Ground Vehicle Systems Center Commercial Solutions Opening (CSO) Amendment 04

PURPOSE OF REVISION: The purposes of Amendment 04 (dated 7-10-2025) are to:
In Section 6, Areas of Interest (AoIs):

1. **Revise c. C-UAS**

In Section 1.3, CSO Procedure

1. **Add Note**

In Section 3.2.1, Phase 1 Solution Brief Content:

1. **Add Note**

1. General Information

1.1 Authority

The 2014 Quadrennial Defense Review (QDR) established innovation as a central line of effort in the national defense strategy of the United States. The decisive military advantage of the United States over its adversaries and peer competitors is steadily eroding. Consequently, under 10 U.S.C. 3458, Contracting Officers may acquire innovative commercial items, technologies, or services using a competitive procedure called a Commercial Solutions Opening (CSO). Under a CSO, the Department of Defense may competitively select proposals received in response to a general solicitation, similar to a broad agency announcement, based on a review of proposals by scientific, technological, or other subject-matter expert peers. Use of a CSO in accordance with DFARS Subpart 212.70 is considered to be a competitive procedure for the purposes of 10 U.S.C. 221 and FAR 6.102. Finally, Contracting Officers shall treat items, technologies, and services acquired using a CSO as commercial products and commercial services. Contracts or agreements under this authority shall be fixed-price, including fixed-price incentive fee contracts.

1.2 Background:

The United States Army Combat Capabilities Development Command (DEVCOM) Ground Vehicle Systems Center (GVSC), located in Warren, Michigan, is the U.S Armed Forces' research and development facility for advanced technology in ground systems. The U.S Army DEVCOM is a major subordinate command of the U.S Army Futures Command (AFC) and shares its facilities with the U.S Army Tank- Automotive and Armaments Command (TACOM). GVSC's current technology focus areas include Power and Mobility, Autonomous Systems, Force Projection, Survivability & Protection, Electronics and Architecture, Cyber Engineering and Software Integration, Human Machine Integration, Advance Manufacturing and Modeling, and Simulation and Prototyping.

Ground Vehicle Systems Center (GVSC) seeks to accelerate the delivery and sustainment of Ground System Capabilities to their partners to ensure early identification of warfighter needs. GVSC aims to develop systems that are resistive to immediate obsolescence and overmatch. GVSC will invest in the technologies, competencies, and organic infrastructure that will achieve the exponential capability offset that will guarantee future dominance in the ground domain.

1.3 CSO Procedure:

GVSC seeks to award the following, but is not limited to: FAR contracts under FAR Part 12, Commercial

Procedures; or non-FAR agreements such as transaction agreements under 10 U.S.C 4022; and Cooperative Agreements under 31 U.S.C. 6305 for GVSC and/or its customers that are directly relevant to enhancing the effectiveness of development, integration, demonstration, and sustainment of ground vehicle systems capabilities to support Army modernization priorities and improve readiness.

This CSO may result in awards to proposals for innovative, commercial technologies through multi-phased, competitive processes throughout 2029. The Government reserves the right to extend this CSO beyond the open until date by amendment if the authority is extended. This CSO may include awards for but are not limited to commercially available technologies immediately available, commercially available technologies fueled by commercial or strategic investment, concept demonstrations, pilots, and agile development activities that can incrementally improve commercial technologies, existing government-owned capabilities, or concepts for broad defense application.

The CSO solicitation process may include a multi-phased solicitation and evaluation approach that is dependent upon specific Areas of Interest (AoIs). The AoIs are focused topic(s)/categories specified in Section 6.1. The following phases may be used:

Phase 1 – Submission of written solution brief,
Phase 2 – Presentation (if applicable), and
Phase 3 – Request for Commercial Solution Proposal (Request for CSP)

The Government may add AoIs against this CSO at any time throughout its duration. Interested companies are encouraged to frequently check www.SAM.gov for new AoI postings.

The Government may add AoIs including submission dates. Interested companies are encouraged to frequently check www.SAM.gov for new AoI postings.

The CSO outlines the procedures that are available for utilization by the Government for AoIs to ensure a competitive process is followed. The competitive process under this CSO may result in a two or three phase approach (written solution brief, presentation (if applicable), and a request for CSP proposal):

Phase 1 Solution Briefs: A solution brief must be submitted as specified in Sections 3.2 of this CSO. The Government will evaluate solution briefs against the criteria stated in this CSO. The Government will not pay companies for the costs associated with solution brief submissions.

Phase 2 Presentations (if applicable): Companies whose solution briefs are evaluated to be of merit may be invited to provide a Presentation following the instructions provided in Section 3.3 of this CSO. In the event that the Government requires a Demonstration in addition to a Presentation, additional information will be provided in the specific AoI highlighting those procedures; otherwise, Phase 2 will be comprised solely of the Presentation. The Government reserves the right to request additional technical information to determine if a company has a viable solution for the government's specific AoI. The government will not pay companies for costs associated with Presentations, unless otherwise stipulated.

Phase 3 Request for Commercial Solution Proposal (Request for CSP): Those companies that are evaluated to be of merit through Phase 1 or Phase 2 or a combination of both, may be invited to submit a full written proposal following the instructions provided in Section 3.4 of this CSO.

