IARPA

BROAD AGENCY ANNOUNCEMENT

IARPA-BAA-10-03

Tools for Recognizing Useful Signals of Trustworthiness (TRUST)

Office of Smart Collection

IARPA-BAA-10-03

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Tools for Recognizing Useful Signals of Trustworthiness (TRUST) Program
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PART ONE: OVERVIEW INFORMATION

This publication constitutes a Broad Agency Announcement (BAA) and sets forth research areas of interest in the area of interpersonal trust and trustworthiness. Awards based on responses to this BAA are considered to be the result of full and open competition.

- **Federal Agency Name** – Intelligence Advanced Research Projects Activity (IARPA), Office of Smart Collection
- **Funding Opportunity Title –** Tools for Recognizing Useful Signals of Trustworthiness (TRUST) Program
- **Announcement Type –** Initial
- **Funding Opportunity Number –** IARPA-BAA-10-03
- **Catalog of Federal Domestic Assistance Numbers (CFDA)** – 12.910 Research and Technology Development
- **Dates**
  - Proposal White Paper Due Date: March 17, 2010
  - Proposal Due Date: May 12, 2010
- **Anticipated individual awards** – Multiple awards are anticipated.
- **Types of instruments that may be awarded** – Procurement contract, grant, cooperative agreement or other transaction.
- **Agency Points of contact**

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- **Program website:**
  http://www.iarpa.gov/solicitations_trust.html
- **BAA Summary:** Starting from the premise that people generate neural, psychological, physiological, and behavioral signals when in the presence of others who are trustworthy, the IARPA TRUST program seeks to develop tools that can detect and validate one's own "useful" signals for accurately assessing another's trustworthiness

  Questions: IARPA will accept questions about the BAA until April 28, 2010. A consolidated Question and Answer response will be publicly posted every few days on the IARPA website (www.iarpa.gov); no answers will go directly to the submitter. Questions about administrative, technical or contractual issues must be submitted to the BAA e-mail address at dni-iarpa-baa-10-03@ugov.gov. If e-mail is not available, fax questions to 301-851-7673, Attention: IARPA-BAA-10-03. All requests must include the name, e-mail address (if available) and phone number of a point of contact for the requested information. Do not send questions with proprietary information. For further guidance regarding key issues to address when submitting a proposal, see the TRUST general guidance to Offerors on the IARPA website at www.iarpa.gov/solicitations_trust.html.

PART TWO: FULL TEXT OF ANNOUNCEMENT

SECTION 1: FUNDING OPPORTUNITY DESCRIPTION

1.A BAA Overview

The Intelligence Advanced Research Projects Activity (IARPA) often selects its research efforts through the Broad Agency Announcement (BAA) process. The BAA will appear first on the FedBizOpps website, http://www.fedbizopps.gov/, then on the IARPA website, http://www.iarpa.gov. The following information is for those wishing to respond to the BAA.

IARPA is seeking innovative proposals for the Tools for Recognizing Useful Signals of Trustworthiness (TRUST) Program. The use of a BAA solicitation allows a wide range of innovative ideas and concepts. The TRUST Program is envisioned to begin the fourth quarter of Fiscal Year 2010 and end by the fourth quarter of Fiscal Year 2015.

The TRUST Program is soliciting proposals for research and technology development to advance the current state of the science on interpersonal trust and trustworthiness. Starting from the premise that people generate distinct neural, psychological, physiological, and behavioral signals when in the presence of others who are trustworthy, the IARPA TRUST program seeks to develop tools that can detect and validate one's own "useful" signals for accurately assessing the trustworthiness of another individual.

The program is anticipated to be divided into three phases. Phase 1 will last for a period of 24 months. **Only Phase 1 proposals are solicited under this BAA.** Phases 2 and 3 will be covered in future solicitation(s) and are anticipated to be approximately 24 months and 12 months duration, respectively.

1.A.1 Background

While definitions have varied, trust is generally understood as the willingness to make oneself vulnerable to another party, usually with positive expectations regarding the other's competence or intentions, under conditions in which the negative consequences of abuse of that trust far outweigh any potential gain. Trustworthiness, in turn, has been associated with certain qualities that are related to those whom others perceive to be able to be trusted under specific conditions.[1]

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[1] For a more comprehensive discussion on these terms and their many definitions, see Castaldo, S. (2003). *Trust variety conceptual nature, dimensions and typologies*. Paper presented at IMP Conference Lugano, Switzerland, 4-6 September 2003; Castaldo, S. (2008). *Trust in Market Relationships*. Cheltenham, UK: Edward Elgar; Colquitt, J. A., Scott, B. A., & LePine, J. A. (2007). Trust,

Knowing whom to trust in specific contexts is vital for many Intelligence Community (IC) missions and organizations. However, trust and trustworthiness - as concepts - remain highly subjective, from a research standpoint, and present a challenge that is both qualitative and quantitative. For example, in the IC, trust is often (if sometimes inaccurately) defined by, or associated with, the absence of deception or a lack of stress; indeed, efforts to detect deception or stress are often used as surrogates for measures of whom can and cannot be trusted.[2] In other disciplines, such as behavioral economics, trust is equated with the act of cooperation or of defection in experiments that involve risking small amounts of money with often anonymous strangers; this results in "games" of trust and trustworthiness that largely lack construct and ecological validity.

Trust research has also suffered from a lack of interdisciplinary collaboration. The concept of trust to an organizational psychologist rarely corresponds to the concept of trust held by a behavioral economist, or a cognitive neuroscientist, etc. Consequently, each of these disciplines tries to measure trust using their own methodologies, populations and metrics, resulting in little or no replication or validation of experimental results across disciplines. This lack of multidisciplinary collaboration also leads to a failure to attend to and incorporate new research findings on trust from other disciplines, which – if incorporated - might significantly advance our understanding of, and tools for assessing, trust and trustworthiness.

1.A.2 TRUST Program Overview

The overarching goal for the IARPA TRUST Program is to significantly advance the IC's capabilities to assess whom can be trusted under certain conditions and in contexts relevant to the IC, potentially even in the presence of stress and/or deception. The TRUST Program seeks to conduct high-risk, high-payoff research that will bring together sensing AND validated protocols to develop tools for assessing trustworthiness by using one's own ("Self") signals to assess another's ("Other") trustworthiness under certain conditions and in specific contexts, which can be measured in ecologically-valid, scientifically-credible experimental protocols.

The IARPA TRUST Program is expected to consist of three phases over a five year period. Phase 1 will be 24 months. Phases 2 and 3 are expected to be approximately

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trustworthiness, and trust propensity: A meta-analytic test of their unique relationships with risk taking and job performance. *Journal of Applied Psychology, 92*, 909-927; Lewicki, R. J., Tomlinson, E. C., & Gillespie, N. (2006). Models of interpersonal trust development: Theoretical approaches, empirical evidence, and future directions. *Journal of Management, 32(6)*, 991-1022.

[2] See for example Heckman, K. & Happel, M. (2006). Mechanical detection of deception: A short review. In R. Fein (Ed.). *Educing information: Science and art in interrogation - Foundations for the future*. Intelligence Science Board Study on Educing Information Phase 1 Report. Washington, DC: National Military Intelligence College Press.

24 months and 12 months, respectively. **This BAA solicits proposals for Phase 1 only.** Multiple awards are anticipated for Phase 1. Each award for Phase 1 is envisioned to consist of a one (1) year Base Period with a one (1) year Option Period. Near the conclusion of Phase 1, a separate solicitation is expected to be released that will address the next phase(s) of the program.

Phase 1 will sponsor technical and conceptual innovation in developing validated experimental protocols that measure, quantify, and assess different kinds of interpersonal trust and trustworthiness across different interactive, ecologically-valid contexts, to include dyadic and small group interactions in situations with high motivation and high perceived consequences. In short, Phase 1 will tackle the fundamental question that must be addressed first: "How does one design an experiment such that one knows, with high certainty, that what is being measured is trust (vice other phenomena), in contexts that are of real-world interest?"

In Phases 2 and 3 of the TRUST Program, some or all of the validated protocols developed during Phase 1 will be used to develop further tools (including new combinations of sensors and software that can be used outside of the laboratory) to detect and amplify useful signals in ourselves (the "Self") in order to more accurately predict trust and trustworthiness in others (the "Other").

1.A.3 Description of Desired Research

Performers in Phase 1 are expected to develop and test protocols with a rigorous scientific emphasis on model development, hypothesis formulation and testing, attention to experimental detail, and the incorporation of key variables listed below in Section 1.A.5. Because the protocols are intended to be used in Phases 2 and 3 to determine what combination of fieldable sensors can reliably detect trust and trustworthiness, the protocols developed in Phase 1 must be sensor- and facility-agnostic. This means the protocols may be validated using specific sensors or facilities, but the protocols must not require the actual use of those sensors or facilities in order to be run by others in other conditions. Indeed, many of the sensors that might be used in Phase 1 to validate the protocols may not be sensors that can or will be fielded in Phase 2.

Proposals should:

- demonstrate a solid understanding of the limitation(s) of models and tools currently used to test interpersonal trust and trustworthiness;
- clearly articulate the proposed protocols with a majority of the methodological details described, which may be later modified and updated as a result of the research process and experimental outcomes;
- describe the model(s) of trust that the specific protocols will test and the predicted neural, physiological, psychological, and behavioral signals;
- specify how key variables are incorporated and tested in the protocols;

- outline how the models/hypotheses and proposed protocols improve upon the state of the current research; and
- describe how the proposed protocols, if validated, will offer significant improvements in capabilities to measure interpersonal trust and trustworthiness outside of the laboratory.

1.A.3.a Definitions

- **Construct validity** refers to a protocol's ability to measure multiple distinct but related variables, which can confirm that one is in fact assessing a larger underlying concept (e.g. "trust") in a manner that gives us significant statistical power in explaining how and why people in certain conditions act as they do.

- **Ecological validity** refers to the ability to generalize a protocol's results to the behaviors that humans have outside of controlled laboratory conditions.

- **Face validity** refers to the general perception among researchers that a protocol tests what it claims to, i.e. it "looks" like it tests a specific phenomenon (e.g. "trustworthiness").

- **Protocol and protocols** refer throughout this BAA to one or more detailed plans and instructions for conducting an experiment or experiments. A protocol is like a recipe, in that it describes what experimental subjects will be asked to do, and specifies the experimental methods to be used and how to replicate them, including – but not limited to - what hypotheses are being tested, how participants will be recruited, what participants will be asked to do, instructions they will be given, sampling schedules, numbers of subjects, which (and how) key variables will be tested, control groups and steps to avoid researcher bias, post-experiment debriefings, etc. Note that while protocols often involve the use of specific sensors as part of their experimental design, protocols in Phase 1 are expected to be sensor- and facility-agnostic. Hence, a protocol may describe which sensors were used and at what time points in order to validate it, but the protocol itself should not require those sensors in order to be run. In other words, in this program, protocol refers primarily to what subjects are asked to do, separate from the sensors used to measure their signatures.

- **Retrodictive** refers to the analysis of collected data to infer or describe past events, state of affairs, or behaviors, which are thought to be related to the data and to have been occurring at the time that the data was collected. Retrodictive analysis is often used to test correlations among different variables, but generally is not – and should not be - used to determine valid, causal relationships. In this, it differs from analyses that are predictive.

- **"Self"** as a term will refer to individuals whose behavioral, psychological, neural, and physiological baselines can be developed in advance and can be used in specific contexts in order to provide signals that can assess the trustworthiness

of others. **"Other"** then refers to those individuals whose trustworthiness needs to be assessed by the Self, and in whom baselines and signals may be either more difficult to detect or less amenable to measurement. The terms are less relevant for Phase 1 than Phases 2 and 3 of the TRUST Program.

- **Signal** refers to any neural, physiological, psychological and/or behavioral activity or response that conveys information about trust and trustworthiness. Signals may include variations in specific measures, such as heart rate or trusting behaviors. They may also refer to outcomes of a psychometric test that, for example, might indicate that someone feels anxious when uncertain about whether or not they can trust someone. The definitions of the four signal domains below are intentionally broad so that Offerors can provide and justify specific definitions for each domain as well as the respective signals they propose to detect during each protocol. Note that these definitions are meant to provide a framework for the types of signals that should be examined for each measurement domain. However, representative signals are unlikely to occur independently of one another and such interactions should be accounted for in the proposed model(s), hypotheses, and protocols.

    - **Behavioral** - The observable actions or reactions of an organism in response to external and/or internal stimuli. Human behavioral signals can be voluntary or involuntary, explicit or subtle, and may result from either conscious or subconscious internal brain states.

    - **Neural** - Any signal that arises from the activity of the cells within the nervous system. Such signals may include, but not be limited to, electrical activity of neurons measured internal or external to the brain, changes in chemical substances produced by neurons or glia, or changes in cellular metabolism

    - **Physiological** - Signals that arise from the physical and chemical processes necessary to maintain an organism's homeostasis or adapt to its environment. This may include, but not be limited to, functions of the circulatory, respiratory, endocrine, or nervous systems.

    - **Psychological** – Signals that reflect the activity of the mind and the mental state of an organism, and are frequently assessed using "subjective measures"; i.e. someone's mental state in contrast to the physical state of their brain.

- **Tool and tools** refer throughout this announcement to anything that can be used as a means of accomplishing a task or purpose that may contribute to the larger program's objectives of knowing whom can be trusted and in what conditions. Hence tool can refer to things like specific experimental protocols or methods of combining certain kinds of sensors.

