ADVANCED RESEARCH ANNOUNCEMENT (ARA) WITH CALLS
FA9453-21-S-0001
Air Force Research Laboratory/Space Vehicle Directorate

ANNOUNCEMENT OVERVIEW

Initial
23 Apr 2021

NAICS Code: The NAICS Code for this acquisition is **541715** for Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology), and the small business size standard is **1,000** employees.

Federal Agency Name: Air Force Research Laboratory, Space Vehicles Directorate and Directed Energy, Phillips Research Site

ARA Title: Space Technology Advanced Research-Fast-tracking Innovative Software and Hardware (STAR-FISH) Announcement, procurement for experimentation of space-flight and space-related signal, energy, and transportation technologies.

ARA Number: FA9453-21-S-0001

ARA Type: This is an ARA with CALLS. The CALL shall specify a One-Step or Two-Step process; initial announcement

White Papers and/or Proposal Due Date and Time: This Advanced Research Announcement (ARA) contains overarching information and functions as a framework for identifying the technical areas of interest. This ARA will remain open indefinitely. A request for white papers and/or proposals will be transmitted via CALLs and will be published separately from the basic ARA. **NO WHITE PAPERS AND/OR PROPOSALS SHOULD BE SUBMITTED AGAINST THIS BASIC ARA**.

Brief Program Summary:
This is an ARA with CALLS pursuant to 10 U.S.C. 2373. AFRL/RV is interested in research and development (R&D), modeling and simulation (M&S), fabrication, experimentation, characterization, testing, demonstration, prototyping, and analysis related to all aspects of space-flight systems, including space flight, on-orbit servicing, debris management, controlled reentry, associated ground systems, communications links, command and control, advanced spacecraft manufacturing technologies, and space system user equipment. Dialogue between prospective Offerors and Government representatives is strongly encouraged.

Submission: Proposal and/or white paper submission requirements are based upon a One-Step or Two-Step process and will be specified in the CALL.

CALLs: A CALL is a required posting, issued through Contract Opportunities (https://beta.sam.gov/) soliciting a specific/targeted response and/or proposal for specific

research efforts. A CALL will contain a specific description of the research effort to be addressed, the anticipated period of performance, and any other information particular to the specific requested effort. CALLs are published independently at various times during the open period of the basic ARA and may use either a One-Step or Two-Step process. A CALL issued against the basic ARA will specify either a direct request for a technical and cost/business proposal, or a white paper submission potentially leading to request for proposal(s).

One-Step Process:

First Step: PROPOSAL DUE DATE AND TIME - To be specified for each CALL.

Two-Step Process:

- First Step: WHITE PAPER DUE DATE AND TIME – To be specified for each CALL
- Second Step: PROPOSAL DUE DATE AND TIME – To be specified in the "Requests for Proposals (RFP)" sent to offerors whose white papers are categorized as Selectable or Highly Recommended.

Communication Between Prospective Offerors and Government Representatives: Dialogue between prospective Offerors and Government representatives is strongly encouraged throughout the life of this ARA. Prospective Offerors are welcomed to request one on one engagements with the Government and/or provide demonstrations of firm's capabilities. Engagements shall not constitute a commitment by the Government to subsequently fund or award any proposed effort. No guidance related to technical approach will be given. However, questions related to the objectives of the *effort* or prior similar efforts may be answered. Offerors are advised that only Contracting Officers are legally authorized to contractually bind or otherwise commit the Government. All communications should be in writing via email or letter correspondence. Communication will be limited once full-proposals are requested and during evaluation/review.

Announcement Request: Air Force Research Laboratory, Space Vehicles Directorate, Kirtland Air Force Base is soliciting white papers and/or proposals on the research effort described below pursuant to the authority of 10 U.S.C. 2373, Procurement for Experimental Purposes.

Announcement Modifications: Due to the dynamically evolving nature of US warfighter space needs, this announcement is potentially subject to include updates, revisions, or additional topic areas. Therefore, Offerors are highly encouraged to continually monitor Contract Opportunities (https://beta.sam.gov/) to ensure they receive latest guidance to this announcement.

Type of Contract/Instrument: The Air Force reserves the right to award the instrument best suited to the nature of the research proposed. Accordingly, the Government may award any appropriate contract type under the Federal Acquisition Regulation (FAR) or Non-FAR instruments (i.e., Other Transaction (OT) for experimental purposes cooperative agreements, etc.).

The Government anticipates that a mix of contract types, and other instruments will be used throughout the life of this ARA. Generally, awards under this announcement may be Cost-Plus-Fixed Fee (Completion and Term), Cost Contract, Firm Fixed Price, Other Transaction

Authority, Technology Investment Agreements, or Cooperative Agreements.

Cost-type contracts will require successful Offerors to have an accounting system deemed adequate by Defense Contract Management Agency (DCMA) for tracking costs under a cost reimbursable contract (DFARS 242.75). If an Offeror does NOT have a DCAA approved accounting system, Cost-Plus-Fixed-Fee, and Cost Contracts cannot be awarded.

NOTE: If proposing a Federal Acquisition Regulation (FAR) based contract, the FAR clause references in this ARA shall apply. This announcement incorporates FAR and supplement provisions and clauses by reference. The full text of these provisions and clauses can be found at https://www.acquisition.gov/.

If proposing Procurement for Experimental Purposes Pursuant to 10 U.S.C. 2373, these FAR references and clauses would not apply. The terms and conditions and technical data requirements of an OT agreement should be developed and negotiated on a case-by-case basis.

Estimated Program Cost: The total estimated program value is unspecified with multiple awards ranging from $50,000 to $100,000,000 (the Government reserves the right to modify or exceed this amount if necessary).

Anticipated Number of Awards: The Air Force anticipates awarding a minimum of one contract per specific CALL. However, the Air Force does reserve the right to one award, more than one award, or no awards pursuant to a CALL.

