



November 2023

SMALL BUSINESS RESEARCH PROGRAMS

Agencies Are
Implementing
Programs to Manage
Foreign Risks and
Plan Further
Refinement

Accessible Version

Why GAO Did This Study

Small businesses are important drivers of economic growth and innovation, but they can face challenges accessing capital to fund research and development. Through the SBIR and STTR programs, participating agencies award funding to small businesses that helps bring important technologies to market. However, certain foreign governments are actively working to illicitly acquire such technologies.

The federal government has taken a number of recent actions to help agencies, universities, and businesses counter foreign influence on federally funded research by implementing due diligence activities to identify and mitigate risks. The Extension Act builds on these actions by requiring each relevant federal agency to establish and implement a due diligence program to manage foreign risks.

The Extension Act also includes a provision for GAO to issue a series of reports on the implementation of and best practices for these programs. This report, the first in the series, examines (1) SBA's efforts to develop best practices for participating agencies' due diligence programs, in collaboration with others; and (2) participating agencies' efforts to design and implement their due diligence programs.

GAO interviewed officials from SBA, the 11 participating agencies, and other relevant federal entities. GAO also analyzed information related to the development of SBA's SBIR/STTR due diligence best practices and individual agencies' due diligence programs.

View [GAO-24-106400](#). For more information, contact Candice N. Wright at (202) 512-6888 or WrightC@gao.gov.

SMALL BUSINESS RESEARCH PROGRAMS

Agencies Are Implementing Programs to Manage Foreign Risks and Plan Further Refinement

What GAO Found

The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs face risks of foreign governments seeking to illicitly acquire U.S.-funded research and technologies. To help address such risks, the SBIR and STTR Extension Act of 2022 (Extension Act) required participating agencies to develop a due diligence program to assess aspects of small businesses seeking a federally funded award. In March 2023, the Small Business Administration (SBA) issued a set of 12 best practices that provide general guidance on what agencies should consider in developing their programs. The best practices, which were developed in collaboration with other agencies, cover different types of risks, such as foreign ownership, employee affiliations, and cybersecurity practices. SBA also developed a set of standardized disclosure questions about foreign affiliations or relationships to foreign countries that SBIR/STTR applicants must answer to help participating agencies assess foreign influence.

Examples of Best Practices SBA Issued for SBIR/STTR Participating Agencies' Due Diligence Programs to Address Foreign Risks

Determine which individuals performing the award should be vetted for foreign affiliations	Document risk-based processes for due diligence	Conduct due diligence for all new awards
Utilize numerous sources of information to facilitate due diligence reviews	Leverage standardized disclosures of foreign affiliations	Encourage education and training on research security for small businesses

Source: GAO summary of Small Business Administration (SBA) documentation for Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs; GAO (icons). | [GAO-24-106400](#)

Accessible text for Examples of Best Practices SBA Issued for SBIR/STTR Participating Agencies' Due Diligence Programs to Address Foreign Risks

- Determine which individuals performing the award should be vetted for foreign affiliations.
- Document risk-based processes for due diligence.
- Conduct due diligence for all new awards.
- Utilize numerous sources of information to facilitate due diligence reviews.
- Leverage standardized disclosures of foreign affiliations.
- Encourage education and training on research security for small businesses.

Source: GAO summary of Small Business Administration (SBA) documentation for Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs; GAO (icons). | [GAO-24-106400](#)

All 11 agencies participating in the SBIR and STTR programs established their due diligence programs by June 27, 2023, as required by the Extension

Act. GAO found that agencies plan to assess all new proposals or applications that lead to SBIR/STTR awards using a documented risk-based approach—as called for by SBA best practices. These approaches vary. Some agencies plan to adapt existing due diligence review processes. Others plan to apply reviews based on different phases of technology development or require disclosures from a wider range of individuals who can significantly influence the research on a particular project. Regardless of these differences, each participating agency plans to assess, among other things, the cybersecurity practices and foreign ownership (e.g., financial ties and obligations) of small business award applicants.

All 11 participating agencies plan to refine their due diligence programs through implementation experience. Agency officials identified several potential areas of refinement, such as hiring additional staff, supporting additional training, acquiring vetting tools, and addressing any effects of due diligence reviews on the timeliness of award issuance.

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Abbreviations

CFIUS	Committee on Foreign Investment in the United States
DHS	Department of Homeland Security
DOD	Department of Defense
DOE	Department of Energy
DOT	Department of Transportation
EPA	Environmental Protection Agency
FY	fiscal year
HHS	Department of Health and Human Services
NASA	National Aeronautics and Space Administration
NIH	National Institutes of Health
NIST	National Institute of Standards and Technology
NOAA	National Oceanic and Atmospheric Administration
NSF	National Science Foundation
NSPM-33	National Security Presidential Memorandum – 33
OSTP	Office of Science and Technology Policy

R&D	research and development
SBA	Small Business Administration
SBIR	Small Business Innovation Research
STTR	Small Business Technology Transfer
USDA	U.S. Department of Agriculture

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November 16, 2023

Congressional Committees

Small businesses are important drivers of economic growth, but they can face challenges in accessing capital to fund research and development (R&D). Congress established the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs to enable small businesses to undertake and obtain the benefits of R&D.¹ According to the Small Business Administration (SBA), which oversees the programs, 11 federal agencies and their subcomponents participate in just the SBIR program or both the SBIR and STTR programs.² According to data from SBA, in fiscal year (FY) 2022 these 11 agencies issued more than \$4.4 billion in new SBIR and STTR awards.³ Small businesses have cited SBIR and STTR program funding as instrumental to their success in commercializing and bringing important technologies to market.

According to the National Science and Technology Council, certain foreign governments are seeking to illicitly acquire the most advanced U.S. technologies, including those funded by the SBIR and STTR programs.⁴ For example, a former SBIR awardee suffered economic damage when a subsidiary employee was paid by a Chinese firm to steal

¹The Small Business Innovation Development Act of 1982 established the SBIR program. Pub. L. No. 97-219, 96 Stat. 217. This act amended section 9 of the Small Business Act, Pub. L. No. 85-536, 72 Stat. 384 (1958), codified as amended at 15 U.S.C. § 638. The Small Business Technology Transfer Act of 1992 established the STTR program. Pub. L. No. 102-564, §§ 201-02, 106 Stat. 4249, 4256-61. This act made additional amendments to section 9 of the Small Business Act.

²In this report, we refer to the agencies that issue SBIR and STTR awards as “participating agencies.” Six agencies participated in STTR at the time of our review.

³In this report, we use the term “award” to include contracts, grants, and cooperative agreements, and “awardee” to include the small business recipient of a contract, grant, or cooperative agreement.

⁴National Science and Technology Council, *Guidance for Implementing National Security Presidential Memorandum 33 (NSPM-33) on National Security Strategy for United States Government-Supported Research and Development* (Washington, D.C.: January 2022).

sensitive source code related to wind energy technology.⁵ In addition to the economic impact and the risk of insider threats, there are concerns about small businesses licensing technologies to, or being acquired by, businesses with undisclosed ties to foreign countries of concern.⁶ There is also the risk of small business vulnerability to cyber theft of research that could pose a national security concern.

There have been a number of recent actions taken by the federal government to help agencies, universities, and businesses counter foreign influence on federally funded research by implementing due diligence activities to identify and mitigate risks.⁷ The SBIR and STTR Extension Act of 2022 (Extension Act) builds on these actions by requiring each participating agency to establish and implement a due diligence program to manage foreign risks.⁸ These programs must assess, using a risk-based approach as appropriate, security risks presented by small businesses seeking federally funded awards. This includes risks associated with cybersecurity practices, patents, employee affiliations, and foreign ownership (e.g., financial ties and obligations). In cases where an agency determines that the relationships or commitments of a small business pose a national security risk, the agency may choose to deny an award or take other actions consistent with their risk-based

⁵Department of Justice press release, *Court Imposes Maximum Fine on Sinovel Wind Group for Theft of Trade Secrets* (Washington, D.C.: July 6, 2018), accessed on August 16, 2023, <https://www.justice.gov/opa/pr/court-imposes-maximum-fine-sinovel-wind-group-theft-trade-secrets>.

⁶The SBIR and STTR Extension Act of 2022 defines the term “foreign country of concern” as the People’s Republic of China, the Democratic People’s Republic of Korea, the Russian Federation, the Islamic Republic of Iran, or any other country determined to be a country of concern by the Secretary of State. Codified at 15 U.S.C. § 638(e)(17).

⁷See, for example, National Defense Authorization Act for Fiscal Year 2020, Pub. L. No. 116-92, §§ 1746, 5713, 133 Stat. 1198, 1843-47, 2172-73 (2019); Research and Development, Competition, and Innovation Act, Pub. L. No. 117-167, §§ 10247, 10354, 136 Stat. 1366, 1494-95, 1562 (2022); *Presidential Memorandum on United States Government Supported Research and Development National Security Policy*, National Security Presidential Memorandum 33, (Jan. 14, 2021); ; National Science and Technology Council, *Recommended Practices For Strengthening The Security And Integrity Of America’s Science and Technology Research Enterprise* (Washington, D.C.: Jan. 15, 2021); and the White House Office of Science and Technology Policy, *Enhancing the Security and Integrity of America’s Research Enterprise* (Washington, D.C.: June 2020).

