Broad Agency Announcement (BAA)

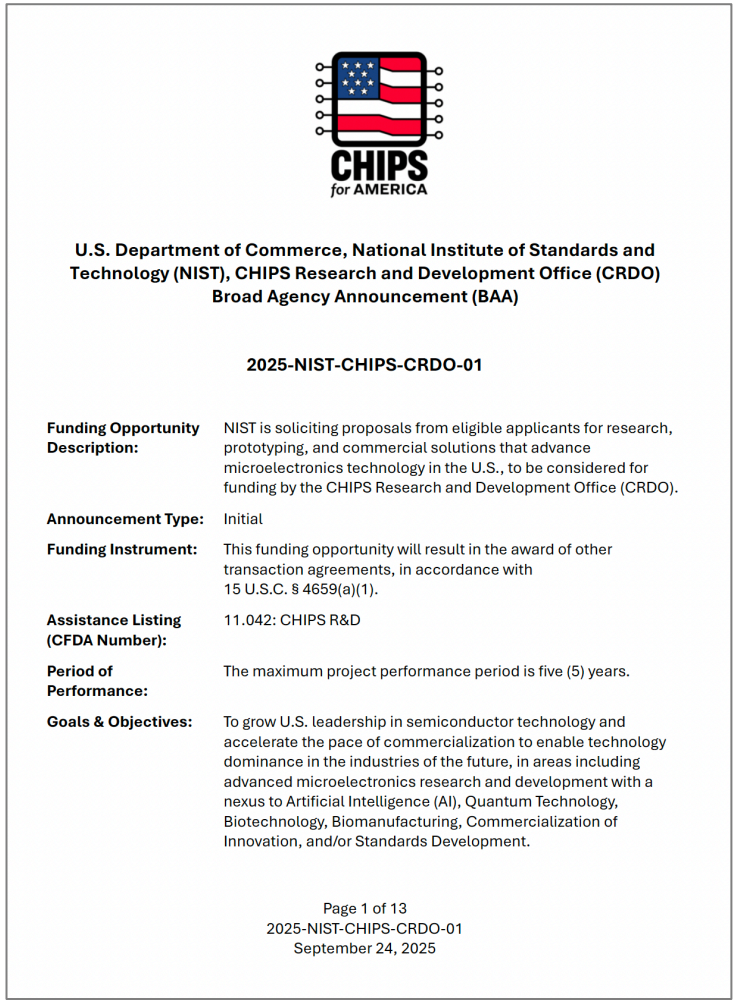
CHIPS Research and Development Office

2025-NIST-CHIPS-CRDO-01

November 20, 2025

Source: NIST PAO

Disclaimer



U.S. Department of Commerce, National Institute of Standards and Technology (NIST), CHIPS Research and Development Office (CRDO) Broad Agency Announcement (BAA)

2025-NIST-CHIPS-CRDO-01

Funding Opportunity Description:	NIST is soliciting proposals from eligible applicants for research, prototyping, and commercial solutions that advance microelectronics technology in the U.S., to be considered for funding by the CHIPS Research and Development Office (CRDO).
Announcement Type:	Initial
Funding Instrument:	This funding opportunity will result in the award of other transaction agreements, in accordance with 15 U.S.C. § 4659(a)(1).
Assistance Listing (CFDA Number):	11.042: CHIPS R&D
Period of Performance:	The maximum project performance period is five (5) years.
Goals & Objectives:	To grow U.S. leadership in semiconductor technology and accelerate the pace of commercialization to enable technology dominance in the industries of the future, in areas including advanced microelectronics research and development with a nexus to Artificial Intelligence (AI), Quantum Technology, Biotechnology, Biomanufacturing, Commercialization of Innovation, and/or Standards Development.

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2025-NIST-CHIPS-CRDO-01
September 24, 2025

The CHIPS Research and Development Office (CRDO) Broad Agency Announcement (BAA) document located on grants.gov is the official competition document. The following presentation is only a summary of the BAA document. Please review the BAA thoroughly prior to starting the application process. Any apparent or actual conflict between the BAA and this presentation must be resolved in favor of the BAA.

