

Request For Information

Softclient Audio Ancillary Device

23nd August 2017

1 INTRODUCTION

The General Dynamics Mission Systems (GDMS) team intends to conduct a series of open competitions to identify the best Softclient Audio Ancillary Device (SAAD) solution for the Evolve to Open (EvO) program. This request seeks information on existing audio ancillary devices to determine suitability for use in the modular, open architecture systems that General Dynamics may offer to the MoD.

GDMS is soliciting information for potential use in future procurements. Information is requested about the features, capabilities and limitations of your product(s) to help us structure a competitive procurement package that permits us to purchase “off the shelf” systems, subsystems and/or components.

Technical information submitted in response to this Request for Information (RFI) shall be unrestricted for use within the GDMS EvO team and the MoD. Budgetary pricing data will be requested – this information should be physically separated from the technical data. Pricing data will be treated as competition sensitive information and will not be disclosed outside of GDMS without written consent. Respondents are advised that any information submitted in response to this RFI may be used by GDMS in the development of a subsequent competitive Request for Proposal (RFP). However, GDMS is not bound to accept any RFI or to consider it further in any associated documents such as a Request for Proposal.

This is not a bid solicitation and a contract will NOT result from this Request for Information.

The issuance of this RFI does not create an obligation for GDMS to issue a subsequent RFP, and does not bind GDMS legally or otherwise, to enter into any agreement or to accept any suggestions from organizations. GDMS reserves the right to accept or reject any or all comments received.

Companies responding to this RFI should identify any submitted information that is to be considered as either company confidential or proprietary.

All enquiries and other communications related to this RFI shall be directed exclusively to the GDMS Procurement Authority via the email address richard.thomas@gd-ms.uk with copy to SupplyChainCommunications@gd-ms.uk with “GDMS EvO Subcontracts / SAAD Procurement” in the subject line.

Responses to this RFI should be submitted to the GDMS Procurement Authority, on or before the close of business on 1st September 2017. Responses may be e-mailed but a CD may be sent via

courier as well. As part of the evaluation process, your response will be entered into our evaluation tool; hence submission of printed material is not acceptable.

2 BACKGROUND

As part of the MoD’s initiative to the BOWMAN System under Evolve to Open, it has been determined that the replacement for the existing tactical vehicle voice device (Bowman User Control Device - BUCD) will use the following replacement strategies:

- A Hardware replacement for the BUCD for legacy platforms
- A Software based voice client solution running on data terminals for HQ platforms
- A Hybrid solution of a soft client together with a chest worn SAAD for new platforms

As the SAAD is to be chest worn, this may be confused with a future MoD bid for a Dismounted Soldier System (DSS). The DSS is out of scope for the purpose of this RFI.

The GDMS EvO team is asking the Industry community to provide ancillary device options for the following:

- A chest worn ancillary device that connects to a data terminal or smart display running a soft client.

3 SAAD PROGRAM PHASES

On receipt of RFI responses, GDMS will conduct an analysis with the MoD working group. A thirty (30) day response time is currently planned to evaluate the RFI submissions. Assume for this RFI that procurement will be in two (2) phases:

- 1) Design and Development phase
- 2) Production Option

Unit	Development & Design Phase Qtys	Date Required	Production Option Qtys	Date Required
SAAD	228	Starting Jan 2018	4,288	Starting Jan 2020

Table 1: Forecasted Procurement Quantities

Based on the MoD working group feedback, a draft of the SAAD requirements will be issued and a RFP to those bidders who have the potential to provide a suitable product that are competitively priced and compatible with the GDMS architecture and requirements.

The SAAD RFP is expected to be released from GDMS in October 2017 with the intent to conclude with a contract by December 2017.

The Production Option Contract issued by the GDMS is estimated to be released in 2020.

4 NEED STATEMENT

The SAAD shall provide the capability to allow audio streaming from the platform infrastructure to a user via a headset, to provide the headset mic audio stream from the user to the platform infrastructure, and to provide the human interface for controlling the soft TCS.

The platform infrastructure may consist of a data terminal, smart display, or optionally the vehicle Local Area System (LAS) network. The SAAD shall be able to interface with a soft client within an open architecture communication system. Information Request

Respondents to this RFI are requested to provide information to help evaluate the candidate system against the requirements above. This RFI has been structured to simplify both the generation of the response by the respondent, and the subsequent analysis of the response by GDMS. Non-adherence to the template below may result in the response being not reviewed or considered. This does not preclude provision of additional pertinent data. Respondents are requested to directly address at least the following questions. In your response refer to the paragraph numbering system in this RFI.

