



CELEBRATING 1 YEAR

of the **CHIPS and Science Act**



“For over 70 years, the U.S. National Science Foundation has advanced the frontiers of the full spectrum of science and engineering research and innovation. On August 9, 2022, President Biden signed into law the “[CHIPS and Science Act](#),” landmark bipartisan legislation establishing a bold vision for accelerating U.S. leadership in innovation. NSF is playing a key role in realizing that vision.

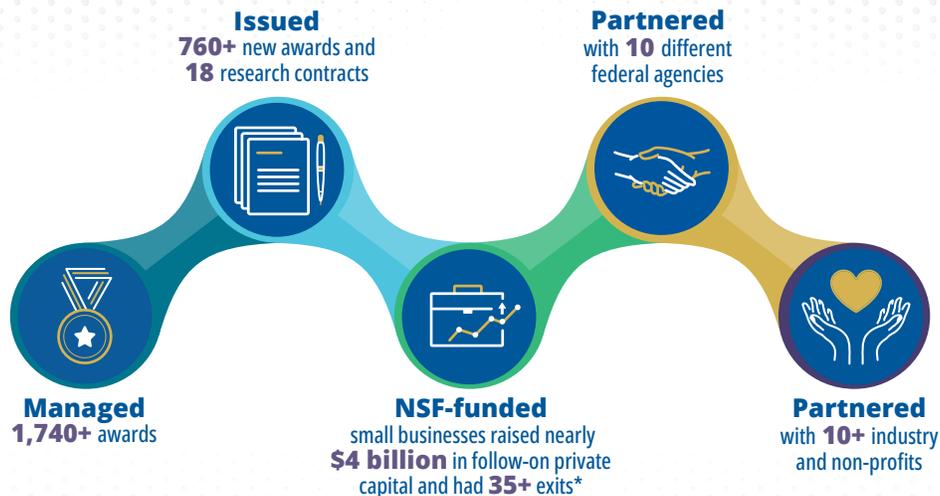
Bolstered by the historic investment Congress and the administration provided in the Fiscal Year 2023 appropriations legislation, NSF is working at speed and scale to accelerate technology, safeguard U.S. investments through enhanced research security, strengthen the discovery ecosystem, and invest in the U.S. STEM research and development and workforce enterprise to unleash opportunities for everyone and innovation everywhere.”

- NSF Director Sethuraman Panchanathan

ACCELERATING TECHNOLOGY AND INNOVATION

NSF has unleashed critical investments to support use-inspired research and innovation in key technology areas and in support of solutions to grand national, societal and geostrategic challenges. The “CHIPS and Science Act” codified NSF’s cross-cutting Directorate for Technology, Innovation and Partnerships (TIP)—NSF’s first new directorate in more than 30 years. In its first year, TIP has already accelerated the translation of agency-wide discoveries from lab to society, thereby driving industry, amplifying job growth, and creating opportunities for everyone, everywhere.

TIP Directorate achievements since the CHIPS and Science Act



*These data are pulled from Pitchbook from 8/9/2022-7/20/2023 and track all small businesses funded through the NSF SBIR/STTR program.

From 8/9/2022-7/20/2023

Visit <https://new.nsf.gov/chips> for updates on NSF’s “CHIPS and Science Act”-related news and funding opportunities.



