

DARPA Launch Challenge Rules



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1. Introduction

1.1 Scope and Precedence

This document defines the rules for the DARPA Launch Challenge (Challenge). These rules apply to all participants in the Challenge that have passed the Qualification Phase (Teams). Key terms used in this document are defined in Appendix D.

DARPA will release additional documents with rules updates, procedures, and other information for Teams as needed. These additional documents carry the full authority of the rules in this document.

Additional documents, which have been or will be provided to Teams include the following, but are not limited to:

Document Name	Version	Release Date/Anticipated Release Date
DARPA Launch Challenge Guidelines	6	March 12, 2019
DARPA Launch Payload Guidance for Launch Teams	V1.4	July 24, 2019 (Restricted distribution to Teams only)
DARPA Launch Challenge Reference Orbits	V1.9	January 22, 2020 (Restricted distribution to Teams only)
DARPA Launch Challenge Operations and Logistics Guides	Varies	Approximately 30 days before each launch (Restricted distribution to Teams only)

Table 1: DARPA Launch Challenge Documents

All publicly released documents are available at <https://www.darपालaunchchallenge.org>

1.2 Rules Modification

This version is subject to change and may be superseded by later versions.

DARPA will communicate any rule updates with an email to all Teams. Prior to Launch #1, DARPA will publicly publish updated rules on the DARPA Launch Challenge website (www.darपालaunchchallenge.org).

The Chief Judge is the DARPA Launch Challenge Program Manager, who may revise the schedule at any time and interpret rules in any manner to best meet DARPA's objectives. The Chief Judge's decisions are based on a number of factors, such as fairness, safety, statutes, program goals, environmental protection, and efficient operations.

All questions about the event should be sent to LaunchChallenge@darpa.mil. If clarifications are required, DARPA may respond to all Teams or post Rules updates. If questions are proprietary in nature, DARPA will respond directly.

1.3 Objectives

The goal of the DARPA Launch Challenge is to demonstrate responsive and flexible space launch capabilities from the burgeoning industry of small launch providers. The Challenge will demonstrate unique capability for emerging needs of the Department of Defense (DoD), by delivering payloads to space on rapid timelines with minimal fixed-launch range infrastructure.

The Challenge is focused on driving the emerging small launch industry to launch from anywhere on extremely short notice without prior knowledge of their missions. The Challenge is utilizing commercial licensing through the Federal Aviation Administration (FAA) to demonstrate the applicability of commercial best practices to the DoD. Teams participating in the Challenge are required to obtain FAA licenses for all launch activity conducted under the Challenge.

The Challenge consists of two phases, a Qualification Phase and a Launch Phase. The Qualification Phase ended in March 2019. The Launch Phase will consist of two launch campaigns designed to occur in a serial manner, within weeks of one another in early 2020. The launch windows during each launch campaign are anticipated to be conducted within 14 days.

Each launch campaign will occur at a different location. A successful outcome (as defined in Section 5.0, Prizes) in Launch #1 is a prerequisite for participation in Launch #2. Launch ranges used for Launch #1 and Launch #2 may differ between horizontal and vertical Teams due to differences in spaceport licensing and required launch range infrastructure.

2. Eligibility

The DARPA Launch Challenge is open to Teams that have previously qualified in accordance with the DARPA Launch Challenge Guidelines. The following individuals and organizations are not eligible to participate in the Challenge:

- Organizations that are not based in the United States.
- Individual, organization, or sponsor that is named in the Specially Designated Nationals list of the U.S. Department of Treasury.
- Residents of Iran, North Korea, Sudan, Syria, or other countries prohibited on the U.S. State Department State Sponsors of Terrorism list (due to Office of Foreign Assets Control restrictions), and where prohibited by law.
- Federal employees, including DARPA employees and DARPA support contractors and their spouses, dependents, and household members. Federal employees and contractors acting outside the scope of their employment should consult their ethics official and appropriate management before participating in the Challenge.