⁸Pub. L. No. 117-183, § 4, 136 Stat. 2180, 2181-86. According to SBA, the due diligence programs required to be established by the Extension Act are intended to help agencies’ SBIR programs manage any potential foreign risks associated with small business awards in accordance with the established federal research security strategy NSPM-33.

approach. The Extension Act requires SBA, in coordination with the Office of Science and Technology Policy (OSTP) and in consultation with the interagency Committee on Foreign Investment in the United States (CFIUS), to develop federal best practices for the development of due diligence programs used to manage foreign risks. This act also requires SBA, in consultation with CFIUS, to provide guidance on the business relationships required to be disclosed.

The Extension Act includes provisions for GAO to issue a series of reports on the implementation and best practices of the due diligence programs. This report, the first in the series, examines (1) SBA's efforts, in collaboration with others, to develop best practices for SBIR/STTR participating agencies' due diligence programs; and (2) SBIR/STTR participating agencies' efforts to design and implement their due diligence programs to meet federal requirements.

The scope of this report includes SBA, the 11 participating agencies, OSTP and CFIUS.⁹ We interviewed officials from these 13 agencies, and CFIUS, and analyzed information and documents related to the development of the SBA's due diligence best practices and individual agencies' due diligence programs.

To examine SBA's efforts to develop federal best practices for participating agencies' due diligence programs, we collected and reviewed SBA's best practices and documentation related to their development and dissemination. We also interviewed agency and CFIUS officials on the development of the best practices and coordination across the agencies and CFIUS. We assessed SBA's efforts to develop the best practices against selected practices we identified in prior work for effective collaboration, including defining a common outcome, bridging organizational cultures, and ensuring that relevant participants are included.¹⁰ We identified these practices as the most relevant to SBA's collaboration efforts required by the Extension Act.

To examine participating agencies' efforts to design and implement their due diligence programs, we interviewed agency officials and analyzed

⁹In this report, we refer to the efforts of an agency as a whole when discussing its due diligence programs. Where applicable, we name specific subcomponents of an agency if the details of their programs diverge.

¹⁰GAO, *Government Performance Management: Leading Practices to Enhance Interagency Collaboration and Address Crosscutting Challenges*, [GAO-23-105520](#) (Washington, D.C.: May 24, 2023).

agency due diligence program documentation. We evaluated this information against the Extension Act requirements and SBA's expectations of agencies in meeting the implementation deadline. See appendix I for additional information on our objectives, scope, and methodology.

We conducted this performance audit from November 2022 to November 2023 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

SBA Oversight and Monitoring

SBA is responsible for overseeing the SBIR and STTR programs under the Small Business Innovation Development Act of 1982, which established the SBIR program, and the Small Business Technology Transfer Act of 1992, which established the STTR program.¹¹ SBA's responsibilities include monitoring the programs, directing and assisting agencies' implementation of the programs, reviewing their progress, collecting and analyzing agency reports, and reporting annually to Congress on the programs. SBA carries out its oversight and monitoring role by:

- publishing and updating the SBIR/STTR Policy Directive which provides guidance to the federal agencies in the SBIR and STTR programs;¹²
- hosting monthly meetings with program managers and coordinators from the participating agencies to share information on pertinent topics;

¹¹Small Business Innovation Development Act of 1982, Pub. L. No. 97-219, 96 Stat. 217; Small Business Technology Transfer Act of 1992, Pub. L. No. 102-564, §§ 201-02, 106 Stat. 4249, 4256-61.

¹²SBA, SBIR/STTR Policy Directive (May 3, 2023).

-
- maintaining the www.sbir.gov website—a publicly available and searchable database required by law that provides program information for small businesses and reports on federal agencies’ participation; and
 - issuing an annual report to Congress on the SBIR and STTR programs.¹³












SBIR/STTR Program and Participant Overview

Pursuant to the Small Business Act, federal agencies with an extramural research or R&D budget greater than \$100 million are required to participate in the SBIR program, and agencies with such obligations greater than \$1 billion are required to participate in the STTR program.¹⁴ According to data from SBA, collectively, in FY22, the 11 participating agencies provided more than 6,500 awards, valued at more than \$4.4 billion, to more than 3,700 companies. Figure 1 shows the participating agencies and their subcomponents that are required to establish and implement a due diligence program to assess security risks that may arise from a small business seeking a federally funded award.

¹³We previously reported on the delays of SBA’s required reports in GAO, *Small Business Research Programs: Reporting on Award Timeliness Could Be Enhanced*, [GAO-23-105591](#) (Washington, D.C.: Oct. 12, 2022). We recommended that SBA should identify and implement actions to improve timely issuance of its annual report. In August 2023, SBA officials described some steps taken to implement it, including timely collection of agency award data, efforts to review all parts of the process, and convening an annual meeting with agency representatives to discuss opportunities to streamline the annual report. We will reassess the status of this recommendation when SBA provides additional information on its implementation. We elevated this to a priority recommendation in May 2023, see *Priority Open Recommendations: Small Business Administration*, [GAO-23-106377](#) (Washington, D.C.: May 15, 2023).

¹⁴15 U.S.C. § 638(f)(1), (n)(1)(A). Agencies’ R&D programs generally include funding for two types of R&D: intramural and extramural. Intramural R&D is conducted by employees of a federal agency in or through government-owned, government-operated facilities. Extramural R&D is generally conducted by nonfederal employees outside of federal facilities. Federal agency, as defined under the statute, does not include agencies within the intelligence community. 15 U.S.C. § 638(e)(2).

Figure 1: Eleven Agencies Participating in the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs

 <p>Department of Commerce</p> <ul style="list-style-type: none"> National Institute of Standards and Technology National Oceanic and Atmospheric Administration 	 <p>Department of Homeland Security</p> <ul style="list-style-type: none"> Science and Technology Directorate Countering Weapons of Mass Destruction Office 	 <p>Department of Health and Human Services</p> <ul style="list-style-type: none"> Administration for Community Living Centers for Disease Control and Prevention Food and Drug Administration National Institutes of Health 		
 <p>Department of Defense</p> <ul style="list-style-type: none"> Department of the Air Force Department of the Army Department of the Navy Defense Advanced Research Projects Agency Defense Health Agency Defense Logistics Agency Defense Microelectronics Activity Defense Threat Reduction Agency Chemical and Biological Defense program Missile Defense Agency National Geospatial-Intelligence Agency Office of the Secretary of Defense Special Operations Command 				
 <p>Department of Energy</p> <ul style="list-style-type: none"> Advanced Research Projects Agency-Energy National Nuclear Security Administration Office of Cybersecurity, Energy Security, and Emergency Response Office of Electricity 	<ul style="list-style-type: none"> Office of Energy Efficiency and Renewable Energy Office of Environmental Management Office of Fossil Energy and Carbon Management Office of Nuclear Energy Office of Science 	 <p>Environmental Protection Agency</p>		
 <p>National Aeronautics and Space Administration</p>	 <p>National Science Foundation</p>	 <p>Department of Education</p>	 <p>U.S. Department of Agriculture</p>	 <p>Department of Transportation</p>

Source: GAO analysis of agency information. | GAO-24-106400

SBIR/STTR Award Timeliness Requirements

According to SBA’s Policy Directive, at least once per year each participating agency must issue a solicitation requesting proposals, which can cover a variety of topics.¹⁵ Each participating agency must (1) review the proposals it receives; (2) determine which small businesses should receive awards; (3) notify pending awardees within their required time frame; and (4) negotiate contracts, grants, or cooperative agreements to issue the awards to the selected small business applicants within the recommended time frame. Agencies then must review the awardees’ progress on these projects, sometimes funding subsequent awards to

¹⁵SBIR/STTR Policy Directive § 5(a). In this report, we use the term “proposal” to include all applications or proposals for contracts, grants, or cooperative agreements.

enable the small businesses to further develop prototypes or make other advancements. Under SBA's Policy Directive, most agencies must notify applicants of award decisions within 90 calendar days after a solicitation closes.¹⁶ The directive recommends that agencies issue awards within 180 days after the solicitation closes.¹⁷

We have issued a series of reports examining agencies' timeliness for award notification and issuance.¹⁸ We found that many agencies exceeded notification and award issuance time frames. We also reported on factors that agency officials said can affect award timeliness. For example, in September 2019, we reported that factors specific to individual agencies and their processes affected the time needed to notify awardees and issue awards, according to agency officials.¹⁹ Relatedly, in September 2020, we reported that one practice that could improve timeliness was having an internal system to track timeliness, which a few agencies identified as helpful to staying on top of deadlines and troubleshooting potential obstacles to meeting them.²⁰ In our most recent report, issued in October 2022, we found that agencies have made some limited progress.²¹ Specifically, we found that government-wide timeliness rates for issuance improved overall since fiscal year 2016, when we began reviewing agencies' timeliness. We also found that notification timeliness declined slightly overall.

