



Broad Agency Announcement
Computational Cultural Understanding (CCU)
Information Innovation Office

HR001121S0024

Amendment 2

June 3, 2021

Summary of Amendment 2 Changes:

The purpose of this amendment is to provide additional detail to the following sections, which are highlighted in yellow throughout the document:

1. PART II. FULL TEXT OF ANNOUNCEMENT; I. Funding Opportunity Description; B. Program Structure
2. PART II. FULL TEXT OF ANNOUNCEMENT; IV. Application and Submission Information; B. Content and Form of Application Submission

TABLE OF CONTENTS

PART I: OVERVIEW INFORMATION	4
PART II: FULL TEXT OF ANNOUNCEMENT	5
I. Funding Opportunity Description	5
A. Program Overview	5
B. Program Structure	7
C. Program Metrics.....	12
D. Deliverables	13
E. Intellectual Property	14
II. Award Information	14
A. General Award Information	14
B. Fundamental Research	16
III. Eligibility Information	16
A. Eligible Applicants.....	16
B. Organizational Conflicts of Interest.....	17
C. Cost Sharing/Matching	18
IV. Application and Submission Information.....	19
A. Address to Request Application Package	19
B. Content and Form of Application Submission.....	19
V. Application Review Information	36
A. Evaluation Criteria	36
B. Review of Proposals.....	37
VI. Award Administration Information	38
A. Selection Notices and Notifications	38
B. Administrative and National Policy Requirements.....	39
C. Reporting.....	39
D. Electronic Systems.....	40
E. DARPA Embedded Entrepreneur Initiative (EEI).....	40
VII. Agency Contacts	41
VIII. Other Information	42
A. Collaborative Efforts/Teaming	42
B. Proposers' Day	42
C. Associate Contractor Agreement (ACA)	42
IX. APPENDIX 1 – PROPOSAL SUMMARY SLIDE	44

PART I: OVERVIEW INFORMATION

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), Information Innovation Office (I2O)
- **Funding Opportunity Title** – Computational Cultural Understanding (CCU)
- **Announcement Type** – Initial Announcement
- **Funding Opportunity Number** – HR001121S0024
- **Catalog of Federal Domestic Assistance Numbers (CFDA)** – 12.910 Research and Technology Development
- **Dates**
 - Posting Date: April 29, 2021
 - Proposers' Day: April 30, 2021
 - Proposal Due Date and Time: June 16, 2021, 12:00 noon (ET)
- Anticipated individual awards – DARPA anticipates multiple awards for Technical Area (TA)1 and TA2, and a single award for TA3
- Types of instruments that may be awarded -- Procurement Contracts, Cooperative Agreements, Other Transactions (OT), or Technology Investment Agreements (TIA)
- Agency contact
 - Point of Contact
The BAA Coordinator for this effort can be reached at:
Email: CCU@darpa.mil
DARPA/I2O
ATTN: HR001121S0024
675 North Randolph Street
Arlington, VA 22203-2114

PART II: FULL TEXT OF ANNOUNCEMENT

I. Funding Opportunity Description

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2) and 35.016 and 2 CFR § 200.203. Any resultant award negotiations will follow all pertinent law and regulation, and any negotiations and/or awards for procurement contracts will use procedures under FAR 15.4, Contract Pricing, as specified in the BAA.

The Defense Advanced Research Projects Agency (DARPA) is soliciting innovative proposals in the following area of interest: building natural language processing technologies that recognize, adapt to, and recommend how to operate within the emotional, social, and cultural norms that differ across societies, languages, and group affinities. Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice.

A. Program Overview

The U.S. Government and its agencies, including the Department of Defense (DoD), operate globally and are in constant contact with diverse cultures. Communicative understanding, not simply of local languages, but also of social customs and cultural backgrounds, lies at the heart of Civil Affairs and Military Information Support Operations activities, which together comprise the vast majority of U.S. counterinsurgency and stabilization efforts. Similarly, cultural understanding is critical to successful Information Operations, which increasingly involve so-called “cognitive-emotional conflict,” where feelings are targeted, as well as ideas. Cross-cultural miscommunication not only derails negotiations, but also can be a contributing factor leading to war. The likelihood of communicative failure increases dramatically where significant social, cultural, or ideological differences exist.

The Computational Cultural Understanding (CCU) program will create cross-cultural language understanding technologies to improve a DoD operator’s situational awareness and interactional effectiveness. CCU will build natural language processing technologies that recognize, adapt to, and recommend how to operate within the emotional, social, and cultural norms that differ across societies, languages, and group affinities. To support diverse and emergent use cases, CCU technologies will be engineered to require minimal-to-no training data in a local culture, while maximizing operator success during negotiations and other interactions in the field. Instead of relying primarily on annotated training data, systems will leverage qualitative and quantitative findings from fields such as psychology, sociology, or other relevant disciplines, as well as minimally-supervised machine learning techniques, in order to infer the meaning of unlabeled discourse behaviors in context. Automated systems would be a welcome force-multiplier for DoD interpreters; however, unlike the human cultural interpreters who enable U.S. forces today, such systems are currently incapable of accurately analyzing cross-cultural communication or

providing useful assistance to negotiations beyond basic machine translation.¹ To achieve relative parity with human interpreters, who provide cultural insight and leverage this knowledge in the translation process, CCU research will provide foundational technical innovations to assist negotiators and analysts with language analysis and cross-cultural dialogue in the field. These advances in the area of cross-cultural understanding will also inform processes for training and planning.

Despite remarkable recent advances in machine learning and multimedia analysis, today's human language technology applications are inadequate for cross-cultural communicative analysis. To remedy these deficiencies and advance communication technology towards enablement of greater cultural understanding, the CCU program will address the following research topics:

- Automatic discovery of sociocultural norms. In order to determine the social, cultural, and contextual factors that impact effective communication and rapport building, human language technologies must be capable of automatic discovery of sociocultural norms that influence discourse. This requirement will be especially challenging to meet, due to the fact that unsupervised techniques will require development of new features to address this research problem, while comprehensive and varied annotated data sets remain unavailable.
- Generalization of emotion recognition across cultures. In order to interpret speaker emotions as influenced by sociocultural context, human language technologies must be able to generalize their recognition of emotion across different languages and cultures. However, current systems degrade significantly in cross-cultural test conditions that may mirror DoD emergent use cases, where neither labeled nor unlabeled training data are available. Two major limitations of current approaches are the high cost of training data creation for each new language and a low ability to address low-resource languages at all.
- Detecting impactful changes in communicative practice at multiple timescales. In order to identify shifts in norms and emotions that are indicative of communicative failure or impending conflict, human language technologies must be able to detect important changes in communication. While promising change detection methods exist, current frameworks lack an understanding of which features are most crucial to detecting imminent communicative failure.
- Providing dialogue assistance to cross-cultural interaction. The ability to analyze conversations for evidence of cross-cultural misunderstanding and suggest remediation measures is crucial for effective communication. No existing technologies, however, are able to provide real-time dialogue assistance in cross-cultural settings. In order to promote truly effective cross-cultural interaction, human language technologies must have the ability to detect misunderstandings and generate alternative socioculturally-appropriate utterances.

¹ Meermeier et. al. (2018) describe a speech-to-speech translation application developed by the Army, the Machine Foreign Language Translation System (MFLTS).

B. Program Structure

The CCU program will create cross-cultural language understanding technologies to improve a DoD operator's situational awareness and interactional effectiveness. Development of this overall capability will require the creation of new component technologies for the discovery of sociocultural norms, cross-cultural emotion recognition, and communicative change detection. The CCU program will involve incorporating these technologies into a prototype platform for cross-cultural dialogue assistance, which will create the foundation for a fieldable capability. The program is structured as a 36 month effort with an 18 month Phase 1 (Base) and an 18 month Phase 2 (Option 1). CCU will involve three technical areas (TAs): TA1 – Sociocultural Analysis; TA2 – Cross-Cultural Dialogue Assistance; and TA3 – Data Creation for Development and Evaluation. Figure 1 depicts the structure of CCU.

A proposal may address a single TA or a combination of TA1 and TA2. Any other combination of technical areas addressed in a single proposal submission is not permitted. A proposer submitting a solution to more than one TA may submit a combined proposal for both technical areas but must ensure that the budget and statement of work are well delineated so that partial awards are possible. While proposers may submit proposals for all three TAs, proposers selected for TA3 cannot be selected for any portion of the other two TAs, whether as a prime, subcontractor, or in any other capacity from an organizational to individual level. This is to avoid organizational conflict of interest situations between the TAs and to ensure objective test and evaluation results. Additionally, a Federally Funded Research and Development Center (FFRDC) or University Affiliated Research Center (UARC) will be an evaluator for TA1 and TA2 systems as well as the TA3 data. As such, subcontractors performing under the FFRDC/UARC cannot be selected for any portion of TA1, TA2, or TA3, in any capacity from an organizational to individual level. The decision as to which proposal to consider for award is at the discretion of the Government. DARPA anticipates multiple awards for TA1 and TA2, and a single award for TA3.

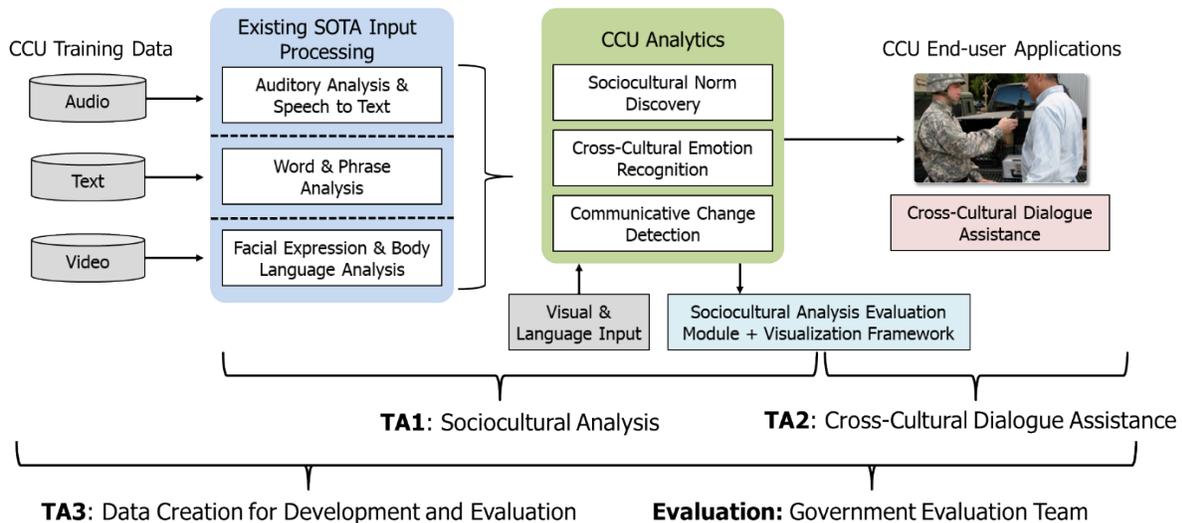


Figure 1 The structure of CCU showing the different Technical Areas

Figure 2 depicts the schedule for the CCU program. Evaluations will be performed on datasets developed by the TA3 performer in consultation with the Government evaluation team; cultures/languages will be announced and data released incrementally. There will be a total of three evaluations at months 15, 24, and 34 of the program. There will also be three mini-evaluation exercises, as shown in Figure 2. These exercises will help validate the evaluation methodology, as well as exercise the evaluation mechanisms. The TA3 performer will produce the gold-standard for the corpora used to evaluate TA1. Metrics for each TA are discussed below. Progression to Phase 2 will depend on Phase 1 program performance and the availability of funds.