Funding Opportunity Number: *2025-NIST-CHIPS-CRDO-01*

Today's Speakers

Eric Forsythe

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Agenda & Objectives

Agenda

- CRDO BAA Overview
- Review and Evaluation Process
- Administrative and National Policy Requirements
- Submission Process
- Next Steps and Additional Resources

Objectives

At the conclusion of this webinar, attendees should better understand:

- Vision for success for this BAA
- Topics addressed by this BAA
- How to submit a White Paper and Pre-negotiation Package in response to this BAA

Questions about this funding opportunity can be sent by e-mail to research@chips.gov with "2025-NIST-CHIPS-CRDO-01 Questions" in the subject line.

BAA Program Description

BAA Program Description

On September 24, 2025, NIST announced it is soliciting proposals from eligible applicants for **research, prototyping, and commercial solutions** that advance microelectronics technology in the United States.

Proposals will grow U.S leadership in semiconductor technology and accelerate the pace of commercialization to enable technology dominance in the industries of the future, in the areas including **advanced microelectronics research and development** with a nexus to **Artificial Intelligence (AI), Quantum Technology, Biotechnology, Biomanufacturing, Commercialization of Innovation,** and/or **Standards Development.**

General Topic Areas Overview

As authorized by 15 U.S.C. 4656 and in alignment with the NIST Strategy for American Technology Leadership in the 21st Century, the following are general topic areas that have been identified as priority areas for proposals under this BAA:

- **Semiconductors**, including research and prototyping of advanced semiconductor technologies and growing the domestic semiconductor workforce
- Application of **Artificial Intelligence (AI)** for advanced microelectronics research and development
- Application of **Quantum Technology** for advanced microelectronics research and development
- Application of **Biotechnology and Biomanufacturing Technology** for advanced microelectronics research and development
- **Commercialization of Innovations**
- **Standards Development**

Semiconductors

Proposed projects may include conducting research and prototyping of advanced semiconductor technologies and grow the domestic semiconductor workforce to strengthen the economic competitiveness and security of the domestic supply chain, overcome R&D ecosystem gaps, and develop innovative advanced packaging manufacturing technologies.

Example Technical Areas (Non-Exhaustive):

- Next generation lithography beyond 1nm: next generation materials and approaches.
- Semiconductor devices: next generation materials, process tools/flows, devices and architectures that may include digital, analog, mixed signal, power, radio-frequency, optoelectronic, sensors, or other.
- Next generation memory devices: next generation materials, architectures, and interfaces.
- Advanced Packaging: heterogeneous integration and 3D packaging, chiplets, 3D stacking, novel memory architectures, 2.5D packaging, integrated photonic packages, ultrahigh density interposers, and next generation assembly and systems packaging.
- Next generation design: design and system level co-optimization, AI-enabled devices through system designs, advanced design automation.
- Accelerating domestic manufacturing fabs: robotics, automation, digital twins, AI-enabled manufacturing, national security manufacturing, and securing critical supply chains.

Application of Artificial Intelligence (AI) for Advanced Microelectronics Research and Development

Development and adoption of AI-driven autonomous agents, AI-based agents for cybersecurity, and consistency in AI system performance measurement.

Example Technical Areas (Non-Exhaustive):

- Compute efficiency
- Novel memory stacks
- Cryogenic operations
- AI at edge
- Stacked machine health monitoring
- AI devices for extreme environments
- Using AI to accelerate domestic manufacturing fabs to secure critical supply chains

Application of Quantum Technology for Advanced Microelectronics Research and Development

Research and prototyping of advanced semiconductor technology for quantum technology, manufacturing of quantum sensors, scalable high-performance quantum components, and development of quantum networks.

Example Technical Areas (Non-Exhaustive):

- Scalable quantum computing
- Quantum networks and communications
- Quantum sensing and metrology
- Accelerating domestic manufacturing fabs: scale domestic production of quantum hardware, domestic buildout of cryogenic, optical, and ultra-high vacuum manufacturing lines, national security manufacturing, secure critical supply chains

Application of Biotechnology and Biomanufacturing Technology for Advanced Microelectronics Research and Development

Adoption of emerging biotechnologies, development of biomanufactured products, and creation of AI-enhanced biotechnology solutions.

