



**S²MARTS Project:**  
**Command Post Survivability & Vehicular Mobility at US Army National Training Center (NTC)**  
**Request For Solutions (RFS) Question & Answer | Date: April 7, 2022**

- 1. Question: What Command Post vehicles are expected for integration? Are SWaP constraints available?**

Answer: Table 5 of the CUI RFS Addendum lists the Command Post vehicles including the M1087. Table 2 of the CUI RFS identifies the SWaP constraints for CP vehicles.
- 2. Question: What MUM-T vehicles are expected for integration? Are SWaP constraints available?**

Answer: Section 8 of the CUI RFS Addendum explains that the representative GFE vehicles will be provided in Phase 3. These vehicles have not yet been identified. Table 3 of the CUI RFS identifies the SWaP constraints for the MUM-T vehicles.
- 3. Question: CMOSS->SOSA alignment is not specifically mentioned. Is that expected for all solutions? Same question for Army CMFF and SAVE specifications.**

Answer: CMOSS is a requirement for Use Case 3 only – which is an optional use case; however, it will be value added for all Use Cases. Due to limited resources, we did not want to constrain solutions to CMOSS only. Please see the CMOSS and SOSA descriptions.
- 4. Question: For Tactical Communications V2V links, will LPI/LPD/Anti-Jam mmWave spectrum beyond current 3GPP 5G NR FR2 bands solutions be considered?**

Answer: It is expected that all spectrum solutions proposed are in compliance with the 3GPP 5G standards and roadmap.
- 5. Question: Is interoperability between 5G NR gNodeB, Core Network, and UE elements expected with existing Army Tactical Network elements such as SINCGARS, TSM, and other waveforms and handheld radios? The WIN-T Colorless Core network? Unified Network Operations (UNO) tools? Mounted Mission Command?**

Answer: Interoperability is not required with lower echelon Radios, Network Operations tools or Mounted Mission Command systems. For Use Case 2, interoperability with the WIN-T Colorless Core network is expected. WIN-T colorless core is the current solution for the PM Tactical Networks.
- 6. Question: In Phase 1, are the SIL, PIL, and Modular Small Form Factor Equipment labs collocated or at different locations? If not collocated, what are the locations? What duration is anticipated for each level of testing; or is SIL, PIL, and Modular Small Form Factor Equipment lab testing anticipated to be concurrent?**

Answer: Please see the Project TalX briefing for location details. It is anticipated that the vendor defines the testing solution scope and timelines as part of the vendor RFS response.
- 7. Question: What TRL level are you expecting as a starting point to the end of the PoP?**

Answer: Up to vendor approach to get to TRL level 6 by phase 3.



**8. Question: What interfaces are available on the standard vehicular kit?**

Answer: CPSV, MCP have standard AC generator power w outlets, as well as 28 VDC power. Data interfaces will be based on commercial standards (e.g., RJ-45 Ethernet) used for routers and switches. Specific MUM-T vehicular kit has not been identified, vendors should indicate in their proposal which interfaces are preferred or included in their pricing.

**9. Question: What are all of the existing communication systems on the vehicle platforms?**

Answer: Vendors are not be required to interface their systems directly to existing communications systems on vehicles. Note that the unit at NTC has not yet been selected, and the communications capabilities on its vehicles may vary. If the vendor's proposed solution would benefit from integration with existing communications systems, please outline specifics and benefits in your proposal.

**10. Question: LOE 2 says Government will provide mission applications. Can they be more specific?**

Answer: The Government will provide mission (command) applications as GFE. Further information on these applications will be provided to vendors after contract award.

**11. Question: LOE 3 says offeror will select and configure applications. Government applications mentioned in LOE 2 or program specific applications?**

Answer: The Government will provide mission (command) applications as GFE. Further information on these applications will be provided to vendors after contract award.

**12. Question: Contractors are expected to provide UAS platforms with technical attributes that support their architecture. Does this mean UAS are not leave behind, but we need to coordinate them for use for flight tests?**

Answer: Correct. UASs will not be leave-behind, and coordination will be required for flight tests.

