DEPARTMENT OF THE ARMY
DoD 22.4 Small Business Innovation Research (SBIR) Annual BAA
Proposal Submission Instructions

January 12, 2022: Topics issued for pre-release
January 27, 2022: Army begins accepting proposals via DSIP
February 15, 2022: DSIP Topic Q&A closes to new questions at 12:00 p.m. ET
March 1, 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)
Unless otherwise noted in the topic, the technical volume is not to exceed 5 pages and must follow the formatting requirements provided in the DoD SBIR Program BAA. The Army will not consider pages in excess of this limit.

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 section includes information on the commercialization strategy within the military, private sector or both. 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.

Unless otherwise noted in the topic, 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. The Government will not consider pages in excess of the page count limitations.

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 strategy 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 $1,750,000 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.

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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)
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- 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

Army SBIR 22.4 Topic Index
Release 1

A224-001	Artificial Intelligence (AI) for Additive Manufacturing (AM) Part Selection
A224-002	Armament System AI Data Logger & Architecture
A224-003	Self-Contained Personnel safety systems for people in and around autonomous vehicles

A224-001 TITLE: Artificial Intelligence (AI) for Additive Manufacturing (AM) Part Selection

OUSD (R&E) MODERNIZATION PRIORITY: Artifical Intelligence (AI)/ Machine Learning (ML)

TECHNOLOGY AREA(S): Materials / Processes, Information Systems Technology

OBJECTIVE: The objective of this Phase I topic is to develop Artificial Intelligence (AI) capabilities that analyzes technical data information and assesses the candidacy of a component for additive manufacturing, automate manual processes in order to reduce the time of engineering analysis by up to 80%, increase the pool of Additive Manufacturing (AM) candidates which leads to new opportunities and program creation, optimize the "Can Print / Should Print" analysis for higher yield of impactful AM candidates, and improve logistics trails and increase readiness through increased usage of additive manufacturing.

DESCRIPTION: The purpose of this Phase I topic is to develop an AI capability that greatly improves the method for identifying and analyzing AM candidate parts. Currently, there is a manual process in place performed by engineers who are AM Subject Matter Experts. AM SME engineers search through Army databases to pull technical and logistics data and analyze data to determine printability. The development of an AI system which can automate the technical data analysis process through critical factors will greatly benefit efforts. AM can be integrated in a multitude of DoD programs and supply chains will be greatly improved with the increase of AM candidate parts, saving time, money and resources.

PHASE I: When completing the Phase I proposal, submission must demonstrate developed capability where technical data can be processed by an AI system to provide information and analysis on AM candidacy. Criteria may include the following: Material, Tolerance, Size, System, Supplier, and Item owner.

PHASE II: When completing Phase II of this topic, submission must build upon and improve the AI system to increase efficiency and throughput and expand candidacy criteria. The effort should focus on the printability of the part and deviations against component requirements.

PHASE III DUAL USE APPLICATIONS: In order to successfully complete Phase III, submission must show the performance of scaling and integration of the AI system with current Army Digital Management Systems.

REFERENCES:

1. http://www.ieomsociety.org/singapore2021/papers/476.pdf

KEYWORDS: Artificial Intelligence, Additive Manufacturing, Database, Algorithms, Digital Management Systems

A224-002 TITLE: Armament System AI Data Logger & Architecture

OUSD (R&E) MODERNIZATION PRIORITY: Artifical Intelligence (AI)/ Machine Learning (ML)

TECHNOLOGY AREA(S): Information Systems Technology

OBJECTIVE: The objective of this Phase I topic is to collect, enable real-time transmission and archival of armaments usage data across all platforms for current and future AI developments. Data, such as shock, vibration, temperature, humidity, atmospheric pressure, and other useful data. The data logger allows for off network data collection, ensuring 365/24/7 data collection. This data will allow AI algorithms to identify or predict critical operational use cases (round count, tube wear, blast over pressure). Usage areas include operational decisions, training, future R&D optimization, situational awareness, logistics & maintenance.

DESCRIPTION: The purpose of this Phase I topic is to collect, transmit and archive data from armament systems (artillery, mortars, crew served, remote, squad) for use in AI/ML applications. Please see the objective for usage areas. The data collected can be used for many areas across the armaments lifecycle for current and future unknown application. The topic should eventually aid in the development of a robust AI data architecture and repository strategy and identify potential AI/ML development efforts based on data collection and architecture. Currently, there is limited data collected through log books and some SW usage logs. Battlefield networks limit the ability to transmit the data real time, but no limitations are in place to collect data for future use beyond SWAP concerns. Sensor integration and SWAP reductions allow for more sensors to be utilized without effecting armaments operations. Ability to conduct AI/ML on the edge will allow data consumption. This supports armaments operations both on the battlefield and off (Training, Situational Awareness, Battlefield Decisions, R&D optimization, Logistics and Maintenance), If successful, armament systems and their operators will be more effective and reduce the time to neutralize a threat. It will also greatly impact the logistics, maintenance and future R&D cycles by utilizing actual usage data rather than estimated.

