

INTEGRATIVE ACTIVITIES (IA)

\$518,690,000

IA Funding¹
(Dollars in Millions)

	FY 2023			Change over	
	Base Plan ²	FY 2024 (TBD)	FY 2025 Request	FY 2023 Base Plan Amount	Percent
EPSCoR ³	\$252.03	-	\$258.37	\$6.34	2.5%
Equity and Compliance in Research	4.93	-	6.76	1.83	37.1%
Evaluation & Assessment Capability	6.90	-	7.40	0.50	7.2%
Facility Operations Transition ⁴	[12.00]	-	[12.00]	-	-
Growing Convergence Research	15.77	-	14.77	-1.00	-6.3%
Growing Research Access for Nationally Transformative Equity & Diversity (GRANTED) ³	44.50	-	40.00	-4.50	-10.1%
HBCU Excellence in Research	24.85	-	26.13	1.28	5.2%
Major Research Instrumentation ³	82.82	-	82.82	-	-
Mid-scale Research Infrastructure ³	54.42	-	49.42	-5.00	-9.2%
Modeling and Forecasting	2.96	-	4.66	1.70	57.4%
Planning & Policy Support	5.96	-	5.46	-0.50	-8.4%
Research Investment Communications	5.98	-	6.50	0.52	8.7%
STC Class of 2023 ⁵	24.00	-	[24.00]	N/A	N/A
STC Admin	0.59	-	0.59	-	-
Science & Technology Policy Institute	5.68	-	5.81	0.13	2.3%
Strategic Initiatives Resources ³	[30.00]	-	10.00	N/A	N/A
Total	\$531.39	-	\$518.69	-\$12.70	-2.4%

¹ Excludes FY 2023 and FY 2025 funding for the Office of the Chief of Research Security Strategy and Policy (OCRSSP) previously budgeted within IA; OCRSSP is now presented as a standalone budget activity within the R&RA account in FY 2025. Please see the OCRSSP narrative for additional information on this activity.

² For comparability with FY 2025, the FY 2023 levels do not include this organization's share of Mission Support Services that were funded through the R&RA and EDU directorates and offices.

³ FY 2023 funding includes one-time funding through the Strategic Initiatives line for targeted investments for EPSCoR co-funding (\$10.0 million), GRANTED support of emerging research institutions (ERIs) (\$10.0 million), MRI awards to ERIs (\$5.0 million), and Mid-scale RI awards in EPSCoR jurisdictions (\$5.0 million).

⁴ FY 2023 and FY 2025 funding (\$12.0 million in each year) is allocated to MPS in support of facility operations.

⁵ FY 2025 reflects the transfer of funds to the managing organizations within NSF; BIO's STC for Quantitative Cell Biology (\$6.0 million), MPS' STCs for New Frontiers of Sound and Center for Complex Particle Systems (\$12.0 million), and SBE's Center for Braiding Indigenous Knowledges and Science.

About IA

IA investments catalyze transformative advances in science and technology by incubating new ideas and communities, supporting innovation in research and in NSF's own processes, and promoting the integration of research and education. They enhance the competitiveness of the Nation's research through activities that build capacity for science and engineering (S&E) and broaden participation in

Integrative Activities

research and research training, especially along organizational and geographic axes. They expand NSF's capacity to generate and use evidence for developing strategy and decision making.

IA invests in strategic activities that span the disciplinary spectrum, incubates new cross-cutting activities, and explores emerging ideas. IA provides a flexible mechanism to support emerging program priorities, including equity and compliance in research, and effective communications about NSF's research investments. Sustained strategic investments include instrumentation, infrastructure, and cross-cutting collaborative research.