Requests for a CSP under this CSO are subject to the availability of government funds. The government will not pay companies for costs associated with developing submissions in regard to this CSO or resulting AoI, unless otherwise stipulated within the AoI.

NOTE: The Government reserves the right to forgo Phase 1 and Phase 2 based on the individual merits. The Government also reserves the right to move expeditiously through the phases based on the merit of submissions if urgent requirements arise.

NOTE: Entities may elect to forgo Phase 1 and Phase 2 and submit a written proposal however, due to Government budget uncertainties, no specific dollars have been reserved for awards under this CSO. The participating DoD agencies will provide no funding for direct reimbursement of whitepaper or proposal development costs.

NOTE: During any step of the CSO, the Government may send written questions or comments for the offerors to address via email, or other suitable communication methods as determined by the Government.

NOTE: The Government may engage in discussions with Companies to include discussions during the development of the formal proposal.

2. Definitions

1. "Area of Interest" (AoI) means an announcement posted on the GPE website, which may result in the award of various types of contracts that will be dependent on the specific AoI requirement.

2. "Commercial Solutions Opening" (CSO) is a competitive procedure contracting officers may use to acquire innovative commercial items, technologies, or services.

3. Commercial Solution Proposal (CSP): is a commercial proposal that is submitted in response to an AoI that is governed by a CSO. CSPs may be requested as a result of solution briefs and/or presentations/presentations.

4. "Nontraditional Defense Contractor" is defined in 10 U.S.C. § 3014 as an entity that is not currently performing and has not performed, for a least the one-year period preceding the solicitation of sources by the DoD for the procurement or transaction, any contract or subcontract for the DoD that is subject to full coverage under the cost accounting standards prescribed pursuant to 41 U.S.C. § 1502 and the regulations implementing such section. This includes all small business concerns under the criteria and size standards in 13 C.F.R. § 121.

5. "Nonprofit Institution" as defined in 15 U.S.C. § 3703 as an organization owned and operated exclusively for scientific or educational purposes, no part of the net earnings of which ensures to the benefit of any private shareholder or individual.

6. "Small Business Concerns" is defined in the Small Business Act (15 U.S.C 632).

7. "Innovative" means —

a. any technology, process, or method, including research and development, that is new as of the date of submission of a proposal; or

b. any application that is new as of the date of submission of a proposal of a technology, process, or method existing as of such date.

3. Guidelines for Solution Briefs, Presentations, and Proposals

3.1 General Guidelines

Unnecessarily elaborate brochures or proposals are not desired.

When applicable, use of a diagram(s) or figure(s) to depict to the essence of the proposed solution is strongly encouraged.

Companies may submit multiple solution briefs in response to any single AoI if each submission represents a separate and distinct concept. Individual solution briefs may only address one concept based on the stated AoI.

The period of performance for any solution brief or CSP submitted under this CSO should generally be no greater than 12 months (unless otherwise specified in the AoI).

Technical data with military application may require approval, authorization, or license for lawful exportation.

All solution briefs, presentations, and proposals must be Unclassified. Do NOT mark any documents as "CONFIDENTIAL". Solution briefs, presentations, and proposals containing data that is not to be disclosed to the public for any purpose or use by the government except for evaluation purposes shall include the following general disclaimer on the cover page:

> "This [select one: solution brief, Presentation, or Proposal] includes data that shall not be disclosed outside the government, except to non-government personnel for evaluation purposes, and shall not be duplicated, used, or disclosed - in whole or in part - for any purpose other than to evaluate this submission. If, however, an agreement is awarded to this company as a result of - or in connection with - the submission of this data, the government shall have the right to duplicate, use, or disclose the data to the extent agreed upon by both parties in the resulting agreement. This restriction does not limit the government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [insert numbers or other identification of sheets]"

Recommend marking (header or footer) for portions of business plans and/or technical information that are to be protected for a period of five years from FOIA disclosure. Codified at 5 U.S.C. §552, FOIA provides that disclosure of certain types of information (i.e. trade secrets and commercial or financial information) is not required, and may not be compelled, for five years after the date on which the information is received by the Department of Defense.

NOTE: Foreign-Owned businesses may independently submit a solution or do so as part of a teaming arrangement with one or more United States-owned businesses. However, the ability to obtain an

agreement based upon a submission may depend upon the ability of the Foreign-Owned business to obtain necessary clearances and approvals to obtain proscribed information.

Questions regarding the objectives or preparation of the solution brief should be addressed to the POCs listed in the respective AoI.

Submissions must be submitted electronically.

Entities submitting solution briefs that are not chosen for the presentation phase or the CSP phase will be notified in writing as soon as practicable. Further verbal feedback may be provided, upon request, at the Contracting/Agreements Officer's discretion.

3.2 Phase 1 Solution Brief:

3.2.1 Phase 1 Solution Brief Content:

Unless otherwise stated on the subject AoI, solution briefs shall not exceed five (5) single-sided written pages using 12-point font or, alternatively, solution briefs may take the form of briefing slides which shall not exceed fifteen (15) slides.

Solution briefs must include the following:

1. Company Name, Title, Date, Point of Contact Name, E-Mail Address, Phone, and Address. Specifically identify the AoI for which the solution brief is submitted.

2. Executive Summary: Provide an executive summary of the technology or service. (This is included in the 5 written pages limit).