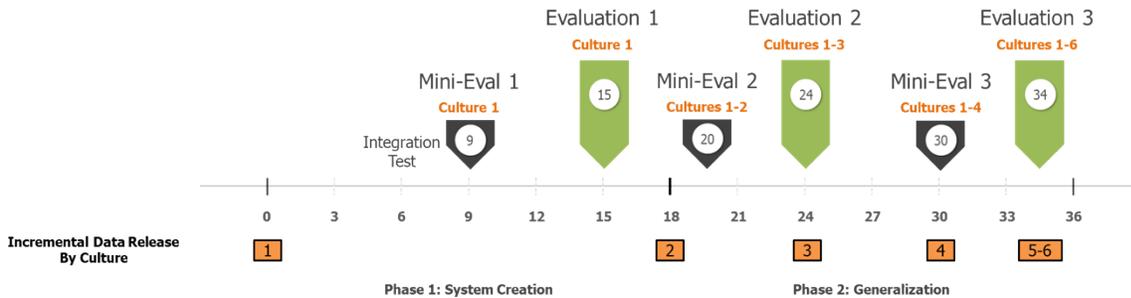


Figure 2 CCU Program Schedule

To facilitate testing and evaluation, TA2 end-to-end workflows will be required to run within an emulator for a suitable mobile environment; the specific mobile environment will be decided at the outset of the program. While the TA2 frameworks will be responsible for integrating the TA1 components into the end-to-end workflow, both TA1 and TA2 proposals should describe how their proposed designs will facilitate integration into the program’s testing and evaluation environment. To facilitate development and demonstration, TA1 performers will display system outputs on corpora within visualization framework(s) to be determined by the program. The framework(s) will be required to interface with CCU-defined Application Programming Interfaces (APIs).

Integrated TA1-TA2 prototypes will be assessed relative to gold-standard performance of human interpreters in operationally-relevant negotiation scenarios drawn from military training resources and/or after-action reporting. The goal is for the prototypes to achieve success rates comparable to those of human interpreters by the end of the program. To this end, evaluation in CCU will consist of two parts: (1) assessment of live, face-to-face negotiation scenarios utilizing TA2 end-to-end workflows with integrated TA1 component(s); and (2) corpus-based evaluation of TA1 system outputs from multimedia input. All evaluation metrics are expressed relative to human performance and/or judgment.

Classified information will not be used in the *research and development activities* conducted by TA1, TA2, and TA3 performers. It is possible that *transition activities* carried out by the TA2 performer will require evaluation on classified data provided by transition partners, conducted in appropriate facilities.

Technical Area 1 – Sociocultural Analysis

TA1 researchers will concentrate on research and development corresponding to three distinct research tasks, namely: (1) discovery of sociocultural norms; (2) emotion recognition as a function of sociocultural norms; and (3) detection of impactful changes in sociocultural norms and emotions. Proposals must address all three tasks. TA1 work is expected to involve both unimodal and multimodal inputs, consisting of text, speech, images, and video. The results of efforts in this research area will be compiled to facilitate TA2 integration. See the description of TA3 for the data available for TA1 research. TA1 research tasks are described below.

Task 1 – Sociocultural Norm Discovery

Research and development in Task 1 will be focused on automatic discovery of the kind of sociocultural norms that humans ordinarily acquire tacit knowledge of through a lifetime of learning and interaction. To emulate this learning capability, researchers will create new technologies able to discover and characterize sociocultural norms observed in unlabeled discourse. It is anticipated that technical approaches will draw from established computational techniques for unsupervised modeling, such as graph and embedding techniques for clustering, neural network attention models for norm description and characterization, and/or from mixed statistical and symbolic approaches (sometimes described as neurosymbolic or 'wave 3' approaches), as well as be informed by findings from psychology, sociology, or other relevant disciplines. In addition, algorithms must be able to leverage negative emotions detected by analytics developed for Task 2 in order to identify potential instances of norm violation.

Task 2 – Cross-Cultural Emotion Recognition

Human interpreters continuously monitor emotional feedback from conversational participants (e.g., from facial expression, tone of voice, and language), but currently-existing multimodal human language technologies designed to fulfill a similar role are of limited utility in many real-life use cases, due to their high data requirements and inability to generalize across different languages and cultures. Emotion recognition is also important to multimedia analysis in the context of planning and training. Researchers will aim to generalize emotion recognition across cultures by improving the performance of continuous, segment-level multimodal cross-cultural emotion recognition technologies, with the aim of overcoming the significant degradation of performance exhibited by current systems in cross-cultural settings. Adversarial learning techniques show promise in closing this performance gap, but have only achieved relative parity through pooled multicultural models with the aid of labeled training data in all languages. Researchers must create technologies capable of meeting or exceeding the performance of state-of-the-art, mono-cultural emotion recognition engines, while simultaneously minimizing or eliminating the need for labeled training data in the test culture, resulting in a capability for culture-general, universal emotion recognition.

Task 2 frameworks should be capable of providing continuous emotion recognition outputs expressed as both (1) Valence-Arousal measurements and (2) category labels, within a taxonomy to be defined during the program. Task 2 algorithms may leverage norms discovered in Task 1 (pertaining to e.g. setting, participants) to improve emotion recognition.

Task 3 – Communicative Change Detection

Humans are naturally able to perceive crucial shifts in norms and emotions in discourse, while computers are currently much less capable of detecting these changes. Task 3 research will be focused on analyzing Task 1 and Task 2 outputs concerning a face-to-face interaction or a document (see Technical Area 3 description below for the definition of a document) for the purpose of detecting changes at multiple timescales in order to identify impactful shifts (1) in emotional expression; (2) in the evolution of norms during an interaction (e.g., changes in formality, in cultural setting, in reactions to perceived social roles); and (3) in long-term cultural trends. Task 3 algorithms must be capable of providing indications and warnings of failure points to support TA2's communication remediation. In addition to providing inputs to TA2, Task 3 work must also produce a standalone evaluation module suitable for analysis to support planning and training; this evaluation module should provide access to all Task 1, Task 2, and Task 3 outputs.

Technical Area 2 – Cross-Cultural Dialogue Assistance

Human cultural interpreters are able to assess the progress of an interaction, identify misunderstanding and conflict, and offer appropriate remediation in real-time; however, current computational models lack these crucial capabilities. In CCU, TA2 researchers will leverage TA1 analytic outputs as components of a dialogue assistance service able to follow ongoing conversations, detect misunderstandings and discord in real-time, and suggest culturally and socially-appropriate conversational actions for remediation. For example, negotiation efforts would benefit greatly from automated assistance in promoting mutual understanding in the face of initial or even persistent disagreement or opposition among communicants. TA2 research must confront multiple challenges that remain unaddressed by current dialogue systems, including automated detection of sociocultural context (e.g., communicants' social roles, relative ages, genders, etc. as well as specifics of the social setting), automated identification of the need for operator assistance, and dialogue generation, all while incorporating program-external machine translation components. TA2 algorithms must be capable of detecting sociocultural settings from language and image inputs, of revising operator utterances to increase interactional effectiveness, and of incorporating culture-independent techniques that enable generalization to approximately six cultures/languages by program completion. Program language + culture pairs will be announced incrementally, as described in Figure 2; the first language + culture pair will be Chinese (Mandarin). TA2 performers will integrate and deliver their algorithms into a portable, stand-alone unit for evaluation and demonstration purposes, with a laptop form-factor required at the end of Phase 1 and a smartphone form-factor required at the end of Phase 2. Phase 2 will include evaluation runs where TA2 units must operate without reliance on internet connectivity. CCU will focus solely on software development and will leverage commercial off-

the-shelf (COTS) hardware. TA2 performers should include input mechanisms, such as smart glasses, allowing for audio and visual observation of participants during an interaction. Input mechanisms are assumed to consist of primarily wearable components. Proposals should address the realism of the sensors proposed for a field setting. Input mechanisms should also allow for visual observation of operator behaviors (e.g., facial expressions) in addition to an operator's speech. Output mechanisms to provide remediation to the TA2 user should include both text and text-to-speech (TTS) as configurable options. Proposers may leverage open source or other existing TTS components provided that these components may be made available to the program as a whole.

Technical Area 3 – Data Creation for Development and Evaluation

The goal of TA3 is to create data for development and evaluation in multiple cultures/languages that support research work by TA1 and TA2, as well as performance measurement for the individual components and the end-user application. Program language + culture pairs will be announced and corresponding data released to researchers incrementally, as described in Figure 2; the first language + culture pair will be Chinese (Mandarin).

TA1 will require approximately 50,000 documents per language for use in development and evaluation; of this data set, 20% will be annotated and the other 80% unlabeled. A document is defined as a portion of text (which may include associated image), audio, or video showing a conversation involving two or more participants. Each textual document should contain at least 300 words and each video or audio segment should comprise at least five minutes, although longer documents are preferred. Video (with accompanying audio) should comprise 75% of the development and evaluation data set with the remaining 25% distributed across audio and text. TA3 proposals should describe the generality of the data included. All data must demonstrate a variety of sociocultural norms, as well as evidence of emotion. At least half of the documents must also demonstrate changes in either the sociocultural norms or the emotion of the communication participants. Data for specific languages/cultures (to be named during the program) will be released to TA1/TA2 performers according to the schedule described in Figure 2. Data for each language + culture pair should be incrementally delivered to the Government evaluation team in relatively equal installments on a monthly basis. In cases where the language + culture pair does not correspond to a surprise evaluation condition, additional development data will be provided to TA1/TA2 performers each month. Each monthly installment should provide additional data corresponding to each of the TA1 tasks as well as TA2. The completed development dataset should be provided at least 4 weeks in advance of the first evaluation where that language + culture pair is included; additionally, the completed evaluation dataset for the language + culture pair should be available to the Government evaluation team at least two weeks in advance of the first evaluation where that language + culture pair is included. Documents should be annotated with the sociocultural norms and emotional states of the participants, including the strength of the emotions expressed. The format of document annotations may be sparse to encourage efficiency; a single, uniform annotation will be sufficient through the document regions where the label (norm, emotion) for a given annotation type is not changing, but when a change occurs, the point at which the change takes place should be

marked, as should the new state(s) of the participants. The relative impact of the change on the subsequent course of the interaction should also be identified. These annotations will be used for training and development data and as the gold-standard data for evaluation.

In support of TA2 development, the task for the data provider is to supply examples of simulated interpreter-mediated interactions that require knowledge of sociocultural norms (as described in the ceiling condition in Table 1, below) such that these interactions can be modeled by TA2 performers. Using a range of scenarios defined in collaboration with the government evaluation team, the data provider will be required to assemble appropriate participants, record their interactions, and annotate the resulting video for TA1 analysis of sociocultural norms, emotions, and impactful changes in norms and emotions. Interpreter corrections will serve as gold-standard remediation for the participants' utterances. Face-to-face interactions will be annotated for approximately 15 scenario types for the ceiling condition. Proposals should address the realism of the data proposed as well as the recording quality. Data support for TA2 evaluation will be provided by a Federally Funded Research and Development Center (FFRDC) or University Affiliated Research Center (UARC) to be named at a later date.