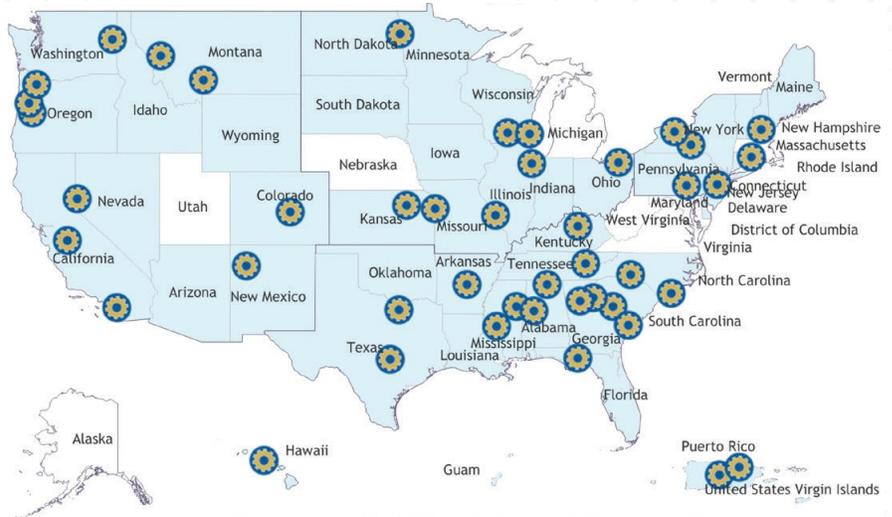
NSF Engines Development Awards



**More than
\$43 Million
invested**



**44 Awards
across 46
U.S. states
and territories**



NSF and the U.S. Economic Development Administration [signed a memorandum of understanding](#) to formalize ongoing cross-agency coordination on regional innovation programs.

The NSF [Regional Innovation Engines \(NSF Engines\)](#) program seeks to catalyze and foster innovation ecosystems across the U.S. NSF published nearly 700 concept outlines from every U.S. state and territory in response to the first NSF Engines funding opportunity. In May 2023, one year after launching, the program made its first-ever [Development Awards](#) to 44 teams spanning 46 U.S. states and territories.

NSF also launched the [Enabling Partnerships to Increase Innovation Capacity \(EPIIC\)](#) program to build capacity among minority-serving institutions, two-year institutions, undergraduate institutions, and other emerging research institutions in regional innovation ecosystems, with the hope that they will go on to participate in an NSF Engine or similar activity.

In June 2023, the [Assessing and Predicting Technology Outcomes \(APTO\)](#) program was launched with the goal of assessing how previous R&D spending in the public and private sectors have yielded different outcomes, and making predictions of how future spending can be steered to yield different outcomes.

The [Accelerating Research Translation \(ART\)](#) program, launched in February 2023, is an NSF-wide endeavor that seeks to grow institutional capacity for translating discoveries, thereby increasing the scale and pace of turning academic research into tangible solutions that benefit the public.

In October 2022, TIP launched, in collaboration with the Directorate for STEM Education, [Experiential Learning for Emerging and Novel Technologies \(ExLENT\)](#) to support experiential learning opportunities that provide cohorts of diverse learners with the skills needed to succeed in key technology fields such as artificial intelligence, advanced manufacturing, biotechnology and quantum computing.

September 2022 saw the launch of NSF's [Entrepreneurial Fellowships](#), in partnership with Activate.org. These Fellowships are designed to support STEM entrepreneurs from diverse backgrounds in turning breakthroughs in the lab into products and services that benefit society.

ENHANCING RESEARCH SECURITY

Securing the nation's research enterprise is part of the mission of NSF and is essential to the national defense. Led by the [Office of the Chief of Research Security Strategy and Policy](#), NSF has dedicated considerable effort and resources to working with the research community and its other partners to: equip researchers with the information and tools necessary to ensure that their work is protected; clarify security issues and mitigate risks; and foster transparency, disclosure and other practices that reflect the values of research integrity.



“Research security is a critical matter. It is important that the research community, government agencies and our international partners have frequent dialogue to share perspectives and help shape our research security policies and programs. Collaboration is critical to a vibrant science and engineering community, which includes domestic and international collaboration.”

NSF Director Sethuraman Panchanathan

As part of the U.S. Research Security and Integrity Information Sharing Analysis Organization (RSI-ISAO) development process, NSF issued a [Dear Colleague Letter](#) in May 2023 to solicit from the research community feedback, ideas, and recommendations to ensure the products, services, and tools provided by the RSI-ISAO align with the needs and expectations of the research community.

