DEPARTMENT OF THE ARMY

DoD 22.4 Small Business Innovation Research (SBIR) Annual BAA
Release 5, Proposal Submission Instructions

April 14, 2022: Topics issued for pre-release
April 28, 2022: Army begins accepting proposals via DSIP
May 31, 2022: DSIP Topic Q&A closes to new questions at 12:00 p.m. ET
June 14, 2022: Deadline for receipt of proposals no later than 12:00 p.m. ET

INTRODUCTION

The future Army must be capable of conducting Multi-Domain Operations (MDO) as part of an integrated Joint Force across an array of situations in multiple theaters by 2035. The MDO concept describes how the Army will support the Joint Force in the rapid and continuous integration of all domains of warfare – land, sea, air, and cyberspace – to deter and prevail as we compete short of conflict, and fight and win if deterrence fail. The Army must provide game-changing capabilities to our Soldiers. To capitalize on small business innovation, the Army has implemented an approach to advertise SBIR funding opportunities through the Department of Defense (DoD) Annual BAA process, outside of the three pre-determined BAA cycles. This approach also strives to create a more rapid award time from solicitation to closing.

Topics released under this BAA deviate from the traditional Army SBIR period of performance, contract award guidelines, and other proposal instructions. Please take note of the contents of the DoD Program BAA instructions, supplemented herein, when preparing proposals. Proposals will only be evaluated in response to an active corresponding Army topic.

Proposers responding to a topic in this BAA must follow all general instructions provided in the DoD SBIR Program BAA. Department of the Army requirements in addition to or deviating from the DoD Program BAA are provided in the instructions below.

Specific questions pertaining to the administration of the Department of the Army SBIR Program and the proposal preparation instructions for this topic should be directed to the Point of Contact identified in the Topic announcement; general questions can be directed below:

Email: usarmy.pentagon.hqda-asa-alt.mbx.army-applied-sbir-program@mail.mil
Mailing Address:
Army Applied SBIR Office
2800 Crystal Dr; Ste 11252
Arlington, VA 22201

PHASE I PROPOSAL GUIDELINES

The Defense SBIR/STTR Innovation Portal (DSIP) is the official portal for DoD SBIR/STTR proposal submission. Proposers are required to submit proposals via DSIP; proposals submitted by any other means will be disregarded. Detailed instructions regarding registration and proposal submission via DSIP are provided in the DoD SBIR Program BAA.

Technical Volume (Volume 2)

The technical volume is not to exceed 5 pages and must follow the formatting requirements provided in the DoD SBIR Program BAA. A commercialization plan must also accompany the

technical proposal and should be no more than 10 slides. Any proposals submitted without a commercialization plan or in a format other than that provided by the BAA will not be reviewed.

Content of the Technical Volume
The Technical Volume will contain three key sections – technical approach, team qualifications and commercialization section. The technical approach section contains details on how the proposer is going to solve the problem. It should detail key elements of your approach, any risks, relevant past work and how you measure success. The team qualifications section should highlight the key personnel working on the project, and the resources that will be brought to bear on solving the problem. The commercialization plan should include:

- Company information: Focused objectives/core competencies; specialization area(s); products with significant sales; and history of previous Federal and non-Federal funding, regulatory experience, and subsequent commercialization successes.
- Customer and Competition: Clear description of key technology objectives, current competition, and advantages compared to competing products or services; description of hurdles to acceptance of the innovation.
- Market: Milestones, target dates, analyses of market size, and estimated market share after first year sales and after 5 years; explanation of plan to obtain market share.
- Intellectual Property: Patent status, technology lead, trade secrets or other demonstration of a plan to achieve sufficient protection to realize the commercialization stage and attain at least a temporal competitive advantage.
- Financing: Plans for securing necessary non-SBIR funding.
- Assistance and mentoring: Plans for securing needed technical or business assistance through mentoring, partnering, or through arrangements with government sponsored (e.g., State assistance programs, Federally-funded research laboratories, Manufacturing Extension Partnership centers), not-for-profits (e.g., SBDC), commercial accelerators, DOD Prime Contractors, or other assistance provider.

These instructions supersede those stated in section 5.3.c of the DoD Program BAA.

Cost Volume (Volume 3)
Unless otherwise noted in the topic, the Phase I Base amount must not exceed $250,000 for a 6-month period of performance. Phase I Options are not anticipated at this time. If an option is identified in the topic posting, costs for the Base and Option must be separated and clearly identified on the Proposal Cover Sheet (Volume 1) and in Volume 3.