3. Technology Concept: Show and/or describe how your proposed solution or potential new capabilities represent an application of innovative commercial products, innovative commercial technologies and services or adaptations/modifications of existing commercial product technologies and services to the AoI. Describe the unique aspects of your technology and the proposed work as it relates to the AoI. Identify whether the effort includes the pilot or demonstration of existing commercial technology (identified as commercially ready and viable technology), or the development of technology for potential defense application. If development or adaptation is proposed, identify a suggested path to mature the technology. Identify aspects of your proposal, to include date and software, which may be considered proprietary.

4. Price: Provide a rough order of magnitude price for the proposed solution and include desired payment terms.

NOTE: The title page does not count against page limit, however, the executive summary does.

NOTE: These limits are not requirements, but strong recommendations.

3.2.2 Phase 1 Solution Brief Basis of Evaluation:

Solution brief evaluation criteria are listed in order of importance. Individual solution briefs will be

evaluated against the evaluation criteria described below:

1. Responsiveness of the solution brief in addressing the AoI with a commercially available product and/or process readily available to meet the immediate needs;

2. The technical merit of the proposed solution, including the extent to which the proposed solution is unique, and/or innovative to government application; and

3. The extent to which funding is available for the proposed effort.

Solution briefs will be evaluated based on the evaluation criteria listed above, not against other solution briefs submitted in response to the same AoI. Additional technical evaluation criteria specific to a particular project may be used. In these instances, the additional criteria will be posted within or as an attachment to the AoI on the GPE website. Based on the results of the Phase I evaluation, the government may elect to invite "all, some or none" of the proposed solutions into Phase 2 Presentations or directly into Phase 3 by requesting a CSP.

3.2.3 Solutions briefs should be emailed to technical point of contact listed under applicable area of interest and Katarzyna Szkubiel, Katarzyna.k.szkubiel.civ@army.mil

3.3 Phase 2 Presentation (if applicable):

3.3.1 Phase 2 Presentation Content:

If invited into Phase 2, companies must provide a Presentation to demonstrate and provide further details on the technical and business viability of their proposed solution. In addition to the Presentation, the Government may request an additional written submission to supplement or clarify the information provided in the Phase 1 solution brief. Depending on the specific requirement, the Government may request an in-person, virtual or paper demonstration. In the event that the Government requires a demonstration, additional information will be provided in the specific AoI highlighting those procedures. During the Phase 2 Presentation, the company shall address the following in detail:

1. A description or demonstration of how the proposed solution represents an innovative application of commercial technology to the AoI.

2. A rough order of magnitude (ROM) price and notional schedule.

3. Any Intellectual Property (IP) involved in the effort and associated restrictions on the government's use of that IP.

4. Additional information/detail from the company's Phase 1 solution brief, as specified in the government's invitation to Phase 2.

3.3.2 Phase 2 Presentation Basis of Evaluation:

Individual presentations will be evaluated against the evaluation criteria below and not against any other presentations held under the same AoI. Presentation submissions will be valid for 90 days after

presentation evaluation.

After completing the evaluation of presentation submissions, the Government will notify the company of one of the following:

1. Request a CSP for evaluation in Phase 3;

2. The proposed solution is not of continued interest to the Government and will not be considered for a CSP Phase 3; or
3. The proposed solution is of continued interest to the Government, but is not currently eligible for an invitation to Phase 3 CSP submission due to the current lack of Government resources and/or funding.

NOTE: If Government funding or resources are not assigned for a Phase 3 CSP 120 days after completion of the evaluation, the Government will send written notification of non-eligibility and officially close the AoI selection process.

Presentation evaluation criteria are listed in descending order of importance below. Presentations will be evaluated/scored on the following factors, as provided in the AoI:

1. Level of relevancy of the solution in addressing the AoI with a commercially available product or process;

2. The technical merit of the proposed solution adequately addressed the AoI need(s) and demonstrated feasibility for the government to pursue the proposed solution;

3. Level of uniqueness, or innovative approach to solve the government's need;

4. Level of technical risk or maturity;
5. Level of risk placed with the proposed ROM;

6. Level of risk in the proposed milestone schedule and its ability to meet the AoI need within a relevant time period;

7. Level of risk in the company's viability and business solution; and

8. Level of potential risk in anticipated IP and data rights assertions

3.4 Phase 3 Proposal:

The third and final Phase of the CSO process is the CSP. Through Request for CSP, offeror(s) will be invited to submit a CSP based on the defined CSO phased approach that will be utilized. Offerors must ensure that the CSP is valid for at least 120 days from the submission date. If necessary, offerors invited to submit a CSP may be advised to schedule a meeting with the Government to address any feedback contained in the request for CSP. The CSP must be prepared in two separate Volumes as follows: Volume I Technical and Volume II Price. Each volume will have its separate related attachments.

3.4.1 Phase 3 Proposal Content

Based upon the results of market research, Phase 1 and/or Phase 2 evaluation(s) above, the Government may Request a CSP. If that occurs, a company, or companies will be invited to develop and submit a written proposal. The company may propose terms and conditions including but not limited to Service License Agreements (SLA) and/or User License Agreements (ULA) governing the requirement for the Government's consideration and negotiation. At this stage, the selected companies may discuss proposal

development details during the proposal writing process with their assigned Government expert(s) or Government teaming partner(s).