3. DARPA's Coordination

3.1 Launch Support

DARPA will serve as the main point of contact for Teams and will coordinate the event's operations, logistics and communications. DARPA will interact frequently with the Teams, including issuing data calls in the ramp up to the two launches. DARPA will also provide up-to-date information about the DARPA Launch Challenge at www.DARPALaunchChallenge.org.

3.2 Coordination with FAA Office of Commercial Space Transportation (FAA/AST)

DARPA maintains a close partnership with FAA/AST to ensure that Challenge goals are met, and to mutually pursue streamlined solutions to allow commercial licensing for DARPA Launch Challenge execution.

All participating Teams are required to receive and maintain their FAA Launch License prior to conducting any launches for the DARPA Launch Challenge. DARPA does not influence this process and Teams need to monitor their status and provide timely updates to DARPA on any issues.

3.3 Coordination with Launch Ranges

DARPA will serve as the primary point of contact with all the launch ranges on behalf of the Teams in order to achieve the necessary timelines and maintain the Challenge goal of flexibility. To facilitate this, the Teams will be required to provide information to DARPA as requested. DARPA will develop an operational plan for each launch that Teams must follow to participate in the Challenge.

3.4 Additional Information

DARPA claims no rights to intellectual property developed as a result of participation in the Launch Challenge.

DARPA reserves the right to disqualify a participant whose actions are deemed to violate the spirit of the competition for any reason, including but not limited to, the violation of laws or regulations in the course of participation in the Launch Challenge. DARPA does not authorize or consent to participants infringing on any U.S. patent or copyright while participating in the Launch Challenge.

DARPA may cancel or modify the Launch Challenge without notice.

The appearance or reference to any person, name, place, film, artwork, or any other images used in the connection with the Launch Challenge does not constitute or imply endorsement by the Department of Defense, U.S. Government, or DARPA.

4. Team Requirements

The following requirements apply to all Teams.

4.1 FAA License

It is each Team's responsibility to comply with FAA regulatory requirements, and receive and maintain their FAA Launch License for the DARPA Launch Challenge prior to each launch. This document highlights key provisions related to the Launch Challenge, but is superseded by FAA regulations. DARPA will conduct an assessment with FAA/AST approximately 30 days prior to each launch to determine whether a license has been issued and/or when issuance is anticipated. In the event that the license is not planned to be issued prior to each launch, teams may be disqualified.

FAA launch licenses granted shall be valid for any launch operations conducted under the Challenge vertical and horizontal launch ranges. Licenses must be valid for the Challenge mission requirements provided in the *DARPA Launch Challenge Reference Orbits* document and *Mission Specific Interface Control Documents* (MSICDs) (see Section 4.6, Payloads).

4.2 Financial Responsibility

FAA licensees are required to demonstrate compliance with the financial responsibility regulations in 14 CFR Part 440, (including but not limited to obtaining liability insurance, demonstrating financial responsibility to compensate for maximum probable loss (MPL)).

4.3 Liability and Indemnification

FAA licensees are required to comply with 14 CFR 440.17 for a reciprocal waiver of claims with applicable parties involved in launch services under which each party agrees to be responsible for personal injury to, death of, or property damage or loss sustained by it or its own employees resulting from activities carried out under an FAA launch license. Applicable parties include contractors, subcontractors, and customers of the licensee; and contractors and subcontractors of the customers. This reciprocal waiver of claims also includes the U.S. Government, executive agencies of the Government involved in launch services, and contractors and subcontractors involved in launch services. DARPA will take a lead role in coordinating among signatories a cross waiver document for the Challenge.

4.4 ITAR/EAR Compliance

International Traffic in Arms Regulations (ITAR) and the Export Administration Regulations (EAR) are export control regulations run by different departments of the U.S. Government. Both are designed to help ensure that defense-related technology is protected from improper export. Teams must be ITAR/EAR compliant, registered and in good standing with the DoD Directorate of Defense Trade Controls (DDTC). Registration *requirements* available at www.pmdtcc.state.gov/registration. In addition, members of Teams must be ITAR compliant. Refer to the official ITAR regulations available at www.pmdtcc.state.gov.