System for Award Management (SAM) Registration: Before the Government can award a contract, Offeror must be registered in the System for Award Management (SAM). If an offeror was previously registered in CCR, the information has been transferred to SAM. However, it is in the Offeror's best interest to visit SAM and ensure that all of the Offeror's data is up to date from SAM and other databases to avoid delay in award. SAM replaced the Central Contractor Registration (CCR), Online Representations and Certifications Application (ORCA), and the Excluded Parties List System (EPLS). SAM allows firms interested in conducting business with the federal government to provide basic information on business capabilities and financial information. To register, visit https://www.sam.gov/SAM/.

Points of Contact:

Program Manager: Mr. Michael Lopez, AFRL/RVS, michael.lopez.44@us.af.mil

Additional Program Manager information will be listed in each CALL.

Contracting Officer (Primary): Ms. Maria Parker, AFRL/RVK, maria_fe.parker@us.af.mil

Contracting Officer (Alternate): Ms. Deanna Salazar, AFRL/RVK, deanna.salazar@us.af.mil

Additional Contracting Officer information will be listed in each CALL.

ADVANCED RESEARCH ANNOUNCMENT WITH CALLS

FA9453-21-S-0001
Air Force Research Laboratory/Space Vehicle Directorate

FULL TEXT ANNOUNCEMENT

NAICS Code: The NAICS Code for this acquisition is **541715** for Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology), and the small business size standard is **1,000** employees.

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White Paper and/or Proposal Due Date and Time: This Advanced Research Announcement (ARA) contains overarching information and functions as a framework for identifying the technical areas of interest. This ARA will remain open indefinitely. A request for white papers and/or proposals will be transmitted via CALLs and will be published separately from the basic ARA. **NO WHITE PAPERS AND/OR PROPOSALS SHOULD BE SUBMITTED AGAINST THIS BASIC ARA**.

Submission: Proposal and/or white paper submission requirements are based upon a One-Step or Two-Step process and will be specified in the CALL.

CALLs: A CALL is a required posting, issued through Contract Opportunities (https://beta.sam.gov/) soliciting a specific/targeted response and/or proposal for specific research efforts. A CALL will contain a specific description of the research effort to be addressed, the anticipated period of performance, and any other information particular to the specific requested effort. CALLs are published independently at various times during the open period of the basic ARA and may use either a One-Step or Two-Step process. A CALL issued against the basic ARA will specify either a direct request for a technical and cost/business proposal, or a white paper submission potentially leading to request for proposal(s).

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- First Step: WHITE PAPER DUE DATE AND TIME – To be specified for each CALL
- Second Step: PROPOSAL DUE DATE AND TIME – To be specified in the "Requests for Proposals (RFP)" sent to offerors whose white papers are categorized as Selectable or Highly Recommended.

Program Description: The Air Force Research Laboratory (AFRL) Space Vehicles Directorate (RV) equips the joint warfighter with a spectrum of agile, effective, resilient, and affordable mission capabilities delivered from, to and through space to ensure the National defense. AFRL/RV is interested in maturing space-domain technologies related to space-flight, signals, transportation, and energy from early functional proof of concept through demonstration of full system or architecture prototypes. The Government's interests span a broad range of technology maturity levels including performing analytical studies and laboratory studies to physically validate analytical predictions for separate elements of relevant technologies; integrating basic "low fidelity" technological components to establish that they will work together; integrating basic technological components with reasonably realistic supporting elements to test them in a simulated environment; developing representative model, prototype or satellite systems and testing them in a relevant environment; and performing fully functional demonstrations of actual system prototypes and/or satellites to validate their performance in an operational environment.

AFRL/RV is interested in receiving white papers and/or proposals to perform research and development (R&D), modeling and simulation (M&S), fabrication, experimentation, characterization, testing, demonstration, prototyping, and analysis related to all aspects of space- flight systems, including space flight, on-orbit servicing, debris management, controlled reentry, associated ground systems, communications links, command and control, advanced spacecraft manufacturing technologies, and space system user equipment.

This solicitation intends to use acquisition authorities provided by 10 U.S.C. 2373. This authority applies to acquisition of items related to "…transportation, signal, energy, and space-flight, including parts and accessories, and designs thereof, that are necessary for experimental or test purposes in the development of the best supplies that are needed for the national defense." Consequently, ***white papers and proposals should address how the proposed effort provides benefits to the national defense and a strategy for verifying those intended benefits***.

The proposed solutions should be innovative and substantially improve national defense capabilities across the domains of space-flight, signals, and energy. While the Government describes discrete topic areas below, it also anticipates that certain comprehensive technology solutions and prototypes may require multidiscipline approaches that address two or more topic areas. The following topic areas are covered under this announcement, which may be used in any combination.

1. Statement of Objectives/Description of Technical Areas:

a) **Topic Area 1.** Space vehicle functionality and logistics: Enhance core spacecraft components and subsystems to enable game-changing improvements in agility, resilience, affordability and performance for DoD spacecraft. Specific areas of technology being sought include: large deployable structures and apertures; thermal control systems; integrated structural sensing; resilient materials and structures; agile manufacturing; power generation, distribution, management, and storage; command and data handling, including networking within and between spacecraft; survivable and cyber-resistant space-flight electronics; guidance, navigation, and control; agile maneuver; and autonomy. In addition, innovative technologies that enable logistics support to space operations are being sought, such as: reliable and responsive space access; resilient command and control networks; on- orbit manufacturing, assembly, repair, resupply and repurposing; and space debris mitigation. The Government is also interested in novel technologies, concepts, and approaches that enable rapid and affordable fielding of the above space vehicle functionality, to include technologies that enable disaggregated bus and payload concepts, as well as small satellite development and demonstrations.