1.A.3.b Out of Scope

The following topics are considered out-of-scope for Phase 1 of the TRUST Program and proposals including or focusing on these areas will be considered to have significant weaknesses, which will negatively impact a proposal's evaluation:

1. Detecting deception, including, but not limited to, lie detection paradigms such as Guilty Knowledge and Comparison Question Tests
2. Large investments in new facilities or infrastructure, including but not limited to the purchase of expensive neuroimaging equipment such as machines for functional Magnetic Resonance Imaging (fMRI) or Magnetoencephalography (MEG).
3. Research that seeks to develop models and hypotheses retrodictively after data has been captured
4. Meta-analyses as a primary research tool
5. Pure social network analysis
6. Disease or pathology
7. Tangentially related concepts like "empathy"
8. Development of novel sensor technology

1.A.4 TRUST Program Technical Approach

TRUST is conceived as a multi-year, multi-phase research program that will emphasize different technical goals in different phases. The entire Program is envisioned to begin in the fourth quarter of Fiscal Year 2010 and end in FY 2015.

This BAA solicits proposals for Phase 1 only. Multiple awards are anticipated for Phase 1. Each award for Phase 1 is envisioned to consist of a one (1) year Base Period with a one (1) year Option Period. Near the conclusion of Phase 1, a separate solicitation is expected to be released that will address the next phase(s) of the program.

In order to maintain and build upon scientific rigor during such high-risk, high-payoff research, the TRUST Program has been divided into the following three phases, which span the total five-year period:

Phase 1, Years 1 – 2: Developing valid protocols

The lack of experimental protocols for assessing interpersonal trust and trustworthiness in a rigorously validated manner has been a significant impediment for advancing multi-disciplinary research into how, when, why, and to what degree humans trust – and assess others as being trustworthy. Common approaches using low-motivation, low consequence (risk/reward), anonymous, and often one-shot "games" like the trust game, Prisoner's Dilemma, or rapid assessment of pictures of people, have not been validated in terms of actually testing trust and trustworthiness. Additionally, research subjects for such games are often drawn from culturally homogenous or limited student populations. These limitations have

seriously hampered the generalizability of these and other protocols regarding signals related to trust and trustworthiness to other populations and contexts that may be more relevant for national security.

Phase 1 of the TRUST Program is therefore intended to develop experimental protocols that have face, construct, and ecological validity in terms of methodologically assessing one or more forms of interpersonal trust among dyads (two people) and small groups, under conditions that allow results to be generalized beyond the laboratory. As a result, protocols need to address and incorporate certain key variables that have commonly been excluded, overlooked, or only tangentially included in previous research on interpersonal trust. Some key variables are discussed below in Section 1.A.5. Note that some or all of the Phase 1 protocols may be used for further research in Phase 2, and as a result the protocols themselves cannot be proprietary. The Government requires unlimited rights to Phase 1 protocols. Proprietary claims to, or offers of less than unlimited rights in, Phase I protocols will be evaluated as a significant weakness in an Offeror's proposal.

The technical objectives for Phase 1 are designed to provide the IC with significant advances in being able to assess trust and trustworthiness by:

- Developing a set of non-proprietary experimental protocols, each based on one or more models of interpersonal trust and hypotheses of what neural, physiological, psychological, and behavioral signals will be detected among subjects during the protocols;
- Validating these protocols as testing trust and trustworthiness by detecting the presence or absence of those predicted signals among at least 80% of subjects within any protocol in order to experimentally delineate trust from other psychological constructs;
- Incorporating key variables in these protocols that will allow for generalizability of the data from these protocols to other, less controlled environments and different populations;
- Using these protocols to assess whether certain signals can be quantified to characterize different types of trust for different people and contexts;

The purpose of Phase 1 is to develop ecologically-valid, sensor-agnostic experimental protocols that improve upon current efforts to measure interpersonal trust in real-world environments, and that can provide scientifically-sound protocols for Phase 2 research that will seek to use fieldable sensors to detect signals in the Self that can reliably assess Others' trustworthiness. The purpose of Phase 1 is **not** to produce specific sensors or combinations of sensors, nor is it to assess the reliability of specific signals among subjects. Indeed, until a protocol has been validated as testing trust, simply focusing on the reliability of signals among subjects during that protocol cannot be said to advance our knowledge of useful signals of trustworthiness.

Phase 2 (future solicitation) Years 3-4: Detecting signals in the Self to reliably assess Others' trustworthiness

Phase 2 emphasis is anticipated to provide a proof-of-principle for detecting and amplifying the Self's signals to provide a reliable, valid assessment of Others' (single or plural) trustworthiness. Phase 2 will focus on fieldable sensors and reliable signals, using protocols validated in Phase 1 in order to be confident that we are measuring trust. Near the conclusion of Phase 1, and depending on success in achieving Phase 1 milestones and waypoints, future solicitation(s) are expected to be released for Phases 2 and 3 of the Program. Offerors for Phases 2 and 3 are not required to have been performers in Phase 1, nor does selection for Phase 1 guarantee selection for Phases 2 and 3.

Phase 2 is expected to have two sub-phases, with sub-phase A focusing on using validated protocols and fieldable sensors to collect and retrodictively identify signals in Selves that reliably assess Others' trustworthiness; sub-phase B will focus on using sensors and validated protocols to identify Selves' signals that actually predict Others' trustworthiness. Each sub-phase of Phase 2 will conclude with independent evaluations and experiments to assess the ability of the performers' sensors and algorithms to assess Others' trustworthiness to a highly significant degree of reliability and accuracy. Some of the key questions to be explored in Phase 2 will likely include (but will not be limited to):

- Can a Self's signals be a reliable, valid predictor of an Other's trustworthiness?
- Can non-, supra- and/or pre-conscious human assessment of trustworthiness be captured and processed in near real-time in order to accurately assess whom should and should not be trusted?
- Rather than attempt to work around or factor out individual variability, can we leverage this variability to identify people who in certain contexts and under certain conditions are capable of detecting and predicting with high accuracy who will, and who will not, behave in a trustworthy manner?
- Can such assessments be reliable in specific individuals across critical human and contextual variables (language, culture, time, stress, etc.)?

Phase 3 (future solicitation) Year 5: Technology Maturation and Demonstration

The final phase in the TRUST Program will focus on field-validation of promising technical advancements - developed in Phase 2 - within practical settings and scenarios, with further emphasis on making the tools (protocols, signals, sensors, software, calibration, and user interface) practical for real-world environments. Phase 3 is anticipated to involve one or more field demonstrations(s) of these tools, results of which will be delivered to IARPA.

1.A.5 Phase 1 Protocol Design and Key Variables

As discussed above in Section 1.A.4, the technical goal of Phase 1 of the TRUST Program is the development of non-proprietary protocols that have face, construct, and ecological validity in terms of testing interpersonal trust and trustworthiness. As part of the effort to achieve this goal, proposals should address a number of key variables and elements of protocol design, with specific emphases on how Offerors propose to define, justify, incorporate, and manage each of these. Offerors are expected to develop a minimum of two protocols, but may propose as many as are practical within the Offeror's time and resource constraints. Higher numbers of protocols, if sound and feasible, may positively impact a proposal's evaluations, but large numbers of proposed protocols that are deemed unfeasible or unrealistic given key constraints may negatively affect a proposal's evaluation.

The key variables and elements of design that Offerors should address include:

1.A.5.a: Model Development: Neural, Physiological, Psychological, and Behavioral Signals

All Offerors are expected to develop a model of trust to be tested in each protocol. A single model may be applicable to both protocols, or each protocol may test a different model. Each model should serve as the basis for hypotheses that will help to validate the protocol, using predicted signals across four measurement domains: neural, physiological, psychological, and behavioral. Each model - and its corresponding hypotheses that will be tested in a protocol - should be developed from a thorough review and analysis of existing literature and should be drawn from a variety of disciplines. Offerors are encouraged to develop models that integrate multiple levels of processing (cellular, systems, and behavior) and describe how these will interact to produce the proposed signals. Any protocol will be validated if, and only if, the proposed signals described in the model correspond to the signals that are measured **in all four measurement domains** (neural, psychological, physiological, and behavioral) in at least 80% of test subjects.

In proposing predicted signals in each domain, Offerors may establish – but should justify – their definitions of neural, psychological, physiological, and behavioral and why the predicted signals should be considered as falling into one domain rather than another. Offerors should include hypotheses about the general effect sizes of the predicted signals as part of their justification for choosing those signals. The TRUST Program is particularly interested in signals that are predicted to have medium- to large-effect sizes in terms of departure from baseline of each subject. However, note that, because Phase 1 is concerned with signal validity rather than signal reliability, hypotheses may predict signals in each specific domain without concern for predicting the direction or value of each signal within each subject or the significance level of a change across subjects in each signal.

1. A.5.b: Units of Analysis: Dyads and Small Groups

The units of analysis for the TRUST Program will be dyads and small groups. Offerors must propose protocols for both units of analysis, which may require developing more than one kind of protocol. The small groups can be of any size (i.e., three to n participants) but Offerors should specify and justify their proposed small group size, clarify how participants will interact, and perform analyses to determine the number of subjects that will be needed to perform adequately powered studies. The goal is to enhance construct and ecological-validity by having protocols that are based on models and hypotheses that take into account numbers of people and different manners by which they may interact.

1. A.5.c: Intercultural, Interpersonal Interactions

The decision to trust or not, or to trust to a certain degree (based in part on the perception of another's trustworthiness) may be shaped by cultural background, cultural models, and sociocultural experiences. All Offerors will be required to develop and conduct at least one of their required two protocols with subjects from at least two different cultures. Offerors should define "intercultural" and justify their definition. Offerors should specify to what degree their protocols will address and incorporate "intercultural interpersonal interaction," both in terms of how they have defined "intercultural" and what kinds of interaction participants will be asked to have during protocols. Additionally, Offerors should articulate their hypotheses as to how culture may influence their proposed model(s) and related validation measures in one or more protocols.

1.A.5.d. Male and Female Participants

The development of, and the decisions to, trust may vary across gender. These processes may change due to sex differences in biological factors, such as hormones or physiology, differences in processing of environmental and social stimuli, or differences in social and cultural patterns of gender-appropriate behavior. Additionally, individuals in dyads or groups that are homogeneous or heterogeneous for gender may develop and behaviorally express trust and trustworthiness differently. Offerors are required to develop and conduct at least one of their required two protocols in order to address male and female differences and propose analyses that will examine these differences. Offerors should articulate their hypotheses as to how gender may influence their proposed model(s) and related validation measures in one or more protocols.

1. A.5. e: High Motivation and Perceived Consequence(s) (risk/reward)

Protocols should create conditions that will sufficiently motivate participants to take seriously the decision to trust or not to trust. Subjects should understand that

there are significant consequences based on their assessments of trustworthiness and decisions to trust or distrust (and to what degree). Incentives should be more than just token amounts of money, or compensation for their research time, and might also involve risks/rewards that are not (or at least not solely) monetary but are meaningful to subjects. Additionally, the subjects' perception of risks, consequences, and experimental variables should be assessed to confirm protocol validity. Offerors may propose a range of potential incentives/consequences (monetary, social, etc.) that may be used in a single or multiple protocols, but should clearly specify why they believe their protocols' respective risk/reward structure(s) will be effective and feasible. Note that protocols must comply with Civil Liberties and Privacy Protection Measures below in Section 1.C. and human use protections outlined in Section 6.B.5.

1. A.5.f: Temporal Parameters

The development (or loss) of trust is an emergent and evolving phenomenon that may change within seconds, minutes, days, and over the course of multiple interactions. Offerors should address and incorporate this dynamism in their models, hypotheses, and protocols. Offerors may choose to examine different time intervals, but should propose models and develop protocols that are iterative, involving multiple interactions. Exact time parameters for each protocol may be specified by Offerors, and times at which certain signals will be assessed may vary and need not occur contemporaneously, but both parameters and time points of signal detection should be clearly described and justified. Consideration should be given to the shift in types of interpersonal trust over time, how trust may evolve differently with groups of varying size and composition, and corresponding signals that may change or adapt over the course of several interactions.

1. A.5.g: Protocol Segments and Instructions

Offerors should describe how they will design the different segments of the protocols, to include the preliminary steps of protocols such as contacting and enrolling participants, and providing instructions to the experimenters and subjects. Proposals should include explicit details of how experimenter bias will be avoided so it does not influence the participant responses and outcomes (e.g. specific wording or kinds of researcher interactions with subjects before, during, and after running each kind of protocol). If subject deception is involved, Offerors should articulate what kind of deception, how it will be involved, and why. Careful consideration should be given to instructions provided for intercultural interactions, interactions that will occur over different time periods or separated meetings, and interactions among groups of varying size. Offerors should also demonstrate their awareness of how different validation methods and tools may require additional instructions for experimenters and participants.

1. A.5.h: Sensor and Facility Agnostic

As specified in Phase 1's overarching research goals, Offerors should develop models and protocols that are sensor and facility agnostic. Offerors should not design protocols that require specific and/or unique sensors or facilities that are not widely available (i.e. proprietary or novel) and/or are difficult to obtain or reserve for use. While Offerors are expected to use specific sensors to confirm their models/hypotheses and the protocols' construct validity, the protocols – that is, what subjects are asked to do - must not require these sensors in order to be run as it is likely that Phase 2 will use different sensors with the protocols. Additionally, Offerors should note that a Government team will independently validate protocols in Phase 1 and this validation also may require the use of different sensors and/or facilities.

1.A.5.i: Plans for Institutional Review Board (IRB) Application/Approval Processes (see Civil Liberties and Privacy Protection Measures below in Section 1.C. and human use protections outlined in Section 6.B.5) & Draft IRB Submission Packet Requirement

Protocols should be designed to meet the specifications 1.A.5.a-h, but must also be able to gain approval from a local IRB to be identified by the Offeror, as well as a US Government IRB. Offerors should specify all relevant details such as the number, type, and treatment of subjects, to include special assurances for particular validation methods as appropriate. In their proposals, Offerors must specify a plan, including a timeline, for obtaining institutional IRB approval. Offerors' plans should also include formats and methods for transferring some of the data to an independent USG Validation team and appropriate techniques for safeguarding Personally Identifiable Information (PII) of subjects, including procedures to avoid accidental release of information.

