THE WHITE HOUSE

NETWORKING AND INFORMATION TECHNOLOGY RESEARCH AND DEVELOPMENT SUPPLEMENT TO THE PRESIDENT'S FY 2026 BUDGET REQUEST

May 2026

About this Document

This document is a product of the Subcommittee on Networking and Information Technology Research and Development of the National Science and Technology Council. This document is a supplement to the President's 2026 Budget submitted to Congress on May 2, 2025, and serves as the annual report to Congress called for by the High-Performance Computing Act of 1991 (P.L. 102-194, 105 Stat. 1594). It also serves as the annual report to Congress called for in the National Artificial Intelligence Initiative Act of 2021 (P.L. 116-283, Division E; 14 USC 9411–9415), including reporting on progress in implementing the National Artificial Intelligence Research Institutes authorized in P.L. 116-283. Finally, the report includes information on agency research and development budgets and activities in support of advanced wireless communications and cybersecurity.

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Abbreviations and Acronyms

ACNS	Advanced Communication Networks and Systems
AI	Artificial Intelligence (PCA)
AHRQ	Agency for Healthcare Research and Quality (HHS)
ARPA-E	Advanced Research Projects Agency–Energy (DOE)
ARPA-H	Advanced Research Projects Agency for Health (HHS)
ARS	Agricultural Research Service (USDA)
BEP	Bureau of Engraving and Printing (Treas)
BSEE	Bureau of Safety and Environmental Enforcement (DOI)
CDC	Centers for Disease Control (HHS)
CESER	Cybersecurity, Energy Security, and Emergency Response (DOE)
CG	Coast Guard (DHS)
CHuman	Computing-Enabled Human Interaction, Communication, and Augmentation (PCA)
CNPS	Computing-Enabled Networked Physical Systems (PCA)
CPS	cyber-physical systems
CSP	Cyber Security and Privacy (PCA)
CWMD	Countering Weapons of Mass Destruction (DHS)
CWP	Coalition Warfare Program (DOW)
DARPA	Defense Advanced Research Projects Agency (DOW)
DHS	Department of Homeland Security
DOC	Department of Commerce
DOE	Department of Energy
DOI	Department of the Interior
DOJ	Department of Justice
DOS	Department of State
DOT	Department of Transportation
DOW	Department of War
DTRA	Defense Threat Reduction Agency (DOW)
EERE	Office of Energy Efficiency and Renewable Energy (DOE)
ED-IES	Department of Education – Institute of Education Sciences
EdW	Education and Workforce (PCA)
EHCS	Enabling R&D for High-Capability Computing Systems (PCA)
ENIT	Electronics for Networking and Information Technology (PCA)
EOP	Executive Office of the President
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration (DOT)
FAIR	Findable, Accessible, Interoperable, Reusable
FE	Office of Fossil Energy (DOE)
FDA	Food and Drug Administration (HHS)

FHWA	Federal Highway Administration (DOT)
FinCEN	Financial Crimes Enforcement Network (Treas)
FRA	Federal Railroad Administration (DOT)
FS	Forest Service (USDA)
FY	fiscal year
HCC	high-capability computing
HCIA	High-Capability Computing Infrastructure and Applications (PCA)
HHS	Department of Health and Human Services
HPC	high-performance computing
IT	information technology
IRAS	Intelligent Robotics and Autonomous Systems (PCA)
LSDMA	Large-Scale Data Management and Analysis (PCA)
MDA	Missile Defense Agency (DOW)
NAIIA	National Artificial Intelligence Initiative Act
NARA	National Archives and Records Administration
NASA	National Aeronautics and Space Administration
NE	Office of Nuclear Energy (DOE)
NIFA	National Institute of Food and Agriculture (USDA)
NIH	National Institutes of Health (HHS)
NIJ	National Institute of Justice (DOJ)
NIOSH	National Institute for Occupational Safety and Health (CDC)
NIST	National Institute of Standards and Technology (DOC)
NITRD	Networking and Information Technology Research and Development
NNSA	National Nuclear Security Administration (DOE)
NOAA	National Oceanic and Atmospheric Administration (DOC)
NSA	National Security Agency
NSF	U.S. National Science Foundation
NSTC	National Science and Technology Council
NTIA	National Telecommunications and Information Administration (DOC)
OE	Office of Electricity (DOE)
OMB	Office of Management and Budget (EOP)
ONR	Office of Naval Research (DOW)
ORF	Operations Research and Facilities (NOAA)
OSW	Office of the Secretary of War (DOW)
OSTP	Office of Science and Technology Policy (EOP)
PAC	Procurement, Acquisition and Construction (NOAA)
PCA	Program Component Area
R&D	research and development
SPSQ	Software Productivity, Sustainability, and Quality (PCA)
SC	Office of Science (DOE)
S&T	science & technology

STEM	science, technology, engineering, and mathematics
Treas	United States Department of the Treasury
TSA	Transportation Security Administration (DHS)
USACE	United States Army Corps of Engineers (DOW)
USBR	United States Bureau of Reclamation (DOI)
USDA	United States Department of Agriculture
USGS	United States Geological Survey (DOI)
USPTO	United States Patent and Trademark Office (DOC)
VA	Department of Veteran Affairs

Executive Summary

The Networking and Information Technology Research and Development (NITRD) Program encompasses federally funded research and development (R&D) in advanced information technologies (IT) related to computing, networking, and software. Departments and agencies that participate in the NITRD Program engage in and fund R&D programs that identify, develop, and drive adoption of the advanced networking and IT capabilities needed by the Federal government and the Nation. Breakthroughs in these transformative technologies fuel economic growth and help ensure that the United States remains the unrivaled world leader in critical and emerging technologies. The President's fiscal year (FY) 2026 Budget Request for the NITRD Program totals $7.8 billion, reflecting a strategic investment that strengthens national priorities in high-impact R&D while advancing the Administration's commitment to Gold Standard Science. Within the domain of artificial intelligence (AI), the $2.8 billion President's FY 2026 Budget Request for AI R&D investment across the NITRD participating agencies supports the priorities outlined in *America's AI Action Plan*, released in July 2025. The 2026 AI investments represent a targeted, coordinated, and performance-driven strategy designed to maximize outcomes, reduce duplication, and position Federal agencies to deliver world-leading advancements in AI.

Introduction

The Networking and Information Technology Research and Development (NITRD) Program coordinates Federal research and development (R&D) efforts in advanced information technologies (IT) in computing, networking, and software. In 2026, departments and agencies participating in the NITRD Program are requesting investments totaling approximately $7.8 billion for R&D programs to advance networking and IT capabilities needed by the Federal government and the Nation.

The High-Performance Computing (HPC) Act of 1991[1] launched what is now called the NITRD Program. Congress has reauthorized and expanded the NITRD Program three times, most recently in the 2017 American Innovation and Competitiveness Act. The HPC Act of 1991 calls for NITRD to provide an annual report to Congress, which is transmitted as a supplement to the President's Budget Request. This supplement also fulfills reporting requirements in the National Artificial Intelligence Initiative Act (NAIIA) of 2021. An overview is provided of the fiscal year (FY) 2024 (actual), FY 2025 (estimated), and FY 2026 (requested) R&D budgets of the agencies participating in the NITRD Program for high-performance computing, information technology, and networking R&D, including artificial intelligence (AI), advanced wireless communications, and cybersecurity. The current Program Component Areas (PCAs) are described, with lists of agencies contributing to each PCA and key R&D focus areas under each PCA that agencies are supporting. This is followed by tables and graphs showing the agencies' funding for R&D reported by year and NITRD PCA.

[1] P.L. 102-194, 105 Stat. 1594: www.congress.gov/102/statute/STATUTE-105/STATUTE-105-Pg1594.pdf

NITRD 2026 PROGRAM COMPONENT AREAS

The NITRD Program currently has 12 Program Component Areas, which are the major subject areas of Federal networking and IT R&D. PCAs are subject to periodic review and change to ensure that the categories continue to provide effective coordination of existing investments, to accommodate new and emerging information technologies, and to reflect changing Administration priorities.