Companies should note that there are certain terms and conditions the Government may be unable to accept. However, projects awarded through the CSO may provide flexibility to adopt customary industry standards where it is otherwise legal and meets the Government's general public responsibility.

Proposals containing data that is not to be disclosed to the public for any purpose or used by the Government except for evaluation purposes shall include the following sentences on the cover page:

"This proposal includes data that shall not be disclosed outside the Government, except to non-government personnel for evaluation purposes, and shall not be duplicated, used, or disclosed -- in whole or in part -- for any purpose other than to evaluate this proposal. If, however, an agreement is awarded to this Company as a result of -- or in connection with -- the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent agreed upon by both parties in the resulting agreement. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [insert numbers or other identification of sheets]"

Each restricted data sheet should be marked as follows:

"Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal."

3.4.1.1 Section 1 Technical Proposal Volume:

The technical volume shall include a detailed work plan indicating how each aspect of the objectives is to be accomplished. The technical volume should be in as much detail as the offeror considers necessary to fully explain its proposed technical approach or method, including all assumptions utilized to develop its proposed solution and associated costs. The technical volume should reflect a clear understanding of the nature of the work being undertaken. The technical volume must include information on how the project will be organized, staffed, and managed. Information should be provided that demonstrates your understanding and management of important events or tasks. The technical volume must include a list of suggested deliverables and deliverable dates.

NOTE: The government reserves the right to further define the required technical proposal content based upon the specific AoI requirements.

3.4.1.2 Section 2 Price Proposal Volume:

The price volume must contain sufficient information to allow the government to perform a basic analysis of the proposed cost or price of the work. If the proposal includes a time and materials contract line item, the proposal must include labor categories and corresponding number of direct labor hours; fixed hourly rates that include wages, overhead, general and administrative expenses, and profit; and costs for materials, supported by vendor quotes, supplier agreements or other bases of estimate. The government reserves the right to request any other price data or supporting cost information the government deems

necessary to determine the total overall price is fair and reasonable. This can include but is not limited to commercial price catalog(s), previous commercial sales receipts, and/or other proprietary information to help the government determine reasonableness and future budgetary cost estimates.

NOTE: The cost of preparing proposals in response to this CSO is NOT considered a direct charge to any resulting AoI award or any other contract.

NOTE: The government reserves the right to further define the required price proposal content based upon the specific AoI requirements.

3.4.2 Proposal Basis of Evaluation:

Proposals will be reviewed as received by a Government subject matter expert(s). In all cases, proprietary information shall be protected from competitors. The CSO evaluation criteria is listed in descending order of importance. The Government subject matter expert(s) will first review the proposal for adequacy and eligibility to determine the extent to which the following requirements are met:

1. The merit and risk elements of the proposed technical approach are acceptable and address the priorities outlined in the AoIs;

2. The proposal performance schedule is realistic and/or adequate; and,

3. The proposed price is fair and reasonable.

NOTE: The Government reserves the right to further define the basis for evaluation based upon the specific AoI requirements.

3.4.3 Proposal Evaluation Rating:

1. The Technical Proposal Volume will be evaluated and assigned one of the following ratings:

a. **Acceptable:** The proposal has been evaluated and deemed appropriate for additional consideration and discussion. An acceptable proposal is generally considered well-conceived, scientifically or technically sound, and important to program goals and objectives. An acceptable proposal may proceed into negotiations or directly to the award process.

Note: An acceptable rating does not guarantee contract award. The following will be taken into consideration: program priorities, outcome of negotiations, and availability of funds.

b. **Unacceptable:** The proposal has been evaluated and deemed inappropriate for additional consideration. An unacceptable proposal is generally considered not well-conceived, scientifically or technically unsound or does not meet program priorities. An unacceptable proposal will be rejected.

2. The Price Proposal Volume will be evaluated as follows:

a. **Fair and Reasonable:** The price proposal has been evaluated and deemed fair and reasonable. A Fair and Reasonable proposal may proceed to the award process.

Note: A fair and reasonable price determination does not guarantee contract award. The following will be taken into consideration: program priorities, outcome of negotiations, and availability of funds.

b. **Not Fair and Reasonable:** The price proposal has been evaluated and deemed to not be fair and reasonable. Proposal submissions given this designation may not proceed to the award process without negotiations that result in a fair and reasonable determination.

3.4.4 Proposals may be emailed directly to Dawn Vanhulle dawn.m.vanhulle.civ@army.mil, Contracting Officer/ Agreements Officer– ACC DTA, Matthew Fitzsimmons matthew.t.fitzsimmons.civ@army.mil, Contracting Officer/ Agreements Officer – ACC DTA and Katarzyna Szkubiel, katarzyna.k.szkubiel.civ@army.mil, Procurement Specialist- GVSC. Do not email full proposals to the TPOC.

3.4.4.5 Proposals shall be valid for at least 180 days.

4. Awards

4.1 General Guidelines

Upon favorable review and funds availability, the government may choose to make a fixed price award using FAR Part 12 Acquisition of Commercial Items or other authority such as 10 U.S.C. 4022.

The Contracting Officer reserves the right to negotiate directly with the company on the terms and conditions prior to execution of the resulting contract or agreement, including payment terms, and will execute the contract or agreement on behalf of the government.

In order to receive an award -

1. A company must have a Unique Entity ID (UEI) and shall be registered in the System for Award Management (SAM) prior to receiving an award. Companies are advised to commence SAM registration upon perusing an AoI announcement.