Additionally, Offerors must include an appendix with their proposals that contains a completed draft IRB submission packet for each protocol. These should be drafts that Offerors intend to submit, pending modifications, to their local IRB should they be selected for funding. While only drafts, the packets in the appendix should contain AT A MINIMUM:

- Curricula Vitae, IRB training and IRB certifications of key personnel;
- a detailed description of the research plan;
- study populations and numbers of subjects;
- risks and benefits of study participation;
- recruitment process and materials;
- subject inclusion/exclusion criteria, screening procedures, and materials;
- consent process and forms;
- instructions provided to subjects and all interactions between personnel and subjects;
- monitoring, reporting and treatment of adverse events;

- if using an experimental drug/device, the Investigation New Drug or Investigational Device Exception number and filing date are provided;
- plans for data collection;
- sample materials used for data collection, including questionnaires or stimuli;
- plans for data analysis;
- privacy protections for subjects and data; and
- description of each research site, including research and medical facilities, researchers, and any other relevant personnel

Consult the designated IRB for further guidance. The informed consent document must comply with federal regulations (45 CFR Part 46 and 32 CFR 219.116).

The draft IRB submission packets do not count against the proposal page limits. In addition, IRB submission packets will not be evaluated. However, proposals received without an IRB submission packet may be deemed non-responsive to the solicitation and may not be evaluated or considered for award.

Offerors are not expected to have IRB approvals before the TRUST Program begins, and having pre-proposal IRB approval is NOT a requirement for submitting a proposal.

1.A.5.j. Major Elements Required for Protocol Design and Execution

Table 1 below offers a summary of some of the major elements that will be required of Protocol design and execution that Offerors should keep in mind when submitting Proposals. Offerors should be aware that this table is presented to be helpful for Offerors, but that this table is not exhaustive and Offerors are encouraged to read this entire solicitation to be sure their Proposals are responsive.

1.B Research Methodologies and Independent Validation

Offerors should clearly list and justify the data analysis approaches they propose to use, including statistical analysis methods and formats and methods they propose to use in presenting results of data analysis. Performers will be expected to provide their own laboratory facilities and tools (to include sensors) required to conduct the studies. Note that while the intent is to minimize sensor expenditures, Offerors may propose – but should justify - acquiring a particular sensor or group of sensors that provide the best value for the U.S. Government, IARPA, and the TRUST Program. Proposals should specify the exact ways and time points for which specific sensors and data collection methods will be used in the study, and should also describe data analysis techniques to be employed for each protocol and its respective sensors/subjects.

Table 1: Protocol Design	
Signals to Validate the Model	
Neural, Physiological, Psychological, and Behavioral Signals	Propose signals within all 4 measurement domains that are consistent with, and can be used to validate, the model and the protocol. Develop and justify definitions for each domain and substantiate their respective signals.
Key Variables	
Numbers of Protocols	Design at least two (2) different protocols, clearly articulating how each and every protocol will address and incorporate key variables.
Unit of Analysis	Develop protocols that will test trust in dyads and small groups, justifying the decisions as to how to define "small groups." Separate protocols may be required to analyze interactions in dyads and small groups of varying size. Offerors should perform analyses to determine the number of subjects that will allow for sufficiently powered statistical analyses.
Intercultural Interpersonal Interaction	Execute protocols involving interpersonal interactions between participants from at least 2 different cultures, justifying definitions of culture and interpersonal.
Gender	Develop protocols that involve heterogeneous or homogenous interpersonal interactions between and amongst males and females and justify decisions.
High Motivation and Perceived Consequence	Based on model(s), hypotheses, and constraints, create test conditions in which subjects are highly motivated to make genuine decisions to trust or not, based on the risks and rewards associated with different outcomes of that decision.
Temporal Patterns	Develop models and protocols that test trust over varying time periods, including days, justifying the timelines proposed.
Protocol Design and Plans for Execution	
Protocol Segments and Instructions	Provide comprehensive and concise details for setting up and running the protocols, including but not limited to: subject recruitment and directions provided to experimenters and participants, including modifications for key variables.
Sensor and Facility Agnostic	Develop protocols that are not dependent on a unique, hard to attain, or proprietary sensor or facility.
IRB Application/ Approval	Provide a plan to expeditiously obtain IRB approval in the proposal. Include draft protocol IRB submission packets as an appendix (appendix does not count against page limits but its absence may lead to the proposal being deemed non-responsive). The protocols should meet the requirements stated in this table and satisfy human use protections outlined in Sections 1.C and Section 6.B.5.
Data Analysis, Transfer, and Protection	Propose options for formats/methods for transferring data to independent USG Validation team and plans to use appropriate techniques for safeguarding Personally Identifiable Information (PII) of subjects, and to avoid accidental release of information.

Regardless of specific tools/sensors and methodologies, all study sample sizes should be sufficiently large to allow for valid statistical analysis, and Offerors should identify and justify in their proposals what sample sizes they will require. Offerors should calculate and indicate the number of participants needed for each protocol. If Offerors do not intend to have every participant in a protocol engage with every tool/sensor, they should clearly articulate and justify how many subjects will be required for each tool/sensor during a specific protocol, the process by which subjects will be selected to be tested using each tool/sensor from the total population of the protocol test subjects, and at what time point(s) during the protocol subjects will be measured with that tool/sensor.

All protocols **must** employ quantitative research methods. Qualitative methods may be used as an adjunct to inform the direction of the quantitative research, or to help interpret the results of the quantitative research.

IARPA intends to engage and leverage U.S. Government personnel (and facilities) as neutral third-parties who will provide independent technical validation and feedback to the TRUST Program Manager regarding performers' research methods, protocols, results, data analysis techniques, and conclusions. This Validation Team will be comprised of individuals with expertise in social, behavioral, and neuroscience research methods, to include computational and statistical analysis. Members of the Validation Team may accompany the Program Manager on all site visits and will attend all program reviews and program workshops. The Validation Team will require access to research designs, some data gathered for the research, and the analyses generated from the research. All data will be retained by the Validation Team for no longer than 12 months after the conclusion of the Period of Performance for the contract. The Validation Team will be engaged primarily to inspect data analysis techniques and conclusions, but – where appropriate and necessary - may re-analyze data and/or re-run certain aspects of specific protocols in order to confirm a protocol's face, construct, and ecological-validity.

<u>IARPA will not receive any raw data from researchers</u>. IARPA will not provide any U.S. Government personnel, facilities, or data to performers in Phase 1.

1.C Civil Liberties and Privacy Protection Measures

IARPA, and research funded by IARPA, must comply with all federal rules and regulations for research on human subjects[3], the privacy of U.S. persons as outlined in EO 12333, and other laws pertinent to research activities. Researchers must specify how they will address the following:

[3] Code of Federal Regulations, Title 45 — Public Welfare, Department of Health and Human Services , Part 46 Protection of Human Subjects.
http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm

1. Review and approval of the research method with their local Institutional Review Board[4], as well as headquarters-level human subjects regulatory review and approval by the Department of Defense (DoD) Contracting Agent (see Section 6.B.5 of this BAA for more information).

2. Informed consent must be obtained when data are acquired through intervention or interaction with an individual[5] (see also 32 CFR 219.116)[6].

3. Techniques that will be employed to adequately protect privacy and confidentiality[7].

The IARPA TRUST Program Manager, in consultation with the ODNI Civil Liberties and Privacy Office, will review research plans and progress on a minimum of an annual basis, with particular attention to the adequacy of the researchers' ongoing civil liberties and privacy protection measures.

<u>IARPA reserves the right to reject proposals that do not adequately address the safeguarding of privacy of human subjects.</u>

1.D Teaming

Achieving Phase 1 research goals is likely to require a highly multidisciplinary team with substantive collaboration among individuals, groups, and organizations with different skill sets, facilities, and capabilities. Offerors should carefully determine the diversity of resources that they will need to leverage in order to assure the highest probability of success in developing validated, sensor-agnostic protocols that incorporate key variables. Disciplines that are expected to be represented in proposals include, but are not limited to, psychology, cognitive neuroscience, economics, physiology, sociology, anthropology, applied mathematics, engineering, and physics. Offerors' teams should be strong in a number of areas, including: i) methodological design; ii) statistical analysis; iii) access to subjects of different genders from different cultures, with the ability to recruit, instruct, and debrief them in appropriate manners and in accordance with human subject protection regulations; iv) solid theoretical and practical grounding in the neural, physiological, psychological and behavioral domains in which Offerors are expected to predict and detect signals in subjects; v) specific sensor and measurement tools and software that are proposed by the team; vi) capabilities to detect signals across all four domains in subjects at single or multiple time points, and; vii) human subject research and IRB approval processes.

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[4] For example, see http://www.nsf.gov/bfa/dias/policy/hsfaqs.jsp 34

[5] http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm#46.102

[6] http://www.dtic.mil/biosys/downloads/32cfr219.pdf

[7]See http://www.hhs.gov/ohrp/humansubjects/guidance/ictips.htm

Offerors' teams should have all the capabilities necessary for success. In particular, teams should not rely on technical capabilities or data that they do not have access to, or that they cannot themselves produce or collect. Achieving the goals in accordance with the milestone schedule and the desired metrics may require a high throughput of subjects and potentially multiple iterations of one or more protocols using one or more sensors at multiple time points. Hence, it will often be appropriate to conduct research on more than one protocol at a time, and teams should have sufficient depth of resources in terms of labor, equipment, laboratory facilities, and appropriate human subject research resources.

Consistent with the matrix addressed under Section 4.B.1 below, Offerors' proposals should clearly explain the composition and organization of the team. Proposals should identify all of its key members along with their technical abilities and expected program contributions, with detailed tasking and references to associated milestones. There should be a single point of contact that represents the team in its contacts with IARPA. Additionally, IARPA should have visibility into, and access to, all components of the team and its activities.

Achieving Phase 1 goals will require team members to address many unexpected problems and overcome them in a short period of time. This will require effective channels of communication among the team members; therefore, interactions among team members, and mechanisms for facilitating these interactions, must be clearly defined and explained. Teams that are loose confederations of performers should not be offered.

1.E Research Milestones and Metrics

For Phase 1, the TRUST program has established a goal of developing a number of experimental protocols that have been validated as measuring one or more forms of interpersonal trust and trustworthiness. A protocol is considered valid when it has: a) been designed from a model or models with hypotheses that predict neural, psychological, physiological, and behavioral signals in people interacting in that protocol; b) incorporated key variables identified in 1.A.5; c) been run with sufficient numbers of people to allow valid statistical conclusions about those signals being consistent with the model of trust and trustworthiness that the protocol proposes to test; and d) predicted signals are detected in each of the four measurement domains in at least 80% of subjects undergoing that protocol.

The Government will use the following Program Milestones and Metrics to evaluate the effectiveness of proposed solutions in achieving the stated program objectives, and to determine whether satisfactory progress is being made to warrant continued funding of the program. These metrics are intended to bound the scope of effort, while affording maximum flexibility, creativity, and innovation in proposing solutions to the stated problem.

As described in Table 2, below, Program milestones will occur at Month 11 and Month 24, when performers will be expected to attend a Principal Investigator (PI) workshop and to present their data analysis, findings, lessons learned, conclusions, next steps, and to provide results, data and data analysis techniques to the USG Validation Team. Both PI workshops will be held over a one to two day period in the Washington Metropolitan Area (WMA). These reviews will provide IARPA, the TRUST Program Manager, and other program participants with each performer's technical progress, revised hypotheses and approaches, ongoing challenges, and mitigation strategies.

At 11 months, performers will be expected to measure four (4) predicted signals in all four measurement domains (neural, physiological, psychological, behavioral) in at least 80% of a sufficiently powered but limited cohort used in preliminary testing in at least two protocols. Performers will be expected to complete inferential statistical analysis to estimate protocol and predicated signal validity in a larger population. Offerors will be expected to propose the size and statistical characteristics of the group to be used for the 11-month milestone (see Section 1.B).

At 24 months, performers will be expected to have completed all of their proposed protocols, with predicted signals measured in at least 80% of subjects in each of the four measurement domains. Full validation of the protocols should be complete at this time, allowing IARPA to evaluate which, if any, protocols are most appropriate to transition to Phase 2 if the TRUST program is continued. Phase 1 final deliverables will be due by the end of the 24 month period.

Table 2: TRUST Milestones and Metrics			
Date	Milestone Description	Metric	Other Information
Month 11	Preliminary Data Analysis	Find 4 predicted signals in at least 80% of sufficiently powered, but limited cohort used in preliminary testing in at least two Protocols Complete inferential statistics to estimate protocol and signal performance in a larger population	Preliminary data and analysis presented at PI meeting Use results to assess progress of performers towards Program Phase 1 goal Offerors will be expected to propose the statistical parameters used to determine the group size to be used for the 11-month milestone (see Section 1.B)
Month 24	Final Validation of Protocols	Predicted signals found in at least 80% subjects in all 4 measurement domains of all protocols	All protocols completed Final data and analysis presented at PI meeting Evaluate performer achievement of Program Milestones and Metrics

In addition to the Program milestones described above, the TRUST Program will use waypoints to provide a measure of progress towards meeting the program milestones so that the Program Manager and program advisors can provide more effective guidance and assistance to performers; assess whether the Program as a whole is on the right path or whether Program-level and/or performer-specific correction is needed to ensure Program success; and provide opportunities to invite other appropriate US Government personnel and TRUST Program advisors to gain exposure to, and provide advice on, the technical progress of the TRUST Program. Because it is anticipated that each Offeror will propose different protocols, the TRUST Program expects Offerors to propose their own waypoints at 6-month intervals. For each proposed waypoint, Offerors should clearly describe its purpose in relation to the 11-month and 24-month milestones, and should propose both qualitative and quantitative metrics that will demonstrate progress towards meeting those milestones.