Content of the Cost Volume (Volume 3)
ALL proposed costs should be accompanied by documentation to substantiate how the cost was derived. For example, if you proposed travel costs to attend a project-related meeting or conference, and used a travel website to compare flight costs, include a screenshot of the comparison. Similarly, if you proposed to purchase materials or equipment, and used the internet to search for the best source, include your market research for those items. You do not necessarily have to propose the cheapest item or supplier, but you should explain your decision to choose one item or supplier over another. It's important to provide enough information to allow contracting personnel to understand how the proposer plans to use the requested funds.

If a DCAA Audit has been conducted within the last five (5) years, include the audit compliance documentation in the cost proposal documents. The documentation should also include the offeror's DCAA Point of Contact (if applicable).

If selected for award, failure to include the documentation with your proposal will delay contract

negotiation, and the proposer will be asked to submit the necessary documentation to the Contracting Officer to substantiate costs (e.g., cost estimates for equipment, materials, and consultants or subcontractors). It is important to respond as quickly as possible to the Contracting Officer's request for documentation.

Company Commercialization Report (CCR) (Volume 4)
Completion of the CCR as Volume 4 of the proposal submission in DSIP is required. Please refer to the DoD SBIR Program BAA for full details on this requirement. Information contained in the CCR will be considered by the Department of the Army during proposal evaluations.

Supporting Documents (Volume 5)
Volume 5 is provided for proposers to submit additional documentation to support the Cover Sheet (Volume 1), Technical Volume (Volume 2), and the Cost Volume (Volume 3). In addition to the Volume 5 requirements outlined in the DoD Program BAA, the Department of the Army may accept the following documents in Volume 5:

- Additional Cost Information
- Funding Agreement Certification
- Technical Data Rights (Assertions)
- Lifecycle Certification
- Allocation of Rights
- Other (only as specified in the topic)

Please only submit documents that are identified in the topic instructions. All other submissions will be disregarded.

DIRECT TO PHASE II PROPOSAL GUIDELINES
Proposers interested in submitting a DP2 proposal in response to an eligible topic must provide documentation to substantiate that the scientific and technical merit and feasibility described in the Phase I section of the topic has been met and describes the potential commercial applications. Documentation should include all relevant information including, but not limited to: technical reports, test data, prototype designs/models, and performance goals/results. Work submitted within the feasibility documentation must have been substantially performed by the proposer and/or the Principal Investigator.

The Army will not evaluate the proposer's related Phase II proposal if it determines that the proposer has failed to demonstrate that technical merit and feasibility has been established or the proposer has failed to demonstrate that work submitted in the feasibility documentation was substantially performed by the proposer and/or the PI.

Feasibility documentation cannot be based upon any prior or ongoing federally funded SBIR or STTR work and DP2 proposals MUST NOT logically extend from any prior or ongoing federally funded SBIR or STTR work.

Format of Technical Volume (Volume 2)
The Technical Volume must include two parts, the Feasibility Documentation and the Technical Proposal.

The Technical Volume must be a single Portable Document Format (PDF) file, including graphics. Perform a virus check before uploading the Technical Volume file. If a virus is detected, it may cause rejection of the proposal. Do not lock or encrypt the uploaded file. Do not include or embed active graphics such as videos, moving pictures, or other similar media in the document.

The length of the Feasibility Documentation is not to exceed 5 pages and the length of the Technical Proposal is not to exceed 10 pages. A commercialization plan must also accompany the technical proposal and should be no more than 10 slides. Any proposals submitted in a different format, or exceed the page count limits will not be reviewed.

Number all pages of your proposal consecutively. Font size should not be smaller than 10- point on standard 8-1/2" x 11" paper with one-inch margins. The header on each page of the Technical Volume should contain your company name, topic number, and proposal number assigned by DSIP when the Cover Sheet was created. The header may be included in the one-inch margin.

Content of the Feasibility Documentation (Volume 2a)

The content of the Feasibility Documentation Proposers should substantiate that the scientific and technical merit and feasibility described in the Phase I section of the topic has been met and describes the potential commercial applications. Documentation should include all relevant information including, but not limited to: technical reports, test data, prototype designs/models, and performance goals/results. Work submitted within the feasibility documentation must have been substantially performed by the proposer and/or the Principal Investigator.

