

**The Air Force Lifecycle Management Center,  
Command, Control, Communication for Battle Management (AFLCMC/C3) releases the  
Broad Agency Announcement Call 003  
for  
Joint All-Domain Command and Control (JADC2)  
Announcement Number: BAA-AFLCMC\_CAIO-2020-0001-003-01**

***Issue Date: 24 April 2020***

***Amendment 01 dated 8 June 2020:*** Updated contact information for “Alternate” in Section 1

***Amendment 02 dated 30 September 2020:*** Updated contact information for “Primary” in Section 1; Planned Demonstrations/Exercises/On-Ramp Events updated in Section 3; Proposal Due Dates updated in Section 5

***Amendment 03 dated 10 November 2020:*** Section 3 updated to include On-Ramp Exercise #4 paragraph

***Amendment 04 dated 3 June 2021:*** Minor administrative changes (owning organization updated from Chief Architect’s Integration Office or CAIO to the Air Force Life Cycle Management Center Architecture and Integration Directorate or AFLCMC/XA), ABMS changed to JADC2, Alternate Contact updated, due dates updated, On-Ramp Exercise paragraph deleted

***Amendment 05 dated 19 March 2024:*** Minor administrative changes (owning organization updated from Air Force Life Cycle Management Center Architecture and Integration Directorate AFLCMC/XA) to Command, Control, Communication for Battle Management (AFLCMC/C3); updated contact information in Section 1; additional Proposal Due Dates added in Section 5

## **SECTION 1 - INTRODUCTION**

**The intent of this Call is to invite industry to bring technologies/solutions to future JADC2 technology demonstrations at no cost via a Cooperative Research and Development Agreement (CRADA).** Command, Control, Communication for Battle Management (AFLCMC/C3) invites innovative technical approach concept papers addressing solutions for integration into JADC2 to address problems associated with getting the right information to the right platform/decision maker in the most efficient manner thereby reducing kill chain and Observe, Orient, Decide and Act (OODA) timelines and cycles. This BAA will focus on existing and emerging technologies and platforms across the Defense Department, the Intelligence Community, and the commercial world, to perform an integrated analysis of the capability of various options to contribute to the fight and prioritize investments over time.

This Broad Agency Announcement (BAA) Call is issued under the provisions of paragraph 6.102(d)(2) of the Federal Acquisition Regulation (FAR). CRADAs are established under the authority of 15 USC 3710a.

This is Call 003 and utilizes a One-Step process (Concept Paper and draft CRADA). The intent of this Call is to solicit technologies and solutions for demonstration at future JADC2 technology demonstration events with the intent to further the objective of support to future operations by providing the critical surveillance, tactical edge communications, processing, networking, battle management command and control capabilities to the joint warfighting force at no cost via a CRADA. Concept papers should be submitted as specified in “Section 5” of this BAA. The Government will evaluate concept papers against the criteria stated in this announcement. Offerors whose concept papers are determined to not be of interest are not precluded from submitting subsequent concept papers addressing other technologies and/or solutions for consideration following the specifications if they so desire. All offerors submitting concept papers will be contacted by the Government either notifying them that the effort proposed is not of interest to the Government, or with a response to finalize the draft CRADA.

Non-Government advisors will be used in the evaluation of concept papers and have signed non-disclosure agreements (NDAs) with the Government. Additional NDAs will not be required; instead, a response to this BAA will be considered an implicit acknowledgement and acceptance of the fact that non-Government advisors will be assisting the Government in this process. The Government understands that information provided in response to this BAA is presented in confidence and may contain trade secret, commercial or financial information, and it agrees to protect such information from unauthorized disclosure to the maximum extent permitted or required by-

- a. 18 USC 1905 (Trade Secrets Act);
- b. 18 USC 1831 et seq. (Economic Espionage Act);
- c. 5 USC 552(b)(4) (Freedom of Information Act);
- d. Executive Order 12600 (Pre-disclosure Notification Procedures for Confidential Commercial Information); and
- e. Any other statute, regulation, or requirement applicable to Government employees.