C. Program Metrics

The evaluation design and metrics for CCU are described below. These metrics may serve as the basis for determining whether satisfactory progress is being made to warrant continued funding of the program. Although the following program metrics are specified, proposers should note that the Government has identified these goals with the intention of defining the scope of effort, while affording the maximum flexibility, creativity, and innovation in proposing solutions to the stated problem.

The evaluation will be conducted by the National Institute of Standards and Technology (NIST) and an FFRDC/UARC to be named at a later date. The evaluation will incorporate TA1 corpus-based metrics and TA1/TA2 assessment in the context of real-time, interactive dialogue scenarios.

To facilitate comparison with existing state-of-the-art technologies and demonstrate advances in multimedia analysis, TA1 performance will be assessed via corpus-based evaluation. The platform will be presented with a dataset of documents in each language being used in a particular evaluation. The platform will have to decide what the appropriate sociocultural norms, emotions, and emotion strengths for each region of each document are, as well as to identify regions of each document indicating impactful changes in norms and emotions. The system output will be compared with the gold-standard data generated by the TA3 performer. The correlation between the system output and the annotated gold-standard data will be the metric for this evaluation. TA1 components will also be evaluated in the context of having been incorporated into TA2 systems. The TA2 evaluation will consist of trials of dialogue assistance motivated by scenarios developed by the government evaluation team. The evaluation will involve four separate conditions, as shown in Table 1.

In the ceiling condition, the dialogue assistance role will be filled by a human with expertise and

an understanding of the sociocultural aspects of the language and culture being used for that evaluation. In the baseline condition, the dialogue assistance will be provided by speech-to-speech machine translation only. These two operational conditions will involve users with limited or no language skills, respectively. There will be approximately 10 such scenarios evaluated in each language and approximately three subjects in each participant role. The dialogue sessions will be recorded for further analysis. To assess TA2, the recording will be scored later to indicate (1) failures in detecting a need for assistance; and (2) how well the automatic dialogue assistance correlated with the human expert assistance in the ceiling condition. The recording will also be annotated for TA1 analysis to support a metric of system output correlation with the gold-standard.

To facilitate evaluation, an initial TA1-TA2 integration test will occur at Month 6, and the Month 9 mini-evaluation will provide baseline results. The Month 15 full evaluation will have a goal of achieving a 20% improvement over the baseline, while the remaining evaluations will assess system performance relative to the ceiling condition, with target metrics to be announced at the outset of the program.

Condition	Participant 1		Assistant Role	Participant 2
Ceiling	Culturally-uninformed operator (actual, or represented by a subject matter expert)	limited language ability or no language ability	Native interpreter (actual, or represented by a subject matter expert)	Native speaker (actual, or represented by a subject matter expert)
Operational Condition 1		limited language ability	TA2 system	
Operational Condition 2		no language ability	TA2 system, with machine translation input	
Baseline		no language ability	Machine translation only	

Table 1: Testing conditions for the TA2 evaluation

D. Deliverables

Performers are required to provide, at a minimum, the deliverables described in Table 2 below.

Deliverable	Schedule	Technical Area(s)
Software source code, executables, and models compatible with CCU APIs (1) for integration by TA2 performers, (2) for display in visualization framework(s), and (3) integrated as TA1 evaluation module for corpus evaluation	Initial integration required 4 weeks prior to each evaluation.	TA1
Integrated TA2 system for evaluation	Prior to evaluation period. Early integration will be encouraged and may benefit development.	TA2
Datasets for TA1 development/evaluation and TA2 development	Monthly, with (1) the completed development data provided 4 weeks in advance of the first evaluation where the language + culture pair is	TA3

	included and (2) the completed evaluation data provided 2 weeks in advance of the first evaluation where the language + culture pair is included.	
Technical papers derived from work funded by CCU	Prior to publication.	All
Annotated slide presentations	One week after program event (e.g., kickoff, site visit, PI meeting).	
Monthly technical status reports detailing progress made, tasks accomplished, major risks, planned activities, trip summaries, changes to key personnel, any potential issues or problem areas that require the attention of DARPA, research, development, evaluation, and transition highlights from the relevant period	Within 10 calendar days of the end of each calendar month.	
Monthly financial status reports	Within 10 calendar days of the end of each calendar month.	
Each performer must deliver a final report at the end of the overall period of performance that summarizes their project.	Prior to program completion.	

Table 2: Deliverables

E. Intellectual Property

The program will emphasize creating and leveraging open source technology and architecture. Intellectual property rights asserted by proposers are strongly encouraged to be aligned with open source regimes. Additionally, components for (1) input processing, (2) Machine Translation, and (3) visualization are designed to be shared resources and should be made available to the program as a whole. Finally, to promote collaboration and to facilitate evaluation, datasets constructed or utilized by any performer must be made available to all performers within the program. Potential offerors should refer to Section VII(C) regarding Associate Contractor Agreement for more information.

A key goal of the program is to establish an open, standards-based, multi-source, plug-and-play architecture that allows for interoperability and integration. This includes the ability to easily add, remove, substitute, and modify software and hardware components. This will facilitate rapid innovation by providing a base for future users or developers of program technologies and deliverables. Therefore, it is desired that all noncommercial software (including source code), software documentation, hardware designs and documentation, and technical data generated by the program be provided as deliverables to the Government, with a minimum of Government Purpose Rights (GPR), as lesser rights may adversely impact the lifecycle costs of affected items, components, or processes.

II. Award Information

A. General Award Information

Multiple awards are anticipated. The amount of resources made available under this BAA will depend on the quality of the proposals received and the availability of funds.

The Government reserves the right to select for negotiation all, some, one, or none of the proposals received in response to this solicitation and to make awards without discussions with proposers. The Government also reserves the right to conduct discussions if it is later determined to be necessary. Additionally, DARPA reserves the right to accept proposals in their entirety or to select only portions of proposals for award. Progression to Phase 2 will depend on Phase 1 program performance and the availability of funds. If warranted, portions of resulting awards may be segregated into pre-priced options. As such, the Government reserves the right to fund proposals in phases with options for continued work, as applicable.

The Government reserves the right to request any additional, necessary documentation once it makes the award instrument determination. Such additional information may include but is not limited to Representations and Certifications (see Section IV.2.d, “Representations and Certifications”). The Government reserves the right to remove proposers from award consideration should the parties fail to reach agreement on award terms, conditions, and/or cost/price within a reasonable time. In addition, the proposer may be removed from consideration for award should the party fail to provide timely requested additional information. Proposals identified for negotiation may result in a Procurement Contract, Cooperative Agreement, Other Transaction or Technology Investment Agreement, depending upon the nature of the work proposed, the required degree of interaction between parties, whether or not the research is classified as Fundamental Research, in addition to other factors.

Proposers looking for innovative, commercial-like contractual arrangements are encouraged to consider requesting Other Transactions. To understand the flexibility and options associated with Other Transactions, consult <http://www.darpa.mil/work-with-us/contract-management#OtherTransactions>.

In accordance with 10 U.S.C. § 2371b(f), the Government may award a follow-on production contract or Other Transaction (OT) for any OT awarded under this solicitation if: (1) that participant in the OT, or a recognized successor in interest to the OT, successfully completed the entire prototype project provided for in the OT, as modified; and (2) the OT provides for the award of a follow-on production contract or OT to the participant, or a recognized successor in interest to the OT.

In all cases, the Government contracting officer shall have sole discretion to select award instrument type, regardless of instrument type proposed, and to negotiate all instrument terms and conditions with selectees. DARPA will apply publication or other restrictions, as necessary, if it determines that the research resulting from the proposed effort will present a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense. Any award resulting from such a determination will include a requirement for DARPA permission before publishing any information or results on the program. For more information on publication restrictions, see the section below on Fundamental Research.

B. Fundamental Research

It is DoD policy that the publication of products of fundamental research will remain unrestricted to the maximum extent possible. National Security Decision Directive (NSDD) 189 defines fundamental research as follows:

‘Fundamental research’ means basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons.

As of the date of publication of this solicitation, the Government expects that program goals as described herein may be met by proposed efforts for fundamental research and non-fundamental research. Some proposed research may present a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense. Based on the anticipated type of proposer (e.g., university or industry) and the nature of the solicited work, the Government expects that some awards will include restrictions on the resultant research that will require the awardee to seek DARPA permission before publishing any information or results relative to the program.

Proposers should indicate in their proposal whether they believe the scope of the research included in their proposal is fundamental or not. While proposers should clearly explain the intended results of their research, the Government shall have sole discretion to determine whether the proposed research shall be considered fundamental and to select the award instrument type. Appropriate language will be included in resultant awards for non-fundamental research to prescribe publication requirements and other restrictions, as appropriate. This language can be found at <http://www.darpa.mil/work-with-us/additional-baa>.

For certain research projects, it may be possible that although the research to be performed by a potential awardee is non-fundamental research, its proposed subawardee’s effort may be fundamental research. It is also possible that the research performed by a potential awardee is fundamental research while its proposed subawardee’s effort may be non-fundamental research. In all cases, it is the potential awardee’s responsibility to explain in its proposal which proposed efforts are fundamental research and why the proposed efforts should be considered fundamental research.

III. Eligibility Information

A. Eligible Applicants

All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA.

1. Federally Funded Research and Development Centers (FFRDCs) and Government Entities

a) FFRDCs

FFRDCs are subject to applicable direct competition limitations and cannot propose to this solicitation in any capacity unless they meet the following conditions. (1) FFRDCs must clearly demonstrate that the proposed work is not otherwise available from the private sector. (2) FFRDCs must provide a letter, on official letterhead from their sponsoring organization, that (a) cites the specific authority establishing their eligibility to propose to Government solicitations and compete with industry, and (b) certifies the FFRDC's compliance with the associated FFRDC sponsor agreement's terms and conditions. These conditions are a requirement for FFRDCs proposing to be awardees or subawardees.

b) Government Entities

Government Entities (e.g., Government/National laboratories, military educational institutions, etc.) are subject to applicable direct competition limitations. Government Entities must clearly demonstrate that the work is not otherwise available from the private sector and provide written documentation citing the specific statutory authority and contractual authority, if relevant, establishing their ability to propose to Government solicitations and compete with industry. This information is required for Government Entities proposing to be awardees or subawardees.

c) Authority and Eligibility

At the present time, DARPA does not consider 15 U.S.C. § 3710a to be sufficient legal authority to show eligibility. While 10 U.S.C. § 2539b may be the appropriate statutory starting point for some entities, specific supporting regulatory guidance, together with evidence of agency approval, will still be required to fully establish eligibility. DARPA will consider FFRDC and Government Entity eligibility submissions on a case-by-case basis; however, the burden to prove eligibility for all team members rests solely with the proposer.

2. Other Applicants

Non-U.S. organizations and/or individuals may participate to the extent that such participants comply with any necessary nondisclosure agreements, security regulations, export control laws, and other governing statutes applicable under the circumstances.

