

Informational Webinar:
The Quantum Genesis Q Competition
Request for Applications (RFA) DE-FOA-0003657
September 25, 2026



U.S. DEPARTMENT
of **ENERGY**

Office of
Science

Questions & Answers

- Please submit questions using the Zoom Q&A window, which is accessible at the bottom of your Zoom window
- If your question is not answered today, or you have additional questions, please submit via QCompetition@doe.gov by October 6, 2026, at 5:00 PM Eastern Time.
- A Frequently Asked Questions will be available on the Funding Opportunities website. It will be updated periodically.
- Video and slides will be available on the DOE Office of Science [Funding Opportunities website](https://science.osti.gov/grants/FOAs/Open) (<https://science.osti.gov/grants/FOAs/Open>)

Disclaimer: This presentation summarizes the contents of the RFA. Nothing in this webinar is intended to add to, take away from, or contradict any of the requirements of the RFA. If there are any inconsistencies between the RFA and this presentation or statements from DOE personnel, the RFA is the controlling document.

Submission Timeline and Contracting

RFA Issue Date	September 18, 2026
Submission Deadline	October 19, 2026
Anticipated Selections No Earlier Than	November 13, 2026

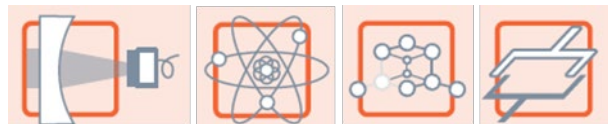
- DOE anticipates awarding only Other Transaction Agreements (OTAs) under this RFA.
- The terms of these DOE OTAs will be crafted to streamline regulatory requirements, and model terms are posted to <https://science.osti.gov/ascr/Funding-Opportunities> page.
- Applicants selected for negotiation will be able to propose modifications to the model terms consistent with their technical pathway subject to DOE approval, though the DOE reserves the right to, and anticipates, limiting the negotiation period to ten business days.

DOE Quantum Genesis

The Quantum Genesis will serve as a foundational pillar of the broader Genesis Mission, designed to usher in a new era of computational power for the nation to accelerate scientific discovery and innovation

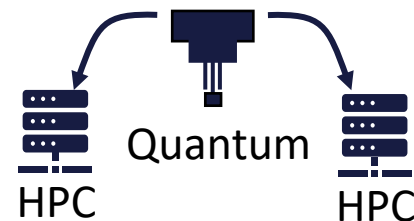
DOE Q Competition

A competition to demonstrate fault-tolerant quantum systems by 2028, targeting hundreds of logical qubits.



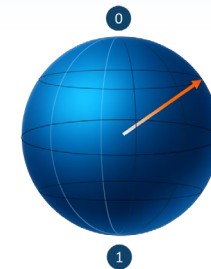
National Quantum Computing User Facility

A first-of-its-kind facility providing U.S. researchers with access to advanced quantum computers, integrating HPC and AI to create a unified discovery platform.



Quantum Computing Algorithms & Applications

Targeted research to identify and implement high-impact use cases for quantum computers.



Introduction

- Successful applicants to this RFA will be domestic commercial entities who are able to realize DOE's vision of a first-generation scientifically relevant quantum computer (SRQC) and demonstrate its performance on an application of importance to DOE, for example, those identified in the [Blueprint for DOE Quantum Supercomputing](#).
- Applicants should demonstrate the capability to deliver a full-stack quantum computing solution.
- They, along with any partners on the application, should be capable of manufacturing, assembling, and operating the quantum computer, while also demonstrating scientific relevance to DOE.

Program

The goal of this program is to realize a fault-tolerant quantum computer of sufficient performance to qualify as “scientifically relevant” for the nation.

System Definitions -

Prototype:

A prototype demonstrated roughly one year into the program, which will validate basic modules in both hardware and software and validate the performer’s ability to scale further. Production of the prototype is an intermediate milestone in the Q Competition.

First-generation SRQC

A first-generation SRQC, possessing at least a hundred logical qubits and capable of performing thousands of hard fault-tolerant operations in service of a specific scientific workflow. Production of the first-generation SRQC is the final milestone of the Q Competition.

Next Generation SRQC

A next-generation SRQC, possessing on the order of a thousand logical qubits and capable of millions of hard fault-tolerant operations in service of scientific discovery. Production of the next-generation SRQC is not a goal of the Q Competition, but first-generation SRQCs will be evaluated for the feasibility of future scaling towards this goal.