¹⁶The directive requires one agency and one agency subcomponent, the National Science Foundation (NSF) and the Department of Health and Human Services' (HHS) National Institutes of Health (NIH), to notify applicants no more than 1 year after the closing date of the solicitation. SBIR/STTR Policy Directive § 7(c)(1).

¹⁷SBA recommends that NSF and NIH issue awards no more than 15 months after the closing date. SBIR/STTR Policy Directive § 7(c)(1).

¹⁸[GAO-23-105591](#); *Small Business Research Programs: Agencies Should Further Improve Award Timeliness*, [GAO-22-104677](#) (Washington, D.C.: Oct. 14, 2021); *Small Business Research Programs: Many Agencies' Award Issuances Are Not Timely; Some Practices May Improve Timeliness*, [GAO-20-693](#) (Washington, D.C.: Sept. 30, 2020); and *Small Business Research Programs: Many Agencies Took Longer to Issue Small Business Awards than Recommended*, [GAO-19-620](#) (Washington, D.C.: Sept. 26, 2019).

¹⁹[GAO-19-620](#).

²⁰[GAO-20-693](#).

²¹[GAO-23-105591](#).

SBIR/STTR Award Phases

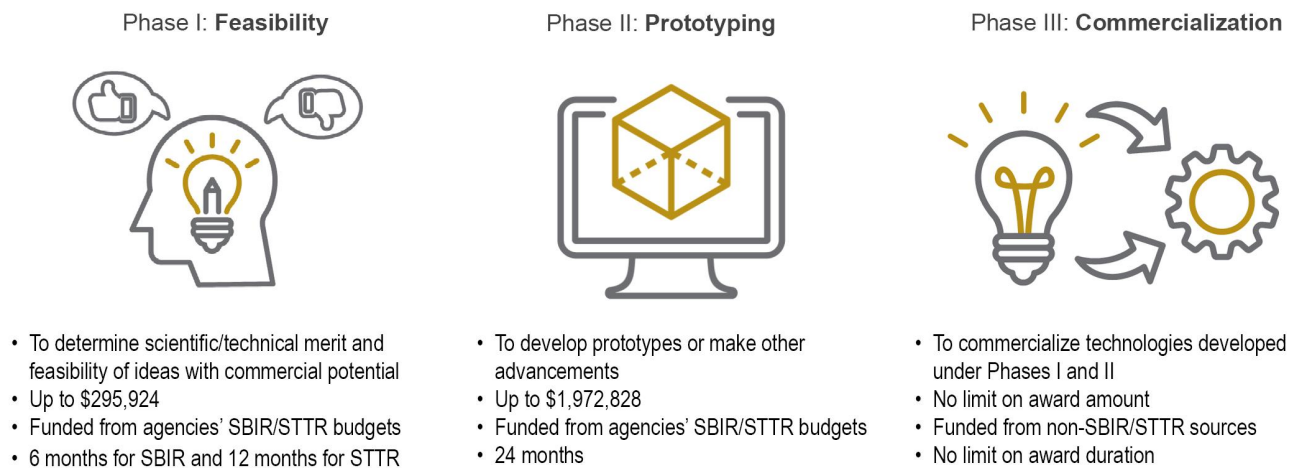
Under the SBIR/STTR awards process, participating agencies issue awards to small businesses for three phases of technology development (see fig. 2).

- **Phase I: Feasibility.** Small businesses conduct R&D activities to determine the scientific and technical merit and the feasibility of ideas that may have commercial potential. Businesses compete for these awards in response to agency solicitations.
- **Phase II: Prototyping.** Small businesses develop prototypes or make other R&D advancements. Phase I awardees with projects that demonstrate scientific and technical merit may compete for Phase II awards to continue R&D. Some agencies issue Direct-to-Phase II awards to businesses that did not receive a Phase I award but completed equivalent work using funds not associated with agencies' extramural research or R&D budget designated for SBIR/STTR.²²
- **Phase III: Commercialization.** Small businesses work toward commercializing technologies developed under Phases I and II, including further R&D or testing. Federal agencies may issue Phase III awards without further competition. Unlike Phase I and II awards, Phase III awards are not funded from agencies' extramural research or R&D budget designated for SBIR/STTR.

²²Department of Defense (DOD), NIH, and the Department of Education are authorized to issue Direct-to-Phase-II awards through fiscal year 2025. 15 U.S.C. § 638(cc).

Figure 2: Phases of the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs

Authorized award amounts as of October 2022



Source: GAO analysis of information from the Small Business Administration (SBA); Galuh Sekar/stock.adobe.com. | GAO-24-106400

Accessible text for Figure 2: Phases of the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs

- Phase 1: Feasibility.
 - To determine scientific / technical feasibility merit and feasibility of ideas with commercial potential technical
 - Up to \$295,924
 - Funded from agencies' s SBIR/STTR budget
 - 6 months for SBIR and 12 months for STTR
- Phase 2: Prototyping.
 - To develop prototypes or make other advancements
 - Up to \$1,972,828
 - Funded from agencies' s SBIR/STTR budget
 - 24 months
- Phase 3: Commercialization.
 - To commercialize technologies developed under Phases 1 and 2

-
- No limit on award amount
 - Funded from non-SBIR/STTR sources
 - No limit on award duration.

Source: GAO analysis of information from the Small Business Administration (SBA). Galuh Sekar/stock.adobe.com (icons). | GAO-24-106400

Note: Maximum award amounts include any modifications to the original award amount. Agencies may seek a waiver from SBA to issue awards more than 50 percent above the maximum value established under the award guidelines. In addition, agencies may provide longer performance periods where appropriate for particular projects. SBIR/STTR budget refers to the portion of an agency's extramural research or research and development budget designated for the SBIR/STTR programs.

Foreign Risk Mitigation in Federally Funded Research

According to the Extension Act, each federal agency required to establish an SBIR or STTR program is also required to develop and implement a due diligence program, by June 27, 2023, to assess security risks presented by small businesses seeking a federally funded award.²³ The new due diligence requirements for SBIR/STTR programs add to existing guidance to strengthen protections of federally funded R&D against foreign government interference and exploitation. Specifically, in January 2021, National Security Presidential Memorandum – 33 (NSPM-33) was released to strengthen protections of U.S. government-supported R&D against foreign government interference and exploitation.²⁴

Implementation guidance for this memorandum also guides federal agencies' efforts to prevent foreign countries of concern from acquiring U.S. research and technology.²⁵ Among other things, it required agencies that fund R&D activities to ensure that they establish and administer policies and processes to identify and manage risks to research security and integrity, including potential conflicts of interest and commitment.

The Extension Act's due diligence requirements add to this by requiring participating agencies to use a risk-based approach, as appropriate, to assess the following aspects of small businesses seeking an award:

- **Cybersecurity practices.** According to SBA, despite the rise in cybercrime among small businesses, many small businesses remain susceptible to attacks due to lack of resources and knowledge of the

²³15 U.S.C. § 638(vv).

²⁴NSPM-33.

²⁵National Science and Technology Council, *Guidance for Implementing NSPM-33*.

threat. Incorporating cybersecurity practices—which the National Institute of Standards and Technology defines as practices to prevent, detect, and respond to attacks—can help agencies and small businesses protect information related to federally funded research.²⁶

- **Patents.** SBIR/STTR awards are potentially subject to technology and intellectual property risks that may be identified through patent analysis. This type of analysis is expected to use data contained in patent applications and granted patents to uncover insights about, for example, potential relationships between entities or individuals and foreign actors. This analysis is conducted using data-driven, evidence-based information about patents, patent portfolios, or technology areas.
- **Employee affiliations.** Employees who perform R&D using an SBIR/STTR award may be subject to exploitation attempts to obtain sensitive research information. Employee analysis will assess potential risks of employee affiliations and financial obligations and ties with foreign countries. This analysis may focus particularly on those employees who can significantly influence the direction of the research, the acquisition of data, or the method and analysis of the research.
- **Foreign ownership.** Consistent with federal regulations and to be eligible for SBIR/STTR awards, businesses must meet specific eligibility requirements.²⁷ For example, an SBIR/STTR awardee must generally be at least 50 percent directly owned and controlled by U.S. citizens or permanent residents. Due diligence programs will assess a small business's financial ties and obligations to a foreign country, person, or entity.

Under the Extension Act, SBA is required to coordinate with OSTP to establish federal best practices for due diligence. OSTP advises the President and others within the Executive Office of the President on the effects of science and technology on domestic and international affairs. Under the purview of OSTP, the National Science and Technology Council exists to integrate the President's science and technology policy

²⁶National Institute of Standards and Technology, *Framework for Improving Critical Infrastructure Cybersecurity*, Version 1.1 (April 16, 2018). According to the Cybersecurity & Infrastructure Security Agency, inadequate cybersecurity can lead to malware erasing an entire system, an attacker breaking into a system and altering files, or an attacker using a computer to attack others.

