REQUEST FOR INFORMATION (RFI) FOR

SITUATIONAL AWARENESS AUGMENTED REALITY GLASSES (SAARG)

1. General.

1.1. The Simulator Development Division of the Indian Armed Forces seek information from industry partners regarding the development of Augmented Reality (AR) Combat Glasses integrated with supporting hardware and communication systems.

1.2. The purpose is to provide soldiers with real-time visual data feeds (text, images, video, navigation) directly in their field of view, improving situational awareness, survivability, and effectiveness.

1.3. This RFI covers the AR glasses themselves, the communication backbone, supporting devices (e.g. weapon-mounted digital scopes), and integration with satellite navigation systems.

2. Operational Scenarios.

2.1. Silent Command Messaging.

2.1.1. Soldiers operate under radio silence.

2.1.2. Requirement: Commanders must push text/graphic information (e.g. orders, building layouts) directly to AR glasses.

2.1.2. Notes: Messages may be relayed via a secure smartphone or portable communication device carried by each soldier.

2.2. Drone Video Feed Integration.

2.2.1. A reconnaissance drone provides live situational awareness.

2.2.1. Requirement: Real-time drone video feed displayed on soldiers' AR glasses.

2.2.1. Notes: Data transmission could use 5G tactical cells, software-defined radios (SDR), or MANET mesh radios. The communication device must be lightweight, soldier-portable, and power-efficient.

2.3. Weapon Scope Integration (Corner Shot Capability).

2.3.1. Requirement: A digital riflescope mounted on the weapon should transmit its live view wirelessly to the AR glasses.

2.3.1. Outcome: Soldier can observe/engage from behind cover without direct exposure.

2.4. **Navigation & Satellite Integration.**

2.4.1. Requirement: Integration with NavIC / GPS for real-time overlays of maps, waypoints, and routes onto the AR glasses.

2.4.2. Notes: Vendors to specify required hardware/network assets for satellite integration (e.g. receiver module, soldier-mounted computer).

3. **Technical Requirements (Indicative).**

3.1. **AR Glasses**.

3.1.1. Sunlight-readable, low-latency display.

3.1.2. Rugged and lightweight (<500 g).

3.1.3. Helmet/eyewear-mounted form factor.

3.2. **Communication Device**.

3.2.1. Soldier-portable (smartphone form factor or smaller).

3.2.2. Must support secure data transmission of text, images, and video.

3.2.3. Should allow integration with both **cellular (4G/5G)** and **SDR/ tactical radio** networks.

3.2.4. Battery endurance: 6–8 hours.

3.3. **Digital Weapon Scope**.

3.3.1. Thermal/day optic with digital output.

3.3.2. Wireless link to AR glasses (low latency, encrypted).

3.4 **Satellite Navigation**.

3.4.1. Integration with NavIC/GPS receivers.

3.4.2. Overlays of maps, routes, and positional data in AR glasses.

3.4.3. Support for offline maps (no network dependency).

3.5. **Security**.

3.5.1. End-to-end encryption.

3.5.2. Resistance to jamming and interception.

4. **Phased Development (Indicative).**

4.1. **Phase 1.** AR glasses + portable communication device for silent text/graphic messaging.

4.2. **Phase 2.** Digital scope integration for corner-shot capability.

4.3. **Phase 3.** Drone video feed integration via 5G/SDR/MANET.

4.4. **Phase 4.** Satellite NavIC/GPS overlays and advanced features (object recognition, AI-based target cues).

5. **Information Requested from Industry.** Vendors/partners are requested to provide:

5.1. Technical proposals covering AR glasses, communication devices, digital scopes, and satellite integration.

5.2. Options for communication methods (5G, SDR, MANET) and their feasibility in field conditions.

5.3. Information on existing solutions/prototypes.

5.4. Estimated development timelines and cost models (by phases).

5.5. Past experience in AR/VR, soldier systems, and defence-grade communications.

6. Point of Contact.

6.1. All correspondence related to this RFI should be addressed to:

Head of Department
Simulator Development Division (SDD)
Secunderabad
c/o 56 APO
Email: hariomahlawat@gmail.com itsdd1234@gmail.com

6.2. Vendors are requested to send queries, clarifications, or responses only to the official email ID provided above.

ANNEXURE – CAPABILITY RESPONSE MATRIX

Ser No.	Capability and Requirement	Vendor Response
1.	**AR Glasses.** Rugged, lightweight, sunlight-readable AR display.	
2.	**Communication Device.** A portable system to relay text/ images/ video to glasses. **Possible Technology Options.** Secure smartphone relay; SDR; tactical LTE/5G node.	
3.	**Drone Feed Integration.** Real-time UAV video to AR glasses. **Possible Technology Options.** 5G tactical cell; SDR; MANET mesh.	
4.	**Digital Weapon Scope.** Live sight video streamed wirelessly to AR glasses. **Possible Technology Options.** Thermal/ day digital scope with Wi-Fi/ secure link.	
5.	**Satellite Integration.** Navigation overlays from NavIC on glasses. **Possible Technology Options.** NavIC receiver module; secure smartphone integration.	
6.	**Security.** Secure data transmission. **Possible Technology Options.** AES-256; frequency hopping.	
7.	**Power.** 6–8 hrs battery life; swappable packs. **Possible Technology Options.** Lithium-ion; soldier-worn power module.	