



Comments to the
Networking and Information Technology Research and Development (NITRD) National
Coordination Office (NCO)
United States Office of Science and Technology Policy (OSTP)
on
2025 National Artificial Intelligence (AI) Research and Development (R&D) Strategic Plan
Center for AI and Digital Policy (CAIDP)

The Center for AI and Digital Policy (CAIDP) submits these Comment in response to the Request for Information (RFI) issued by the NITRD, National Science Foundation (NSF), on behalf of the OSTP, on the Development of a National AI R&D Strategic Plan.¹ The RFI states that the National AI R&D Plan will be aligned with the AI Action Plan that is under development pursuant to Presidential Executive Order 14179.² The purpose of EO 14179 is to “solidify our position as the global leader in AI and secure a brighter future for all Americans.”³

The RFI intends to identify areas for research and development with particular attention on areas that the industry is unlikely to address. The priorities in the National AI R&D Strategic Plan would be geared towards areas that will serve the national interest “but may not provide immediate commercial returns, making them less attractive for private-sector funding.”⁴

About CAIDP

The Center for AI and Digital Policy (CAIDP) is an independent, non-profit research and education organization that advises national governments and international organizations on artificial intelligence (AI) and digital policy.⁵ CAIDP supports AI policies that advance the American values of privacy, civil liberties, and civil rights, and promotes broad social inclusion based on fundamental rights, democratic institutions, and the rule of law.

CAIDP provided detailed comments in response to the OSTP RFI for a US AI Action Plan.⁶ In those comments we highlighted that, U.S. federal AI policy has advanced largely through

¹ OSTP, National Science Foundation (NSF), [Request for Information on the Development of a 2025 National Artificial Intelligence \(AI\) Research and Development \(R&D\) Strategic Plan](#), 90 FR 17835, 2025-07332, Apr. 29, 2025 [“the RFI”]

² Executive Office of the President, [Removing Barriers to American Leadership in Artificial Intelligence](#), EO 14179, 90 FR 8741, 2025-02172, Jan. 23, 2025 [“EO 14179”]

³ Section 1, EO 14179

⁴ The RFI, Supplementary Information

⁵ CAIDP, <https://www.caidp.org>

⁶ CAIDP, [Comments to OSTP on US AI Action Plan](#), Mar. 14, 2025

executive action upon the advice and guidance of OSTP and that successive administrations have prioritized investment in the development of trustworthy AI as evidenced by OMB Memo M-25-21 that requires federal agencies to elevate AI innovation and adoption while increasing transparency to the American public, civil society, and industry.⁷

CAIDP Recommendations for the National AI R&D Plan

We welcome the RFI and acknowledge the need to update the 2023 Strategic Plan⁸ developing the 2025 National Artificial Intelligence Research and Development Strategic Plan to reflect the Administration's commitment to fostering an environment where AI can thrive as a driver of economic growth, technological advancement, human flourishing, and national security. We offer the Artificial Intelligence and Democratic Values Index 2025⁹ - a comprehensive review of AI policies and practices across 80 countries, and the AI Policy Sourcebook 2025 - premier collection of AI policy frameworks, offering policymakers, researchers, journalists, and the public crucial insights into emerging AI governance norms¹⁰ as resources to the OSTP while developing the 2025 National AI R&D Plan. Our key recommendations are as follows:

1) Prioritize investments in Privacy enhancing technologies, energy-efficient systems, and diffusion of AI resources

We reiterate our recommendation for the U.S. AI Action Plan that federal investment in R&D should encourage the development of innovative AI systems that are less energy-dependent and less data-intensive.¹¹

The National AI R&D Strategic Plan should prioritize investments for the development and deployment of Privacy Enhancing Technologies (PETs) to minimize or eliminate the collection of personal data to safely encourage AI innovation.¹² By encouraging investment in AI that is built on PETs and in turn building capacity for independent evaluation of PETs, the OSTP can move American AI to an ecosystem that expands horizontal and vertical innovation, improves resilience to hacking and espionage, develops capability, and creates new jobs due to workforce requirements.