2. A company must also register in the prescribed government invoicing system (ex. Wide Area Work Flow).

2. A company must be determined to be responsible by the Contracting Officer and must not be suspended or debarred from award by the Federal Government nor be prohibited by Presidential Executive Order and/or law from receiving an award.

Receipt of a request for CSP does not guarantee that a company will receive an award and the government reserves the right, at any point prior to award of a contract or agreement, to cancel the Request for CSP. The government reserves the right to make awards to all, some, or none of the selected solutions.

NOTE: The government reserves the right to amend this CSO solicitation as necessary amendments for emerging requirements and changes in authority occur. Amendments to this CSO will be posted via SAM.gov.

4.2 Procurement Integrity Act (PIA)

The CSO solicitation process for FAR contracts is covered by the Procurement Integrity Act (PIA). PIA is implemented for FAR contracts through FAR part 3.104. Accordingly, the CSO competitive solicitation process and awards made thereby must adhere to the ethical standards required by the PIA.

5. Contact Information:

CSO GVSC POC: Katarzyna Szkubiel, Katarzyna.k.szkubiel.civ@army.mil

6. General Area of Interest (AoI)

6.1 Continuously Open AoIs

The following AoIs are of continuous interest for GVSC. All solution briefs received under these AoIs will be evaluated IAW section 3.2.2 above. NOTE: If government funding and/or resources are unavailable for the proposed effort, all Phase 1 Solution Briefs will be retained by GVSC.

GROUND VEHICLE ADVANCED POWER SYSTEMS: This effort focuses on advancing electrical power systems up to 1.5MW of power for use on Military ground vehicles. The goal of this campaign is to meet the Army's increasing electrical power needs while improving vehicle efficiency and the power density of power electronics. This will be made possible by exploiting the gains made in emerging power electronic designs and the use of cutting-edge electrical components. These advances will significantly impact future Army vehicle design and will enable the Army to have a decisive overmatch to near peer adversaries.

a. Power System Architecture up to 1.5MW: The objective of power system architecture topic develop architectures that are suitable for delivery of up to 1.5MW of power to vehicle systems and mission payloads. These architectures need to account for hybrid electric or all electric powertrains, high energy loads like cooling system, energy weapons, power export, and legacy 28Vdc/600Vdc power systems. There are three (3) key areas of investigation for this effort: 1) what safety features are needed to make the architecture a viable product; 2) is a voltage greater than 600Vdc needed; and 3) are electric components available at these voltage/power levels.

Technical Point of Contact: Jason Spina, 586-214-2751, jason.a.spina.civ@army.mil

b. Advance Power Electronic Design: This topic focuses on taking advantage of cutting-edge power electronic design to significantly increase power density and power efficiency which will result in smaller devices that require less cooling and are easier to package. This topic includes, but is not limited to, advanced designs such as wideband gap semiconductors, soft switch, zero-volt switching, zero-current

switch, modular multi-level converter, active filtering, and all other techniques to meet the focus of increased power density and power efficiency.

Technical Point of Contact: Aric Haynes, 586-202-4190, aric.l.haynes.civ@army.mil

c. Artificial Intelligence or Machine Learning (AI/ML) in Power Management Systems: This topic focuses on advancement in power management systems for ground vehicles as power management will enable more efficient vehicles. This topic incorporates advancements in AI/ML algorithms and knowledge base to adapt to how the vehicle is being used and learn the most efficient way to operate the vehicle. This topic also has two (2) key enablers in advancing AI/ML power system development: 1) power system modeling; and 2) hardware in-the loop software development.

Technical Point of Contact: Jason Spina, 586-214-2751, jason.a.spina.civ@army.mil

d. Wireless Power Transfer: This topic focuses on wireless power transfer up to 1MW of power as there are two (2) target areas for wireless power transfer on Army ground vehicles. The first focus area is a safe, reliable way to recharge the vehicles through wireless recharge stations. The second focus area is wireless power transfer to transfer power between a hull and turret, bypassing the slipring.

Technical Point of Contact: Aric Haynes, 586-202-4190, aric.l.haynes.civ@army.mil

e. Power System Physical Interfaces: Often when developing advance power electronics, the height and width of the design is dictated by the physical interface components, such as connectors, coolant fitting, and cabling. This topic focuses on the necessary advancement of interface components to reduce the physical size of the design. Also, these physical interface components often have very long lead times which can be problematic for procurement and integration, so advanced manufacturing approaches to reduce component lead time will also be explored under this topic.

Technical Point of Contact: Ed Schwartz, 586-571-5381, edward.c.schwartz2.civ@army.mil

f. Ground Vehicle MIL-Rugged Computing Architectures for Artificial Intelligence Applications: The US Army is interested in ruggedized computing architectures designed for running AI applications on military ground vehicles. In order to be considered rugged, the computers would need to meet ATPD-2404 requirements such as operating through pressure washing, submergence in 1 meter of water, gun shock, and operating in a 71C environment with little to no airflow. AI applications for mobility, autonomy, or target recognition largely depend on GPU or GPU-like processing ability with quick access to large amounts of memory. Utilizing MIL-STD-1275F or MIL-STD-3072 electrical power input, what products are available or could be developed to provide the most processing capability in a Standardized A-Kit Vehicle Envelope (SAVE) space claim or smaller and still meet the required environmental conditions?