Content of the Technical Proposal (Volume 2b)

The content of the Technical Volume should address three key areas: the technical approach, the team carrying out the work (and the accompanied resources), and the commercialization strategy. The commercialization plan should include:

- Company information: Focused objectives/core competencies; specialization area(s); products with significant sales; and history of previous Federal and non-Federal funding, regulatory experience, and subsequent commercialization successes.
- Customer and Competition: Clear description of key technology objectives, current competition, and advantages compared to competing products or services; description of hurdles to acceptance of the innovation.
- Market: Milestones, target dates, analyses of market size, and estimated market share after first year sales and after 5 years; explanation of plan to obtain market share.
- Intellectual Property: Patent status, technology lead, trade secrets or other demonstration of a plan to achieve sufficient protection to realize the commercialization stage and attain at least a temporal competitive advantage.
- Financing: Plans for securing necessary non-SBIR funding.
- Assistance and mentoring: Plans for securing needed technical or business assistance through mentoring, partnering, or through arrangements with government sponsored (e.g., State assistance programs, Federally-funded research laboratories, Manufacturing Extension Partnership centers), not-for-profits (e.g., SBDC), commercial accelerators, DOD Prime Contractors, or other assistance provider.

Proposers are free to structure each section as they like, so long as it provides sufficient detail for evaluators to understand the proposed work, who will carry it out, and how the business plans to commercialize results.

Cost Volume (Volume 3)

Unless otherwise noted in the topic, the Army will accept Direct to Phase II proposals for a cost up to $1,700,000 for an 18-month period of performance. Proposers are required to use the Cost Proposal method as provided on the DSIP submission site. The Cost Volume (and supporting documentation) DOES NOT count toward the page limit of the Technical Volume.

Content of the Cost Volume (Volume 3)
ALL proposed costs should be accompanied by documentation to substantiate how the cost was derived. For example, if you proposed travel costs to attend a project-related meeting or conference, and used a travel website to compare flight costs, include a screenshot of the comparison. Similarly, if you proposed to purchase materials or equipment, and used the internet to search for the best source, include your market research for those items. You do not necessarily have to propose the cheapest item or supplier, but you should explain your decision to choose one item or supplier over another. It's important to provide enough information to allow contracting personnel to understand how the proposer plans to use the requested funds.

Some items in the cost breakdown may not apply to the proposed project. If that is the case, there is no need to provide information on each and every item.

Cost Breakdown Guidance:

- List all key personnel by name as well as by number of hours dedicated to the project as direct labor.
- Special tooling and test equipment and material cost may be included. The inclusion of equipment and material will be carefully reviewed relative to need and appropriateness for the work proposed. The purchase of special tooling and test equipment must, in the opinion of the Contracting Officer, be advantageous to the Government and should be related directly to the specific topic. These may include such items as innovative instrumentation and/or automatic test equipment. Title to property furnished by the Government or acquired with Government funds will be vested with the Army; unless it is determined that transfer of title to the contractor would be more cost effective than recovery of the equipment by the Army.
- Cost for travel funds must be justified and related to the needs of the project.
- Cost sharing is permitted for proposals under this announcement; however, cost sharing is not required, nor will it be an evaluation factor in the consideration of a proposal.
- All subcontractor costs and consultant costs must be detailed at the same level as prime contractor costs in regard to labor, travel, equipment, etc. Provide detailed substantiation of subcontractor costs in your cost proposal. Enter this information in the Explanatory Material section of the on-line cost proposal form. The Supporting Documents Volume (Volume 5) may be used if additional space is needed.

If a DCAA Audit has been conducted within the last five (5) years, include the audit compliance documentation in the cost proposal documents. The documentation should also include the offeror's DCAA Point of Contact (if applicable).

If selected for award, failure to include the documentation with your proposal will delay contract negotiation, and the proposer will be asked to submit the necessary documentation to the Contracting Officer to substantiate costs (e.g., cost estimates for equipment, materials, and consultants or subcontractors). It is important to respond as quickly as possible to the Contracting Officer's request for documentation.

For more information about cost proposals and accounting standards, see the DCAA publication titled "Audit Process Overview – Information for Contractors" available at: http://www.dcaa.mil.

Company Commercialization Report (CCR) (Volume 4)
Completion of the CCR as Volume 4 of the proposal submission in DSIP is required. Please refer to the DoD SBIR Program BAA for full details on this requirement. Information contained in the CCR will be considered by the Department of the Army during proposal evaluations.

Supporting Documents (Volume 5)
Volume 5 is provided for proposers to submit additional documentation to support the Cover Sheet (Volume 1), Technical Volume (Volume 2), and the Cost Volume (Volume 3). In addition to the Volume 5 requirements outlined in the DoD Program BAA, the Department of the Army will accept the following documents in Volume 5:

- Additional Cost Information
- Funding Agreement Certification
- Technical Data Rights (Assertions)
- Lifecycle Certification
- Allocation of Rights
- Other (only as specified in the topic)

Please only submit documents that are identified in the topic instructions. All other submissions will be disregarded.