⁷ Russell T. Vought, Director, Office of Management and Budget (OMB), [*Memorandum for the Heads of Executive Departments and Agencies – Accelerating Federal Use of AI Through Innovation, Governance, and Public Trust*](#), M-25-21, Apr. 3, 2025, pg. 2

⁸ OSTP, [*National Artificial Intelligence Research and Development Plan Research and Development Strategic Plan 2023 Update, A Report by the Select Committee on Artificial Intelligence of the National Science and Technology Council*](#), May 2023 [“The 2023 National AI R&D Plan”]

⁹ CAIDP, [*Artificial Intelligence and Democratic Values Index 2025*](#)

¹⁰ Marc Rotenberg and Eleni Kyriakides, [*AI Policy Sourcebook 2025*](#), CAIDP

¹¹ CAIDP, [*Comments to OSTP on US AI Action Plan*](#), Mar. 14, 2025

¹² CAIDP, [*Comments to OSTP on the Promotion of Privacy Enhancing Technologies \(PETs\)*](#), Jul.8, 2022,

The strategic plan should also prioritize investments in energy-efficient AI systems that would lower barriers to entry and accelerate energy innovation. The OSTP American AI Initiative Report highlighted innovation within the federal government exploring high-performance, energy-efficient hardware and machine-learning architectures and enabling researchers they support.¹³ The infrastructure, cost, and current compute requirements one of the reasons smaller companies cannot easily enter the generative AI sector and act as entry barriers. The recent launch of Deepseek R1 has demonstrated that there are several ways to ensure model efficiency while cutting down on computing costs and energy requirements.¹⁴ Along with investments into AI that can help predictions and modeling to support grid modernization and optimization, energy-efficient AI systems can help diffuse the AI technology across the board without reliance on energy intensive hardware in resource-strapped regions and accelerate deployment.¹⁵

The goal of public investment in AI R&D should:

- (a) encourage the diffusion of AI innovation across the board rather than restricting it to a few corporations¹⁶
- (b) enable adoption of technologies that are beneficial and safe with distributed benefits and access
- (c) create resources for research, evaluation, and development for independent researchers, public interest technologists. To this end, the 2025 National AI R&D Plan should also make permanent the National AI Research Resource (NAIRR).¹⁷

2) Investment in research for AI evaluations and assessment to protect rights, build resilient systems, and develop capacity

The OSTP “should prioritise funding for AI safety and trustworthiness research that focuses on explainability, interpretability, alignment with human values, accountability, and evaluation and assurance processes for AI capabilities that can lead to incidents or dangerous uses.¹⁸ Because AI has broad reach and pervasive implications on multiple facets of life,

¹³ The Office of Science and Technology Policy (OSTP), [American Artificial Intelligence Initiative: Year One Annual Report](#), Feb. 2020, pg. 11 [“

¹⁴ Stephanie Pappas, [Why DeepSeek’s AI Model Just Became the Top-Rated App in the U.S.](#), Scientific American, Jan. 27, 2025

¹⁵ See, James O’Donnell and Casey Crownhart, [We did the math on AI’s energy footprint. Here’s the story you haven’t heard.](#), MIT Technology Review, May 20, 2025

¹⁶ Aravind Naraynan and Sayash Kapoor, [AI as Normal Technology](#), Knight 1st Amendment Institute, Columbia University, Apr. 15, 2025

¹⁷ National Science Foundation (NSF), [National Artificial Intelligence Research Resource Pilot](#)

¹⁸ Francesca Rossi, Michael Schoenstein, and Stuart Russell, [AI’s potential futures: Mitigating risks, harnessing opportunities](#), OECD Wonk Blog, Dec, 19, 2024

investment in inter-disciplinary research, on social, legal and ethical implications of AI are relevant to public policy.¹⁹

The International AI Safety Report regarding risk-management techniques for general purpose AI states “Developers still understand little about how their general-purpose AI models operate. This lack of understanding makes it more difficult both to predict behavioural issues and to explain and resolve known issues once they are observed.”²⁰ The AI Safety Report also emphasizes “an information gap between what AI companies know about their AI systems and what governments and non-industry researchers know.”²¹ Priority areas of AI R&D should emphasize the development of explainability mechanisms that help human users understand reasons for AI outputs, along with methods to test, evaluate, verify, and validate their performance.²²

To this end, the 2025 National AI R&D Strategy should adequately resource the AI Safety Institute. The AISI is focused on preventing misuse of advanced AI systems to secure public safety and national security.²³ It addresses the evidence gap concerning the validity, reliability, and practicality of existing general-purpose AI risk assessment methods and develops measurement science – a priority outlined by OSTP Director, Michael Kratsios in his Senate confirmation testimony²⁴ and in public statements on his vision for AI policy as OSTP Director.²⁵ The 2025 National AI R&D Plan should prioritize investments in AISI’s mission to develop critical capabilities to lead in advance AI design evaluations, standard-setting, and threat assessment.