Advanced Communication Networks and Systems (ACNS)

ACNS R&D advances and validates communication networks and systems, including wireless, optical, and quantum communication technologies and services. This PCA includes R&D in networking architectures, programmability, security, measurement, performance, robustness, resilience, and interoperability, along with techniques for advancing spectrum efficiency. The ACNS portfolio includes the Advanced Wireless R&D sub-PCA, which includes Federal spectrum-related R&D investments that promote efficient use of wireless spectrum through advanced technologies and systems. ACNS R&D advances the technologies necessary for the United States to lead in the next generation of mobile networks (6G), as outlined in President Trump's memorandum on "Winning the 6G Race."[2]

The departments and agencies that report research investments, priorities, and activities in the ACNS PCA are the Department of Homeland Security (DHS), the Department of War (DOW), including the Defense Advanced Research Projects Agency (DARPA), the Department of Energy (DOE), the National Institutes of Health (NIH), the Department of Commerce (DOC), through the National Institute of Standards and Technology (NIST), and the National Science Foundation (NSF). Key focus areas include the following:

- *Future communication networks:* Investments in this focus area promote long-term research in concepts, techniques, architectures, and protocols for future networks, which are foundational to the national security and economic prosperity of the United States.
- *Cloud infrastructure:* Cloud infrastructure encompasses both the physical and virtual resources that enable cloud computing. Research in this focus area enables cloud infrastructure enhancements for a range of use cases, including AI data centers, enterprise applications, and military systems, all of which will serve as a backbone for enduring American technological dominance.
- *Spectrum operations, access, and use:* The electromagnetic spectrum is an important finite resource used for wireless communication, navigation, and other technologies. It is the policy of the United States to lead the world in 6G development. In order to achieve 6G leadership, this category of R&D seeks to improve the capability of spectrum-dependent Federal and private-sector systems to operate in shared, congested, and new or higher-frequency spectrum bands. It also strives to promote unprecedented

[2] Presidential Memorandum, *Winning the 6G Race*, The White House, December 19, 2025, www.whitehouse.gov/presidential-actions/2025/12/national-security-presidential-memorandum-nspm-8-0bda

spectrum access through evolved spectrum management processes, systems, tools, models, algorithms, and data, as well as the advancement of dynamic spectrum-sharing technologies.

- *Spectrum innovation:* Investments in this category accelerate assessment of spectrum innovations and their translation into practice through better capabilities and facilities for modeling, simulation, testing, and experimentation, as well as advancing American interests in the international standards bodies that play a role in 6G development.
- *Security and privacy:* This focus area aims to achieve new levels of security and resilience for emerging wireless and multidomain networks, and to protect core infrastructure. It promotes development of measurement methods, broad publication of key datasets, privacy and security solutions, evidence-based data-driven algorithms, and analytics to inform system design, spectrum policy, and management.

Artificial Intelligence (AI)

U.S. government AI R&D advances high-impact research that intentionally complements industry investments to help achieve U.S. global dominance in AI, improve American economic competitiveness, and strengthen national security. It includes research on foundational AI methods; human-AI collaboration; AI security and resilience; high-quality datasets and test environments; and the development of U.S.-led standards, benchmarks, and evaluation frameworks. Investments in AI R&D provide key contributions to the implementation of America's AI Action Plan.[3]

The departments and agencies that report research investments, priorities, and activities in the AI PCA are DHS, DOW (including DARPA), DOE (including the National Nuclear Security Administration, NNSA), DOC (including NIST, the National Oceanic and Atmospheric Administration, NOAA, and the National Telecommunications and Information Administration, NTIA), the Department of Health and Human Services (HHS, including the Advanced Research Projects Agency for Health, ARPA-H, the Food and Drug Administration, FDA, and NIH), the Department of the Interior (DOI), the Department of Transportation (DOT), the National Aeronautics and Space Administration (NASA), NSF, the Department of the Treasury (TREAS), the Department of Agriculture (USDA), and the Department of Veterans Affairs (VA). Key focus areas include the following:

- *Targeted, high-impact investments in next-generation AI research:* Prioritizing investments in the next generation of AI will drive innovation and maintain U.S. dominance in AI. Strategic investment areas include advancing foundational AI capabilities such as perception, representation, learning, planning, and reasoning, as well as focused efforts to make AI more efficient and robust.
- *Strengthening human-AI collaboration to enhance U.S. productivity:* By accelerating productivity and creating entirely new industries, AI can deliver new pathways to economic opportunity for Americans. This area focuses on research that enables effective, mission-aligned human-AI collaboration, ensures protection of free speech

[3] *America's AI Action Plan*, The White House, July 2025, www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf

and American values, mitigates AI technology risks, and empowers American workers. These research programs aim to build AI systems that enhance human decision making, increase workforce productivity, and strengthen operational effectiveness across warfighting, homeland security, and critical infrastructure.

- *Security and resilience of AI systems:* Given the growing sophistication of AI systems, their centrality to a wider range of economic activities, and the rise of adversarial threats, agency investments are focused on building secure, dependable, and resilient AI systems. Research includes strengthening the interpretability, controllability, and steerability of AI systems; countering AI-driven cyber threats; and reducing vulnerabilities stemming from data exposure, model manipulation, or other adversarial attacks.
- *Build and expand access to high-quality datasets, testbeds, and AI training resources:* To accelerate AI innovation, agencies are expanding access to high-quality datasets, simulation environments, testbeds, and open-source and open-weight AI models. They are also developing benchmarks to spur AI development and focus industry efforts on critical challenges. These resources, including open-source tools, software libraries, and training infrastructure, enable researchers, startups, and industry partners to innovate faster.
- *Advance standards, benchmarks, and evaluation frameworks:* AI performance depends on rigorous measurement. Agencies are investing in the development of standards, benchmarks, and evaluation frameworks, including test protocols, metrics, and assessment tools, to ensure that AI technologies are widely adopted, effective, and aligned with national priorities.
- *Expand partnerships to accelerate U.S. competitiveness in AI:* Over the last several decades, fundamental research in IT conducted at research institutions and industry has led to new multibillion-dollar sectors of the Nation's economy. Public-private partnerships leverage resources including facilities, datasets, and the U.S. AI technology stack, and by streamlining permitting for data centers and energy infrastructure, participants in public-private partnerships will more rapidly advance science and engineering innovations. International engagement remains important but must advance U.S. security, economic competitiveness, and global influence. Agencies are prioritizing strategic international partnerships and collaborations in AI R&D that promote American-led global AI standards and frameworks.

Computing-Enabled Human Interaction, Communication, and Augmentation (CHuman)

CHuman R&D advances the ability of individuals to interact with computing, communication, and information technologies. Areas of interest include improving the effectiveness of technology-mediated human-to-human and human-to-machine interactions and collaborations in many areas, including robotics, medical systems, manufacturing, cybersecurity, and national defense.

The departments and agencies that report research investments, priorities, and activities in the CHuman PCA are DHS, DOW, NIH, NIST, and NSF. Key focus areas include the following:

- *Human-centered computing and human-computer interaction:* This area of R&D focuses on the design, evaluation, and implementation of interactive computing systems for human use. Programmatic activities include user interface design, usability, accessibility, and adaptive systems, as well as development of novel input/output modalities, which may include touch, gesture, voice, and haptic interfaces as well as eye-tracking and brain-computer interfaces.
- *Human-computing collaboration and co-adaptive systems:* This category of R&D investigates how humans and computing systems can work together collaboratively and effectively. Capabilities delivered in this domain of research include decision-support systems, adaptive learning, and collaborative and intelligent agents, as well as research involving development and use of immersive computational environments via augmented/virtual/extended reality.
- *Assistive and augmentative technologies:* R&D in this field aims to develop computing systems that enhance human capabilities. These enhancements can include cognitive augmentation, assistive technologies that enhance human senses, or the use of physical augmentations (e.g., robotics, exoskeletons) to enhance physical capabilities, and may also draw from work in human-computer interfaces.