Example Technical Areas (Non-Exhaustive):

- Bioelectronics
- Medical implantable devices
- Accelerating domestic bio-electronics manufacturing fabs: scale domestic production, national security manufacturing, secure critical supply chains

Commercialization of Innovations

Adoption and commercialization of federally funded scientific discoveries and technology advancements.

Example Technical Areas (Non-Exhaustive):

- Advanced testing, assembly, and packaging capabilities
- Forming eligible consortia, which may include Manufacturing USA institutes or other organizations, to adopt and commercialize these innovations

Standards Development

Promote U.S. engagement and leadership in international standards for Critical and Emerging Technologies and development of science-based standards.

Example Technical Areas (Non-Exhaustive):

- Quantum manufacturing standards
- Data standards
- Design standards
- Provenance and security standards

Submission Process

White Paper

White Papers are required for this BAA. They will be reviewed for:

1) eligibility, completeness, and responsiveness, and
2) technical and scientific merit, and potential contribution to national and economic security

Reviewers may provide Technical Feedback to applicants and request resubmission of a White Paper.

Pre-negotiation Package (if invited)

Applicants whose White Papers are deemed meritorious will be invited to submit a Pre-negotiation Package, which will include a detailed technical and cost proposal, among other documents. Uninvited Pre-negotiation Packages will not be reviewed.

Rolling Consideration

Applications will be accepted and considered on a rolling basis as they are received.

Additional information regarding submission instructions and package requirements for this BAA can be found online here.

Frequently Asked Questions (FAQ)

- **Will a proposal dedicated to workforce development for the semiconductor industry be eligible for this funding opportunity? Or must the proposal have a technical content in the listed topic areas in addition to the workforce development?**

  Yes. A proposal that is focused on workforce development for the semiconductor industry is in-scope for the BAA, and the evaluation criteria also address the extent to which an application furthers growing the semiconductor workforce.

Can I get feedback on my White Paper?

- After the review of a White Paper, CRDO may provide technical feedback and request resubmission of White Papers.

Frequently Asked Questions (FAQ)

How is the CHIPS R&D Office going to ensure there is a balanced portfolio given the broad focus of the BAA?

While individual awards will be evaluated on a rolling basis, CRDO will maintain full visibility into the breadth of projects at every stage from White Paper to negotiation and throughout the lifetime of the award. CRDO experts are deeply engaged with the scientific and technical community and with industry to understand what gaps may exist between projects submitted under the BAA and the topics necessary to achieve innovative advancements in microelectronics research.

Can I submit more than one White Paper?

Applicant organizations may submit more than one White Paper, provided that each White Paper represents a technically distinct project. CRDO will not accept duplicate or overlapping White Papers from a single organization.

Eligibility, Evaluation Criteria & Policy Requirements

Eligibility

Eligible Applicants: For-profit organizations; non-profit organizations; accredited institutions of higher education; Federally Funded Research and Development Centers (FFRDCs), and Federal entities (e.g., Federal departments and agencies). Eligible applicants must be a domestic entity. Individuals and unincorporated sole proprietors are not eligible applicants.

Eligible Subawardees: Include all eligible applicants as well as foreign partners not otherwise prohibited (e.g., foreign adversaries), subject to compliance with specific requirements. Eligible subawardees may participate in multiple applications. Vendors selling goods or services in the ordinary course of business are not considered subawardees.

Federal Entities and FFRDCs. Federal entities and FFRDCs may only participate to the extent allowed by law and subject to applicable direct competition requirements.

Evaluation Criteria

- National and Economic Security
- Scientific and Technical Merit
- Project Feasibility
- Commercial Viability
- Financial Viability

Evaluation Criteria

National and Economic Security:

The extent to which an application furthers economic and national security by advancing technology leadership in the United States, strengthening the supply chain for domestic semiconductor manufacturing, accelerating the pace of innovation, and growing the semiconductor workforce.

Scientific and Technical Merit:

The extent to which the proposed technical approach 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 goal(s).

Evaluation Criteria

Project Feasibility:

The degree to which the project plan is feasible to execute, including: the extent to which the applicant and key partners have the necessary experience 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.