Technical Point of Contact: Mandel Machart, (586) 282-4877, mandel.j.machart.civ@army.mil

g. Advanced Power Production and Storage: The US Army is interested in advanced power production and storage technologies, including novel batteries and fuel cells. Objectives include those that provide improved durability, reduced costs, and increased energy density, making them an attractive option for

military vehicle applications. These technologies also include the ancillary enabling technologies, such as production of hydrogen for hydrogen fuel cells. These may come from industries such as automotive, aerospace, and energy.

Technical Point of Contact: Kevin Centeck, kevin.s.centeck.civ@army.mil

HEAVY TACTICAL VEHICLES (HTV) The mission of PdM Heavy Tactical Vehicle (HTV) is to Transform Combat Support (CS) and Combat Service Support (CSS) Units by Equipping and Supporting Soldiers with Heavy Tactical Wheeled Vehicles and Tactical Trailers, along with their Associated Distribution Platforms and Mission Modules and to provide the Army logistician with the ultimate operational capability to conduct resupply, re-arming, and recovery operations using the most adaptable, survivable equipment available.

a. Tactical Wheeled and Combat Vehicle Rollover and Extraction Capability. Gaps have been identified in supporting the U.S. Army critical Multi-Domain Operations (MDO) Large Scale Ground Combat Operations, specifically within recovery operations. An existing DRAFT Abbreviated-Capability Development Document (A-CDD) has been generated. To date this A-CDD has not been validated. This topic is seeking Tactical Wheeled Vehicle (TWV) rollover and extraction recovery solutions, with potential system level user demonstrations. The solutions are desired to be highly maneuverable, weighing less than 80K lbs. at curb weight (unladen and unarmored), can move swiftly on the battlefield, with a top speed of at least 55 MPH, have cross-country mobility, can lift and flat tow all TWV's and medium tracked vehicles, and can perform a single vehicle extraction recovery of up to the heaviest Tactical Wheeled Vehicles (TWV), up to 80K lbs., objective 100K, and tracked vehicles. These solutions will assist the Army with informing requirements in this heavy recovery space.

Technical Point of Contact: Richard McKenzie, (586) 282-8847, Richard.D.McKenzie6.civ@army.mil

GROUND VEHICLE ROBOTICS (GVR): The GVR mission is to develop, experiment, demonstrate, test and transition autonomy enabled ground system capabilities and technologies to meet and shape Army requirements.

a. Agile Development of Logistics Material and Technical Services. To rapidly demonstrate and test GVR vehicle autonomy system innovative commercially available solutions for logistics material development that leverage existing autonomy systems, documentation, software and displays. Reducing cost and delivery time is required across the full spectrum of logistics material development. Application of Agile Development Process for maintenance, operation, supply, training materials and services is desired. Leveraging innovative commercial technologies, capabilities, processes, and techniques along with demonstrating the benefits of continuous integration and delivery during the development of operator and maintainer training, technical manuals, publications, and field support is desired. Additionally, the Government seeks alternative methods of delivering the materials to the soldier and collecting feedback and validating the new methods as well as supporting the transition of the new processes to programs of record is desired.

Technical Point of Contact: Mr. Scott Paul Heim scott.p.heim.civ@army.mil

b. Cybersecurity. Commercial software and hardware to address cyber threats, which are a threat in the battlespace. Of particular interest is commercial software that enables the Army and its ground vehicle fleet to adapt to this environment with advancing cybersecurity technologies to become resilient to such

threats. This includes applications of AI and quantum decryption as part of cyber security.

Technical Point of Contact: Mr. Phillip Smith, phillip.a.smith.civ@army.mil
c. .

c. C-UAS. Commercial technology to counter the threat of drone-based attacks on ground vehicles and their sustainment and command and control support systems. Counter UAS capabilities of particular interest include one or more of the following technologies:

1) Sensing, such as radar, lidar, acoustic detectors, and optical sensors, which can detect, identify, classify, and track drones in real-time.

2)Hostable Portable software suitable for Fire Control, Blue Force deconfliction, Threat Point Of Origin (POO) and Track Triangulation, Sensor Fusion, Protection Projection, threat intent classification, payload identification, and weapon system handoff (on and off platform), crew notification and interaction

3) Effectors to include but not limited to Kinetic Hard Kill (to include purely kinetic, fragmentation, and blast warheads), Electronic Warfare, Directed Energy, High Power Microwave, Electro Magnetic Pulse, Laser Dazzlers, and permanent sensor induced damage / degradation.

4) The ability to host complimentary capabilities within the Modular APS Controller (MAC) level and Modular APS Framework (MAF)

Seeking whitepapers that clearly identify a near term pathway to capabilities that can be demonstrated via experimental soldier touchpoints within 6-12 months and subsequent expedited fielding via PdM VPS or equivalent.

