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FY23 Federal Budget & ARPA Trends

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About Us

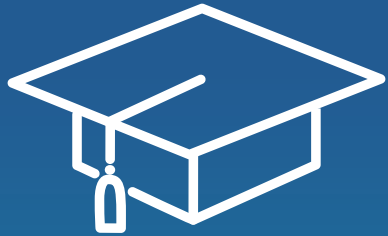
Washington, DC-based consulting firm

- Founded in 2004.
- More than 200 clients.
- Specialize government relations and in securing funding for a wide range of organizations.

Team of grants experts

- 90 staff from Congressional and Executive branches, Academia, non-profits, and industry.
- Over 250 grant consultants, subject matter experts, coaches, reviewers, and former program managers.

Practice Areas



Higher Education



Healthcare



Non-Profit & Public
Agencies



Advanced Tech,
Homeland
Security,
& Defense

Today's Presentation

Discussion Topics



FY23 Topline Budget Numbers



Key Federal Agency Budgets

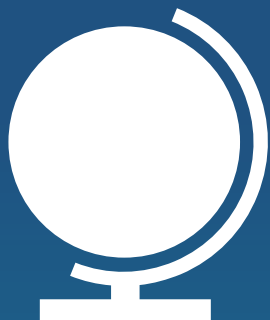


Trends in the ARPAs



Strategy and Positioning for
ARPA Funding

Recent Drivers in Historic Federal R&D Investments



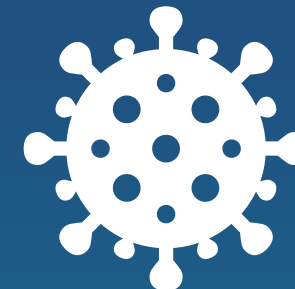
Global
Competitiveness



Domestic Economic
Growth



Technology
Innovation



Post-Pandemic
World



R&D Topic Areas

The Biden Administration

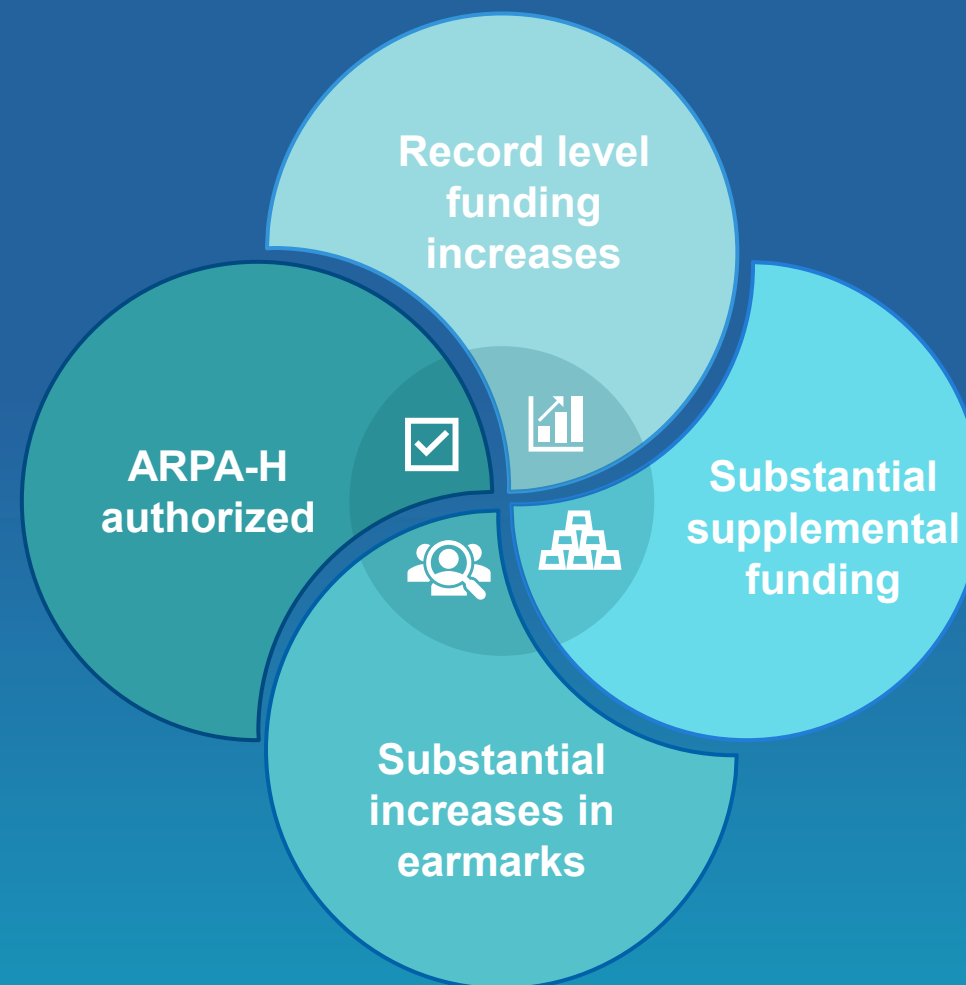
Decarbonization & Clean Energy
Foundational Computing Technologies
Advanced Manufacturing
Healthcare & Biotechnologies
Diversity Equity & Inclusion in STEM
Workforce Development