4.5 Launch Range Coordination

DARPA will lead the interactions with the launch ranges, and Teams will be required to support these interactions by responding to DARPA data calls in a timely manner. The information requested in these data calls, which may include items such as: technical details of launch systems, ground operations plans and procedures, and range-required safety analyses, is requested by DARPA when it is needed to support planning and launch range approvals. Each data call will include a response deadline based upon the complexity of the data requested. Teams must complete all required documentation to satisfy all ranges planned to be used for Launch Challenge.

An assessment of the required documentation will be completed by DARPA in consultation with each range commander or spaceport manager approximately 60 days prior to each launch. Per Section 4.9, teams will conduct a Technical and Operational Readiness Review prior to December 6, 2019. This Review is the culmination of pre-launch technical interchange discussions. If waivers are required, they must be completed prior to this date. Teams may be disqualified if they are not responsive to data calls by the stated deadlines or fail to receive range approvals.

4.6 Payloads

DARPA has coordinated Launch Challenge payloads, which will be provided directly from the Payload Developer to the respective launch Teams. Payloads are organized into Category-A, Category-B, and Category-C, and are broadly defined in Table 2 below:

Category	Mass	Orbit Altitude
Category-A	10Kg	450 km
Category-B	16Kg	450 km
Category-C	70Kg	450 km

Table 2: Payload Categories

For Launch #1, Teams must select from one of three payload categories: Category A, B, or C. Teams will be provided with reference orbits for each launch range, and should make their Category selection for each launch range based on expected launch vehicle (LV) performance to each of those orbits. Teams may opt to select different categories for different sites. Payload selection relates directly to scoring, as defined in Section 6.2. Teams may utilize excess capacity for additional payloads so long as Challenge mission requirements are satisfied.

Teams must identify their Category selections to DARPA via LaunchChallenge@darpa.mil by **October 28, 2019**, by completing the Sample Team Payload Selection Form in Appendix B. No further modifications to their selected category are permitted after that date.

For Launch #2, all Teams must deliver a Category A payload to the orbit specified by DARPA. Teams may utilize excess capacity for additional payloads so long as Challenge mission requirements are satisfied.

Each payload category may comprise one or more satellites and any associated flight support equipment (e.g. CubeSat deployer(s) or separation system(s)). More detailed information is provided in *DARPA Launch Payload Guidance for Launch Teams* and *DARPA Launch Challenge Reference Orbits* (see Table 1).

These documents provide guidance on the categories of payloads, their basic mass properties, separation/deployment systems associated with each category, and associated orbit insertion requirements. These documents are provided based upon DARPA's current planned payloads, and intended to provide LV Teams with sufficient lead-time for interface hardware development.

Each Team shall develop and submit by November 22, 2019, a MSICD to LaunchChallenge@darpa.mil. The MSICD certifies how each Team's LV satisfies Launch Challenge mission requirements, documents interfaces to accommodate each payload category they select and contingency mass simulators, and

provides expected launch environments and requirements for payload developers.

DARPA will assist development of the MSCID by coordinating data exchange between each Team and participating Challenge Payload Developers.

Payloads are provided at the opening of the launch campaign, approximately four days before the first launch window. Teams may choose the location of the payload integration and may opt to integrate to the LV either at the Teams' facilities, or at a DARPA-designated processing facility located at the launch range. Teams may choose the approach that is best aligned with their operations and timeline. Teams must identify their payload integration facility and send to the Challenge Staff (LaunchChallenge@darpa.mil) by October 28, 2019, by completing the Sample Team Payload Selection Form in Appendix B. Teams and payload developers are jointly responsible with the Teams for integration of the assigned payload(s) to the launch vehicle.

