

of Pub. L. 116-283, div. A, Jan. 1, 2021, 134 Stat. 3497, which is classified principally to this chapter. For complete classification of subtitle E to the Code, see Tables.

§ 9306. Rule of construction

Nothing in this chapter shall be construed to alter or amend any State law or action with regard to sustainable chemistry, as defined by the State.

(Pub. L. 116-283, div. A, title II, §266, Jan. 1, 2021, 134 Stat. 3502.)

Editorial Notes

REFERENCES IN TEXT

This chapter, referred to in text, was in the original “this subtitle”, meaning subtitle E (§§ 261-267) of title II of Pub. L. 116-283, div. A, Jan. 1, 2021, 134 Stat. 3497, which is classified principally to this chapter. For complete classification of subtitle E to the Code, see Tables.

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§ 9401. Definitions

In this chapter:

(1) Advisory Committee

The term “Advisory Committee” means the National Artificial Intelligence Advisory Committee established under section 9414(a) of this title.

(2) Agency head

The term “agency head” means the head of any Executive agency (as defined in section 105 of title 5).

(3) Artificial intelligence

The term “artificial intelligence” means a machine-based system that can, for a given set

of human-defined objectives, make predictions, recommendations or decisions influencing real or virtual environments. Artificial intelligence systems use machine and human-based inputs to—

(A) perceive real and virtual environments;

(B) abstract such perceptions into models through analysis in an automated manner; and

(C) use model inference to formulate options for information or action.

(4) Community college

The term “community college” means a public institution of higher education at which the highest degree that is predominantly awarded to students is an associate’s degree, including 2-year Tribal Colleges or Universities under section 1059c of title 20 and public 2-year State institutions of higher education.

(5) Initiative

The term “Initiative” means the National Artificial Intelligence Initiative established under section 9411(a) of this title.

(6) Initiative Office

The term “Initiative Office” means the National Artificial Intelligence Initiative Office established under section 9412(a) of this title.

(7) Institute

The term “Institute” means an Artificial Intelligence Research Institute described in section 9431(b)(2) of this title.

(8) Institution of higher education

The term “institution of higher education” has the meaning given the term in section 1001 and section 1002(c) of title 20.

(9) Interagency Committee

The term “Interagency Committee” means the interagency committee established under section 9413(a) of this title.

(10) K-12 education

The term “K-12 education” means elementary school and secondary school education provided by local educational agencies, as such agencies are defined in section 7801 of title 20.

(11) Machine learning

The term “machine learning” means an application of artificial intelligence that is characterized by providing systems the ability to automatically learn and improve on the basis of data or experience, without being explicitly programmed.

(Pub. L. 116-283, div. E, §5002, Jan. 1, 2021, 134 Stat. 4523.)

Editorial Notes

REFERENCES IN TEXT

This chapter, referred to in text, was in the original “this division”, meaning div. E of Pub. L. 116-283, Jan. 1, 2021, 134 Stat. 4523, which is classified principally to this chapter. For complete classification of div. E to the Code, see Short Title note set out below and Tables.

Statutory Notes and Related Subsidiaries

SHORT TITLE

Pub. L. 116-283, div. E, §5001, Jan. 1, 2021, 134 Stat. 4523, provided that: “This division [enacting this chapter and section 278h-1 of this title and amending sections 1862i and 1862n-1 of Title 42, The Public Health and Welfare] may be cited as the ‘National Artificial Intelligence Initiative Act of 2020’.”

Executive Documents

EX. ORD. NO. 14110. SAFE, SECURE, AND TRUSTWORTHY DEVELOPMENT AND USE OF ARTIFICIAL INTELLIGENCE

Ex. Ord. No. 14110, Oct. 30, 2023, 88 F.R. 75191, provided:

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

SECTION 1. Purpose. Artificial intelligence (AI) holds extraordinary potential for both promise and peril. Responsible AI use has the potential to help solve urgent challenges while making our world more prosperous, productive, innovative, and secure. At the same time, irresponsible use could exacerbate societal harms such as fraud, discrimination, bias, and disinformation; displace and disempower workers; stifle competition; and pose risks to national security. Harnessing AI for good and realizing its myriad benefits requires mitigating its substantial risks. This endeavor demands a society-wide effort that includes government, the private sector, academia, and civil society.

My Administration places the highest urgency on governing the development and use of AI safely and responsibly, and is therefore advancing a coordinated, Federal Government-wide approach to doing so. The rapid speed at which AI capabilities are advancing compels the United States to lead in this moment for the sake of our security, economy, and society.

In the end, AI reflects the principles of the people who build it, the people who use it, and the data upon which it is built. I firmly believe that the power of our ideals; the foundations of our society; and the creativity, diversity, and decency of our people are the reasons that America thrived in past eras of rapid change. They are the reasons we will succeed again in this moment. We are more than capable of harnessing AI for justice, security, and opportunity for all.

SEC. 2. Policy and Principles. It is the policy of my Administration to advance and govern the development and use of AI in accordance with eight guiding principles and priorities. When undertaking the actions set forth in this order, executive departments and agencies (agencies) shall, as appropriate and consistent with applicable law, adhere to these principles, while, as feasible, taking into account the views of other agencies, industry, members of academia, civil society, labor unions, international allies and partners, and other relevant organizations:

(a) Artificial Intelligence must be safe and secure. Meeting this goal requires robust, reliable, repeatable, and standardized evaluations of AI systems, as well as policies, institutions, and, as appropriate, other mechanisms to test, understand, and mitigate risks from these systems before they are put to use. It also requires addressing AI systems’ most pressing security risks—including with respect to biotechnology, cybersecurity, critical infrastructure, and other national security dangers—while navigating AI’s opacity and complexity. Testing and evaluations, including post-deployment performance monitoring, will help ensure that AI systems function as intended, are resilient against misuse or dangerous modifications, are ethically developed and operated in a secure manner, and are compliant with applicable Federal laws and policies. Finally, my Administration will help develop effective labeling and content provenance mechanisms, so that Americans are able to determine when content is generated using AI and when it is not. These actions

will provide a vital foundation for an approach that addresses AI’s risks without unduly reducing its benefits.

(b) Promoting responsible innovation, competition, and collaboration will allow the United States to lead in AI and unlock the technology’s potential to solve some of society’s most difficult challenges. This effort requires investments in AI-related education, training, development, research, and capacity, while simultaneously tackling novel intellectual property (IP) questions and other problems to protect inventors and creators. Across the Federal Government, my Administration will support programs to provide Americans the skills they need for the age of AI and attract the world’s AI talent to our shores—not just to study, but to stay—so that the companies and technologies of the future are made in America. The Federal Government will promote a fair, open, and competitive ecosystem and marketplace for AI and related technologies so that small developers and entrepreneurs can continue to drive innovation. Doing so requires stopping unlawful collusion and addressing risks from dominant firms’ use of key assets such as semiconductors, computing power, cloud storage, and data to disadvantage competitors, and it requires supporting a marketplace that harnesses the benefits of AI to provide new opportunities for small businesses, workers, and entrepreneurs.

(c) The responsible development and use of AI require a commitment to supporting American workers. As AI creates new jobs and industries, all workers need a seat at the table, including through collective bargaining, to ensure that they benefit from these opportunities. My Administration will seek to adapt job training and education to support a diverse workforce and help provide access to opportunities that AI creates. In the workplace itself, AI should not be deployed in ways that undermine rights, worsen job quality, encourage undue worker surveillance, lessen market competition, introduce new health and safety risks, or cause harmful labor-force disruptions. The critical next steps in AI development should be built on the views of workers, labor unions, educators, and employers to support responsible uses of AI that improve workers’ lives, positively augment human work, and help all people safely enjoy the gains and opportunities from technological innovation.