B. Organizational Conflicts of Interest

FAR 9.5 Requirements

In accordance with FAR 9.5, proposers are required to identify and disclose all facts relevant to potential OCIs involving the proposer's organization and *any* proposed team member (subawardee, consultant). Under this Section, the proposer is responsible for providing this disclosure with each proposal submitted to the solicitation. The disclosure must include the proposer's, and as applicable, proposed team member's OCI mitigation plan. The OCI mitigation plan must include a description of the actions the proposer has taken, or intends to take, to prevent the existence of conflicting roles that might bias the proposer's judgment and to prevent the proposer from having unfair competitive advantage. The OCI mitigation plan will

specifically discuss the disclosed OCI in the context of each of the OCI limitations outlined in FAR 9.505-1 through FAR 9.505-4.

Agency Supplemental OCI Policy

In addition, DARPA has a supplemental OCI policy that prohibits contractors/performers from concurrently providing Scientific Engineering Technical Assistance (SETA), Advisory and Assistance Services (A&AS) or similar support services and being a technical performer. Therefore, as part of the FAR 9.5 disclosure requirement above, a proposer must affirm whether the proposer or *any* proposed team member (subawardee, consultant) is providing SETA, A&AS, or similar support to any DARPA office(s) under: (a) a current award or subaward; or (b) a past award or subaward that ended within one calendar year prior to the proposal's submission date.

If SETA, A&AS, or similar support is being or was provided to any DARPA office(s), the proposal must include:

- The name of the DARPA office receiving the support;
- The prime contract number;
- Identification of proposed team member (subawardee, consultant) providing the support; and
- An OCI mitigation plan in accordance with FAR 9.5.

Government Procedures

In accordance with FAR 9.503, 9.504 and 9.506, the Government will evaluate OCI mitigation plans to avoid, neutralize or mitigate potential OCI issues before award and to determine whether it is in the Government's interest to grant a waiver. The Government will only evaluate OCI mitigation plans for proposals that are determined selectable under the solicitation evaluation criteria and funding availability.

The Government may require proposers to provide additional information to assist the Government in evaluating the proposer's OCI mitigation plan.

If the Government determines that a proposer failed to fully disclose an OCI; or failed to provide the affirmation of DARPA support as described above; or failed to reasonably provide additional information requested by the Government to assist in evaluating the proposer's OCI mitigation plan, the Government may reject the proposal and withdraw it from consideration for award.

C. Cost Sharing/Matching

Cost sharing is not required; however, it will be carefully considered where there is an applicable statutory condition relating to the selected award instrument. Cost sharing is encouraged where there is a reasonable probability of a potential commercial application related to the proposed research and development effort.

For more information on potential cost sharing requirements for Other Transactions for Prototype, see <http://www.darpa.mil/work-with-us/contract-management#OtherTransactions>.

IV. Application and Submission Information

A. Address to Request Application Package

This announcement, any attachments, and any references to external websites herein constitute the total solicitation. If proposers cannot access the referenced material posted in the announcement found at www.darpa.mil, contact the administrative contact listed herein.

B. Content and Form of Application Submission

All submission documentation, including proposals must be written in English with type not smaller than 12 point font. Smaller font may be used for figures, tables, and charts. Copies of all documents submitted must be clearly labeled with the DARPA BAA number (HR001121S0024), proposer organization, and proposal title/proposal short title.

1. Proposal Format

All proposals must be in the format illustrated below. Proposals should express a consolidated effort in support of all phases of CCU. Proposals shall consist of two volumes: 1) Volume I, Technical and Management Proposal (composed of 3 parts); and 2) Volume II, Cost Proposal. Volume I, Technical and Management Proposal, is limited to 50 pages. Volume II, Cost Proposal, has no page limit. All pages shall be formatted for printing on 8-1/2 by 11 inch paper with 1-inch margins and font size not smaller than 12 point. Font sizes of 8 or 10 point may be used for figures, tables, and charts. Document files must be in .pdf, .odx, .doc, .docx, .xls, or .xlsx formats. Submissions must be written in English. All pages should be numbered.

NOTE: Submissions that do not follow the instructions herein may be found non-conforming and may not be reviewed.

A proposal may address either a single TA, or a combination of TA1 and TA2. Combined proposals for TA1/TA2 must ensure that the budget is well delineated so that partial awards are possible. Organizations may submit multiple proposals to any one TA, or they may propose to multiple TAs. While proposers may submit proposals for all three TAs, proposers selected for TA3 cannot be selected for any portion of the other two TAs, whether as a prime, subcontractor, or in any other capacity from an organizational to individual level. **A subcontractor to the FFRDC/UARC evaluator cannot be selected for any portion of TA1, TA2, or TA3, or in any capacity from an organizational to individual level.**

- a) Volume I, Technical and Management Proposal
 - (1) Section I: Administrative
 - (a) Cover Sheet to Include:

- (1) BAA number (HR001121S0024);
- (2) Technical area(s);
- (3) Lead Organization submitting proposal;
- (4) Type of organization, selected among the following categories: “LARGE BUSINESS”, “SMALL DISADVANTAGED BUSINESS”, “OTHER SMALL BUSINESS”, “HBCU”, “MI”, “OTHER EDUCATIONAL”, OR “OTHER NONPROFIT”;
- (5) Proposer’s reference number (if any);
- (6) Other team members (if applicable) and type of organization for each;
- (7) Proposal title;
- (8) Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available);
- (9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available);
- (10) Total funds requested from DARPA, and the amount of cost share (if any); AND
- (11) Date proposal was submitted.

(b) Official transmittal letter

(2) Section II: Summary of Proposal

- A. Technical rationale, technical approach, and constructive plan for accomplishment of technical goals in support of innovative claims and deliverable creation. (In the full proposal, this section should be supplemented by a more detailed plan in Section III of the Technical and Management Proposal).
- B. Innovative claims for the proposed research. This section is the centerpiece of the proposal and should succinctly describe the uniqueness and benefits of the proposed approach relative to the current state-of-art alternate approaches.
- C. Deliverables associated with the proposed research and the plans and capability to accomplish technology transition and commercialization. Include in this section all proprietary claims to the results, prototypes, intellectual property, or systems supporting and/or necessary for the use of the research, results, and/or prototype. If there are no proprietary claims, this should be stated. For forms to be completed regarding intellectual property, see Section IV.B.2.i of this BAA. There is no page limit for the listed forms.
- D. General discussion of other research in this area indicating advantages and disadvantages of the proposed effort.
- E. Clearly defined organization chart for the program team, to include (as applicable): (1) the programmatic relationship of team member; (2) the unique capabilities of team members; (3) the task of responsibilities of team members; (4) the teaming strategy among the team members; and (5) the key personnel (Principal Investigator (PI), Program Manager (PM), and others) identified by name along with the amount of effort (% of time) to be expended by each team member during each program phase. Provide explanation if percentage of time for principal investigator or program manager is less than 50%. A short resume of each of the key personnel should be included in this section that summarizes relevant experience and expected contribution to the program.
- F. A summary of the proposal in MS PowerPoint™ that quickly and succinctly indicates the concept overview, key innovations, expected impact, and other unique aspects of the

proposal. The format for the summary slides is included as APPENDIX 1 to this BAA and does not count against the page limit.

(3) Section III: Detailed Proposal Information

- A. Statement of Work (SOW) Clearly define the technical tasks/subtasks to be performed, their durations, and dependencies among them. The SOW should be developed so that each phase of the program is separately defined. For each task/subtask, provide:
- General description of the objective (for each defined task/activity);
 - Detailed description of the approach to be taken to accomplish each defined task/activity;
 - Identification of the primary organization responsible for task execution (prime, sub, team member, by name, etc.);
 - Completion criteria for each task/activity - a product, event, or milestone that defines its completion; and
 - The SOW should be summarized into table format as shown below, with separate tables provided for each program phase.

Statement of Work (Provide Separate Table for Each Phase of Program)	
WBS	TASK and DESCRIPTION
(LIST)	(LIST)

- Define all deliverables (reporting, data, reports, software, etc.) to be provided to the Government in support of the proposed research tasks/activities. Both Programmatic and Technical Deliverables should be provided in Table format as shown below, with separate tables provided for each program phase.

Contract Reporting Deliverables (Provide Separate Table for Each Phase of Program)	
ITEM	DUE DATE
(LIST)	(LIST)

Technical Deliverables (Provide Separate Table for Each Phase of Program)	
ITEM	DUE DATE
(LIST)	(LIST)

- Clearly identify any tasks/subtasks (to be performed by either an awardee or subawardee) that will be accomplished on-campus at a university, if applicable.

Do not include any proprietary information in the SOW.

- B. Description of the results, products, transferable technology, and expected technology transfer path to supplement information included in the summary of the proposal. This should also address mitigation of life-cycle and sustainment risks associated with transitioning intellectual property for U.S. military applications, if applicable. See also Section IV.B.2.i of this BAA, “Intellectual Property.”
- C. Detailed technical approach enhancing and completing the Summary of Proposal and addressing the list of proposal expectations in Section I.A of this BAA.
- D. Comparison with other ongoing research indicating advantages and disadvantages of the proposed effort.
- E. Discussion of proposer’s previous accomplishments and work in closely related research areas.
- F. Description of Security Management architecture and/or approach for the proposed effort. Detail unique additional security requirements regarding operational security (OPSEC), program protection planning, test planning, transportation plans, work being performed at different classification levels, and/or utilizing test equipment not approved at appropriate classification level.
- G. Description of the facilities that would be used for the proposed effort.
- H. Detail support enhancing the Summary of Proposal, including formal teaming agreements that are required to execute the program.
- I. Description of milestone cost and accomplishments.
- J. Cost schedules and measurable milestones for the proposed research, including estimates of cost for each task in each year of the effort delineated by the proposed awardee and major subawardees, total cost, and any company cost share. **NOTE: Measurable milestones should capture key development points in tasks and should be clearly articulated and defined in time relative to start of effort.** These milestones should enable and support a decision for the next part of the effort. Additional interim non-critical management milestones are also highly encouraged at regular intervals. Where the effort consists of multiple portions that could reasonably be partitioned for purposes of funding, these should be identified as Options with separate cost estimates for each. Additionally, proposals should clearly explain the technical approach(es) that will be employed to meet or exceed each program metric and provide ample justification as to why the approach (es) is/are feasible. The milestones must not include proprietary information.
- K. A cost breakdown table by task, delineated by primes and major subawardees, should be included that summarizes:
 - Prime labor hours by labor category, labor cost, materials cost, and travel costs
 - Subwardee hours, labor category, labor cost, materials cost, and travel costs

Table 3 provides an example of the single-table summary in the desired format. Labor categories shown in the table are for illustration purposes only. Proposers are free to combine labor categories but should clearly delineate an overall breakdown with senior level and junior level staff. Tasks shown in Table 3 are for illustrative purposes only.