In the event a payload cannot meet integration schedule and/or requirements, or at DARPA's discretion, DARPA will provide a mass simulator. The mass simulator design will:

- Ensure no impact to baseline mission analysis submitted by Teams for FAA license applications
- Conform to the same LV interfaces and mass properties as active payloads

4.7 Spectrum Authorization

Teams are responsible for obtaining Federal Communications Commission (FCC) spectrum licenses prior to launch. Licenses must include operation of LVs at all Challenge announced sites including telemetry backhaul and other required spectrum utilization. DARPA will assist the Teams with coordination with the FCC for license submission covering all sites.

4.8 Remote Sensing Authorization

Teams with LVs that have remote sensing capability (e.g. rocketcams) are responsible for obtaining a license from the National Oceanic and Atmospheric Administration (NOAA). DARPA will assist the Teams with coordination with NOAA for license submission covering all launches.

4.9 Technical and Operational Readiness Review

Teams will conduct a Technical and Operational Readiness Review, prior to December 6, 2019. The Review is for the DARPA Chief Judge to evaluate the Teams' technical and operational readiness to support the Launch Challenge and campaign timeline. Teams will prepare materials to include:

- Updates on vehicle status for Launch Challenge, to include flight and ground hardware and software
- Detailed schedule presentation for work to be completed prior to flight, as well as other non-Launch Challenge planned flight activities
- Viewing of planned flight hardware and key ground equipment to be used in Challenge execution
- List of open items (including DARPA data calls, required information for range operations coordinated by DARPA, and FAA data requests) and major risks that may lead to an inability to meet challenge schedule
- A detailed action plan and schedule to close all outstanding actions in above list, with insight into how the plan will satisfy the remaining requests or liens
- Completion of Mission Specific Interface Control Document

DARPA will use this review as an assessment for readiness for the Challenge, and all presented open items will be tracked to closure following the review. Successful completion of this review is accomplished by presenting all requested information, and showing a credible closure plan for remaining technical milestones and open items to support Challenge timelines.

Teams may be disqualified if the review materials do not address the required items above, if DARPA's

assessment of the materials indicates that remaining open items and technical milestones will not support the Launch Challenge timelines, and/or if they do not adhere to the action plan and schedule for open item closure.

DARPA will coordinate the exact timing and location of the review with the teams.

5. Prizes

Prizes will be awarded for successful launches (as defined in Appendix D) completed during the Launch Phase of the DARPA Launch Challenge. A launch will be considered successful if the launch vehicle reaches orbit.

Launch #1 Prize – Teams that successfully reach orbit with their DARPA-designated payload within Launch Campaign #1 will be awarded a \$2M prize, per Team.

Launch #2 Prize – Teams that successfully complete Launch #1 may compete in Launch Campaign #2. Teams that successfully reach orbit with their DARPA-designated payload within Launch Campaign #2 will receive an overall score (based on scoring criteria as defined in Section 6.2). The Team with the highest cumulative score at the end of Launch #2 will be declared the Challenge's first place winner and will receive a \$10M prize. In the event that there are second and third place finishers, prizes of \$9M and \$8M respectively will be awarded.

No other prizes will be awarded by DARPA.

Tax treatment of prizes will be handled in accordance with U.S. Internal Revenue Service guidelines. In order to receive the DARPA cash prize (after successfully competing in the DARPA Launch Challenge), the winner must provide a U.S. taxpayer identification number (TIN) or a social security number. Information on how to obtain a TIN is available on the U.S. Internal Revenue Service website at www.IRS.gov.

6. Launch Phase – Launch #1 and #2

The DARPA Launch Challenge will include two launches. Launch #1 and Launch #2 will occur in a serial manner, within weeks of one another, at two different locations. Launches are planned to occur in early 2020 with exact dates determined by DARPA. DARPA will provide teams with launch range selection and dates no less than 30 days prior to launch to allow for finalization of licenses and range approvals. Teams will receive detailed launch information (as described in Section 6.1) for Launch #1 and Launch #2 approximately 30 days prior to the first launch window of each launch campaign. Each launch campaign is anticipated to be no longer than 18 days. Each launch campaign will begin and end at DARPA's direction, and launches may only occur during the assigned launch campaigns.