PHASE II PROPOSAL GUIDELINES

Phase II proposals may only be submitted by Phase I awardees. Phase II proposal submission window, notification process, expected budget/duration structure and additional instructions will be provided in the Phase I contract or by subsequent notification.

DISCRETIONARY TECHNICAL AND BUSINESS ASSISTANCE (TABA)

The Army, at its discretion, may provide Technical and Business Assistance (TABA). The Army will select a preferred vendor(s) for the Army SBIR TABA program through a competitive process. Alternately, a small business concern may, by contract or otherwise, select one or more vendors to assist the firm in meeting the TABA goals. The Applicant must request the authority to select its own TABA provider in the Army SBIR proposal, demonstrating that the vendor is uniquely postured to provide the specific technical and business services required.

Participation in the Army SBIR TABA program is voluntary for each Army SBIR awardee. Services provided to Army SBIR firms under the auspices of the TABA program may include, but are not limited to:

1. Access to a network of scientists, engineers, and technologists focused on commercialization and transition considerations such as protected supply chain management, advanced manufacturing, process/product/production scaling, etc;
2. Assistance with intellectual property protections, such as legal considerations, intellectual property rights, patent filing, patent fees, licensing considerations, etc;
3. Commercialization and technology transition support such as market research, market validation, development of regulatory or manufacturing plans, brand development;
4. Regulatory support such as product domain regulatory considerations, regulatory planning, and regulatory strategy development.

The Army SBIR program sponsors participation in the TABA program. The resource limitation for each firm is:

- Phase I Firms: Up to $6,500 per project per year (in addition to the base SBIR award amount);
- Phase II Firms: Up to $50,000 per project;
    - Army-Preferred Vendor: In addition to the base SBIR award amount;
    - Firm-Selected Vendor: Included in the base SBIR award amount and must be included in Phase II proposal.

EVALUATION AND SELECTION

All proposals will be evaluated in accordance with the evaluation criteria listed in the DoD Program BAA. It is the policy of the Army to ensure equitable and comprehensive proposal evaluations based on the evaluation criteria listed above and to select the source (or sources) whose offer meets the Government's technical, policy, and programmatic goals.

All proposal evaluations will be based solely on the above evaluation criteria. The Army will conduct an evaluation of each conforming proposal. Proposals that do not comply with the requirements detailed in this BAA and the research objective(s) of the corresponding opportunity are considered non-conforming and therefore will not evaluated nor considered for award.

Using the evaluation criteria, the Government will evaluate each proposal in its entirety, documenting the strengths and weaknesses relative to each evaluation criterion, and, based on these identified strengths and weaknesses, make a determination of the proposal's overall selectability. Proposals will not be evaluated against each other during the evaluation process, but rather evaluated on their own individual merit to determine how well the proposal meets the criteria stated in this BAA and the corresponding opportunity.

Awards will be made to proposers whose proposals are determined to be the most advantageous to the Government, consistent with instructions and evaluation criteria specified in the BAA herein, subsequent opportunities issued, and availability of funding. Given the limited funding available for each opportunity, not all proposals considered selectable will be necessarily selected for funding.

For the purposes of this proposal evaluation process, a selectable proposal is defined as follows:
Selectable: A selectable proposal is a proposal that has been evaluated by the Government against the evaluation criteria listed in the DoD Program BAA, and the strengths of the overall proposal outweighs its weaknesses. Additionally, there are no accumulated weaknesses that would require extensive negotiations and/or a revised proposal.

For the purposes of this proposal evaluation process, a non-selectable proposal is defined as follows:
Non-Selectable: A proposal is considered non-selectable when the proposal has been evaluated by the Government against the evaluation criteria listed in the DoD Program BAA and the strengths of the overall proposal do not outweigh its weaknesses.

Proposing firms will be notified via email of selection or non-selection status for a Phase I or direct to Phase II award within 90 days of the closing date of the BAA. The notification will come from the Army SBIR Program Office PoC mailbox sent to the Corporate Official listed on the proposal cover sheet. The Army promotes transparency regarding the technical evaluation for all Army SBIR proposals. The Army will provide a technical evaluation narrative to the proposer in accordance with the SBA Policy Directive, Appendix I, paragraph 4. The selection decision notice contains instructions for retrieving the technical evaluation narrative.

A Contracting Officer (KO) may contact applicants, when the Army SBIR Office has recommended a

proposal for award, in order to discuss additional information required for award. This may include representations and certifications, revised budgets or budget explanations, certificate of current cost or pricing data, subcontracting plan for small businesses, and/or other information as applicable to the proposed award. The anticipated start date will be determined at that time.