(d) Artificial Intelligence policies must be consistent with my Administration’s dedication to advancing equity and civil rights. My Administration cannot—and will not—tolerate the use of AI to disadvantage those who are already too often denied equal opportunity and justice. From hiring to housing to healthcare, we have seen what happens when AI use deepens discrimination and bias, rather than improving quality of life. Artificial Intelligence systems deployed irresponsibly have reproduced and intensified existing inequities, caused new types of harmful discrimination, and exacerbated online and physical harms. My Administration will build on the important steps that have already been taken—such as issuing the Blueprint for an AI Bill of Rights, the AI Risk Management Framework, and Executive Order 14091 of February 16, 2023 (Further Advancing Racial Equity and Support for Underserved Communities Through the Federal Government) [5 U.S.C. 601 note]—in seeking to ensure that AI complies with all Federal laws and to promote robust technical evaluations, careful oversight, engagement with affected communities, and rigorous regulation. It is necessary to hold those developing and deploying AI accountable to standards that protect against unlawful discrimination and abuse, including in the justice system and the Federal Government. Only then can Americans trust AI to advance civil rights, civil liberties, equity, and justice for all.

(e) The interests of Americans who increasingly use, interact with, or purchase AI and AI-enabled products in their daily lives must be protected. Use of new technologies, such as AI, does not excuse organizations from their legal obligations, and hard-won consumer protections are more important than ever in moments of technological change. The Federal Government will

enforce existing consumer protection laws and principles and enact appropriate safeguards against fraud, unintended bias, discrimination, infringements on privacy, and other harms from AI. Such protections are especially important in critical fields like healthcare, financial services, education, housing, law, and transportation, where mistakes by or misuse of AI could harm patients, cost consumers or small businesses, or jeopardize safety or rights. At the same time, my Administration will promote responsible uses of AI that protect consumers, raise the quality of goods and services, lower their prices, or expand selection and availability.

(f) Americans' privacy and civil liberties must be protected as AI continues advancing. Artificial Intelligence is making it easier to extract, re-identify, link, infer, and act on sensitive information about people's identities, locations, habits, and desires. Artificial Intelligence's capabilities in these areas can increase the risk that personal data could be exploited and exposed. To combat this risk, the Federal Government will ensure that the collection, use, and retention of data is lawful, is secure, and mitigates privacy and confidentiality risks. Agencies shall use available policy and technical tools, including privacy-enhancing technologies (PETs) where appropriate, to protect privacy and to combat the broader legal and societal risks—including the chilling of First Amendment rights—that result from the improper collection and use of people's data.

(g) It is important to manage the risks from the Federal Government's own use of AI and increase its internal capacity to regulate, govern, and support responsible use of AI to deliver better results for Americans. These efforts start with people, our Nation's greatest asset. My Administration will take steps to attract, retain, and develop public service-oriented AI professionals, including from underserved communities, across disciplines—including technology, policy, managerial, procurement, regulatory, ethical, governance, and legal fields—and ease AI professionals' path into the Federal Government to help harness and govern AI. The Federal Government will work to ensure that all members of its workforce receive adequate training to understand the benefits, risks, and limitations of AI for their job functions, and to modernize Federal Government information technology infrastructure, remove bureaucratic obstacles, and ensure that safe and rights-respecting AI is adopted, deployed, and used.

(h) The Federal Government should lead the way to global societal, economic, and technological progress, as the United States has in previous eras of disruptive innovation and change. This leadership is not measured solely by the technological advancements our country makes. Effective leadership also means pioneering those systems and safeguards needed to deploy technology responsibly—and building and promoting those safeguards with the rest of the world. My Administration will engage with international allies and partners in developing a framework to manage AI's risks, unlock AI's potential for good, and promote common approaches to shared challenges. The Federal Government will seek to promote responsible AI safety and security principles and actions with other nations, including our competitors, while leading key global conversations and collaborations to ensure that AI benefits the whole world, rather than exacerbating inequities, threatening human rights, and causing other harms.

SEC. 3. Definitions. For purposes of this order:

(a) The term "agency" means each agency described in 44 U.S.C. 3502(1), except for the independent regulatory agencies described in 44 U.S.C. 3502(5).

(b) The term "artificial intelligence" or "AI" has the meaning set forth in 15 U.S.C. 9401(3) [section 5002(3) of Pub. L. 116-283]: a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments. Artificial intelligence systems use machine- and human-based inputs to per-

ceive real and virtual environments; abstract such perceptions into models through analysis in an automated manner; and use model inference to formulate options for information or action.

(c) The term "AI model" means a component of an information system that implements AI technology and uses computational, statistical, or machine-learning techniques to produce outputs from a given set of inputs.

(d) The term "AI red-teaming" means a structured testing effort to find flaws and vulnerabilities in an AI system, often in a controlled environment and in collaboration with developers of AI. Artificial Intelligence red-teaming is most often performed by dedicated "red teams" that adopt adversarial methods to identify flaws and vulnerabilities, such as harmful or discriminatory outputs from an AI system, unforeseen or undesirable system behaviors, limitations, or potential risks associated with the misuse of the system.

(e) The term "AI system" means any data system, software, hardware, application, tool, or utility that operates in whole or in part using AI.

(f) The term "commercially available information" means any information or data about an individual or group of individuals, including an individual's or group of individuals' device or location, that is made available or obtainable and sold, leased, or licensed to the general public or to governmental or non-governmental entities.

(g) The term "crime forecasting" means the use of analytical techniques to attempt to predict future crimes or crime-related information. It can include machine-generated predictions that use algorithms to analyze large volumes of data, as well as other forecasts that are generated without machines and based on statistics, such as historical crime statistics.

(h) The term "critical and emerging technologies" means those technologies listed in the February 2022 Critical and Emerging Technologies List Update issued by the National Science and Technology Council (NSTC), as amended by subsequent updates to the list issued by the NSTC.

(i) The term "critical infrastructure" has the meaning set forth in section 1016(e) of the USA PATRIOT Act of 2001, 42 U.S.C. 5195c(e).

(j) The term "differential-privacy guarantee" means protections that allow information about a group to be shared while provably limiting the improper access, use, or disclosure of personal information about particular entities.

(k) The term "dual-use foundation model" means an AI model that is trained on broad data; generally uses self-supervision; contains at least tens of billions of parameters; is applicable across a wide range of contexts; and that exhibits, or could be easily modified to exhibit, high levels of performance at tasks that pose a serious risk to security, national economic security, national public health or safety, or any combination of those matters, such as by:

(i) substantially lowering the barrier of entry for non-experts to design, synthesize, acquire, or use chemical, biological, radiological, or nuclear (CBRN) weapons;

(ii) enabling powerful offensive cyber operations through automated vulnerability discovery and exploitation against a wide range of potential targets of cyber attacks; or

(iii) permitting the evasion of human control or oversight through means of deception or obfuscation.

Models meet this definition even if they are provided to end users with technical safeguards that attempt to prevent users from taking advantage of the relevant unsafe capabilities.

(l) The term "Federal law enforcement agency" has the meaning set forth in section 21(a) of Executive Order 14074 of May 25, 2022 (Advancing Effective, Accountable Policing and Criminal Justice Practices To Enhance Public Trust and Public Safety) [34 U.S.C. 10101 note prec.].

(m) The term "floating-point operation" means any mathematical operation or assignment involving float-

ing-point numbers, which are a subset of the real numbers typically represented on computers by an integer of fixed precision scaled by an integer exponent of a fixed base.

(n) The term “foreign person” has the meaning set forth in section 5(c) of Executive Order 13984 of January 19, 2021 (Taking Additional Steps To Address the National Emergency With Respect to Significant Malignant Cyber-Enabled Activities) [15 U.S.C. 7421 note].

(o) The terms “foreign reseller” and “foreign reseller of United States Infrastructure as a Service Products” mean a foreign person who has established an Infrastructure as a Service Account to provide Infrastructure as a Service Products subsequently, in whole or in part, to a third party.

(p) The term “generative AI” means the class of AI models that emulate the structure and characteristics of input data in order to generate derived synthetic content. This can include images, videos, audio, text, and other digital content.

(q) The terms “Infrastructure as a Service Product,” “United States Infrastructure as a Service Product,” “United States Infrastructure as a Service Provider,” and “Infrastructure as a Service Account” each have the respective meanings given to those terms in section 5 of Executive Order 13984.

(r) The term “integer operation” means any mathematical operation or assignment involving only integers, or whole numbers expressed without a decimal point.