During each campaign, each team will receive four (4) days to account for required range training and rehearsals as defined in the *DARPA Launch Challenge Operations Guide*, followed by fourteen (14) days with a prescribed number of launch windows (defined in Section 6.2), while maintaining range and FAA requirements for crew work hours.

DARPA will provide at least four (4) days with potential launch windows, and no more than eight (8), to each Team during each launch campaign (see Table 3). The team may opt to use as many or as few of these days they require. DARPA and the range will assess each day from DARPA's requested L-0 through L+13 to determine if it was a potential "green" or "red" range day to ensure that the minimum four windows were met. Green conditions will be determined by assessing weather constraints and communications connectivity. In the event that a team forgoes "green" days in the 14-day window, additional launch window days beyond the four (4) minimum are not guaranteed.

After the launch locations are announced, Teams may transport their launch vehicles and any required equipment to conduct launch operations to the launch locations, with arrival on site no earlier than specified in Table 3.

Teams must have an FAA license issued for operations under the Challenge for each selected DARPA Launch Challenge launch range (see Section 7) before they can participate in Launch #1 and Launch #2, respectively.

When	Event	Launch #1 *	Launch #2 *
NLT L-30	Teams notified of launch ranges	Dec 6, 2019	Dec 6, 2019
L-30	Teams notified of mission parameters	January 22, 2020	February 17, 2020
L-4	Teams eligible to receive payloads	February 13, 2020	March 14, 2020
L-4	Teams and equipment may arrive on Launch Range	February 13, 2020	March 14, 2020
L-0	First Launch Window	February 17, 2020	March 18, 2020
L+1 – L+12	Additional 2-6 Launch Windows	February 18-29, 2020	March 19-30, 2020
L + 13	Last Launch Window	March 1, 2020	March 31, 2020

*All Dates are tentative and subject to change

Table 3: Representative Schedule of Launch Timeline

In the event that the same launch range is used for both Launches, Teams may not perform any activity on the range that is governed under their FAA launch license between the Launch #1 and Launch #2 campaigns (including but not limited to installation and associated testing of equipment on the DARPA specified Launch pad).

Launch #1 is a pass/fail criteria for each Team. Pass criteria is to successfully deliver a payload into low Earth orbit (LEO) (see Mission Profile section for more details) within the launch campaign. A successful outcome of Launch #1 is a prerequisite for participation in Launch #2.

Launch #2 is a capability gate where Teams will be required to, again, successfully deliver their payload to orbit within the launch campaign. Teams successful in both launches are ranked based on their payload mass delivered to orbit in Launch #1 and the time to deliver a payload to orbit in Launch #2 (see Section 6.2).

6.1 Launch #1 and Launch #2 Mission Profiles

The selection of mission requirements is made by DARPA, and takes into account:

- Launch, flight, and public safety
- Satisfaction of the Challenge goals
- Minimization of impact to commercial air traffic
- Satisfaction of mission requirements for DARPA-coordinated payloads

DARPA is targeting approximately 450 km to ensure flight safety of the International Space Station. All launch vehicles must be capable of inserting a payload of at least 10Kg into a 450 km circular sun synchronous orbit.

DARPA will provide Teams updated *DARPA Launch Challenge Reference Orbits* (see Table 1) approximately 30 days prior to the start of the launch windows for Launch #1 and Launch #2, respectively. For the Launch Challenge, “orbit” is considered as an in-space trajectory with both apogee and perigee above 250 km, and will be independently verified as described in Section 6.21 The document specifies DARPA’s final launch parameters, and instructs teams as to their assigned launch pad, target orbit altitude, and orbit inclination. Teams will complete required associated analysis for each of the prescribed launches to update FAA license applications based on the updated parameters prior to launch.

DARPA will assign initial launch windows to Teams 30 days prior to each Launch Campaign. DARPA will provide all external coordination for launch windows (with concurrent range operations, FAA Air Traffic Organization,

FAA Office of Commercial Space Transportation, etc.) tailored to each launch location, balancing needs of the Challenge while minimizing impact to commercial and military air traffic. DARPA will work with the teams and the ranges to provide launch windows for as many days as possible in each of the 14 launch days for Launch #1 and Launch #2 (see Scoring section).