IA provides funding for innovative programs designed to enhance the ability of jurisdictions, institutions, and individuals to conduct globally competitive research. IA's jurisdictional and institutional capacity-building programs include Established Program to Stimulate Competitive Research (EPSCoR), Growing Research Access for Nationally Transformative Equity and Diversity (GRANTED), Historically Black Colleges and Universities - Excellence in Research (HBCU-EiR), and Major Research Instrumentation (MRI). The Alan T. Waterman honorary award recognizes and invests in emerging talent. IA also supports Science and Technology Centers: Integrative Partnerships (STC), a program that promotes discovery and innovation through center-scale collaborative research and knowledge transfer.

IA promotes and supports the use of evidence in NSF decision making, leads strategic planning for evidence-building activities, compiles data and statistics on key NSF processes, and conducts or oversees studies of NSF programs and other activities to guide continuous improvements.

IA FY 2025 Activities

Established Program to Stimulate Competitive Research (EPSCoR)

- EPSCoR investments assist NSF in its statutory function "to strengthen research and education in the sciences and engineering, including independent research by individuals, throughout the United States, and to avoid undue concentration of such research and education."
- EPSCoR provides strategic programs and opportunities that stimulate sustainable improvements to EPSCoR jurisdictions' R&D capacity and capability. EPSCoR aims to stimulate research that enhances jurisdictional competitiveness in NSF disciplinary and multidisciplinary research programs, especially those that drive economic growth.
- At the FY 2025 Request level, increased funding will support capacity building activities to expand development and growth of jurisdictional collaborative networks for advancement of a jurisdiction-wide research ecosystem. Additionally, FY 2025 funding increases will support advancement of research and development capacity across different institution types, including emerging research institutions and minority-serving institutions.

Equity and Compliance in Research

- In FY 2025, NSF will continue to support its ability to maximize program delivery in an equitable manner, to include strategic planning and implementation, training, stakeholder engagement, complaint processing and investigation, partnership and international engagement, proactive compliance and recruitment and outreach activities. These activities respond to the need to address inequities in program delivery, Sexual Assault/Harassment Prevention & Response

(SAHPR)¹ related concerns and requirements in executive orders (EO) (e.g., EO 14035 on Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce;² EO 13985 on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government;³ and EO 14020 on Establishment of the White House Gender Policy Council⁴) and are informed by NSF's Racial Equity Task Force Report.

Evaluation and Assessment Capability (EAC)

- EAC engages in strategic planning of evidence-building activities in support of the Agency's mission. This includes leading the development of the Agency's learning agenda, annual evaluation plan, inventory and analysis of evidence-building activities, and other activities that support the generation and use of evidence for decision making. Furthermore, EAC oversees or conducts evidence-building activities—including evaluations, foundational fact-finding, policy analysis, and other types of studies and analyses—in response to questions prioritized in the Agency's learning agenda, in the annual evaluation plan, or by leadership and staff in response to emerging needs.
- At the FY 2025 Request level, funding will support studies prioritized in the Agency-wide learning agenda and focused on enabling program improvements. This funding enables EAC to provide needed Agency-wide support that complements the work conducted by NSF directorates and offices. In partnership with other agencies, the FY 2025 Request will continue to support the Analytics for Equity initiative.

Facility Operation Transition

- Facility Operation Transition reflects NSF's strategic commitment to a smooth transition from construction, funded through the MREFC account, to operations and maintenance, funded through the R&RA account, of new major facilities, as well as achievement of a balanced portfolio between facilities and investigator research, both of which were emphasized in the NSB's Congressionally requested 2019 report entitled "Study of Operations and Maintenance Costs for NSF Facilities" (NSB-2018-17).⁵ Facility Operation Transition funding will be used to (1) partially support initial O&M of new facilities so that the full O&M costs can be gradually absorbed into the managing division or directorate, and (2) partially support divestment of lower-priority facilities, the full cost of which may significantly impact individual division or directorate funding. In the FY 2025 Request, these funds are allocated to MPS. For more information see the Facilities Overview narrative in the Major Facilities section of the Research Infrastructure chapter.