Computing-Enabled Networked Physical Systems (CNPS)

CNPS R&D advances systems that are complex, real-time, networked, and/or hybrid to create reliable, resilient cyber-physical systems (CPS) that improve the quality of life of the American people and enable technological advances in critical areas such as personalized health care, emergency response, smart manufacturing, defense and homeland security, and energy supply and use.

The departments and agencies that report research investments, priorities, and activities in the CNPS PCA are DHS, DOW, DOE, DOT, NASA, NIH, NIST, NSF, and USDA. Key focus areas include the following:

- *Core science and engineering:* This focus area advances high-dependability applications, with particular emphasis on assured autonomy, AI for cyber-physical systems, and quantum information systems. It supports research projects that generate new knowledge across the full spectrum of computing, communications, and information science and engineering. Central to this goal is the development of advanced cyberinfrastructure—spanning algorithms, architectures, and networking—which serves as the fundamental backbone of CNPS.
- *Safety and security:* CPS can be thought of as networked systems with embedded sensors, processors, and actuators that sense and interact with the physical world. CPS support real-time, guaranteed performance, often in safety-critical applications and/or in applications that demand high dependability. Both types of systems play increasingly important roles in industrial control systems, critical infrastructure, government, and everyday life.
- *Resilient cities and communities:* Investments in interdisciplinary collaborations leverage CNPS technologies for urban and community development in areas such as transportation, public safety, and infrastructure resilience. Resilient and connected

communities accelerate the creation of the scientific and engineering foundations that will enable communities to bring about new levels of economic opportunity and growth, safety and security, health and wellness, and overall quality of life.

- *CPS integration and technology transfer:* CPS are transformative engineered systems that deeply integrate computation, networking, and sensing with the physical world. Research and development in CPS integration aims to drive breakthroughs in capability, adaptability, scalability, resiliency, safety, security, and usability—significantly expanding the potential of these systems. By enhancing coordination between cyber and physical domains, CPS R&D optimizes performance, safety, and sustainability across a wide range of sectors, from transportation and energy to healthcare and manufacturing.
- *Standards development:* R&D in this field works toward unified foundations, interoperability standards, and assurance methodologies to enhance system reliability.

Cyber Security and Privacy (CSP)

CSP R&D advances the security, resilience, and privacy of computing, communication, and information technologies. These technologies include Federal R&D to protect information, information systems, critical infrastructure, and people from cyber threats, as well as to prevent adverse impacts to privacy arising from data sharing and information processing.

The departments and agencies that report research investments, priorities, and activities in the CSP PCA are DHS, DOW (including DARPA), DOE, DOT, NIH, NIST, and NSF. Key focus areas include the following:

- *Protecting the American people:* Many cyberattacks exploit the actions of individual users. To better protect people, this area focuses on improving designs of IT systems in ways that decrease the burden of cybersecurity on Americans and increase the cost for the attackers. This includes developing more effective ways to assess cybersecurity and privacy risks to detect, confront, and defeat cyber threats to individuals and organizations. Increasing the costs and reducing the spoils for the attackers will provide an enduring advantage against adversaries.
- *Security within cyberspace:* The lack of methods to determine the security of components in cyberspace and to establish secure transactions among interacting entities is a key shortcoming of the digital ecosystem. This area focuses on establishing and enforcing operational security at all layers of computing, including hardware, operating systems, networking, software applications, and services (e.g., electronic commerce). Particular emphasis is given to promoting resilient and secure AI, especially as advancements in AI lower the barrier to entry for cyberattacks at scale.
- *Cyber resilience:* The traditional focus on prevention, protection, and restoration does not fully address the broader range of needs that organizations have when dealing with cyber threats. This area focuses on effectively designing and developing systems to withstand cyberattacks and continue to operate at an appropriate level to carry out the mission in the face of ongoing attacks. Organizations, in partnership with the U.S. government, must also be prepared to proactively impose costs on malicious cyber actors, taking into account key sectoral interdependencies to rapidly identify threats,

assess the impact of breaches, and exchange actionable information. Improving cyber resilience also requires streamlining American critical infrastructure sectors, incorporating emerging technologies, and modernizing the Nation's cyber contingency plans.

- *Privacy:* Privacy, constitutional rights, and freedom from physical, financial, and other harms must be guaranteed in cyberspace. The weaponization of information technology to surveil, repress, and manipulate governments and people, and the suppression of personal and religious freedoms by malicious actors, continues to proliferate, threatening Americans' open, free, and secure futures. This area focuses on identifying a broad range of privacy violations and resulting harms, developing system design methods that can incorporate privacy controls, and devising ways to ensure that data collection, use, and retention can be made consistent with constitutional rights and privacy rules that govern such information flows.
- *Cyber talent and innovation:* This area focuses on aligning incentives across industry, academia, government, and the military to build a talent pipeline of highly skilled cyber workers, cultivating an innovative and competitive American cyber industry, fostering new technologies, and aligning incentives where innovation and security meet. By developing a talent and innovation ecosystem that incentivizes cybersecurity startups, the United States can dominate cyberspace for generations to come.

Education and Workforce (EdW)

EdW R&D advances the use of computing, communication, and information technologies to enhance education and workforce training at all levels. This area includes the recruitment, preparation, and retention of researchers, entrepreneurs, and users as well as support for learning, teaching, assessment, standards, and virtual education and training.

The departments and agencies that report research investments, priorities, and activities in the EdW PCA are DOW, DOE (including NNSA), the Institute of Education Sciences (IES) within the Department of Education (ED), NIH, the National Institute of Justice (NIJ) within the Department of Justice (DOJ), NIST, NSF, and USDA. Key focus areas include the following:

- *Science, technology, engineering, and mathematics (STEM) education:* It is essential to ensure a consistent flow of skilled workers capable of using the technologies, tools and methods available within the IT sector by educating the skilled workforce of the future. Educational opportunities span multiple STEM and IT domains and should aim to support development of appropriate knowledge and skills at all educational levels, starting from early education through university education, post-graduate education, internships, fellowships, and early career research opportunities. Other NITRD PCAs with a particular focus in this area include Enabling R&D for High-Capability Computing Systems (EHCS) and Large-Scale Data Management and Analysis (LSDMA). In alignment with *America's AI Action Plan*, agencies will prioritize AI skill development as a core objective of relevant education funding streams.
- *Workforce development:* EdW activities in this area contribute to identifying, analyzing, and meeting workforce development needs across all aspects of networking and IT R&D. While several other NITRD PCAs (e.g., AI, EHCS, and LSDMA) include some

programmatic activities related to workforce development, EdW efforts emphasize workforce development in technology areas that align with Administration priorities, areas where there are recognized gaps between the existing workforce and what is desired, as well as areas where there is projected growth in future needs for a skilled workforce associated with emerging technologies. In alignment with *America's AI Action Plan*, efforts will include promoting the integration of AI skill development into relevant programs, including career and technical education, workforce training, apprenticeships, and other federally supported skills initiatives.

- *R&D ecosystem sustainment:* EdW promotes coordination and collaboration among Federal agencies and business, educational, and nonprofit communities to develop a persistent and robust U.S. system of IT learning and education, including educational programs and curricula, tools, and technologies to support these programs. A robust ecosystem for R&D entails not only providing a foundation for traditional formal education but also training of individuals either after or in lieu of obtaining traditional technical education, as well as ongoing career development and R&D opportunities. Investments include educational programs, training workshops, and partnerships between academia, industry, and government.
- *IT literacy:* As people, the U.S. economy, and the world become more reliant on IT, societal gaps in IT literacy could become an obstacle to realizing the full value that can be derived from IT. Basic IT proficiency is increasingly important for Americans to successfully participate in the economy and the society of the future. Ensuring IT literacy entails introducing knowledge, elements, and principles related to IT at early ages, across a breadth of curricula, and providing opportunities for related lifelong learning.

Electronics for Networking and Information Technology (ENIT)

ENIT R&D advances micro- and nanoelectronics design, architecture, validation, and testing across the networking and IT hardware design stack. This area includes methodologies for scalable and energy-efficient systems, silicon and/or non-silicon technologies, and implementations in computing and communication architectures.