Within each Base and Option Period, the TRUST Program will have a site visit at the performer's facility or facilities, which will coincide with the 6 and 18 month waypoints.

Below are two examples of metrics for each waypoint. These are only a guide and waypoints and metrics should be developed for the specific research plan proposed by Offerors:

Month 6 Waypoint: Preliminary testing of protocol 1 and 2 underway.

- Quantitative Metric: At 6 months, facility A will have enrolled 50% of subjects from different cultures for each protocol and will have completed collecting preliminary data on X subjects in each protocol.
- Qualitative Metric: Facility A, during the 6 month Site Visit, will demonstrate at least one protocol to the TRUST team.
- Qualitative Metric: A report with Preliminary data analyses, a revised model(s), and next steps will be made available for USG Validation team.

Month 18 Waypoint: Validation of all protocols is approximately 75% complete.

- Quantitative Metric: At 18 months, facility A will have enrolled 100% of subjects for each protocol. Data collection on both protocols will be collected, all signals fully analyzed in at least one protocol, and found in 80% of subjects, and completed analysis being conducted on the remaining protocols.
- Qualitative Metric: Facility A, during the 18 month Site Visit, will demonstrate all the protocols to the TRUST team.
- Qualitative Metric: A report with data analyses completed by 18 months, any agreed upon revisions of models and remaining steps to complete work in Phase 1 will be made available for USG Validation team.

Figure 1 below provides a notional program timeline, including Program Milestones at Months 11 and 24, which should inform Offerors' research plans and proposed waypoints, milestones, and deliverables. Offerors should develop a similar, but more detailed timeline. Offerors' timelines should include, but not be limited to: a demonstration of the Offerors' capabilities and the running of all protocols (need not be simultaneous); the completion of IRB approval processes; recruitment of total numbers of subjects; preliminary data analysis and presentation of preliminary results; delivery of protocol data, details of analytical methods (to include hardware, software and algorithms), and data analyses to an independent USG Validation Team to be identified by the TRUST Program Manager; and others suggested by Offerors.

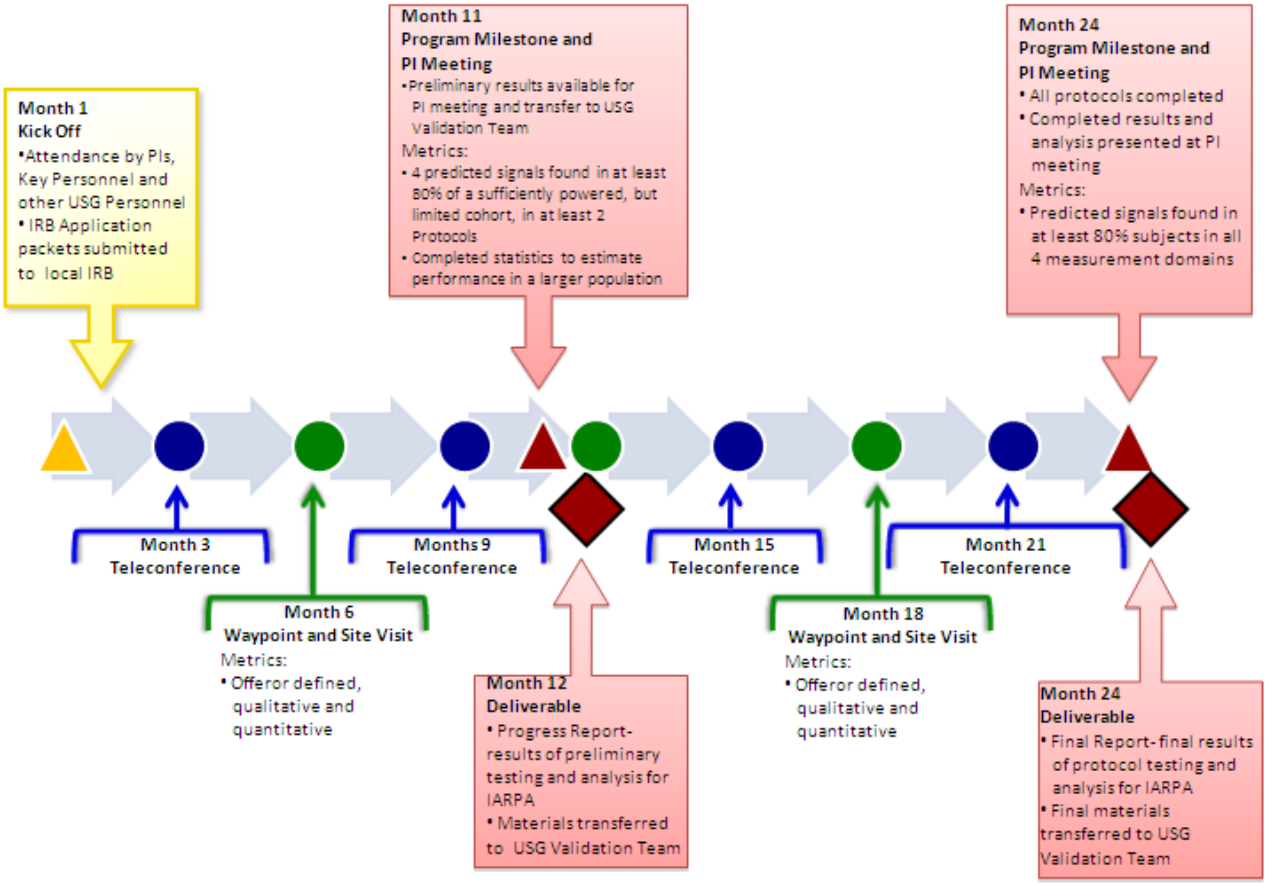
Offerors should include key deliverables in their timelines, which – at a minimum – must include monthly financial and technical reports, and two (2) full program reports of their work, one at the conclusion of the performance period of the Base Period (Month 12) and one at the conclusion of the Option Period (Month 24). The full program reports, which should collect and present in an accessible and logical format the performer's total activities and results to that point, will be delivered to the Contracting Agent, Contracting Officer Representative and the TRUST Program Manager. These reports will include:

- Purpose of Report
- Approaches taken to address central goals of TRUST Phase 1
- Description of protocols, including protocol designs and instructions
- Protocol details, including, but not limited to, equipment and facilities used, subject recruitment and instructions, multidisciplinary requirements, sampling schedules, numbers of subjects, which (and how) key variables are tested, control groups and steps to avoid researcher bias, subject debriefing, etc. This should include a description of which sensors were used, and at what time point, in order to validate the protocol, but should also detail how the protocol itself does not require those sensors in order to be run.
- Models that informed the protocols, including hypotheses, predicted signals and principal references from which the models were derived
- Data analysis and conclusions
- Lessons learned
- Possible generalization(s)/recommendations
- Anticipated path ahead

Note that further Contract Deliverables Requirements List (CDRL) issues will be addressed during the contract negotiation with Offerors who are selected for funding, and may include, but not be limited to: monthly financial/progress reports, interim publications and technical reports, additional full program reports, presentation materials, software, and algorithms.

Offerors should note that teleconferences will be scheduled at Months 3, 9, 15, and 21 to assess progress on meeting Program Milestones, waypoints, and metrics.

Figure 1: Notional TRUST Program Phase 1 Timeline



SECTION 2: AWARD INFORMATION

The TRUST Program is envisioned as a 5-year effort that is intended to begin in the 4th quarter of Fiscal Year 2010. Phase 1 of the Program will last 24 months; the Base Period is 12 months, with a 12-month Option Period.

This BAA will result in awards for Phase 1 only. Subject to the availability of funds and successful progress toward the overarching goals of the TRUST Program, Phases 2 (and possibly 3) will be awarded via a future solicitation that is expected to be released shortly before or after the conclusion of Phase 1.

Funding for the Phase 1 Option Period will be based upon performance during the Phase 1 Base Period, as well as TRUST program priorities, the availability of funds,

and IARPA priorities. Participants considered for funding in the Option Period will be those teams that have made significant progress in the first 12 months of Phase 1 and have correctly understood and contributed to the overarching goals of the Program. Teams that offer only minor enhancements to the current state of the art will not be invited to continue with the Program.

Multiple Phase 1 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 Offerors. The Government also reserves the right to conduct discussions if the Source Selection Authority determines them to be necessary. If the proposed effort is inherently divisible and nothing is gained from the aggregation, Offerors should consider submitting it as multiple independent efforts. Additionally, IARPA reserves the right to accept proposals in their entirety or to select only portions of proposals for award. In the event that IARPA desires to award only portions of a proposal, negotiations may be opened with that Offeror.

Awards under this BAA will be made to Offerors on the basis of the evaluation criteria listed in Section 5.A, program balance, and availability of funds. Proposals identified for negotiation may result in a procurement contract, grant, cooperative agreement, or other transaction agreement (OTA). However, the Government reserves the right to negotiate the type of award instrument it determines appropriate under the circumstance.

Offerors whose proposals are accepted for funding will be contacted before award to obtain additional information required for award. The Government may establish a deadline for the close of fact-finding and negotiations that allows a reasonable time for the award of a contract. Offerors that are not responsive to government deadlines established and communicated with the request may be removed from award consideration. Offerors may also be removed from award consideration should the parties fail to reach agreement on contract terms, conditions, and cost/price within a reasonable time.

2.A. Other Transaction Agreements (OTA)

In specific cases, Offerors may wish to suggest an Other Transaction for Research, which is a legal instrument, consistent with 10 U.S.C. 2371, which may be used when the use of a contract, grant, or cooperative agreement is not feasible or appropriate for basic, applied, and advanced research projects. The research covered under another transaction shall not be duplicative of research being conducted under an existing DOD program. To the maximum extent practicable, other transactions shall provide for a 50/50 cost share between the Government and the Offeror. An

Offeror's cost share may take the form of cash, independent research and development (IR&D), foregone intellectual property rights, equipment, or access to unique facilities, as well as others. Due to the extent of cost share, and the fact that an other transaction does not qualify as a "funding agreement" as defined at 37 CFR 401.2(a), the intellectual property provisions of an other transaction can be negotiated to provide expanded protection to an Offeror's intellectual property. No fee or profit is allowed on other transactions.

SECTION 3: ELIGIBILITY INFORMATION

3.A. Eligible Applicants

All responsible sources capable of satisfying the Government's needs may submit a proposal. Historically Black Colleges and Universities (HBCUs), Small Businesses, Small Disadvantaged Businesses and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals; however, no portion of this announcement will be set aside for these organizations' participation due to the impracticality of reserving discrete or severable areas for exclusive competition among these entities. Other Government Agencies, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), and any other similar type of organization that has a special relationship with the Government, that gives them access to privileged and/or proprietary information or access to Government equipment or real property, are not eligible to submit proposals under this BAA or participate as team members under proposals submitted by eligible entities.

To be eligible to submit proposals to the TRUST BAA, Offerors must have at least one team member that is a U.S. organization or institution.[8] Additionally, at least twenty percent (20%) of the key members of the team (as measured by FTEs) must be from this (these) U.S. organization(s) or institution(s). Foreign participants and/or individuals may participate to the extent that such participants comply with any necessary Non- Disclosure Agreements, Security Regulations, Export Control Laws and other governing statutes applicable under the circumstances.

3.A.1. Procurement Integrity, Standards of Conduct, Ethical Considerations and Organizational Conflicts of Interest (OCI)

"Organizational conflict of interest" means that because of other activities or relationships with other persons, a person is unable or potentially unable to render impartial assistance or advice to the Government, or the person's objectivity in

[8] "U.S. organization or institution" means any corporation, business association, partnership, trust, academic institution, society or any other entity or group that is incorporated or organized to do business in the United States. It specifically excludes any foreign corporation, business association, partnership, trust, academic institution, society or any other entity or group that is not incorporated or organized to do business in the United States, as well as international organizations, foreign governments and any agency or subdivision of foreign governments.

performing the contract work is or might be otherwise impaired, or a person has an unfair competitive advantage.

If a prospective Offeror, or any of its proposed subcontractor teammates, believes that a potential conflict of interest exists or may exist (whether organizational or otherwise), the Offeror should promptly raise the issue with IARPA and submit a waiver request by e-mail to the mailbox address for this BAA at dni-iarpa-baa-10-03@ugov.gov. All waiver requests must be submitted through the Offeror, regardless of whether the waiver request addresses a potential OCI for the Offeror or one of its subcontractor teammates. A potential conflict of interest includes, but is not limited to, any instance where an Offeror, or any of its proposed subcontractor teammates, is providing either scientific, engineering and technical assistance (SETA) or technical consultation to IARPA. In all cases, the Offeror shall identify the contract under which the SETA or consultant support is being provided. Without a waiver from the IARPA Director, neither an Offeror, nor its proposed subcontractor teammates, can simultaneously provide SETA support or technical consultation to IARPA and compete or perform as a Performer under this solicitation.

All facts relevant to the existence of the potential conflict of interest, real or perceived, should be disclosed in the waiver request. The request should also include a proposed plan to avoid, neutralize or mitigate such conflict. The Offeror shall certify that all information provided is accurate and complete, and that all potential conflicts, real or perceived, have been disclosed. It is recommended that an Offeror submit this request as soon as possible after release of the BAA before significant time and effort are expended in preparing a proposal. If, in the sole opinion of the Government, after full consideration of the circumstances, the conflict situation cannot be resolved, the request for waiver will be denied and any proposal submitted by the Offeror that includes the conflicted entity will be withdrawn from consideration for award.

As part of their proposal, Offerors who have identified any potential conflicts of interest shall include either an approved waiver signed by the IARPA Director, or a copy of their waiver request. Otherwise, Offerors shall include in their proposal a written certification that neither they, nor their subcontractor teammates, have any potential conflicts of interest, real or perceived. A sample certification is provided in Appendix D.