Proposers must not regard the notification email as an authorization to commit or expend funds. Until a Government KO signs the award document (i.e. contract), no obligations to provide funding are made. The award document signed by the Government KO is the official and authorizing award instrument (i.e. contract). The KO will email the signed, authorizing award instrument to the principal investigator (PI) and/or an authorized organization representative.

Refer to the DoD SBIR Program BAA for procedures to protest the Announcement.

As further prescribed in FAR 33.106(b), FAR 52.233-3, Protests after Award should be submitted to the Point of Contract identified in the topic solicitation:

Email: usarmy.pentagon.hqda-asa-alt.mbx.army-applied-sbir-program@mail.mil
Mailing Address:
Army Applied SBIR Office
2800 Crystal Dr; Ste 11252
Arlington, VA 22201

Appendix A

Phase I Evaluation Criteria

Army Applied SBIR Phase I (v1) Evaluation Criteria Defined

		DEFINITION
TECHNICAL FEASIBILITY	SCIENTIFIC FEASIBILITY	Is the science behind the solution sound? Convince readers who don't have deep expertise in your field that your innovation is built atop sound scientific and engineering principles.
	ENABLING TECHNOLOGIES	Point to the foundational technologies that you rely on to deliver your solution. Do the required enabling technologies introduce added risk? Using proven (and ideally Army-fielded) underlying technologies and techniques helps to lower technical risk.
	SOLUTION'S UNIQUENESS	From a warfighter's perspective, why is your proposed solution the best choice for the Army? Refute the substitutes for your solution that warfighters are either using currently or considering adopting. Why will soldiers prefer your solution?
	OPERATIONAL IMPACT	Looking only at the soldiers who will be impacted by your solution, argue that their jobs or lives will be significantly improved if your solution is adopted. What is the impact of your solution for a soldier vs. today's solutions?
weight 50%	MILESTONE SCHEDULE	Please share with us a thoughtful execution plan. Strike a balance between giving us a sense of the detailed thinking behind the scenes and the need for your contracting officer to manage a reasonably small number of milestones during your period of performance.
COMMERCIALIZATION AND POTENTIAL	COMMERCIALIZATION POTENTIAL	Through the Applied SBIR program, the Army wants to take advantage of the speed and scale of the commercial sector. Our organization funds projects that do not rely solely on DoD funding. A key indicator of this the potential for your product / solution to create sustained profitability in the commercial sector. Make your best case that your product is or will be commercially profitable. If you have more than one product, please focus your argument on the product / solution presented for this SBIR program.
	FINANCIAL SUSTAINABILITY	Make the case that private dollars will continue to fund improvements to your solution from which the Army will benefit in the future. Companies who cannot demonstrate non-DoD funding sources for future solution enhancements are less attractive to the Applied SBIR program.
weight 30%	TRANSITION AND COMMERCIALIZATION INFORMATION	Whatever your stage in terms of technology maturity and engagement with the Army, demonstrate that you have an appropriate goal for your next step in "transitioning" with the Army (and/or DoD more broadly.) What is that next goal for you in terms of your next contracting or collaboration opportunity with the Army? Beyond this SBIR opportunity, describe the next type of deal you aim to make with the Army, e.g. a CRADA, a different SBIR contract, a CSO, etc. Briefly make the case that you know how to accomplish that mission.
TEAM ABILITY	TECHNICAL PERSONNEL	Briefly list and describe your core scientific and technical team. Do you have the people and technical capabilities you need to successfully complete your proposed project? If not, convince the reader you have a credible recruiting plan and can fill personnel gaps.
	BUSINESS PERSONNEL	Briefly list and describe your business team. Do you have the people and capabilities you need to successfully position your company for DoD Transition? If not, convince the reader you have a credible recruiting plan and can fill personnel gaps.
	PAST EXECUTION	Prove your team has executed well as a group. What milestones have you accomplished as a group in this company?
	SUMMARY	Write a clear, concise description of what your innovation does or will do, and how it will impact the Army. Readers should "get it" after reading this. Please re-use your content in both the SBIR application web form and this section of the application document itself.
weight 20%	DATA QUALITY & ATTRIBUTION	Support your arguments with relevant, properly attributed data to enhance your credibility.

