

**Launch Ascent Imagery  
Kennedy Space Center (KSC)  
Request for Information (RFI)**

**KSC023RFI0001**

NASA Kennedy Space Center (KSC) is hereby issuing a Request for Information (RFI) for the purpose of seeking sources and soliciting information from private industry on obtaining Launch Ascent Imagery as a service on an as needed basis for NASA Exploration Ground Systems (EGS) Program vehicle launches. Reductions in Program budgets and a reduced launch manifest have driven the EGS Communications Office to request information for a possible procurement of Launch Ascent Imagery as a service. With a general cadence of one (1) launch per year. The goal would be to obtain this capability from commercial entities that are able to provide a viable service. This document is for information and planning purposes only and also to allow industry the opportunity to verify reasonableness and feasibility of the requirement, as well as promote competition.

This RFI is used solely for information planning purposes and does not constitute a solicitation. In accordance with FAR 15.201(e), responses to this RFI are not offers and cannot be accepted by the Government to form a binding contract. The Government is under no obligation to issue a solicitation or to award any contract on the basis of this RFI. The information provided in the responses to this RFI will not be made public in an effort to protect any propriety company information. Nonetheless, respondents should clearly and properly mark any propriety or restricted data contained within its submission so it can be identified and protected. Respondents are solely responsible for all expenses associated with responding to this RFI. Responses to this RFI will not be returned, and respondents will not be notified of the result of the review.

Potential vendors should review all documents; a summary of the information is as follows:

Remotely operable: launch ascent imagery that will allow remote operations control of optical tracking systems.

Interoperable: subsystems to be installed on any tracking gimbal/turret of the fleet with or without shore power. Products should provide TBD imagery file formats.

Interoperable: subsystems to be located or installed may be configured with or without shore power but should be declared to assess ground services availability. Products should provide TBD imagery file formats.

Standardized: launch ascent imagery systems main architecture should be standardized.

Flexible: mobilization of launch ascent imagery systems ~~within~~ no less than 24 hours prior to mission launch.

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Multi-spectral imaging support: systems that deliver high-speed visual imagery, infrared imagery, and multi-focal length imagery.

Multi-tracking: optical tracking systems that will generate test data on several targets simultaneously from multiple deployed locations.

Accurate track/quality track: Consistently smooth, properly framed areas of interest throughout the ascent profile for each deployed location.

Movable and transportable over test range (some part of the fleet): allowing for optimized positioning on the ranges, changes to ground camera sites, or inter-ranges movements as required by operational needs.

Efficient Operations: easy setup for various flight test scenarios including pre-processing, simulation, tracking planning.

Short Range Tracked Imagery: acquire and deliver launch imagery from a distance of approximately 1200 feet from the launch vehicle. Imagery acquisition equipment is usually located inside the Pad B perimeter fence and typically acquires first motion to loss of view. The imagery acquisition timeframe for Short Range Tracked Imagery is typically from T-10 seconds through loss of sight. Due to the proximity to Pad B, any imagery acquisition equipment must be remotely operated.

Medium-Range Tracked Imagery: acquire and deliver launch imagery from a site that is located approximately five miles from the launch pad. The imagery acquisition timeframe for Medium Range Tracked Imagery is typically from T-0 through loss of sight. The medium range sites may or may not be in the Blast Danger or Flight Caution Areas which will potentially limit personnel access.

Long Range Tracked Imagery: acquire and deliver launch imagery from a site that is located between five and 40 miles away from the launch pad. Imagery acquisition timeframe for Long Range Tracked Imagery is typically from T-0 (or Acquisition of Vehicle [AOV]) through loss of sight but must include imagery of SRB separation.

The Launch Abort System (LAS) Tracked Imagery: unique in that an activation of the LAS can happen at any moment after the system is armed. Upon activation, the separation will occur at a high rate of speed.

The Launch Ascent Imagery service will potentially replace the currently utilized mobile Kineto Tracking Mounts/Ascent Imagery Systems. We are seeking to modernize the capability to capture optical imagery of launches, provide high-resolution imagery of local flight test events and offer situational awareness to launch personnel. Solutions to

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provide High Definition imaging may be used alone or in conjunction with other systems to provide the required capability. See NASA-STD-2818 (ver. 3) - DIGITAL TELEVISION FOR NASA (<https://standards.nasa.gov/documents/detail/3314900>) as an example.