Topic Area 2. Mission effects and capabilities: Provide decisive mission capabilities and reliable space services to enable the joint warfighter to control the space domain and exploit it to support control of other domains. Mission capabilities, supplies and space services of interest include: space-based sensing technologies to detect, track, characterize and warn of rapidly evolving & emerging threats; battlespace awareness; ionospheric specification, forecast and modification techniques to improve radar and communication systems performance by exploiting environmental conditions; space communication hardware (e.g. antennas, feed networks, transmitters, receivers, amplifier/electronics, signal processing, etc.), software and networks to enable access to new band-width and seamlessly interconnect warfighters across multiple domains; affordable or rapidly deployable position, navigation and timing (PNT) payload technologies and concepts; resilient multi-layer PNT architectures and signals; highly accurate inertial navigation and timing systems that can operate in contested environments; quantum sensing and timing (including time transfer); efficient transfer of solar power from space-based platforms to transportable remote receivers; novel materials, structures and devices to predict and control reentry of de-orbiting payloads. The Government is also interested in agile and affordable modeling, simulation, and analysis technologies and testbeds to enable live, virtual, and constructive assessments of new mission concepts and capabilities for informing future decisions to develop and procure space-flight supplies.

b) **Topic Area 3.** Space system/services anomaly detection, attribution, and protection: Develop analytic tools and sensors to predict, detect, and aid in distinguishing the effects of natural and man-made threats to spacecraft, payloads and space services. The Government is interested in enabling rapid detection, attribution, and mitigation of space-flight systems mission anomalies from either environmental or threat effects through combined physical analysis, experimentation, and modeling & simulation. Specific technology areas being sought include: data exploitation algorithms for timely threat warning characterization of space events and objects; innovative design and operation options to specify, predict, mitigate, and avoid natural and man-made hazards

to DoD space systems; cyber threat warning and protection; and passive and active protection options to avoid or mitigate the effect of anomalies or actions to disrupt, deny, degrade, or destroy space-flight systems and services.

c) **Topic Area 4.** Space Battle Management, Command, and Control: Enable uninterrupted delivery of tactical, operational and strategic space services within a contested environment by providing unprecedented domain awareness; accurate and timely battle management tools; and robust command and control options. Specific areas of technology being sought include: data fusion, machine learning, artificial intelligence, and related methods for rapid threat assessment and response; multi-domain (land, sea, air, and space) net-centric command and control concepts; autonomy and on-board threat assessment algorithms to enhance satellite resiliency; and integration of allied, commercial, and non-traditional capabilities.

2. **Announcement Modifications:** Due to the dynamically evolving nature of US warfighter space needs, this announcement is potentially subject to include updates, revisions, or additional topic areas. Therefore, Offerors are highly encouraged to continually monitor Contract Opportunities (https://beta.sam.gov/) to ensure they receive latest guidance to this announcement.

3. **Deliverable Items:**
   a. Data: Deliverables will be described at the CALL level. DD Form 1423- 1 CDRLs will be utilized on contract awards. Other Transactions will specify data on a case by case basis, as necessary.
   b. Final Report: To be delivered under each award, 3 months after the end of the technical effort.
   c. Software: To be specified on each CALL.
   d. Hardware: To be specified on each CALL.

4. **Other Requirements:**
   a. Security: To be specified on each call. A draft DD Form 254, Department of Defense (DoD) Contract Security Classification Specification, will be attached to each CALL, as applicable. If a DD Form 254 is applicable, Offerors should ensure their facility clearance information is valid and must verify their Cognizant Security Office information is current with Defense Counterintelligence and Security Agency at https://www.dcsa.mil/.

   b. OPSEC: The contractor shall provide Operations Security (OPSEC) protection for all sensitive/critical information as defined by AFI 10-701 (Operations Security) and critical information list. The contractor shall include OPSEC training as part of their on-going security program. The AFRL/RV OPSEC coordinator will evaluate the OPSEC posture of AF contract activities and operations. OPSEC requirements will apply to all contract activities.

   c. Export Control: Information involved in this research effort is subject to Export Control (International Traffic in Arms Regulations (ITAR) 22 CFR Parts 120-130, or Export Administration Regulations (EAR) 15 CFR Parts 730-774). A Certified DD Form 2345, Militarily Critical Technical Data Agreement, will be required to be

submitted with proposal.

d. Export-Controlled Items: As prescribed by DFARS 225.7901-4, DFARS 252.225-7048, "Export-Controlled Items" will be contained in ALL resulting contract awards.

e. Options: To be specified on each call/award.

5. Other Information:

a. Government Furnished Property (GFP): To be specified for each award. In accordance with FAR 45.201(b), the contractor is responsible for all costs related to making the property available for use, such as payment of all transportation, installation or rehabilitation costs. If GFP is requested in a proposal, the following clauses/provisions apply:

(1) FAR 52.245-1 Government Property or FAR 52.245-1, Alt II if the resulting contract is with a nonprofit organization or applied research at nonprofit organizations
(2) FAR 52.245-9 Use and Charges
(3) DFARS 252.211.7007, Reporting of Government-Furnished Property
(4) DFARS 252.245-7001, Tagging, Labeling, and Marking of Government-Furnished Property
(5) DFARS 252.245-7002, Reporting Loss of Government Property
(6) DFARS 252.245-7003, Contractor Property Management System Administration
(7) DFARS 252.245-7004, Reporting, Reutilization, and Disposal

b. Base Support/ Network Access: Provision of Base Support/Network access will be determined for each award.

c. Available Base Facilities: AFRL/RV facilities/labs (office space and office equipment, including desk and chairs), internet access (Commercial and AFNET), telephone services, access to base computer network, Common Access Card (CAC). If a contractor requires use of available base support, facility visits can be arranged upon request and PCO approval (see section II 5 b for guidance on foreign nationals).

d. Overseas Performance: To be specified for each call.

e. Data Rights Desired: The Government desires Unlimited Rights or Government Purpose Rights for all technical data, non-commercial software (NCS), and NCS documentation developed using Government funds, however due to the desired use of commercially- developed technologies in this program more restrictive data rights are anticipated and will be considered where appropriate.