²⁷SBIR/STTR Size and Eligibility Requirements for SBIR/STTR Programs, 13 C.F.R. §§ 121.701-05 (2023).

agenda across the federal government, ensure that science and technology are considered in developing and implementing federal policies and programs, and further international science and technology cooperation.

SBA is also required to consult with CFIUS on the federal best practices and the guidance on the business relationships required to be disclosed by the Small Business Act.²⁸ CFIUS is an interagency committee, chaired by the Secretary of the Treasury. CFIUS is authorized to review certain transactions (e.g., mergers and acquisitions) involving foreign investment in the U.S. and certain real estate transactions by foreign persons, in order to determine the effect of such transactions on the national security of the U.S. Four agencies required to participate in the SBIR/STTR programs are members of CFIUS: the Departments of Defense (DOD), Homeland Security (DHS), Commerce (Commerce), and Energy (DOE).

Use of SBIR Funds for Due Diligence Program Costs

There are two authorities that permit participating agencies to use a portion of funds allocated to the SBIR program for the establishment of their due diligence programs. First, under the Small Business Act, each participating agency may use no more than 3 percent of the funds allocated to the SBIR program for the administration of the SBIR and STTR programs.²⁹ Additionally, the Extension Act states that each participating agency may use no more than 2 percent of funds allocated to its SBIR program for the cost of establishing its due diligence program.³⁰

Agencies are required to submit a report annually to Congress and SBA that contains information related to the development of their due diligence program. Specifically, each agency is required to disclose (1) the total funds allowed to be allocated for the cost of establishing the due diligence program, (2) the total amount of funds obligated or expended, and (3) the due diligence activities carried out or to be carried out using amounts allocated.

²⁸Each small business submitting a SBIR/STTR proposal must disclose any foreign business entity, offshore entity, or entity outside the U.S. related to the small business. 15 U.S.C. § 638(g)(13)(G), (o)(17)(G).

²⁹15 U.S.C. § 638(mm).

³⁰15 U.S.C. § 638(vv)(3).

SBA Collaborated to Develop Best Practices for Agencies' Due Diligence Programs to Manage Foreign Risk

SBA collaborated with relevant agencies to develop and issue best practices for federal agencies' SBIR and STTR due diligence programs. These practices are not prescriptive but, rather, provide general guidance on addressing different types of risk outlined in the Extension Act. SBA's collaboration with all 11 SBIR/STTR participating agencies as well as OSTP and CFIUS to develop these best practices reflected selected practices that GAO identified for effective collaboration.

SBA's Best Practices Provide General Guidance and Cover Different Types of Risk

In March 2023, SBA issued a set of 12 non-prescriptive best practices that provide general guidance for agencies' SBIR/STTR due diligence programs. The best practices cover different types of risk agencies should consider in developing their due diligence programs, including foreign ownership, employee affiliations, and cybersecurity practices (see fig. 3).

Figure 3: Summary of SBA’s Best Practices for Agencies’ Small Business Research Due Diligence Programs, Issued in March 2023

<u>Leverage</u> standardized disclosures of foreign affiliations	<u>Explain</u> that applicant’s disclosure of foreign ties does not mean award will be denied	<u>Determine</u> which individuals performing the award should be vetted for foreign affiliations
<u>Document</u> risk-based processes for due diligence	<u>Utilize</u> numerous sources of information to facilitate due diligence reviews	<u>Ensure</u> cybersecurity requirements for small business awardees are aligned with federal frameworks
<u>Encourage</u> education and training on research security for small businesses	<u>Prioritize</u> due diligence reviews for meritorious proposals	<u>Conduct</u> due diligence for all <u>new</u> awards
<u>Refer</u> adverse information from reviews to appropriate enforcement authorities	<u>Mitigate</u> due diligence disclosure reporting burden	<u>Measure</u> cost, time, and outcomes

Source: GAO summary of Small Business Administration (SBA) documentation; GAO (icons). | GAO-24-106400

Accessible text for Figure 3: Summary of SBA’s Best Practices for Agencies’ Small Business Research Due Diligence Programs, Issued in March 2023

- Leverage standardized disclosures of foreign affiliations.
- Explain that applicant’s disclosure of foreign ties does not mean award will be denied.
- Determine which individuals performing the award should be vetted for foreign affiliations.
- Document risk-based processes for due diligence.
- Utilize numerous sources of information to facilitate due diligence reviews.

- Ensure cybersecurity requirements for small business awardees are aligned with federal frameworks.
- Encourage education and training on research security for small businesses.
- Prioritize due diligence reviews for meritorious proposals.
- Conduct due diligence for all new awards.
- Refer adverse information from reviews to appropriate enforcement authorities.
- Mitigate due diligence disclosure reporting burden.
- Measure cost, time, and outcomes.

Source: GAO summary of Small Business Administration (SBA) documentation; GAO (icons). | GAO-24-106400

Note: The best practices listed here are a generalization of those issued by SBA.

SBA officials stated that they intended the practices to be high-level, general guidance because agencies have different missions and their due diligence programs are at various stages of maturity in addressing the Extension Act requirements. For example, agencies such as DOD, DOE, and the National Science Foundation (NSF) had established due diligence programs prior to the new requirements, and SBA used aspects of these existing programs to help inform the best practices. In addition, the agencies that participate in the SBIR/STTR programs have a wide range of missions, some of which include national security concerns, and the best practices are intended to apply to all participating agencies. As a result, according to SBA officials, they intentionally took a high-level approach to the best practices in order to maximize the flexibility for each participating agency. In their oversight role, SBA officials said they will continue to monitor agencies' due diligence programs to ensure that each agency is implementing the best practices. SBA officials said that they intend for these practices to be refined and updated as the agencies' due diligence programs mature.

Similarly, agency officials told us that they view the best practices as recommendations, guidance, or a general framework. They said the best practices are helpful, cover different types of risk, and are sufficiently granular to use in developing their agencies' due diligence programs. Most agencies agreed that the practices are minimum standards that their agencies could build upon, based on their individual needs.

In association with the best practices, SBA also developed a set of standardized disclosure questions about foreign affiliations or relationships to foreign countries. The disclosure questions were issued in

May 2023 and are reflected in SBA's latest update of the Policy Directive.³¹ The Extension Act requires that each small business submitting a proposal for a federally funded award must disclose certain information concerning the business' ties to foreign countries.³² We found that the disclosure questions developed by SBA reflect the disclosure requirements outlined in the Extension Act and provided a standardized set of questions for all small businesses, regardless of which participating agency they are seeking an award from. SBA officials said they consider these questions as the minimum, essential questions that all SBIR/STTR applicants must answer regarding foreign influence. But officials explained that these questions will not preclude agencies from adding disclosure requirements for their specific needs. There are eight disclosure questions that ask about whether the business is wholly owned in a foreign country, the parent company or subsidiary is based in or receives funding from a foreign country of concern, or a covered individual is part of a malign foreign talent recruitment program, among others.³³ SBA officials also told us that they will work with the participating agencies if any additional guidance is needed to implement their programs.

SBA Collaborated with Relevant Agencies to Develop Best Practices for Due Diligence

After collaborating with OSTP, CFIUS, and the 11 participating agencies, SBA developed and then issued their best practices for agency SBIR/STTR due diligence programs on March 31, 2023 (see fig. 4). Officials across all of the agencies and CFIUS told us that the collaboration was effective in helping to develop the best practices and in ensuring their applicability and flexibility for agencies. In addition, SBA's

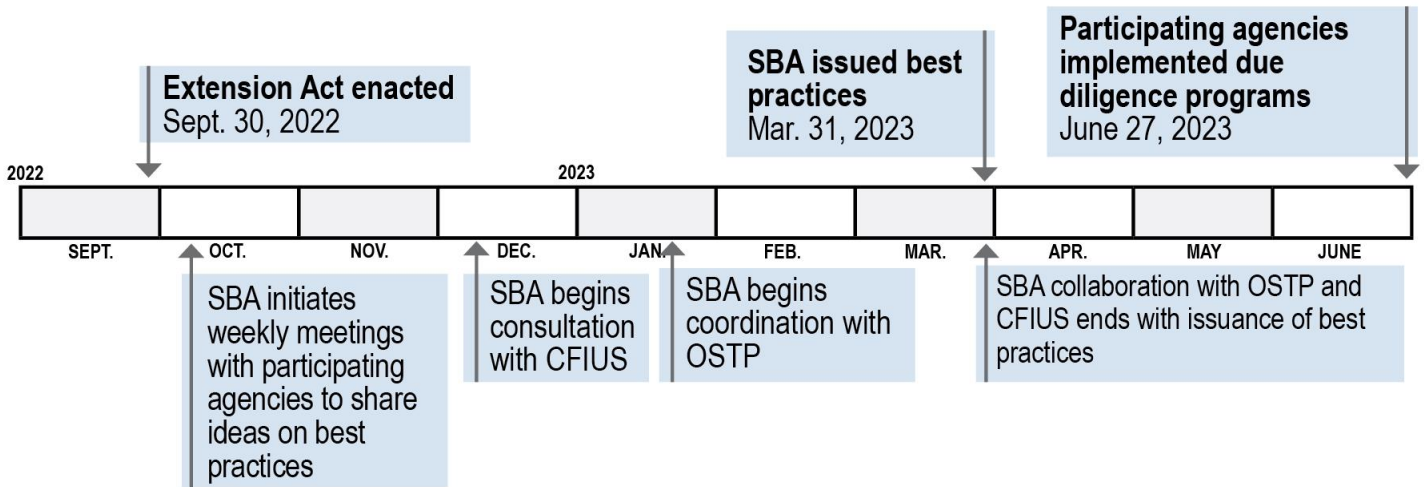
³¹SBA issued a Federal Register notice in April 2023 announcing a planned update to the SBA SBIR/STTR Program Policy Directive and requesting public comment. 88 Fed. Reg. 19,704 (Apr. 3, 2023). No significant changes were made based on comments received and the updated Policy Directive was issued on May 3, 2023.