Table 3: Illustrative Example of Task Summary

	Program Management	Principal Investigator	Senior Engineer	Electrical Engineering	Software Engineering	Technical Support	Administrative Support	Total Prime Hours	Prime Labor Costs	Prime Materials	Prime Travel	Subawardee Hours	Subawardee Labor Costs	Subawardee Materials	Subawardee Travel
Phase 1															
Task 1	hours	hours	hours	hours	hours	hours	hours	hours	\$	\$	\$	hours	\$	\$	\$
Task 2	hours	hours	hours	hours	hours	hours	hours	hours	\$	\$	\$	hours	\$	\$	\$
Task 3	hours	hours	hours	hours	hours	hours	hours	hours	\$	\$	\$	hours	\$	\$	\$
Task 4	hours	hours	hours	hours	hours	hours	hours	hours	\$	\$	\$	hours	\$	\$	\$
Task 5	hours	hours	hours	hours	hours	hours	hours	hours	\$	\$	\$	hours	\$	\$	\$
Task 6	hours	hours	hours	hours	hours	hours	hours	hours	\$	\$	\$	hours	\$	\$	\$
Task 7	hours	hours	hours	hours	hours	hours	hours	hours	\$	\$	\$	hours	\$	\$	\$
Phase 1 Totals															
Phase 2	hours	hours	hours	hours	hours	hours	hours	hours	\$	\$	\$	hours	\$	\$	\$
Task 1	hours	hours	hours	hours	hours	hours	hours	hours	\$	\$	\$	hours	\$	\$	\$
Task 2	hours	hours	hours	hours	hours	hours	hours	hours	\$	\$	\$	hours	\$	\$	\$
Task 3	hours	hours	hours	hours	hours	hours	hours	hours	\$	\$	\$	hours	\$	\$	\$
Task 4															
Phase 2 Totals															
Grand Totals															

b) Volume II, Cost Proposal

All proposers, including FFRDCs, must submit the following:

- (1) Cover sheet to include:
 - (1) BAA number (HR001121S0024);
 - (2) Technical area;
 - (3) Lead Organization submitting proposal;
 - (4) Type of organization selected among the following categories: “LARGE BUSINESS”, “SMALL DISADVANTAGED BUSINESS”, “OTHER SMALL BUSINESS”, “HBCU”, “MI”, “OTHER EDUCATIONAL”, OR “OTHER NONPROFIT”;
 - (5) Proposer’s reference number (if any);
 - (6) Other team members (if applicable) and type of organization for each;
 - (7) Proposal title;
 - (8) Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available);
 - (9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), and electronic mail (if available);
 - (10) Award instrument requested: cost-plus-fixed-fee (CPFF), cost-contract—no fee, cost sharing contract – no fee, or other type

- of Procurement Contract (specify), Cooperative Agreement, Other Transactions (OT) or Technology Investment Agreements (TIA);
- (11) Place(s) and period(s) of performance;
- (12) Total proposed cost separated by basic award and option(s) (if any);
- (13) Name, address, and telephone number of the proposer's cognizant Defense Contract Management Agency (DCMA) administration office (if known);
- (14) Name, address, and telephone number of the proposer's cognizant Defense Contract Audit Agency (DCAA) audit office (if known);
- (15) Date proposal was prepared;
- (16) DUNS number;
- (17) TIN number;
- (18) CAGE Code;
- (19) Subawardee Information; and
- (20) Proposal validity period.

(2) Additional Cost Proposal Information

(a) Supporting Cost and Pricing Data

The proposer should include supporting cost and pricing information in sufficient detail to substantiate the summary cost estimates and should include a description of the method used to estimate costs and supporting documentation.

(b) Cost Breakdown Information and Format

Detailed cost breakdown to include:

- Total program costs broken down by major cost items (direct labor, including labor categories; subcontracts; materials; other direct costs; overhead charges, etc.) and further broken down by task and phase.
- Major program tasks by fiscal year.
- An itemization of major subcontracts and equipment purchases.
- Documentation supporting the reasonableness of the proposed equipment costs (vendor quotes, past purchase orders/purchase history, detailed engineering estimates, etc.) shall be provided.
- An itemization of any information technology (IT) purchase, as defined by FAR 2.101 – Documentation supporting the reasonableness of the proposed equipment costs (vendor quotes, past purchase orders/purchase history, detailed engineering estimates, etc.) shall be provided, including a letter stating why the proposer cannot provide the requested resources from its own funding for prime and all sub-awardees.
- A summary of projected funding requirements by month.
- The source, nature, and amount of any industry cost-sharing.
- Identification of pricing assumptions of which may require incorporation into the resulting award instrument (e.g., use of Government Furnished

Property/Facilities/Information, access to Government Subject Matter experts, etc.).

Tables included in the cost proposal in editable (e.g., MS Excel) format with calculation formulas intact. NOTE: If PDF submissions differ from the Excel submission, the PDF will take precedence.

The Government strongly encourages that proposers use the provided MS Excel™ DARPA Standard Cost Proposal Spreadsheet in the development of their cost proposals. A customized cost proposal spreadsheet may be an attachment to this solicitation. If not, the spreadsheet can be found on the DARPA website at <http://www.darpa.mil/work-with-us/contract-management> (under “Resources” on the right-hand side of the webpage). All tabs and tables in the cost proposal spreadsheet should be developed in an editable format with calculation formulas intact to allow traceability of the cost proposal. This cost proposal spreadsheet should be used by the prime organization and all subcontractors. In addition to using the cost proposal spreadsheet, the cost proposal still must include all other items required in this announcement that are not covered by the editable spreadsheet. Subcontractor cost proposal spreadsheets may be submitted directly to the Government by the proposed subcontractor via e-mail to the address in Part I of this solicitation. **Using the provided cost proposal spreadsheet will assist the Government in a rapid analysis of your proposed costs and, if your proposal is selected for a potential award, speed up the negotiation and award execution process.**

Per FAR 15.403-4, certified cost or pricing data shall be required if the proposer is seeking a procurement contract award per the referenced threshold, unless the proposer requests and is granted an exception from the requirement to submit cost or pricing data. Certified cost or pricing data are not required if the proposer proposes an award instrument other than a Procurement Contract (e.g., Cooperative Agreement, Other Transactions or Technology Investment Agreements).

(c) Subawardee Proposals

The awardee is responsible for compiling and providing all subawardee proposals for the Procuring Contracting Officer (PCO)/Agreements Officer (AO), as applicable. Subawardee proposals should include Interdivisional Work Transfer Agreements (IWTA) or similar arrangements. Where the effort consists of multiple portions which could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each.

Subawardee proposal documentation must be prepared at the same level of detail as that required of the awardee’s proposal. All proprietary subawardee proposal documentation which cannot be uploaded with the awardee’s proposal, shall be submitted by email to CCU@darpa.mil either by the awardee or by the subawardee organization when the awardee’s proposal is submitted. The subawardee must provide the same number of copies to the PCO/AO as is required of the awardee. See Section IV.B.3. of this BAA for proposal submission information.

(d) Other Transaction Requests

All proposers requesting an OT must include a detailed list of milestones. Each milestone must include the following:

- milestone description,
- completion criteria,
- due date, and
- payment/funding schedule (to include, if cost share is proposed, awardee and Government share amounts).

It is noted that, at a minimum, milestones should relate directly to accomplishment of program technical metrics as defined in the BAA and/or the proposer's proposal. Agreement type, expenditure or fixed-price based, will be subject to negotiation by the Agreements Officer. Do not include proprietary data.

2. Additional Proposal Information

a) Proprietary Markings

Proposers are responsible for clearly identifying proprietary information. Submissions containing proprietary information must have the cover page and each page containing such information clearly marked with a label such as "Proprietary". NOTE: "Confidential" is a classification marking used to control the dissemination of U.S. Government National Security Information as dictated in Executive Order 13526 and should not be used to identify proprietary business information.

b) Security Information

DARPA anticipates that submissions received under this BAA will be unclassified. However, should a proposer wish to submit classified information, an unclassified email must be sent to the BAA mailbox requesting submission instructions from the Technical Office Program Security Officer (PSO). If a determination is made that the award instrument may result in access to classified information, a Security Classification Guides (SCG) and/or DD Form 254 ("Contract Security Classification Specification") will be issued by DARPA and attached as part of the award.

(1) Controlled Unclassified Information (CUI)

At this time, this DARPA program does not anticipate issuing a DARPA CUI guide. If there is a change in designation throughout the procurement process or performance of this DARPA program, a DARPA CUI guide will be provided at a later date through amendment of the BAA or modification to the awarded contract instrument. For unclassified proposals containing controlled unclassified information (CUI), proposers will ensure personnel and information systems processing CUI security requirements are in place.

(a) CUI Proposal Markings

If an unclassified submission contains CUI or the suspicion of such, as defined by Executive Order 13556 and 32 CFR Part 2002, the information must be appropriately and conspicuously

marked CUI in accordance with DoD Instruction (DoDI) 5200.48, “Controlled Unclassified Information.”

(b) CUI Submission Requirements

Unclassified submissions containing CUI may be submitted via DARPA’s BAA Website (<https://baa.darpa.mil>) in accordance with Part II, Section VI of this BAA. Proposers submitting proposals involving the pursuit and protection of DARPA information designated as CUI must have, or be able to acquire prior to contract award, an information system authorized to process CUI information in accordance with National Institute of Standards and Technology (NIST) Special Publication (SP) 800-171, Rev. 2, “Protecting Controlled Unclassified Information in Nonfederal Systems and Organizations,” (see <https://doi.org/10.6028/NIST.SP.800-171r1>) and DoDI 8582.01, “Security of Non-DoD Information Systems Processing Unclassified Nonpublic DoD Information.”

c) Disclosure of Information and Compliance with Safeguarding Covered Defense Information Controls

The following provisions and clause apply to all solicitations and contracts; however, the definition of “controlled technical information” clearly exempts work considered fundamental research and therefore, even though included in the contract, will not apply if the work is fundamental research.

DFARS 252.204-7000, “Disclosure of Information”

DFARS 252.204-7008, “Compliance with Safeguarding Covered Defense Information Controls”

DFARS 252.204-7012, “Safeguarding Covered Defense Information and Cyber Incident Reporting”

The full text of the above solicitation provision and contract clauses can be found at <http://www.darpa.mil/work-with-us/additional-baa#NPRPAC>.

Compliance with the above requirements includes the mandate for proposers to implement the security requirements specified by National Institute of Standards and Technology (NIST) Special Publication (SP) 800-171, “Protecting Controlled Unclassified Information in Nonfederal Information Systems and Organizations” (see <https://doi.org/10.6028/NIST.SP.800-171r1>) and DoDI 8582.01 that are in effect at the time the solicitation is issued.

For awards where the work is considered fundamental research, the contractor will not have to implement the aforementioned requirements and safeguards. However, should the nature of the work change during performance of the award, work not considered fundamental research will be subject to these requirements.

d) Representations and Certifications

In accordance with FAR 4.1102 and 4.1201, proposers requesting a procurement contract must complete electronic annual representations and certifications at <https://www.sam.gov/>.

In addition, all proposers are required to submit for all award instrument types supplementary DARPA-specific representations and certifications at the time of proposal submission. See <http://www.darpa.mil/work-with-us/reprs-certs> for further information on required representation and certification depending on your requested award instrument.

e) Human Subjects Research (HSR)/Animal Use

Proposers that anticipate involving human subjects or animals in the proposed research must comply with the approval procedures detailed at <http://www.darpa.mil/work-with->

[us/additional-baa](#), to include providing the information specified therein as required for proposal submission.

Proposers planning human subjects research should include a summary HSR paragraph describing the proposed research, including the following key information: the planned research subjects; the performer organization (prime or subcontractor); whether an existing protocol or a new protocol will be used; the title and the Federal Wide Assurance (FWA) Information number for an existing protocol; and whether an existing protocol will be modified.

All institutions conducting DoD-supported research with human data or subjects under the CCU program require Human Resource Protection Office (HRPO) approval before the DoD-supported work can begin in accordance with DoDI 3216.02, “Protection of Human Subjects and Adherence to Ethical Standards in DoD-Conducted and Supported Research.”

