AIR FORCE SBIR 19.2 Topic Descriptions

AF192-001 TITLE: Open Call for Innovative Defense-Related Dual-Purpose Technologies/Solutions with a Clear Air Force Stakeholder Need

TECHNOLOGY AREA(S): Materials/Processes

OBJECTIVE: This is an AF Special Topic in partnership with AFWERX, please see the above AF Special Topic instructions for further details. A Phase I award will be completed over 3 months with a maximum award of $50K and a Phase II may be awarded for a maximum period of 27 months and $1,500,000. The objective of this topic is to explore Innovative Defense-Related Dual-Purpose Technologies that may not be covered by any other specific SBIR topic and thus to explore options for solutions that may fall outside the Air Force’s current fields of focus but that may be useful to the US Air Force. An additional objective of this topic is to grow the industrial base of the US Air Force. This topic will reach companies that can complete a feasibility study and prototype validated concepts in accelerated Phase I and II schedules. This topic is specifically aimed at later stage development rather than earlier stage basic science and research.

DESCRIPTION: The Air Force is a large and complex organizations that consists of many functions that have similar counterparts in the commercial sector. We are interested in exploring innovative technology domains that have demonstrated clear commercial value in the non-defense sector (i.e., through existing products/solutions) in order to see if they have similar Air Force applications (i.e. Dual-Purpose Technologies/Solutions). We recognize that it is impossible to cover every technological area with the SBIR topics, thus this topic is intended to be a call for open ideas and technologies that cover topics that may not be currently listed (i.e. the unknown-unknown). It is important that any potential solutions have a high probability of keeping pace with the technological change and thus should be closely tied to commercial technologies and solutions that will help support the development of the solution. This topic is meant for innovative non-defense commercial solutions to be adapted in innovative ways to meet DoD stakeholders’ needs in a short timeframe and at a low cost. Solutions for this topic should be focused on the three areas listed below and should try to meet as many of these as possible. 1. Technical feasibility – There should be minimal technical risk to the overall solution. The best solutions will have demonstrated technical feasibility by showing the solution being used broadly by other customers, especially in the non-defense space. If the solution has not demonstrated technical feasibility in the non-defense space, the offeror(s) may provide alternative evidence to indicate technical feasibility such as initial lab tests, use of the product with defense customers and other forms of evidence. 2. Financial Sustainability – The offeror(s) should demonstrate financial sustainability of the solution and the offeror(s). The best solutions will demonstrate this by sales of the solution to non-defense clients and other sources of private investment. If the solution has not demonstrated financial sustainability by non-defense sales or private investment, the offeror(s) may provide other evidence of financial sustainability such as other governmental aid, sales to defense customers, and other forms of evidence that help explain the financial sustainability. 3. Defense Need – The offeror(s) should demonstrate that they have an understanding of the fit between their solution and defense stakeholders. The offeror(s) may provide an indication of a defense ‘need’ by evidence of preliminary discussions with USAF stakeholders, a clear description (including contact name, rank, unit and contact information) of a specific, potential USAF stakeholder that may need to use the solution or other forms of evidence to help explain a clear defense need. In summary - proposals for this topic should demonstrate a high probability to quickly find product-market fit between an Air Force end user and the proposed solution through adaptation of a non-defense commercial solution. This can be done through a proposal with a mature non-defense technical solution and a starting point to find an Air Force customer.

BROAD FOCUS AREAS AND SPECIFIC USER NEEDS FOR 19.2 OPEN TOPIC

Though the topic is truly ‘Open’ (agnostic of industry, technology, and problem area), to facilitate streamlined customer discovery for companies in Phase I, we have identified certain problem areas for which potential Air Force Customers and/or funding have already been identified. These areas, which we break out into broad ‘Focus Areas’ and specific ‘User Needs’, are described below.

Focus Areas – for a broad ‘Focus Area’ to be included in this topic (the list of Focus Areas can be viewed at https://www.afwerx.af.mil/sbir.html), we required that it either have a significant number of Air Force customers seeking solutions in that area OR a specific Air Force Customer that has set aside funding to address that area by
way of SBIR fund-matching. Thus, if your solution can help address one of these Focus Areas, there is likely to be a good number of Air Force End-Users and customers that you can interact with in your phase I feasibility study and an increased likelihood for matching funding.

User Needs – for a specific ‘User Need’ to be included in this topic (the list of User Needs can be viewed at https://www.afwerx.af.mil/sbir.html), we required that an Air Force end-user or customer clearly articulate a specific problem affecting their mission for which they are actively seeking solutions from SBIR companies. Thus, if your solution can help address one of these User Needs, then there is *at least* one Air Force end-user that you can readily interact with in your phase I feasibility study.

If you believe your solution can help address one of the ‘Focus Areas or ‘User Needs’, please note this on the first slide of your application slide deck AND include the Focus Area ID # or User Need ID # in your ‘Keywords’ in the online SBIR application (Example: FA-001, or UN-1034).