The Air Force Research Laboratory is engaged in the discovery, development, and integration of warfighting technologies for our air, space, and cyberspace forces. As such, rights in technical data and NCS developed or delivered under this contract are of significant concern to the Government. The Government will therefore carefully consider any restrictions on the use of technical data, NCS, and NCS documentation which could result in transition difficulty or less-than full and open competition for subsequent development of this technology.

In exchange for paying for development of the data, the Government expects technical data, NCS, and NCS documentation developed entirely at Government expense to be delivered with Unlimited Rights. Technical data, NCS, and NCS documentation developed with mixed funding are expected to be delivered with at least Government Purpose Rights. Offers that propose delivery of technical data, NCS, or NCS documentation subject to Government Purpose Rights should fully explain how the data was developed at private expense. Specifically, offers must explain what technical data, NCS, or NCS documentation developed with costs charged to indirect cost pools and/or costs not allocated to a Government contract will be incorporated, how the incorporation will benefit the program, and address whether those portions or processes are segregable.

Offerors that propose delivery of technical data, NCS, or NCS documentation subject to Limited Rights, Restricted Rights, or Specifically Negotiated License Rights will be considered. Proposals should fully explain what technical data, NCS, or NCS documentation developed with costs charged to indirect cost pools and/or costs not allocated to a Government contract will be incorporated and how the incorporation will benefit the program and whether those portions or processes are segregable.

Offerors shall include the data rights assertions as required by DFARS 252.227-7017, Identification and Assertion of Restrictions on the Government's Use, Release, or Disclosure of Technical Data or Computer Software. The assertions are due at time of proposal submission. Assertions must be completed with specificity. Each assertion must identify both the data and each such item, component, or process listed. Nonconforming assertions lists will be rejected. Terms used in this section are defined in the clauses at 252.227-7013, Rights in Technical Data-Noncommercial Items, and 252.227-7014, Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation.

THIRD PARTY SOFTWARE (COMMERCIAL AND NONCOMMERCIAL):
DFARS 252.227-7014(d) describes requirements for incorporation of third party computer software. Any third party software (commercial and noncommercial) to be incorporated into a deliverable must be clearly identified in the proposal. Prior to delivery of any third party software, the contractor will obtain an appropriate license for the Government, and the written approval of the contracting officer. Any third party software to be delivered to the Government that are not reasonably identifiable at proposal submission, must still be approved by the contracting officer prior to incorporation into a system deliverable. This obligation to obtain preapproval by the contracting officer, as described above, continues throughout contract administration.

The Government will neither accept nor execute a DD Form 250, or equivalent for the software deliverables until the Contractor obtains from all third party software suppliers and/or vendors (Licensor) licenses that comply with the following terms and conditions for the Government (Licensee):

(1) The license shall not subject the Government to liability that is indefinite or indeterminate, such as an indemnification clause, as it would constitute an obligation

in advance or in excess of an appropriation and violate the Anti-Deficiency Act.

(2) The license shall not create a contingent liability for the Government. This includes, but is not limited to: unilateral price increases, automatic assessment of charges, and automatic renewal of the license.

(3) The license shall be governed by Federal Statutes, Case Law, and Federal Regulations, and shall not be subject to the laws or jurisdiction of any municipality, state, or foreign country.

(4) The license shall not include non-substitution language that would preclude or limit the Government from using another vendor/reseller and/or product to fulfill Government requirements.

(5) The license shall not comment on entitlement to attorney fees.

(6) The Licensor shall not have the authority to unilaterally terminate the license. All remedies available shall be consistent with the Disputes Clause in the underlying basic contract.

(7) The Licensor shall not have the right to enter the premise or monitor the networks of Licensee for the purpose of auditing the use of the license.

(8) The Licensor shall not use any injunctive relief clauses as the Licensor cannot prevent the Licensee from performing mission operations.

(9) The Licensor shall not have the authority to control any litigation between a third party and the Licensee.

(10) The Licensor shall not use the fact that the Licensee is using the Licensor's products in any notification to the public (e.g., no publicity rights permitted).

f. Use of hazardous materials, radiological sources, materials or ozone depleting chemicals as part of the research will be considered on a case by case basis to determine merit of their use in furthering development and testing.

TECHNICAL DATA UNDER CONTRACT: DoD policy, per DFARS 227.7103-1, is to acquire only the technical data, and the rights in that data, necessary to satisfy Government needs. The Government anticipates receiving, as a minimum, “Government Purpose Rights” to technical data developed under contracts awarded based on proposals received in response to this announcement.

ASSERTIONS: Data rights offered other than “Unlimited Rights,” as defined in DFARS 227.7103-5, should be identified in DFARS clause 252.227-7017, Identification and Assertion of Use, Release, or Disclosure Restrictions, and addressed in the business section of the cost proposal. The table is referenced as follows:

DATA RESTRICTIONS				
Technical Data or Computer Software to	Summary of Intended Use in the Conduct of the Research	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions

I. Award Information

1. **Anticipated Number of awards**: The number of awards per specific CALL are TBD. However, the Government does reserve the right to make one award, more than one award, or no awards pursuant to a CALL.

2. **Anticipated Award Date:** TBD per specific call.

3. **Anticipated Funding:** Individual award amounts will vary by CALL. However, the estimated award values will range from $50,000 to $100,000,000 (the Government reserves the right to modify, reduce or exceed this amount if necessary).

4. **Schedule:** The anticipated period of performance will be determined per CALL. Deliverables will be specified on individual CDRL(s) in any resultant contract or in Other Transaction article.

5. **Within Scope Award Modifications:** Offerors are advised that due to the inherent uncertainty of research and development efforts, awards resulting from this announcement may be modified during performance to make within scope changes, to include but not limited to, modifications which increase overall contract ceiling amount.

6. **Points of Contact:**

Contracting:

Ms. Maria Parker (Primary)
Contracting Officer
AFRL/RVK
Kirtland AFB, NM 87117
maria_fe.parker@us.af.mil

Ms. Deanna Salazar (Alternate)
Contracting Officer
AFRL/RVK
Kirtland AFB, NM 87117
deanna.salazar@us.af.mil

Additional Contracting Officer information will be listed in each CALL.

