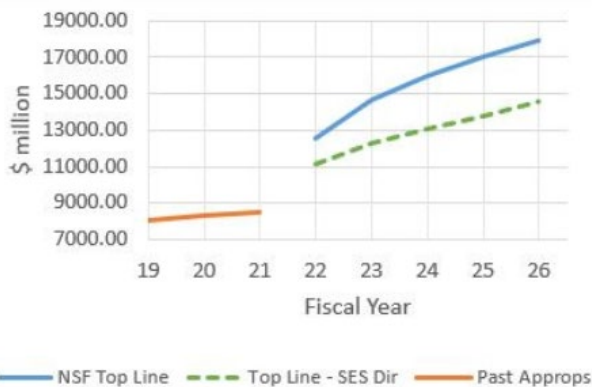


National Science Foundation for the Future

Title III
Division B: Research & Innovation
H.R. 4521, the America COMPETES Act



Funds more excellent research.

The research community has the capacity to pursue far more research ideas than the National Science Foundation (NSF) can fund. These unfunded projects represent an enormous untapped potential to create new knowledge and drive innovations that spawn new industries and solve problems for the benefit of the American people. This bill authorizes a significant increase in funding for the agency.

Increases overall funding for the agency (minus the new directorate) by \$2.6 billion in fiscal year 2022, to \$11.1 billion, and grows at an average annual rate of 7%, to \$14.5 billion in fiscal year 2026.

Directs investments in critical research-enabling infrastructure, including a 50% increase to the Mid-Scale Research Infrastructure program, support for helium conservation equipment, and a roadmap for meeting the research community's growing need for advanced computing capabilities.

Improves STEM education and Research Training

- Establishes a new centers program to support translational research and development to help scale up effective PreK-12 STEM education innovations.
- Encourages efforts to align undergraduate STEM education with workforce needs.
- Advances policies and funding to raise the bar for the training, mentoring, and professional development of graduate students and postdoctoral researchers.
- Advances diversity, equity, and inclusion by codifying the NSF INCLUDES program, establishing a Chief Diversity Officer position, and supporting research capacity building at Historically Black Colleges and Universities, Tribal Colleges and Universities, and minority serving institutions.
- Establishes a pilot program to support partnerships that will expand research opportunities to students who attend minority serving institutions or other emerging research institutions.
- Encourages expanded data collection on the nature of the STEM workforce.

Federally funded research must be accessible and accountable to the American public. In addition, threats to research security have the potential to undermine the integrity of federally funded research projects. The bill addresses these challenges at multiple levels of accountability.

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Increases research accessibility, accountability, & security

- Supports improved implementation of the Broader Impacts criterion and creates a new requirement for researchers to prepare a statement on possible security or other risks to society from their research in order to encourage researchers to always consider their research in a societal context.
- Expands access to data and other research products resulting from Foundation-funded projects through new data stewardship requirements and investments in open science tools and infrastructure.
- Supports research related to climate change, violence, the food-energy-water system, sustainable chemistry, risk and resilience, UAV technologies, clean water systems, technology and mental health, critical minerals, precision agriculture, and the impact of satellite constellations on NSF-funded science.
- Codifies the Office of Research Security and Policy and the Chief of Research Security position to provide guidance and resources to researchers and funds the development of training, resources, and tools to help institutions and researchers understand and mitigate security risks. Establishes a prohibition on participation by NSF-funded researchers in malign talent recruitment programs.

In carrying out its fundamental science and engineering mission over the past seven decades, the Foundation has delivered enormous benefits to society. **It is time to build on that legacy and move the Foundation forward.** To that end, the bill creates a new directorate, the **Directorate for Science and Engineering Solutions (SES)**, that will enable the Foundation to take big risks and experiment with new approaches to accelerating progress in translating science and technology into solutions to society's major challenges. A critical consideration for the new SES directorate is its impact on the rest of the agency. The bill creates a structure, a funding profile, and feedback mechanisms to mitigate risks to the longstanding basic research mission of the Foundation and encourage collaboration across the agency.

Accelerates research to address major societal challenges

- Encourages an ecosystem of partnerships and collaborations in use-inspired and translational research, including through support for university technology institutes, technology transfer capacity building activities, and entrepreneurial fellowships.
- Authorizes \$1.4 billion for the SES directorate in fiscal year 2022 with an average annual increase of 27% to \$3.4 billion in fiscal year 2026. This budget is in balance with the budget for the rest of the agency, reaching 19% of the total agency budget in its fifth year.