The departments and agencies that report research investments, priorities, and activities in the ENIT PCA are DOW (including DARPA), DOE, NIH, and NSF. Key focus areas include the following:

- *Next-generation microelectronics/nanoelectronics and semiconductor innovation:* Research in this area seeks to foster innovative microelectronic and nanoelectronic designs, architectures, methodologies, technologies, and systems. Investments focus on driving advances in power, scalability, and efficiency through novel designs and architectures, substrates, and materials.
- *Trusted electronics:* Trusted electronics R&D targets improvements in the integrity, reliability, and security of hardware necessary to effectively underpin secure computing and communication systems. Among the topics of interest are supply-chain assurance, fault tolerance and self-healing circuits, anti-tamper technologies and side-channel

resistance, secure processing and communications, and trusted execution through mechanisms such as hardware root of trust.

- *Production enablement:* R&D in this domain emphasizes innovations in manufacturing, and the development of design, validation, and testing methodologies needed to enable these advances. Investments are providing improvements in the tools and frameworks necessary to ensure robust, verifiable, and manufacturable hardware systems, electronic design automation, formal verification, hardware/software co-design, as well as validation and prototyping.

Enabling R&D for High-Capability Computing Systems (EHCS)

EHCS R&D advances the foundational technologies, architectures, and system capabilities needed to ensure U.S. leadership in high-capability computing (HCC), while improving system reliability and broadening applicability across critical scientific, engineering, and national security domains. Areas of interest include Federal R&D in novel computing paradigms, hardware, AI algorithms, software, and data analytics that enable extreme data- and computation-intensive workloads while addressing challenges such as system performance, reliability, security, and energy efficiency.

The departments and agencies that report research investments, priorities, and activities in the EHCS PCA are DOW (including DARPA), DOE, NIH, and NSF. Key focus areas include the following:

- *Advancing breakthroughs and pioneering future high-capability computing technologies:* Today, America is in a race for global technology dominance in the development of AI, an important frontier of scientific discovery and economic growth, which requires continuous advancements in HCC. Key challenges include improving scalability, enhancing energy efficiency and performance, and adapting to emerging workloads that are increasingly complex and varied. As existing architectures approach their performance and efficiency limits, both continued technological advancement and new computing paradigms are needed. To address these challenges and strengthen U.S. technological competitiveness, agencies are undertaking R&D in various HCC technology areas. Efforts include exploring novel computing paradigms such as quantum computing, neuromorphic computing, bioinspired computing, and heterogenous paradigms; investigating new materials and devices; advancing current technologies such as processors, memory, and interconnects; and developing algorithms optimized for large-scale workloads. Additionally, agencies are working to enhance software frameworks for large-scale AI workloads. These efforts aim to extend and push the boundaries of computing capabilities and lay the foundation for future computing platforms that drive discovery and innovation.
- *Enhancing performance and usability:* HCC systems continue to grow in complexity, posing challenges for performance optimization, usability, interoperability, and security. Many users struggle with effectively programming and utilizing these systems, especially as workloads become increasingly heterogeneous and data-intensive. Ensuring that HCC systems are effective for broader scientific and engineering disciplines is critical to maximizing their impact. To address these challenges, agencies are investing in R&D to improve programmability, streamline system interaction, and

enhance security without sacrificing performance. Ongoing efforts include the development of new programming models, middleware, user-centric interfaces, and scalable, automated software tools that simplify high-performance computing workflows.

High-Capability Computing Infrastructure and Applications (HCIA)

HCIA R&D provides HCC systems and infrastructure and supports the development of application software. This area includes computing systems and other necessary resources for the effective use of HCC. HCIA R&D aims to provide HCC systems and infrastructure and to develop application software to support scientific discovery, technological innovation, and agency missions.

The departments and agencies that report research investments, priorities, and activities in the HCIA PCA are DOW, DOE, DOI, NASA, NIH, NIST, NOAA, and NSF. Key focus areas include the following:

- *Accelerating innovation and discovery through HCC systems:* Access to cutting-edge and production-quality HCC systems is crucial to driving innovation, scientific discovery, and mission success. HCC serves as a foundational capability that enables progress in a wide range of emerging and high-impact technology areas such as AI, quantum science, advanced manufacturing, and biomedical research. These systems play a pivotal role in sustaining U.S. technological leadership and competitiveness. To meet this need, various Federal agencies are investing in the procurement, deployment, and operation of cutting-edge and production-scale HCC systems across performance tiers.
- *Advancing algorithms and applications software:* Achieving U.S. global technology dominance in AI, 6G, quantum computing, and other emerging technologies requires a determined modernization of computing architectures, software, and algorithms. Improvements that are needed include not only advancing performance and scalability through new programming models and optimized algorithms, but also updating and developing domain-specific application software. Agencies are supporting efforts to adapt legacy codes, enhance software portability, and develop domain applications that can efficiently utilize advanced architectures, including systems designed for AI and large-scale simulations.
- *Expanding HCC usability:* Many researchers and organizations face barriers to effectively utilizing HCC resources due to issues such as limited technical expertise and resource constraints. Improving usability, reducing barriers, and enhancing programmability are crucial for enabling a broad community to benefit from HCC. To address these challenges, agencies are developing user-friendly interfaces, middleware, and automated tools that simplify the use of HCC systems. Efforts include creating cloud-based access models, improving training programs for users at different skill levels, and fostering cross-disciplinary collaborations. Additionally, agencies are investing in scalable software environments that streamline workflow integration and support new and emerging workloads, ensuring that HCC resources remain productive for a wide range of applications.

- *Cultivating a robust HCC ecosystem:* Building a robust HCC ecosystem is crucial for ensuring seamless integration of advanced computing resources across research, industry, and government applications. A well-developed ecosystem enhances collaboration, promotes interoperability, and enables efficient resource sharing, driving innovation in critical areas like national security, healthcare, and AI. A strong ecosystem ensures access, consistent standards, and the efficient use of HCC resources. Agencies are working to develop standardized frameworks, expand public-private partnerships, and integrate emerging technologies to strengthen the computing infrastructure.

Intelligent Robotics and Autonomous Systems (IRAS)

IRAS R&D advances robust, safe, resilient, and efficient robots and advanced robotics systems that create novel capabilities in areas such as manufacturing, logistics, transportation, and defense, and that assist the American people in their work and everyday lives. Federal investments in IRAS R&D enhance physical safety, minimize human risk, support the elderly and disabled, and boost the Nation's economic competitiveness and national security.

The departments and agencies that report research investments, priorities, and activities in the IRAS PCA are DHS, DOW, DOE (including NNSA), DOI, NASA, NIH, NIST, NSF, and VA. DOT also has interests and activities related to the IRAS PCA but does not currently report funding in that category. Key focus areas include the following:

- *Advance safe, efficient human-robot teaming and interactions:* Ensuring physically safe, efficient human-robot teaming is critical for enhancing performance and unlocking new capabilities. R&D in this area includes designing intuitive interfaces, improving machine-learning algorithms for adaptive collaboration, and establishing physical safety standards for human-robot environments. Agencies are also exploring robotics applications in infrastructure inspection and maintenance, space exploration, and warfighting domains, ensuring that intelligent systems can work alongside humans seamlessly and reliably.
- *Improve IRAS performance in complex and uncertain situations:* The success of IRAS in complex and uncertain environments is critical for ensuring U.S. technological leadership in areas of national importance, such as space and deep-sea exploration, precision surgery, and military dominance in adversarial environments. To that end, Federal agencies are investing in cutting-edge R&D to advance robotic perception, AI-driven planning, and adaptive learning. Agencies are also working on ensuring the physical safety, security, and reliability of autonomous systems in critical applications such as natural disaster rescue missions, and in automated transportation.
- *Increase implementation of IRAS and enabling technologies:* Federal agencies are actively supporting R&D initiatives to advance robotic intelligence and autonomous decision making. These initiatives include developing next-generation sensors, AI-driven control systems, and human-robot collaboration frameworks. Agencies are also testing real-world implementation of autonomous systems in areas such as infrastructure inspection, earth observation, and space exploration.
- *Advance the role of IRAS in supporting critical infrastructure:* Federal agencies are investing in R&D to enhance robotic capabilities for infrastructure resilience. Efforts

include deploying autonomous drones for bridge and pipeline inspections. Agencies are also working on improving robotic adaptability in extreme environments, ensuring that these technologies can operate effectively in hazardous and unpredictable conditions such as during rapid disaster response and recovery.