If, at any time during the solicitation or award process, IARPA discovers that an Offeror has a potential conflict of interest, and no waiver request has been submitted by the Offeror, IARPA reserves the right to immediately withdraw the proposal from further consideration for award.

Offerors are strongly encouraged to read IARPA's Approach to Managing Organizational Conflicts of Interest, found on IARPA's website at http://www.iarpa.gov/IARPA_OCI_081809.pdf.

3.B. U.S. Academic Organizations

According to Executive Order 12333, as amended, paragraph 2.7, "Elements of the Intelligence Community are authorized to enter into contracts or arrangements for the provision of goods or services with private companies or institutions in the United States and need not reveal the sponsorship of such contracts or arrangements for authorized intelligence purposes. Contracts or arrangements with academic institutions may be undertaken only with the consent of appropriate officials of the institution."

It is highly recommended that Offerors submit with their proposal a completed and signed Academic Institution Acknowledgement Letter for each U.S. academic organization that is a part of their team, whether the academic organization is serving in the role of prime, or a subcontractor or consultant at any tier of their team. A template of the Academic Institution Acknowledgement Letter is enclosed in this BAA at Appendix A. It should be noted that the completed form must be signed by an appropriate senior official from the institution, typically the President, Chancellor, Provost, or other appropriately designated official. Note that this paperwork **must** be completed before IARPA can enter into any negotiations with any Offeror when a U.S. academic organization is a part of its team.

3.C. Cost Sharing/Matching

Cost sharing is not required and is not an evaluation criterion; however, cost sharing will be carefully considered and may be required where there is an applicable statutory or regulatory condition relating to the selected award instrument (e.g., for any other transactions under the authority of 10 U.S.C. § 2371). Cost sharing is encouraged where there is a reasonable probability of a potential commercial application related to the proposed research and development effort.

3.D. Other Eligibility Criteria

3.D.1. Collaboration Efforts

Collaborative efforts and teaming arrangements among potential performers are strongly encouraged. Specific content, communications, networking and team formations are the sole responsibility of the participants.

SECTION 4: APPLICATION AND SUBMISSION INFORMATION

This notice constitutes the total BAA and contains all information required to submit a proposal. No additional forms, kits, or other materials are required.

4.A. Content and Form of Application Submission

4.A.1. White Paper and Proposal Information

The application process will have two stages as follows:

Stage 1 (White Papers) - Prospective Offerors are strongly encouraged, but not required, to submit white papers in advance of a full proposal. Offerors who choose not to submit a white paper may still submit a full proposal. The requesting of white papers is intended to minimize unnecessary effort in proposal preparation and review, and to enhance the quality of full proposals. Based on assessment of white papers, feedback will be provided to include IARPA's interest in the proposed activity and technical and/or management issues. Regardless of the Government response to a white paper, Offerors may choose to submit a full proposal. The Government will review all full proposals submitted using the published evaluation criteria and without regard to feedback resulting from the review of a white paper. White papers must be received by the time and date specified in section 4.C.1. in order to be reviewed.

Stage 2 (Full Proposals) – Interested Offerors are required to submit full proposals in order to receive consideration for funding. For further guidance regarding key issues to address when submitting a proposal, see the TRUST general guidance to Offerors on the IARPA website at www.iarpa.gov/solicitations_trust.html. All proposals submitted under the terms and conditions cited in this BAA will be reviewed regardless of the feedback on a White Paper.

Proposals must be received by the time and date specified in section 4.C.1. in order to be considered during the initial round of selections. IARPA may evaluate proposals received after this date for a period of up to one year from the date of initial posting on FedBizOpps. Selection remains contingent on availability of funds.

The typical proposal should express a consolidated effort that will meet the Program goals in a coherent manner. Disjointed efforts should not be included in a single proposal.

Offerors should submit proposals for a Base Period of 12 months plus a 12 month Option Period.

The Government intends to use employees of Booz Allen Hamilton and its sub-contractor, Avian Engineering LLC, to provide expert advice regarding portions of the proposals submitted to the Government. Booz Allen Hamilton and Avian Engineering LLC will also provide logistical support in carrying out the evaluation process. These personnel will have signed and be subject to the terms and conditions of non-disclosure agreements. Offerors must state in advance of submitting their proposal if they do not agree to allow proposal information to be disclosed to employees of these organizations for the limited purpose stated above. Only Government personnel will make evaluation and award determinations under this BAA.

All administrative correspondence and questions regarding this solicitation should be directed by e-mail to dni-iarpa-baa-10-03@ugov.gov. White papers and proposals must be mailed to the address provided in Section 4.C.2. White papers and proposals may **not** be submitted by hand, e-mail or fax; any such white papers or proposals received in this manner will be disregarded. See below for white paper and proposal submission instructions.

Offerors must submit two hard copies and one soft copy of their white papers and full proposals: one original hard copy with original signatures; one hard copy with original or copied signatures; and 1 electronic copy with Volume 1, Volume 2 and any permitted, additional information (.pdf format preferred) on a CD-ROM. Both hard copies and the CD must be clearly labeled with the following information for Proposals and White Papers: IARPA-BAA-10-03, the Offeror's organization, the proposal/white paper title (short title recommended), and copy # of #. Nonconforming white papers and proposals may be rejected without review.

Please note that reviewers receive the electronic copy submitted by CD. Hard copies are only for archival purposes. In case of inconsistencies between the hard copy and the electronic copy, the electronic copy takes precedence.

4.A.2. Proposal White Paper Format

Proposal white papers are encouraged in advance of full proposals in order to enable Offerors to present a description of their idea/concept, its technical merit, and its relevance to the Program prior to submitting a full proposal. In the white paper, the Offeror should articulate the innovative concept and technology needed with respect to demonstrable metrics.

Proposal white papers should follow the same general format as described in Section 4.B.1. "Format of Volume 1, Technical and Management Proposal" (see below), but include ONLY Sections 1 and 2. The cover sheet should be clearly marked "PROPOSAL WHITE PAPER" and the total length shall not exceed 10 pages, excluding cover page and official transmittal letter. All pages shall be printed on 8-1/2 by 11 inch paper with type not smaller than 12 point. Smaller font may be used for figures, tables and charts. The page limitation for proposal white papers includes all figures, tables, and charts. An official transmittal letter for the white paper is required with the white paper submission. Academic Institution Acknowledgement Letter(s) or OCI waiver/certification are not required for abstract submissions. All proposal white papers must be written in English.

4.A.3. Proposal Format

All proposals must be in the format given below. Nonconforming proposals may be rejected without review. Proposals shall consist of two volumes: "Volume 1 - Technical and Management Proposal" and "Volume 2 - Cost Proposal." All pages

shall be printed on 8-1/2 by 11 inch paper with type not smaller than 12 point. Smaller fonts may be used for figures, tables and charts. The page limitation stated in Section 4.B.1 for Volume 1 of full proposals includes all figures, tables and charts. All pages must be numbered. Unnecessarily elaborate brochures or presentations beyond what is sufficient to present a complete and effective proposal are not acceptable and will be discarded without review.

4.A.4.Proposal Classification

The Government anticipates that proposals submitted under this BAA will be unclassified. In the event that an Offeror chooses to submit a classified proposal or submit any documentation that may be classified, the submissions must be appropriately marked and submitted in accordance with Section 6.B.1, below.

4.B. Proposal Content Specifics

Each proposal submitted in response to this BAA shall consist of the following:

Volume 1 – Technical & Management Proposal
Section 1 - Cover Sheet & Transmittal Letter
Section 2 – Summary of Proposal
Section 3 – Detailed Proposal
Section 4 – Additional Information

Volume 2 – Cost Proposal
Section 1– Cover Sheet
Section 2 – Detailed Estimated Cost Breakdown

4.B.1. Volume 1, Technical and Management Proposal {Limit of 30 pages}

Volume 1, Technical and Management Proposal may include attached references of relevant published technical papers which document the technical ideas and approach on which the proposal is based. A list of definitions may also be attached defining acronyms and symbols in the document. This can be helpful to the reviewers unfamiliar with some of the detailed terminology associated with a given technology. These materials are referenced by reviewers at their discretion. The submission of other supporting materials along with the proposal is strongly discouraged and will not be considered for review.

Offerors must include an appendix with their full proposals that contains a completed draft IRB submission packet for each protocol as described in Section 1.A.5.i. **IRB submission packets will not be evaluated. However, proposals received without an IRB submission packet may be deemed non-responsive to the solicitation and may not be evaluated or considered for award.**

Volume 1 shall not exceed 30 pages, not including the cover sheet, transmittal letter, signed Academic Institution Acknowledgement Letter(s) if required, OCI waiver/certification letter, bibliography, the list of definitions, draft IRB submission Packets, and/or relevant technical papers. *Any pages exceeding this limit will be removed and not considered during the evaluation process.* Full proposals must be accompanied by an official transmittal letter. All full proposals must be written in English.

Section 1: Cover Sheet & Transmittal Letter

A. Cover sheet: (see Appendix B for template)

(1) BAA number

(2) Lead organization submitting proposal

(3) Type of business, selected among the following categories: "LARGE BUSINESS", "SMALL DISADVANTAGED BUSINESS", "OTHER SMALL BUSINESS", "HBCU", "MI", "OTHER EDUCATIONAL", OR "OTHER NONPROFIT"

(4) Contractor's reference number (if any)

(5) Other team members (if applicable) and type of business for each

(6) Proposal title

(7) Technical point of contact to include: title, first name, last name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available)

(8) Administrative point of contact to include: title, first name, last name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available)

(9) OCI waiver or certification letter [see Section 3.A.1.]

(10) Are one or more U.S. Academic Organizations part of your team? Yes/No

(10a) If Yes, are you including an Academic Institution Acknowledgement Statement with your proposal for each Academic Organization that is part of your team? Yes/No

(11) Total funds requested from IARPA and the amount of cost share (if any)

(12) Date proposal was submitted.

(13) Appendix containing draft IRB submission packets

B. Official Transmittal Letter.

Section 2: Summary of Proposal

Section 2 shall provide an overview of the proposed work as well as introduce associated technical and management issues. This section shall contain a technical description of and technical approach to the research as well as a succinct portrayal of the uniqueness and benefits of the proposed work. It shall make the technical objectives clear and quantifiable and shall provide a project schedule with milestones ("waypoints"), metrics, definite decision points and endpoints. Offerors must address:

A. 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(es) relative to the state-of-the-art and alternative approaches. It should demonstrate the Offeror's knowledge of current limitations in these areas of research and describe how the Offeror's approach will significantly improve upon current approaches and advance relevant areas of research.

B. Summary of the products, transferable technology and deliverables associated with the proposed research results. Measurable deliverables should be defined that show progress toward achieving the stated Program Milestones. 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. Should no proprietary claims be made, Government rights will be unlimited. Note that some or all of the Phase 1 protocols may be used for further research in Phase 2, and as a result the protocols themselves cannot be proprietary. The Government requires unlimited rights to Phase 1 protocols. Proprietary claims to, or offers of less than unlimited rights in, Phase I protocols will be evaluated as a significant weakness in an Offeror's proposal.

   Among other deliverables to be proposed by Offerors, Offerors should include in this section (2) full program reports of their work, one at the conclusion of the performance period of the Base Period (Month 12) and one at the conclusion of the Option Period a (Month 24) as described in Section 1.E.

   Please note that further Contract Deliverables Requirements List (CDRL) issues will be addressed during the contract negotiation and may include, but not be limited to: monthly financial/progress reports, interim publications and technical reports, additional full program reports, presentation materials, software, and algorithms.

C. Schedule and milestones for the proposed research, including overall estimates of cost for each task. Summarize, in table form, the cost, schedule and milestones for the proposed research, including estimates of cost for each deliverable, total cost and company cost share, if applicable. Do not include proprietary information with the milestones.

D. Overview of the technical approach and plan. Technical rationale, technical approach and constructive plan for accomplishing the technical goals that realize the innovative claims and deliverables. (This section will be supplemented with a more detailed plan in Volume 1, Section 3 of the proposal.) This section should also include a description of any key equipment that Offerors propose to use, such as neuroimaging equipment, psychometric tests, mobile physiological monitoring, etc.

E. Related research. General discussion of other research in this area and its relation to the proposed research approach.

F. Project contributors. Offerors must include a clearly defined organizational chart of all anticipated project participants, their countries of citizenship, and their roles in the project. To be eligible to submit proposals to the TRUST BAA, Offerors must have at least one team member that is a U.S. organization or institution. Additionally, at least twenty percent (20%) of the key members of the team (as measured by FTEs) must be from this (these) U.S. organization(s) or institution(s). Foreign participants and/or individuals may participate to the extent that such participants comply with any necessary Non- Disclosure Agreements, Security Regulations, Export Control Laws and other governing statutes applicable under the circumstances.

Accompanying this chart, Offerors will provide brief biographical sketches of key personnel and significant contributors and a detailed description of the roles that contributors (including Principal Investigator(s)) will play based on their qualifications and on their level of effort in each year of the Program. Discussion of the teaming strategy among team members shall be included. If the team intends to use consultants, they must be included in the organizational chart as well. Indicate if the person will be an "individual" or "organizational" consultant (that is, will the consultant represent himself/herself or his/her organization). In both cases, the organizational affiliation should be identified.

The consultant should make a written commitment to be available to the team; the commitment should be attached to the Cost Volume. It is expected that all personnel, other than consultants, listed on the proposal will devote no less than 20% of their time to the Program If any participant is scheduled for less than 20% of his/her time, the Offeror will provide a clear and compelling justification as to how benefit can be gained from that person's participation at the specified level of effort.