Technical:

Mr. Michael Lopez
Program Manager
AFRL/RVS
Kirtland AFB, NM 87117
michael.lopez.44@us.af.mil

Additional Program Manager information will be listed in each CALL.

II. Eligibility Information

1. Eligible Offeror: This is an unrestricted solicitation. Businesses of all size are encouraged to propose on all or any part of this announcement under each call.

2. Cost Sharing or Matching: Cost Sharing is not required. However, proposed cost sharing or matching may be considered.

3. Federally Funded Research and Development Centers: The following guidance is provided for Federally Funded Research and Development Centers (FFRDCs) contemplating submitting a proposal, as either a prime or subcontractor, against this ARA. FAR 35.017- l(c)(4) prohibits an FFRDC from competing with any non-FFRDC concern in response to a Federal agency request for proposal for other than the operation of an FFRDC (with exceptions stated in DFARS 235.017-l(c)(4)). There is no regulation prohibiting an FFRDC from responding to a solicitation. However, the FFRDC's sponsoring agency must first make a determination that the effort being proposed falls within the purpose, mission, general scope of effort, or special competency of the FFRDC, and that determination must be included in the FFRDC's proposal. In addition, the non-sponsoring agency (in this case AFRL) must make a determination that the work proposed would not place the FFRDC in direct competition with domestic private industry. Only after these determinations are made would a determination be made concerning the FFRDC's eligibility to receive an award.

4. Government Agencies: If a Government agency is interested in performing work, contact the Technical POC identified in the ARA. If those discussions result in a mutual interest to pursue your agency's participation, the effort will be pursued independent of this announcement.

5. Foreign Participation:

a. AFRL Policy on Employment of Non-US Citizen Contractors applies to this ARA. Contractor employees requiring access to USAF bases, AFRL facilities, and/or access to U.S. Government Information Technology networks in connection with the work on this contract must be U.S. citizens. For the purpose of base and network access, possession of a permanent resident card ("Green Card") does not equate to U.S. citizenship. This requirement does not apply to foreign nationals approved by the U.S. Department of Defense or U.S. State Department under international personnel exchange agreements with foreign governments. It also does not apply to dual citizens who possess US citizenship, to include Naturalized citizens. Any waivers to this requirement must be granted in writing by the Contracting Officer prior to providing access. Specific format for waiver request will be provided upon request to the Contracting Officer. The above requirements are in addition to any other contract requirements related to obtaining a Common Access Card (CAC).

b. This acquisition involves data that are subject to export control laws and regulations. Only contractors who are registered and certified with the Defense Logistics Services Center (DLSC) and have a legitimate business purpose may participate in this solicitation. Contact the Defense Logistics Services Center, 74 Washington Avenue N., Battle Creek, Michigan 40937-3084 (1-877-352-2255) for further information on the

certification process. You must submit a copy of your approved DD Form 2345, Militarily Critical Technical Data Agreement, with your proposal.

6. **Export Control**: Information involved in this research effort will be subject to Export Control (International Traffic in Arms Regulation (ITAR) 22 CFR 120-130 or Export Administration Regulations (EAR) 15 CFR 730-774). If the effort is subject to export control, then a Certified DD Form 2345, Militarily Critical Technical Data Agreement, will be required to be submitted with proposal.

   Export-Controlled Items: As prescribed by DFARS 225-7901-4, DFARS 252.225-7048, "Export-Controlled Item" is contained in this solicitation (as shown below). This clause shall be contained in ALL solicitations and resulting contracts.

   EXPORT-CONTROLLED ITEMS

   a. Definition. "Export-controlled items," as used in this clause, means items subject to the Export Administration Regulations (EAR) (15 CFR Parts 730-774) or the International Traffic in Arms Regulations (ITAR) (22 CFR Parts 120-130). The term includes:
      (1) "Defense items," defined in the Arms Export Control Act, 22 U.S.C. 2778(j)(4)(A), as defense articles, defense services, and related technical data and further defined in the ITAR, 22 CFR Part 120.
      (2) "Items," defined in the EAR as "commodities", "software", and "technology," terms that are also defined in the EAR, 15 CFR 772.1.
   b. The Contractor shall comply with all applicable laws and regulations regarding export-controlled items, including, but not limited to, the requirement for contractors to register with the Department of State in accordance with the ITAR. The Contractor shall consult with the Department of State regarding any questions relating to compliance with the ITAR and shall consult with the Department of Commerce regarding any questions relating to compliance with the EAR.
   c. The Contractor's responsibility to comply with all applicable laws and regulations regarding export-controlled items exists independent of, and is not established or limited by, the information provided by this clause.
   d. Nothing in the terms of this contract adds, changes, supersedes, or waives any of the requirements of applicable Federal laws, Executive orders, and regulations, including but not limited to—
      (1) The Export Administration Act of 1979, as amended (50 U.S.C.App.2401, et seq.);
      (2) The Arms Export Control Act (22 U.S.C. 2751, et seq.);
      (3) The International Emergency Economic Powers Act (50 U.S.C.1701, et seq.);
      (4) The Export Administration Regulations (15 CFR Parts 730-774);
      (5) The International Traffic in Arms Regulations (22 CFR Parts 120-130); and
      (6) Executive Order 13222, as extended.

III. White Paper and/or Proposal Submission Information

1. **Overview:** This Announcement consists of a One-Step or Two-Step Process described in detail below. White papers and full proposals if requested by the Government—shall be submitted in accordance with this announcement and in accordance with the specific CALL.

   The Government anticipates white papers and proposals will be **unclassified**.

   Due to the dynamically evolving nature of US warfighter space needs, this announcement is subject to updates, revisions, or additional topic areas. Therefore, Offerors are highly encouraged to continually monitor Contract Opportunities (https://beta.sam.gov/) to ensure they receive latest guidance to this announcement.