- *Develop and promote IRAS testing and standards:* Federal agencies are investing in research and collaboration to define physical safety, security, and performance benchmarks for robotic systems. Agencies are also working on real-world evaluations of autonomous systems in fields such as healthcare, warfighting, transportation, and emergency response. By prioritizing standards in robotics development, agencies aim to foster innovation while ensuring the physical safety and security of these applied emerging technologies.

Large-Scale Data Management and Analysis (LSDMA)

LSDMA R&D advances the ecosystem needed for extraction of knowledge and insights from data. The scope of LSDMA includes Federal R&D in the capture, curation, provenance, privacy preservation, management, governance, access, analysis, reusability, quality, and presentation of large-scale and complex data. The overarching goal of LSDMA R&D is to empower American industry and government to harness data and advance national priorities in areas such as science, medicine, manufacturing, and data-intensive domains such as AI and cybersecurity.

The departments and agencies that report research investments, priorities, and activities in the LSDMA PCA are ARPA-H, DHS, DOW, DOE, DOI, DOT, NASA, NIH, NIST, and NSF. Key focus areas include the following:

- *Advancing data-driven research and innovation:* Effectively leveraging large-scale datasets is crucial for the United States to achieve leadership and dominance in technologies and sectors with national importance such as AI, energy production, and homeland security. Extracting actionable insights from these datasets requires new approaches to data architecture, analytics, and integration. Federal agencies are investing in foundational research and development of innovative tools and methodologies, platforms, and analytic tools that optimize the use of large, complex datasets. These efforts enable high-impact research and inform solutions for applications such as energy systems optimization and real-time threat detection.
- *Ensuring secure and accountable data use:* As data-driven decision making becomes more prevalent, ensuring reliability, accuracy, privacy, and security of data is increasingly vital for protecting American interests. To address these challenges, agencies are developing robust frameworks and tools to strengthen reproducibility and ensure data quality. Ongoing R&D focuses on areas such as data provenance, differential privacy, and generalizability in applications such as healthcare, transportation systems, and energy-grid optimization.
- *Enhancing data sharing and interoperability:* The ability to effectively integrate and analyze data is critical for the Federal government, for example to detect fraud, and for many American economic sectors such as manufacturing, transportation, energy, and healthcare. However, data silos, inconsistent formats, and a lack of shared infrastructure

continue to limit the usability and impact of many federally funded datasets. Enhancing interoperability is essential for enabling collaboration, accelerating discovery, and eliminating wasteful government spending. These efforts include scalable metadata systems, industry-driven data standards, and federated architectures that support secure data sharing across the American economy.

Software Productivity, Sustainability, and Quality (SPSQ)

SPSQ R&D advances timely and affordable development and sustainability of low-defect, low-vulnerability software. The scope of this effort includes R&D to improve software development productivity, quality, measurement, assurance, and adaptability while also providing essential characteristics such as security, privacy, usability, and reliability. SPSQ R&D provides capabilities that support the development and export of the American technology stack, as the preferred global alternative to software technologies developed by U.S. adversaries.

The departments and agencies that report research investments, priorities, and activities in the SPSQ PCA are DOW, NASA, NIH, NIJ, NIST, and NOAA. Key focus areas include the following:

- *Resilient and adaptive software architectures:* This area encompasses research into approaches and methodologies that use relevant principles (e.g., fault-tolerant software), technologies (e.g., microservices), and architectures (e.g., self-healing) to enable systems to evolve and be cost-effectively maintained over time with minimal disruption.
- *Computer-assisted software development and engineering:* This topic covers various applied computational methods, including automation, advanced analytics, AI/machine learning, and model-driven engineering to improve software productivity, sustainability, and quality. These techniques can be applied to empower U.S. software developers by accelerating software development and export; improving detection, classification, and remediation of software defects and vulnerabilities; as well as enhancing quality management, software observability, and performance.
- *Improved software development ecosystems:* This domain covers a wide variety of topics ranging from interoperability, modularity, and compatibility; to co-evolution of different parts of an ecosystem (e.g., pipelines, libraries, and applications); tools for code review and software testing; metrics for software productivity, sustainability, and quality; and approaches to enhancing the developer experience (e.g., improving collaborative code development, cognitive load reduction).

Agency NITRD-Related R&D Investments, FY 2024–2026

The President's FY 2026 Budget Request includes $7.8 billion for NITRD-related R&D at Federal agencies. The prioritization of 2026 NITRD Program investment requests in AI R&D reflects a targeted alignment with the priorities outlined in *America's AI Action Plan*, representing an optimized and focused investment strategy designed to deliver measurable advances across the Federal AI R&D enterprise. Among the important investments are the National AI Research Institutes; information on these institutes can be found at www.nsf.gov/focus-areas/ai/institutes.

Budget Charts and Tables

Table 1 shows total NITRD investments by agency for FY 2024–2026.[4] Figure 1 shows the FY 2026 Budget Request by PCA. Figure 2 shows the Budget by agency. Tables 2–4 show funding for 2024–2026 by agency and PCA.

[4] Note that in the tables that follow, 2024 (actual) numbers refer to the final FY 2024 budget authority, 2025 (estimated) numbers are based on enacted FY 2025 appropriations, and 2026 numbers reflect the President's FY 2026 Budget. The 2026 numbers included in this report were accurate at the time of the report's development and do not necessarily reflect final spending following the enactment of full-year appropriations.

Table 1: NITRD Budget, by Agency, FY 2024–2026
(dollars in millions)

Agency	2024 Actual	2025 Estimated	2026 Proposed
DHS[5]	52.4	74.0	61.3
DOC/NIST	223.9	207.2	201.8
DOC/NOAA[6]	88.4	96.7	47.6
DOC/NTIA†	27.4	416.4	26.1
DOE	1,550.0	1,676.8	1,411.1
DOE/NNSA[7]	84.8	114.6	86.5
DOI[8]	15.1	13.2	14.0
DOJ/NIJ	13.5	8.2	8.2
DOT[9]	14.5	13.3	11.6
DOW†	2,308.6	2,130.6	1,579.0
DOW/DARPA[10]	1,270.1	1,363.0	1,469.6
ED/IES	2.2	10.6	11.3
EPA	7.4	5.0	0.0
HHS/AHRQ	16.3	16.3	0.0
HHS/ARPA-H	141.9	173.6	50.1
HHS/FDA†	86.3	38.3	36.4
HHS/NIH	2,983.4	2,970.6	1,754.9
HHS/NIOSH	14.3	13.8	0.0
NARA	0.2	0.2	0.0
NASA	140.3	158.3	69.8
NSF†	2,014.7	1,961.9	836.4
Treas[11]	1.4	0.5	0.5
USDA[12]	114.0	119.0	105.0
VA	47.0	49.0	51.0
TOTAL†	**11,218.1**	**11,631.1**	**7,832.1**

† Figures for these rows include supplemental funds for 2024 or 2025.