A chart, such as the following, is suggested:

Participants	Citizenship	Org	Role	Unique, Relevant Capabilities	Specific Task(s) / Contributions	Time Commit-ment
John Doe	USA	ABC University	PI/Key Personnel	Behavioral scientist	Protocol design	20%
John Doe, III	UK	XYZ University	Co-PI/Key Personnel	Social scientist	Protocol design	25%
Jane Doe	UK	QRS University	Significant Contributor	Psycho-physiologist	Signal processing	50%
Wayne Roe	PRC	NOP Inc.	Significant Contributor	Applied Mathematician	Data analysis	40%
Jane Roe	ROK	JKL Inc.	Contributor	Computer Programmer	Software Development	25%
John Doe, Jr.	France	DEF Inc.	Key Personnel	Engineer	Sensor array	20%
John Doe, IV	Japan	XYZ LLC	Consultant (Individual)	Fill in as appropriate	Fill in as appropriate	200 hours

Section 3: Detailed Proposal Information

This section of the proposal shall provide the detailed, in-depth discussion of the proposed research. Specific attention must be given to addressing both the risks and payoffs of the proposed research and why it is desirable for IARPA to pursue. This part shall provide:

A. Statement of Work (SOW) - Clearly define the technical tasks and sub-tasks to be performed, their durations and the dependencies among them. For each task and sub-task, provide:
   - A general description of the objective;
   - A detailed description of the approach to be taken, developed in an orderly progression and in enough detail to establish the feasibility of accomplishing the goals of the task;
   - Identification of the primary organization responsible for task execution (prime, sub-contractor, team member, etc.), including each participant's name and country of citizenship;
   - The exit criteria for each task/activity, i.e., a product, event or milestone that defines its completion; and,
   - Definition of all deliverables (e.g., data, detailed protocols, software, etc.) to be provided to the Government in support of the proposed research tasks/activities.

Note: Do not include any proprietary information in the SOW.

At the end of this section, provide a Gantt chart, showing all the tasks and sub-tasks on the left with the performance period (in quarters) on the right. All milestones and waypoints should be clearly labeled on the chart.

B. A detailed description of the objectives, scientific relevance, technical approach and expected significance of the work. The key elements of the proposed work should be clearly identified and related to each other. Proposals should clearly detail the technical approach(es) and method(s) that will be used to meet or exceed each program milestone and should provide ample justification as to why the proposed approach(es) and method(s) are feasible. Any anticipated risks should be described and possible mitigations proposed. General discussion of the problem without specific detail about the technical implementation will result in an unacceptable rating.

C. State-of-the-art. Comparison with other on-going research, highlighting the uniqueness of the proposed effort/approach and differences between the proposed effort and the current state-of-the-art clearly stated. Identify the advantages and disadvantages of the proposed work with respect to potential alternative approaches.

D. Data sources: Identification and description of human subject populations, data sources, and data analysis methodologies. This section must identify and describe the data sources, populations, and methodologies to be utilized in pursuit of the current project research goals. Explain clearly how the data and populations selected will be an appropriate and adequate set for exploring the research topic being proposed. Documentation must be well written and logical; claims for exemptions from Federal regulations for human subject protection must be accompanied by a strong defense of the claims. Note that final determination of whether any proposed research can be considered exempt is the responsibility of appropriate IRBs. *The Government reserves the right to reject a proposal if it does not appropriately address data sources.*

E. Description of the deliverables associated with the proposed research results, enhancing that of Volume 1, Section 2: Summary of Proposal. Deliverables defined in the statement of work (Section 3.A, above), should be expanded upon in order to show progress toward achieving the stated Program Milestones. Deliverables should be specified at months 6 and 12 of the Base Period and at months 18 and 24 for the Option Period. Describe the proposed approach to intellectual property rights, together with supporting rationale of why this approach offers the best value to the Government. This section should include a list of technical data, computer software or computer software documentation associated with this research effort in which the Government will acquire less than unlimited rights. Should no proprietary claims be specified here, Government rights will be unlimited. (See also Section 6.B.3, Intellectual Property.) Note that some or all of the Phase 1 protocols may be used for further research in Phase 2, and as a result the protocols themselves

cannot be proprietary. The Government requires unlimited rights to Phase 1 protocols. Proprietary claims to, or offers of less than unlimited rights in, Phase I protocols will be evaluated as a significant weakness in an Offeror's proposal.

F. Cost, schedule, milestones. Cost, schedule, and milestones for the proposed research, including estimates of cost for each deliverable delineated by the primes and major sub-contractors, total cost, and company cost share, if any. 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. The milestones must not include proprietary information.

G. Offeror's previous accomplishments. Discuss previous accomplishments and work in this or closely related research areas and how these will contribute to and influence the current work. The discussion of these results should be concise. Additional material that is relevant to the proposal may be provided in the supporting material, as described in Volume 1, Section 4, below.

H. Facilities. Provide a detailed description of the facilities and site(s) that will be used for protocol execution and validation, to include computational and experimental resources. This section should also include a description of any key equipment that Offerors propose to use, such as neuroimaging equipment, psychometric tests, mobile physiological monitoring, etc.

I. Detailed Management Plan. The Management Plan should identify both the organizations and the individuals within those organizations that make up the team and delineate the expected duties, relevant capabilities and task responsibilities of team members and expected relationships among team members. Expected levels of effort (percentage time or fraction of an FTE) for all key personnel and significant contributors should be clearly noted. A description of the technical, administrative and business structure of the team and the internal communications plan should be included. Project/function/sub-contractor relationships (including formal teaming agreements), Government research interfaces, and planning, scheduling, and control practices should be described. The team leadership structure should be clearly defined. Provide a brief biography of the key personnel (including alternates, if desired) who will be involved in the research along with the amount of effort to be expended by each person during the year. It is expected that all personnel listed on the proposal, excluding consultants, will devote no less than 20% of their time to the Program. If any participant is scheduled for less than 20% of his/her time, the Offeror will provide a clear and

compelling justification as to how benefit can be gained from that person's participation at the specified level of effort.

J. Resource Share. Include the type of support, if any, the Offeror might request from the Government, such as facilities, equipment or materials, or any such resources the Offeror is willing to provide at no additional cost to the Government to support the research effort. Cost sharing is not required from Offerors and is not an evaluation criterion, but is encouraged where there is a reasonable probability of a potential commercial application related to the proposed research and development effort.

K. Other Funding Sources. The names of other federal, state or local agencies or other parties receiving the proposal and/or currently or previously funding the proposed effort. If none, so state

Section 4: Additional Information

A brief bibliography of relevant technical papers and research notes (published and unpublished) which document the technical ideas on which the proposal is based. Copies of not more than three (3) relevant papers may be included in the submission. A list of definitions may also be attached defining acronyms and symbols in the document. This information does not contribute to the page count of Volume 1.

4.B.2. Volume 2: Cost Proposal {No Page Limit}

Section 1: Cover Sheet (See Appendix C for template)

(1) BAA number;
(2) Lead organization submitting proposal
(3) Type of business, selected among the following categories: "LARGE BUSINESS", "SMALL DISADVANTAGED BUSINESS", "OTHER SMALL BUSINESS", "HBCU", "MI", "OTHER EDUCATIONAL", OR "OTHER NONPROFIT"
(4) Contractor's reference number (if any)
(5) Other team members (if applicable) and type of business for each
(6) Proposal title
(7) Technical point of contact to include: title, first name, last name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available)
(8) Administrative point of contact to include: title, first name, last name, street address, city, state, zip code, telephone, fax (if available), and electronic mail (if available)

(9) Award instrument requested: cost-plus-fixed-fee (CPFF), cost-contract—no fee, cost sharing contract – no fee, grant, cooperative agreement, other transaction or other type of procurement contract (specify)
(10) Place(s) and period(s) of performance
(11) Total proposed cost separated by basic award and option(s) (if any)
(12) Name, address, telephone number of the Offeror's Defense Contract Management Agency (DCMA) administration office or equivalent cognizant contract administration entity, if known
(13) Name, address, telephone number of the Offeror's Defense Contract Audit Agency (DCAA) audit office or equivalent cognizant contract audit entity, if known
(14) Date proposal was prepared
(15) DUNS number
(16) TIN number
(17) Cage Code
(18) Proposal validity period [minimum of 90 days]

[NOTE: See Appendix B for Cover Sheet Template]

Section 2: Detailed Estimated Cost Breakdown

(1) Total cost broken down by major cost items (direct labor, including labor categories; sub-contracts; materials; other direct costs, overhead charges, etc.) and further broken down by major task and phase
(2) Major program tasks by fiscal year
(3) An itemization of major subcontracts and equipment purchases
(4) An itemization of any information technology (IT[9]) purchase
(5) A summary of projected funding requirements by month
(6) The source, nature and amount of any industry cost-sharing
(7) Identification of pricing assumptions that may require incorporation into the resulting award instrument (e.g., use of Government Furnished

[9]IT is defined as "any equipment, or interconnected system(s) or subsystem(s) of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by the agency. (a) For purposes of this definition, equipment is used by an agency if the equipment is used by the agency directly or is used by a contractor under a contract with the agency which – (1) Requires the use of such equipment; or (2) Requires the use, to a significant extent, or such equipment in the performance of a service or the furnishing of a product. (b) The term "information technology" includes computers, ancillary, software, firmware and similar procedures, services (including support services), and related resources. (c) The term "information technology" does not include – (1) Any equipment that is acquired by a contractor incidental to a contract; or (2) Any equipment that contains imbedded information technology that is used as an integral part of the product, but the principal function of which is not the acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. For example, HVAC (heating, ventilation, and air conditioning) equipment, such as thermostats or temperature control devices, and medical equipment where information technology is integral to its operation, is not information technology."

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

The prime contractor is responsible for compiling and providing all subcontractor proposals for the Procuring Contracting Officer (PCO). Subcontractor proposals should include Interdivisional Work Transfer Agreements (ITWA) 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. NOTE: For IT and equipment purchases, include a letter stating why the Offeror cannot provide the requested resources from its own funding.

Supporting cost and pricing information must be provided in sufficient detail to substantiate the summary cost estimates in Volume 1 above. Include a description of the method used to estimate costs and supporting documentation. All proprietary subcontractor proposal documentation, prepared at the same level of detail as that required of the prime, shall be made immediately available to the Government, upon request, under separate cover (i.e., mail, electronic/email, etc.), either by the Offeror or by the subcontractor organization.

All Offerors requesting another transaction award instrument must include a detailed list of payment milestones. Each such payment milestone must include the following: milestone description, exit criteria, due date, milestone payment amount (to include, if cost share is proposed, contractor and government share amounts). It is noted that, at a minimum, such payable milestones should relate directly to accomplishment of technical milestones, waypoints, and associated metrics as defined in the Offeror's proposal. Agreement type, fixed price or expenditure based, will be subject to negotiation by the Government; however, it is noted that the Government prefers use of fixed price payable milestones to the maximum extent possible. Do not include proprietary data.

Consultant letter(s) of commitment should be attached to the Cost Volume and estimated costs should be included in the cost estimates.

4.C. Submission Details

4.C.1. Due Dates

White papers must be received at or before 5:00 p.m. local time on March 17, 2010 in order to be evaluated during the white paper phase. Full proposals must be received at or before 5:00pm local time on May 12, 2010 in order to be considered during the initial round of selections.

4.C.2. White Paper and Full Proposal Delivery

The white paper and full proposal (one original hard copy with original signatures; one hard copy with original or copied signatures; and 1 electronic copy with Volume 1, Volume 2 and any permitted, additional information (.pdf format preferred) on a CD-ROM), must be delivered to:

ODNI/IARPA
Attention: Dr. Adam Russell
Gate 5
1000 Colonial Farm Road
McLean, VA 22101

IMPORTANT: Deliveries must be made using one of the following commercial delivery services: UPS, FedEx or DHL (**NOT** United States Postal Service (USPS). Failure to use one of these methods may jeopardize or delay delivery of proposals. Note that under certain "same day delivery" options, UPS, FedEx and DHL may subcontract out their services to local delivery companies. These smaller local delivery companies will not be allowed access to this address to make deliveries. For this reason and other unforeseen situations, Offerors should track their submission to ensure final delivery. Deliveries by hand, e-mail or fax will not be accepted.

Offerors must ensure the timely delivery of their proposals. The mail facility closes at 5 p.m. local time; delivery cannot take place after this time until the following day. IARPA will generally acknowledge receipt of complete submissions via e-mail within 24-48 hours and assign control numbers that should be used in all further correspondence regarding white papers or proposals. To be certain of delivery, however, it is suggested that a tracking number be obtained from the carrier.

Offerors are required to submit proposals by the time and date specified in the BAA in order to be considered during the initial round of selections. IARPA may evaluate proposals received after this date for a period up to one year from the date of initial posting on FedBizOpps. Selection remains contingent on availability of funds.
Failure to comply with the submission procedures may result in the submission not being evaluated.

SECTION 5: APPLICATION REVIEW INFORMATION

5.A. Evaluation Criteria

The criteria to be used to evaluate and select proposals for this Program BAA are described in the following paragraphs. Because there is no common statement of work, each proposal will be evaluated on its own merits and its relevance to the Program goals rather than against other proposals responding to this BAA. Specific

details about the evaluation criteria are provided below, in descending order of importance.

5.A.1. Overall Scientific and Technical Merit

Overall scientific and technical merit of the proposal is substantiated, including unique and innovative methods, approaches, and/or concepts. The Offeror clearly articulates an understanding of trust, trustworthiness, and the specific considerations required to measure those concepts in order to establish face, construct, and ecological validity. This Offeror articulates a clear understanding of the limitations of current approaches, as well as how the proposed approach(es) will improve upon the current state of practice. The technical approach is credible, and the Offeror includes a clear assessment of primary risks and a means to address them, including power analysis, subject recruitment and screening, and specific protocol design/execution risks. The Offeror can expect the selection process to include an assessment of the proposal against the state-of-the-art.