The alignment between a proposal and a ‘Focus Area’ or ‘User Need’ can strengthen an application. Note that this does not change the requirement to demonstrate the defense need as listed above, but may complement it. This also does not preclude companies who are looking to solve other problems that are not listed in the ‘Focus Areas’ or ‘User Needs’ to submit to this topic; it is simply intended to give indications of areas of special focus for the Air Force at this particular point in time.

PHASE I: Validate the product-market fit between the proposed solution and a potential USAF stakeholder and define a clear and immediately actionable plan for running a trial with the proposed solution and the proposed AF customer. This feasibility study should directly address:
1. Clearly identify who the prime potential AF end user(s) and AF transition customer (the user and customer will likely be two different people) and articulate how they would use your solution(s) (i.e., the one who is most likely to be an early adopter, first user, and initial transition partner).
2. Deeply explore the problem or benefit area(s) which are to be addressed by the solution(s) - specifically focusing on how this solution will impact the end user of the solution.
3. Define clear objectives and measurable key results for a potential trial of the proposed solution with the identified Air Force end user(s).
4. Clearly identify any additional specific stakeholders beyond the end user(s) who will be critical to the success of any potential trial. This includes, but is not limited to, program offices, contracting offices, finance offices, information security offices and environmental protection offices.
5. Describe how the solution differs from the non-defense commercial offering to solve the Air Force need - (i.e. how has it been modified)
6. Describe the cost and feasibility of integration with current mission-specific products.
7. Describe if and how the demonstration can be used by other DoD or governmental customers The funds obligated on the resulting Phase I SBIR contracts are to be used for the sole purpose of conducting a thorough feasibility study using scientific experiments, laboratory studies, commercial research and interviews. Prototypes may be developed with SBIR funds during Phase I studies to better address the risks and potential payoffs in innovative technologies.

PHASE II: Develop, install, integrate and demonstrate a prototype system determined to be the most feasible solution during the Phase I feasibility study. This demonstration should focus specifically on:
1. Evaluating the proposed solution against the objectives and measurable key results as defined in the phase I feasibility study.
2. Describing in detail how the solution differs from the non-defense commercial offering to solve the Air Force need and how it can be scaled to be adopted widely (i.e. how can it be modified for scale)
3. A clear transition path for the proposed solution that takes into account input from all affected stakeholders including but not limited to: end users, engineering, sustainment, contracting, finance, legal, and cyber security.
4. Specific details about how the solution can integrate with other current and potential future solutions.
5. How the solution can be sustainable (i.e. supportability)
6. Clearly identify other specific DoD or governmental customers who want to use the solution

PHASE III DUAL USE APPLICATIONS: This is the main goal of this topic, we intend for many of the solutions to go straight from Phase I to Phase III as soon as the product-market fit has been verified. The contractor will transition the adapted non-defense commercial solution to provide expanded mission capability to a broad range of potential government and civilian users and alternate mission applications.

NOTES:
a. Due to the large amount of expected interest in this topic, we will not be answering individual questions through e-mail, except in rare cases. Instead we will be holding a teleconference to address all questions in an efficient manner. This topic will be updated with the final call-in details as soon as the date is finalized. In the meantime, feel free to use the SITIS Q&A system.

b. This SBIR is NOT awarding grants, and is awarding contracts, when registering in SAM.gov, be sure to select ‘YES’ to the question ‘Do you wish to bid on contracts?’ in order to be able to compete for this SBIR topic. If you are only registered to compete for grants, you will be ineligible for this topic. For more information please visit http://afwerx.af.mil/sbir/

c. We are working to move fast, please register in SAMs and if already registered please double check your CAGE codes, company name, address information, DUNS numbers, etc. If they are not correct at time of submission, you will be ineligible for this topic. In order to ensure this, please include, in your 15-slide deck, a screenshot from SAM.gov as validation of your correct CAGE code, DUNS number and current business address along with the verification that you are registered to compete for All Contracts. It is the responsibility of the contractor to ensure that the data in the proposal and the data in SAM.gov are aligned. For more information please visit https://www.afwerx.af.mil/sbir.html

d. In order to keep pace with the fast timeline, if the purchase orders are not signed and returned to the contracting office within 5 business days of receipt, a Phase I award will not be issued.

e. Please note that each company may only have one active ‘Open Topic’ award at a time. If a company submits multiple technically acceptable proposals, only the proposal with the highest evaluation will be awarded. If multiple proposals are evaluated to be equal, the government will decide which proposal to award based upon the needs of the Air Force. If a contractor is currently executing a Phase II award under the previous ‘Open’ topics (18.2-005, 18.3-005, 18.3-006, 19.1-004, 19.1-005), the company is ineligible for this topic. If the company applies for both the Direct to Phase II ‘Open Topic’ (192-D001) and this topic, and the company is selected for award for both topics, only the Direct to Phase II (192-D001) proposal will be awarded. All awards are subject to the availability of funds and contracting negotiations.

f. The ‘DoD SBIR/STTR Programs Funding Agreement Certification’ form must be completed and signed at the time of *Proposal Submission* and can be found at: https://www.afsbirsttr.af.mil/Program/Phase-I-and-II/.

g. It is the responsibility of the contractor to answer the questions in the SBIR Cover Sheet and on the ‘DoD SBIR/STTR Programs Funding Agreement Certification’ accurately.

h. While these are firm fixed price contracts, it is important for the companies to include the cost volume in the SBIR online application with reasonable fidelity in order to determine the reasonableness of the proposed effort.