(s) The term “Intelligence Community” has the meaning given to that term in section 3.5(h) of Executive Order 12333 of December 4, 1981 (United States Intelligence Activities) [50 U.S.C. 3001 note], as amended.

(t) The term “machine learning” means a set of techniques that can be used to train AI algorithms to improve performance at a task based on data.

(u) The term “model weight” means a numerical parameter within an AI model that helps determine the model’s outputs in response to inputs.

(v) The term “national security system” has the meaning set forth in 44 U.S.C. 3552(b)(6).

(w) The term “omics” means biomolecules, including nucleic acids, proteins, and metabolites, that make up a cell or cellular system.

(x) The term “Open RAN” means the Open Radio Access Network approach to telecommunications-network standardization adopted by the O-RAN Alliance, Third Generation Partnership Project, or any similar set of published open standards for multi-vendor network equipment interoperability.

(y) The term “personally identifiable information” has the meaning set forth in Office of Management and Budget (OMB) Circular No. A-130.

(z) The term “privacy-enhancing technology” means any software or hardware solution, technical process, technique, or other technological means of mitigating privacy risks arising from data processing, including by enhancing predictability, manageability, disassociability, storage, security, and confidentiality. These technological means may include secure multiparty computation, homomorphic encryption, zero-knowledge proofs, federated learning, secure enclaves, differential privacy, and synthetic-data-generation tools. This is also sometimes referred to as “privacy-preserving technology.”

(aa) The term “privacy impact assessment” has the meaning set forth in OMB Circular No. A-130.

(bb) The term “Sector Risk Management Agency” has the meaning set forth in 6 U.S.C. 650(23) [section 2200(23) of Pub. L. 107-296].

(cc) The term “self-healing network” means a telecommunications network that automatically diagnoses and addresses network issues to permit self-restoration.

(dd) The term “synthetic biology” means a field of science that involves redesigning organisms, or the biomolecules of organisms, at the genetic level to give them new characteristics. Synthetic nucleic acids are a type of biomolecule redesigned through synthetic-biology methods.

(ee) The term “synthetic content” means information, such as images, videos, audio clips, and text, that has been significantly modified or generated by algorithms, including by AI.

(ff) The term “testbed” means a facility or mechanism equipped for conducting rigorous, transparent, and replicable testing of tools and technologies, including AI and PETs, to help evaluate the functionality, usability, and performance of those tools or technologies.

(gg) The term “watermarking” means the act of embedding information, which is typically difficult to remove, into outputs created by AI—including into outputs such as photos, videos, audio clips, or text—for the purposes of verifying the authenticity of the output or the identity or characteristics of its provenance, modifications, or conveyance.

SEC. 4. *Ensuring the Safety and Security of AI Technology.*

4.1. *Developing Guidelines, Standards, and Best Practices for AI Safety and Security.* (a) Within 270 days of the date of this order [Oct. 30, 2023], to help ensure the development of safe, secure, and trustworthy AI systems, the Secretary of Commerce, acting through the Director of the National Institute of Standards and Technology (NIST), in coordination with the Secretary of Energy, the Secretary of Homeland Security, and the heads of other relevant agencies as the Secretary of Commerce may deem appropriate, shall:

(i) Establish guidelines and best practices, with the aim of promoting consensus industry standards, for developing and deploying safe, secure, and trustworthy AI systems, including:

(A) developing a companion resource to the AI Risk Management Framework, NIST AI 100-1, for generative AI;

(B) developing a companion resource to the Secure Software Development Framework to incorporate secure development practices for generative AI and for dual-use foundation models; and

(C) launching an initiative to create guidance and benchmarks for evaluating and auditing AI capabilities, with a focus on capabilities through which AI could cause harm, such as in the areas of cybersecurity and biosecurity.

(ii) Establish appropriate guidelines (except for AI used as a component of a national security system), including appropriate procedures and processes, to enable developers of AI, especially of dual-use foundation models, to conduct AI red-teaming tests to enable deployment of safe, secure, and trustworthy systems. These efforts shall include:

(A) coordinating or developing guidelines related to assessing and managing the safety, security, and trustworthiness of dual-use foundation models; and

(B) in coordination with the Secretary of Energy and the Director of the National Science Foundation (NSF), developing and helping to ensure the availability of testing environments, such as testbeds, to support the development of safe, secure, and trustworthy AI technologies, as well as to support the design, development, and deployment of associated PETs, consistent with section 9(b) of this order.

(b) Within 270 days of the date of this order, to understand and mitigate AI security risks, the Secretary of Energy, in coordination with the heads of other Sector Risk Management Agencies (SRMAs) as the Secretary of Energy may deem appropriate, shall develop and, to the extent permitted by law and available appropriations, implement a plan for developing the Department of Energy’s AI model evaluation tools and AI testbeds. The Secretary shall undertake this work using existing solutions where possible, and shall develop these tools and AI testbeds to be capable of assessing near-term extrapolations of AI systems’ capabilities. At a minimum, the Secretary shall develop tools to evaluate AI capabilities to generate outputs that may represent nuclear, nonproliferation, biological, chemical, critical infrastructure, and energy-security threats or hazards. The Secretary shall do this work solely for the pur-

poses of guarding against these threats, and shall also develop model guardrails that reduce such risks. The Secretary shall, as appropriate, consult with private AI laboratories, academia, civil society, and third-party evaluators, and shall use existing solutions.

4.2. *Ensuring Safe and Reliable AI.* (a) Within 90 days of the date of this order, to ensure and verify the continuous availability of safe, reliable, and effective AI in accordance with the Defense Production Act [of 1950], as amended, 50 U.S.C. 4501 *et seq.*, including for the national defense and the protection of critical infrastructure, the Secretary of Commerce shall require:

(i) Companies developing or demonstrating an intent to develop potential dual-use foundation models to provide the Federal Government, on an ongoing basis, with information, reports, or records regarding the following:

(A) any ongoing or planned activities related to training, developing, or producing dual-use foundation models, including the physical and cybersecurity protections taken to assure the integrity of that training process against sophisticated threats;

(B) the ownership and possession of the model weights of any dual-use foundation models, and the physical and cybersecurity measures taken to protect those model weights; and

(C) the results of any developed dual-use foundation model's performance in relevant AI red-team testing based on guidance developed by NIST pursuant to subsection 4.1(a)(ii) of this section, and a description of any associated measures the company has taken to meet safety objectives, such as mitigations to improve performance on these red-team tests and strengthen overall model security. Prior to the development of guidance on red-team testing standards by NIST pursuant to subsection 4.1(a)(ii) of this section, this description shall include the results of any red-team testing that the company has conducted relating to lowering the barrier to entry for the development, acquisition, and use of biological weapons by non-state actors; the discovery of software vulnerabilities and development of associated exploits; the use of software or tools to influence real or virtual events; the possibility for self-replication or propagation; and associated measures to meet safety objectives; and

(ii) Companies, individuals, or other organizations or entities that acquire, develop, or possess a potential large-scale computing cluster to report any such acquisition, development, or possession, including the existence and location of these clusters and the amount of total computing power available in each cluster.

(b) The Secretary of Commerce, in consultation with the Secretary of State, the Secretary of Defense, the Secretary of Energy, and the Director of National Intelligence, shall define, and thereafter update as needed on a regular basis, the set of technical conditions for models and computing clusters that would be subject to the reporting requirements of subsection 4.2(a) of this section. Until such technical conditions are defined, the Secretary shall require compliance with these reporting requirements for:

(i) any model that was trained using a quantity of computing power greater than 10^{26} integer or floating-point operations, or using primarily biological sequence data and using a quantity of computing power greater than 10^{23} integer or floating-point operations; and

(ii) any computing cluster that has a set of machines physically co-located in a single datacenter, transitively connected by data center networking of over 100 Gbit/s, and having a theoretical maximum computing capacity of 10^{20} integer or floating-point operations per second for training AI.

