

Title: **CDMaST / Sea of Dreams RFI, DARPA-SN-16-47**

Date: **July 11, 2016**

Responses Due: **August 16, 4:00pm (EDT)**

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SUMMARY:

The DARPA Cross Domain Maritime Surveillance and Targeting (CDMaST) program is seeking information on innovative technology enablers that can address a broad range of warfighting capabilities. These technology enablers will be assessed for potential inclusion in Phase 2 of the DARPA CDMaST program.

Relating to the warfighting context in which CDMaST capabilities will be expected to operate, a two day, classified, “Sea of Dreams” technical interchange meeting will be conducted September 28 – 29 2016 at the Pacific Warfighting Center in Pearl Harbor, Hawaii. The purpose of the meeting is to allow potential technology solution providers (e.g., Industry, Government, University Research Centers, Laboratories, and Academia) an opportunity to understand Pacific Fleet (PACFLT) warfighting context and concept of operations (CONOPS), and associated operational and technology challenges. Additionally, it will provide a venue for potential solution providers to participate in a technology poster exposition to display their capabilities and discuss their solution concepts with PACFLT, the CDMaST team, and other meeting attendees.

Day one of the technical interchange will consist of PACFLT presentations and round table discussions. Day two will include the poster session exposition along with sidebar opportunities for potential providers to present, expose and discuss relevant technologies to PACFLT and the DARPA CDMaST teams. All interested solution providers are encouraged to register and attend the Sea of Dreams technical interchange meeting at: <https://community.apan.org/wg/sea-of-dreams/>

BACKGROUND

The United States faces increasing challenges in the maritime domain, particularly in the PACFLT area of responsibility. The DARPA CDMaST program is working to address these challenges by developing system of systems (SoS) architectures for wide area, cross-domain (under, on and over the sea) surveillance and targeting of adversary ships and submarines in order to hold them at risk. The approach will involve using a mixture of manned and unmanned systems encompassing new technologies, tactics, and battle management capabilities to form a “kill web” SoS architecture. This architecture will be employed to execute a variety of kill chains and dominate large, contested maritime regions.

Specifically, CDMaST is a two phase program. In Phase 1 (scheduled to conclude in Dec 2017), performers are developing, analyzing and modeling advanced maritime system of systems architectures to significantly increase military effectiveness through the use of technology enablers, innovative tactics, and cost-effective resource allocation. During Phase 1, industry teams will be selecting promising technology enablers to incorporate into their CDMaST architectures for analysis of military utility and engineering feasibility. Phase 2 of the program consists of an experimentation campaign to explore, test, and demonstrate promising architecture concepts. Experiments will be conducted using combinations of technology enablers and software solutions in a live, virtual, and constructive environment.

Submissions to this RFI will be provided to the DARPA CDMaST team for their review. Relevant submissions will be identified and the submitting organization will be invited to present their solutions and capabilities at the Sea of Dreams poster session. Additionally, in accordance with any proprietary markings and upon permission from the submitting organization, technology enabler information will be made available to the CDMaST technical library for performers' consideration in their architectures. If PACFLT or CDMaST industry performers are interested in particular technology enablers, they will be put into direct contact with the supplier.

PURPOSE OF PROVIDED INFORMATION

The purpose of this RFI is to identify existing and emerging technology enablers that could potentially be incorporated into CDMaST warfighting architectures and demonstrated in subsequent experimentation programs. The purpose of the "Sea of Dreams" technical interchange meeting is to allow additional, direct dialogue and establish a baseline level of understanding between the warfighting community and potential solution provider community. The intent is to make this the start of a recurring technical exchange that is tied to concrete analysis efforts and experimentation campaigns focused on implementing promising ideas and concepts.

Note: Because the intent is to potentially test items in Phase 2 of CDMaST, all submissions should address technologies that have been demonstrated at the 'prototype' level (technical readiness level (TRL) 4 or above) and that are planned to be at TRL 5 or above by mid-to-late CY2018.