Program

While the goal of the Q Competition is to realize the first-generation SRQC by 2028, DOE will consider applications from entities that propose to reach that point by no later than 2030.

While DOE may choose to select these applicants as part of the portfolio, applicants with longer timelines accept the risk that other performers may claim the available milestone payments prior to completion of their own negotiated milestones.

SRQC Generation	# Logical Qubits	Hard Operations	Scientific relevance
Prototype	10	10^3	Subroutine
First-generation	100	10^5	Workflow
Next-generation	1000	10^7	Production

Key performance metrics at each generation of SRQC development. The numbers included are illustrative, and a specific realization at any generation may differ.



Funding Structure

DOE will provide funding to selected participants at successful completion of the intermediate milestones, split into two phases as follows:

Phase 1 – Fixed Awards

	Payment	Eligibility Criteria	Timeline (approx.)
Initial Plan	\$250,000 per awardee	Awarded to each performer after DOE approves the V&V plan.	Six months after project initiation
Prototype	\$1,250,000 per awardee	Awarded upon successful DOE validation of the negotiated intermediate prototype milestone.	One year after project initiation

Disclaimer: All funding under this RFA is subject to the availability of appropriated funds. Funding identified for a future phase, milestone, incentive pool, extension, or other activity does not constitute a commitment, promise, or entitlement to such funding. Selection under this RFA, successful completion of any milestone, or entry into an Other Transaction Agreement does not entitle an applicant or awardee to funding for any subsequent phase or activity

Phase 2 – Incentivizes Pools

	Payment	Eligibility Criteria	Timeline (approx.)
First-generation SRQC	Shared portion of incentive pool, anticipated \$100,000,000	Awarded evenly to all awardees who successfully demonstrate a first-generation SRQC.	Fall 2028
Bonus Pool 1	Shared portion of \$50,000,000 bonus pool	Awarded evenly to all awardees who demonstrate 150 or more total logical qubits in addition to meeting other goals of a first-generation SRQC.	Fall 2028
Bonus Pool 2	Shared portion of \$50,000,000 bonus pool	Awarded evenly to all awardees who demonstrate 200 or more total logical qubits in addition to meeting other goals of a first-generation SRQC.	Fall 2028



Example Award Calculation

Example calculation. The following example is provided to illustrate the funding pools mechanism. Consider a scenario in which \$200,000,000 is available in the incentive pool and four performers (Alice, Bob, Charlie, and Deborah) all successfully deliver first-generation SRQCs, with Alice achieving 200 total logical qubits, Bob achieving 150, and Charlie and Deborah both achieving 100. In this scenario:

- The 200+ qubit bonus pool would be awarded to Alice (\$50,000,000).
- The 150+ qubit bonus pool would be split evenly between Alice and Bob (\$25,000,000 each).
- The general incentive pool would be split evenly between Alice, Bob, Charlie, and Deborah (\$25,000,000 each).

As a result, each performer would receive the following total from incentive pools, in addition to any previous fixed payments they had received:

- Alice: \$100,000,000
- Bob: \$50,000,000
- Charlie: \$25,000,000
- Deborah: \$25,000,000

Limitations on Submissions

- Lead applicant institutions are limited to for profit commercial entities:
 - Other institution types (universities, national labs, etc.) may be partners, but milestone payments will be disbursed only to lead institutions.
 - Applications are limited to domestic entities, i.e., the entity must be legally formed in the United States and have a physical location for business operations in the United States. DOE may approve a waiver to allow a foreign entity to participate. Details on the waiver request are included in Section VI of the RFA.
 - An applicant may participate in multiple proposals; however, DOE does not intend to make awards to multiple applicants that rely on substantively similar qubit technologies from a single provider.
- Applications Not of Interest:
 - Applications from entities that do not have a demonstrated history of successfully creating and demonstrating multi-qubit quantum computers.
 - Applications that primarily propose to pursue R&D work to develop a quantum computing methodology.
 - Applications to build quantum computers that are not fault-tolerant, or cannot be made fault-tolerant, or are only capable of error mitigation or detection and not correction.



Application Details

In addition to other documents described in Sec. V of the RFA, DOE requests a project narrative of **maximum 50 pages**. Project narratives are recommended to consist of:

Section	Description (summarized; refer to RFA for full description)
Introduction and Applicant Background	Describe the applicant's background, history, and general approach to quantum computing as well as important context or strategic positioning.
Current quantum capabilities	Describe the most performant device(s) produced to date, qubit hardware, control, fidelities, logical performance, software stacks, scientific demonstrations.
Phased scaling plan	From the above section, identify which components and subsystems will be improved and how risks will be mitigated towards prototype, first-generation, and next-generation SRQCs.
Scientific relevance plan	Present a plan for establishing the scientific relevance of a demonstrator device, including demonstrator problems and key subroutines.
Team structure & partnerships	Describe personnel and expertise, key partnerships, and work with DOE Labs or other researchers.
Quantum ecosystem impacts	Describe how executing the program will advance the US quantum ecosystem.