³²15 U.S.C. § 638(g)(13).

³³A malign foreign talent recruitment program is one in which a foreign country of concern or an entity based therein provides some form of compensation to an individual in exchange for certain activities enumerated under 42 U.S.C. § 19237(4)(A). A "covered individual" is someone who makes substantive contributions to a proposed research and development project and is designated as such by the agency concerned. 15 U.S.C. § 638(e)(15).

collaboration efforts reflected selected practices we identified in prior work for effective collaboration.

Figure 4: Time Line of SBA’s Collaboration to Develop Best Practices for Participating Agencies’ Due Diligence Programs



CFIUS: Committee on Foreign Investment in the United States
OSTP: Office of Science and Technology Policy
SBA: Small Business Administration

Source: GAO analysis of the Small Business Innovation Research and Small Business Technology Transfer Extension Act of 2022 (Extension Act) and agency documents and interviews; GAO (icons). | GAO-24-106400

Accessible text for Figure 4: Time Line of SBA’s Collaboration to Develop Best Practices for Participating Agencies’ Due Diligence Programs

- Extension Act enacted - Sept. 30, 2022.
- SBA issued best practices - Mar. 31, 2023.
- Participating agencies implemented due diligence programs - June 27, 2023.
- October 2022 - SBA initiates weekly meetings with participating agencies to share ideas on best practices.
- December 2022 - SBA begins consultation with CFIUS.
- January 2023 - SBA begins coordination with OSTP.
- March 2023 -SBA collaboration with OSTP and CFIUS ends with issuance of best practices.

Legend:

CFIUS: Committee on Foreign Investment in the United States

OSTP: Office of Science and Technology Policy

SBA: Small Business Administration

Source: GAO analysis of the Small Business Innovation Research and Small Business Technology Transfer Extension Act of 2022 (Extension Act) and agency documents and interviews; GAO (icons). | GAO-24-106400

Note: SBA's best practices for agencies' due diligence programs are intended to help manage foreign risk in small business research programs

Collaboration with CFIUS and OSTP

SBA consulted with CFIUS and coordinated with OSTP in the development of the best practices, as required under the Extension Act. SBA initiated a short-term consultation with CFIUS in December 2022 that consisted of a number of conversations and emails, where Treasury officials described the Committee's mission and resources and answered SBA's questions. They informed SBA that the Committee is unable to share information or documentation they collect regarding foreign transactions of U.S. companies for confidentiality reasons. However, Treasury officials told us that they did provide SBA with information on CFIUS' investigative strategies and disclosure questions used during reviews. SBA officials stated they found this information helpful and valuable in shaping SBA's approach and development of the best practices. Furthermore, SBA and CFIUS discussed potential guidance on business relationships that applicants should disclose, as required by the Extension Act. However, SBA officials told us they are exploring this aspect of the Extension Act.

SBA began recurring coordination with OSTP in January 2023 and continued until the issuance of the best practices. OSTP officials stated that SBA's final best practices include information discussed during their coordination efforts. They also said that the agencies primarily discussed the need for standardized disclosures and how these new requirements may fall into the existing research security framework established by NSPM-33 and its associated implementation guidance.³⁴ NSPM-33 is applicable to agencies' SBIR/STTR programs, and both OSTP and SBA officials agreed that the requirements and guidance in NSPM-33 and the

³⁴NSPM-33; National Science and Technology Council, *Guidance for Implementing NSPM-33*.

best practices are complementary. Officials from both agencies stated there was a concerted effort to avoid duplication and excess burden on agencies and applicants. However, both agencies agreed that there may be some areas where SBIR/STTR requirements are unique and may require an alternative approach from the overarching foreign risk framework established by NSPM-33. For example, both agencies agreed that it was important for SBA to develop its own set of disclosure questions it deems relevant to the SBIR/STTR programs.

Specifically, OSTP shared insights about the disclosure questions used to ensure that research organizations that receive substantial federal R&D funding (greater than \$50 million annually) maintain appropriate research security programs. OSTP officials also stated they told SBA that standardized disclosure questions help capture common, essential information that supports agency decisions that may lead to approval or denial of an award. Specifically, officials stressed that the disclosure of information related to foreign involvement or investment must be encouraged, and businesses should be reassured that disclosure does not necessarily mean an award will be denied. Furthermore, OSTP officials said they told SBA that agencies should require disclosure of information from key personnel in the R&D enterprise, including postdoctoral researchers and graduate students. Such personnel may join a project after initial funding and therefore may not originally be included in the proposal's disclosures. However, OSTP officials said they are considered key to the research and therefore require the same level of vetting as other project personnel.

OSTP and SBA officials also discussed concerns related to foreign government involvement and access to research data. According to OSTP officials, in order for the U.S. to maintain its competitive edge in scientific excellence and technological innovation, the U.S. government must protect and retain privileged access rights to research information. They told us there is concern about foreign countries gaining privileged, advanced access, to research information through small business awards. Lastly, OSTP officials said they also advised SBA to leverage existing requirements rather than create new requirements in areas outside of their purview. For example, OSTP officials said SBA should leverage any applicable existing federal cybersecurity requirements instead of creating requirements specific to the SBIR/STTR programs.

Officials from CFIUS, OSTP, and SBA stated that they do not anticipate further coordination following SBA's issuance of the best practices.

Collaboration with Participating Agencies

Starting in October 2022, SBA established a weekly program managers committee meeting between SBA and all participating agencies to discuss both the best practices and agencies' development of their due diligence programs. To encourage information sharing, SBA coordinated with agencies through email and phone calls, and facilitated meetings between agencies with similarly sized SBIR/STTR programs, due diligence programs in similar states of development, or related missions.³⁵

SBA said that during these weekly meetings, agencies with existing due diligence programs, such as DOE and NSF, provided insight on various topics. Agencies familiar with due diligence programs and procedures introduced ideas, and SBA considered each potential best practice. In addition, experts from each participating agency had the opportunity to provide comments on the best practices. According to SBA officials, in most cases, the subcomponents provided their feedback to a department-level liaison, who shared it with the larger group. After developing the best practices, SBA officials said they shared the final draft during the weekly meeting and received minor, editorial feedback prior to distributing the final set of best practices. Because of the ongoing collaboration during development, officials from all 11 participating agencies told us they agreed with the final best practices. SBA and the participating agency officials also said they envision that the weekly meetings will continue into the future to enable continuous evolution of agencies' programs.

SBA's Efforts Reflect Selected Practices for Effective Collaboration

Overall, we found that SBA's efforts to develop the best practices reflected selected practices we identified in prior work for effective collaboration. These practices include defining a common outcome, bridging organizational cultures, and ensuring that relevant participants are included.³⁶ For example, collaborative efforts between organizations benefit from defining common goals and outcomes. The creation and issuance of SBA's best practices document—with the broader objective of helping agencies understand what was needed to meet the due diligence

³⁵For more information on the size of SBIR/STTR programs including information on each agency and its subcomponents, see [GAO-23-105591](#).

³⁶[GAO-23-105520](#).

program requirements—helped to define the shared goals for the agencies’ collaborative effort.

In addition, in prior collaboration work, we found that when multiple agencies come together to work toward common outcomes, they often face challenges deriving from differences in their cultures, missions, and perspectives. The weekly meetings between SBA and the participating agencies provided a mechanism for officials to effectively communicate across agency boundaries.

Furthermore, SBA ensured that all relevant parties were included in the collaborative effort. The inclusion of the participating agency officials in the development of the best practices, as well as CFIUS and OSTP, ensured that not only were the relevant SBIR/STTR agencies involved, but all parties with a potential stake in the development effort were part of the collaboration.

Agencies Implemented Due Diligence Programs as Required and Plan to Refine Them Post-Implementation

The 11 participating agencies established and implemented due diligence programs as required by the Extension Act, using various risk-based approaches. Agencies plan to refine their programs as they gain implementation experience.