*****Proposals submitted under this topic may relate to technologies restricted under the International Traffic in Arms Regulation (ITAR) which controls defense-related materials/services import/export, or the Export Administration Regulation (EAR) which controls dual use items. Foreign National is defined in 22 CFR 120.16 as a natural person who is neither a lawful permanent resident (8 U.S.C. § 1101(a)(20)), nor a protected individual (8 U.S.C. § 1324b(a)(3)). It also includes foreign corporations, business associations, partnerships, trusts, societies, other entities/groups not incorporated/organized to do business in the United States, international organizations, foreign governments, and their agencies/subdivisions. Offerors must identify Foreign National team members, countries of origin, visa/work permits possessed, and Work Plan tasks assigned. Additional information may be required during negotiations to verify eligibility. Even if eligible, participation may be restricted due to U.S. Export Control Laws.

NOTE: Export control compliance statements are not all-inclusive and do not remove submitters’ liability to 1) comply with applicable ITAR/EAR export control restrictions or 2) inform the Government of potential export restrictions as efforts proceed.*****

REFERENCES:


Technology Area(s): Cybersecurity, Data Communications

OBJECTIVE: This is a Pitch Day Topic, please see the above Pitch Day Topic instructions for further details. A Phase I award will be completed over 3 months with a maximum award of $75K and a Phase II may be awarded for a maximum period of 15 (or 27 month) and $750K. The objective of this topic is to explore innovative technologies that enable distributed business operations in challenging network environments and secure software and associated development environments against attacks, thus exploring options for innovative solutions that may fall outside the Air Force's current fields of focus but that may be useful to the US Air Force. This topic will reach companies that can complete a feasibility study and prototype validated concepts in accelerated Phase I and II schedules. This topic is specifically aimed at later stage development rather than earlier stage basic science and research.

DESCRIPTION: The Air Force Program Executive Office for Digital is responsible for the acquisition of software and weapons systems including development and fielding worldwide aerospace command and control applications. The Air Force wishes to stay at the cutting edge of these technologies and seeks to partner with innovative small businesses that may have solutions to Air Force challenges. These are the high level challenge areas for which the Air Force is interested in novel solutions:

1. Security Tools and Services: Tools to monitor the security of unclassified software development environments, to include security of on premise and cloud-hosted applications, as well as technologies that enhance the security of software development systems, pipelines, and code repositories.

2. Edge as a Service: Technologies to operate and maintain continuous and secure cloud-native operation in low-bandwidth environments.

3. Enterprise Platform Tools: Technologies for enterprise platform design, development, and delivery, as well as technologies that facilitate application and infrastructure monitoring, API management and integration, legacy system virtualization and hosting, and container orchestrations and security.

This topic is meant for innovative solutions to be adapted in innovative ways to meet DoD stakeholders' needs in a short timeframe and at a low cost.

PHASE I: "Validate the product-market fit between the proposed solution and a potential USAF stakeholder and define a clear and immediately actionable plan for running a trial with the proposed solution and the proposed AF customer. This feasibility study should directly address:

1. Clearly identify who the prime potential AF end user(s) is and articulate how they would use your solution(s) (i.e., the one who is most likely to an early adopter, first user, and initial transition partner).
2. Deeply explore the problem or benefit area(s) which are to be addressed by the solution(s) specifically focusing on how this solution will impact the end user of the solution.
3. Define clear objectives and measurable key results for a potential trial of the proposed solution with the identified Air Force end user(s).
4. Clearly identify any additional specific stakeholders beyond the end user(s) who will be critical to the success of any potential trial. This includes, but is not limited to, program offices, contracting offices, finance offices, information security offices and environmental protection offices.
5. Describe the cost and feasibility of integration with current mission-specific products.
6. Describe if and how the demonstration can be used by other DoD or governmental customers.
7. Describe technology related development that is required to successfully field the solution.
8. Deliver an initial prototype or minimum viable product (MVP) code or product at the conclusion of the contract that can be adapted and/or matured to a more advanced stage during Phase II.

The funds obligated on the resulting Phase I SBIR contracts are to be used for the sole purpose of conducting a thorough feasibility study using scientific experiments, laboratory studies, commercial research and interviews.