Bipartisan Federal Priorities

Semiconductor Manufacturing (CHIPS & RD)
Critical Minerals
Advanced Manufacturing
Artificial Intelligence & Machine Learning
Cybersecurity
Space Force Science & Technology

Key Takeaways

- Record funding level increases for multiple agencies and suboffices including the Department of Defense (DOD), National Science Foundation (NSF), Department of Energy, and Department of Commerce.
- Substantial supplemental funding to implement authorizations in the CHIPS and Science Act at the Department of Commerce (DOC) and NSF.
- Substantial increases in Community Project Funding/Congressionally Directed Spending, otherwise known as earmark.
- All NIH Institutes received at least a 3.8% funding increase.
- ARPA-H is officially authorized.



Key Takeaways FY 2023

The bill funds the government at **\$1.66 trillion** for FY23, including nearly \$800 billion for domestic priorities.

*Note: DOC and NSF totals include Division N supplemental funding for CHIPS and Science Act priorities

Agency	FY23 (discretionary)	FY23 Change over FY22	
		Amount	Percent
Department of Agriculture (USDA)	\$25.48B	+\$380.0M	+1.5%
Department of Commerce (DOC)	\$12.96B*	+\$3.06B	+30.9%
Department of Defense (DOD)	\$797.70B	+\$69.30B	+9.5%
Department of Energy (DOE)	\$46.24B	+\$1.39B	+3.1%
Department of Health and Human Services (HHS)	\$120.7B	+\$9.90B	+8.9%
National Science Foundation (NSF)	\$9.88B*	+\$1.04B	+11.7%

National Institutes of Health



Topline Budget Information

Select Accounts	FY23 Enacted	FY24 Request	FY24 Request Change over FY23 Enacted Amount	FY24 Request Change over FY23 Enacted Percent
National Institutes of Health, Total	\$47.68B	\$48.60B	+\$920.0M	+1.9%
ARPA-H, Total	\$1.50B*	\$2.50B	+\$1.00B	+66.7%
National Cancer Institute	\$7.32B	\$7.82B	+\$500.0M	+6.8%
National Institute of Mental Health	\$2.34B	\$2.54B	+\$200.0M	+8.5%
Office of the Director	\$2.65B	\$2.90B	+\$251.0M	+9.5%
<small>Notes: Select accounts above do not include all NIH institutes and funding. *ARPA-H, Total is not included in the NIH, Total</small>				

National Science Foundation



Topline Budget Information

Account	FY23 Enacted	FY24 Request	FY24 Request Change over FY23 Enacted	
			Amount	Percent
National Science Foundation, Total	\$9.88B	TBD	TBD	TBD
Research and Related Activities	\$7.84B	TBD	TBD	TBD
Major Research Equipment and Facilities Construction	\$187.2M	TBD	TBD	TBD
Education and Human Resources	\$1.37B	TBD	TBD	TBD
Notes: Do not sum rows 2-4 for total; additional funding for agency operations and award management, Office of the National Science Board, and Office of Inspector General is not included in this table.				

Department of Defense



Topline Budget Information

Account	FY23 Enacted	FY24 Request	FY24 Request Change over FY23 Enacted Amount	Percent
DOD, Research, Development, Test & Evaluation, Total	\$140.11B	\$144.98B	+\$4.87B	+3.5%
Science & Technology	\$22.43B	\$17.82B	-\$4.60B	-20.5%
6.1 Basic	\$2.92B	\$2.48B	-\$439.3M	-15.0%
6.2 Applied	\$7.80B	\$6.02B	-\$1.78B	-22.9%
6.3 Advanced Tech	\$11.71B	\$9.33B	-\$2.38B	-20.3%
DARPA	\$4.06B	\$4.34B	+\$327.2M	+8.1%

Trends with ARPAs






Trend: Feds are Advancing the ARPA Model

NIH	NSF	USDA	DOT	DOE
ARPA-H	TIP	AgARDA	ARPA-I	ARPA-E

What is the ARPA Model?

- The Advanced Research Projects Agency (ARPA) model is an urgent investment model to undertake ambitious new efforts to solve complex problems.
- ARPA is **hands-on, high-risk, high-reward.**
- Run by program managers with full oversight of the research portfolio.
- Mission Driven

Hallmark ARPA Technologies

	The Internet	Originally the “ARPANET” establishing technical foundation of the internet in 1969.
	GPS	Also known as the Global Positioning System is a satellite-based radionavigation system and launched in 1978.
	UAVs	Joint program (Teal Rain) with the U.S. Navy and DARPA, the first Unmanned Aerial Vehicle launched in 1988.
	Siri	Formerly known as the (PAL) Personal Assistant That Learns, DARPA created cognitive computing systems to make military decisions more efficient
	Facial Recognition	The Janus program dramatically improved the performance of facial recognition software.