Growing Convergence Research (GCR)

- GCR supports innovative basic research that falls outside traditional disciplines and uses novel, transdisciplinary approaches to solve complex problems. Key project characteristics are: (1) they have the potential to make a significant impact, either on fundamental understanding in S&E or on the Nation's ability to meet pressing societal challenges, or both; and (2) they require the deep

¹ www.nsf.gov/geo/opp/documents/USAP%20SAHPR%20Report.pdf

² www.whitehouse.gov/briefing-room/presidential-actions/2021/06/25/executive-order-on-diversity-equity-inclusion-and-accessibility-in-the-federal-workforce/

³ www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/

⁴ www.whitehouse.gov/briefing-room/presidential-actions/2021/03/08/executive-order-on-establishment-of-the-white-house-gender-policy-council/

⁵ www.nsf.gov/pubs/2018/nsb201817/nsb201817.pdf

Integrative Activities

integration of knowledge, tools, and ways of thinking from across multiple disciplines. GCR also grows the next generation of convergence researchers. GCR incubates the capacity of research teams to address pressing, emerging research challenges that are large in scope, innovative in character, originate outside of any particular NSF directorate, and may require a multi-year commitment. In FY 2025, GCR investments will support three to six new research collaborations and the continuation of three to six projects begun in FY 2023.

Growing Research Access for Nationally Transformative Equity and Diversity (GRANTED)

- In FY 2025, NSF will invest in GRANTED, which is designed to mitigate the barriers to research and training competitiveness at underserved institutions, including minority-serving institutions and emerging research institutions, within the Nation's research enterprise as NSF contributes to the Administration's priority on equity. GRANTED activities will support the enhancement of research administration and post-award management, the strengthening of the structure of research enterprise positions and career pathways, improved skill training, sharing, and scaling of research enterprise practices and models, and expansion of partnerships between and across institutions and organizations that support research enterprise services. GRANTED will also partner with national and regional professional societies to grow the Nation's research capacity within underserved communities and institutions.

Historically Black Colleges and Universities – Excellence in Research (HBCU-EiR)

- The HBCU-EiR program focuses on improving the research capacity and competitiveness of HBCUs by supporting new research opportunities at these institutions. In FY 2025, investments in HBCU-EiR will fund 40 to 60 HBCU-EiR research grants managed by NSF research and education directorates. NSF will provide supplemental support to HBCU-EiR research activities involving postdoctoral researchers, graduate, and undergraduate students. Additionally, HBCU-EiR will support funding mechanisms to enhance institutional research capacity and competitiveness, which may also include providing co-funding to NSF directorates in support of meritorious STEM research and STEM education research proposals from HBCUs.

Major Research Instrumentation (MRI)

- MRI invests in shared-use S&E research instrumentation as well as equipment and instrumentation to conserve or reduce the consumption of helium. Approximately 90-110 new awards will support instrument and equipment development and acquisition in all of NSF's S&E domains. MRI's investments also contribute to research-intensive learning environments that enhance the training of a diverse S&E workforce and facilitate partnerships between academia and the private sector.

Mid-scale Research Infrastructure Track-1 (Mid-scale RI-1)

- The Mid-scale RI-1 activity funded through the IA budget within the R&RA account is one component of NSF's Mid-scale Research Infrastructure program. It aims to significantly advance the Nation's capabilities for conducting potentially transformative research and maintaining U.S. leadership in global S&E. Mid-scale RI-1 investments support: (1) the implementation of research infrastructure projects between \$4.0 million and \$20.0 million; and (2) the design of future mid-scale research infrastructure projects. In FY 2025, Mid-scale RI-1 will invest \$49.42 million in projects emerging from the FY 2025 competition.

Modeling and Forecasting

- NSF will improve its enterprise analytics capability in support of advancing research, improving equity in science, and securing global leadership. NSF will expand its capacity to leverage modeling of internal and external data to generate timely and actionable insights to inform agency strategy, investments, and programmatic decisions. NSF will harness big data (both structured and unstructured), data science (including AI techniques such as machine learning), and statistical modeling to advance portfolio analysis, monitor program participation, promote partnerships, and understand the outcomes of NSF's investments to advance scientific discovery and achieve societal goals. Results of this work will provide valuable information to promote excellence in achieving NSF's mission.