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Alternate Technical Point of Contact: Mr. William Norton, william.d.norton18.civ@army.mil"

FORCE PROJECTION TECHNOLOGY (FPT): The FPT provides mission lifecycle engineering for Army Combat Support and Combat Service Support equipment for gap crossing, petroleum & water systems, combat engineering, material handling, and fluid and petroleum quality surveillance. Its laboratories facilitate research, development, and engineering services to support fuels, fluids, water, wastewater and military bridging systems to keep the US Army in motion anytime, anywhere.

a. Demand Reduction

i. Alternative Sources of Water / Atmospheric Water Extraction (AWE). The Army has gaps in the ability to supply potable water to distributed, semi-independent units conducting multi-domain operations in a contested logistics environment. Currently, Large Tactical Water Purification Units that must be stationary during operation are used to produce bulk drinking water, which is then stored, bottled, and distributed tethering units to long lines of resupply.

Technical Point of Contact: Jay Dusenbury, Ph.D., james.s.dusenbury.civ@army.mil

b. Predictive Logistics and Maintenance. GVSC is interested in commercial software and integrated hardware solutions that provide the Army, and joint and multinational partners where possible, with improved sustainment posture through improved precision and accuracy in sustainment operations, such as maintenance and equipment status, and tracking of classes of supply, such as major end items, fuel, water, and spare parts. Specific interests in this area follow.

Technical Point of Contact: Pete Marrero, pedro.marrero.civ@army.mil

i. Logistics Tracking and Planning. GVSC is pursuing improved tracking of classes of supply, to include through multinational partners and channels. The purpose is to provide improved status reports to facilitate rapid, accurate decision making. Ideal solutions will provide not only Army visibility, but compatibility or integration into joint and multinational partners. While envisioned as software, integrated software-hardware solutions will be considered. Training, modelling, and simulation software to facilitate improved understanding, tracking, and decision making may be applicable here as well. In general, ideal proposals will include or culminate in successful demonstrations and pilot implementations that show paths to transition.

Technical Point of Contact: Pete Marrero, pedro.marrero.civ@army.mil

ii. Smart Fuel Metering and Management. Provide near real-time understanding of fuel status, fuel (supply) availability/quantity, location, and supply actions. The objective is to extend the operational reach and readiness of the Warfighter by providing fuel awareness and fuel management decision support for commanders in Multi Domain Operations throughout the range of military operations.

Commercial sensors, software, or integrated hardware-software solutions to support his project will support the ability to collect fuel measurement data from collapsible bags at fuel points during field experiments with the Army and United States Marine Corps (USMC). Additionally, commercial solutions to assist in the development of a fuel management system to enable commodity managers to track and account for material as it is received, stored, transported, issued, and consumed delivering end-to-end visibility shared across the enterprise. Selection will be made on the basis of enabling the warfighter to improve decisions, manage multiple fuel sources, reduce demand, balance loads, and improve efficiencies within contingency bases, optimizing fuel management in expeditionary environments.

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iii. Supply Chain Visibility and Assessment. The Army is pursuing improved tracking and understanding of its supply chain, to provide better understanding and therefore improved decisions on sourcing and transportation, and selection of various products and materials. This includes solutions that provide clear sources of supply for integrated circuits, components, and even raw materials to include manufacturer, means of transportation, country of origin, and other information. This interest includes the ability to certify or track components to manage risk of tampering or counterfeiting. This interest includes the ability to assess risk and identify alternate sources of supply in the event of supply chain disruptions.

Technical Point of Contact: Thomas Vern, thomas.e.vern.civ@army.mil

c. Advanced Manufacturing. New and novel technologies in the realm of advanced manufacturing technologies to include innovative technologies and processes to produce high-quality products with increased efficiency and reduced waste. This includes the integration of digital technologies, such as

artificial intelligence, robotics, and the Internet of Things (IoT), to create smart factories that can adapt to changing production demands for supply of parts and services of interest to GVSC.

Technical Point of Contact: Jose Mabesa. jose.r.mabesa2.civ@army.mil

d. Autonomous Resupply. GVSC is interested in technologies that allow the Army to enhance multi domain distribution, extend reach, and increase the volume of supplies to dispersed formations through advanced platforms.

Technical Point of Contact: Pedro Marrero. pedro.marrero.civ@army.mil

e. **Advanced Power and Energy Solutions.** GVSC is interested in technologies that allow the Army to field alternative energy solutions through advanced solutions such as fuel cells, advanced batteries, microgrids**.**

Technical Point of Contact: Laurence Toomey. laurence.m.toomey2.civ@army.mil

GROUND VEHICLE MATERIALS ENGINEERING (GVME) The GVME mission is to provide materials technologies and engineering support to ground systems from cradle to grave to enhance warfighter readiness. GVME supports a diverse materials mission to include corrosion, coatings, joining, additive manufacturing, and material and manufacturing applications, all supported by a characterization and failure analysis branch with in-house testing capabilities.

a. **Ceramic Material Technologies.** Ceramic materials for application in military parts to take advantage of properties such as exceptional hardness, wear resistance, corrosion resistance and applicability for high temperature environments. Areas of particular interest include applications for lightweighting, non-conductive, and non-magnetic applications.

Technical Point of Contact: Dr. Katie Sebeck, katherine.m.sebeck.civ@army.mil

b. **Composites**. Applications for composite materials that offer enhanced strength-to-weight ratios, improved corrosion resistance and increased durability compared to traditional materials. Of particular interest are applications for composite rubbers for tracks and wheeled vehicle systems and applications of advanced composites for protective systems.