Commercial Viability:

The completeness, coherence, and viability of the plan to transition project technology from research and development to commercialization, including evidence of a market environment, demand for the project's output, and a suitable return on investment.

Financial Viability:

The extent of the applicant and project's financial viability, including the comprehensiveness and reasonableness of the projected capital expenditures, the applicant's overall financial health, and the specificity, credibility, and viability of the applicant's capital raising plan (as applicable).

Key Policy Requirements: Investment and Research Security

Goal: Protect Federally-funded Intellectual Property (IP) and secure U.S. competitive advantage.

Key Requirements:

- Prohibition of funds to Foreign Entities of Concern (15 U.S.C. § 4657).
- Compliance with NSPM-33 (disclosure of conflicts, foreign support).
- Protection of IP from foreign adversaries (15 U.S.C. § 4656(g)).
- Prohibition on participating in malign foreign talent recruitment programs.

Compliance: NIST reserves the right to request additional information and require risk mitigation strategies.

For additional information and resources, applicants can refer to:

- *Safeguarding International Science: Research Security Framework (NIST IR 8484)*
- *CHIPS R&D Research Security and Technology Protection*
- *CHIPS Technology Protection Guidebook*

Additional information regarding submission instructions and package requirements for this BAA can be found online here.

Key Policy Requirements: IP and Domestic Production

15 U.S.C. 4656(g): "The head of any executive agency receiving funding under this section shall develop policies to require domestic production, to the extent possible, for any intellectual property (IP) resulting from microelectronics research and development conducted as a result of such funding and domestic control requirements to protect any such intellectual property from foreign adversaries."

Key Requirements:

- At least one domestic entity must own or co-own any IP from the funded R&D and must have full rights to enforce the applicable IP rights for a period of years determined prior to the final award.
- The domestic entity must notify NIST before selling, transferring, or assigning ownership of the IP to another entity.
- Ownership of IP from the funded R&D cannot be sold, transferred, or assigned to a foreign adversary, to include FEOCs and foreign countries of concern. Licensing this IP to foreign adversaries may also be restricted.
- CRDO will also require applicants to provide a Commercial Viability and Domestic Production Plan describing potential pathways to transition CHIPS-funded innovations to commercial viability and domestic production.

Key Policy Requirements: Foreign Partners and Activities

Eligibility: While foreign entities are not eligible to lead a proposal as the applicant, foreign entities are eligible to be subrecipients, contractors, or vendors, subject to approval by CRDO.

Location of Funded Work: Funded work must be conducted within the United States, though CRDO may approve the completion of certain tasks outside of the United States

Approval and Justification: CRDO must approve foreign partnerships and activities, and may request written justifications for such partnerships/activities

Key Restrictions: All foreign activities and partners must comply with BAA requirements, particularly those related to:

- **Foreign Entities of Concern (FEOC):** FEOCs may not participate as subrecipients or unfunded collaborators
- **Intellectual Property (IP):** Foreign partners must adhere to IP protection requirements.
- **Research Security and Export Control:** Foreign partners must comply with all security requirements

Frequently Asked Questions (FAQ)

What is a domestic entity?

For the purposes of this BAA, a domestic entity is an entity (a) organized under the laws of the United States or any jurisdiction within the United States and (b) having a principal place of business in the United States. The principal place of business generally means the place where an entity's officers direct, control, and coordinate the entity's activities. A foreign adversary cannot be considered a domestic entity.

Will there be equity requirements as a part of this award?

As a condition of receiving an award, applicants may be required to issue to the Department equity, warrants, licenses to intellectual property, royalties or revenue sharing, or other such instruments to ensure a return on investment to the Government.

Frequently Asked Questions (FAQ)

- **Why has the Department decided to seek a financial return on investment on R&D funding and how should I incorporate ROI options into my proposal?**

  As expressed by Department leadership, CHIPS R&D is dedicated to acting as a partner agency, not simply as a funding agency. Under traditional Federal R&D, the taxpayer tends to share the downside risks but not the direct financial upside of innovation. CRDO will instead mirror a more venture capital-style approach, enabling a direct financial return on investment for the taxpayer when you, the applicant, are successful. Therefore, it is strongly recommended that every white paper, within the Project Objective section, suggest an approach to a financial return on investment to the American taxpayer, scoped to meet the specific needs, capabilities, and technological maturity of your eligible organization. Additional information will be requested in the pre-negotiation package, if invited, and final details would be subject to negotiation.