To facilitate regulatory review and approval by the HRPO, the HRPO recommends that each CCU performer conducting research with human data submit a single protocol application to their local regulatory or Institutional Review Board (IRB) office that describes their institution’s research plan. It is expected that performers will utilize available TA3 data, to include identifiable human data, in the form of text (which may include associated image), audio, and video. The protocol should identify and describe DARPA CCU aims and identify the TA3 data along with any additional datasets that will be analyzed by the performer. Proposers to TA3 (and proposers to any TA who intend to construct a new dataset) should additionally describe specifics of the data process, including any interactions with human subjects. This will be the protocol application that HRPO reviews and approves.

If the performer has an existing blanket IRB approval that includes multiple research activities, HRPO advises the performer to create a new application following this guidance, since the HRPO will not split portions of an ongoing protocol for review.

After institutional regulatory/IRB office review is complete and determination letter is issued, HRPO will review the complete application and “concur” with the institution’s determination, whether the institution determined the research activities to be ‘research not involving human subjects’ or ‘exempt’ human subjects research. In most cases, given what this program entails, IRB approval and oversight is unlikely to be required. However, each proposer to this BAA should assume that their research will include HSR and plan accordingly. Proposals that clearly describe the proposer’s anticipated IRB procedures will be considered stronger than proposals that lack this information.

NOTE: Proposers to this BAA do not need to submit an IRB protocol to be considered for selection. However, once selected, proposers should be prepared to begin the IRB/HRPO process.

Once selected, performers will be required to submit the following to the HRPO:

- Local IRB or human protections protocol application.

- Local regulatory determination memo (e.g., “exempt” or “research not involving human subjects”) or IRB approval memo.
- Appropriate HRPO submission form (there is a unique form for secondary use of data, and another form for prospective human subjects research).
- For any secondary use of data that originated with a prior research study, the HRPO must also receive the original consent form to confirm that they do not prohibit sharing data for secondary uses.
- If the performer’s CCU activities require IRB oversight, there are additional HRPO requirements that are described on the appropriate submission form.

f) Approved Cost Accounting System Documentation

Proposers that do not have a Cost Accounting Standards (CAS) compliant accounting system considered adequate for determining accurate costs that are negotiating a cost-type procurement contract must complete an SF 1408. For more information on CAS compliance, see <http://www.dcaa.mil>. To facilitate this process, proposers should complete the SF 1408 found at <http://www.gsa.gov/portal/forms/download/115778> and submit the completed form with the proposal.

g) Small Business Subcontracting Plan

Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. § 637(d)) and FAR 19.702(a)(1), each proposer who submits a contract proposal and includes subcontractors might be required to submit a subcontracting plan with their proposal. The plan format is outlined in FAR 19.704.

h) Section 508 of the Rehabilitation Act (29 U.S.C. § 749d)/FAR 39.2

All electronic and information technology acquired or created through this BAA must satisfy the accessibility requirements of Section 508 of the Rehabilitation Act (29 U.S.C. § 749d)/FAR 39.2.

i) Intellectual Property

All proposers must provide a good faith representation that the proposer either owns or possesses the appropriate licensing rights to all intellectual property that will be utilized under the proposed effort.

(1) For Procurement Contracts

Proposers responding to this BAA requesting procurement contracts will need to complete the certifications at DFARS 252.227-7017. See <http://www.darpa.mil/work-with-us/additional-baa> for further information. If no restrictions are intended, the proposer should state “none.” The table below captures the requested information:

Technical Data Computer Software To be Furnished With Restrictions	Summary of Intended Use in the Conduct of the Research	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(NARRATIVE)	(LIST)	(LIST)	(LIST)

(2) For All Non-Procurement Contracts

Proposers responding to this BAA requesting a Cooperative Agreement, OT or TIA shall follow the applicable rules and regulations governing these various award instruments, but, in all cases, should appropriately identify any potential restrictions on the Government's use of any Intellectual Property contemplated under the award instrument in question. This includes both Noncommercial Items and Commercial Items. Proposers are encouraged to use a format similar to that described in Paragraph (1) above. If no restrictions are intended, then the proposer should state "NONE."

Proposers should note that the Government does not own the intellectual property of technical data/computer software developed under Government contracts; it acquires the right to use the technical data/computer software. Regardless of the scope of the Government's rights, performers may freely use their same data/software for their own commercial purposes (unless restricted by U.S. export control laws or security classification). Therefore, technical data and computer software developed under this DARPA program will remain the property of the performers, though DARPA desires to have a minimum of Government Purpose Rights (GPR) to noncommercial technical data/computer software developed through DARPA sponsorship.

The program will emphasize creating and leveraging open source technology and architecture. Intellectual property rights asserted by proposers are strongly encouraged to be aligned with open source/open architecture regimes.

Proposers expecting to use, but not to deliver, commercial open source tools or other materials in implementing their approach may be required to indemnify the Government against legal liability arising from such use.

All references to "Unlimited Rights" or "Government Purpose Rights" are intended to refer to the definitions of those terms as set forth in the Defense Federal Acquisition Regulation Supplement (DFARS) Part 227.

a. Intellectual Property Representations

All proposers must provide a good faith representation of either ownership or possession of appropriate licensing rights to all other IP to be used for the proposed project. Proposers must provide a short summary for each item asserted with less than unlimited rights that describes the nature of the restriction and the intended use of the IP in the conduct of the proposed research. If proposers desire to use proprietary software or technical data or both as the basis of their proposed approach, in whole or in part, they should: (1) clearly identify such software/data and its proposed particular use(s); (2) explain how the Government will be able to reach its program goals (including transition) within the proprietary model offered; and (3) provide possible nonproprietary alternatives in any area that might present transition difficulties or increased risk or cost to the Government under the proposed proprietary solution.

b. Patents

All proposers must include documentation proving ownership or possession of appropriate licensing rights to all patented inventions to be used for the proposed project. If a patent

application has been filed for an invention, but it includes proprietary information and is not publicly available, a proposer must provide documentation that includes: the patent number, inventor name(s), assignee names (if any), filing date, filing date of any related provisional application, and summary of the patent title, with either: (1) a representation of invention ownership, or (2) proof of possession of appropriate licensing rights in the invention (i.e., an agreement from the owner of the patent granting license to the proposer).

c. Procurement Contracts

- **Noncommercial Items (Technical Data and Computer Software):** Proposers requesting a procurement contract must list all noncommercial technical data and computer software that it plans to generate, develop, and/or deliver, in which the Government will acquire less than unlimited rights and to assert specific restrictions on those deliverables. In the event a proposer does not submit the list, the Government will assume that it has unlimited rights to all noncommercial technical data and computer software generated, developed, and/or delivered, unless it is substantiated that development of the noncommercial technical data and computer software occurred with mixed funding. If mixed funding is anticipated in the development of noncommercial technical data and computer software generated, developed, and/or delivered, proposers should identify the data and software in question as subject to GPR. In accordance with DFARS 252.227-7013, “Rights in Technical Data - Noncommercial Items,” and DFARS 252.227-7014, “Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation,” the Government will automatically assume that any such GPR restriction is limited to a period of 5 years, at which time the Government will acquire unlimited rights unless the parties agree otherwise. The Government may use the list during the evaluation process to evaluate the impact of any identified restrictions and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. Failure to provide full information may result in a determination that the proposal is not compliant with the solicitation.

- **Commercial Items (Technical Data and Computer Software):** Proposers requesting a procurement contract must list all commercial technical data and commercial computer software that may be included in any deliverables contemplated under the research project, and assert any applicable restrictions on the Government’s use of such commercial technical data and/or computer software. In the event a proposer does not submit the list, the Government will assume there are no restrictions on the Government’s use of such commercial items. The Government may use the list during the evaluation process to evaluate the impact of any identified restrictions and may request additional information from the proposer to evaluate the proposer’s assertions. Failure to provide full information may result in a determination that the proposal is not compliant with the solicitation.

d. Other Types of Awards

Proposers responding to this solicitation requesting an award instrument other than a procurement contract shall follow the applicable rules and regulations governing those award instruments, but in all cases should appropriately identify any potential restrictions on the Government's use of any intellectual property contemplated under those award instruments in question. This includes both noncommercial items and commercial items. The Government may use the list as part of the evaluation process to assess the impact of any identified restrictions, and may request additional information from the proposer, to evaluate the proposer's assertions. Failure to provide full information may result in a determination that the proposal is not compliant with the solicitation.

j) System for Award Management (SAM) and Universal Identifier Requirements

All proposers must be registered in SAM unless exempt per FAR 4.1102. FAR 52.204-7, "System for Award Management" and FAR 52.204-13, "System for Award Management Maintenance" are incorporated into this solicitation. See <http://www.darpa.mil/work-with-us/additional-baa> for further information.

International entities can register in SAM by following the instructions in this link:

https://www.fsd.gov/answer.do?sysparm_kbid=dbf8053adb119344d71272131f961946&sysparm_search=KB0013221.

3. Submission Information

DARPA will acknowledge receipt of all submissions and assign an identifying control number that should be used in all further correspondence regarding the submission. DARPA intends to use electronic mail correspondence regarding HR001121S0024. Submissions may not be submitted by fax or e-mail; any so sent will be disregarded.

Submissions will not be returned. An electronic copy of each submission received will be retained at DARPA and all other non-required copies destroyed. A certification of destruction may be requested, provided the formal request is received by DARPA within five (5) business days after notification that a proposal was not selected.

For proposal submission date, see Part I., Overview Information. Submissions received after this date and time may not be reviewed.

a) Proposal Submission

Refer to Section VI.A.1. for how DARPA will notify proposers as to whether or not their proposal has been selected for potential award.

(1) For Proposers Requesting Cooperative Agreements

Proposers requesting cooperative agreements must submit proposals through one of the following methods: (1) electronic upload per the instructions at <https://www.grants.gov/applicants/apply-for-grants.html> (DARPA-preferred); or (2) hard-copy mailed directly to DARPA. If proposers intend to use Grants.gov as their means of submission,

then they must submit their entire proposal through Grants.gov; applications cannot be submitted in part to Grants.gov and in part as a hard-copy. Proposers using Grants.gov do not submit hard-copy proposals in addition to the Grants.gov electronic submission.

Submissions: In addition to the volumes and corresponding attachments requested elsewhere in this solicitation, proposers must also submit the three forms listed below.

Form 1: SF 424 Research and Related (R&R) Application for Federal Assistance, available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_SF424_2_0-V2.0.pdf. This form must be completed and submitted.

To evaluate compliance with Title IX of the Education Amendments of 1972 (20 U.S.C. § 1681 et.seq.), the Department of Defense (DoD) is collecting certain demographic and career information to be able to assess the success rates of women who are proposed for key roles in applications in science, technology, engineering or mathematics disciplines. In addition, the National Defense Authorization Act (NDAA) for FY 2019, Section 1286, directs the Secretary of Defense to protect intellectual property, controlled information, key personnel, and information about critical technologies relevant to national security and limit undue influence, including foreign talent programs by countries that desire to exploit United States' technology within the DoD research, science and technology, and innovation enterprise. This requirement is necessary for all research and research-related educational activities. The DoD is using the two forms below to collect the necessary information to satisfy these requirements. Detailed instructions for each form are available on Grants.gov.

Form 2: Research and Related Senior/Key Person Profile (Expanded), available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_KeyPersonExpanded_2_0-V2.0.pdf. This form must be completed and submitted.