Concepts papers should be submitted electronically, via the appropriate communication channels (Email, SIPR, any other type of pre-coordinated communication method), to the Contracting Officer.

Primary:

Mr. Andy Vanover  
gary.vanover@us.af.mil  
Phone Number: (312) 986-4323

Alternate:

Mr. Chris Core  
christopher.core@us.af.mil  
Phone Number: (937) 904-4575

Electronic submissions are highly preferred. In the event electronic submission is not possible, proposals in response to this announcement shall be submitted to:

**AFLCMC/C3**  
ATTN: Mr. Andy Vanover  
2240 B St., Bldg 11, Rm 047  
Wright-Patterson AFB 45433-7104

Proposals shall reference the above BAA number in the subject/title of the response. Submissions shall be either PDF files or Microsoft Word Documents.

**Please contact the Contracting Officer for submission of any potentially sensitive or classified material.**

## **SECTION 2 - AREAS OF INTEREST**

In order to effectively engage peer and near-peer adversaries, the U.S. Air Force needs to develop, acquire, and operate systems as a unified force across all domains (air, land, sea, space, cyber, and electromagnetic spectrum (EMS)). The objective of the Architecture and Integration Directorate is to adopt the best practices of open architectures and government owned waveforms to enable rapid proliferation of new and existing software and hardware. To manage the broad scope of JADC2, technical categories have been defined to organize concepts, technologies, etc. based upon their roles within the JADC2 construct. This organization is not intended encourage a solution that spans all categories or to limit solutions to one category. Proposals are desired with small feature sets focused in one area but may span multiple categories when reasonable.

Concept papers utilizing technology with a Technology Readiness Level (TRL) of 3 or higher are desired; justify TRL using DoD Technology Readiness Assessment (TRA) Guidance, April 2011 (see Attachment 1 to this Call). Proposed efforts are desired to be fully modeled in the environment prior to demonstration and test data collected will be fed back into the system for model improvement. When applicable, prototyping and fielding on a condensed timeline is desired.

We are looking for solutions in the following categories (**NOTE:** These categories are not intended to be comprehensive, but rather a context. Categories may be created or removed as time progresses):

- **Category 0: Digital Architecture, Standards and Concepts**

This category consists of various activities to analyze, mature, and document the foundational aspects of the development of the overall enterprise architecture. This includes digital modeling, simulation and analysis, trade studies, government owned standard development and maintenance, and potential concept development and refinement. Development of digital engineering architecture to include appropriate toolsets, licenses, data, etc. at multiple levels of security and including services such as data management, configuration control, and security/access management. Other activities may include architecting the toolchains to support the linkage of digital engineering artifacts to modeling and simulation tools and operational analysis.

- **Category 1: Sensor Integration**

The development, maturation, integration, demonstration, and proliferation of sensor hardware and software. A key interest of JADC2 is the compatibility and interoperability capabilities through the use of open interfaces to enable improved control of systems and the processing of their data.