In August 2023, NSF issued a [solicitation](#) inviting proposals that articulate a vision and actionable plan for the RSI-ISAO that would build the capacity of the research community to make risk-informed decisions and create a trusted partnership between USG research-awarding agencies and the research communities they serve.

In anticipation of the launch of the new [Research on Research Security](#) program, NSF issued a [Dear Colleague Letter](#) calling for proposals for a workshop to inform the program’s development. The program will specifically fund projects that assess the methods for identifying research security risks, and the strategies for preventing and mitigating them.

NSF also published [guidelines](#) describing NSF’s internal guidance for research security data-related practices, aligned with [National Security Presidential Memorandum 33](#) and its accompanying [implementation guidance](#).

STRENGTHENING THE DISCOVERY ECOSYSTEM AND INVESTING IN A DIVERSE STEM WORKFORCE

NSF’s decades of leadership has enabled the agency to quickly strengthen and scale its investments in support of the U.S. research and innovation enterprise. NSF is proud to have supported generations of technicians, engineers, educators, researchers and innovators, the people who make up our nation’s diverse STEM workforce. To remain at the vanguard of innovation and competitiveness and to solve the grand challenges of our time, the strength of that demographically and geographically diverse STEM talent must be fully engaged.

The “CHIPS and Science Act” codified and renamed NSF’s Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science Initiative as NSF’s Eddie Bernice Johnson INCLUDES Initiative, a comprehensive, national initiative to enhance U.S. leadership in STEM discovery and innovation, focused on NSF’s commitment to ensuring accessibility and inclusivity in STEM fields.

NSF waived, for a period of five years, the cost-sharing requirements of its [Robert Noyce Teacher Scholarship \(Noyce\)](#) program and its [Major Research Instrumentation \(MRI\)](#) program.

The [Scholarships in Science, Technology, Engineering, and Mathematics \(S-STEM\)](#) program supports institutions of higher education to fund scholarships for academically talented low-income students and to study and implement a program of activities that support their recruitment, retention and graduation in STEM. Leveraging new flexibilities provided under the “CHIPS and Science Act,” NSF increased the scholarship caps for undergraduate and graduate students to \$15,000 and \$20,000, respectively.



NSF's [National Center for Science and Engineering Statistics](#) established [America's DataHub](#), a multisector consortium that will serve to meet the needs of the National Secure Data Service demonstration project described in the "CHIPS and Science Act."

NSF's [Growing Research Access for Nationally Transformative Equity and Diversity \(GRANTED\)](#) program is focusing on addressing systemic barriers within the research enterprise by improving research development and administration capacity at emerging research institutions in both EPSCoR and non-EPSCoR jurisdictions.

NSF is also partnering with industry to invest in and develop the microelectronics innovations and workforce of the future. NSF's [Future of Semiconductors \(FuSe\)](#) initiative aims to cultivate a broad coalition of researchers and educators from the science and engineering communities utilizing a holistic, co-design approach to enable rapid progress in new semiconductor technologies. FuSe is a nearly \$50 million investment in [partnership with Ericsson, IBM, Intel and Samsung](#).

Additional examples include: a combined \$30 million partnership with Micron Technology to develop bold solutions to address workforce challenges related to semiconductor technologies; a combined \$100 million investment in partnership with Intel to support research in semiconductor design and manufacturing as well as innovative approaches to enhancing the education and development of the national technical workforce; and a [five-year agreement between the Semiconductor Research Corporation and NSF's Research Experiences for Undergraduates \(REU\) program](#) to jointly expand undergraduate research opportunities related to semiconductor work through hands-on research opportunities for undergraduates.

NSF and the Semiconductor Research Corporation (SRC) [invested in six sites](#) for undergraduate research experiences in semiconductors. These grants will provide undergraduate students with hands-on research opportunities in STEM priority areas related to semiconductors. These are the first awards under a five-year agreement, [announced in January 2022](#), between NSF and SRC to jointly support awards through the NSF Research Experiences for Undergraduates program.

Did you know that **258 Nobel Prize** winners received support from NSF at some point in their career?