6.2 Launch Challenge Scoring

Launch #1 prizes are not dependent upon scoring. Scoring is only used for Launch #2 ranking in the event of multiple teams completing two successful launches.

In order for a Team to be eligible for a Launch #2 score, ranking, and associated prize, the team must successfully deliver their DARPA-prescribed payloads to orbit during both Launch #1 and Launch #2. The Chief Judge has discretion for final determination if a given launch by a Team meets Challenge mission requirements. Eligible Teams will receive a cumulative score based on their mass to orbit in Launch #1 and time to orbit in Launch #2, as detailed below.

Teams are scored on mass successfully delivered to orbit (as defined in Appendix C) in Launch #1, defined within the prescribed payload categories. For Launch #1, Teams select from one of the three payload categories, as described in detail in Section 4.6. Scores associated with each category are as follows:

Launch #1: Payload Mass to Orbit (1–5 pts)

- The highest score is achieved by delivering the most mass to orbit
 - Teams that deliver a payload from Category A = 1 point
 - Teams that deliver a payload from Category B = 2 points
 - Teams that deliver a payload from Category C = 5 points

Teams are scored on their time to launch for Launch #2, defined by which launch window they successfully deliver their payload to orbit. Scores for Launch #2 performance are as follows:

Launch #2: Time to Launch (1–4 pts)

- The highest score is achieved by delivering the DARPA payload to orbit in the fewest amount of attempts
- DARPA will coordinate launch windows within each launch campaign for each Team to attempt to launch
- DARPA will provide at least four (4) launch windows, and no more than eight (8), to each Team during each launch campaign. These windows and the factors defining an official opportunity as well as factors outside a Team's control will be further defined in the *DARPA Launch Challenge Operations Guide*.
- If a Team successfully launches during their:
 - 1st launch window = 8 points
 - 2nd launch window = 6 points
 - 3rd launch window = 4 points
 - 4th launch window = 2 points
 - 5th or later launch window (if available) = 0 points

The scores from Launch #1 (payload mass to orbit) and Launch #2 (time to launch) will be combined for a cumulative score. As Launch Campaign #2 begins, all Teams will know their range of potential scores.

If more than one team completes both launches, then Teams will be ranked based upon their cumulative score, and the Team with the highest score at the end of Launch #2 declared the Challenge's first place winner. All possible scores are enumerated in the table below:

			Time to Launch				
			Window 1	Window 2	Window 3	Window 4	Windows 5-8*
		Points	8	6	4	2	0
Mass to Orbit	Category A	1	9	7	5	3	1
	Category B	2	10	8	6	4	2
	Category C	5	13	11	9	7	5

**if applicable*

Table 4: Possible Scoring Outcomes before orbit accuracy bonus

6.2.1 Orbit Accuracy Bonus

Orbit accuracy of the deployed payloads will be used to distinguish Teams’ performance. Teams’ orbit will be determined by the 18th Space Control Squadron within approximately 24 hours of payload deployment.

In the case of more than one team completing both launches, ranking for on-orbit accuracy will be established by computing velocity differential (delta-V) between the specified orbit and the achieved orbit for Launch #1 and Launch #2. The total delta-V will be added from both launches, and the Team with the smallest combined delta-V from the specified orbits will receive two additional points.

