Request for Information (RFI)

Under the

Expeditionary Missions Consortium – Crane (EMC²)

Number: N00164-24-9-0001

EMC²-RFI-26-03

SENSEI Data Fusion Correlator

RFI Issue Date: 12 February 2026

RFI Responses Due: 06 March 2026 – 4:00 P.M. EST

Background

This Request for Information (RFI) is issued by the Expeditionary Missions Consortium – Crane (EMC²) in support of the Naval Surface Warfare Center for the specific topic area identified below. The Topic Sponsor desires to collaborate with EMC² Members and industry to discuss the topic and possibly shape future EMC² Request for Solutions (RFS).

SENSEI is an integrated multi-sensor, multi-weapon, multi-domain counter-unmanned system (C-UxS); its objective is to detect-to-defeat Counter-small Unmanned (Air, Ground, Surface, Undersea) System (C-sUxS) to protect Navy/DoD critical infrastructure and assets. While SENSEI hosts a wide range of sensors, those sensors have inherent limitations in coverage, accuracy, and susceptibility to noise, clutter, or environmental conditions which may cause uncertainty, bias, or conflicting information, limiting their effectiveness in detecting, tracking, and effecting unmanned threats.

Feedback will not be provided and responses to the RFI papers will not be returned.

RFI Topic

EMC²-RFI-26-03: SENSEI Data Fusion Correlator
RFI Topic Sponsor: NSWC Crane, Integrated Counter Unmanned Systems Branch, MXPM

Objectives

- Determine the availability of Data Fusion Products which are available for integration with third party Command and Control (C2) Software
- Determine the tested performance of the fusion products to inform the requirements
- Determine the capabilities (performance specifications) of existing data fusion products
- Objective is to **not** include solutions that are dependent upon or cannot be decoupled from the C2 functionality

Topics to be Addressed within RFI Response

1. Describe the software product and overall function in paragraph form.
    1. Discuss what level of fusion is performed as pertaining to Joint Directors of Laboratories Data Fusion Model
    2. Is the product fielded/operationally used? Discuss current use cases and/or test events the product has been deployed/used.
2. Data Alignment/Synchronization/Heterogeneity:
   Note: The term heterogeneity implies that data varies significantly in type, format, structure, quality, or distribution, coming from diverse sources like databases, text, or sensors, making it complex to integrate and analyze compared to uniform (homogeneous) data, requiring preprocessing to find patterns.
    1. How does the product handle inputs from sensor with varying sample rates?
    2. What is the maximum sample rate variance from two track sources that can be correlated?
    3. How does the system handle the dynamic addition or subtraction of sensor inputs?
    4. What is the maximum position variance from two track sources that can be correlated?

5. Is the fusion/correlation product able to maintain track continuity (single track ID per object) even if the source data for the track changes IDs?
6. What is the maximum sample rate the Data Fusion Correlator can ingest/handle? If maximum is not available, provide highest tested or highest sample rate the product was operated with.
7. What is the minimum number of data sources required for a fused track output? (If only one track is fed in, will the same track be output, or will fused track be output only if more than one data source is present?
8. What is the maximum number of data sources that can be used for a single fused track?
9. What is the number of simultaneous tracks that can be processed (assuming COTS hardware and no other hardware constraints)?

3. Latency
    1. What is the latency for fusion of similar sensor sources (e.g. two radars pointed at the same AOR)?
    2. What is the latency for fusion of dissimilar sensor source (e.g. radar sensor with minimal delay but higher position error, and RF sensor with large delay but small positional error)?
4. Error
    1. What are the average error improvements when fusing two similar tracks (i.e. two radar sensors with similar accuracy)?
    2. Can the spurious track errors be characterized? How often does the fusion product produce two tracks when only one track is present? How often does the track split into multiples when only one target is present?
5. Track Metrics/Figures of Merit
    1. What, if any, figures of merit are provided with the fused track (i.e. confidence, error, covariance matrix)?
    2. Is assignment of different confidences, errors possible based on the data source (i.e. source 1 is an acoustic sensor, and although covariance is not produced with each detection/track, all incoming tracks can be assumed to have same error values)?
6. Integration/Functionality
    1. Has the correlator been integrated with any C2 systems? Which systems?
    2. Can the correlator operate headless? How is the configuration (if any) of the correlator achieved (i.e. GUI, configuration file, source code changes)
    3. What are minimum/recommended hardware resources that need to be allocated to the correlator process?
    4. What OS does the correlator operate on natively?
    5. What is the integration cost/deployment cost of the correlator. Is there a license associated with the correlator.
7. Swarm Data Fusion Considerations
    1. How many simultaneous tracks can system maintain?
    2. How does system handle Track Swap/ Track Crossing (when two targets cross paths)?
    3. How are clusters of targets handled? Non-targets? Mixture?
    4. Does performance degrade as maximum number is approached? Surpassed?

8. Is there any other information and/or metrics pertaining to your solution that you deem important/necessary and critical?
    1. What metrics do you believe are critical when testing the data fusion products?

Note:

- Data/Message Flow diagrams are helpful to understand correlator/logic architecture, but are not required.
- Correlator will be required to conform to input/output message types in accordance with ICD provided by the GOVT at a later date, correlator must be adaptable to support those messages.
- Correlator performance will be tested with benchtop simulated system, with same data set. The correlator will be treated as a 'black box process', with measurements and metrics collected on input and output data.
- This RFI is intended to result in a multiple award RFS for existing correlator products evaluation with a government C-UAS system. This evaluation will be at a government or contractor facility and may include vendor support of their correlator. The results of those evaluations may lead to further development of a correlator to meet the government's needs.
- In the response, indicate if the company is Cybersecurity Maturity Model Certification level 1 or higher. Level 1 is self certification.

Format Requirements of the RFI Papers

- 10-page limit, inclusive of contact information.
- Times New Roman 10 (or larger) Single-spaced, single-sided, 21.6 x 27.9 cm (8.5 by 11 inches).
- Smaller type may be used in figures and tables, but must be clearly legible.
- No pictures of a marketing/advertising nature or hyperlinks are allowed.
- File format must be Microsoft Word or PDF.
- These RFI submissions will be shared with the Sponsor; therefore, any proprietary information must be clearly identified/marked.
- Do not submit classified information.

Eligibility

Any industry member is authorized to submit a solution for the listed RFI above. However, to be eligible to respond to any future RFS, respondents must be a member of the EMC² Consortium and be a 'Member in Good Standing'.

Submission Instructions

Respondents are required to submit complete RFI documents that demonstrate the objectives identified above.

Submit responses and technical questions to the ATI email address listed below:
emc.responses@ati.org

For general submission questions or if you need a secure link to send CUI documents,, please contact the EMC² Consortium Manager, ATI, at emc@ati.org or visit the EMC² website at emccrane.org for membership requirements.

This RFI is issued solely for information purposes. It does not constitute an RFS or a promise to issue an RFS in the future. This RFI does not commit the Government to contract for any supply or service in any manner. Respondents are advised that the U.S. Government will not pay for any information or administrative costs incurred in response to this RFI; all costs associated with responding to this RFI will be solely at the interested parties' expense. Not responding to this RFI does not preclude participation in any future RFS, if any is issued.