2. **One-Step (Proposal) Submission Information:**

   First Step: Proposal – Full proposal Instructions will be specified for each CALL.

3. **Two-Step (White Paper and Proposal) Submission Information**

   First Step (White Paper) Instructions:

   a. General: The *FIRST STEP* requests a white paper and a rough order of magnitude (ROM) cost estimate as specified per CALL. All white papers may be kept on file for one year. An Offeror submitting a proposal without first submitting a white paper **will not** be eligible for an award. The cost of preparing white papers in response to this Solicitation is not considered an allowable direct charge to any resulting or any other contract; however, it may be an allowable expense to the normal bid and proposal indirect cost as specified in FAR 31.205-18.

   b. White Paper Format: White papers shall be submitted using the Microsoft Word Template located at the following link: https://valideval.com/star_documents/. Download the template, follow the instructions, save the white paper as a searchable PDF file (e.g. Adobe Acrobat® 7.0 or later), and submit document no later than (NLT) the due date stated within each individual call. The Template may be revised from time to time, so please download a new copy prior to submitting your white paper to ensure that you have the most current version. **White papers that do not follow the most current version of the Template will be rejected with no further action from the Government**. DO NOT deliver any classified white papers to the email address listed above. Do not submit "zipped" files. If files contain links, the links must be intact and maintained through all revisions. Files shall not be read/write/password protected (i.e., must be unlocked, non-password protected, and/or unprotected).

   c. White Paper ROM Cost: Provide a ROM cost estimate for planning purposes. The ROM should provide top-level details on major cost items such as labor, special equipment that will need to be purchased, materials, and any subcontracts or other organizations' costs (to include government furnished facilities, equipment, or

personnel) for the proposed effort. The ROM cost estimate will be used to assess value and determine if there are sufficient funds available for the proposed effort. Any second step RFPs will require a full cost proposal.

d. Other Information: If the *Offeror* wishes to restrict its white papers, they must be marked with the restrictive language stated in FAR 52.215-1(e).

e. White Paper/Proposal Content Summary: **Your white paper may not be read if all requirements of this announcement are not met.**

f. Awards may be granted solely on the contents of the white paper**: A full cost proposal will be requested prior to award.**

Second Step (Proposal) Instructions: Full proposal Instructions will be provided within the Request for Proposal Letter from the PCO.

If the CALL specifies a Two-Step Process, full proposals will not be accepted or evaluated unless requested by the PCO. All communications should be in writing via email or letter correspondence.

IV. Review Information.

1. Evaluation Criteria: Evaluations will be conducted by a peer or scientific review process and both white papers and proposals will use the following criteria:

a. Problem Definition
- Problem Being Solved—thoroughness of problem definition
- Product Summary—clarity of description for proposed product or solution

b. Relevance to AFRL Needs
- Problem Alignment—how well problem statement aligns to published topic areas
- Problem Magnitude—effectiveness of status quo compared to proposed solution
- Operational Impact—degree to which proposed solution improves mission operations
- Scale—breadth of organizational impact (Squadron, Wing, Command, or Service)
- Degree of Innovation—how this solution differs from existing approaches

c. Scientific and Engineering Viability
- Scientific Feasibility—soundness of scientific basis
- Enabling Technologies—maturity and risk of underlying technologies
- Alternative Technical Approaches—relative viability of competing solutions
- Technical Personnel—potential for success given composition and expertise of team

d. Project Plan
- Project Schedule—clarity and credibility of milestones and time phasing
- ROM Cost Estimate—credibility of cost estimates
- Hypothesis, Testing, Measurement—completeness of method for validating results
- Appropriateness of Measurement—suitability of measures to indicate performance impact

e. Value/Cost

- Benefit to Air Force—extent to which expected pay-off out-weighs estimated cost
- Funding Available—comparison of ROM cost estimate to available budget
- Cost Realism (proposal only)—likelihood technical approach can be successfully
- accomplished for the cost proposed
- Cost Reasonableness (proposal only)—consideration of cost proposed in conjunction with program objectives and availability of funding

Note: Prior to award of a potential successful offer, the Contracting Officer will make a final determination regarding price reasonableness.

f. Proposal Quality

- Quality of Prose—effectiveness of writing, rhetorical structure and grammar
- Data Quality and Attribution—how well conclusions are supported by verifiable data

Note: The Government is partnered with a third party vendor, Valid Evaluation, Inc. to leverage their novel online evaluation system. While Valid Evaluation, Inc. will administer the system, they will not have access to white papers or proposals. Additionally, they are bound by a Non-Disclosure Agreement and are prohibited from responding to this announcement.

2. **Relative Importance of Evaluation Criteria**: Relevance to AFRL Needs, Scientific and Engineering Viability, and Project Plan are of equal importance and are first in order of priority. Problem Definition and Benefit versus Funding are of equal importance and are second in order of priority. Proposal Quality is the lowest in order of priority.

3. **White Paper Review and Selection Process:** Evaluation of white papers will be conducted by a peer or scientific review process, using the criteria described above. Based on the evaluation, white papers will be categorized as Highly Recommended, Selectable, or Not Selectable, using the definitions below. White papers that are evaluated as Selectable/Highly Recommended will be sent a Request for Proposal Letter from the PCO. The Government's goal is to notify Offerors of the disposition of their white paper within 30 days of receipt. Unsuccessful Offerors will be notified in writing and will have the opportunity to receive feedback.

4. **Proposal Review and Selection Process:** Proposals will also be reviewed against the criteria described above. Based on the peer or scientific review process, proposals will be categorized as:

a. **Highly Recommended**: Well-conceived scientifically and technically sound proposal pertinent to accomplish goals and objectives. Proposals are recommended for acceptance (subject to availability of funds) and normally are displaced only by other Highly Recommended proposals.

b. **Selectable**: Scientifically or technically sound proposals that may need additional development. Proposals are recommended for acceptance if sufficient funding is

available, but at a lower priority than Highly Recommended proposals. To ensure a diversity of approaches, a Selectable proposal may be prioritized over a Highly Recommended proposal if the Selectable proposal presents a unique approach unlike any of the Highly Recommended proposals.

c. **Not Selectable**: Proposal is not technically sound or does not meet agency needs. Even if sufficient funding existed, the proposal will not be funded.