(c) Because I find that additional steps must be taken to deal with the national emergency related to significant malicious cyber-enabled activities declared in Executive Order 13694 of April 1, 2015 (Blocking the Property of Certain Persons Engaging in Significant Malicious Cyber-Enabled Activities) [listed in a table under

50 U.S.C. 1701], as amended by Executive Order 13757 of December 28, 2016 (Taking Additional Steps to Address the National Emergency With Respect to Significant Malicious Cyber-Enabled Activities), and further amended by Executive Order 13984, to address the use of United States Infrastructure as a Service (IaaS) Products by foreign malicious cyber actors, including to impose additional record-keeping obligations with respect to foreign transactions and to assist in the investigation of transactions involving foreign malicious cyber actors, I hereby direct the Secretary of Commerce, within 90 days of the date of this order, to:

(i) Propose regulations that require United States IaaS Providers to submit a report to the Secretary of Commerce when a foreign person transacts with that United States IaaS Provider to train a large AI model with potential capabilities that could be used in malicious cyber-enabled activity (a "training run"). Such reports shall include, at a minimum, the identity of the foreign person and the existence of any training run of an AI model meeting the criteria set forth in this section, or other criteria defined by the Secretary in regulations, as well as any additional information identified by the Secretary.

(ii) Include a requirement in the regulations proposed pursuant to subsection 4.2(c)(i) of this section that United States IaaS Providers prohibit any foreign reseller of their United States IaaS Product from providing those products unless such foreign reseller submits to the United States IaaS Provider a report, which the United States IaaS Provider must provide to the Secretary of Commerce, detailing each instance in which a foreign person transacts with the foreign reseller to use the United States IaaS Product to conduct a training run described in subsection 4.2(c)(i) of this section. Such reports shall include, at a minimum, the information specified in subsection 4.2(c)(i) of this section as well as any additional information identified by the Secretary.

(iii) Determine the set of technical conditions for a large AI model to have potential capabilities that could be used in malicious cyber-enabled activity, and revise that determination as necessary and appropriate. Until the Secretary makes such a determination, a model shall be considered to have potential capabilities that could be used in malicious cyber-enabled activity if it requires a quantity of computing power greater than 10^{26} integer or floating-point operations and is trained on a computing cluster that has a set of machines physically co-located in a single datacenter, transitively connected by data center networking of over 100 Gbit/s, and having a theoretical maximum compute capacity of 10^{20} integer or floating-point operations per second for training AI.

(d) Within 180 days of the date of this order, pursuant to the finding set forth in subsection 4.2(c) of this section, the Secretary of Commerce shall propose regulations that require United States IaaS Providers to ensure that foreign resellers of United States IaaS Products verify the identity of any foreign person that obtains an IaaS account (account) from the foreign reseller. These regulations shall, at a minimum:

(i) Set forth the minimum standards that a United States IaaS Provider must require of foreign resellers of its United States IaaS Products to verify the identity of a foreign person who opens an account or maintains an existing account with a foreign reseller, including:

(A) the types of documentation and procedures that foreign resellers of United States IaaS Products must require to verify the identity of any foreign person acting as a lessee or sub-lessee of these products or services;

(B) records that foreign resellers of United States IaaS Products must securely maintain regarding a foreign person that obtains an account, including information establishing:

(1) the identity of such foreign person, including name and address;

(2) the means and source of payment (including any associated financial institution and other iden-

tifiers such as credit card number, account number, customer identifier, transaction identifiers, or virtual currency wallet or wallet address identifier);

(3) the electronic mail address and telephonic contact information used to verify a foreign person's identity; and

(4) the internet Protocol addresses used for access or administration and the date and time of each such access or administrative action related to ongoing verification of such foreign person's ownership of such an account; and

(C) methods that foreign resellers of United States IaaS Products must implement to limit all third-party access to the information described in this subsection, except insofar as such access is otherwise consistent with this order and allowed under applicable law;

(ii) Take into consideration the types of accounts maintained by foreign resellers of United States IaaS Products, methods of opening an account, and types of identifying information available to accomplish the objectives of identifying foreign malicious cyber actors using any such products and avoiding the imposition of an undue burden on such resellers; and

(iii) Provide that the Secretary of Commerce, in accordance with such standards and procedures as the Secretary may delineate and in consultation with the Secretary of Defense, the Attorney General, the Secretary of Homeland Security, and the Director of National Intelligence, may exempt a United States IaaS Provider with respect to any specific foreign reseller of their United States IaaS Products, or with respect to any specific type of account or lessee, from the requirements of any regulation issued pursuant to this subsection. Such standards and procedures may include a finding by the Secretary that such foreign reseller, account, or lessee complies with security best practices to otherwise deter abuse of United States IaaS Products.

(e) The Secretary of Commerce is hereby authorized to take such actions, including the promulgation of rules and regulations, and to employ all powers granted to the President by the International Emergency Economic Powers Act, 50 U.S.C. 1701 *et seq.*, as may be necessary to carry out the purposes of subsections 4.2(c) and (d) of this section. Such actions may include a requirement that United States IaaS Providers require foreign resellers of United States IaaS Products to provide United States IaaS Providers verifications relative to those subsections.

4.3. Managing AI in Critical Infrastructure and in Cybersecurity. (a) To ensure the protection of critical infrastructure, the following actions shall be taken:

(i) Within 90 days of the date of this order, and at least annually thereafter, the head of each agency with relevant regulatory authority over critical infrastructure and the heads of relevant SRMAs, in coordination with the Director of the Cybersecurity and Infrastructure Security Agency within the Department of Homeland Security for consideration of cross-sector risks, shall evaluate and provide to the Secretary of Homeland Security an assessment of potential risks related to the use of AI in critical infrastructure sectors involved, including ways in which deploying AI may make critical infrastructure systems more vulnerable to critical failures, physical attacks, and cyber attacks, and shall consider ways to mitigate these vulnerabilities. Independent regulatory agencies are encouraged, as they deem appropriate, to contribute to sector-specific risk assessments.

(ii) Within 150 days of the date of this order, the Secretary of the Treasury shall issue a public report on best practices for financial institutions to manage AI-specific cybersecurity risks.

(iii) Within 180 days of the date of this order, the Secretary of Homeland Security, in coordination with the Secretary of Commerce and with SRMAs and other regulators as determined by the Secretary of Homeland Security, shall incorporate as appropriate the AI Risk Management Framework, NIST AI 100-1, as well as

other appropriate security guidance, into relevant safety and security guidelines for use by critical infrastructure owners and operators.

(iv) Within 240 days of the completion of the guidelines described in subsection 4.3(a)(iii) of this section, the Assistant to the President for National Security Affairs and the Director of OMB, in consultation with the Secretary of Homeland Security, shall coordinate work by the heads of agencies with authority over critical infrastructure to develop and take steps for the Federal Government to mandate such guidelines, or appropriate portions thereof, through regulatory or other appropriate action. Independent regulatory agencies are encouraged, as they deem appropriate, to consider whether to mandate guidance through regulatory action in their areas of authority and responsibility.

(v) The Secretary of Homeland Security shall establish an Artificial Intelligence Safety and Security Board as an advisory committee pursuant to section 871 of the Homeland Security Act of 2002 (Public Law 107-296) [6 U.S.C. 451]. The Advisory Committee shall include AI experts from the private sector, academia, and government, as appropriate, and provide to the Secretary of Homeland Security and the Federal Government's critical infrastructure community advice, information, or recommendations for improving security, resilience, and incident response related to AI usage in critical infrastructure.

(b) To capitalize on AI's potential to improve United States cyber defenses:

(i) The Secretary of Defense shall carry out the actions described in subsections 4.3(b)(ii) and (iii) of this section for national security systems, and the Secretary of Homeland Security shall carry out these actions for non-national security systems. Each shall do so in consultation with the heads of other relevant agencies as the Secretary of Defense and the Secretary of Homeland Security may deem appropriate.

(ii) As set forth in subsection 4.3(b)(i) of this section, within 180 days of the date of this order, the Secretary of Defense and the Secretary of Homeland Security shall, consistent with applicable law, each develop plans for, conduct, and complete an operational pilot project to identify, develop, test, evaluate, and deploy AI capabilities, such as large-language models, to aid in the discovery and remediation of vulnerabilities in critical United States Government software, systems, and networks.