Technical Point of Contact: Dr. Katie Sebeck, katherine.m.sebeck.civ@army.mil

c. **Composite and Transparent Armor.** Commercial armor and advanced armor technologies to include transparent armor, reactive armors, and advanced material solutions for enhanced survivability for vehicles, payloads, and personnel.

Technical Point of Contact: Dr. Katie Sebeck, katherine.m.sebeck.civ@army.mil

d. **Coatings.** Coatings provide means of enhancing the properties of existing materials and components beyond what they are typically capable of. Advanced coating technologies, such as nanocoatings and thin-film coatings, offer improved properties, such as self-cleaning, antimicrobial, and anti-reflective characteristics. Coatings are also used to reduce friction, improve fuel efficiency, and minimize waste.

Overall, coating technologies play a critical role in enhancing the performance, reliability, and lifespan of materials and components, while also reducing maintenance and operational costs.

Technical Point of Contact: Dr. Katie Sebeck, katherine.m.sebeck.civ@army.mil

e. **Castings.** GVSC is interested in advanced technologies which can support low volume, flexible, and responsive production of castings. This includes additive technologies, which enable substitution of the additive manufactured parts for castings, as well as technologies for production of the casting's mold.

Technical Point of Contact: Dr. Katie Sebeck, katherine.m.sebeck.civ@army.mil

f. **Tooling.** GVSC is interested in advanced technologies which can support low volume, flexible, and responsive production of tooling. This includes technologies for rapid production of low volume tooling for composites, plastics, and other techniques suitable for low to medium volume production.

Technical Point of Contact: Dr. Katie Sebeck, katherine.m.sebeck.civ@army.mil

STRATEGIC INVESTMENTS AND CAPABILITIES: GVSC seeks innovative, commercially available approaches to selected strategic challenges to improve the Army's ability to address these challenges.

a. **Pilot Programs.** As part of its modernization efforts, the Army is determined to find quick solutions to bring innovative technology advancements from industry to the Army's ground vehicle community.

The Army is looking to accelerate the development, procurement and integration of commercially derived disruptive capabilities to regain our nation's technological lead and enabling a third offset strategy. GVSC is committed to create an environment of a low barrier entry to do business with the government in order to obtain access to cutting-edge solutions without the bureaucracy. Consequently, GVSC is interested in a pilot program to improve access to advanced technologies by providing business services that enable non-traditional businesses to provide the innovative products and services that address the problems and service needs described within the CSO.

Technical Point of Contact: Mr. Thomas Vern, thomas.e.vern.civ@army.mil

b. **Temporary and Re-locatable Shelters.** To facilitate responsive, cost effective, and expedient flexible structures for lab capabilities, GVSC is looking for commercial temporary or re-locatable structures or shelters that can supplement permanent facilities. Included in these structures or shelters is "turn-key" engineering and construction of permanent facilities to enable the temporary or re-locatable shelters. This interest includes shelters and structures that are compliant to Intelligence Community Directive (ICD) 705 standards.

Technical Point of Contact: Mr. Thomas Vern, thomas.e.vern.civ@army.mil

c. **Innovative Training Aids and Simulators**. With increases in onboard capabilities and increasing technical sophistication of ground vehicles, GVSC is interested in commercial solutions that can improve training, fielding, and maintenance of ground vehicles. This includes providing training and simulations using on-board computing capabilities but also includes standalone equipment.

Technical Point of Contact: Mr. Thomas Vern, thomas.e.vern.civ@army.mil

GROUND VEHICLE INTELLIGENT SYSTEMS WEB ENABLED SERVICES: Web Enabled Services provides lifecycle support of data driven capabilities needed by stakeholders to execute their missions. This includes capabilities in the business and engineering domains and for stakeholders across the Army. This is executed within the context of prevailing DoD and Army strategies, particularly digital transformation and data strategy. And executed to ensure compliance with prevailing policy and regulation.

a. Digital Engineering: In December 2023, the Under Secretary of Defense for Research and Engineering published the Department of Defense (DoD) Instruction 5000.97 for Digital Engineering. Since then, the DoD's engineering and technical communities have acknowledged and are adopting Digital Engineering as a transformative, value-added approach to improving weapon system development, capability integration, testing, and sustainment. U.S. Army DEVCOM GVSC is seeking an industry partner that can help establish a ground-domain focused Government hosted and managed Digital Engineering Ecosystem utilizing GVSCs current toolsets that includes:

- Hosting, computing, and data architecture optimization
- Tool integrations
- Assist with migration of tool(s) to cloud
- Role-based dashboards
- Digital Engineering and business process training

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VEHICLE ELECTRONICS AND ARCHITECTURE: The VEA mission is to Design, integrate and deliver vehicle electronics systems by leveraging advanced technologies to provide enhanced capabilities for military ground vehicles.

a. High Performance Compute Solution: The US Army is actively researching and evaluating embedded high-performance computing solutions to support next-generation capabilities in challenging operational environments. We are particularly interested in platforms capable of seamlessly hosting and integrating emerging technologies, including AiTR (AI-enabled Targeting & Recognition), Automated Lethality, Survivability, and Defense. The goal is to take current algorithms for these technologies as well as Artificial Intelligence/ Machine Learning (AI/ML) capabilities and evaluate them for true processing needs. We are interested in learning more about system architecture, processing power (specifically relating to AI/ML workloads), ruggedization, thermal cooling, security features, power efficiency, and demonstrated performance in similar applications.

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