The Research and Related Senior/Key Person Profile (Expanded) form will be used to collect the following information for all senior/key personnel, including Project Director/Principal Investigator and Co-Project Director/Co-Principal Investigator, whether or not the individuals' efforts under the project are funded by the DoD:

- Degree Type and Degree Year.
- Current and Pending Support, including:
 - A list of all current projects the individual is working on, in addition to any future support the individual has applied to receive, regardless of the source.
 - Title and objectives of the other research projects.
 - The percentage per year to be devoted to the other projects.
 - The total amount of support the individual is receiving in connection to each of the other research projects or will receive if other proposals are awarded.

- Name and address of the agencies and/or other parties supporting the other research projects
- Period of performance for the other research projects.

Additional senior/key persons can be added by selecting the “Next Person” button at the bottom of the form. Note that, although applications without this information completed may pass Grants.gov edit checks, if DARPA receives an application without the required information, DARPA may determine that the application is incomplete and may cause your submission to be rejected and eliminated from further review and consideration under the solicitation. DARPA reserves the right to request further details from the applicant before making a final determination on funding the effort.

Form 3: Research and Related Personal Data, available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_PersonalData_1_2-V1.2.pdf. Each applicant must complete the name field of this form, however, provision of the demographic information is voluntary. Regardless of whether the demographic fields are completed or not, this form must be submitted with at least the applicant’s name completed.

Grants.gov Submissions: Grants.gov requires proposers to complete a one-time registration process before a proposal can be electronically submitted. First time registration can take between three (3) business days and four weeks. For more information about registering for Grants.gov, see <http://www.darpa.mil/work-with-us/additional-baa>.

(2) For Proposers Requesting Technology Investment Agreements

Proposers requesting Technology Investment Agreements (TIA) awarded under 10 U.S.C. 2371 must include the completed form indicated below. This requirement only applies only to those who expect to receive a TIA as their ultimate award instrument.

The National Defense Authorization Act (NDAA) for FY 2019, Section 1286, directs the Secretary of Defense to protect intellectual property, controlled information, key personnel, and information about critical technologies relevant to national security and limit undue influence, including foreign talent programs by countries that desire to exploit United States’ technology within the DoD research, science and technology, and innovation enterprise. This requirement is necessary for all research and research-related educational activities. The DoD is using the form below to collect the necessary information to satisfy these requirements.

The Research and Related Senior/Key Person Profile (Expanded) form, available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_KeyPersonExpanded_2_0-V2.0.pdf, will be used to collect the following information for all senior/key personnel, including Project Director/Principal Investigator and Co-Project Director/Co-Principal Investigator, whether or not the individuals' efforts under the project are funded by the DoD:

- Degree Type and Degree Year.
- Current and Pending Support, including:
 - A list of all current projects the individual is working on, in addition to any future support the individual has applied to receive, regardless of the source.
 - Title and objectives of the other research projects.
 - The percentage per year to be devoted to the other projects.
 - The total amount of support the individual is receiving in connection to each of the other research projects or will receive if other proposals are awarded.
 - Name and address of the agencies and/or other parties supporting the other research projects
 - Period of performance for the other research projects.

Additional senior/key persons can be added by selecting the “Next Person” button at the bottom of the form. Note that, although applications without this information completed may pass Grants.gov edit checks, if DARPA receives an application without the required information, DARPA may determine that the application is incomplete and may cause your submission to be rejected and eliminated from further review and consideration under the solicitation. DARPA reserves the right to request further details from the applicant before making a final determination on funding the effort.

(3) For Proposers Requesting Procurement Contracts or OTs
and Submitting to a DARPA-approved Proposal Submissions Website

Unclassified full proposals sent in response to this BAA may be submitted via DARPA’s BAA Website (<https://baa.darpa.mil>). Note: If an account has already been created for the DARPA BAA Website, this account may be reused. If no account currently exists for the DARPA BAA Website, visit the website to complete the two-step registration process. Submitters will need to register for an Extranet account (via the form at the URL listed above) and wait for two separate e-mails containing a username and temporary password. After accessing the Extranet, submitters may then create an account for the DARPA BAA website (via the “Register your Organization” link along the left side of the homepage), view submission instructions, and upload/finalize the proposal. Proposers using the DARPA BAA Website may encounter heavy traffic on the submission deadline date; proposers should start this process as early as possible.

All unclassified concepts submitted electronically through DARPA’s BAA Website must be uploaded as zip files (.zip or .zipx extension). The final zip file should be no greater than 50 MB in size. Only one zip file will be accepted per submission, and submissions not uploaded as zip files will be rejected by DARPA.

Classified submissions and proposals requesting cooperative agreements should NOT be submitted through DARPA’s BAA Website (<https://baa.darpa.mil>), though proposers will likely

still need to visit <https://baa.darpa.mil> to register their organization (or verify an existing registration) to ensure the BAA office can verify and finalize their submission.

Technical support for DARPA's BAA Website may be reached at BAAT_Support@darpa.mil, and is typically available during regular business hours, Eastern Time.

4. Funding Restrictions

Preaward costs will not be reimbursed unless a preaward cost agreement is negotiated prior to award.

5. Other Submission Requirements

DARPA will post a consolidated Frequently Asked Questions (FAQ) document. To access the posting go to: <http://www.darpa.mil/work-with-us/opportunities>. Under the HR001121S0024 summary will be a link to the FAQ. Submit your question/s by e-mail to CCU@darpa.mil. DARPA will attempt to answer questions in a timely manner; however, questions submitted within seven (7) business days of closing may not be answered. If applicable, DARPA will post FAQs to <http://www.darpa.mil/work-with-us/opportunities>.

V. Application Review Information

A. Evaluation Criteria

Proposals will be evaluated using the following criteria listed in descending order of importance: Overall Scientific and Technical Merit; Potential Contribution and Relevance to the DARPA Mission; and Cost and Schedule Realism.

1. Overall Scientific and Technical Merit

The proposed technical approach is innovative, feasible, achievable, and complete.

The proposed technical team has the expertise and experience to accomplish the proposed tasks. Task descriptions and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that a final outcome that achieves the goal can be expected as a result of award. The proposal identifies major technical risks and planned mitigation efforts are clearly defined and feasible.

The proposal clearly explains the technical approach(es) that will be employed to meet or exceed each program goal and metric listed in Sections I.B. and C. and provides ample justification as to why the approach(es) is feasible. The Government will also consider the structure, clarity, and responsiveness to the SOW; the quality of proposed deliverables; and the linkage of the SOW, technical approach(es), risk mitigation plans, costs, and deliverables of the prime awardee and all subawardees through a logical, well structured, and traceable technical plan.

The proposer's prior experience in similar efforts clearly demonstrates an ability to deliver products that meet the proposed technical performance within the proposed budget and schedule. The proposed team has the expertise to manage the cost and schedule. Similar efforts completed/ongoing by the proposer in this area are fully described including identification of other Government sponsors.

2. Potential Contribution and Relevance to the DARPA Mission

The potential contributions of the proposed effort are relevant to the national technology base. Specifically, DARPA's mission is to make pivotal early technology investments that create or prevent strategic surprise for U.S. National Security.

This criterion includes considering the extent to which any proposed intellectual property restrictions would potentially impact the Government's ability to transition the technology.

3. Cost and Schedule Realism

The proposed costs are realistic for the technical and management approach and accurately reflect the technical goals and objectives of the solicitation. The proposed costs are consistent with the proposer's Statement of Work and reflect a sufficient understanding of the costs and level of effort needed to successfully accomplish the proposed technical approach. The costs for the prime proposer and proposed subawardees are substantiated by the details provided in the proposal (e.g., the type and number of labor hours proposed per task, the types and quantities of materials, equipment and fabrication costs, travel and any other applicable costs and the basis for the estimates).

It is expected that the effort will leverage all available relevant prior research in order to obtain the maximum benefit from the available funding. For efforts with a likelihood of commercial application, appropriate direct cost sharing may be a positive factor in the evaluation. DARPA recognizes that undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture. DARPA discourages such cost strategies.

The proposed schedule aggressively pursues performance metrics in an efficient time frame that accurately accounts for the anticipated workload. The proposed schedule identifies and mitigates any potential schedule risk.

B. Review of Proposals

1. Review Process

It is the policy of DARPA to ensure impartial, equitable, comprehensive proposal evaluations based on the evaluation criteria listed in Section V.A. and to select the source (or sources) whose offer meets the Government's technical, policy, and programmatic goals.

DARPA will conduct a scientific/technical review of each conforming proposal. Conforming proposals comply with all requirements detailed in this solicitation; proposals that fail to do so may be deemed non-conforming and may be removed from consideration. Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. DARPA's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons.

Award(s) will be made to proposers whose proposals are determined to be the most advantageous to the Government, consistent with instructions and evaluation criteria specified in the BAA herein, and availability of funding.

2. Handling of Source Selection Information

DARPA policy is to treat all submissions as source selection information (see FAR 2.101 and 3.104), and to disclose their contents only for the purpose of evaluation. Restrictive notices notwithstanding, during the evaluation process, submissions may be handled by support contractors for administrative purposes and/or to assist with technical evaluation. All DARPA support contractors performing this role are expressly prohibited from performing DARPA-sponsored technical research and are bound by appropriate nondisclosure agreements. Subject to the restrictions set forth in FAR 37.203(d), input on technical aspects of the proposals may be solicited by DARPA from non-Government consultants/experts who are strictly bound by the appropriate non-disclosure requirements.

3. Federal Awardee Performance and Integrity Information (FAPIIS)

Per 41 U.S.C. 2313, as implemented by FAR 9.103 and 2 CFR § 200.205, prior to making an award above the simplified acquisition threshold, DARPA is required to review and consider any information available through the designated integrity and performance system (currently FAPIIS). Awardees have the opportunity to comment on any information about themselves entered in the database, and DARPA will consider any comments, along with other information in FAPIIS or other systems prior to making an award.

VI. Award Administration Information

A. Selection Notices and Notifications

1. Proposals

As soon as the evaluation of a proposal is complete, the proposer will be notified that (1) the proposal has been selected for funding pending award negotiations, in whole or in part, or (2) the proposal has not been selected. These official notifications will be sent via e-mail to the Technical Point Of Contact (POC) and/or Administrative POC identified on the proposal coversheet.

B. Administrative and National Policy Requirements

1. Meeting and Travel Requirements

Principal investigator (PI) meetings will be held approximately every six months. In addition, there will be a kick-off meeting at the start of the program. Because CCU PI meetings are expected to include working sessions on specific engineering, standards, and interoperability issues, performers are expected to include, in addition to the PI, appropriate technical personnel (software developers, graduate students, etc.) in PI meetings as needed to address meeting agendas. The locations of PI meetings will vary, and may include locations throughout the continental U.S. For the purpose of estimating travel costs, proposers should assume that three PI meetings will occur in the Washington, DC area and three will occur in Los Angeles, and that each PI meeting will require three (3) full business days. Evaluations will be conducted remotely and travel to the evaluation site will not be required. The Program Manager and other U.S. Government stakeholders will visit the different sites approximately once per year. DARPA reserves the right to conduct some or all meetings virtually if necessitated by circumstances.