**13. Question: If proposing for both Problem Sets, do we have to send two proposals? Or can we send one?**

Answer: Prefer one proposal for each bundle. At a minimum cost must be broken out and Severable.

**14. Question: What bands are to be supported?**

Answer: Refer to CUI RFS Addendum.

**15. Question: What technologies/releases are to be supported?**

Answer: Up to vendor approach to provide innovative 5G solutions. Minimum 3GPP Rel 16 but current or planned future 5G standards are invited.

**16. Question: Are multiple technologies to be tested simultaneously? Or any interfering signals?**

Answer: In accordance with Section B.5 (Project Deliverables), the Government will develop system test plans in coordination with selected vendors. Details will be developed after contract award.

**17. Question: Is Phase 1 conducted, over-the-air, both?**

Answer: Phase 1 is anticipated to consist of lab-based activities that will not require over-the-air transmissions.



**18. Question: What test signal sources are needed? o Signal generator (analog, pre-built waveforms), BTS emulator, BTS?**

Answer: In accordance with Section B.5 (Project Deliverables), the Government will develop system test plans in coordination with selected vendors. Details will be developed after contract award.

**19. Question: Is the ability to emulate channel conditions (fading/multipath, etc.) needed?**

Answer: Up to vendor approach as part of Lab based Risk Reduction.

**20. Question: How are the mobile terminals to be housed? or Isolation boxes?**

Answer: Platform integration is up to vendor approach. As indicated in Tables 2 and 3 of the CUI RFS Addendum, the solution must be sufficiently rugged to survive the experimentation environment.

**21. Question: What form factor is needed? or Is Phase 1 rackmount? or Phase 2 is vehicle mobile, what are the overall size and weight constraints?**

Answer: Goal at completion is specified in CUI RFS Addendum, Table 2; Phasing is Up to vendor approach.

**22. Question: What metrics (throughput, EVM, signal level, etc.) are to be measured and captured?**

Answer: Up to vendor approach as part of Lab based Risk Reduction.

**23. Question: RFS Ref: B.7, Page 8 Are Use Case 1 and Use Case 2 separately awardable by the government?**

Answer: No.

**24. Question: RFS Ref: B.7, Page 8 Government specifies that it reserves the right to down select each bundle "Prior to Phase 3" Does the government anticipate conducting "orals" or other demonstrations prior to awarding Phase 1 or any initial award?**

Answer: The Government does not plan to hold oral presentations or demonstrations for this effort.

**25. Question: Addendum: CUI Addendum Offeror has additional questions directly related to the CUI information. How should offers/ bidders submit questions that are CUI related to the CUI addendum or questions regarding documents and information marked CUI?**

Answer: All Q&A should remain in the public forum.

**26. Question: What is the number of CP vehicles targeted for Use Case 1?**

Answer: See CUI RFS Addendum Table 5

**27. Question: What is the number systems under test considered adequate for testing Use Case 2?**

Answer: Refer to CUI RFS Addendum

**28. Question: Is there a preferred 5G option/architecture of interest? a. NSA, SA?**

Answer: SA is the preferred 5G approach for vendor-provided private networks. Note that the Government-provided surrogate host nation network will be NSA.



**29. Question: What details can be provided about the surrogate Host Nation 5G network at the NTC? a. Is it NSA? b. Is it SA? c. What specific LTE and NR bands are available for use? d. Does the network support EN-DC, NR-DC or both? e. Is DSS used as part of the surrogate Host Nation network?**

Answer: Please refer to Table C of CUI RFS Addendum, Appendix C. The Host Nation network is NSA and will support EN-DC only. No DSS is supported on the Host Nation network, and it will use the 3.4 - 3.45 GHz frequency band.