As the OSTP seeks to prioritize human-AI interaction, investment in capability evaluations is critical to differentiate between real-world impacts in complex environments and capability benchmarking from limited industry disclosures and compute thresholds. By focusing heavily on

¹⁹ OECD, *Investing in AI Research and Development (Principle 2.1)*, <https://oecd.ai/en/dashboards/ai-principles/P10>

²⁰ Paris AI Action Summit, *International AI Safety Report*, Jan. 2025, [“International AI Safety Report”] pg. 21

²¹ International AI Safety Report, Pg. 22

²² International AI Safety Report, Pg. 6

²³ U.S. Artificial Intelligence Safety Institute, <https://www.nist.gov/aisi>

²⁴ United States Senate Commerce Committee, *Nomination Hearing for Michael Kratsios to lead the Office of Science & Technology Policy and Mark Meador to Serve as Federal Trade Commissioner*, Feb. 25, 2025

²⁵ Oxford Generative AI Summit 2024, *Fireside chat: Michael Kratsios, Managing Director of Scale AI and former Chief Technology Officer of the United States*, Dec. 13, 2024, Moderated by: Dr. Keegan McBride, Lecturer in AI, Government, and Policy at the Oxford Internet Institute

capability benchmarks to inform our understanding of AI progress, the AI community consistently overestimates the real-world impact of the technology.²⁶

Furthermore, research and development for trustworthy, beneficial, human-AI interaction should also be directed towards system design considering “design choices for (1) consumer and professional applications, such as widely-used recommender systems, advertising tools, social media platforms, and search engines, which have brought strong benefits to consumers, (2) consequential applications in medical, legal, environmental, or financial systems that can bring substantial benefits and harms, and (3) life-critical applications such as cars, airplanes, trains, military systems, pacemakers, or intensive care units.”²⁷

In addition to design-choices, the 2025 National AI R&D plan should consider the entire AI stack especially in the context of advanced and agentic systems. AI Experts Stuart Russell, Yoshua Bengio and others have recommended that “Just as nuclear regulation extends to controlling uranium, AI regulation must extend to controlling the resources needed to produce dangerously capable agents.”²⁸ Federal R&D funding should focus on monitoring and evaluations to detect dangerous capabilities and production controls.²⁹

3) Invest in workforce development and upskilling

As the speed and scale of AI technologies expand both domestically and globally, much care must be given to ensure the proper recruitment and retention of AI researchers and practitioners to ensure a viable pool of talent for tomorrow’s intellectual demands.³⁰ The U.S. took a lead in the development of the OECD AI Principles in 2019.³¹ The OECD Principles summarizes the key actions for managing workforce transitions and building human capacity as follows:

“Managing fair transitions requires policies for life-long learning, skills development and training that would allow people, and workers (in different contractual contexts) in particular, to interact with AI systems, adapt to AI-generated changes and access new opportunities in the labour market. This includes the skills required of AI practitioners (which are currently in shortage) and those needed for other workers (such as doctors or

²⁶ Aravind Naraynan and Sayash Kapoor, [AI as Normal Technology](#), Knight 1st Amendment Institute, Columbia University, Apr. 15, 2025

²⁷ Ben Shneiderman, [Human-Centered Artificial Intelligence: Trusted, Reliable & Safe](#), University of Maryland Human-Computer Interaction Lab Technical Report 2020-1, Feb. 10, 2020

²⁸ Michael K. Cohen, Noam Kolt, Yoshua Bengio, Gillian K. Hadfield, Stuart Russell, [Regulating Advanced Artificial Agents](#), Science, 384(6691), 36-38, 2024

²⁹ *Id.*

³⁰ CAIDP, [Comments to OSTP on the National Artificial Intelligence Research and Development Strategic Plan](#), pg. 11, Mar. 4, 2022

³¹ Trump White House, [Artificial Intelligence for the American People](#), International Leadership on AI

lawyers) to be able to leverage AI in their areas of expertise, so that AI augments human capabilities. In parallel, skills development policies will need to focus on the distinctly human aspects necessary to complement AI systems, such as judgment, creative and critical thinking and interpersonal communication.”³²

The OECD recommendation aligns with President Trump’s January 2025 AI Executive Order to promote human flourishing.³³ The 2025 National AI R&D Plan should incorporate these recommendations and outline clear implementation roadmaps to ensure workforce at all levels are sufficiently resourced to manage human-AI interactions. Making the NAIRR Pilot a permanent program would also further the goals of supporting educators to train students on responsible use and development of AI technologies by providing access to infrastructure and training resources.³⁴

Additionally, CAIDP urges the OSTP to continue the focus on Strategies 3, 5, 8, and 9 of the 2023 National AI R&D Plan which would secure American leadership in AI and engender public trust through research and development of fair, transparent, beneficial AI systems.

Thank you for the consideration of our views.

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³² OECD, [Building human capacity and preparing for labour market transformation](#) (Principle 2.4),

³³ EO 14179

³⁴ National Science Foundation (NSF), [National Artificial Intelligence Research Resource Pilot](#)