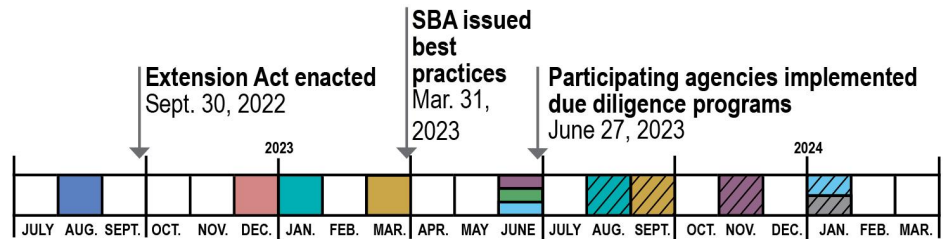
Agencies Took Various Approaches to Establish and Implement Due Diligence Programs













Shortly after the Extension Act was enacted in September 2022, the 11 participating agencies took quick action to establish and, using various approaches, implement due diligence programs. All agencies met the June 2023 implementation deadline.

We found, based on review of agency documentation, that the 11 participating agencies plan to assess all new proposals that lead to SBIR/STTR awards using a documented risk-based approach. Doing so will reflect SBA’s best practices to document risk-based due diligence processes and to conduct due diligence for all new awards. For example, agencies are incorporating due diligence information, such as standard

disclosure questions, in their award solicitations. Due to the timing of solicitation cycles, seven agencies (DOE, the U.S Department of Agriculture (USDA), the Department of Education (Education), Commerce’s National Institute of Standards and Technology (NIST), the Environmental Protection Agency (EPA), DOD, and the Department of Health and Human Services (HHS)) incorporated this information in their solicitations prior to the implementation deadline established in the Extension Act. All other agencies either have or plan to incorporate due diligence information in their next award solicitation (see fig. 5).

Figure 5: Agency Efforts to Incorporate Due Diligence in Solicitations Following the Small Business Innovation Research and Small Business Technology Transfer Extension Act of 2022 (Extension Act)



Agencies applying new requirements in solicitations before deadline	
 Department of Energy (Aug. 2022)	 Environmental Protection Agency (June 2023)
 U.S. Department of Agriculture (Dec. 2022)	 Department of Defense (June 2023)
 Department of Education (Jan. 2023)	 Department of Health and Human Services (June 2023)
 Department of Commerce, National Institute of Standards and Technology (Mar. 2023)	
Agencies applying new requirements in solicitations after deadline	
 National Aeronautics and Space Administration (Aug. 2023)	 Department of Transportation (Jan. 2024)
 Department of Commerce, National Oceanic and Atmospheric Administration (Sept. 2023)	 National Science Foundation (Jan. 2024)
 Department of Homeland Security (Nov. 2023)	

Source: GAO analysis of Small Business Administration (SBA) and participating agency information; GAO (icons). | GAO-24-106400

Accessible text for Figure 5: Agency Efforts to Incorporate Due Diligence in Solicitations Following the Small Business Innovation Research and Small Business Technology Transfer Extension Act of 2022 (Extension Act)

Timeline:

- Extension Act enacted - Sept. 30, 2022.
- SBA issued best practices - Mar. 31, 2023.
- Participating agencies implemented due diligence programs - June 27, 2023.
- Timeline shows Agencies applying new requirements in solicitations before deadline and Agencies applying new requirements in solicitations after deadline.

Source: GAO analysis of Small Business Administration (SBA) and participating agency information; GAO (icons). | GAO-24-106400

Note: Dates of agency efforts after October 2023 are anticipated time frames provided by officials from the relevant agencies.

All 11 participating agencies established their due diligence programs by June 27, 2023, as required by the Extension Act, and plan to take various risk-based approaches to perform due diligence evaluations. Four agencies (Commerce, DOD, DOE, and NSF) adopted an existing internal due diligence or foreign vetting program. For example, NSF officials said that NSF plans to adopt the analysis addressing the potential for foreign influence in research it has been performing for over a decade. Although agencies documented and have similar aspects to their risk-based approaches, each agency's approach is unique to meet its needs. For example, most agencies are planning to or are considering hiring additional staff or leveraging intra-agency resources to support the added due diligence requirements. Moreover, four agencies (Education, EPA, HHS, and USDA) plan to apply the same due diligence reviews to both Phase I and Phase II awards. However, the other agencies have identified Phase II awards as potentially more risky because of the higher value of awards and more advanced stages of research, and plan to apply a more in-depth review.

Figure 6 provides a snapshot of various agency actions and processes to establish and implement their due diligence programs.

Figure 6: Agency Actions and Processes to Establish and Implement Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Due Diligence Programs, as of August 2023

	Department of Commerce	Department of Homeland Security	Department of Health and Human Services	Department of Defense	Department of Energy	Environmental Protection Agency	National Aeronautics and Space Administration	National Science Foundation	Department of Education	U.S. Department of Agriculture	Department of Transportation
Adapting an existing program	●	○	○	●	●	○	○	●	○	○	○
Coordinated with non-SBIR/STTR agencies to establish program	○	○	○	●	○	○	○	○	●	●	●
Defined covered individuals to include subcontractors, postdoctoral researchers, and/or graduate students ^a	●	●	●	○	●	○	◐	◐	○	○	●
Plan to apply same review for both Phase I and Phase II awards	○	○	●	○	○	●	○	○	●	●	○
Need to hire additional staff	◐	○	●	●	●	○	●	◐	◐	●	◐
Anticipates additional vetting will affect award timeliness	●	●	●	●	●	●	○	●	●	●	●

● Yes ○ No ◐ Agencies are still finalizing their approach

Source: GAO analysis of agency information; GAO (icons). | GAO-24-106400

^aIn general, the term “covered individual” means an individual who (A) contributes in a substantive, meaningful way to the scientific development or execution of a research and development (R&D) project proposed to be carried out with a R&D award from a federal research agency; and (B) is designated as a covered individual by the federal research agency concerned.

In addition to the various actions and processes shown in figure 6, each participating agency plans to assess and monitor, using a risk-based approach, the security risks presented by the cybersecurity practices, patents, employee affiliations, and foreign ownership of small businesses applying for an award.

- **Cybersecurity practices.** Many agencies are seeking training opportunities to teach their staff and potential applicants about essential cybersecurity practices. For example, DOD initiated a training program known as Project Spectrum—a comprehensive platform to provide free, on-demand tools and training to increase cybersecurity awareness and maintain compliance in accordance with DOD contracting requirements. DOD officials stated that small business enrollment in training had been low as of May 2023, but that they were working to emphasize the training and provide

cybersecurity information to small businesses in other venues, such as conferences.

- **Patents.** Some agencies plan to reach out to the U.S. Patent and Trademark Office to help establish their patent analysis process. For example, the office’s patent databases and tools may be useful to agencies as they analyze associations with foreign entities reported by small businesses’ patent applications or granted patents.
- **Employee affiliations.** Some agencies plan to focus on owners, officers, and primary investigators as “covered individuals” that will require vetting. Other agencies also plan to include postdoctoral researchers and subcontractors in their vetting to identify potential foreign affiliations of concern.
- **Foreign ownership.** Many agencies plan to use due diligence vetting tools to assist in their vetting of foreign ownership and foreign financial ties and obligations associated with SBIR/STTR applicants and awardees. For example, agencies may acquire general risk management tools. Some agencies may also use intra-agency resources—such as counterintelligence or security offices—to assist in information gathering and analysis.

Prior to the June 2023 implementation deadline, agencies also met with each other as needed to discuss their various approaches to implement the programs and briefed Congress on a regular basis.³⁷ For example, two agencies (DOE and HHS) hosted separate due diligence forums—primarily on counterintelligence—that were well attended by other SBIR/STTR agencies, according to participating agencies.³⁸ Although counterintelligence was not specifically identified as a requirement in the Extension Act, such activities may help agencies to detect, identify, assess, and counter damaging efforts by foreign entities. For example, agencies may perform due diligence evaluations that include counterintelligence reviews as a part of their risk-based approaches.

