



Program Announcement
Quantum Benchmarking Initiative (QBI) 2026 Announcement
Multi X Office

DARPA-PA-26-02

As amended on
July 29, 2026

Amendment 01 Summary:

The purpose of this amendment is to extend the closing date, update the Program Manager, and change from Microsystems Technology Office to Multi X Office.

PROGRAM ANNOUNCEMENT OVERVIEW INFORMATION

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), **Multi X Office (MXO)**
- **Funding Opportunity Title** – Quantum Benchmarking Initiative (QBI) 2026 Program Announcement
- **Announcement Type** – **Amendment**
- **Funding Opportunity Number** – DARPA-PA-26-02
- **Dates:**
 - Posting Date: November 14, 2025
 - **Amendment 01 Posting Date: July 29, 2026**
 - **Closing Date: December 30, 2026**
 - Due dates specified within QBI Topic (QBIT) announcement
- **Concise description of the funding opportunity:** The Defense Advanced Research Projects Agency (DARPA) is soliciting innovative approaches to address challenges related to quantum computing. The QBI 2026 program seeks specific solutions to targeted challenges related to developing utility-scale quantum computers, as defined in specific QBI topic (QBIT) calls. Proposed research should investigate approaches that enable revolutionary advances in design, engineering, test, and evaluation of such systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice.
- **Anticipated individual awards:** Multiple awards are anticipated
- **Anticipated funding type:** 6.2
- **Types of instruments that may be awarded** – To be specified per each QBIT, proposers may anticipate either Other Transaction (OT) for Prototype agreements or Other Transaction (OT) for Research agreements
- **Attachments to DARPA-PA-26-02:**
 - QBI Controlled Unclassified Information Guide (signed as of June 11, 2025)
- **Agency contact**
 - **Technical POC:** **Dr. Micah Stoutimore**, Program Manager
 - **Email:** QBI@darpa.mil
 - Additionally, each QBI Topic will identify a program-specific email address.
 - **Mailing Address:**
DARPA/**MXO**
ATTN: DARPA-PA-26-02
675 North Randolph Street,
Arlington, VA 22203-2114

Program Announcement
DARPA-PA-26-02 - Amendment 01

Quantum Benchmarking Initiative (QBI)
Defense Advanced Research Projects Agency (DARPA)
Multi X Office (MXO)

1. Description

A. Introduction

The mission of DARPA is to make strategic, early investments in science and technology that will have long-term positive impact on our nation’s national security. DARPA’s MXO’s revolutionary work has helped the United States establish and maintain technological superiority for more than two decades. In order to capitalize on new, rapidly developing utility-scale quantum computing opportunities, MXO is extending the Quantum Benchmarking Initiative (QBI) program to explore additional high-risk, high-reward approaches that push the boundaries of utility-scale quantum computing. QBI is designed to rigorously verify and validate if any quantum computing approach can achieve utility-scale operation by the year 2033.¹ QBI is an expansion of the existing DARPA Underexplored Systems for Utility-Scale Quantum Computing (US2QC) program (DARPA-PS-22-04). The QBI 2026 Program Announcement (PA) is another opportunity under the overarching initiative, the first iteration of which was QBI Program Solicitation (DARPA-PS-24-26) released in August 2024. The purpose of this PA is to encourage new entrants to QBI, ensuring DARPA has visibility into all approaches and potential solutions. While this PA is not intended to solicit proposals from performers selected under prior QBI or US2QC solicitations, those performers are not precluded from submitting new proposals under this PA if they believe their approach offers new or distinct contributions to the QBI initiative.

B. Background

It has been credibly hypothesized—but not proven—that quantum computers will have a transformative impact on a variety of scientific and technical disciplines. Two separate factors make the ultimate impact of quantum computing unclear. First, although a number of algorithms and applications for quantum computers have been suggested, in most cases a rigorous comparison to the best classical alternatives for real-world usage has not been completed. Second, it is unclear when or if a “utility-scale” quantum computer (USQC)—one whose computational value exceeds its costs—can be built, particularly for applications that require fault tolerance.

The complexity of a fault-tolerant USQC could approach or exceed that of a classical supercomputer. A verification and validation effort that demonstrates a utility-scale design is viable, that all the necessary components and subsystems for the computer can be produced at the required specifications, and that all these components and subsystems can be successfully integrated is a difficult, multi-year process. Many scientists and engineers predict that a USQC based on conventional designs is still decades away, making this type of verification and validation effort premature.

