

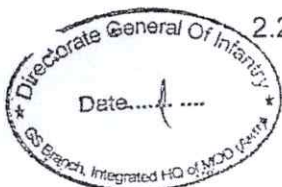
**QUESTIONNAIRE TAC COMBAT HEARING ENHANCEMENT
AND PROTECTION (MAKE-II)**

1. General Information. Vendor Info.

- 1.1 Name of company or organisation.
- 1.2 Country of origin and Ownership details of your company.
- 1.3 Contact details.
- 1.4 The category of company, whether large/ medium/ small or start up.
- 1.5 Year of existence (Estd in _____).
- 1.6 Annual turnover of the company.
- 1.7 The credit rating of company and net worth.
- 1.8 Annual profit in last three financial years.
- 1.9 The share holding pattern of the company.
- 1.10 Whether the company is OEM, Manufacturing agency or system integrator.
- 1.11 Experience of the company in related field.
- 1.12 Whether similar eqpt has been supplied to any other govt agency (Type of Eqpt, qty and cost).
- 1.13 Whether company has patents/ IPR of the eqpt/ system.
- 1.14 Whether company has any tie ups/ Joint ventures with any foreign vendor/ firm/ company/ agency for producing similar eqpt.
- 1.15 Asst that would be required from IA.
- 1.16 Likely time for development of prototype (in weeks) and manufacturing of the product.
- 1.17 If any part, material or sub components to be procured foreign vendor i.e Ex-import.
- 1.18 Details of industrial licenses held for taking the project and licenses that would be required for manufacturing the complete product.

2. Infrastructure.

- 2.1 Does the company has adequate infrastructure to devp, integrate and manufacturing? If not, what would be the procedure and timelines to est the same.
- 2.2 Does the company have adequate infrastructure for carrying out testing/ trials?



3. Indigenous Content.

3.1 What is the percentage of indigenous content in the system? Give the details of sub components which will be indigenous.

3.2 Likely achievable indigenous content at prototype stage and production stage.

3.3 What will be the percentage of foreign content in the sys. Give the details of sub components which will be ex-imported.

3.4 What is the indigenous capability of maintenance of components and sub components in order.

3.5 Identify critical technologies that would be indigenised.

4. Prototype.

4.1 Likely time for development of prototype.

4.2 Qty of prototype recommended for user trials.

4.3 Manufacturing capabilities of developing agency in terms of product per year.

4.4 Cost of prototype.

5. Operational Requirements.

5.1 What is the expected weight of the system in grams?

5.2 For how long (in hrs/ min) can the system be worn comfortably alongwith supporting equipment and attachments.

5.3 Can the system be made compatible with fiber glass helmet (in service), ballistic helmets w/o communication headset & Ballistic Helmet with communication head.

5.4 What is the expected type of fit provided by the system (in-ear, over-ear, or hybrid).

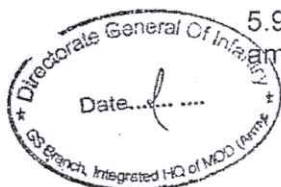
5.5 What measures will be implemented to negate stress caused by prolonged use and wearing of the eqpt.

5.6 Will the system allows ambient sound amplification.

5.7 Will the system assist the user to identify the direction of sound accurately (3D localization).

5.8 What measures will be undertaken to negate any latency/ sound lag or delay in sound transmission.

5.9 Will the system assist the user to hear low-intensity sounds and adjust sound amplification levels. If yes by how much/ what level.



5.10 Will the system be capable of automatically suppressing impulse noise such as gunfire or blasts. If so, what will the response time/ latency?

5.11 Will the system be capable of supporting voice amplification and suppressing impulse noises simultaneously?

5.12 Can the system be made compatible with in-service radio sets, including models?

5.13 Can the earpiece be used for communication between multiple people, if yes, many?

5.14 Will the device support multiple audio sources at the same time (like radio and mobile etc)?

5.15 Can the system quickly switch between different audio sources with low delay?

6. Technical Requirements.

6.1 What sensors are available (like microphones or motion sensors) and how will they be used for safety or awareness?

6.2 What level of encryption is required?

6.3 Please specify the expected Noise Reduction Rating (NRR) or Signal-to-Noise Ratio (SNR) in decibels.

6.4 Please specify the expected maximum impulse noise attenuation capability in decibels.

6.5 What will be the frequency range supported by the system in Hz to kHz.

6.6 Will the system provides selective filtering between speech and noise. If yes, how will it achieved. (State the technology used)

6.7 Please specify the maximum safe exposure threshold handled by the system.

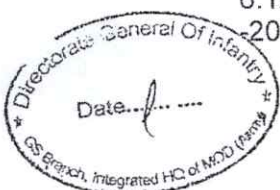
6.8 Please describe the type of technology used, such as analog, digital, or AI-enabled filtering.

6.9 How will the system incorporate active noise cancellation (ANC)?

6.10 Please specify the type of power source (rechargeable or replaceable batteries) and expected battery life under continuous usage (in hours)

6.11 Please specify the charging time required for full recharge and if the batteries can be changed under field conditions.

6.12 Will the system function efficiently in extreme temperatures ranging from -20°C to +50°C.



6.13 Please specify compliance with military standards such as MIL-STD or IP ratings.

6.14 What is the system's expected resistance to shock & pressure (Mention in Pa/ KPa)?

6.15 Please specify the expected life cycle of the system in years or operating hours.

6.16 Can the device support Bluetooth Low Energy Audio with LC3 for advanced audio features like multi-stream hearing?

6.17 Can multiple secure communication channels be supported with priority settings?

7. **AI.**

7.1 How will AI be incorporated in Noise filtering & modulation?

7.2 Will the AI system work completely offline on the device without using the internet?

7.3 Will the AI system automatically adjust noise cancellation, hear-through volume and sound priority based on what it detects?

7.4 Will the AI system learn and adapt to each user's preferences over time?

7.5 What data sets will be required to train the AI system?

8. **Misc.**

8.1 Any other imp aspects/ vendor input for consideration.

8.2 Minimum order quantities of the equipment & total cost excl taxes.

8.3 Whether similar eqpt has been supplied for any other client (Indian/ Global).

8.4 Details of company capabilities pertaining to design, develop, manufacture and integrate the product/ system alongwith estimated timelines for various components/ phases of development of product.

8.5 Details of Intellectual Property Rights (IPR).