Appendix B

Direct to Phase II Evaluation Criteria

Army Applied SBIR Direct to Phase II (v2) Evaluation Criteria Defined

		DEFINITION
TECHNICAL FEASIBILITY	SCIENTIFIC FEASIBILITY	Is the science behind the solution sound? Convince readers who don't have deep expertise in your field that your innovation is built atop sound scientific and engineering principles.
	ENABLING TECHNOLOGIES	Point to the foundational technologies that you rely on to deliver your solution. Do the required enabling technologies introduce added risk? Using proven (and ideally Army-fielded) underlying technologies and techniques helps to lower technical risk.
	SOLUTION'S UNIQUENESS	From a warfighter's perspective, why is your proposed solution the best choice for the Army? Refute the substitutes for your solution that warfighters are either using currently or considering adopting. Why will soldiers prefer your solution?
	OPERATIONAL IMPACT	Looking only at the soldiers who will be impacted by your solution, argue that their jobs or lives will be significantly improved if your solution is adopted. What is the impact of your solution for a soldier vs. today's solutions?
weight 50%	MILESTONE SCHEDULE	Please share with us a thoughtful execution plan. Strike a balance between giving us a sense of the detailed thinking behind the scenes and the need for contracting to manage a reasonably small number of milestones during your period of performance.
COMMERCIALIZATION AND POTENTIAL	COMMERCIALIZATION POTENTIAL	Through the Applied SBIR Program, the Army wants to take advantage of the speed and scale of the commercial sector. Our organization funds projects that do not rely solely on DoD funding. A key indicator of this the potential for your product / solution to create sustained profitability in the commercial sector. Make your best case that your product is or will be commercially profitable. If you have more than one product, please focus your argument on the product / solution presented for this application.
	FINANCIAL SUSTAINABILITY	Make the case that private dollars will continue to fund improvements to your solution from which the Army will benefit in the future. Companies who cannot demonstrate non-DoD funding sources for future solution enhancements are less attractive to our program.
weight 30%	TRANSITION AND COMMERCIALIZATION INFORMATION	Whatever your stage in terms of technology maturity and engagement with the Army, demonstrate that you have an appropriate goal for your next step in "transitioning" with the Army (and/or DoD more broadly.) What is that next goal for you in terms of your next contracting or collaboration opportunity with the Army? Beyond the program, describe the next type of deal you aim to make with the Army, e.g. a CRADA, a Phase I SBIR, a Phase II, a CSO, etc. Briefly make the case that you know how to accomplish that mission.
TEAM ABILITY	TECHNICAL PERSONNEL	Briefly list and describe your core scientific and technical team. Do you have the people and technical capabilities you need to successfully complete your proposed project? If not, convince the reader you have a credible recruiting plan and can fill personnel gaps.
	BUSINESS PERSONNEL	Briefly list and describe your business team. Do you have the people and capabilities you need to successfully position your company for DoD Transition? If not, convince the reader you have a credible recruiting plan and can fill personnel gaps.
	PAST EXECUTION	Prove your team has executed well as a group. What milestones have you accomplished as a group in this company?
	QUALITY OF PROSE	Prove you write clearly and argue convincingly.
weight 20%	DATA QUALITY & ATTRIBUTION	Support your arguments with relevant, properly attributed data to enhance your credibility.

Appendix C

Phase II Evaluation Criteria

Army Applied SBIR Phase II (v1) Evaluation Criteria Defined

		DEFINITION
TECHNICAL FEASIBILITY	SCIENTIFIC FEASIBILITY	Is the science behind the solution sound? Convince readers who don't have deep expertise in your field that your innovation is built atop sound scientific and engineering principles.
	ENABLING TECHNOLOGIES	Point to the foundational technologies that you rely on to deliver your solution. Do the required enabling technologies introduce added risk? Using proven (and ideally Army-fielded) underlying technologies and techniques helps to lower technical risk.
	SOLUTION'S UNIQUENESS	From a warfighter's perspective, why is your proposed solution the best choice for the Army? Refute the substitutes for your solution that warfighters are either using currently or considering adopting. Why will soldiers prefer your solution?
	OPERATIONAL IMPACT	Looking only at the soldiers who will be impacted by your solution, argue that their jobs or lives will be significantly improved if your solution is adopted. What is the impact of your solution for a soldier vs. today's solutions?
weight 40%	MILESTONE SCHEDULE	Please share with us a thoughtful execution plan. Strike a balance between giving us a sense of the detailed thinking behind the scenes and the need for contracting to manage a reasonably small number of milestones during your period of performance.
COMMERCIALIZATION AND POTENTIAL	COMMERCIALIZATION POTENTIAL	Through this program, the Army wants to take advantage of the speed and scale of the commercial sector. Our organization funds projects that do not rely solely on DoD funding. A key indicator of this the potential for your product / solution to create sustained profitability in the commercial sector. Make your best case that your product is or will be commercially profitable. If you have more than one product, please focus your argument on the product / solution presented for this program.
	FINANCIAL SUSTAINABILITY	Make the case that private dollars will continue to fund improvements to your solution from which the Army will benefit in the future. Companies who cannot demonstrate non-DoD funding sources for future solution enhancements are less attractive to this program.
weight 30%	TRANSITION AND COMMERCIALIZATION INFORMATION	Whatever your stage in terms of technology maturity and engagement with the Army, demonstrate that you have an appropriate goal for your next step in "transitioning" with the Army (and/or DoD more broadly.) What is that next goal for you in terms of your next contracting or collaboration opportunity with the Army? Beyond this program, describe the next type of deal you aim to make with the Army, e.g. a CRADA, a Phase I SBIR, a Phase II, a CSO, etc. Briefly make the case that you know how to accomplish that mission.
TEAM ABILITY	TECHNICAL PERSONNEL	Briefly list and describe your core scientific and technical team. Do you have the people and technical capabilities you need to successfully complete your proposed project? If not, convince the reader you have a credible recruiting plan and can fill personnel gaps.
	BUSINESS PERSONNEL	Briefly list and describe your business team. Do you have the people and capabilities you need to successfully position your company for DoD Transition? If not, convince the reader you have a credible recruiting plan and can fill personnel gaps.
	PAST EXECUTION	Prove your team has executed well as a group. What milestones have you accomplished as a group in this company?
	QUALITY OF PROSE	Prove you write clearly. Prove you argue convincingly.
weight 30%	DATA QUALITY & ATTRIBUTION	Support your arguments with relevant, properly attributed data to enhance your credibility.

