

Broad Agency Announcement (BAA) Number
FA8650-23-S-1090
Mission Autonomy for Air and Space Systems (MASS)

BROAD AGENCY ANNOUNCEMENT TITLE: Mission Autonomy for Air and Space Systems (MASS)

BROAD AGENCY ANNOUNCEMENT TYPE: Notice of Contract Action (NOCA)

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This announcement does not request any proposals at this time. The following topic is an anticipated requirement for AFRL/RYPAR for FY23-FY28. A BAA solicitation requesting proposals for this topic is anticipated to be published February 2023.

The funding listed reflects the estimated requirement funding only. This estimate is not a guarantee of funding. Funding is uncertain and is subject to change. Changes in funding availability may occur at Government discretion.

Program Description: The goal of the Mission Autonomy for Air and Space Systems (MASS) program is to advance Air Force sensing capabilities by employing diverse sensor processing results at a representational (e.g., Digital Twin) or product level that is abstracted from the direct sensing output yet retains crucial information and corresponding uncertainties. Key research areas under MASS include development of sensor product representations suitable for efficient storage, efficient communication, and efficient resource allocation; robust conversion of sensor processing output to novel representation formats; accurate characterization of sensing uncertainties; rigorous incorporation of sensing uncertainties within novel algorithms for sensor resource management, task allocation, and information fusion; development and employment of multi- and hybrid-computational platform and virtual environments suitable for exercising specific algorithms and for analyzing specific system concepts; and sustained, efficient descriptions of mission context and mission operating environment. In support of technology maturation and transition, MASS also includes small unmanned aerial system (SUAS) integration and operation, advanced demonstration and validation.

MASS technology trajectories must be compatible with the constraints of future contested and highly contested operating environments, and with relevant missions and roles. However, MASS research and development must build upon and contribute to a broad technical foundation, and as such requires deliberate experimentation that relaxes and imposes operating constraints consistent with the maturity and specific objectives of each development thread. The majority of MASS efforts will require software development that incorporates modern best practices, including DevSecOps, Open Mission Standards, containerization, and cloud services; furthermore, software development under MASS must be compatible with the constraints of Air Force network and computing environments at multiple classification levels. MASS is expected to employ modern computing architectures and Air Force fielded systems, both of which may require procurement of specialized software, hardware, skills, and expertise as part of system development, testing, and technology transition.

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Technology investments under MASS are expected to be diverse, drawing upon previous and ongoing government, industry, and academic work in areas including sensor exploitation, autonomous operation, artificial intelligence, natural language processing, ontological representation and reasoning, machine learning, synthetic data generation, target tracking, information fusion, and modeling and simulation.

MASS will be a one step, Closed BAA to advance, evaluate and mature Air Force autonomy capabilities, leveraging the latest advancements in both the fundamental science of autonomy and ML and the most modern computing technologies designed to support them.

The contractor will be expected to deliver all software and/or hardware as required, and all associated data developed and/or used in the execution of this effort, unless clearly stated otherwise in the proposal. It is anticipated that a BAA providing more details into this program will be released February 2023; the solicitation will be made available at www.Sam.gov. Direct any questions to the Contracting or Technical point of contacts identified in the announcement.

Security: General Operations Security (OPSEC) procedures, policies and awareness are required in an effort to reduce program vulnerability from successful adversary collection and exploitation of critical information. OPSEC will be applied throughout the life cycle of the contract. The Critical Information List (CIL) and the RY OPSEC Plan will be provided upon request by AFRL/ RYOY Information Protection Office. While working on the government installation, OPSEC guidance and OPSEC training will be provided by AFRL/RYOY Information Protection Office. This training will ensure contractors are familiar with RY's CIL and RY's OPSEC Plan as it pertains to their contract. The contractor shall apply OPSEC in their management of their current program IAW AFI 10-701 Operations Security and WPAFB Supplement to AFI-10-701.

All DoD contractors (including subcontractors) shall supplement their current security practices by requiring any personnel involved in executing this contract where critical program information (CPI) has been identified to protect the CPI to the standards articulated in the Program Protection Plan and in accordance with DoDI 5200.39. Upon contract award, all identified DoD contractors (including subcontractors) shall acknowledge and meet the requirements stated by the Program Manager for the protection of CPI. The DoD contractor must immediately notify the U.S. Government upon the discovery of any nonconformance with CPI protection.

Funding: Anticipated Program Funding: \$48,750,000 (FY 23-FY28).

Anticipated Contract Type: It is anticipated that one Cost-Plus-Fixed-Fee (CPFF) C-type contract will be awarded in support of the MASS effort.

Period of Performance: 63 months (60 months for technical effort and 3 months for final reporting)

Classification Level: Top Secret/SCI

Set Aside: None

THIS IS NOT A CALL FOR PROPOSALS. DO NOT SUBMIT PROPOSALS AT THIS TIME. ANY PROPOSALS RECEIVED WILL BE DISCARDED.