5.A.2. Effectiveness of Proposed Work Plan

The feasibility and likelihood that the proposed approach for satisfying the Program's milestones and metrics are explicitly described and clearly substantiated along with risk mitigation strategies for achieving stated milestones and metrics. The proposal reflects a thorough understanding of the Program metrics, and the statistical confidence with which they should be achieved. The Offeror has proposed waypoints with quantitative and qualitative metrics at no more than 6-month intervals to facilitate Government reviews. Such waypoints are clearly traceable to the program milestones. The stated schedule addresses milestones and metrics for a 12-month Base Period, as well as an optional 12-month Option Period. Offerors have included the IRB process and approvals on their timeline and addressed how they would mitigate the impact of changes in expected IRB approvals on their proposed research timeline. Milestones are identified for the appropriate transition of materials to independent Government validators. The schedule to achieve the milestones is realistic and reasonable.

The role and relationships of prime and sub-contractors are clearly delineated with all participants fully documented. Work plans demonstrate the ability to provide full Government visibility into and interaction with key technical activities and personnel; and a single point of responsibility for contract performance. Work plans must also demonstrate that key personnel have sufficient time committed to the Program to accomplish the described Program roles.

The requirement for and the anticipated use or integration of Government Furnished Property (GFP) including all equipment, facilities, information, etc., is fully described including dates when such GFP, GFE (Government Furnished Equipment), GFI (Government Furnished Information) or other similar Government-provided resources will be required.

The Offeror's proposed intellectual property and data rights are consistent with the Government's stated goals, and the Government's need to be able to communicate Program information across Government organizations and to support transition of the Program results to Intelligence Community users at a reasonable cost.

5.A.3. Contribution and Relevance to IARPA Mission and TRUST Program Goals

The proposed approach meets the letter and intent of the TRUST program goals and all elements within the proposal exhibit a comprehensive understanding of the problem, as well as of the limitations of currently employed approaches to assessing trust and evaluating trustworthiness. The Offeror clearly addresses how the proposed effort will meet and progressively demonstrate progress towards accomplishing the TRUST Program goals. The Offeror describes how the proposed solution contributes to IARPA's mission to invest in high-risk/high-payoff research. The proposed approach to intellectual property rights offers the best value to the Government.

5.A.4. Relevant Experience and Expertise

The Offeror's capabilities, related experience, facilities, techniques, or unique combination of these which are integral factors for achieving the proposal's objectives will be evaluated, as well as qualifications, capabilities, and experience of the proposed principal investigator, team leader, and key personnel critical in achieving the proposal objectives. Time commitments of key personnel must be sufficient for their proposed responsibilities in the effort. It is expected that all personnel listed on the proposal, excluding consultants, will devote no less than 20% of their time to the Program.

The proposed personnel should have sufficient expertise to substantively contribute to the proposed work. The proposed representation of scientific disciplines is sufficient and appropriate for the research challenge. Existing facilities (e.g. lab space, equipment, outdoor test range) should be sufficient to support the proposed effort. Purchase of new large-scale validation equipment (fMRI, etc.) and facility construction or renovation should not be proposed.

5.A.5. Cost Realism

The proposed costs are reasonable and realistic for the work proposed. Estimates are "realistic" when they are neither excessive nor insufficient for the effort to be accomplished. The estimates cover costs of research, personnel, facility use, and other costs such as travel and/or IRB-related costs. The proposal documents all anticipated costs including those of associate, participating organizations. The

proposal demonstrates that the respondent has fully analyzed budget requirements and addressed resulting cost risks. Other sponsors who have funded or are funding this Offeror for the same or similar efforts are identified. The Government shall evaluate how well all cost data are traceable and reconcilable.

IARPA recognizes that undue emphasis on cost may motivate Offerors 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. IARPA discourages such cost strategies. Cost reduction approaches that will be received favorably include innovative management concepts that maximize direct funding for technology and limit diversion of funds into overhead.

After selection and before award, the Contracting Officer will negotiate cost/price reasonableness.

5.B. Review and Selection Process

It is the policy of IARPA to ensure impartial, equitable, comprehensive proposal evaluations and to select the source (or sources) whose offer meets the Government's technical, policy and programmatic goals. In order to provide the desired evaluation, qualified Government personnel will conduct reviews and (if necessary) convene panels of experts in the appropriate areas.

Proposals will only be evaluated against the criteria described under Section 5.A above, and will not be evaluated against other proposals since they are not submitted in accordance with a common work statement. For evaluation purposes, a proposal is the document described in Section 4.A. Other supporting or background materials submitted with the proposal will be considered for the reviewer's convenience only and not considered as part of the proposal.

As noted above, the Government intends to use employees of Booz Allen Hamilton and its sub-contractor, Avian Engineering LLC to assist in administering the evaluation of the proposals as well as Booz Allen Hamilton and its sub-contractor, Avian Engineering LLC to provide expert advice regarding portions of the proposals submitted to the Government. Booz Allen Hamilton and its sub-contractor, Avian Engineering LLC will also provide logistical support in carrying out the evaluation process. These personnel will have signed and be subject to the terms and conditions of non-disclosure agreements. Offerors must state in advance of submitting their proposal if they do not agree to allow proposal information to be disclosed to employees of these organizations for the limited purpose stated above. Only Government personnel will make evaluations and award determinations under this BAA.

5.C. Proposal and White Paper Retention

It is the policy of IARPA to treat all proposals as competitive information and to disclose their contents only for the purpose of evaluation. Proposals and white papers will not be returned. Upon completion of the source selection process, the original of each proposal received will be retained at IARPA and all other non-required copies will be destroyed. A certification of destruction may be requested, provided that the formal request is sent to IARPA via e-mail within 5 days after notification of white paper or proposal results.

SECTION 6: AWARD ADMINISTRATION INFORMATION

6.A. Award Notices

As soon as the evaluation of a proposal is complete, the Offeror will be notified that: 1) the proposal has been selected for funding, pending contract negotiations; or 2) the proposal has not been selected.

6.B. Administrative and National Policy Requirements

6.B.1. Security

The Government anticipates that white papers and proposals submitted under this BAA will be unclassified. Offerors choosing to submit a classified white paper or proposal must first receive permission from the Original Classification Authority to use their information in replying to this BAA. Applicable classification guide(s) should be submitted to ensure that the white paper or proposal is protected appropriately.

Offerors choosing to submit a classified white paper or proposal are reminded that the proposal deadline remains the same regardless of whether the Offeror's proposal, in whole or in part, is classified. Additional processing time may be required if all or part of a submission is classified. In the event that an Offeror chooses to submit a classified white paper or proposal or submit any documentation that may be classified, the following information is applicable.

Collateral Classified Information: Use classification and marking guidance provided by previously issued security classification guides and the National Industrial Security Program Operating Manual (DoD 5220.22-M) when marking and transmitting information previously classified by another original classification authority. Classified information at the Confidential and Secret level may only be mailed via U.S. Postal Service (USPS) First Class Registered Mail or U.S. Postal Service Express Mail. All classified information will be enclosed in opaque inner and outer covers and double wrapped. The inner envelope shall be sealed and plainly marked with the assigned classification and addresses of both sender and addressee. The inner envelope shall be addressed to:

TO BE OPENED BY
IARPA Security Office
ATTN: IARPA-BAA-10-03

The outer envelope shall be sealed with no identification as to the classification of its contents and addressed to:

IARPA/MS-2
Office of the Director of National Intelligence (ODNI)
Washington, DC 20511

Information Above Collateral Secret Level: For submissions above the Collateral Secret level, contact the IARPA Security Office at 301-851-7580 for further guidance and instructions prior to transmitting information to IARPA.

Offerors must have existing and in-place prior to execution of an award, approved capabilities (personnel and facilities) to perform research and development at the classification level they propose.

Security classification guidance will not be provided at this time since IARPA is soliciting ideas only. After reviewing the incoming proposals, if a determination is made that the award instrument may result in access to classified information, a security classification guide will be issued and attached as part of the award.

6.B.2 Proprietary Data

It is the policy of IARPA to treat all proposals as competitive information, and to disclose their contents only for the purpose of evaluation.

All proposals containing proprietary data should have the cover page and each page containing proprietary data clearly marked as containing proprietary data. It is the Offeror's responsibility to clearly define to the Government what is considered proprietary data.

6.B.3. Intellectual Property

6.B.3.a. Procurement Contract Offerors

6.B.3.a.1. Noncommercial Items (Technical Data and Computer Software)

Offerors responding to this BAA requesting a procurement contract to be issued under the Federal Acquisition Regulation (FAR) shall identify all noncommercial technical data and noncommercial computer software that it plans to generate, develop and/or deliver under any proposed award instrument in which the Government will acquire less than unlimited rights and to assert specific restrictions

on those deliverables. In the event that Offerors do not submit such information, the Government will assume that it automatically has "unlimited rights" to all noncommercial technical data and noncommercial computer software generated, developed, and/or delivered under any award instrument, unless it is substantiated that development of the noncommercial technical data and noncommercial computer software occurred with mixed funding. If mixed funding is anticipated in the development of noncommercial technical data and noncommercial computer software generated, developed and/or delivered under any award instrument, then Offerors should identify the data and software in question as subject to Government Purpose Rights (GPR).[10] The Government will automatically assume that any such GPR restriction is limited to a period of five (5) years, at which time the Government will acquire "unlimited rights" unless the parties agree otherwise. Offerors are advised that the Government will use this information during the source selection evaluation process to evaluate the impact of any identified restrictions and may request additional information from the Offeror, as may be necessary, to evaluate the Offeror's assertions. If no restrictions are intended, then the Offeror should state "NONE."

A sample list for complying with this request is as follows:

NONCOMMERCIAL ITEMS			
Technical Data, Computer Software To be Furnished With Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(LIST)	(LIST)	(LIST)

6.B.3.a.2. Commercial Items (Technical Data and Computer Software)

Offerors responding to this BAA requesting a procurement contract to be issued under the FAR shall identify all commercial technical data and commercial computer software that may be embedded in any noncommercial deliverables contemplated under the research effort, along with any applicable restrictions on the Government's use of such commercial technical data and/or commercial computer software. In the event that Offerors do not submit the list, the Government will assume that there are no restrictions on the Government's use of such commercial items. The Government may use the list during the source selection

[10] "Government purpose rights" means the rights to use, modify, reproduce, release, perform, display, or disclose technical data and computer software within the Government without restriction; and to release or disclose technical data and computer software outside the Government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose that data or software for any United States Government purpose. United States Government purposes include any activity in which the United States Government is a party, including cooperative agreements with international or multi-national defense organizations, or sales or transfers by the United States Government to foreign governments or international organizations. Government purposes include competitive procurement, but do not include the rights to use, modify, reproduce, release, perform, display, or disclose technical data or computer software for commercial purposes or authorize others to do so.

evaluation process to evaluate the impact of any identified restrictions and may request additional information from the Offeror, as may be necessary, to evaluate the Offeror's assertions. If no restrictions are intended, then the Offeror should state "NONE."

A sample list for complying with this request is as follows:

COMMERCIAL ITEMS			
Technical Data, Computer Software To be Furnished With Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(LIST)	(LIST)	(LIST)

6.B.3.a.3. Non-Procurement Contract Offerors – Noncommercial and Commercial Items (Technical Data and Computer Software)

Offerors responding to this BAA requesting a grant, cooperative agreement, technology investment agreement, or other transaction 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 those award instruments in question. This includes both Noncommercial Items and Commercial Items. Offerors may use a format similar to that described in the previous sections. The Government may use the list during the source selection evaluation process to evaluate the impact of any identified restrictions, and may request additional information from the Offeror, as may be necessary, to evaluate the Offeror's assertions. If no restrictions are intended, then the Offeror should state "NONE."

6.B.3.b. All Offerors – Patents

Include documentation proving ownership of or possession of appropriate licensing rights to all patented inventions (or inventions for which a patent application has been filed) that will be utilized under the proposal for the IARPA program. If a patent application has been filed for an invention that the proposal utilizes, but the application has not yet been made publicly available and contains proprietary information, the Offeror may provide only the patent number, inventor name(s), assignee names (if any), filing date, filing date of any related provisional application, and a summary of the patent title, together with either: 1) a representation that the Offeror owns the invention, or 2) proof of possession of appropriate licensing rights in the invention.

6.B.3.c. All Offerors – Intellectual Property Representations

All Offerors shall provide a good faith representation that you either own or possess appropriate licensing rights to all other intellectual property that will be utilized under your proposal for the IARPA program. Additionally, Offerors shall 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 intellectual property in the conduct of the proposed research.

6.B.4. Meeting and Travel Requirements

Performers are expected to assume responsibility for administration of their projects and to comply with contractual and Program requirements for reporting, attendance at Program review meetings and availability for site visits.

6.B.4.a. Program Kickoff and Review Meetings

The TRUST Program intends to hold a Program Kick-Off meeting during the first month of the Program and then hold quarterly Program Review Meetings through the remainder of Phase 1. These meetings will alternate between off-site program reviews, performer site visits (see Section 6.B.4.b) and teleconferences on a quarterly basis. The focus of these meetings will be on technical aspects of the Program and on facilitating open technical exchanges, interaction and sharing among the various Program participants. Program participants will be expected to present the technical status, progress of their projects, associated risks and mitigation strategies, as well as to demonstrate their technical capabilities to other participants and invited guests at these events. For costing purposes, the Offeror should expect one review meeting to be held in the Washington, D.C., area for both Base and Option Periods, and another meeting outside the Washington, D.C., area for each year of the contract.

6.B.4.b. Site Visits

Site visits by the Contracting Officer Representative (COR) and the TRUST Program Management staff will take place once yearly during the life of the Program. The COR and TRUST Program Management staff may be accompanied by members of the USG Validation Team as appropriate. These visits will occur at the Contractor's facility. Reports on technical progress, details of successes and issues, contributions to the Program goals and technology demonstrations will be expected at such visits.

6.B.5. Human Use

All research involving human subjects, to include use of human biological specimens and human data, selected for funding must comply with the federal regulations for human subject protection, namely 45 CFR Part 46, *Protection of Human Subjects* (http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm) and 32 CFR Part 219 *Protection of Human Subjects* (http://www.dtic.mil/biosys/downloads/32cfr219.pdf).