Appendix D

Commercialization Strategy Template Link

https://media.defense.gov/2022/Mar/31/2002967679/-1/-1/1/ARMY_CP_TEMPLATE.PPTX

Army SBIR 22.4 Topic Index
Release 5

A224-009 Perception Sensing Advancements for Autonomous Ground Systems

OUSD (R&E) MODERNIZATION PRIORITY: Autonomy

TECHNOLOGY AREA(S): Sensors; Battlespace

OBJECTIVE: This topic is a Direct to Phase II. The purpose of this topic is to improve the performance of perception used for the autonomous mobility of ground systems. As some solutions may improve one challenge area, and other solutions may improve several challenge areas, four topics were combined into one program. Companies have the option to choose any or all four challenge areas they have the capability to satisfy. The ideal sensing solutions are ones that can integrate as many of the four challenge areas as feasible (see description).

DESCRIPTION: While current sensor technology is capable for basic autonomous mobility, there are many challenges that still exist. Sensors have difficultly with vegetation, light levels, negative obstacles, natural obscurants, and ranges that impact high speed travel. Improve one or more of the following autonomous mobility sensing challenges: Off Road Sensing; Adverse Weather Sensing; Long Range Sensing; Reduction in Processing Burden.

The purpose of this topic is to investigate and identify sensor solutions to improve challenges to autonomous mobility. As we expect companies can solve several problems with one solution, the request has identified 4 areas of improvement. Current military autonomous ground mobility perception primarily uses LIDAR, and secondarily EO/IR cameras. Lighting conditions, classifying vegetation, negative obstacles (holes), fog/rain/dust/snow, long range resolution, and time to process images are all limitations. Improvement in any of these areas would improve autonomous ground mobility. The Army seeks commercial market solutions for on-road applications with the potential for modification for miliatry use to improve the data used in autonomous mobility software.

PHASE I: This topic is a direct to phase II. The commercial market for these autonomous sensing enhancements is at a high enough TRL for this to be a Phase II. As part of the submission package, the proposing company will be mandated to include specific tangible metrics within each of the sub-areas (i.e. see “x” number of yards in foggy conditions”) they are proposing to. The company will be asked to hit or make tangible progress towards these metrics at the demonstration event with PdM RCV that will occur 11 months into the Direct-to-Phase II award. The company submissions package will also need to validate with data why the metrics they will hit are on par with or superior to what is currently commercially available (and thus why a Phase I is not necessary).

PHASE II: The topic will be a Direct to Phase II, as it is an integration effort of commercially available components and pre-existing efforts, rather than being the development of a new technology. For this phase, companies are requited to provide a detailed plan for modification and implementation of the challenge areas chosen, define objectives for field testing, conduct testing, deliver integration plan along with final report and integrated prototype.

As discussed above, at 11 months after receiving the initial Phase II award, a progress evaluation at the demonstration event will be conducted. At this point companies that demonstrate sufficient progress towards the technical requirements they initially proposed will receive an additional $300K per topic area (up to $1.2M for all four areas).

At the end of the Phase II, the desired outcome will be to test these solutions at one of the RCV-L MTA-RP program’s multiple cycles of design, build, and test efforts with Surrogate Prototype platforms for FY23-FY25.