(iii) As set forth in subsection 4.3(b)(i) of this section, within 270 days of the date of this order, the Secretary of Defense and the Secretary of Homeland Security shall each provide a report to the Assistant to the President for National Security Affairs on the results of actions taken pursuant to the plans and operational pilot projects required by subsection 4.3(b)(ii) of this section, including a description of any vulnerabilities found and fixed through the development and deployment of AI capabilities and any lessons learned on how to identify, develop, test, evaluate, and deploy AI capabilities effectively for cyber defense.

4.4. Reducing Risks at the Intersection of AI and CBRN Threats. (a) To better understand and mitigate the risk of AI being misused to assist in the development or use of CBRN threats—with a particular focus on biological weapons—the following actions shall be taken:

(i) Within 180 days of the date of this order, the Secretary of Homeland Security, in consultation with the Secretary of Energy and the Director of the Office of Science and Technology Policy (OSTP), shall evaluate the potential for AI to be misused to enable the development or production of CBRN threats, while also considering the benefits and application of AI to counter these threats, including, as appropriate, the results of work conducted under section 8(b) of this order. The Secretary of Homeland Security shall:

(A) consult with experts in AI and CBRN issues from the Department of Energy, private AI laboratories, academia, and third-party model evaluators, as appropriate, to evaluate AI model capabilities to present CBRN threats—for the sole purpose of guard-

ing against those threats—as well as options for minimizing the risks of AI model misuse to generate or exacerbate those threats; and

(B) submit a report to the President that describes the progress of these efforts, including an assessment of the types of AI models that may present CBRN risks to the United States, and that makes recommendations for regulating or overseeing the training, deployment, publication, or use of these models, including requirements for safety evaluations and guardrails for mitigating potential threats to national security.

(ii) Within 120 days of the date of this order, the Secretary of Defense, in consultation with the Assistant to the President for National Security Affairs and the Director of OSTP, shall enter into a contract with the National Academies of Sciences, Engineering, and Medicine to conduct—and submit to the Secretary of Defense, the Assistant to the President for National Security Affairs, the Director of the Office of Pandemic Preparedness and Response Policy, the Director of OSTP, and the Chair of the Chief Data Officer Council—a study that:

(A) assesses the ways in which AI can increase biosecurity risks, including risks from generative AI models trained on biological data, and makes recommendations on how to mitigate these risks;

(B) considers the national security implications of the use of data and datasets, especially those associated with pathogens and omics studies, that the United States Government hosts, generates, funds the creation of, or otherwise owns, for the training of generative AI models, and makes recommendations on how to mitigate the risks related to the use of these data and datasets;

(C) assesses the ways in which AI applied to biology can be used to reduce biosecurity risks, including recommendations on opportunities to coordinate data and high-performance computing resources; and

(D) considers additional concerns and opportunities at the intersection of AI and synthetic biology that the Secretary of Defense deems appropriate.

(b) To reduce the risk of misuse of synthetic nucleic acids, which could be substantially increased by AI's capabilities in this area, and improve biosecurity measures for the nucleic acid synthesis industry, the following actions shall be taken:

(i) Within 180 days of the date of this order, the Director of OSTP, in consultation with the Secretary of State, the Secretary of Defense, the Attorney General, the Secretary of Commerce, the Secretary of Health and Human Services (HHS), the Secretary of Energy, the Secretary of Homeland Security, the Director of National Intelligence, and the heads of other relevant agencies as the Director of OSTP may deem appropriate, shall establish a framework, incorporating, as appropriate, existing United States Government guidance, to encourage providers of synthetic nucleic acid sequences to implement comprehensive, scalable, and verifiable synthetic nucleic acid procurement screening mechanisms, including standards and recommended incentives. As part of this framework, the Director of OSTP shall:

(A) establish criteria and mechanisms for ongoing identification of biological sequences that could be used in a manner that would pose a risk to the national security of the United States; and

(B) determine standardized methodologies and tools for conducting and verifying the performance of sequence synthesis procurement screening, including customer screening approaches to support due diligence with respect to managing security risks posed by purchasers of biological sequences identified in subsection 4.4(b)(i)(A) of this section, and processes for the reporting of concerning activity to enforcement entities.

(ii) Within 180 days of the date of this order, the Secretary of Commerce, acting through the Director of NIST, in coordination with the Director of OSTP, and in consultation with the Secretary of State, the Sec-

retary of HHS, and the heads of other relevant agencies as the Secretary of Commerce may deem appropriate, shall initiate an effort to engage with industry and relevant stakeholders, informed by the framework developed under subsection 4.4(b)(i) of this section, to develop and refine for possible use by synthetic nucleic acid sequence providers:

(A) specifications for effective nucleic acid synthesis procurement screening;

(B) best practices, including security and access controls, for managing sequence-of-concern databases to support such screening;

(C) technical implementation guides for effective screening; and

(D) conformity-assessment best practices and mechanisms.

(iii) Within 180 days of the establishment of the framework pursuant to subsection 4.4(b)(i) of this section, all agencies that fund life-sciences research shall, as appropriate and consistent with applicable law, establish that, as a requirement of funding, synthetic nucleic acid procurement is conducted through providers or manufacturers that adhere to the framework, such as through an attestation from the provider or manufacturer. The Assistant to the President for National Security Affairs and the Director of OSTP shall coordinate the process of reviewing such funding requirements to facilitate consistency in implementation of the framework across funding agencies.

(iv) In order to facilitate effective implementation of the measures described in subsections 4.4(b)(i)–(iii) of this section, the Secretary of Homeland Security, in consultation with the heads of other relevant agencies as the Secretary of Homeland Security may deem appropriate, shall:

(A) within 180 days of the establishment of the framework pursuant to subsection 4.4(b)(i) of this section, develop a framework to conduct structured evaluation and stress testing of nucleic acid synthesis procurement screening, including the systems developed in accordance with subsections 4.4(b)(i)–(ii) of this section and implemented by providers of synthetic nucleic acid sequences; and

(B) following development of the framework pursuant to subsection 4.4(b)(iv)(A) of this section, submit an annual report to the Assistant to the President for National Security Affairs, the Director of the Office of Pandemic Preparedness and Response Policy, and the Director of OSTP on any results of the activities conducted pursuant to subsection 4.4(b)(iv)(A) of this section, including recommendations, if any, on how to strengthen nucleic acid synthesis procurement screening, including customer screening systems.

4.5. Reducing the Risks Posed by Synthetic Content. To foster capabilities for identifying and labeling synthetic content produced by AI systems, and to establish the authenticity and provenance of digital content, both synthetic and not synthetic, produced by the Federal Government or on its behalf:

(a) Within 240 days of the date of this order, the Secretary of Commerce, in consultation with the heads of other relevant agencies as the Secretary of Commerce may deem appropriate, shall submit a report to the Director of OMB and the Assistant to the President for National Security Affairs identifying the existing standards, tools, methods, and practices, as well as the potential development of further science-backed standards and techniques, for:

(i) authenticating content and tracking its provenance;

(ii) labeling synthetic content, such as using watermarking;

(iii) detecting synthetic content;

(iv) preventing generative AI from producing child sexual abuse material or producing non-consensual intimate imagery of real individuals (to include intimate digital depictions of the body or body parts of an identifiable individual);

(v) testing software used for the above purposes; and

(vi) auditing and maintaining synthetic content.

(b) Within 180 days of submitting the report required under subsection 4.5(a) of this section, and updated periodically thereafter, the Secretary of Commerce, in coordination with the Director of OMB, shall develop guidance regarding the existing tools and practices for digital content authentication and synthetic content detection measures. The guidance shall include measures for the purposes listed in subsection 4.5(a) of this section.

(c) Within 180 days of the development of the guidance required under subsection 4.5(b) of this section, and updated periodically thereafter, the Director of OMB, in consultation with the Secretary of State; the Secretary of Defense; the Attorney General; the Secretary of Commerce, acting through the Director of NIST; the Secretary of Homeland Security; the Director of National Intelligence; and the heads of other agencies that the Director of OMB deems appropriate, shall—for the purpose of strengthening public confidence in the integrity of official United States Government digital content—issue guidance to agencies for labeling and authenticating such content that they produce or publish.