ARPA-H Officially Authorized



National Institutes of
Health



ARPA-H
Analysis
available for
clients

- ARPA-H will invest in **high-risk, high-reward, use-driven health** research.
- Looking for platform technologies that can address multiple morbidities. Focus on cancer, infectious diseases, Alzheimer's, diabetes, sleep disorders and more.
- Set up within NIH but independently managed by HHS Secretary.
- Headquarters location to be determined.
- Appointment of ARPA-H Director underway.

Technology Innovation Partnerships Priorities



National Science
Foundation

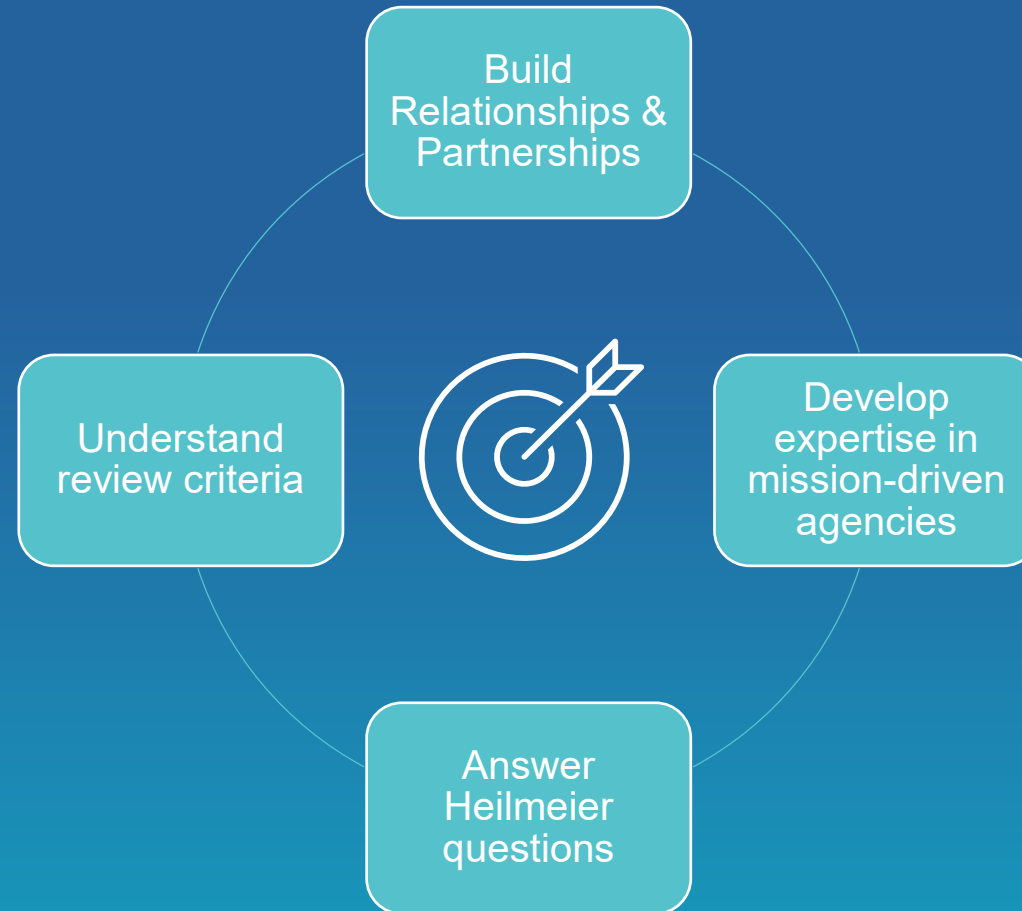


TIP Analysis
available for
clients

- Cross-cutting platform consisting of transferred programs and new programs.
- Advances **use-inspired and translational research** in science and engineering.
- Three cross-cutting areas of focus: fostering **innovation** and technology ecosystems, enabling **translation** pathways, **partnerships** engagement.
- NSF ENGINES (Funding Opportunity Available Now)
 - NSF engines catalyze and foster innovation ecosystems to **impact geographic regions**.

ARPA Strategy & Positioning

Prepare Your Researchers



Heilmeier Catechism

- What are you trying to do? Articulate your objectives using absolutely no jargon.
- How is it done today, and what are the limits of current practice?
- What is new in your approach and why do you think it will be successful?
- Who cares? If you are successful, what difference will it make?

Heilmeier Catechism Cont.

- What are the risks?
- How much will it cost?
- How long will it take?
- What are the mid-term and final “exams” to check for success?



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