- **Category 2: Data**  
Data incorporates the cloud based data repositories across domains that are discoverable, enabling publish subscribe approaches servicing various consumers across the DoD. These repositories contain data that consists of structured and unstructured data and where possible, this data will be meta tagged for further analytics and as well as fusion purposes. One of the key elements of this approach is this ability to analyze the data to develop machine learning and further enhance the artificial intelligence (AI) algorithms to provide previously unrealized military utility in decision aides.
- **Category 3: Secure Processing**  
Secure Processing will leverage the Enterprise Information Technology as a Service (EITaaS) work at the unclassified and secret level to, expand this capability to all levels of security. A key feature of secure processing will be to develop a multi-level security (MLS) technology set that enables moving up and down in security level where feasible no matter the hardware device, transportation method, or environment. Lastly secure processing encompasses providing deployment, training, and support services for all of these capabilities worldwide.
- **Category 4: Connectivity**  
Development and fielding of networks to enable the timely processing and dissemination of data from any sensor to users at the tactical edge and/or strategic levels. Assets in any domain may be platforms-of-opportunity to serve as communications nodes enabled by omnidirectional and directional line-of-sight (LOS), and beyond-line-of-sight (BLOS) capabilities. Attributes of interest include: increased data rates, reduced latency, improved anti-jam, LPI/LPD characteristics, scalability of nodes/connections, improved integration of dissimilar users, etc.
- **Category 5: Apps**  
Applications encompasses the design, development, and demonstration of open interface applications and/or open interface software development kits for distributed command and control decision-makers (e.g., machine-to-human, machine-to-machine) across multi-domain operations. Additionally, this category seeks solutions which demonstrate the ability to ingest and process cross domain, multi-sourced data feeds (intelligence, information, etc.) via fusion environments and/or fusion services.
- **Category 6: Effects Integration**  
Design, development, demonstration, and integration of networked weapons engaged across complex (e.g. wide area mesh) environments. This includes, but is not limited to, smart munitions and low-cost autonomous platforms capable of supporting C2 de-confliction and synchronization of multi-domain assets. Incorporation of techniques and/or technologies are also sought to enable near-real time mission feedback loops and reduce processing time between system/mission data updates.

### **SECTION 3 – GUIDELINES FOR PREPARATION AND SUBMISSION OF CONCEPT PAPERS**

This is a one-step staggered-closed BAA (concept paper and submittal of draft CRADA).

#### **Guidelines for All Submissions (Concept Papers and Draft CRADA)**

- 1) The cost of preparing responses to this BAA is not considered an allowable direct charge to any contract.
- 2) Unnecessarily elaborate brochures or proposals are not desired.
- 3) Concept papers should be created using 8.5 x 11 inch portrait format pages with single spaced Times New Roman 12 point font with 1" margins. Landscape is acceptable for charts and graphs only. All text, including text in tables and charts, must adhere to all font size and line spacing requirements listed herein. Font and line spacing requirements do not have to be followed for illustrations, flowcharts, drawings, and diagrams. These exceptions shall not be used to circumvent formatting requirements and page count limitations by including lengthy narratives in such items.
- 4) Use of a diagram(s) or figure(s) to depict the essence of the proposed solution is strongly encouraged.
- 5) Multiple concept papers addressing different ideas/solutions/technologies may be submitted by the same organization.
- 6) On the title page of the submission, identify if you or a proposed sub-contractor are a small business such as 8(a), small disadvantaged business, woman-owned business, HUBZone small business, Veteran-owned business, service disabled veteran owned business, historically black college or university and minority institution.
- 7) Foreign-Owned businesses may be submitted alone or through some form of teaming arrangement with one or more United States-owned businesses. The ability to obtain a CRADA/Material Transfer Agreement based upon a submittal may depend upon whether the foreign-owned business requires access to Government information in order to perform under the contract (1) necessitates clearance of the business under a Special Security Agreement and (2) necessitates approval of a National Interest Determination (see 10 U.S.C. 2536(b)(1)(A), DoD 5220.22-M, and AFI 31-601) that release of proscribed information to the foreign-owned business shall not harm the national security interests of the United States. Failure to obtain the clearance or denial by the cognizant authority of release of the proscribed information to the foreign-owned business would preclude award of a contract.
- 8) Security Requirements: The submittal process under this BAA is intended to be as streamlined as possible to allow the Government to leverage the latest technology advances. Every precaution must be taken to protect potentially sensitive or classified material. No classified technical proposals are expected. Offerors are encouraged to keep all elements of

the concept paper unclassified. In the rare case where an offeror has a need to submit a classified appendix, such material shall not be transmitted across open-source media like public phone, fax, internet, or e-mail. If a submitter has any reason to believe their concept may reference ideas or operations that require special protection, the submitter should immediately contact the Contracting Officer for further instruction. Submitters who are supported by an accredited security office may be bound by specific law and regulations directing the proper methods for transmission of classified responses.