(d) The Federal Acquisition Regulatory Council shall, as appropriate and consistent with applicable law, consider amending the Federal Acquisition Regulation to take into account the guidance established under subsection 4.5 of this section.

4.6. Soliciting Input on Dual-Use Foundation Models with Widely Available Model Weights. When the weights for a dual-use foundation model are widely available—such as when they are publicly posted on the internet—there can be substantial benefits to innovation, but also substantial security risks, such as the removal of safeguards within the model. To address the risks and potential benefits of dual-use foundation models with widely available weights, within 270 days of the date of this order, the Secretary of Commerce, acting through the Assistant Secretary of Commerce for Communications and Information, and in consultation with the Secretary of State, shall:

(a) solicit input from the private sector, academia, civil society, and other stakeholders through a public consultation process on potential risks, benefits, other implications, and appropriate policy and regulatory approaches related to dual-use foundation models for which the model weights are widely available, including:

(i) risks associated with actors fine-tuning dual-use foundation models for which the model weights are widely available or removing those models' safeguards;

(ii) benefits to AI innovation and research, including research into AI safety and risk management, of dual-use foundation models for which the model weights are widely available; and

(iii) potential voluntary, regulatory, and international mechanisms to manage the risks and maximize the benefits of dual-use foundation models for which the model weights are widely available; and

(b) based on input from the process described in subsection 4.6(a) of this section, and in consultation with the heads of other relevant agencies as the Secretary of Commerce deems appropriate, submit a report to the President on the potential benefits, risks, and implications of dual-use foundation models for which the model weights are widely available, as well as policy and regulatory recommendations pertaining to those models.

4.7. Promoting Safe Release and Preventing the Malicious Use of Federal Data for AI Training. To improve public data access and manage security risks, and consistent with the objectives of the Open, Public, Electronic, and Necessary Government Data Act (title II of Public Law 115-435) [see Tables for classification] to expand public access to Federal data assets in a machine-readable format while also taking into account security considerations, including the risk that information in an individual data asset in isolation does not pose a security

risk but, when combined with other available information, may pose such a risk:

(a) within 270 days of the date of this order, the Chief Data Officer Council, in consultation with the Secretary of Defense, the Secretary of Commerce, the Secretary of Energy, the Secretary of Homeland Security, and the Director of National Intelligence, shall develop initial guidelines for performing security reviews, including reviews to identify and manage the potential security risks of releasing Federal data that could aid in the development of CBRN weapons as well as the development of autonomous offensive cyber capabilities, while also providing public access to Federal Government data in line with the goals stated in the Open, Public, Electronic, and Necessary Government Data Act (title II of Public Law 115-435); and

(b) within 180 days of the development of the initial guidelines required by subsection 4.7(a) of this section, agencies shall conduct a security review of all data assets in the comprehensive data inventory required under 44 U.S.C. 3511(a)(1) and (2)(B) and shall take steps, as appropriate and consistent with applicable law, to address the highest-priority potential security risks that releasing that data could raise with respect to CBRN weapons, such as the ways in which that data could be used to train AI systems.

4.8. Directing the Development of a National Security Memorandum. To develop a coordinated executive branch approach to managing AI's security risks, the Assistant to the President for National Security Affairs and the Assistant to the President and Deputy Chief of Staff for Policy shall oversee an interagency process with the purpose of, within 270 days of the date of this order, developing and submitting a proposed National Security Memorandum on AI to the President. The memorandum shall address the governance of AI used as a component of a national security system or for military and intelligence purposes. The memorandum shall take into account current efforts to govern the development and use of AI for national security systems. The memorandum shall outline actions for the Department of Defense, the Department of State, other relevant agencies, and the Intelligence Community to address the national security risks and potential benefits posed by AI. In particular, the memorandum shall:

(a) provide guidance to the Department of Defense, other relevant agencies, and the Intelligence Community on the continued adoption of AI capabilities to advance the United States national security mission, including through directing specific AI assurance and risk-management practices for national security uses of AI that may affect the rights or safety of United States persons and, in appropriate contexts, non-United States persons; and

(b) direct continued actions, as appropriate and consistent with applicable law, to address the potential use of AI systems by adversaries and other foreign actors in ways that threaten the capabilities or objectives of the Department of Defense or the Intelligence Community, or that otherwise pose risks to the security of the United States or its allies and partners.

SEC. 5. *Promoting Innovation and Competition.*

5.1. Attracting AI Talent to the United States. (a) Within 90 days of the date of this order [Oct. 30, 2023], to attract and retain talent in AI and other critical and emerging technologies in the United States economy, the Secretary of State and the Secretary of Homeland Security shall take appropriate steps to:

(i) streamline processing times of visa petitions and applications, including by ensuring timely availability of visa appointments, for noncitizens who seek to travel to the United States to work on, study, or conduct research in AI or other critical and emerging technologies; and

(ii) facilitate continued availability of visa appointments in sufficient volume for applicants with expertise in AI or other critical and emerging technologies.

(b) Within 120 days of the date of this order, the Secretary of State shall:

(i) consider initiating a rulemaking to establish new criteria to designate countries and skills on the Department of State's Exchange Visitor Skills List as it relates to the 2-year foreign residence requirement for certain J-1 nonimmigrants, including those skills that are critical to the United States;

(ii) consider publishing updates to the 2009 Revised Exchange Visitor Skills List (74 FR 20108); and

(iii) consider implementing a domestic visa renewal program under 22 CFR 41.111(b) to facilitate the ability of qualified applicants, including highly skilled talent in AI and critical and emerging technologies, to continue their work in the United States without unnecessary interruption.

(c) Within 180 days of the date of this order, the Secretary of State shall:

(i) consider initiating a rulemaking to expand the categories of nonimmigrants who qualify for the domestic visa renewal program covered under 22 CFR 41.111(b) to include academic J-1 research scholars and F-1 students in science, technology, engineering, and mathematics (STEM); and

(ii) establish, to the extent permitted by law and available appropriations, a program to identify and attract top talent in AI and other critical and emerging technologies at universities, research institutions, and the private sector overseas, and to establish and increase connections with that talent to educate them on opportunities and resources for research and employment in the United States, including overseas educational components to inform top STEM talent of nonimmigrant and immigrant visa options and potential expedited adjudication of their visa petitions and applications.

(d) Within 180 days of the date of this order, the Secretary of Homeland Security shall:

(i) review and initiate any policy changes the Secretary determines necessary and appropriate to clarify and modernize immigration pathways for experts in AI and other critical and emerging technologies, including O-1A and EB-1 noncitizens of extraordinary ability; EB-2 advanced-degree holders and noncitizens of exceptional ability; and startup founders in AI and other critical and emerging technologies using the International Entrepreneur Rule; and

(ii) continue its rulemaking process to modernize the H-1B program and enhance its integrity and usage, including by experts in AI and other critical and emerging technologies, and consider initiating a rulemaking to enhance the process for noncitizens, including experts in AI and other critical and emerging technologies and their spouses, dependents, and children, to adjust their status to lawful permanent resident.

(e) Within 45 days of the date of this order, for purposes of considering updates to the "Schedule A" list of occupations, 20 CFR 656.5, the Secretary of Labor shall publish a request for information (RFI) to solicit public input, including from industry and worker-advocate communities, identifying AI and other STEM-related occupations, as well as additional occupations across the economy, for which there is an insufficient number of ready, willing, able, and qualified United States workers.

(f) The Secretary of State and the Secretary of Homeland Security shall, consistent with applicable law and implementing regulations, use their discretionary authorities to support and attract foreign nationals with special skills in AI and other critical and emerging technologies seeking to work, study, or conduct research in the United States.

(g) Within 120 days of the date of this order, the Secretary of Homeland Security, in consultation with the Secretary of State, the Secretary of Commerce, and the Director of OSTP, shall develop and publish informational resources to better attract and retain experts in AI and other critical and emerging technologies, including:

(i) a clear and comprehensive guide for experts in AI and other critical and emerging technologies to understand their options for working in the United States, to

be published in multiple relevant languages on AI.gov; and

(ii) a public report with relevant data on applications, petitions, approvals, and other key indicators of how experts in AI and other critical and emerging technologies have utilized the immigration system through the end of Fiscal Year 2023.

