

**USMC-SPONSORED GBAD CAPABILITY DEMONSTRATION (USGCD)
DESIGN/ PERFORMANCE SPECIFICATION**

1. In those situations where the Marine Corps is operating outside of the joint force’s protective air and missile defense umbrella, it must be prepared to provide a point defense capability against specific air and missile threats to include unmanned aerial systems, cruise missiles, and rotary and fixed wing aircraft, while accepting a level of risk for those threats outside of their defensive capability, i.e. theater ballistic missiles. The objective of the USGCD is to demonstrate solutions, technologies, and state of the art approaches that provide advantages over existing platforms by meeting some or all of the following objectives.
2. The functional objectives documented in the GBAD Initial Capabilities Document (ICD) describe desirable system characteristics that allow the recommended system(s) to defend the Marine Corps against maneuverable Low Observable/Low Radar Cross Section threats. The ICD will not be provided to Contractors as a part of this RFP, however, the non-classified design and considerations contained in the ICD that are pertinent to this RFP are listed in the following paragraphs.

Note: In the following paragraphs, (T) = Threshold and (O) = Objective.

3. Expeditionary and deployable: The system weight and dimensions shall allow it to be transportable on expeditionary shipping, air transportable by strategic and theater airlift, and have mobility ashore. The current weight restrictions for the system are as follows: (T) <5,700 lbs and (O) <5,000 lbs. When mounted on a Tactical Wheeled Vehicle, the combined dimensions of the system and vehicle must conform to the following C-130-based capacities.

	Width	Height	Length	Weight
(T)	< 115 inches	< 102 inches	< 206 inches	< 30k lbs
(O)	< 102 inches	< 96 inches	< 192 inches	< 25k lbs

4. Agile and mobile: The system shall be maneuverable within the operations environment to maintain the air defense umbrella over the maneuvering forces.
 - a. System shall be able to achieve and maintain a minimum speeds on cross-country terrain, with full armor, at least two Marine operators, and all associated equipment. Assume 300 lbs of personal equipment per Marine.
 - b. (T) 12 mph
 - c. (O) 18 mph

5. Networked: The system shall align with future air defense integration initiatives, including: fire control, combat ID, and Single Integrated Air Picture (SIAP).
 - a. (T) The system shall be capable of using USMC Program of Record (POR) data radios.
 - b. (O) The system shall use USMC POR data radios.
 - c. (T) System shall employ a self-destruct mechanism.
 - d. (O) System shall employ a command divert and command destruct capability.

6. Lethal: The system shall have the capability to defeat the threats mentioned in paragraph one.
 - a. (T) System shall have negation capability against the UAS threat set.
 - b. (O) System shall have negation capability against the entire threat set.

7. Precise and Effective: System shall provide 360 degree protection and be capable of intercepting/negating UAS targets at tactically significant ranges.
 - a. (T) System shall be capable of a minimum range at target intercept of 7 kilometers from the launch platform.
 - b. (O) System shall be capable of a minimum range at target intercept of 20 kilometers from the launch platform.

8. Interoperable: During joint force operations, GBAD will serve as an element of the Joint Integrated Air Defense System (JIADS), under control of the Area Air Defense Commander (AADC) with other joint force air defense assets.
 - a. (T) Contractor must explain how the proposed system is interoperable with all U.S. Integrated Air and Missile Defense (IAMD) Family of Systems (FoS).

9. Persistent: System shall provide 24-hour, day/night, and all weather capabilities.
 - a. (T) System shall have negation capability against more than two target-types (i.e. fixed wing and rotary wing) in the threat set, during day and night, and with up to 5mm of rainfall per hour.
 - b. (O) System shall have negation capability against the entire threat set, during day and night, and with up to 5mm of rainfall per hour.
 - c. (T) Contractors must describe system performance in fog.

10. Flexible: Scalable capability between missions and threats.
 - a. (T) System shall retain its effectiveness against the threat set (UAS, cruise missiles, and rotary and fixed wing aircraft) when deployed singularly, in small quantities, and in large quantities.

- b. This effectiveness shall be limited by the number of weapons / rounds available on the prime mover platform and / or in the number of weapons / rounds available on the prime mover platform and one re-load.
- c. Because values that constitute small and large quantities will vary by system type, each vendor must define these respective quantities and provide the rationale for such definitions.
- d. (T) System shall have the capability to perform Lock-On-Before-Launch capability.
- e. (O) System shall have the capability to perform Lock-On-After-Launch capability.

11. Adaptable/Tailorable: System shall support austere operations in support of deployed Marine forces as well as integration into the JIADS.

- a. (T) System capabilities shall be characterized for operation with a non-organic sensor providing 1) a fire control quality cue and 2) a situational awareness air picture.
- b. (T) System shall be capable of effective operation (able to defeat all or some of the threat set) with the availability of a non-organic sensor to provide a cue or air picture.
- c. (O) System shall be capable of effective operation (able to defeat all or some of the threat set) with or without the availability of a non-organic sensor to provide a cue or air picture.
- d. (O) System shall be capable of interfacing and integrating with the current, as well as future, USMC prime mover platforms of the Low Altitude Air Defense battalions.

12. Developed utilizing the Open System Architecture: Vendors shall describe how the system can make use of the Open System Architecture.

- a. (T) Shall be able to accommodate system improvements and allow for inclusion/addition of future passive, kinetic, non-kinetic material/technology, and air defense solutions.

13. Self Protection: System shall allow for self protection against ground attacks.

- a. (T) System shall retain current capability to allow for deployment of a crew-served weapon that can also be man portable.
- b. (O) System shall be capable of utilizing a crew-served weapon to engage not only ground targets but aerial targets as well.