[5] Includes funding for the Coast Guard (CG), the Countering Weapons of Mass Destruction (CWMD) Office, the Science and Technology (S&T) Directorate, and the Transportation Security Administration (TSA).
[6] Includes funding for the NOAA Operations Research and Facilities (ORF) and the Procurement, Acquisition and Construction (PAC) accounts.
[7] The DOE/NNSA budget is listed separately from that of other DOE offices. Other offices included in the DOE total are Advanced Research Projects Agency–Energy (ARPA-E); Cybersecurity, Energy Security, and Emergency Response (CESER); Energy Efficiency and Renewable Energy (EERE); Fossil Energy (FE); Nuclear Energy (NE); Office of Electricity (OE); and Office of Science (SC).
[8] Includes funding for the Bureau of Safety and Environmental Enforcement (BSEE), the United States Bureau of Reclamation (USBR), and the United States Geological Survey (USGS).
[9] Includes funding for the Federal Aviation Administration (FAA), the Federal Highway Administration (FHWA), and the Federal Railroad Administration (FRA).
[10] DARPA is a DOW research organization, but it reports its budgets separately from other DOW organizations. Other agencies and services included in the DOW total are the Air Force Research Lab (AFRL), the Army Research Lab (ARL), the Coalition Warfare Program (CWP), the Defense Threat Reduction Agency (DTRA), the Missile Defense Agency (MDA), the Office of Naval Research, the Office of the Secretary of War (OSW), the Space Force, and the U.S. Army Corps of Engineers (USACE).
[11] Includes funding for the Bureau of Engraving and Printing (BEP), the Departmental offices, and the Financial Crimes Enforcement Network (FinCEN).
[12] Includes funding for the Agricultural Research Service (ARS), the Forest Service (FS), and the National Institute of Food and Agriculture (NIFA).

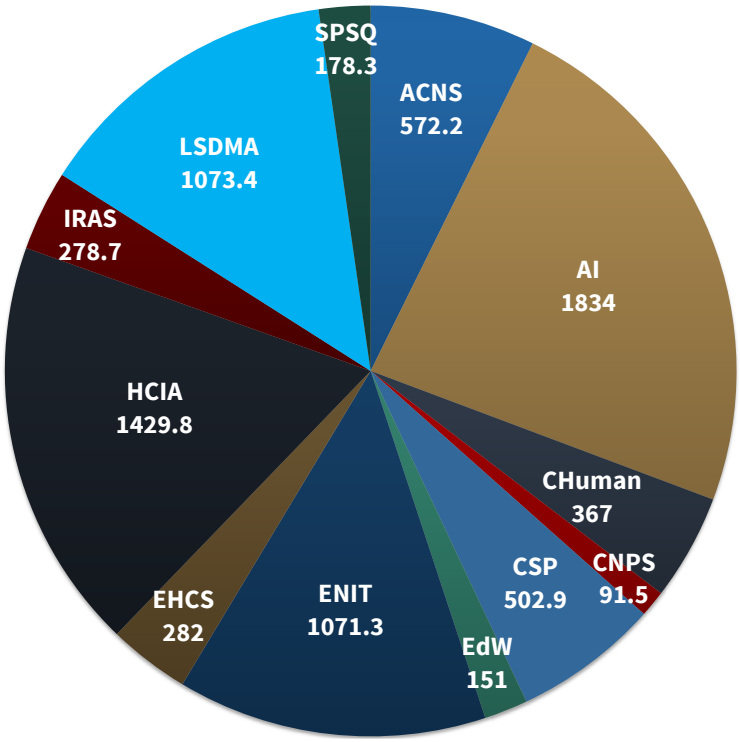

Figure 1. FY 2026 NITRD Budget by PCA (dollars in millions).

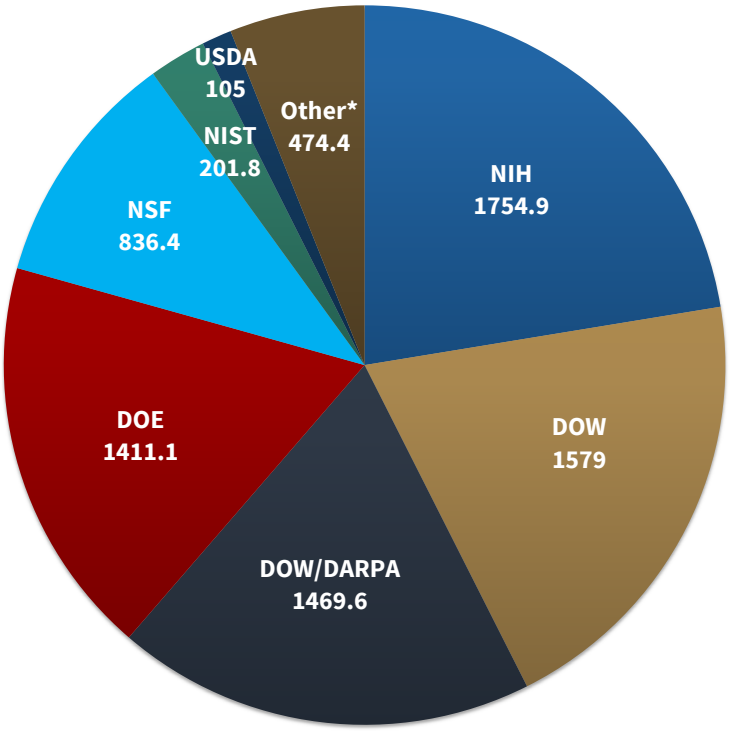

Figure 2. FY 2026 NITRD Budget by Agency (dollars in millions).

* Other: DHS, DOE/NNSA, DOC/NOAA, DOC/NTIA, DOI, DOJ/NIJ, DOT, ED-IES, HHS/ARPA-H, HHS/FDA, NASA, Treas., VA.

Table 2. Actual FY 2024 Agency Investments by Program Component Area

(dollars in millions)

Agency	PCAs												Totals
	ACNS	AI	CHuman	CNPS	CSP	EdW	ENIT	EHCS	HCIA	IRAS	LSDMA	SPSQ	
DHS	4.9	15.6	-	3.6	24.4	1.3	-	-	-	1.5	0.4	0.8	52.4
DOC/NIST	13.4	41.6	6.7	8.7	92.8	11.8	-	9.1	10.7	11.5	14.6	3.0	223.9
DOC/NOAA	4.3	8.0	0.2	-	-	-	-	-	70.2	-	-	5.7	88.4
DOC/NTIA†	27.4	-	-	-	-	-	-	-	-	-	-	-	27.4
DOE	111.9	291.6	-	41.7	78.8	21.0	32.4	167.1	754.7	26.1	24.7	-	1,550.0
DOE/NNSA	-	60.0	-	-	-	2.0	-	20.0	-	2.8	-	-	84.8
DOI	-	7.9	-	-	-	-	-	-	4.0	1.3	1.9	-	15.1
DOJ/NIJ	0.8	8.2	1.2	-	-	3.0	-	-	-	-	0.3	-	13.5
DOT	-	5.4	0.9	0.2	5.7	-	-	-	-	-	2.3	-	14.5
DOW††	419.7	359.4	179.9	25.8	203.7	65.2	55.2	76.6	274.6	346.9	239.7	61.9	2,308.6
DOW/DARPA	49.1	322.3	-	-	185.4	-	677.2	5.1	-	-	31.0	-	1,270.1
ED/IES	-	-	-	-	-	2.2	-	-	-	-	-	-	2.2
EPA	-	-	-	-	-	-	-	4.5	2.9	-	-	-	7.4
HHS/AHRQ	-	-	16.3	-	-	-	-	-	-	-	-	-	16.3
HHS/ARPA-H	-	27.2	26.8	-	26.3	-	-	-	-	-	61.6	-	141.9
HHS/FDA†††	-	86.3	-	-	-	-	-	-	-	-	-	-	86.3
HHS/NIH	75.1	290.3	370.0	15.5	7.6	97.8	6.4	83.0	472.4	23.1	1,328.4	213.8	2,983.4
HHS/NIOSH	-	8.7	-	-	-	-	-	-	-	5.5	-	-	14.3
NARA	-	0.2	-	-	-	-	-	-	-	-	-	-	0.2
NASA	-	4.0	-	5.3	-	-	-	3.2	72.6	24.8	28.6	1.8	140.3
NSF††††	170.4	550	98.3	112.1	121.1	106.2	117.1	180.2	235.3	52.6	201.5	69.9	2,014.7
TREAS	-	1.4	-	-	-	--	-	-	-	-	-	-	1.4
USDA	-	102.0	-	3.0	-	3.0	-	-	-	4.0	2.0	-	114.0
VA	-	47.0	-	-	-	-	-	-	-	-	-	-	47.0
TOTAL†	**877.0**	**2237.0**	**700.3**	**215.9**	**745.9**	**313.5**	**888.3**	**548.8**	**1,897.4**	**500.2**	**1,937.0**	**356.9**	**11,218.1**

† DOC/NTIA totals for 2024 include $2 million in supplemental funding (for ACNS).