However, if an approach to quantum computing is discovered that enables utility-scale quantum computing much faster than anticipated, DARPA is interested in the immediate and timely

¹ In 2023, the DARPA US2QC program stated interest in any “...truly revolutionary approach to building a useful quantum computer in the near future – less than 10 years...”

verification and validation of the approach's viability, performed in parallel with ongoing research and development efforts.

C. Quantum Benchmarking Initiative Topic (QBIT) Information and Structure

Quantum Benchmarking Initiative topics, or QBITs, will be announced via calls for proposals issued under this PA. These calls will focus on technical domains important to the QBI mission pursuing innovative research concepts that explore frontiers in, but not limited to:

- Describing a USQC concept that has a plausible path to realization in the near term.
- Describing a research and development plan capable of realizing the USQC, the risks associated with that plan, planned risk mitigation steps, and the prototypes needed to burn down these risks.
- Providing tools to the Government to verify and validate that the envisioned USQC concept can be constructed as designed and operated as intended.
- Augmenting the capabilities of the QBI Independent Verification and Validation team through the development of quantum computer testing and evaluation tools and/or concepts.

Each QBIT will define the proposal process for that QBIT, which may include a combination of: 1. Abstracts 2. Written Proposals; 3. Oral Proposals.

Abstracts: It can be expected that a QBIT may:

- Not contain an abstract phase at all,
- Require that an abstract is submitted in order to propose,
- Use abstracts as a formal decision point, where only the invited proposers may propose, and/or,
- Use abstracts to encourage or discourage proposals.

For QBITs that either require an abstract submission or use abstracts as a formal decision point, abstracts will be evaluated and proposers with plausible solutions will be invited or encouraged to submit a proposal.

Proposals: Proposals submitted in response to QBITs will be evaluated and selected in accordance with the evaluation criteria detailed in each respective QBIT. Proposals may require an oral presentation and/or a written component, which will be specified in each respective QBIT.

Each QBIT will (1) identify specific details regarding the research topic of interest and (2) provide proposal and submission instructions in addition to those outlined in this PA, including the due date for proposal submissions. Proposals must only be submitted in response to a QBIT. Proposals may not be submitted directly to this PA and any such proposal will be disregarded.

Each topic will consist of one or more stages that will be defined in the individual QBIT calls. The total duration of the proposed efforts will be bounded in the individual QBITs. Specific technical objectives to be achieved, task descriptions, intellectual property rights, milestone payment schedule, and deliverables will be included in each topic.

OTs: The flexibility of the OT award instrument is beneficial to the program because the performer

will be able to apply its best practices as required to carry out the research project that may be outside of the Federal Acquisition Regulation (FAR) process-driven requirements. Streamlined practices will be used, such as milestone-driven performance, with the intention of reducing time and effort on award administration tasks and permitting performers to focus on the research effort and rapid prototyping. Additionally, OTs provide the Agreements Officer the flexibility to create an award instrument that contains terms and conditions that promote commercial transition, reduce some administratively burdensome acquisition regulations, and meet **MXO** program goals. A model OT will be provided with the QBIT full proposal package. Specific milestones will be based upon the research project objectives detailed in each QBIT.

Please see <https://www.darpa.mil/work-with-us/contract-management> for more information on OTs and DARPA's OT authority.

D. Program Objectives, Scope, and Metrics

1. Objectives

The primary goal of QBI is to determine if any approach to quantum computing can achieve utility-scale operation by the year 2033. If DARPA successfully verifies and validates that an approach can achieve utility-scale operation by the year 2033, DARPA intends to aggressively communicate these results to U.S. Government Agencies interested in using or acquiring such a machine.

QBI will add value to ongoing research and development efforts by:

- a. Providing unbiased third-party verification and validation of an organization's path to a USQC; and
- b. Effectively communicating the results of this verification and validation effort to other U.S. Government stakeholders.

To determine whether a USQC concept can be constructed as designed and operated as intended, it will be necessary to rigorously verify and validate any proposed path to utility-scale operation. For this reason, QBI will focus on verifying and validating the path to USQCs and will not focus on tracking incremental improvements to existing quantum computers.

Because of these requirements, verification and validation activities within QBI will focus on three critical stages:

- 1) Stage A: Describe a **USQC concept** that has a plausible path to realization in the near term.
- 2) Stage B: Describe a **research and development plan** capable of realizing the USQC, the risks associated with that plan, planned risk mitigation steps, and the prototypes needed to burn down these risks.
- 3) Stage C: Work with the Government to **verify and validate** that the USQC concept can be constructed as designed and operated as intended.

While all QBITs will be subject to full and open competition at the call level, QBI should not be considered a competition between performers at the program execution level; DARPA is interested in pursuing all viable approaches for which there is available funding.

2. Scope

Scope will be defined in individual QBITs.