7. Launch Ranges

The initial launch ranges for vertical and horizontal vehicles were defined in October 2018 and details were provided directly to the Teams after pre-qualification. The chart below updates the final list of four (4) vertical ranges and four (4) horizontal ranges that were required for each team's preparation, and evaluated by DARPA for readiness through November 2019. Teams were notified of the final two range selections of Wallops Flight Facility and Pacific Spaceport Complex Alaska in December 2019:

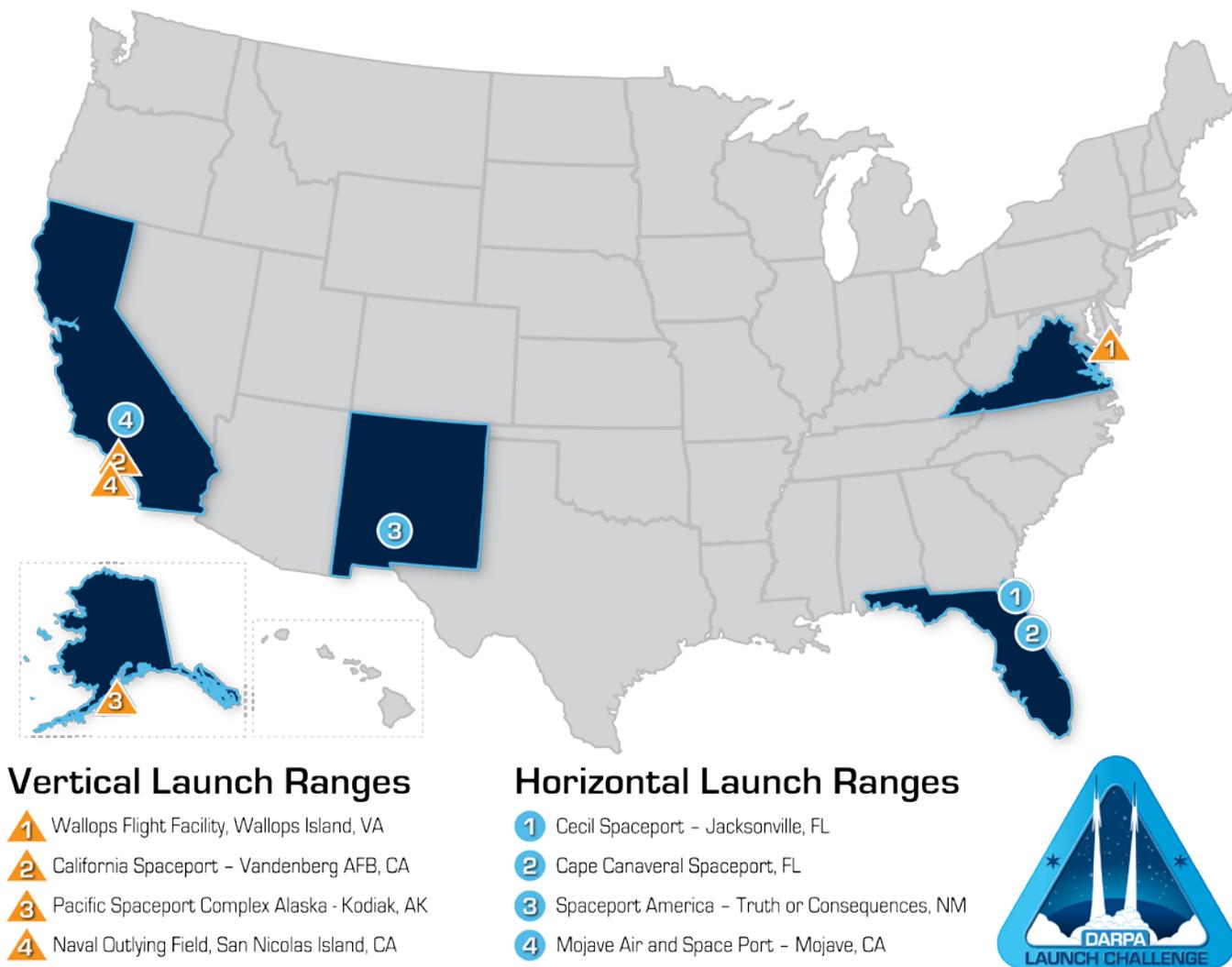


Figure 1: Launch Ranges Map

8. Launch Challenge Operations Guide

The DARPA Launch Challenge will provide directly to the Teams an Operations Guide as well as a Logistics and Support Guide approximately 30 days before the Launch #1 Campaign. These documents will detail policies and procedures to operate at the launch locations including operations, logistics, security, and other requirements to safely and effectively operate.