†† DOW totals for 2024 include $130 million in supplemental funding: $53.5 million (ACNS), $14.5 million (CSP), $8 million (EdW), $5 million (ENIT), $41 million (EHCS), and $8 million (IRAS).

††† FDA totals for 2024 include $47.5 million in supplemental funding (for AI).

†††† NSF totals for 2024 include $44.1 million in supplemental funding: $2.2 million (ACNS), 30.8 million (AI), $4.3 million (CSP), $3.4 million (EdW), $1.2 million (ENIT), and $2.2 million (HCIA).

Table 3. Estimated FY 2025 Agency Investments by Program Component Area

(dollars in millions)

Agency	PCAs												Totals
	ACNS	AI	CHuman	CNPS	CSP	EdW	ENIT	EHCS	HCIA	IRAS	LSDMA	SPSQ	
DHS	9.5	9.6	0.5	3.6	35.7	-	-	-	-	4.5	0.6	10.0	74.0
DOC/NIST	14.0	47.1	3.8	8.0	84.0	7.0	-	8.5	8.7	10.6	13.3	2.2	207.2
DOC/NOAA	4.3	6.5	0.2	-	-	=	-	=	80.0	=	=	5.7	96.7
DOC/NTIA†	416.4	-	-	-	-	-	-	-	-	-	-	-	416.4
DOE	108.0	401.1	-	64.8	78.1	19.0	19.0	173.8	771.8	14.8	26.5	-	1,676.8
DOE/NNSA	-	79.9	-	-	-	2.1	-	28.0	-	2.6	-	2.0	114.6
DOI	-	8.2	-	-	-	-	-	-	4.0	-	1.0	-	13.2
DOJ/NIJ	-	7.6	-	-	-	0.6	-	-	-	-	-	-	8.2
DOT	-	3.0	0.2	1.0	6.9	-	-	-	-	-	2.2	-	13.3
DOW††	370.8	429.9	170	23.2	168.5	88.8	47	27.2	267.7	287.2	212	38.4	2130.6
DOW/DARPA	28.0	323.9	-	-	261.9	-	730.8	5.1	-	-	13.2	-	1,363.0
ED/IES	-	-	-	-	-	10.6	-	-	-	-	-	-	10.6
EPA	-	-	-	-	-	-	-	3.2	1.8	-	-	-	5.0
HHS/AHRQ	-	-	16.3		-	-	-	-	-	-	-	-	16.3
HHS/ARPA-H	-		77.3	-	81.3	-	-	-	-	-	15.0	-	173.6
HHS/FDA†††	-	38.3	-	-	-	-	-	-	-	-	-	-	38.3
HHS/NIH	75.2	289.2	368.6	15.4	7.5	97.6	6.4	83.0	469.5	23.1	1,323.2	211.9	2,970.6
HHS/NIOSH	-	8.1	-	-	-	-	-	-	-	5.6	-	-	13.8
NARA	-	0.2	-	-	-	-	-	-	-	-	-	-	0.2
NASA	-	4.0	-	5.3	-	-	-	5.1	84.0	17.9	40.2	1.8	158.3
NSF	197.8	549.4	78.4	129.9	109.9	95.2	102.3	154.4	206.6	53.6	218.3	66.1	1,961.9
Treas	-	0.5	-	-	-	-	-	-	-	-	-	-	0.5
USDA	-	102.0	-	1.0	-	7.0	-	-	-	8.0	1.0	-	119.0
VA	-	49.0	-	-	-	-	-	-	-	-	-	-	49.0
TOTAL†	**1,224.0**	**2,357.4**	**715.4**	**252.2**	**833.8**	**327.9**	**905.5**	**488.3**	**1,894.1**	**427.9**	**1,866.4**	**338.1**	**11,631.1**

† DOC/NTIA totals for 2025 include $2.5 million in supplemental funding (for ACNS).

†† DOW totals for 2025 include $134.4 million in supplemental funding: $2.5 million (ACNS), $100 million (AI), $14 million (EdW), $5 million (ENIT), $10 million (EHCS), and $2.9 million (IRAS).

††† FDA totals for 2025 include $4.9 million in supplemental funding (for AI).

Table 4. Proposed FY 2026 Agency Investments by Program Component Area
(dollars in millions)

Agency	PCAs												Totals
	ACNS	AI	CHuman	CNPS	CSP	EdW	ENIT	EHCS	HCIA	IRAS	LSDMA	SPSQ	
DHS	6.8	8.7	0.6	7.1	37.0	-	-	-	-	0.4	0.6	-	61.3
DOC/NIST	14.0	47.8	3.8	5.1	82.4	7.0	-	8.4	8.7	9.1	13.3	2.2	201.8
DOC/NOAA	-	5.6	-	-	-	-	-	-	38.3	-	-	3.7	47.6
DOC/NTIA	26.1	-	-	-	-	-	-	-	-	-	-	-	26.1
DOE	104.8	313.3	-	9.9	38.0	11.0	4.0	169.4	744.7	11.9	4.0	-	1,411.1
DOE/NNSA	-	82.3	-	-	-	2.0	-	-	-	2.2	-	-	86.5
DOI	-	8.1	-	-	-	-	-	-	4.0	1.5	0.4	-	14.0
DOJ/NIJ	-	7.6	-	-	-	0.6	-	-	-	-	-	-	8.2
DOT	-	3.0		1.5	5.5	-	-	-	-	-	1.6	-	11.6
DOW	293.4	340.3	135.8	15.3	107.3	31.0	36.1	18.2	297.2	197.0	91.8	15.6	1,579.0
DOW/DARPA	26.2	241.8	-	-	195.6	-	1,001.2	4.9	-	-	-	-	1,469.6
ED/IES	-	-	-	-	-	11.3	-	-	-	-	-	-	11.3
HHS/ARPA-H	-	7.8	-	-	-	-	-	-	-	-	42.3	-	50.1
HHS/FDA	-	36.4	-	-	-	-	-	-	-	-	-	-	36.4
HHS/NIH	48.8	171.9	196.3	9.3	4.8	47.8	3.8	49.5	272.8	13.7	802.3	133.9	1,754.9
NASA	-	4.0	-	5.3	-	-	-	-	23.8	17.2	19.4	0.1	69.8
NSF	52.2	412.0	30.5	37.0	32.2	35.3	26.2	31.6	40.3	18.6	97.7	22.8	836.4
Treas	-	0.5	-	-	-	-	-	-	-	-	-	-	0.5
USDA	-	92.0	-	1.0	-	5.0	-	-	-	7.0	-	-	105.0
VA	-	51.0	-	-	-	-	-	-	-	-	-	-	51.0
TOTAL	**572.2**	**1,834.0**	**367.0**	**91.5**	**502.9**	**151.0**	**1,071.3**	**282.0**	**1,429.8**	**278.7**	**1,073.4**	**178.3**	**7,832.1**

Table 5 presents agency-reported investments in AI R&D organized by the NITRD Program Component Areas. This table includes AI-relevant activities reported under other PCAs where the primary programmatic focus is not AI, but where a portion of the research portfolio directly supports or advances AI capabilities. These investments represent agency programs whose core missions align with areas such as advanced networking, human-centered computing, large-scale data management, high-end computing, intelligent robotics and autonomous systems, and other NITRD PCAs (and 100% of the funding for which is reported in Tables 2–4 in those other PCAs), but also include components contributing to Federal AI R&D progress. Capturing the AI-applicable fractions of other PCA investments in Table 5, in addition to the dedicated AI PCA investments shown in Tables 2–4, provides a more complete view of cross-cutting Federal AI R&D activities and highlights the breadth of AI-relevant work occurring across the NITRD participating agencies and PCAs.