2. Solicitation Provisions and Award Clauses, Terms and Conditions

Solicitation clauses in the FAR and DFARS relevant to procurement contracts and FAR and DFARS clauses that may be included in any resultant procurement contracts are incorporated herein and can be found at <http://www.darpa.mil/work-with-us/additional-baa>.

3. Controlled Unclassified Information (CUI) and Controlled Technical Information (CTI) on Non-DoD Information Systems

Further information on Controlled Unclassified Information identification, marking, protecting, and control, to include processing on Non-DoD Information Systems, is incorporated herein and can be found at <http://www.darpa.mil/work-with-us/additional-baa>.

4. Terms and Conditions

For terms and conditions specific to grants and/or cooperative agreements, see the DoD General Research Terms and Conditions (latest version) at <http://www.onr.navy.mil/Contracts-Grants/submit-proposal/grants-proposal/grants-terms-conditions> and the supplemental DARPA-specific terms and conditions at <http://www.darpa.mil/work-with-us/contract-management#GrantsCooperativeAgreements>.

5. Ethical, Legal, and Societal Implications (ELSI) Strategy

DARPA maintains its commitment to ensuring that efforts funded under this BAA adhere to ethical and legal regulations currently in place for Federal and DoD-funded research. Program developments will be discussed with a panel of expert external advisors organized by DARPA with expertise in social and cultural issues. Proposers should consider and discuss the ethical treatment of any proposed human research participants.

C. Reporting

The number and types of technical and financial reports required under the contracted project will be specified in the award document, and will include, at a minimum, monthly financial

status reports and a monthly status summary. A final report that summarizes the project and tasks will be required at the conclusion of the performance period for the award. The reports shall be prepared and submitted in accordance with the procedures contained in the award document.

D. Electronic Systems

1. Wide Area Work Flow (WAWF)

Performers will be required to submit invoices for payment directly to <https://piee.eb.mil/>, unless an exception applies. Performers must register in WAWF prior to any award under this BAA.

2. i-Edison

The award document for each proposal selected for funding will contain a mandatory requirement for patent reports and notifications to be submitted electronically through i-Edison (<https://public.era.nih.gov/iedison>).

E. DARPA Embedded Entrepreneur Initiative (EEI)

Awardees pursuant to this solicitation may be eligible to participate in the DARPA Embedded Entrepreneur Initiative (EEI) during the award's period of performance. EEI is a limited scope program offered by DARPA, at DARPA's discretion, to a small subset of awardees. The goal of DARPA's EEI is to increase the likelihood that DARPA-funded technologies take root in the U.S. and provide new capabilities for national defense. EEI supports DARPA's mission "to make pivotal investments in breakthrough technologies and capabilities for national security" by accelerating the transition of innovations out of the lab and into new capabilities for the Department of Defense (DoD). EEI investment supports development of a robust and deliberate Go-to-Market strategy for selling technology to government and commercial markets and positions DARPA awardees to attract U.S. investment. The following is for informational and planning purposes only and does not constitute solicitation of proposals to the EEI.

There are three elements to DARPA's EEI: (1) A Senior Commercialization Advisor (SCA) from DARPA who works with the Program Manager (PM) to examine the business case for the awardee's technology and uses commercial methodologies to identify steps toward achieving a successful transition of technology to the government and commercial markets; (2) Connections to potential industry and investor partners via EEI's Transition Working Groups; and (3) Additional funding for awardees to hire an embedded entrepreneur to achieve specific commercialization milestones and work towards the delivery of a robust transition plan for both defense and commercial markets. This embedded entrepreneur's qualifications should include business experience within the target industries of interest, experience in commercializing early stage technology, and the ability to communicate and interact with technical and non-technical stakeholders. Funding for EEI is typically no more than \$250,000 per awardee over the duration of the award. An awardee may apportion EEI funding to hire more than one embedded entrepreneur, if achieving the milestones requires different expertise that can be obtained without exceeding the awardee's total EEI funding. The EEI effort is intended to be conducted concurrent with the research program without extending the period of performance.

EEI Application Process:

After receiving an award under the solicitation, awardees interested in being considered for EEI should notify their DARPA Program Manager (PM) during the period of performance. Timing of such notification should ideally allow sufficient time for DARPA and the awardee to review the awardee's initial transition plan, identify commercial milestones to deliver under EEI, modify the award, and conduct the work required to achieve such milestones within the original award period of performance. These steps may take 18-24 months to complete, depending on the technology. If the DARPA PM determines that EEI could be of benefit to transition the technology to product(s) the Government needs, the PM will refer the performer to DARPA's Commercial Strategy team.

DARPA's Commercial Strategy team will then contact the performer, assess fitness for EEI, and in consultation with the DARPA technical office, determine whether to invite the performer to participate in the EEI. Factors that are considered in determining fitness for EEI include DoD/Government need for the technology; competitive approaches to enable a similar capability or product; risks and impact of the Government's being unable to access the technology from a sustainable source; Government and commercial markets for the technology; cost and affordability; manufacturability and scalability; supply chain requirements and barriers; regulatory requirements and timelines; Intellectual Property and Government Use Rights, and available funding.

Invitation to participate in EEI is at the sole discretion of DARPA and subject to program balance and the availability of funding. EEI participants' awards may be subsequently modified bilaterally to amend the Statement of Work to add negotiated EEI tasks, provide funding, and specify a milestone schedule which will include measurable steps necessary to build, refine, and execute a Go-to-Market strategy aimed at delivering new capabilities for national defense. Milestone examples are available at: <https://www.darpa.mil/work-with-us/contract-management>

Awardees under this solicitation are eligible to be considered for participation in EEI, but selection for award under this solicitation does not imply or guarantee participation in EEI.

VII. Agency Contacts

Administrative, technical, or contractual questions should be sent via email to CCU@darpa.mil. All requests must include the name, email address, and phone number of a point of contact.

Points of Contact

The BAA Coordinator for this effort may be reached at CCU@darpa.mil.

The Technical POC for this effort is William Corvey.

DARPA/I2O

ATTN: HR001121S0024

675 North Randolph Street
Arlington, VA 22203-2114

For information concerning agency level protests see <http://www.darpa.mil/work-with-us/additional-baa#NPRPAC>.

VIII. Other Information

A. Collaborative Efforts/Teaming

It is DARPA's desire to receive comprehensive, quality responses to this solicitation. To facilitate strong, collaborative teaming efforts and business relationships, a website (<https://www.schafertmd.com/DARPA/I2O/CCU/PD/index.php?p=teaming>) has been established. Specific content, communications, networking, and team formation are the sole responsibility of the participants. Neither DARPA nor the DoD endorses the destination web site or the information and organizations contained therein, nor does DARPA or the DoD exercise any responsibility at the destination. This website is provided consistent with the stated purpose of this solicitation.

B. Proposers' Day

The CCU Proposers Day will held virtually on April 30, 2021. The special notice regarding the CCU Proposers Day, DARPA-SN-21-21, can be found at https://beta.sam.gov/opp/a29e6196aef8412aa667b38d98434403/view?keywords=CCU&sort=-relevance&index=&is_active=true&page=1.

For further information regarding the CCU Proposers Day, including slides from the event, please see <http://www.darpa.mil/work-with-us/opportunities> under HR001121S0024.

C. Associate Contractor Agreement (ACA)

This same or similar language will be included in contract awards against HR001121S0024. Awards other than FAR based contracts will contain similar agreement language:

(a) It is recognized that success of the CCU research effort depends in part upon the open exchange of information between the various Associate Contractors involved in the effort. This language is intended to insure that there will be appropriate coordination and integration of work by the Associate Contractors to achieve complete compatibility and to prevent unnecessary duplication of effort. By executing this contract, the Contractor assumes the responsibilities of an Associate Contractor. For the purpose of this ACA, the term Contractor includes subsidiaries, affiliates, and organizations under the control of the contractor (e.g., subcontractors).

(b) Work under this contract may involve access to proprietary or confidential data from an Associate Contractor. To the extent that such data is received by the Contractor from any Associate Contractor for the performance of this contract, the Contractor hereby agrees that any proprietary information received shall remain the property of the Associate Contractor and shall be used solely for the purpose of the CCU research effort. Only that information which is received from another contractor in writing and which is clearly identified as proprietary or confidential shall be protected in accordance with this provision. The obligation to retain such information in confidence will be satisfied if the Contractor receiving such information utilizes

the same controls as it employs to avoid disclosure, publication, or dissemination of its own proprietary information. The receiving Contractor agrees to hold such information in confidence as provided herein so long as such information is of a proprietary/confidential or limited rights nature.

(c) The Contractor hereby agrees to closely cooperate as an Associate Contractor with the other Associate Contractors on this research effort. This involves as a minimum:

- (1) maintenance of a close liaison and working relationship;
- (2) maintenance of a free and open information network with all Government-identified associate Contractors;
- (3) delineation of detailed interface responsibilities;
- (4) entering into a written agreement with the other Associate Contractors setting forth the substance and procedures relating to the foregoing, and promptly providing the Agreements Officer/Procuring Contracting Officer with a copy of same; and,
- (5) receipt of proprietary information from the Associate Contractor and transmittal of Contractor proprietary information to the Associate Contractors subject to any applicable proprietary information exchange agreements between associate contractors when, in either case, those actions are necessary for the performance of either.

(d) In the event that the Contractor and the Associate Contractor are unable to agree upon any such interface matter of substance, or if the technical data identified is not provided as scheduled, the Contractor shall promptly notify the DARPA CCU Program Manager. The Government will determine the appropriate corrective action and will issue guidance to the affected Contractor.

(e) The Contractor agrees to insert in all subcontracts hereunder which require access to proprietary information belonging to the Associate Contractor, a provision which shall conform substantially to the language of this ACA, including this paragraph (e).

(f) Associate Contractors for the CCU research effort include:

Contractor

Technical Area

IX. APPENDIX 1 – PROPOSAL SUMMARY SLIDE

Technical Area(s) Proposing Organization Proposal Title Total Budget	
<p style="text-align: center;">Descriptive Summary</p> <p>Summary of the proposed overall technical approach, including:</p> <ul style="list-style-type: none"> • How does it address the key challenges of the program? • What is unique about your approach? Why will it succeed? • What are the limitations (if any) to your approach? How will you compensate for them? 	<p style="text-align: center;">Team organization, cost, schedule</p> <ul style="list-style-type: none"> • Show the proposed team organization, cost, technical milestones (intermediate and end-of-phase milestones), and project schedule.
<p style="text-align: center;">Technical Rationale</p> <ul style="list-style-type: none"> • What are you trying to do? Articulate your objectives using absolutely no jargon. • Outline clearly how you plan to accomplish technical goals and program metrics stated in the BAA. • What are the technical milestones? Performance metrics? How will progress be measured? • What are the major technical risk elements and the plan to address/mitigate them? • Include a figure that captures the technical approach if supportive. 	<p style="text-align: center;">Other Relevant Information</p> <ul style="list-style-type: none"> • Is any work expected to be fundamental research? • Foreign persons proposed? (if yes, how many?) • Clearances of team members (list levels and number of personnel with each clearance level) • Existing classified processing facilities? (Active? Proposed shared? Level? Location?) • Intellectual Property (IP) or Data Rights Assertions? (if asserting less than Unlimited Rights) • Government Furnished Equipment/Materials/Information (GFE/GFM/GFI) requested? (if yes, then list) • Human Subject Research (HSR) proposed?

Distribution Statement

1