Planning and Policy Support (PPS)

- PPS includes funding for a wide range of activities, many of which are focused on generating evidence and convening stakeholders in support of planning, policy development, and management efficiencies. Examples include conducting NSF surveys of principal investigators and reviewers, supporting studies of NSF's merit review process, strengthening enterprise analytics capability, engaging in annual agency award activities (such as the Alan T. Waterman Award and National Medal of Science), and supporting summer science internship programs that target STEM students from underrepresented groups. PPS also provides funding to support collaborations with the National Academies of Science, Engineering, and Medicine (the National Academies) for the Committee on Science, Engineering, Medicine, and Public Policy (CoSEMPuP)⁶; the Federal Demonstration Partnership⁷; and studies, workshops, and letter reports spanning multiple research domains. In FY 2025, PPS will continue to invest in catalytic activities—workshops, conferences, and long-term planning exercises, focused on emerging themes and agency innovations—as well as capacity-building activities for national priorities. PPS will invest in advancing public engagement in STEM visioning and in catalyzing research on robust indicators of rigor in research.

Research Investment Communications (RIC)

- RIC invests in leading-edge communication essential to build public and stakeholder awareness and support for S&E. RIC creates products and processes through various digital platforms to make NSF's investments in STEM readily available and easily understandable to everyone. In FY 2025, RIC informs policy makers, stakeholders, the media, and the general public about the impact of NSF's investments on their daily lives and the Nation's future.

Science and Technology Centers: Integrative Partnerships Program (STC)

- The STC program supports exceptionally innovative, complex research and education projects that require large-scale, long-term awards. STCs engage the Nation's intellectual talent in world-class research through partnerships across academia, industry, national laboratories, other public and private entities, and via international collaborations. These partnerships create synergies that enhance the training of the next generation of scientists, engineers, and educators and contribute to NSF's mission to broaden the participation of members of underrepresented groups in STEM. STC Administration supports post-award management of STC awards, including site visits by review teams. For more information on the STC program portfolio, see the NSF Centers Programs

⁶ www.nationalacademies.org/cosempup/committee-on-science-engineering-medicine-and-public-policy

⁷ www.thefdp.org/default/

Integrative Activities

narrative in the NSF-Wide Investment chapter.

Science and Technology Policy Institute (STPI)

- STPI is a Federally Funded Research and Development Center sponsored by NSF on behalf of the White House Office of Science and Technology Policy (OSTP). STPI provides analysis of significant domestic and international science and technology policies and developments for OSTP and other federal agencies.

Strategic Initiatives Resources

- Through the Strategic Initiatives Resources, NSF will support activities responding to national priorities that may not align with a specific disciplinary focus or project scope.

ESTABLISHED PROGRAM TO STIMULATE COMPETITIVE RESEARCH (EPSCoR)

\$258,370,000

EPSCoR Funding

(Dollars in Millions)

	FY 2023			Change over	
	Base Plan ^{1,2}	FY 2024 (TBD)	FY 2025 Request	FY 2023 Base Plan Amount	Percent
Total	\$252.03	-	\$258.37	\$6.34	2.5%
Research Infrastructure Improvement	196.50	-	204.41	7.91	4.0%
Co-Funding	54.20	-	51.25	-2.95	-5.4%
Outreach and Workshops	1.33	-	2.71	1.38	103.8%

¹ For comparability with FY 2025, the FY 2023 levels do not include this organization’s share of Mission Support Services that were funded through the R&RA and EDU directorates and offices.

² FY 2023 funding includes one-time funding through the Strategic Initiatives Resources line for targeted investments for EPSCoR co-funding (\$10.0 million).