**30. Question: Given the COTS nature of the requested solution is CSfC as part of the solution factored in achieving an ATO?**

Answer: Correct. Note that in accordance with Section B.8 (Project Deliverables), selected vendors will be required to submit technical artifacts required by the RMF to obtain an ATO.

**31. Question: Are O-RAN compliant solutions preferred?**

Answer: Up to vendor approach.

**32. Question: Are migration paths to OpenVPX platforms preferable given the push for CMOSS?**

Answer: Since CMOSS requires Open VPX, migration paths are of interest to achieve the end CMOSS objectives.

**33. Question: Which are the alternate wireless technologies in consideration?**

Answer: Alternate wireless technologies include Wi-Fi and WiGig for Command Posts and MANET radios for MUM-T.

**34. Question: Is it required to perform experiments with testbeds of alternate wireless technologies to compare with our private 5G network testbed? 3. If so, do we also need to deliver the testbeds of alternate wireless technologies?**

Answer: No.

**35. Question: For use case 2, will CP operation systems connect directly to commercial Host Nation 5G networks? Or, will those systems be connected to the proposed private 5G network which will provide roaming services to commercial Host Nation 5G networks?**

Answer: For Use Case 2, all user devices are anticipated to connect directly to the Host Nation network using a HN SIM card. However, vendors are open to provide alternate approaches.

**36. Question: What is the role of the proposed private 5G network in use case 2?**

Answer: A vendor's proposed solution for Use Case 2 should be informed by their approach to Use Case 1.

**37. Question: Are these commercial Host Nation 5G networks the alternate wireless technologies referred in this RFS?**

Answer: No - the comparison was against Wi-Fi and MANET radios.



**38. Question: RFS Ref: CUI Addendum, Page 5 Besides host nation 5G, are there additional PACE transport solutions that are required to be delivered? If so, will they be provided as GFE?**

Answer: No other PACE alternatives.

**39. Question: RFS Ref: CUI Addendum, Page 10 Please provide the CSfC security architecture description that is currently employed by SWMRE for command posts?**

Answer: SWMRE uses a CSfC approach based on the Multi-Site Connectivity Capability Package. This document is available on-line through NSA/CSS. Selected vendors will be provided additional information on SWMRE after contract award.

**40. Question: Can you provide the categories of classified information that this project may require? Does that mean the engineers supporting need to be cleared to SECRET at a minimum?**

Answer: Vendor solutions will be at an unclass level but may need to support an interface with military systems that are classified up to SECRET. Only engineers working on the interface to those networks will require a clearance.

**41. Question: Is COMSEC GFE being provided to support working with Tactical Radios or Type-1 Network Encryptions that may work in concert with the SWMRE solution identified the DD-254?**

Answer: Interfaces with tactical radios are not within scope of this RFS. SWMRE uses a Commercial Solutions for Classified (CSfC) approach based on the Multi-Site Connectivity Capability Package. This document is available on-line through NSA/CSS.

**42. Question: Given the prototype nature of the efforts and not “operating” a DoD IT enterprise, is it envisioned that the Cyber Security Workforce (CSWF) Qualifications and Reporting Tasking and DoDM 8570.01M requirements will be necessary?**

Answer: Yes.

**43. Question: Under Use Case 3, does “Modular Small Form Factor Equipment Implementation” = “CMOSS” by definition of the Program Challenge I in Figure 8 (of the CUI addendum)?**

Answer: Yes.

**44. Question: Under “Compliance” in the RFS, is the restriction just central to the Telecommunications Equipment restrictions?**

Answer: Compliance applies to the project as a whole. As listed in the RFS, this includes the restriction on telecommunications Equipment, ITAR, Security of CUI including on Non-DoD systems, National Industrial Security Program, and the Department of Commerce Export Regulation.

**45. Question: What is the allowable space/ dimension inside the CPSV/MPC to install 5G equipment (core, gNB, antenna mast)?**

Answer: See CUI RFS Addendum Table 2.



**46. Question: What is the Max power/current the CPSC/MPC can handle?**

Answer: Maximum power requirement is up to vendor approach, but preference is to have low power needs. Vendor should identify their power requirements and Army will source it.