E. Acquisition Strategy

The Government's acquisition strategy for the QBI 2026 Program Announcement is structured to minimize the administrative burden of entry and reduce program risk. To facilitate this objective, the Government will use the following acquisition process for all QBITs:

1. **Questions and Answers.** DARPA will post consolidated Question and Answer (Q&A) documents on a regular basis for the QBI 2026 PA and each respective QBIT. To access the posting go to: <https://www.darpa.mil/work-with-us/opportunities>. Each individual QBIT will have a specific Q&A document. Question(s) can be submitted to the email address listed in the overview section of a QBIT. General questions about the QBI program can be submitted to QBI@darpa.mil. Emails sent directly to the Program Manager or any other address may result in delayed or no response.
2. **Abstract Instructions.** Each QBIT containing an abstract phase will have its own abstract instructions, templates, and associated deadline within the topic itself.
3. **Proposal Instructions.** Each QBIT will have its own proposal instructions, templates, and associated deadline within the topic itself.

F. Eligibility

Eligibility will be defined in individual QBITs.

II. Security Information

A. Controlled Unclassified Information (CUI)

This program is subject to Attachment A: QBI Controlled Unclassified Information (CUI) Guide signed June 11, 2025. All individuals accessing CUI agree to protect CUI in accordance with DoD Instruction 5200.48 CONTROLLED UNCLASSIFIED INFORMATION (CUI) and NIST Special Publication 800-171 Protecting Controlled Unclassified Information in Nonfederal Systems and Organizations.

DARPA anticipates that submissions received under this PA will be unclassified and may be CUI. However, should a proposer wish to submit classified information, an unclassified email must be sent to the QBI mailbox notifying the **MXO** Program Security Officer. Security classification guidance and direction via a Security Classification Guide (SCG) and/or DD Form 254, "DoD Contract Security Classification Specification," will not be provided at this time. If a determination is made that the award instrument may result in access to classified information, a SCG and/or DD Form 254 will be issued by DARPA and attached as part of the award. Please see the CUIG for additional information.

III. AWARD ADMINISTRATION INFORMATION

A. Organizational Conflicts of Interest

DARPA has an organizational conflict of interest (OCI) policy that prohibits contractors/performers from concurrently providing Scientific Engineering Technical Assistance (SETA), Advisory and Assistance Services (A&AS), or similar support services and being a technical performer. For

additional information and instructions on organizational conflicts of interest, please visit [Proposer Instructions and General Terms and Conditions](#).

B. General Guidelines

Award(s) will be made to proposers whose proposals are determined to be the most advantageous to the Government, all factors considered, including the potential contributions of the proposed work to the overall research program and the availability of funding for the effort. Upon favorable review of the proposal, and subject to the availability of funds, the Government may choose to make an award.

The Agreements Officer reserves the right to negotiate directly with the offeror on the terms and conditions prior to execution of the resulting OT agreement, including payment terms, and will execute the agreement on behalf of the Government. Be advised, only a Government Agreements Officer has the authority to enter into, or modify, a binding agreement on behalf of the United States Government.

In order to receive an award:

- a. Offerors must be registered in the System for Award Management (SAM) <https://sam.gov/> at time of proposal submission and must maintain an active registration for 'All Awards' throughout the life of any resulting award.
- b. Offerors will be required to submit invoices for payment electronically via Wide Area Work Flow (WAWF) at <https://wawf.eb.mil>, unless an exception applies. Registration in WAWF is required prior to award.
- c. Offerors must be determined to be responsible by the Agreements Officer and must not be suspended or debarred from award by the Federal Government nor be prohibited by Presidential Executive Order and/or law from receiving an award.

C. Representations and Certifications

All offerors will be required to submit DARPA-specific representations and certifications for Research or Prototype OT awards in order to be eligible to receive an OT award. The QBI OT certifications document will be provided with each QBIT.

D. Fundamental Research

A fundamental research section will be available in each individual QBIT.

E. Competition Sensitive Information

DARPA policy is to treat all submissions as competition sensitive, and to disclose their contents only for the purpose of evaluation. Restrictive notices notwithstanding, during the evaluation process, submissions may be handled by support contractors for administrative purposes and/or to assist with technical evaluation. All DARPA support contractors performing this role are expressly prohibited from performing DARPA sponsored technical research and development and are bound by appropriate nondisclosure agreements. Input on technical aspects of the proposals may be solicited by DARPA from non-Government consultants/experts who are strictly bound by the appropriate non-disclosure requirements.

F. Acquisition Integrity

The PA competitive solicitation process and awards made thereof shall be considered to align to

the ethical standards required by the Procurement Integrity Act.