entrant on-ramps

Leveraging Commercial Industry

2013 - Present

- Harnessing industry innovation to meet Assured Access to Space
- Adapting to RD-180 engine restrictions
- Leveraging competition and recovery/reuse to reduce costs
- Sharing investment in commercial development to meet NSS needs
- Using competition to further reduce costs
- Unit cost reduced 28% equating to \$22B removed from Life Cycle Cost

With the Phase 2 Award, the Air Force will be able to meet ALL National Security Space launch needs through competitively awarded contracts



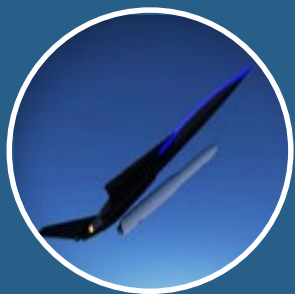
Flexible Access to Space for National Security



Sounding Rocket Program – 4

Suborbital targets and experimental flights

- Often classified projects
- IDIQ with 2 providers
- 9-18 month procurement
- 2019 through 2025



Small Rocket Program – Orbital

LEO access through very small launch

- Complete every launch
- SBIR opportunities
- 9-18 month procurement
- 2019 through 2029



Orbital Services Program – 4

Small and medium launches to LEO

- Tailorable Mission Assurance
- 8 IDIQ providers
- 12-24 month procurement
- 2019 through 2028



National Security Space Launch

Highly reliable medium to heavy spacelift

- NSS Cat A, B, & C
- 2 providers: ULA, SpaceX
- 2 year procurement
- 2020 through 2024

Scope of Launch Enterprise Contracts



Mission Manifest Office

- Coordinates all SMC Missions
- Single entry point for all NSS Customers
- Pursues additional secondary payload opportunities on other Launch Vehicles



2020 Launch Enterprise Accomplishments

2020 Milestones			
Event	Date	Provider	Description
AEHF-6 Launch	19 Mar 20	ULA	Atlas V 551 launched the sixth Advanced Extremely High Frequency communications satellite
STP-S28 Award	10 Apr 20	VOX	44 Small Sats, 3 Launches CY21-22
USSF-7 Launch	17 May 20	ULA	Atlas V 501 Launched the X-37B Orbital Test Vehicle
GPS III-3	30 Jun 20	SpaceX	First NSSL launch to recover first stage booster
NROL-129 Launch	15 Jul 20	NRO/ Northrop Grumman	First Small Launch on OSP-3 Contract. Also the first USSF Launch from Wallops Flight Facility
Phase 2 Launch Service Procurement Award	7 Aug 20	ULA & SpaceX	Two FFP Requirements contracts awarded; ULA awarded about 60% of launches SpaceX awarded about 40% of launches