Table 5. Additional Agency Cross-Cutting AI-Relevant R&D Investments by Other NITRD PCAs, FY 2024–2026* (dollars in millions)

Agency	Year	R&D Funding in NITRD PCAs Other Than AI That Also Includes AI R&D											Totals
		ACNS	CHuman	CNPS	CSP	EdW	ENIT	EHCS	HCIA	IRAS	LSDMA	SPSQ	
DHS[13]	2024	1.1	-	0.9	16.0	-	-	-	-	-	-	-	18.0
	2025	2.7	-	0.9	23.4	-	-	-	-	-	-	5.0	32.0
	2026	2.1	-	1.8	31.0	-	-	-	-	-	-	-	34.9
DOC/NIST	2024	-	-	-	0.9	-	-	2.0	0.1	5.5	2.0	-	10.6
	2025	-	-	-	-	-	-	1.9		5.0	1.6		8.4
	2026	-	-	-	-	-	-	1.8		2.9	1.6		6.3
DOC/NOAA[14]	2024	-	-	-	-	-	-	-	2.5	-	-	4.0	6.5
	2025	-	-	-	-	-	-	-	3.1	-	-	4.0	7.1
	2026	-	-	-	-	-	-	-	2.0	-	-	2.6	4.6
DOE[15]	2024	-	-	-	38.1	-	-	26.6	51.2	-	-	-	115.9
	2025	-	-	30.0	37.4	-	-	29.9	60.0	0.1	1.8	-	159.1
	2026	-	-	-	19.0	-	-	38.6	75.4	0.4	2.0	-	135.3
DOE/NNSA	2025	-	-	-	-	-	-	5.6	-	-	-	-	5.6
DOI[16]	2024	-	-	-	-	-	-	-	1.0	-	1.9	-	2.9
	2025	-	-	-	-	-	-	-	1.0	-	0.8	-	1.8
	2026	-	-	-	-	-	-	-	1.0	-	0.2	-	1.2
DOJ/NIJ	2024	-	-	-	-	0.7	-	-	-	-	-	-	0.7
	2025	-	-	-	-	0.6	-	-	-	-	-	-	0.6
	2026	-	-	-	-	0.6	-	-	-	-	-	-	0.6
DOT[17]	2024	-	-	-	2.9	-	-	-	-	-	0.2	-	3.1
	2025	-	-	-	3.0	-	-	-	-	-	-	-	3.0
	2026	-	-	-	2.5	-	-	-	-	-	-	-	2.5
DOW[18]	2024	39.9	13.0	1.4	35.2	4.5	-	2.5	1.6	2.8	22.9	-	123.9
	2025	45.0	6.0	-	23.4	5.9	-	3.1	0.4	3.0	13.8	-	100.7
	2026	23.6	10.9	-	1.6	3.0	-	1.7	0.3	2.4	10.5	-	54.0
ED/IES	2024	-	-	-	-	2.2	-	-	-	-	-	-	2.2
	2025	-	-	-	-	10.6	-	-	-	--	-	-	10.6
	2026	-	-	-	-	11.3	-	-	-	-	-	-	11.3
HHS/AHRQ	2024	-	1.0	-	-	-	-	-	-	-	-	-	1.0
	2025	-	1.0	-	-	-	-	-	-	-	-	-	1.0
HHS/ARPA-H	2024	-	26.8	-	20.0	-	-	-	-	-	61.6		108.4
	2025	-	77.3		65.9	-	-	-	-	-	15.0		158.2
	2026	-	-	-	-	-	-	-	-	-	42.3		42.3

[13] Includes funding for the following DHS offices: CG, CWMD, S&T, and TSA.
[14] Includes funding for the NOAA ORF and PAC accounts.
[15] Includes funding for the following DOE offices: ARPA-E, CESER, EERE, FE, NE, OE, and SC.
[16] Includes funding for BSEE and USGS.
[17] Includes funding for FAA, FHWA, and FRA.
[18] Includes funding for CWP, DTRA, MDA, the military services' research organizations (including Space Force and USACE), and OSW.

Table 5. Additional Agency Cross-Cutting AI-Relevant R&D Investments by Other NITRD PCAs, FY 2024–2026* (dollars in millions)

Agency	Year	R&D Funding in NITRD PCAs Other Than AI That Also Includes AI R&D											Totals
		ACNS	CHuman	CNPS	CSP	EdW	ENIT	EHCS	HCIA	IRAS	LSDMA	SPSQ	
HHS/NIH	2024	7.4	139.5	5.2	3.0	31.9	3.9	53.9	114.8	10.9	535.2	74.1	979.8
	2025	7.4	139.0	5.2	3.0	31.8	3.9	53.9	114.1	10.9	533.1	73.5	975.7
	2026	4.8	74.0	3.1	1.9	15.6	2.3	32.1	66.3	6.4	323.2	46.4	576.3
HHS/NIOSH	2024	-	-	-	-	-	-	-	-	2.9	-	-	2.9
	2025	-	-	-	-	-	-	-	-	2.5	-	-	2.5
NASA	2024	-	-	-	-	-	-	0.5	10.2	-	6.0	-	16.7
	2025	-	-	-	-	-	-	0.5	10.1	-	7.2	0.2	18.0
	2026	-	-	-	-	-	-	-	-	-	7.6	0.0	7.6
NSF	2024	33.6	39.3	22.4	35.0	9.4	-	18.0	23.3	26.3	60.5	7.0	274.9
	2025	39.6	31.4	26.0	44.0	17.2	10.2	30.9	41.3	21.4	65.5	13.2	340.7
	2026	10.4	12.2	7.4	9.7	10.6	-	3.2	8.1	9.3	29.3	4.6	104.7
USDA[19]	2024	-	-	2.6	-	2.4	-	-	-	1.9	-	-	6.8
	2025	-	-	0.8	-	2.2	-	-	-	5.6	0.5	-	9.1
	2026	-	-	0.8	-	1.6	-	-	-	4.9	-	-	7.3
Totals	2024	82.0	219.7	32.5	151.1	51.1	3.9	103.5	204.7	50.4	690.3	85.1	**1,674.3**
	2025	94.7	254.7	62.9	199.9	68.3	14.1	125.7	230.0	48.5	639.2	95.9	**1,833.9**
	2026	41.0	97.1	13.1	65.6	42.6	2.3	77.3	153.1	26.3	416.7	53.6	**988.8**

* Per footnotes under Tables 1–3, totals for AI R&D shown in Table 5 include supplemental funds for 2024 or 2025.

Total AI R&D investments proposed for 2026, including the dedicated AI PCA total shown in Table 4 and the crosscutting AI R&D in other PCAs shown in Table 5, are therefore just over $2.8 billion.

Table 6 shows the portions of R&D reported in Tables 2-4 in the Advanced Communication Networks and Systems PCA that are devoted to advanced wireless R&D.

[19] Includes funding for ARS, FS, and NIFA.

Table 6. NITRD Agency Budgets for Advanced Wireless Networking R&D FY 2024–2026											
Year	Agencies										Totals
	DHS/ S&T	DOE/ ARPA-E	DOE/OE	DOW/ DARPA	DOW/ Navy	DOW/ OSW	NIH	NIST	NSF	NTIA	
2024	-	1.9	1.0	30.6	5.7	146.9	6.9	8.7	136.8	24.8	**363.3**
2025	5.3	-	1.0	12.4	1.2	134.2	6.9	8.7	158.2	413.9	**741.8**
2026	3.9	-	0.5	-	0.5	84.2	4.0	8.7	47.0	24.9	**173.6**

Changes in Overall Budgets, FY 2025 to 2026

Reductions in investments across all PCAs (except for ENIT) from 2025 (estimated) to 2026 (proposed) levels are due primarily to two factors (1) actual (and estimated) investments tend to be higher than requested/proposed amounts in high-priority areas such as IT R&D, as more proposals are submitted and funded that support agency and Administration priorities and (2) agencies continue to seek ways to improve efficiency, find cost savings, and modernize government operations, consistent with overall Administration efforts addressing efficiency and alignment of spending with national priorities.

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