5.2. *Promoting Innovation.* (a) To develop and strengthen public-private partnerships for advancing innovation, commercialization, and risk-mitigation methods for AI, and to help promote safe, responsible, fair, privacy-protecting, and trustworthy AI systems, the Director of NSF shall take the following steps:

(i) Within 90 days of the date of this order, in coordination with the heads of agencies that the Director of NSF deems appropriate, launch a pilot program implementing the National AI Research Resource (NAIRR), consistent with past recommendations of the NAIRR Task Force. The program shall pursue the infrastructure, governance mechanisms, and user interfaces to pilot an initial integration of distributed computational, data, model, and training resources to be made available to the research community in support of AI-related research and development. The Director of NSF shall identify Federal and private sector computational, data, software, and training resources appropriate for inclusion in the NAIRR pilot program. To assist with such work, within 45 days of the date of this order, the heads of agencies whom the Director of NSF identifies for coordination pursuant to this subsection shall each submit to the Director of NSF a report identifying the agency resources that could be developed and integrated into such a pilot program. These reports shall include a description of such resources, including their current status and availability; their format, structure, or technical specifications; associated agency expertise that will be provided; and the benefits and risks associated with their inclusion in the NAIRR pilot program. The heads of independent regulatory agencies are encouraged to take similar steps, as they deem appropriate.

(ii) Within 150 days of the date of this order, fund and launch at least one NSF Regional Innovation Engine that prioritizes AI-related work, such as AI-related research, societal, or workforce needs.

(iii) Within 540 days of the date of this order, establish at least four new National AI Research Institutes, in addition to the 25 currently funded as of the date of this order.

(b) Within 120 days of the date of this order, to support activities involving high-performance and data-intensive computing, the Secretary of Energy, in coordination with the Director of NSF, shall, in a manner consistent with applicable law and available appropriations, establish a pilot program to enhance existing successful training programs for scientists, with the goal of training 500 new researchers by 2025 capable of meeting the rising demand for AI talent.

(c) To promote innovation and clarify issues related to AI and inventorship of patentable subject matter, the Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office (USPTO Director) shall:

(i) within 120 days of the date of this order, publish guidance to USPTO patent examiners and applicants addressing inventorship and the use of AI, including generative AI, in the inventive process, including illustrative examples in which AI systems play different roles in inventive processes and how, in each example, inventorship issues ought to be analyzed;

(ii) subsequently, within 270 days of the date of this order, issue additional guidance to USPTO patent examiners and applicants to address other considerations at the intersection of AI and IP, which could include, as the USPTO Director deems necessary, updated guidance on patent eligibility to address innovation in AI and critical and emerging technologies; and

(iii) within 270 days of the date of this order or 180 days after the United States Copyright Office of the Library of Congress publishes its forthcoming AI study

that will address copyright issues raised by AI, whichever comes later, consult with the Director of the United States Copyright Office and issue recommendations to the President on potential executive actions relating to copyright and AI. The recommendations shall address any copyright and related issues discussed in the United States Copyright Office's study, including the scope of protection for works produced using AI and the treatment of copyrighted works in AI training.

(d) Within 180 days of the date of this order, to assist developers of AI in combatting AI-related IP risks, the Secretary of Homeland Security, acting through the Director of the National Intellectual Property Rights Coordination Center, and in consultation with the Attorney General, shall develop a training, analysis, and evaluation program to mitigate AI-related IP risks. Such a program shall:

(i) include appropriate personnel dedicated to collecting and analyzing reports of AI-related IP theft, investigating such incidents with implications for national security, and, where appropriate and consistent with applicable law, pursuing related enforcement actions;

(ii) implement a policy of sharing information and coordinating on such work, as appropriate and consistent with applicable law, with the Federal Bureau of Investigation; United States Customs and Border Protection; other agencies; State and local agencies; and appropriate international organizations, including through work-sharing agreements;

(iii) develop guidance and other appropriate resources to assist private sector actors with mitigating the risks of AI-related IP theft;

(iv) share information and best practices with AI developers and law enforcement personnel to identify incidents, inform stakeholders of current legal requirements, and evaluate AI systems for IP law violations, as well as develop mitigation strategies and resources; and

(v) assist the Intellectual Property Enforcement Coordinator in updating the Intellectual Property Enforcement Coordinator Joint Strategic Plan on Intellectual Property Enforcement to address AI-related issues.

(e) To advance responsible AI innovation by a wide range of healthcare technology developers that promotes the welfare of patients and workers in the healthcare sector, the Secretary of HHS shall identify and, as appropriate and consistent with applicable law and the activities directed in section 8 of this order, prioritize grantmaking and other awards, as well as undertake related efforts, to support responsible AI development and use, including:

(i) collaborating with appropriate private sector actors through HHS programs that may support the advancement of AI-enabled tools that develop personalized immune-response profiles for patients, consistent with section 4 of this order;

(ii) prioritizing the allocation of 2024 Leading Edge Acceleration Project cooperative agreement awards to initiatives that explore ways to improve healthcare-data quality to support the responsible development of AI tools for clinical care, real-world-evidence programs, population health, public health, and related research; and

(iii) accelerating grants awarded through the National Institutes of Health Artificial Intelligence/Machine Learning Consortium to Advance Health Equity and Researcher Diversity (AIM-AHEAD) program and showcasing current AIM-AHEAD activities in underserved communities.

(f) To advance the development of AI systems that improve the quality of veterans' healthcare, and in order to support small businesses' innovative capacity, the Secretary of Veterans Affairs shall:

(i) within 365 days of the date of this order, host two 3-month nationwide AI Tech Sprint competitions; and

(ii) as part of the AI Tech Sprint competitions and in collaboration with appropriate partners, provide participants access to technical assistance, mentorship op-

portunities, individualized expert feedback on products under development, potential contract opportunities, and other programming and resources.

(g) Within 180 days of the date of this order, to support the goal of strengthening our Nation's resilience against climate change impacts and building an equitable clean energy economy for the future, the Secretary of Energy, in consultation with the Chair of the Federal Energy Regulatory Commission, the Director of OSTP, the Chair of the Council on Environmental Quality, the Assistant to the President and National Climate Advisor, and the heads of other relevant agencies as the Secretary of Energy may deem appropriate, shall:

(i) issue a public report describing the potential for AI to improve planning, permitting, investment, and operations for electric grid infrastructure and to enable the provision of clean, affordable, reliable, resilient, and secure electric power to all Americans;

(ii) develop tools that facilitate building foundation models useful for basic and applied science, including models that streamline permitting and environmental reviews while improving environmental and social outcomes;

(iii) collaborate, as appropriate, with private sector organizations and members of academia to support development of AI tools to mitigate climate change risks;

(iv) take steps to expand partnerships with industry, academia, other agencies, and international allies and partners to utilize the Department of Energy's computing capabilities and AI testbeds to build foundation models that support new applications in science and energy, and for national security, including partnerships that increase community preparedness for climate-related risks, enable clean-energy deployment (including addressing delays in permitting reviews), and enhance grid reliability and resilience; and

(v) establish an office to coordinate development of AI and other critical and emerging technologies across Department of Energy programs and the 17 National Laboratories.

(h) Within 180 days of the date of this order, to understand AI's implications for scientific research, the President's Council of Advisors on Science and Technology shall submit to the President and make publicly available a report on the potential role of AI, especially given recent developments in AI, in research aimed at tackling major societal and global challenges. The report shall include a discussion of issues that may hinder the effective use of AI in research and practices needed to ensure that AI is used responsibly for research.