LSP Award Decision

Requirement 1



Vulcan
USSF-51
USSF-106

Requirement 2



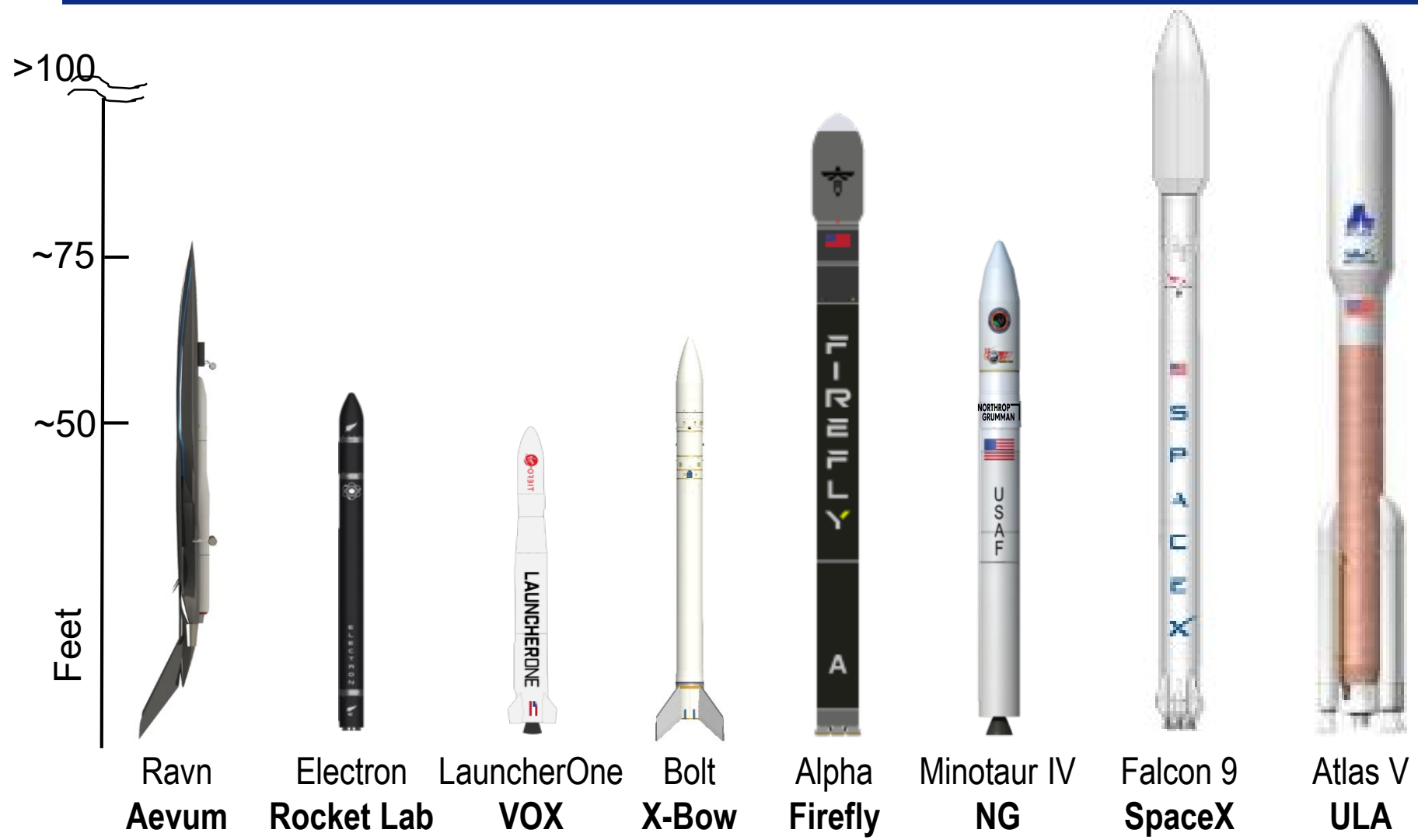
Falcon 9 & Falcon Heavy
USSF-67



- Portfolio leverages commercial capability with National Security needs
- Rapid acquisition with initial National Security Space launches in 2022 to support resilient space architectures



OSP-4 IDIQ Awardees





Small Launch Innovation

Rocket Systems Launch Program & Tactically Responsive Launch

SMC's Rapid Agile Launch Initiative (RALI) provided a timely bridge to influence emerging launch providers to consider **responsive** launch capability

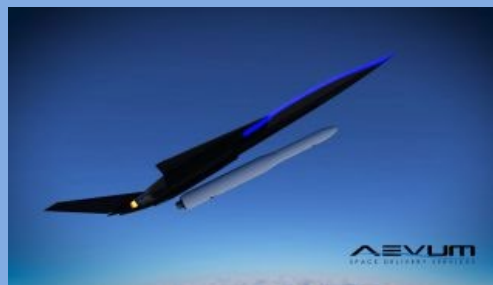
STP-27RD
Wallops, VA
Fall 2020



Demos
in 2020
and
2021

STP-27VP
Guam
2021

ASLON-45 was awarded to Aevum in **87 days!**



SMC and the Launch Enterprise awarded two Phase 2 SIBR at **Space Pitch Day** in San Francisco on **5-6 Nov 2019**

Tactically Responsive Launch Demo (TacRL)

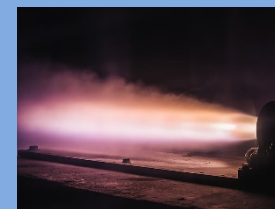
Will use a \$19M Congressional add to develop space launch operations enabling the DoD space domain and strategic deterrence objectives

In Development

The Buzzard IRBM test proved agile acquisitions **capability to the warfighter**



Vandenberg AFB on 12 Dec 2019



Adranos
\$750,000



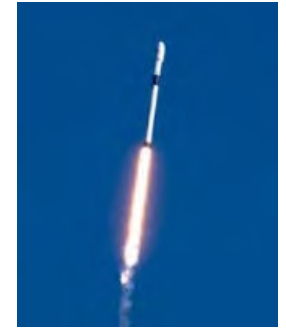
Launcher Inc
\$750,000+



Launch Enterprise 2020

NSSL Launches

- 2 – Delta IV Heavy
- 4 – Atlas V
- 2 – Falcon 9



Small Launches

- 1 Minotaur
- 1 Electron
- 1 TacRL
- 1 New Provider



Contract Awards and Studies

- Phase 2 – 7 August 2020
- 16 Small Launch Contract Actions
- National Space Architecture Study
- Early Integration Studies