Institutions awarded funding for research involving human subjects must provide documentation of a current Assurance of Compliance with Federal regulations for human subject protection, for example a Department of Health and Human Services, Office of Human Research Protection Federal Wide Assurance (http://www.hhs.gov/ohrp). All institutions engaged in human subject research, to include sub-contractors, must also have a valid Assurance.

Offerors do not need Institutional Review Board (IRB) approval prior to submitting a final proposal to IARPA. <u>However, Offerors must provide a plan for IRB review in their proposal</u>. The IRB conducting the review must be the IRB identified on the institution's Assurance. Additionally, Offerors must include an appendix with their proposals that contains a completed draft IRB submission packet for each protocol as described Section 1.A.5.i. **IRB submission packets will not be evaluated. However, proposals received without an IRB submission packet may be deemed non-responsive to the solicitation and may not be evaluated or considered for award.**

The TRUST Program plans to use a DoD Contracting Agent. In addition to a local IRB approval, a headquarters-level human-subject regulatory review and approval is required for all research conducted or supported by the DoD . The DoD Component office responsible for managing the award can provide guidance and information about their headquarters-level review process. Note that confirmation of a current Assurance and appropriate human-subject-protection training is required before headquarters-level approval can be issued.

The amount of time required to complete the IRB review/approval process may vary depending on the complexity of the research and/or the level of risk to study participants. Ample time should be allotted to complete the approval process. A local IRB approval process can last between one to three months, followed by a DoD Component review that could last between two to six months. No Government funding can be used towards human-subject research until ALL approvals are granted.

In limited instances, human subject research may be exempt from Federal regulations for human subject protection, for example, under Department of Health and Human Services, 45 CFR 46.101(b). Offerors claiming that their research falls within an exemption from Federal regulations for human subject protection must provide written documentation with their proposal that cites the specific applicable exemption and explains clearly how their proposed research fits within that exemption. Note that final determination of whether any proposed research can be considered exempt is the responsibility of appropriate IRBs.

6.B.6. Publication Approval

It is anticipated that research funded under this Program will be unclassified contracted fundamental research that will not require a pre-publication review. However, performers should note that pre-publication approval of certain information may be required if it is determined that its release may result in the disclosure of sensitive intelligence information. A courtesy soft copy of any work submitted for publication should be provided to the IARPA Program Manager and the Contracting Officer Representative.

6.B.7. Export Control

(1) The Offeror shall comply with all U.S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through 130, and the Export Administration Regulations (EAR), 15 CFR Parts 730 through 799, in the performance of this contract. In the absence of available license exemptions/exceptions, the Offeror shall be responsible for obtaining the appropriate licenses or other approvals, if required, for exports of (including deemed exports) hardware, technical data, and software, or for the provision of technical assistance.

(2) The Offeror shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of this contract, including instances where the work is to be performed on-site at any Government installation (whether in or outside the United States), where the foreign person will have access to export-controlled technologies, including technical data or software.

(3) The Offeror shall be responsible for all regulatory record keeping requirements associated with the use of licenses and license exemptions/exceptions.

(4) The Offeror shall be responsible for ensuring that the provisions of this clause apply to its sub-contractors.

(5) The Offeror will certify knowledge of and intended adherence to these requirements in the representations and certifications of the contract.

6.B.8. Subcontracting

It is the policy of the Government to enable small business and small disadvantaged business concerns to be considered fairly as sub-contractors to contractors performing work or rendering services as prime contractors or sub-contractors under Government contracts and to assure that prime contractors and sub-contractors carry out this policy. Each Offeror that submits a proposal that includes sub-contractors; is selected for funding (pending negotiations); and has proposed a funding level above the maximum cited in the FAR, may be asked to submit a sub-contracting plan before award, in accordance with FAR 19.702(a) (1) and (2). The plan format is outlined in FAR 19.704.

6.B.9. Reporting

Fiscal and management responsibility are important to the TRUST Program. Although the number and types of reports will be specified in the award document, all performers will, at a minimum, provide the Contracting Office, Contracting Officer Representative and the TRUST Program Manager with monthly progress reports and monthly financial reports. The reports shall be prepared and submitted in accordance with the procedures contained in the award document and mutually agreed upon before award. Progress reports will describe technical highlights, accomplishments, and activities, priorities and plans, travel, issues and concerns; will provide evaluation results; and will detail future plans. Financial reports will present an on-going financial profile of the project, including total project funding, funds invoiced, funds received, funds expended during the preceding month and planned expenditures over the remaining period. Additional interim reports and briefing material may also be required, as appropriate, to document progress and accomplishments.

Performers will prepare two (2) full program reports of their work, one at the conclusion of the performance period of the Base Period (Month 12) and one at the conclusion of the Option Period at Month 24. The full program reports will be delivered to the Contracting Agent, Contracting Officer Representative and the TRUST Program Manager. The report will include:

- Purpose of Report
- Approaches taken to address central goals of TRUST Phase 1
- Description of protocols, including protocol designs and instructions
- Protocol details, including, but not limited to, equipment and facilities used, subject recruitment and instructions, multidisciplinary requirements to run and analyze protocol, sampling schedules, numbers of subjects, which (and how) key variables are tested, control groups and steps to avoid researcher bias, subject debriefing, etc. This should include a description of which sensors were used, and at what time point, in order to validate the protocol, but should also detail how the protocol itself does not require those sensors in order to be run.
- Models that informed the protocols, including hypotheses, predicted signals and principal references from which the models were derived
- Data analysis and conclusions
- Lessons learned
- Possible generalization(s)/recommendations
- Anticipated path ahead

6.B.10. Central Contractor Registration (CCR)

Selected Offerors not already registered in the Central Contractor Registry (CCR) may be required to register in CCR prior to any award under this BAA. Information on CCR registration is available at http://www.ccr.gov.

6.B.11. Representations and Certifications

Prospective Offerors may be required to complete electronic representations and certifications at http://orca.bpn.gov. Successful Offerors will be required to complete additional representations and certifications prior to award.

6.B.11.a. Certification for Grant Awards

The certification at Appendix A to 32 CFR Part 28 regarding lobbying is the only certification required at the time of proposal submission for a grant award. The certification is as follows:

"By signing and submitting a proposal that may result in the award of a grant exceeding $100,000, the prospective awardee is certifying, to the best of his or her knowledge and belief, that:

(a) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(b) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(c) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be

subject to a civil penalty or not less than $10,000 and not more than $100,000 for each such failure."

6.B.11.b. Certification for Contract Awards

Certifications and representations shall be completed by successful Offerors prior to award. Federal Acquisition Regulation (FAR) Online Representations and Certifications Application (ORCA) is at website http://orca.bpn.gov. Defense FAR Supplement and contract specific certification packages will be provided to the contractor for completion prior to award.

6.B.12. Wide Area Work Flow (WAWF)

Unless using another approved electronic invoicing system, performers will be required to submit invoices for payment directly via the Internet/WAWF at http://wawf.eb.mil. Registration to WAWF will be required prior to any award under this BAA.

SECTION 7: AGENCY CONTACTS

Administrative, technical or contractual questions concerning this BAA should be sent via e-mail to dni-iarpa-baa-10-03@ugov.gov. If e-mail is not available, fax questions to 301-851-7673, Attention: IARPA-BAA-10-03. All requests must include the name, email address (if available), and phone number of a point of contact for the requested information. Do not send questions with proprietary content. IARPA will accept questions about the BAA until its closing. A consolidated Question and Answer response will be periodically posted on the IARPA website (www.IARPA.gov); no answers will go directly to the submitter.

Points of Contact:

The technical POC for this effort is:

Dr. Adam Russell, IARPA, Office of Smart Collection
ATTN: IARPA-BAA-10-03
Office of the Director of National Intelligence
Intelligence Advanced Research Projects Activity (IARPA)
Washington, DC 20511
Fax: (301) 851-7673
E-mail: dni-iarpa-baa-10-03@ugov.gov

All emails must have the BAA number IARPA-BAA-10-03 in the Subject Line.

APPENDIX A

Academic Institution Acknowledgement Letter Template

IARPA Broad Agency Announcement

IARPA-BAA-10-03

-- Please Place on Official Letterhead --

Offeror
<insert date>

To: Mr. Thomas Kelso
Chief Acquisition Officer
ODNI/IARPA
Office of the Director of National Intelligence
Washington, D.C. 20511

Subject: Academic Institution Acknowledgement Letter

Reference: Executive Order 12333, As Amended, Para 2.7

This letter is to acknowledge that the undersigned is the responsible official of <insert name of the academic institution>, authorized to approve the contractual relationship in support of the Office of the Director of National Intelligence's Intelligence Advanced Research Projects Activity and this academic institution.

The undersigned further acknowledges that he/she is aware of the Intelligence Advanced Research Projects Activity's proposed contractual relationship with <insert name of institution> through <insert solicitation #> and is hereby approved by the undersigned official, serving as the president, vice-president, chancellor, vice-chancellor, or provost of the institution.

_____

<Name> Date
<Position>

Copy Furnished:
Mr. John Turnicky
Chief, ODNI Contracts
Office of the Director of National Intelligence
Washington, DC 20511

APPENDIX B

SAMPLE COVER SHEET

for

VOLUME 1: Technical/Management Details

BROAD AGENCY ANNOUNCEMENT (BAA)

Tools for Recognizing Useful Signals of Trustworthiness (TRUST) Program

IARPA-BAA-10-03

(1) BAA Number	
(2) Lead Organization Submitting Proposal	
(3) Type of Business, Selected Among the Following Categories: “Large Business”, “Small Disadvantaged Business”, “Other Small Business”, “HBCU”, “MI”, “Other Educational”, or “Other Nonprofit”	
(4) Contractor’s Reference Number (if any)	
(5) Other Team Members (if applicable) and Type of Business for Each	
(6) Proposal Title	
(7) Technical Point of Contact to Include: Title, First Name, Last Name, Street Address, City, State, Zip Code, Telephone, Fax (if available), Electronic Mail (if available)	
(8) Administrative Point of Contact to Include: Title, First Name, Last Name, Street Address, City, State, Zip Code, Telephone, Fax (if available), Electronic Mail (if available)	
(9) OCI Waiver or Certification [see Section 3.A.1] Included	
(10) Are one or more U.S. Academic Organizations part of your team?	Yes/No
(10a) If Yes, are you including an Academic Institution Acknowledgement Statement with your proposal for each Academic Organization that is part of your team?	Yes/No
(11) Total Funds Requested from IARPA and the Amount of Cost Share (if any)	$
(12) Date Proposal as Submitted.	
(13) Appendix with draft IRB submission packets for each protocol	

APPENDIX C

SAMPLE COVER SHEET

for

VOLUME 2: Cost Proposal

BROAD AGENCY ANNOUNCEMENT (BAA)

Tools for Recognizing Useful Signals of Trustworthiness (TRUST) Program

IARPA-BAA-10-03

(1) BAA Number	
(2) Lead organization submitting proposal	
(3) Type of Business, Selected Among the Following Categories: “Large Business”, “Small Disadvantaged Business”, “Other Small Business”, “HBCU”, “MI”, “Other Educational”, or “Other Nonprofit”	
(4) Contractor’s Reference Number (if any)	
(5) Other Team Members (if applicable) and Type of Business for Each	
(6) Proposal Title	
(7) Technical Point of Contact to Include: Title, First Name, Last Name, Street Address, City, State, Zip Code, Telephone, Fax (if available), Electronic Mail (if available)	
(8) Administrative Point of Contact to Include: Title, First Name, Last Name, Street Address, City, State, Zip Code, Telephone, Fax (if available), Electronic Mail (if available)	
(9) Award Instrument Requested: Cost-Plus-Fixed-Fee (CPFF), Cost-Contract—No Fee, Cost Sharing Contract – No Fee, Grant, Cooperative Agreement or Other Type of Procurement Contract (specify)	
(10) Place(s) and Period(s) of Performance	
(11) Total Proposed Cost Separated by Basic Award and Option(s) (if any)	
(12) Name, Address, Telephone Number of the Offeror’s Defense Contract Management Agency (DCMA) Administration Office or Equivalent Cognizant Contract Administration Entity, if Known	
(13) Name, Address, Telephone Number of the Offeror’s Defense Contract Audit Agency (DCAA) Audit Office or Equivalent Cognizant Contract Audit Entity, if Known	
(14) Date Proposal was Prepared	
(15) DUNS Number	
(16) TIN Number	
(17) Cage Code	
(18) Proposal Validity Period [minimum of 90 days]	

APPENDIX D

Organizational Conflict of Interest Certification Letter Template

Tools for Recognizing Useful Signals of Trustworthiness (TRUST) Program

IARPA Broad Agency Announcement

IARPA-BAA-10-03

(Month DD, YYYY)

Office of the Director of National Intelligence
Intelligence Advanced Research Projects Activity (IARPA)
Office of Smart Collection
ATTN: Dr. Adam Russell
Washington, DC 20511

Subject: OCI Certification

Reference: (IARPA-BAA-10-03); (Insert Organization Name and Proposal Title)

Dear Dr. Adam Russell,

In accordance with IARPA Broad Area Announcement #10-03, Section 3.A.1, *Procurement Integrity, Standards of Conduct, Ethical Considerations, and Organizational Conflicts of Interest (OCI)*, and on behalf of _____ (Offeror name) I certify that neither _____ (Offeror name), nor any of our subcontractor teammates, has as a potential conflict of interest, real or perceived, as it pertains to the TRUST Program.

If you have any questions, or need any additional information, please contact (Insert name of contact) at (Insert phone number) or (Insert e-mail address).

Sincerely,

(Insert organization name) (Must be signed by an official that has the authority to bind the organization)

(Insert signature)

(Insert name of signatory)
(Insert title of signatory)