Responders to this RFI are encouraged to comment on any or all of the foregoing and to express their interest for any proposed acquisition by submitting the following information:

Provide recommendations where performance can be traded for reduced costs.

1. The Vendor should indicate what part of the overall capability your proposed solution addresses
2. The Vendor should indicate how your solution works
3. The Vendor should indicate the limitations of your system
4. The Vendor should indicate what the power requirements of your system whether shore power or mobile power
5. The Vendor should indicate the need for external cooling
6. The Vendor should indicate any mitigations to assure operations in harsh outdoor environments / applications such as heat, salt water, wind, rain, etc.
7. The Vendor should indicate maturity and previous experiences acquiring imagery using your system
8. The Vendor should indicate if your response represents a new development (prototype) or stable, tested platform?
9. The Vendor should indicate the estimated time to configure the system for operational capability
10. The Vendor should indicate if lighting is required or provided for this solution
11. The Vendor should quantify the capability of your solution to capture imagery in low light
12. The Vendor should indicate how quickly imagery can be delivered following the acquisition event
13. The Vendor will specify any support, material, equipment, and/or permitting needed from NASA to enable the acquisition of imagery during an event.
14. The Vendor should indicate any Requirements noted in this RFI that cannot be met with their capabilities. The vendor should also indicate what may need to be provided by NASA so they can meet those requirements.
15. The Vendor should indicate which components of any proposed system currently exists as COTS, or slightly modified COTS. If significant Non Recurring Engineering (NRE) will be required to design or develop any new components of a proposed system, the Vendor shall identify these components as a "NEW DESIGN".

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16. The Vendor should explain any other proposed methods/capabilities they feel would meet or closely compare to the NASA Requirements based on their expertise/experience.
17. Cost: Although not mandatory for responding to this RFI, the Vendor optionally provide a ROM (Rough Order of Magnitude) cost estimate for this effort that can be used to develop budgetary forecasting. This information will be secured as proprietary information and not retained as a quote or for any potential procurement that may or may not be realized in the future.
18. Qualification and/or Flight Heritage: Although not required for responding to this RFI, the vendor may optionally provide details on any previous qualification efforts or reports pertaining to any or all imagery services they have provided for similar events. This may include any tests, analyses, certifications, or specific history pertaining to acquired imagery.

Vendors having the capabilities necessary to meet or exceed the stated requirements are invited to submit appropriate documentation, literature, brochures, and references. The vendor will be required to submit documentation demonstrating their Company's core competencies (skill, knowledge, expertise, and vessels) and brief examples of past performance providing similar services. Response to the RFI shall be limited to no more than **20 pages**. Please advise if the requirement is considered to be a commercial or commercial-type product. A commercial item is defined in FAR 2.101.

All responses to this RFI shall be submitted to **Kodi Coles, no later than 8:00AM EST April 10, 2023**. The response may be sent as one printed hardcopy or electronically as single Microsoft Word .doc and/or Microsoft EXCEL .xls file for each response. Any referenced notes may be viewed at the following URLs linked below.

In addition to whatever information the responder chooses to provide, each RFI response shall include a cover sheet with the following information:

1. RFI Solicitation Number and Title
2. Responding Organization (including address, POC and phone number)
3. A brief synopsis of the RFI response in less than 20 words
4. Section number your response is addressing
5. Potential partnerships (industry, international, US government agencies)
6. Whether your company would be available for a site visit

Additional information to be added as applies:

Responses must include the following: name and address of firm, size of business; average annual revenue for past 3 years and number of employees; ownership; whether

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they are large, or any category of small business\*, number of years in business; affiliate information: parent company, joint venture partners, potential teaming partners, prime contractor (if potential sub) or subcontractors (if potential prime); list of customers covering the past five years (highlight relevant work performed, contract numbers, contract type, dollar value of each procurement; and point of contact - address and phone number).

NASA Clause 1852.215-84, Ombudsman, is applicable. The Center Ombudsman for this acquisition can be found at [http://prod.nais.nasa.gov/pub/pub\\_library/Omb.html](http://prod.nais.nasa.gov/pub/pub_library/Omb.html).