Ready, Set, Submit!

White Paper & Invited Pre-negotiation Package Preparation & Submission

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
U.S. DEPARTMENT OF COMMERCE

Financial Assistance Agreements Management Office

Agenda

PLAN AHEAD TO STAY AHEAD

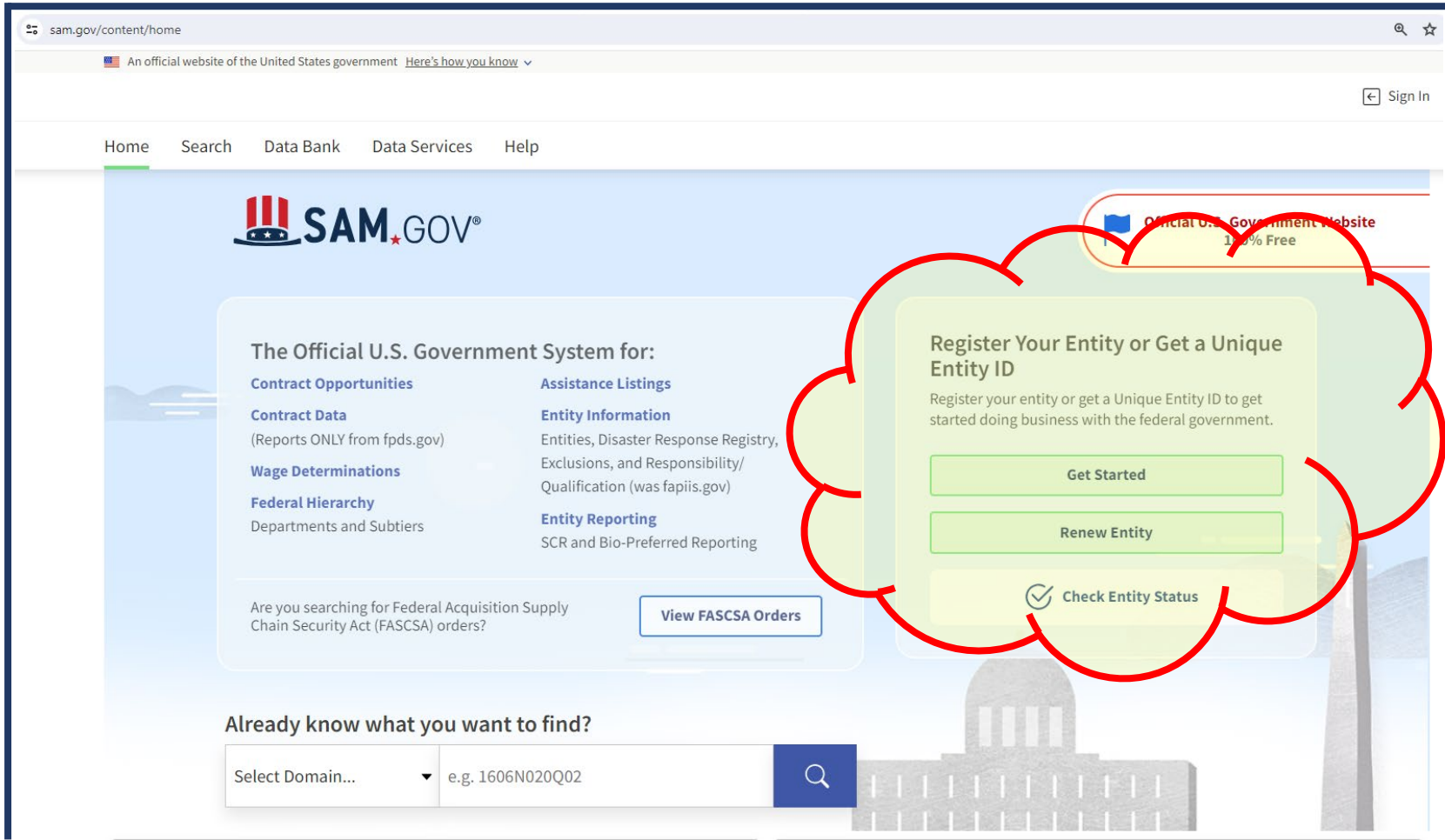
- SAM.gov Registration
- Grants.gov Registration
- Tips for Success