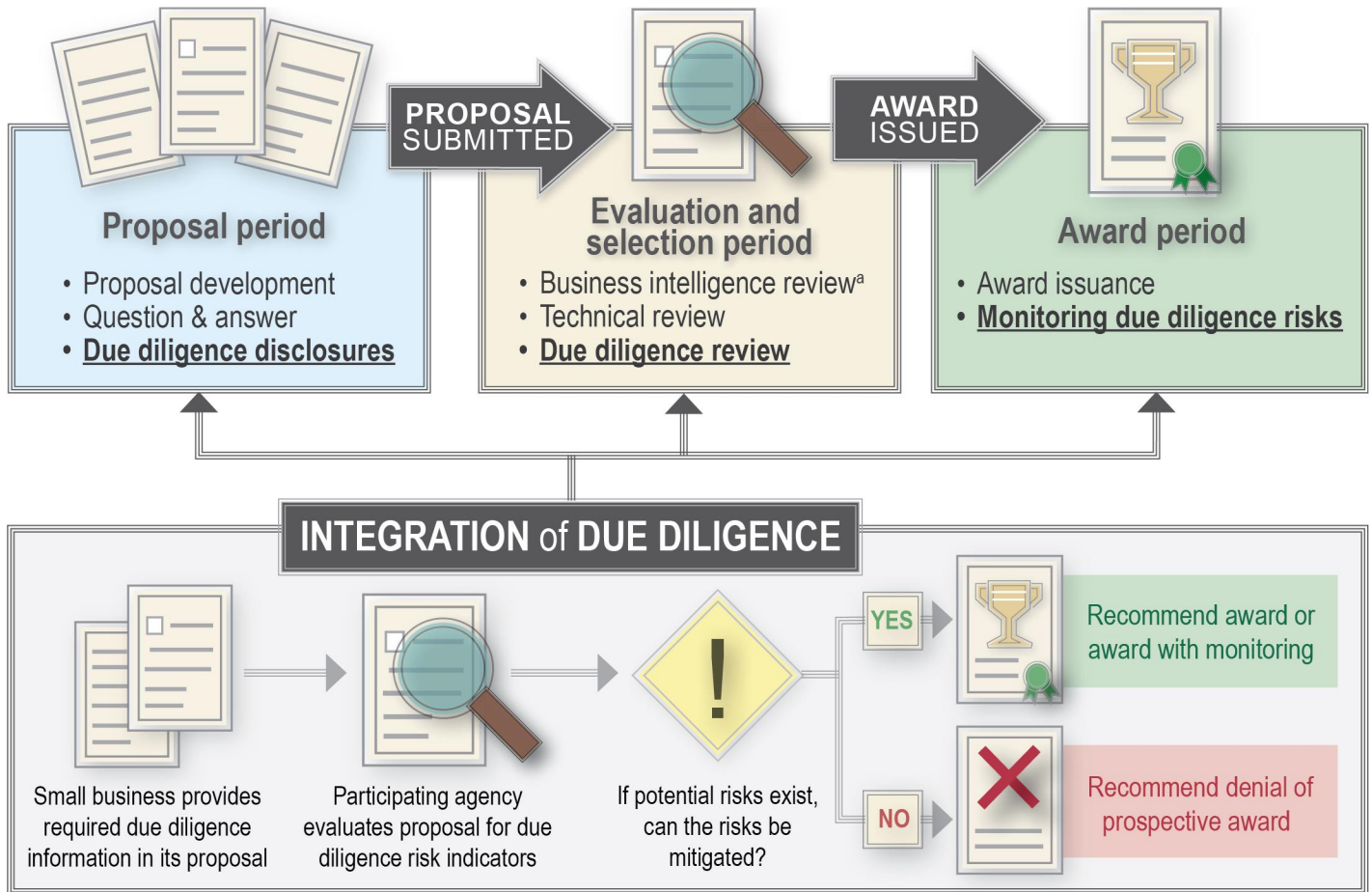
According to participating agencies, implementing the new due diligence programs will increase workload, as each agency must integrate due diligence reviews into existing SBIR/STTR award processes. Through the competitive SBIR/STTR programs, awards are issued to small

³⁷Prior to the implementation deadline (June 27, 2023), the Extension Act directed each participating agency to brief Congress on a regular basis on the implementation of its due diligence program.

³⁸DOE hosted a classified due diligence forum in February 2023. HHS hosted an unclassified due diligence forum in May 2023.

businesses to explore their technological potential and provide the incentive to profit from its commercialization. In general, a three-step process is used to navigate the proposal, evaluation and selection, and award periods. According to participating agencies, due diligence activities will be performed in an integrated fashion with other required SBIR/STTR activities (see fig. 7).

Figure 7: Generalized SBIR/STTR Award Process Flow with Due Diligence Activities



Source: GAO summary of Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) participating agency documents and interviews; GAO (icons). | GAO-24-106400

^aBusiness intelligence reviews relate to agencies' reviews of a small business's ability to use a group of tools, methods, and programs that are designed to collect, analyze, and transform data into valuable information that companies can use to make better decisions and optimize their businesses.

Each participating agency should use its risk-based approach across these three periods to assess risks presented by small businesses seeking an SBIR/STTR award. During the proposal period, at a minimum,

all agencies plan to require that applicants complete the standardized disclosures that SBA issued in May 2023.³⁹ During the evaluation and selection period, agencies should conduct a review of these disclosures, perform business intelligence and technical reviews of small businesses' proposals, and apply any applicable risk mitigation prior to award. During the award period, agencies should monitor risks identified during the evaluation and selection period, and apply due diligence reviews, as appropriate, to address any new risks discovered post-award.

Most agencies foresee that additional vetting may hinder their ability to meet notification and award timeliness requirements. As we previously reported, agencies' timeliness rates are improving overall, but agencies should further improve award timeliness.⁴⁰ Some agencies' documented risk-based approach include plans to compile metrics to understand any effects to meeting award timeliness requirements and recommendations. Taking this step reflects the SBA best practice to measure the cost, time, and outcomes of agencies' due diligence programs to help improve their effectiveness.⁴¹

Agencies Plan to Refine Programs through Implementation Experience

All participating agencies plan to refine their due diligence programs through implementation experience. Officials from all participating agencies shared potential areas of refinement including training, hiring, acquiring due diligence vetting tools, funding intra-agency assistance in due diligence evaluations, conducting workload assessments, and addressing timeliness concerns (see fig. 8).

³⁹SBA, *SBIR/STTR Policy Directive*.

⁴⁰[GAO-23-105591](#); [GAO-22-104677](#).

⁴¹We have also discussed the importance of agencies assessing the effectiveness of internal programs, see *Evidence-Based Policymaking: Practices to Help Manage and Assess the Results of Federal Efforts*, [GAO-23-105460](#).

Figure 8: Planned Agency Refinement Activities for Due Diligence Programs, as of the End of Fiscal Year 2023



Source: GAO analysis of agency information; GAO (icons). | GAO-24-106400

Accessible text for Figure 8: Planned Agency Refinement Activities for Due Diligence Programs, as of the End of Fiscal Year 2023

- Infographic depicting Potential Refinement Activities:
- Hire additional staff.
- Address timeliness concerns.
- Conduct workload assessments.
- Fund Intra-agency assistance in due diligence evaluations.
- Acquire due diligence vetting tools.
- Support additional training.

Source: GAO analysis of agency information; GAO (icons). | GAO-24-106400

Agencies vary in what refinements they anticipate implementing and many refinements are interrelated. For example, DOD, DOE, HHS, the

National Aeronautics and Space Administration (NASA) and USDA already anticipate needing to hire additional staff for their small business programs. NIST, NSF, Education, and the Department of Transportation (DOT) noted that they will wait to determine hiring needs after they assess the first year of the program. While all agencies intend to or are considering using vetting tools as part of the due diligence process, NASA, USDA, and NIST specifically mentioned acquiring these tools as part of their post-implementation review. Examples of due diligence vetting tools that participating agencies are considering acquiring are patent analysis tools and databases and general risk management tools. All 11 agencies anticipate needing additional training for staff to support the due diligence programs as they implement the new policies. In addition, all 11 agencies plan to offer training (e.g., cybersecurity and counterintelligence) to applicants and awardees to increase small businesses' familiarity with working with the federal government.

Workload assessments involve measuring how many work hours and other resources, such as new due diligence vetting software, will be needed to implement due diligence requirements, and facilitate the review process. These assessments may result in the refinements mentioned above, such as additional hiring or training, or tool acquisition. As also discussed above, some agencies' approaches to the due diligence programs include relying on other offices within the agency to have a role in the due diligence review and evaluation of proposals. These intra-agency evaluations can be conducted by counterintelligence offices, research security offices, procurement offices, or other specialty offices outside of the agency's SBIR/STTR program office. Commerce, DOE, DHS, Education, EPA, HHS, NASA, and USDA officials all mentioned that they are considering utilizing intra-agency evaluations as part of the due diligence programs, and some mentioned specifically such efforts would require refinements in transferring funds from the SBIR/STTR office to another office within the agency.

Lastly, many participating agencies exceed the established timelines for notifying applicants of award decisions and issuing awards after solicitations close. Officials from 10 of the 11 participating agencies shared concerns that the new due diligence requirements would likely create further delays to award timeliness. Agencies plan to assess the effects of the new due diligence reviews on timeliness before applying mitigation measures. In the pursuit of developing continuous improvement efforts and executing refinement activities, participating agencies may want to consider how changes to their program affect program

stakeholders, such as small businesses applying to SBIR programs and current staff affiliated with SBIR programs.⁴²

Participating agencies vary in whether they plan to use either the 3 percent of funding for administrative costs or the 2 percent of funding to establish their due diligence programs.⁴³ As of July 2023, officials from Commerce’s National Oceanic and Atmospheric Administration (NOAA), DOD, DOE, NASA, HHS, and USDA stated that they plan to allocate a portion of the funds specially permitted for establishing the due diligence programs in fiscal year 2023 to support refinement activities. Specifically:

- NOAA, DOE, HHS, NASA, and USDA said they anticipate personnel needs (hiring and general program support);
- NOAA, NASA, and USDA mentioned acquiring additional due diligence vetting tools; and
- DOD said it was unsure of which actions it planned to take.