About EPSCoR

EPSCoR assists NSF in its statutory function “to strengthen research and education in science and engineering throughout the United States and to avoid undue concentration of such research and education.” EPSCoR seeks to advance excellence in science and engineering research and education, enhancing the competitiveness of EPSCoR jurisdictions in the science and engineering domains supported by NSF.

In general, about 26 percent of the EPSCoR portfolio is available to support new research grants. The remaining 74 percent supports grants made in prior years.

EPSCoR uses three strategic investment tools: Research Infrastructure Improvement (RII) awards, Co-Funding, and Outreach/Workshops.

Research Infrastructure Improvement (RII)

- RII investments support development of physical, human, and cyber-based research infrastructure in EPSCoR jurisdictions, with an emphasis on collaborations among academic researchers, the private sector, and state and local governments, to effect sustainable improvements in research infrastructure. RII projects are designed to improve the research competitiveness of jurisdictions by strengthening their academic research infrastructure in areas of S&E supported by NSF that are critical to the jurisdiction’s science and technology initiatives. FY 2025 funding levels will strengthen the EPSCoR Research Incubators for STEM Excellence (E-RISE) RII and the EPSCoR Collaborations for Optimizing Research Ecosystems (E-CORE) RII activities. These programmatic opportunities announced in FY 2023 will provide support to develop and coordinate core research, networks of research teams, and incubator activities to impact the jurisdiction’s research ecosystem. These activities will connect individuals, institutions, and research networks and leverage other funding mechanisms, including current NSF and other federal investments. These investments will allow jurisdictions to develop both breadth and depth in discipline-specific research capacity, as well as create pathways for innovative systemic change strategies that support research and translational activities in the

Integrative Activities

jurisdiction. Furthermore, these activities will nurture and expand research and economic development networks and educate and train a diverse workforce. In FY 2025, EPSCoR continues the RII Focused EPSCoR Collaborations (RII FEC), which builds inter-jurisdictional collaborative teams of EPSCoR investigators in scientific focus areas consistent with NSF priorities. These awards have a particular focus on the development of early career/junior faculty. In FY 2025, awards will support the Administration's R&D priority areas.

- The RII EPSCoR Research Fellows @NASA sub-track supports faculty at minority-serving institutions, women's colleges, and primarily undergraduate institutions in EPSCoR jurisdictions to collaborate with researchers at NASA research centers.

Co-Funding

- EPSCoR co-funding supports awards in response to meritorious proposals from individual investigators, collaborative groups, and center-scale teams based in EPSCoR-eligible jurisdictions. These proposals are submitted across all of the Foundation's research and education programs, including crosscutting initiatives, where they undergo merit review and are selected for award based on NSF's intellectual merit and broader impact criteria. EPSCoR prioritizes co-funding for awards that advance its programmatic goals, including those supporting new investigators. In FY 2025, the program will emphasize expanding support of meritorious STEM research and education proposals from EPSCoR jurisdictions across NSF, with a specific focus on early career faculty, academic research infrastructure, capacity building for center-scale and network-focused competitions, and projects that make major, potentially transformational impacts toward physical and cyberinfrastructure and the development of a diverse STEM workforce. EPSCoR co-funding ensures support for projects that might not be funded without the combined, leveraged resources of EPSCoR and the managing programs.

Outreach and Workshops

- The Outreach component of EPSCoR solicits requests for workshops, conferences, and other community-based activities. These are designed to explore opportunities in emerging areas of S&E and to share best practices in strategic planning, diversity, communication, and other capacity-building areas of importance in EPSCoR jurisdictions. EPSCoR also supports outreach travel that enables NSF staff from all directorates and offices to directly engage and inform the EPSCoR research community about NSF opportunities, priorities, programs, and policies.

Strategic Partnership and Evaluation Activities

- In FY 2025, NSF EPSCoR continues to implement a cohesive evaluation framework to study processes and outcomes that contribute to academic research competitiveness. EPSCoR will continue to identify and collect high-quality data and will work with jurisdictions to use the framework to identify opportunities for increasing their competitiveness in NSF research programs and for other federal and private S&E funding.