SAM.gov

Link: https://sam.gov/content/home

Help Desk: Monday - Friday from 8am - 8pm EST U.S. calls: 866-606-8220

- 100% FREE to register
- Must have an active account
- Unique Entity ID (UEI)
- Start Early: the process takes about 10 days, but can take up to 6 weeks!
- Complete the Representations & Certifications for All Awards, (Contracts & Financial Assistance)
  - Register in SAM.gov before Grants.gov



Grants.gov

After obtaining a UEI for your organization from SAM.gov, you must register in Grants.gov. There is no fee for registering with Grants.gov. Your organization's EBiz POC must:

1. Create a Grants.gov account with the same email address as used in SAM.gov for the EBiz POC, and
2. Add a profile with Grants.gov using the UEI obtained from SAM.gov.

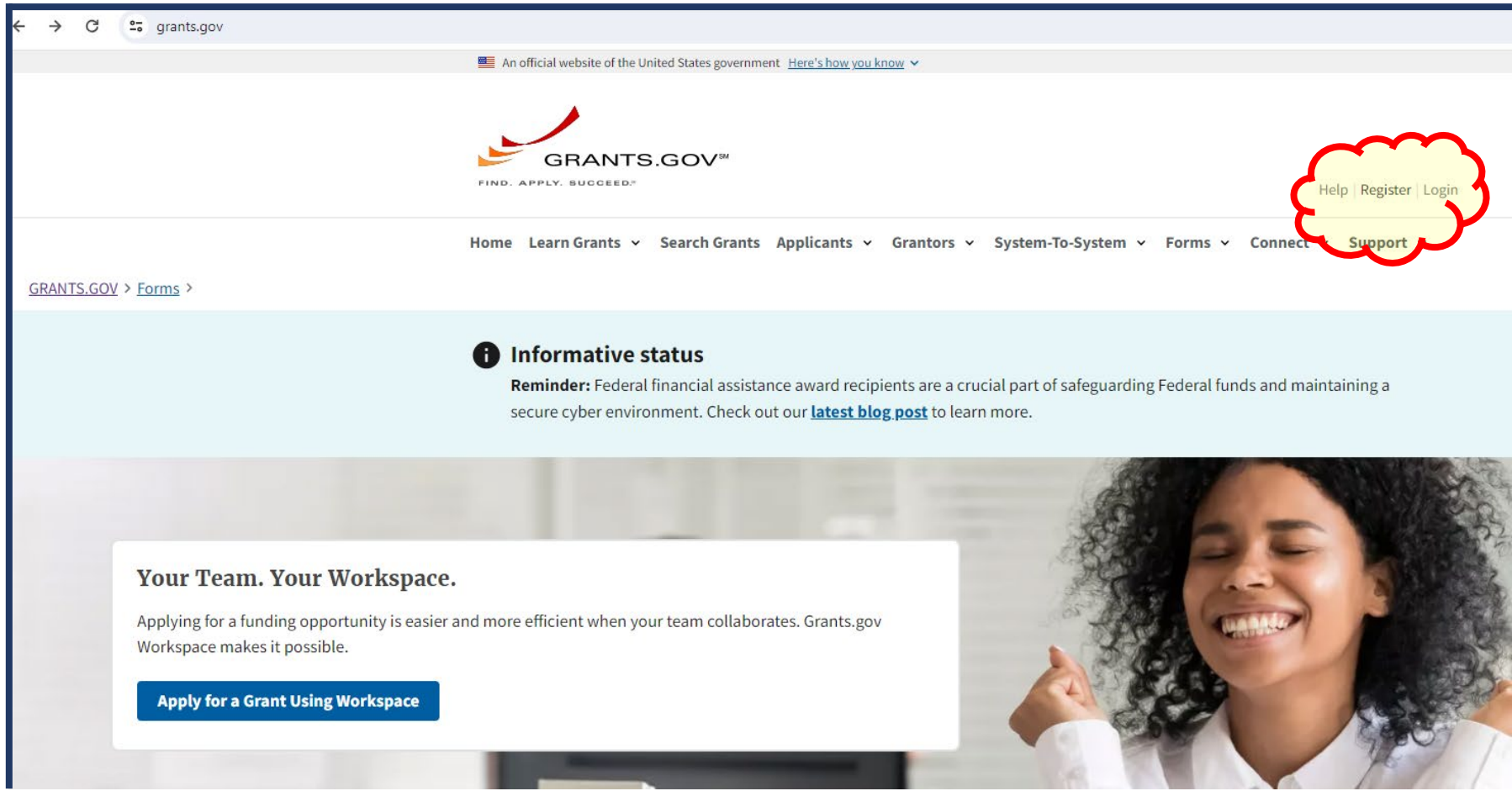
The EBiz POC can then delegate administrative roles to other users. Read the Help article, **Manage Roles for Applicant** for instructions.