PHASE III DUAL USE APPLICATIONS: Potential for integration into future RCV(L) platforms enabling PEO GCS and other Army autonomous systems to function in a greater variety of environments, preparing them for warfighting in any environment (depends on maturity and success of Phase II efforts). Given the strong intersections with the commercial autonomous vehicle sector, leveraging the SBIR construct to bring in high-performing commercial sensing technologies and provide them the funding and the knowledge to properly integrate with pre-existing government work will significantly reduce the risk to the government working with these companies down the line as well as integration costs within the program for these sensing solutions. The results of the Phase III could also help augment the ability of commercial autonomous vehicles to navigate in adverse environments—a challenge the market is currently struggling with.

REFERENCES:

1. Robotic Combat Vehicle Light, Robotic Combat Vehicle–Light (RCV-L), United States of America (army-technology.com)

KEYWORDS: autonomy; sensors; mobility; lighting

A224-010 Bio-Based Fabric/Material/Textiles for Military Applications

OUSD (R&E) MODERNIZATION PRIORITY: Biotechnology Space

TECHNOLOGY AREA(S): Materials

OBJECTIVE: The objectives of this topic are to (1) demonstrate a bio-based materials in fabric/ material applications that provide matching or exceeding performance in safety, fit, form and function, (2) achieve enhanced supportability for seat belts, seat covers, canvas covers, covers of all kinds, and (3) achieve longer time to detection by using natural materials for camouflage purposes instead of the standard synthetic glossy or reflective materials marketed as camouflage.

DESCRIPTION: The purpose of this topic is to find or generate materials that can be used in target areas that are not just domestically grown, much less costly, and environment-renewing but are weavable or printable in CONUS, as opposed to having to source non Berry Amendment items from overseas, develop sources for development, processing and production between the raw growers and the US Army acquisition system, obtain samples suitable for demo/testing in target areas, such as seat belting, camouflage covers, and seat material, and to meet Berry Amendment requirements for critical materials; improve camo material to be less visible; revive American fabrics industry.

Currently, DoD acquires various Fabric/Materials that are not manufactured in the US. Many woven products, seat belt webbing especially, is produced in countries that do not meet Berry Amendment requirements. Also, bio-based materials exist to address certain applications, however, items such as seat belts have not been woven or certified for safety use. Bio-based materials have not been woven into camouflage covers or seating material to determine their feasibility in use. Although they used to be used for everything back in the day.

Working closely with Ford and others, we've learned that integration of Bio-Based materials is possible with little or no disruption to the customer, and improvement of products for users. Wide spread availability of various types of Bio-Based materials that would otherwise be disposed of or incinerated have the potential of being utilized. The 2018 Farm Bill has supported and spawned a huge growing base already. Taking novel materials and subjecting them through mature manufacturing processes will help bring the items to maturity faster

The success of this topic will create a foundation for future bio-based material integration, reduced cost, and Berry Amendment adherence, in an uncertain age regarding foreign cooperation. The metrics will be equivalent or better safety performance, durability, user interface, manufacturability, ability to camouflage, revitalized American industry and farming, updated/replaced specs/TDPs, and any possible weight reduction for newer production systems.

PHASE I: Develop sample of bio-based material to ensure feasibility of production; Receive representative material coupons/samples; Conduct testing against baseline materials

PHASE II: Construct and test samples of completed assemblies (Seats, Seat Belts, Covers, Etc.); Conduct field, safety, performance, and durability testing vs. existing baseline systems. A midterm assessment will occur and consist of evaluation of component technologies in lab, maturity of production process and facility availability, and overall progress.

PHASE III DUAL USE APPLICATIONS: Manufacture Seats, Seat Belts, Covers, with new material; Integrate into other manufacturers of similar products. Potential Final Demonstration: System integration

lab demonstration of bio-based material and vehicle integration/demonstration in vehicle testing and user evaluation and feedback compared to current hardware

REFERENCES:

1. "Example of bio-based textile research: Warlin N, Nilsson E, Guo Z, et al. Synthesis and melt-spinning of partly bio-based thermoplastic poly(cycloacetal-urethane)s toward sustainable textiles. Polym Chem. 2021;12(34):4942-4953. doi:10.1039/d1py00450f
2. Argument to move towards more bio-based textiles: D'Itria E, Colombi C. Biobased Innovation as a Fashion and Textile Design Must: A European Perspective. Sustainability. 2022; 14(1):570. https://doi.org/10.3390/su14010570"

KEYWORDS: Bio-based; materials; manufacturing; textiles; clean technology