Note 1: The recommendations above will be based on the Government's evaluation of the technical approach independent of the cost proposal. If recommended for award, the Contracting Officer will make a final determination regarding price reasonableness.

Note 2: When the Government elects to award only part of a proposal, the selected part may be categorized as Highly Recommended or Selectable although the proposal as a whole may not merit such a categorization.

Note 3: The Government may award some, all, or none of the proposals received, and may award without negotiation/discussion; however, the Government reserves the right to negotiate with any Offeror(s) whose proposal is selected for funding.

V. Award Administration Information

1. Award Notices: Offerors will be notified whether their proposal is recommended for award from the Contracting Officer. The notification of recommendation for award is not to be construed to mean the award of a contract is assured, as availability of funds and successful negotiations are prerequisites to any award.

VI. Other Relevant Information

1. Organizational Conflict of Interest (OCI): In accordance with FAR 9.5, Organizational Conflict of Interest, the Offeror will be required to perform its own OCI analysis and submit the results of that analysis as part of its proposal submission. Specifically, the Offeror shall analyze the planned effort for actual or potential OCI situations associated with its or any of its associate organizations' performance under any contract it or its associated organizations have been or may be awarded by any federal agency or other entity. The Offeror shall describe in detail the methodology used to identify actual or potential OCI issues. If the Offeror identifies any actual or potential OCI with respect to the performance of itself or its associated organizations, the Offeror shall provide an OCI mitigation plan to be incorporated into any resulting contract. If an award is made to the Offeror, the resulting contract may include an OCI limitation applicable to subsequent Government work, at either a prime contract level, at any subcontract tier, or both. If a prospective Offeror believes a conflict of interest exists or may exist (whether organizational or otherwise) or has questions on what constitutes a conflict of interest, the Offeror should send his/her contact information and a summary of the potential conflict via email to the ARA e-mail address before time and effort are expended in preparing a proposal and mitigation plan. The OCI clause in the ARA may not be modified or deleted.

2. **Support contractors:** The AFRL Directed Energy (RD) and Space Vehicles (RV) Directorates have contracted for various business and staff support services, (e.g. LTD Global, LLC., Valid Evaluation, Inc., and SierTek, Ltd.) some of which require contractors to obtain administrative access to proprietary information submitted by other contractors. Administrative access is defined as "handling or having physical control over information for the sole purpose of accomplishing the administrative functions specified in the administrative support contract, which do not require the review, reading, or comprehension of the content of the information on the part of non-technical professionals assigned to accomplish the specified administrative tasks." These contractors have signed general non-disclosure agreements and organizational conflict of interest statements. The required administrative access will be granted to non-technical professionals. Examples of the administrative tasks performed include: a) Assembling and organizing information for R&D case files; b) Accessing library files for use by Government personnel; c) Handling and administration of proposals, contracts, contract funding and queries; and d) administering the tool that will be used for conducting white paper and proposal evaluations. These various business and staff support service contractors are prohibited from responding to this announcement.

3. **Wide Area Work Flow (WAWF) Notice:** Any award resulting from this ARA will contain the clause at DFARS 252.232-7003, Electronic Submission of Payment Requests and Receiving Reports, which requires electronic submission of all payment requests. Any contract award resulting from this ARA will establish a requirement to use WAWF for invoicing and receipt/acceptance, and provide coding instructions applicable to this contract. Contractors are encouraged to take advantage of available training (both web-based and through your cognizant Defense Contract Management Agency (DCMA) office), and to register in the WAWF system. Information regarding WAWF, including the web-based training and registration, can be found at https://wawf.eb.mil/. Note: The WAWF requirement does not apply to Offerors that are audited by an agency other than the Defense Contract Audit Agency (DCAA).

4. **Item Identification and Valuation:** Any award resulting from this ARA may contain the clause at DFARS 252.211-7003, Item Unique Identification and Valuation (MAR 2016) which requires unique item identification and valuation of any deliverable item for which the Government's unit acquisition cost is $5,000 or more; subassemblies, components, and parts embedded within an item valued at $5,000 or more; or items for which the Government's unit acquisition cost is less than $5,000 when determined necessary by the requiring activity for serially managed, mission essential, or controlled inventory. Also, included are any DoD serially managed subassembly, component, or parts embedded within a delivered item and the parent item that contains the embedded subassembly, component, or part. Per DFARS 211.274-3, Policy for Valuation, it is DoD policy that contractors shall be required to identify the Government's unit acquisition cost for any deliverable end items to which item unique identification applies. Therefore, your proposal must clearly break out the unit acquisition cost for applicable deliverable items (per DFARS 211.274-3 "for cost-type or undefinitized line, subline, or exhibit line items, the contractor's estimated fully burdened unit cost to the Government at the time of delivery") in their proposal. Per DoD, "fully burdened unit costs" to the Government

would include all direct, indirect, general and administrative (G&A) costs, and an appropriate portion of fee. For questions regarding the unique item identification requirements, please contact the contracting point of contact identified in this ARA. For more information, see the following website: http://www.acq.osd.mil/dpap/pdi/uid/index.html.

5. **Pre-Award Clearance:** Pursuant to FAR 22.805 Procedures, a pre-award clearance must be obtained from the U.S. Department Of Labor, Employment Standards Administration, Office Of Federal Contract Compliance Program's (OFCCP) prior to award of a contract (or subcontract) of $10,000,000 or more unless the Contractor is listed in OFCCP's National Pre- award Registry (https://www.dol.gov/agencies/ofccp/pre-award). This registry indicates that the Contractor has been found to be "in compliance" within the past two years with the Equal Employment Opportunity (EEO) regulations that the OFCCP is mandated to enforce. The registry is updated nightly and facilities reviewed more than two years ago are removed and new ones are added. Award may be delayed if the Offeror is not currently listed in the registry and the Contracting Officer must request a pre-award clearance from the OFCCP.