Grants.gov *(continued)*

Link: https://www.grants.gov/applicants/applicant-registration

Help Desk: 1-800-518-4726 (24/7 excluding holidays) or support@grants.gov

- 100% FREE to register
- Grants.gov will be used to submit white papers & pre-negotiation packages
- Separate instructions will be provided to applicants who are invited to submit pre-negotiation packages (after white paper review)
- User Guide
- Applicant FAQs



Submission

- **All registrations, including SAM.gov, must be completed before submission**
  - **White Paper & Pre-negotiation Package (invite only) must be free of Grants.gov errors; all errors must be corrected, and resubmissions must be made**

  - Errors stop application processing and must be corrected

  - Warnings do not stop application processing and are corrected at your discretion based on your circumstances

Tips for Success

- Understand submission process and requirements in BAA
- Do NOT apply with a Pre-negotiation Package in Grants.gov until invited
- SAM.gov registration must be active to apply in Grants.gov (White Paper & Pre-negotiation Package)
- Use correct UEI and EIN
- Designate the proper roles in the systems (e.g. - Authorized Rep in Grants.gov)
- Utilize “workspace” feature in Grants.gov to draft applications
- Limit the attachment file size / character limits / page limits per the BAA
- All attachments must in the document format and file name specified in the BAA
- Make sure you are using compatible software (e.g. - Adobe Reader)
- Do not pay to create accounts
- Register to SAM.gov and Grants.gov early!

Frequently Asked Questions (FAQ)

How much funding will be awarded?

The number of awards is contingent upon the availability of funds and the submission of a sufficient number of meritorious proposals. Project budgets should be at least $10 million and need to reflect the actual needs of the proposed project. All funding considerations are based on the availability of funds.

Can I submit a Pre-negotiation Package without submitting a White Paper first?

No, a White Paper is required for applicants to begin the award process. Only those White Papers deemed meritorious will be invited to submit a Pre-negotiation Package. Uninvited packages will not be reviewed.

What is the funding instrument for this BAA? Can I receive a grant?

Awards under the BAA will take the form of other transaction (OT) agreements. Each OT agreement is negotiated with the applicant and details the agreed-upon terms and conditions for that award.

Resources

Resources

BAA Webpage: www.nist.gov/chips/crdo-broad-agency-announcement-baa

- Submission Instructions and Package Requirements: https://www.nist.gov/chips/submission-instructions-and-package-requirements
- Administrative and National Policy Requirements: https://www.nist.gov/chips/administrative-and-national-policy-requirements
- FAQs: https://www.nist.gov/chips/chips-rd-funding-opportunities/crdo-broad-agency-announcement-%2528baa%2529/frequently-asked

General Questions: email research@chips.gov with "2025-NIST-CHIPS-CRDO-01 Questions" in the subject line

Grants.gov Announcement: https://www.grants.gov/search-results-detail/360651

Thank you for joining us!