- 9) Questions regarding the objectives or preparation of the proposal should be addressed to the Contracting Officer.
- 10) Concept papers containing data that is not to be disclosed to the public for any purpose or used by the Government except for evaluation purposes shall include the following sentences in accordance with FAR 52.215-1(e)(1) and (2) on the cover page:

***“This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed -- in whole or in part -- for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of -- or in connection with -- the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [insert numbers or other identification of sheets]”***

Each restricted data sheet should be marked as follows:

***“Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.”***

## **SECTION 5: CONCEPT PAPER PREPARATION**

Submitter’s concept papers shall not exceed ten (10) pages.

Title Page (does not count against 10-page limit).

Company Name, CAGE Number (if applicable), Title, Offeror, Date, Offeror’s Contracting POC E-Mail Address, Phone, Fax, Organization/Office symbol, and Address. Identify the categories included in the concept paper. Identify if you or a proposed sub-contractor are a small business such as 8(a), small disadvantaged business, woman-owned business, HUBZone small business, Veteran-owned business, service disabled veteran owned business, historically black college or university and minority institution. Identification of potential sponsor(s) organizations.

### ***Technical Approach Section A***

Technology Concept – describe the technical approach and procedures of your proposed research. As part of the proposed research, identify the concept’s current TRL as well as a

suggested path to mature the TRL of the research. Identify proposed hardware, technical data, and computer software deliverables. Identify aspects which may be considered proprietary.

#### *Technical Approach Section B*

Operational Impact – describe how the USAF will be impacted by the deliverable(s) of your contract. If applicable, describe the impact to the joint operational community. Explain the beneficial impacts and quantify them as appropriate. Detail who the operational users of the technology are expected to be.

#### *Technical Approach Section C*

A reasonably complete discussion stating the background and objectives of the proposed work, the approaches to be considered, and the resources to be employed. Include the nature and extent of the anticipated results. Include ancillary and operational issues such as certifications, algorithms, and any engineering/software development methodologies to be used. Identify the type of support, if any, the offeror requests the Government in general such as facilities, equipment, data, and information or materials.

#### *Attachment*

A draft of the CRADA should be included as an attachment to the concept paper. Attachment 2, CRADA, should be used if the offeror is proposing both the Air Force Activity and the offeror actively collaborate. Attachment 3, Material Transfer Agreement - Release, should be used if the offeror is proposing the Air Force Activity provide materials and/or facilities to the offeror for testing purposes (no fee charged). Attachment 4, Material Transfer Agreement, should be used if the offeror is proposing to provide materials to the Air Force Activity to test (no fee charged). Attachment 5, Commercial Test Agreement, should be used if the offeror is proposing to provide commercial items for the Air Force Activity to test (fee charged) and the offeror wants to keep data associated with the test confidential.

### **BASIS FOR CONCEPT PAPER EVALUATION**

Concept papers will be evaluated as they are received through a peer review and scientific review process. Individual concept paper evaluations will be based on acceptability or non-acceptability without regard to other submissions received under this announcement. The Government Office intends to complete coordination and review of concept papers within 60 calendar days and notify the submitter of any status. Concept papers will be evaluated under the following criteria:

- 1) The degree to which the proposed concept is relevant to JADC2, including the degree to which it enhances and/or accelerates development.
- 2) Technical merit of the proposed concept with an emphasis on feasible, achievable, and innovative solutions.

3) Degree to which the proposed concept demonstration or validation is achievable.

**CONCEPT PAPER DUE DATES:** Staggered due dates for the concept papers are detailed below. **However, concept papers submitted after the stated due dates will still be considered:**

- 1 June 2020
- 1 July 2020
- 1 October 2020
- 8 January 2021
- 1 April 2021
- 31 March 2022
- 31 March 2023
- 29 March 2024
- 31 March 2025
- 31 March 2026

**ATTACHMENTS:**

- 1) Technology Readiness Assessment Guide dated April 2011
- 2) CRADA Template
- 3) Material Transfer Agreement-Release Template
- 4) Material Transfer Agreement Template
- 5) Commercial Test Agreement Template