4.1 Product Overview

- a. Provide the product nomenclature, model number, etc.
- b. Provide descriptive materials on your products identifying any optional capabilities or subfunctions.
- c. Provide applicable quality system and standards for the product.
- d. Provide information on the history and status of this product and/or its elements: when developed and platforms/land systems where currently in service. Identify the class of platforms that the product described in your response, including all capabilities described, is currently deployed.
- e. Provide the system EMI certification status and specification.
- f. Provide system environmental limits, certifications and standards. Include at least the following:
 - i. Operating and Storage temperatures;
 - ii. Immersion;

- iii. Shock (Drop) survivability;
- iv. Sand and dust; and
- v. Relative humidity.
- g. Provide an audio topology block diagram that identifies all elements that make up the product showing audio function blocks and interconnects.
- h. Provide an overview of the human interface description blocks.
- i. Provide an overview of any audio signal processing.
- j. Provide details on the voice intelligibility assessments or studies in relevant acoustic environments when combined with headset of choice.
- k. Provide details on hearing protection when combined with headset of choice.
- l. Provide details on UX trials associated with the tactile interface vs the cognitive load of the user.
- m. Provide details of power (volts, amps, phase, MIL specification, etc.), weight (Kg), dimensions (mm), and battery needs for the product.

4.2 *Operational*

- a. Provide a product specification overview for the proposed product.
- b. Provide a product specification for any of the Directive Constraints:
 - i. The user in a high ambient or combat noise environment shall be able to at all times listen to the audio services of the platform infrastructure.

Constraint Description: Provide specifications associated with the headset headphone requirements. This can include analog or digital audio as well as specifications for ANR power, and audio processing for ambient and combat noise abatement.
 - ii. The user in a stealth or sentry sentry scenario shall be able to provide an intelligible audio stream using whisper voice levels to the platform infrastructure.

Constraint Description: Provide specifications associate with the headset microphone requirements. This can include analog or digital audio as well as the specifications on the microphone's dynamic range or audio functions that improve the microphone dynamic range.

- iii. The user in all noise environments shall be able to hear their own voice (side tone) when speaking.

Constraint Description: Provide specifications associated with the generation of side tone. This can include where the side tone is mixed, the audio functions involved, the control of those functions and the audio latency produced.

- iv. The user shall be able to engage in hands free voice activation of a pressel function.

Constraint Description: Provide specifications associated with a Vox feature. This can include the methods of discriminating voice from noise, the audio functions involved, threshold parameters, the control of the audio functions and activation of the feature.

- v. The user shall be able to engage in selecting, controlling or adjusting audio services of the platform infrastructure without impacting the cognitive load of the user's task.

Constraint Description: Provide specifications on the UX of the form factor for the chest worn device. This can include the requirement for left vs right hand use, the method of providing service selection, method of controlling volume, method of providing pressel, expressing tactile inputs to HID responses, and pressel arbitration.

- vi. **Optional:** The users on a vehicle platform shall be able to utilize fail safe communications in order to safely occupy and operate the vehicle platform.

Constraint Description Optional: Provide specifications on a feature that would provide a vehicle platform with a fail safe method of communication. This would include the ability to allow basic intercom during initialization of the platform digital communications or fall back to the basic intercom when digital audio is no longer being delivered over the network. Other mitigations or approaches can be specified along with the Safety Integrity Level (SIL) compliance that applies.

- vii. The user on a vehicle platform shall be able to visually synchronize an adjacent user's voice to avoid the impact of the McGurk effect.

Constraint Description: Provide specifications on the audio latency between the user and the services offered on the platform infrastructure. This would include the latencies of any audio function blocks in the audio topology, and the latency associated with servicing the USB Audio Class streams.

- viii. **Optional:** An off platform user shall be able to remotely access the platform infrastructure capabilities.

Constraint Description Optional: Provide specifications on the wireless capabilities that are offered. This would include any security accreditation associated with the link, the RF capability including broadcast distance, antenna requirements, and the ability to turn it off or disable the feature during radio silence.

- c. Describe the importance of your requirement.

Weighted Importance: For each of the specifications provided, identify if the requirement is “Mandatory” for compliance vs “Desirable” or “Optional”.

4.3 *System Interfaces*

- a. Provide an overview of the device interfaces.
- b. Identify all external interfaces to your product, their physical, functional, and electrical characteristics.

4.4 *Maturity Level*

Provide an indication of the current maturity of the proposed SAAD solution, including a development roadmap and timeline where applicable to delivery the required capability.