REQUESTED INFORMATION:

Information is sought on a wide range of technology enablers that support the complex system of systems aspect of modern warfare. This information includes direct warfighting capabilities to

detect and track submarines and ships, such as:

- Platforms (manned and unmanned)
- Sensors
- Weapons

This information also includes technologies that support the foundational services required to implement and sustain warfighting capabilities, such as:

- Communications, command and control
- Navigation and timing
- Networking, data storage, and information processing

Additionally, battle management technologies to fuse information, aid or direct allocation of resources, and optimize performance are desired.

Responses are welcome from all capable sources including, but not limited to, private or public companies, individuals, universities, university-affiliated research centers, not-for-profit research institutions, and U.S. Government-sponsored labs. DARPA is interested in responses that address all of the following areas regarding the submitted technology enabler:

1. Overview and technical details; how it works; why it is better than current technology
2. How it might be implemented in a CDMaST architecture and how it would benefit the warfighter
3. Current technology status to include TRL and projected TRL in CDMaST's Phase 2 experimentation (mid-to-late CY2018)
4. Contact information to facilitate potential follow on discussions

SUBMISSION:

Responses should be submitted to DARPA-SN-16-47@darpa.mil by August 16, 2016, 4:00 PM EDT.

Responses to this RFI should be concise and consist of a single quad chart summary and up to three more pages of amplifying information (4 pages maximum). Only one technology enabler should be described in a response, but responders may submit more than one response to cover multiple technology enablers. DARPA will only review responses submitted in a Microsoft Word (.doc or .docx) file, Microsoft PowerPoint file, or unprotected Adobe Acrobat (.pdf) file. The overview slide should be in quad chart format (Technology Enabler Overview, CDMaST Application of Technology, Technology attributes and benefits, and current TRL level and projected TRL in mid calendar year 2018). Supporting information is limited to three pages or less using 12-point font and 1-inch margins on 8.5-inch by 11-inch paper. Any submitted material in excess of the total, 4-page limit may not be reviewed.

NOTE: Substantiation of asserted TRL is required in the response.

DISCLAIMERS AND IMPORTANT NOTES:

This is an RFI issued solely for information and new program planning purposes; it does not constitute a formal solicitation for proposals. In accordance with FAR 15.201(e), responses to this notice are not offers and cannot be accepted by the Government to form a binding contract. Submission of a response is strictly voluntary and is not required to propose to a subsequent Broad Agency Announcement (if any) or other research solicitation (if any) on this topic. No solicitation exists; therefore, do not request a copy of the solicitation. If a solicitation is released, it will be synopsisized on the Federal Business Opportunities website. It is the responsibility of any potential offerors/bidders to monitor this site for release of any solicitation or synopsis.

DARPA will NOT provide reimbursement for costs incurred in responding to this RFI.

Classified responses should be coordinated with DARPA prior to submission. Responders wishing to provide a classified response should send an e-mail to the SN mailbox as soon as possible with the subject line "Classified Coordination Requested" to allow time for proper coordination. NO CLASSIFIED INFORMATION SHOULD BE INCLUDED IN THE RFI RESPONSE SENT TO DARPA-SN-16-47@darpa.mil.

If proprietary information is submitted, it must be appropriately and specifically marked. It is the submitter's responsibility to clearly define to the Government what is considered proprietary data. Any proprietary information should be clearly labeled as "proprietary." DARPA will not publicly disclose proprietary information obtained as a result of the RFI. To the full extent that it is protected pursuant to the Freedom of Information Act and other laws and regulations, information properly identified by a respondent as "Proprietary" will be appropriately controlled and kept confidential. Submissions may be reviewed by: the Government (DARPA and partners) and support contractors bound by appropriate non-disclosure agreements.

Respondents are advised that DARPA is under no obligation to acknowledge receipt of the information received or provide feedback to respondents with respect to any information submitted under this RFI.