**47. Question: What is the max weight (5G core, gNB, antenna mast, antenna) the MPSC/MPC can support?**

Answer: Maximum weight requirement is up to vendor approach, but preference is to have low weight. No weight specified, as long as CUI RFS Table 2 criteria is met.

**48. Question: Can the CPSV/MPC be retrofitted to secure the 5G equipment?**

Answer: Yes. Access ports and pre-drilled brackets will be available for Government-provided vehicles; no holes to be drilled in platforms.

**49. Question: Is the offeror responsible for the 5G roaming agreement between the HN and the private NW in the CONUS?**

Answer: A roaming agreement will not be necessary as the Govt owns the HN network and SIM cards will have to be changed to move from one network to the HN. The Govt will provide the SIM cards for the HN network.

**50. Question: What is the vehicle referenced in CUI addendum Table 2, section "Power/SWAP"?**

Answer: Table 5 of the CUI RFS Addendum lists the Command Post vehicles including the M1087. Note that the maximum weight and power for vehicular equipment is up to vendor approach, but preference is for low weight and power needs.

**51. Question: Where is the Section B.8 referenced in CUI addendum Table 2, Power/SWAP?**

Answer: Please see Section 8 (Government Furnished Equipment) on page 19.

**52. Question: Question 1: RFS Section: A, B.3, D Question Proposed to Government: Sponsorship is by USD(R&D), contracting by NSWC, and piloting seems to be with Army at NTC. Is it preferable to assume an Army operating context for pilot system integration?**

Answer: Yes - use cases are based on the Army context.

**53. Question: RFS Section: C.1, C.1A Question Proposed to Government: The government indicates that "Performers may require access to classified information up to secret level..." and "The contractor shall be prepared to support RMF requirements... Contractors will be responsible to remediate identified risks and vulnerabilities to support RMF authorizations." Does the government anticipate that the prototype design be accredited for use on SIPRNet and/or other higher security domain and, if so, in which phase of the project should such supporting activity be budgeted?**

Answer: No - The prototype design will not require accreditation for use on classified networks. Vendor solutions will be at an unclass level but may need to support an interface with military systems that are classified up to SECRET.



**54. Question: Who is the Government end user who will be executing the experiments and overseeing delivery?**

Answer: OUSD funded program is being managed by Army's PEO C3T organization.

**55. Question: Will the Government provide a location for the Phase3 'At Scale Prototype Demonstration'?**

Answer: The planned military locations (by phase) are identified in Section B.9 of the CUI Attachment, as well as in the Government presentation during Project TALX. For the purpose of this proposal, no other sites need to be bid at this time. Any additional locations will be negotiated after Phase 1 completion.

**56. Question: Section 6, pg. 8., it mentions a total \$40M budget while also stating "Respondents are encouraged to clearly explain how much of their solution can be developed for the advertised amount". Can the government confirm \$40M is the total for all awards?**

Answer: \$40M is the total available budget for all awards.

**57. Question: Section 3, pg. 4, it mentions for Phase 2 - "This phase will be conducted 12-24 months after contract award at Government designated sites, in addition to technical risk reduction by conducting testing of an initial prototype through small-scale testing. These initial field evaluations shall occur no later than 15 months after contract award, but prior to entering Phase 2 integration activities." Can the government confirm that the 15-month time period is Phase 1 - 12 months plus Phase 2 – the first 3 months?**

Answer: Yes.

**58. Question: Sec 5, pg 17., states: "The Government is seeking proposals with a Firm Fixed Price (FFP) for Phase 1 based on the vendors' approach, plus Rough Order of Magnitude (ROM) price estimates for Phase 2 and Phase 3." Given the highly developmental nature of this work and to afford the maximum flexibility for the government and performers in execution, will the government also consider cost reimbursable type bids as an alternative?**

Answer: Please submit proposals in accordance with RFS.