Officials from NIST, DOT, EPA, and NSF said they do not plan to allocate any amounts permitted by the Extension Act for establishing the due diligence program, and they instead plan to cover their refinement activities through existing resources or the administrative funds. DHS and Education officials said their respective agencies are considering their needs. Agencies are not required to report to SBA on their 2023 allocation and use of these funds for the implementation and refinement of the due diligence programs until December 31, 2023.

SBA is required to report to Congress on a yearly basis whether participating agencies are utilizing the additional 2 percent funding, permitted to be set-aside from the SBIR program funding by the Extension Act, for activities related to the implementation of the due diligence programs. In November 2022, SBA sent a template to each participating agency to assist in collecting information on whether agencies intended to allocate and use any of the permitted portion of SBIR program funding to support due diligence program implementation and refinement. Additionally, this template captures whether the agencies

⁴²[GAO-23-105460](#).

⁴³15 U.S.C. § 638(mm) permits federal agencies required to conduct a SBIR program to use no more than 3 percent of the funds allocated to the SBIR program for the administration of the SBIR/STTR program. Additionally, subsection (vv)(3)(A) permits relevant federal agencies to use no more than 2 percent of funds allocated to the SBIR program of the federal agency for the cost of establishing the due diligence program.

used any available administrative funds for the implementation of the due diligence programs.

Agency Comments

We provided a draft of this report to Commerce, DHS, DOD, DOE, Education, EPA, HHS, NASA, NSF, OSTP, SBA, Transportation, Treasury, and USDA for review and comment. Commerce (NOAA), DOE, Education, HHS, SBA, Treasury, and USDA provided technical comments, which we incorporated as appropriate. Commerce (NIST), DHS, DOD, EPA, NASA, NSF, OSTP, and Transportation told us they had no comments.

We are sending copies of this report to the appropriate congressional committees; the Secretaries of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Transportation, and the Treasury; the Administrators of the SBA, EPA, and NASA; the Director of the NSF; the director of the White House Office of Science and Technology Policy; and other interested parties. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-6888 or WrightC@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix II.



Candice N. Wright
Director, Science, Technology Assessment, and Analytics

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The Honorable Adam Smith
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Committee on Armed Services
House of Representatives

The Honorable Frank D. Lucas
Chairman

The Honorable Zoe Lofgren
Ranking Member
Committee on Science, Space, and Technology
House of Representatives

The Honorable Roger Williams
Chairman

The Honorable Nydia M. Velázquez
Ranking Member
Committee on Small Business
House of Representatives

Appendix I: Objectives, Scope, and Methodology

The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Extension Act of 2022 (Extension Act) includes provisions requiring GAO to issue a series of reports on the implementation and best practices of agency due diligence programs to assess security risks presented by small businesses seeking a federally funded award.¹ This report examines: 1) the Small Business Administration's (SBA) efforts, in collaboration with others, to develop best practices for SBIR/STTR participating agencies' due diligence programs; and 2) SBIR/STTR participating agencies' efforts to design and implement their due diligence programs to meet federal requirements.

The scope of work includes the SBA, the 11 participating agencies, the Office of Science and Technology Policy (OSTP), and the Committee on Foreign Investment in the United States (CFIUS).² Some participating agencies appointed a subcomponent to take the lead in developing the agency's due diligence program (e.g., the National Institutes of Health took the lead for the Department of Health and Human Services (HHS)). Alternatively, at least one agency had subcomponents that were concurrently developing independent programs (e.g., within the Department of Commerce (Commerce), both the National Oceanic and Atmospheric Administration (NOAA) and the National Institute of Standards and Technology created independent programs). For the purposes of this report, we refer to the entire agency when discussing the former situation (i.e., HHS) and refer to just the subcomponents in the latter situation, as appropriate (e.g., NOAA).

To address our first objective, we reviewed SBA documentation on steps taken to develop and disseminate the best practices, including interagency coordination, as well as the final practices. We also interviewed officials from SBA, participating agencies, OSTP, and CFIUS

¹Pub. L. No. 117-183, § 4, 136 Stat. 2180, 2183.

²In this report, we refer to the agencies that issue SBIR and STTR awards as "participating agencies." Six agencies participated in STTR at the time of our review.

on the development of the best practices and coordination across the agencies and CFIUS.

To address our second objective, we reviewed participating agency documentation and interviewed agency officials on due diligence program development and implementation, including funds used for the programs. We evaluated this information against the Extension Act requirements, among other things. These requirements included implementing their due diligence programs by June 27th, 2023, developing a risk-based approach to their programs, and reporting on program administrative costs.

Review of SBA's Best Practices

We interviewed officials, collected written responses, and collected and reviewed documentation from SBA, the 11 participating agencies, OSTP, and CFIUS on SBA's creation and dissemination of the best practices, including collaboration required by the Extension Act and coordination between SBA and the participating agencies. Regarding the content of the best practices, we collected information on the selection, review, vetting, and applicability of the best practices to the various participating agencies. We also collected information on participating agencies' perception of the best practices, as well as agencies', OSTP's, and CFIUS's perception of the effectiveness of SBA's coordination to develop the best practices.

We collected documentation on SBA's collaboration efforts to develop the best practices, including the agendas created for SBA's weekly meetings with agencies, as well as the final best practices and the disclosure questions listed in the updated Policy Directive.³ We assessed SBA's efforts to develop the best practices against selected practices we identified in prior work for effective collaboration.⁴ Specifically, we assessed SBA's collaboration efforts against the practices of defining a common outcome, bridging organizational cultures, and ensuring that relevant participants are included. We identified these practices as the

³SBA issued a Federal Register notice in April 2023 announcing a planned update to the SBA SBIR/STTR Program Policy Directive and requesting public comment. 88 Fed. Reg. 19,704 (Apr. 3, 2023). No significant changes were made based on comments received and the updated Policy Directive was issued on May 3, 2023.

⁴GAO, *Government Performance Management: Leading Practices to Enhance Interagency Collaboration and Address Crosscutting Challenges*, [GAO-23-105520](#) (Washington, D.C.: May 24, 2023).

most relevant to the collaboration required by the Extension Act. In addition, we assessed the disclosure questions in SBA's Policy Directive against the requirements in the Extension Act requiring each small business submitting a proposal for a federally funded award to disclose certain information concerning the business' ties to foreign countries.⁵

Review of Participating Agencies' Due Diligence Programs

We interviewed, collected written responses, and collected and reviewed documentation from participating agencies on the development and implementation of their due diligence programs. Specifically, we collected information or documentation on agencies' timelines and steps for program development, the various elements of their risk-based approach, and areas they have identified as needing additional attention or refinement moving forward, among others. We reviewed this information against the requirements in the Extension Act and SBA's expectations of agencies in meeting the implementation deadline. For example, we reviewed whether agencies plan to use a risk-based approach as appropriate, to assess the security risks presented by the cybersecurity practices, patents, employee affiliations, and foreign ownership of a small business seeking an award. We also collected information and documentation on the agencies' use or plans to use specified SBIR funds for the development and implementation of their programs in fiscal year 2023, as well as which types of activities this money would be used for, and the reporting requirements associated with the use of these funds.⁶

We also collected and reviewed the documents agencies created to meet the implementation deadline, including their risk-based approaches, and whether they used any available funds to establish their programs. In addition, we reviewed the documents provided by agencies to assess whether they met SBA's expectation that all agencies should have a documented risk-based approach by the June 27, 2023, implementation deadline.

⁵15 U.S.C. § 638(g)(13).

⁶15 U.S.C. § 638(mm) permits federal agencies required to conduct a SBIR program to use no more than 3 percent of the funds allocated to the SBIR program for the administration of the SBIR/STTR program. Additionally, subsection (vv)(3)(A) permits relevant federal agencies to use no more than 2 percent of funds allocated to the SBIR program of the federal agency for the cost of establishing the due diligence program.

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Methodology**

We conducted this performance audit from November 2022 to November 2023 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: GAO Contact and Staff Acknowledgments

GAO Contact

Candice Wright at (202) 512-6888 or wrightc@gao.gov

Staff Acknowledgments

In addition to the contact named above, Christopher Murray (Assistant Director), Caitlin Dardenne (Analyst-in-Charge), Wyatt Anderson, and Wes Wilhelm made key contributions to this report. In addition, Jenny Chanley, Patrick Harner, Kelsey L. Kennedy, Mark Kuykendall, Curtis R. Martin, Trevor Warner, and Fralinda Zazay contributed to the report.

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