PHASE I: In order to be successful in your Phase I submission, the following must be demonstrated: Identify sensors and data criteria (resolution & sample rate), propose data architecture and strategy, including data storage and transfer methods, and identify potential AI/ML development efforts based on data collection and architecture

PHASE II: In order to be successful in your Phase II submission, the following must be demonstrated: Develop base data logger module and data architecture with repository for armament systems and develop specific data logger module for extended range munitions applications

PHASE III DUAL USE APPLICATIONS: In order to be successful in your Phase III submission, the following must be demonstrated: Develop Extended Range Cannon Artillery (ERCA) based data logger with on the edge AI/ML modules with collected data specific to armament application.

REFERENCES:

1. Russell, Stephen, and Tarek Abdelzaher. "The internet of battlefield things: the next generation of command, control, communications and intelligence (C3I) decision-making." MILCOM 2018-2018 IEEE Military Communications Conference (MILCOM). IEEE, 2018
2. “Utilizing Low Cost Sensors on Mortar Platforms for Fire Control Applications”, R. Tillinghast, G. Byrne, S. Sadowski, A. Yu, & M. Wright. Proceedings: NDIA Armaments Systems Forum, Scheduled for April 2016

3. Iyer, Brijesh, and Niket Patil. "IoT enabled tracking and monitoring sensor for military applications." International Journal of System Assurance Engineering and Management 9.6 (2018): 1294-1301.

KEYWORDS: Armament, Artificial Intelligence, Machine Learning, Algorithms, Data logging

A224-003 TITLE: Self-Contained Personnel safety systems for people in and around autonomous vehicles

OUSD (R&E) MODERNIZATION PRIORITY: Autonomy

TECHNOLOGY AREA(S): Information Systems Technology, Sensors, Electronics and Electronic Warfare

OBJECTIVE: This is a Direct to Phase II. The purpose of this topic is to develop a self-contained system for autonomous vehicles that can be used to determine when people are around the vehicle and leverage this information to inform the actions of the autonomous system. RCV-L will be next to soldiers and enemy combatants in the operating environment, therefore necessitating a vehicle that can identify when people or objects are too close. Submissions must utilize and integrate a combination of Hardware and Software to inform the platform / operator of personnel approaching or near the platform.

DESCRIPTION: This is a Direct to Phase II. The following are objectives of this topic: provide notice to the platform of unexpected personnel (threats), provide notice to the platform of expected personnel (friendly), provide additional safety controls to protect personnel in close to the vehicle, and develop a system that does not have to be confined to solely body-worn solutions. Currently, the unmanned vehicle operator is responsible for situational awareness of people around the vehicle. It is difficult to have full situational awareness via onboard cameras. Bandwidth limitations restrict video sent to the operator, the operator cannot monitor all video, and the operator's information may not always be current. Therefore, if successful, the operator and the platform can use sensors and software to recognize people and inhibit the platform from injuring people.

PHASE I: This is a direct to Phase II. Please see Phase II for complete instructions on what is necessary to be demonstrated in your Phase II proposal. To demonstrate Phase I success in your Phase II proposal, please utilize commercially available components and pre-existing efforts in your research.

PHASE II: This is a direct to Phase II. Please submit a Phase II proposal for this topic, as Phase I efforts are not required. This is an integration effort of commercially available components and pre-existing efforts, rather than being the development of a new technology altogether. There is potential for Phase II efforts to integrate into Surrogate Prototype for testing and data collection; potential for effort to integrate into FSP solution; potential to align to the Software Acquisition Pathway (SWP). Success will be measured through preliminary and Critical Design Reviews; Performance of / improvement in Receiver Operator Characteristic (ROC) Curves; and Accuracy of tracks.

PHASE III DUAL USE APPLICATIONS: Further Phase III instructions will be established in detail in the future. There is potential for integration into future RCV-L platforms dependent on maturity and success of Phase II efforts.

REFERENCES:

1. J. E. Naranjo, M. Clavijo, F. Jiménez, O. Gómez, J. L. Rivera and M. Anguita, "Autonomous vehicle for surveillance missions in off-road environment," 2016 IEEE Intelligent Vehicles Symposium (IV), 2016, pp. 98-103, doi: 10.1109/IVS.2016.7535371.

KEYWORDS: Autonomy, Unmanned vehicle, RCV-L