6. **Limitations on Pass-Through Charges:** Any contract award resulting from this ARA may contain FAR 52.215-22, Limitations on Pass-Through Charges – Identification of Subcontract Effort and FAR 52.215-23, Limitations on Pass-Through Charges or Alternate I. The Offeror shall identify in its proposal the total cost of the work to be performed by the Offeror, and the total cost of the work to be performed by each subcontractor, under the contract. If the Offeror intends to subcontract more than seventy (70) percent of the total cost of work to be performed under the contract, the Offeror shall identify in its proposal—(i) The amount of the Offeror's indirect costs and profit/fee applicable to the work to be performed by the subcontractor(s); and (ii) A description of the added value provided by the Offeror as related to the work to be performed by the subcontractor(s). If any subcontractor proposed under the contract intends to subcontract to a lower-tier subcontractor more than seventy (70) percent of the total cost of work to be performed under its subcontract, the Offeror shall identify in its proposal—(i) The amount of the subcontractor's indirect costs and profit/fee applicable to the work to be performed by the lower-tier subcontractor(s); and (ii) A description of the added value provided by the subcontractor as related to the work to be performed by the lower-tier subcontractor(s).

7. **Post-Award Small Business Program Representation:** Any award resulting from this ARA may contain FAR 52.219-28, Post-Award Small Business Program Representation. This clause requires a contractor to represent its size status when certain conditions apply. The clause provides detail on when the representation must be completed and what the contractor must do when a representation is required.

8. **Small Business Subcontracting Plans:** Unless exempt in accordance with FAR 19.702, small business subcontracting plans are required for efforts anticipated to exceed $750,000. Prospective Offerors shall submit applicable subcontracting plans in accordance with the requirements set forth in FAR 19.704 and DFARS 219.704. The subcontracting plan shall be submitted with the proposal and be suitable for incorporation into the awarded contract (no proprietary information or markings). If a company has a master

subcontracting plan, as described in FAR 19.701 or a comprehensive subcontracting plan, as described in DFARS 219.702-70, a copy of the master/comprehensive plan shall be submitted.

The Contracting Officer anticipates aggressive subcontracting goals based on the market research conducted. Current DoD Subcontracting Goals can be found here: https://business.defense.gov/About/Goals-and-Performance/

For proposed subcontracting plans that are below the DoD goals, the Offeror shall provide additional information which demonstrates how it intends to provide meaningful subcontracting opportunities and rationale as to why the goals were not attainable. In accordance with FAR 19.702, Statutory Requirements, if the apparently successful Offeror fails to negotiate a subcontracting plan acceptable to the contracting officer within the time limit prescribed by the Contracting Officer, the Offeror will be ineligible for award.

9. Government Furnished Property (GFP)/Government Furnished Information (GFI): GFP/GFI is anticipated for this ARA.

a. If GFP is proposed, the Government will provide maximum accommodation possible for requests of GFP or other permitted assistance that arise during the performance of the contract. In accordance with FAR 45.201(b), Solicitation, the contractor is responsible for all costs related to making the property available for use, such as payment of all transportation, installation or rehabilitation costs.

b. In accordance with FAR 45.201(c), Solicitation, if GFP is requested, Offerors shall submit the following information with the proposal:

(1) A list or description of all Government property that the Offeror or its subcontractors propose to use on a rent-free, non-interference basis. The list shall identify the accountable contract under which the property is held and the authorization for its use (from the Contracting Officer having cognizance of the property);

(2) The dates during which the property will be available for use (including the first, last, and all intervening months) and, for any property that will be used concurrently in performing two or more contracts, the amounts of the respective uses in sufficient detail to support prorating the rent;

(3) The amount of rent that would otherwise be charged in accordance with FAR 52.245-9, Use and Charges; and

(4) A description of the Offeror's property management system, plan, and any customary commercial practices, voluntary consensus standards, or industry-leading practices and standards to be used by the Offeror in managing Government property.

(a) The above information should be provided within the Business Cost Volume paragraphs which pertain to GFP Support. The Offeror shall

also supply applicable information in the format shown below for each item requested.

10. **Contractor Acquired Property (CAP):** The Offeror may propose CAP as necessary to fulfill the proposed objectives. Offerors should be aware that the Government will cross-check any CAP proposed with AFRL/RVOI/LMCA for availability.

11. **Clauses:** The following clauses will be incorporated into any cost reimbursement contracts resulting from this ARA: FAR 52.245-1, Government Property or Alternate I; FAR 52.245-9, Use and Charges; DFARS 252.211-7007, Reporting of Government-Furnished Property; DFARS 252.245-7001, Tagging, Labeling and Marking of GFP; DFARS 252.245-7002, Reporting Loss of Government Property; DFARS 252.245-7003, Contractor Property Management System Administration; and DFARS 252.245-7004, Reporting, Reutilization and Disposal.

12. **Available Base Facilities:** If requested, AFRL test facilities may be made available and include buildings (space and equipment), along with Air Force computers, networks, phones, etc. Offerors shall specifically detail the elements of the effort proposed to be conducted within the confines of Kirtland AFB, NM, and those that are to be performed off-site. Any differences in on-site versus off-site rates shall be specifically annotated.

13. **Associate Contractor Agreements:** In accordance with AFFARS, PGI 5317.9000, Associate Contractor Agreements (ACAs) are agreements between contractors working on Government contracts or projects that specify requirements for them to share information, data, technical knowledge, expertise, or resources. The Contracting Officer may require ACAs when contractors working on separate Government contracts must cooperate, share resources or otherwise jointly participate in working on contracts or projects. ACAs will be determined for each individual award.

14. **Payment Under an OT:** The agreement must identify clearly the basis and procedures for payment.