9. Appendix A: Deliverables List and Timeline

Item Name	Delivered To	Date
Data Calls for Range Coordination	DARPA	As required
Launch #1 payload category selection and payload integration location	DARPA	October 28, 2019
MSICD	DARPA	NLT November 22, 2019
Technical and Operational Readiness Review	DARPA	NLT December 6, 2019
Range Approvals	DARPA	Prior to Launch #1/#2
Launch License Issuance	FAA	Prior to Launch #1/#2
FCC and NOAA License	DARPA	Prior to Launch #1/#2
DARPA coordinated cross-waivers	FAA	Prior to Launch #1/#2

10. Appendix B: Sample Team Payload Selection Form

Teams must complete this form and submit via email to DARPA (LaunchChallenge@darpa.mil) by October 28, 2019. No further modifications to their selected category are permitted after that date.

Team Name: _____

Date Submitted: _____

Submitted by (Person Name): _____

(1) Select payload integration facility for Launch #1 (indicate one)

DARPA designated facility at Launch Site

Team's Facility

(Provide physical delivery address)

(2) Provide payload category by location (fill in the blanks)

a Vertical Teams

i. Wallops Flight Facility _____

ii. Vandenberg Air Force Base _____

iii. Pacific Spaceport Complex Alaska _____

iv. Naval Outlying Field, San Nicolas Island _____

b Horizontal Team

i. Cecil Spaceport _____

ii. Cape Canaveral Spaceport (*Space Florida Launch & Landing Facility*) _____

iii. Spaceport America _____

iv. Mojave Air and Space Port _____

11. Appendix C: Sample Team Payload Integration Site Form, Launch Campaign #2

Teams must complete this form and submit via email to DARPA (LaunchChallenge@darpa.mil) by October 28, 2019. No further modifications to their selected category are permitted after that date.

Team Name: _____

Date Submitted: _____

Submitted by (Person Name): _____

Select payload integration facility for Launch #2 (indicate one)

DARPA designated facility at Launch Range

Team's Facility

(Provide physical delivery address)

12. Appendix D: Definitions of Key Terms

Challenge

The use of the capitalized word “Challenge” in this document is interchangeable with DARPA Launch Challenge.

Chief Judge

The final authority on all matters referred to in the rules and on all matters pertaining to the DARPA Launch Challenge that are not explicitly referred to in the rules.

Launch Campaign

The timeframe from when a Team arrives at a launch range through actual launch of their LV. Anticipated to be no more than 18 days.

Launch Pad

The DARPA Launch Challenge-specified facility on a launch range from where a given LV will launch., In the case of most vertical LVs, this is also the same location where the LV is prepared for launch.

Launch Location

The specific geographic location from which the LV will lift off, used for trajectory, performance, and safety analyses.

Launch Site

Often used interchangeably with the term “launch range,” and consists of the geographic area inclusive of the commercial spaceport or federal range in which area in which authority to launch may be granted.

Launch Range

Often used interchangeably with the term “launch site,” inclusive of the geographic area for launches, but also includes personnel, facilities, and resources that provide support for launch activities. For DARPA Launch Challenge, the launch ranges are the four vertical and four horizontal spaceports and/or federal facilities identified as “Launch Sites” from which Launch #1 and Launch #2 may be conducted.

Launch Vehicle (LV)

The official rocket or combination carrier aircraft and captive rocket for a Team.

Launch Window

A specific time interval for which a Team may attempt a launch. DARPA plans to provide between 4 and 8 Windows over the course of the Campaign.

Official

An official is a person designated by DARPA for the purpose of administering or monitoring any aspect of the DARPA Launch Challenge.

Orbit

For the Launch Challenge, “orbit” is considered as an in-space trajectory within launch vehicle 3-sigma performance for both apogee and perigee of 250 km.

Team

A qualified Team participating in the DARPA Launch Challenge.

Target Orbit

The DARPA assigned orbit parameters for a Team's launch mission.