In addition to the Project Narrative, several appendices are required. The Transparency of Foreign Connections Disclosure, Current and Pending Support Disclosures, and Biographical Sketches will be used to assess the research, technology, and economic security risks of the most meritorious applications

Review Criteria

Criterion	Characteristics of a Technically Complete Application
Scientific and Technical Feasibility	The applicant has a detailed proposed technical approach that is innovative, feasible, achievable, and complete. This includes the extent to which the task descriptions and associated technical elements are comprehensive and presented in a logical sequence with all proposed deliverables clearly defined, resulting in a clear picture of how an award will achieve the desired goals of this program in realizing a prototype, a first-generation SRQC, and demonstrating scientific workflows.
Operational Feasibility	The applicant's project plan is feasible to execute, including: the extent to which the applicant and key partners have the necessary experience, facilities, and plans to complete and operate the project; the extent to which the proposed costs are realistic for the technical and management approach; and the likelihood and extent to which the project could mitigate any technical and operational risk. The applicant's schedule is detailed, logic driven, exhaustive of all workstreams, includes credible durations, and has manageable execution risks. The scaling pathways to both prototype and first-generation
Impact on the DOE Mission	The applicant has a comprehensive explanation of the extent to which an application furthers the programmatic and technical goals of the Department of Energy as described in this document. The applicant has suitably justified that their success in the program would lay the groundwork for future deployment of quantum computers within the DOE's research complex and for those quantum computers to advance scientific discovery. The scaling pathway to a next-generation SRQC is clear and viable.
Contribution to U.S. Quantum Ecosystem	The applicant describes how their participation in the Q Competition will advance the strength of the quantum ecosystem in the United States. The applicant's involvement will advance U.S. R&D, commercialization, manufacturing, and workforce efforts.

Verification and Validation Procedures

- Those selected for participation will be responsible for developing a detailed technical plan, in consultation and collaboration with a DOE-designated verification and validation (V&V) team, for assessing the completion of the prototype and first-generation milestones.
- Project deliverables will include but may not be limited to:
 1. Validation data for quantum computing performance claims, such as logical qubit error rates, logical gate fidelities, and the width and depth of logical circuits and accompanying fidelities. As part of negotiations and the first milestone of the program, DOE will work with selected applicants to agree on an objective methodology for evaluating these quantities and finalize the nature of data provided to DOE.
 2. Code and technical documentation for demonstrations towards scientific relevance, as well as input/output data for such demonstrations. To the extent that scientific workflows are hybridized between quantum and classical computers, both aspects must be provided to DOE for verification.
 3. Systems (software and administrative) to enable accessibility to inspect, verify, and validate computers, manufacturing/assembly processes, and software products. Applicants will be responsible for software stack elements necessary to the operation of quantum computers, such as compilers, schedulers, and automation of system operations. The system access must be both physical (i.e., allowing personnel access to applicant facilities) and virtual (allowing personnel to access machines via API or web interface).

IP and Data Considerations

- DOE intends to release fast-track OT agreements using provisions similar to 37 C.F.R. § 401.14 and 35 U.S.C. § 200 et seq. allowing recipients to elect to retain title to their subject inventions. This RFA uses DOE's OT authorities to negotiate intellectual property rights, including up to 30-year data protection.
- The draft OTA articles have post-completion IP considerations. If awardee successfully completes any version of the final milestone, the Awardee has the option to enter into negotiations with DOE to waive its Government licenses in exchange for:
 1. Access to the scientifically relevant quantum computer generated by Awardee to meet its final milestone or a future, similarly, performing quantum computer;
 2. A discounted purchase price for the SRQC generated by Awardee to meet its final milestone or another future quantum computer agreed upon by the parties;
 3. A new collaboration with one of the National Labs involving building or installing the SRQCs or another future quantum computer agreed upon by the parties at a National Lab; or
 4. Other considerations.

Q&A

Please submit questions using the Zoom Q&A

If your question is not answered today, please submit it to:

Qcompetition@doe.gov

Applications Due: October 19, 2026