5.3. Promoting Competition. (a) The head of each agency developing policies and regulations related to AI shall use their authorities, as appropriate and consistent with applicable law, to promote competition in AI and related technologies, as well as in other markets. Such actions include addressing risks arising from concentrated control of key inputs, taking steps to stop unlawful collusion and prevent dominant firms from disadvantaging competitors, and working to provide new opportunities for small businesses and entrepreneurs. In particular, the Federal Trade Commission is encouraged to consider, as it deems appropriate, whether to exercise the Commission's existing authorities, including its rulemaking authority under the Federal Trade Commission Act, 15 U.S.C. 41 *et seq.*, to ensure fair competition in the AI marketplace and to ensure that consumers and workers are protected from harms that may be enabled by the use of AI.

(b) To promote competition and innovation in the semiconductor industry, recognizing that semiconductors power AI technologies and that their availability is critical to AI competition, the Secretary of Commerce shall, in implementing division A of Public Law 117-167, known as the Creating Helpful Incentives to Produce Semiconductors (CHIPS) Act of 2022 [see Tables for classification], promote competition by:

(i) implementing a flexible membership structure for the National Semiconductor Technology Center that

attracts all parts of the semiconductor and microelectronics ecosystem, including startups and small firms;

(ii) implementing mentorship programs to increase interest and participation in the semiconductor industry, including from workers in underserved communities;

(iii) increasing, where appropriate and to the extent permitted by law, the availability of resources to startups and small businesses, including:

(A) funding for physical assets, such as specialty equipment or facilities, to which startups and small businesses may not otherwise have access;

(B) datasets—potentially including test and performance data—collected, aggregated, or shared by CHIPS research and development programs;

(C) workforce development programs;

(D) design and process technology, as well as IP, as appropriate; and

(E) other resources, including technical and intellectual property assistance, that could accelerate commercialization of new technologies by startups and small businesses, as appropriate; and

(iv) considering the inclusion, to the maximum extent possible, and as consistent with applicable law, of competition-increasing measures in notices of funding availability for commercial research-and-development facilities focused on semiconductors, including measures that increase access to facility capacity for startups or small firms developing semiconductors used to power AI technologies.

(c) To support small businesses innovating and commercializing AI, as well as in responsibly adopting and deploying AI, the Administrator of the Small Business Administration shall:

(i) prioritize the allocation of Regional Innovation Cluster program funding for clusters that support planning activities related to the establishment of one or more Small Business AI Innovation and Commercialization Institutes that provide support, technical assistance, and other resources to small businesses seeking to innovate, commercialize, scale, or otherwise advance the development of AI;

(ii) prioritize the allocation of up to \$2 million in Growth Accelerator Fund Competition bonus prize funds for accelerators that support the incorporation or expansion of AI-related curricula, training, and technical assistance, or other AI-related resources within their programming; and

(iii) assess the extent to which the eligibility criteria of existing programs, including the State Trade Expansion Program, Technical and Business Assistance funding, and capital-access programs—such as the 7(a) loan program, 504 loan program, and Small Business Investment Company (SBIC) program—support appropriate expenses by small businesses related to the adoption of AI and, if feasible and appropriate, revise eligibility criteria to improve support for these expenses.

(d) The Administrator of the Small Business Administration, in coordination with resource partners, shall conduct outreach regarding, and raise awareness of, opportunities for small businesses to use capital-access programs described in subsection 5.3(c) of this section for eligible AI-related purposes, and for eligible investment funds with AI-related expertise—particularly those seeking to serve or with experience serving underserved communities—to apply for an SBIC license.

SEC. 6. *Supporting Workers.* (a) To advance the Government's understanding of AI's implications for workers, the following actions shall be taken within 180 days of the date of this order [Oct. 30, 2023]:

(i) The Chairman of the Council of Economic Advisers shall prepare and submit a report to the President on the labor-market effects of AI.

(ii) To evaluate necessary steps for the Federal Government to address AI-related workforce disruptions, the Secretary of Labor shall submit to the President a report analyzing the abilities of agencies to support workers displaced by the adoption of AI and other technological advancements. The report shall, at a minimum:

(A) assess how current or formerly operational Federal programs designed to assist workers facing job disruptions—including unemployment insurance and programs authorized by the Workforce Innovation and Opportunity Act (Public Law 113-128) [29 U.S.C. 3101 *et seq.*]—could be used to respond to possible future AI-related disruptions; and

(B) identify options, including potential legislative measures, to strengthen or develop additional Federal support for workers displaced by AI and, in consultation with the Secretary of Commerce and the Secretary of Education, strengthen and expand education and training opportunities that provide individuals pathways to occupations related to AI.

(b) To help ensure that AI deployed in the workplace advances employees' well-being:

(1) The Secretary of Labor shall, within 180 days of the date of this order and in consultation with other agencies and with outside entities, including labor unions and workers, as the Secretary of Labor deems appropriate, develop and publish principles and best practices for employers that could be used to mitigate AI's potential harms to employees' well-being and maximize its potential benefits. The principles and best practices shall include specific steps for employers to take with regard to AI, and shall cover, at a minimum:

(A) job-displacement risks and career opportunities related to AI, including effects on job skills and evaluation of applicants and workers;

(B) labor standards and job quality, including issues related to the equity, protected-activity, compensation, health, and safety implications of AI in the workplace; and

(C) implications for workers of employers' AI-related collection and use of data about them, including transparency, engagement, management, and activity protected under worker-protection laws.

(ii) After principles and best practices are developed pursuant to subsection (b)(1) of this section, the heads of agencies shall consider, in consultation with the Secretary of Labor, encouraging the adoption of these guidelines in their programs to the extent appropriate for each program and consistent with applicable law.

(iii) To support employees whose work is monitored or augmented by AI in being compensated appropriately for all of their work time, the Secretary of Labor shall issue guidance to make clear that employers that deploy AI to monitor or augment employees' work must continue to comply with protections that ensure that workers are compensated for their hours worked, as defined under the Fair Labor Standards Act of 1938, 29 U.S.C. 201 *et seq.*, and other legal requirements.

(c) To foster a diverse AI-ready workforce, the Director of NSF shall prioritize available resources to support AI-related education and AI-related workforce development through existing programs. The Director shall additionally consult with agencies, as appropriate, to identify further opportunities for agencies to allocate resources for those purposes. The actions by the Director shall use appropriate fellowship programs and awards for these purposes.

SEC. 7. *Advancing Equity and Civil Rights.*

7.1. *Strengthening AI and Civil Rights in the Criminal Justice System.* (a) To address unlawful discrimination and other harms that may be exacerbated by AI, the Attorney General shall:

(i) consistent with Executive Order 12250 of November 2, 1980 (Leadership and Coordination of [Implementation and Enforcement of] Nondiscrimination Laws) [42 U.S.C. 2000d-1 note], Executive Order 14091, and 28 CFR 0.50-51, coordinate with and support agencies in their implementation and enforcement of existing Federal laws to address civil rights and civil liberties violations and discrimination related to AI;

(ii) direct the Assistant Attorney General in charge of the Civil Rights Division to convene, within 90 days of the date of this order, a meeting of the heads of Federal civil rights offices—for which meeting the heads of civil rights offices within independent regulatory agen-

cies will be encouraged to join—to discuss comprehensive use of their respective authorities and offices to: prevent and address discrimination in the use of automated systems, including algorithmic discrimination; increase coordination between the Department of Justice’s Civil Rights Division and Federal civil rights offices concerning issues related to AI and algorithmic discrimination; improve external stakeholder engagement to promote public awareness of potential discriminatory uses and effects of AI; and develop, as appropriate, additional training, technical assistance, guidance, or other resources; and

(iii) consider providing, as appropriate and consistent with applicable law, guidance, technical assistance, and training to State, local, Tribal, and territorial investigators and prosecutors on best practices for investigating and prosecuting civil rights violations and discrimination related to automated systems, including AI.

(b) To promote the equitable treatment of individuals and adhere to the Federal Government’s fundamental obligation to ensure fair and impartial justice for all, with respect to the use of AI in the criminal justice system, the Attorney General shall, in consultation with the Secretary of Homeland Security and the Director of OSTP:

(i) within 365 days of the date of this order, submit to the President a report that addresses the use of AI in the criminal justice system, including any use in:

- (A) sentencing;
- (B) parole, supervised release, and probation;
- (C) bail, pretrial release, and pretrial detention;
- (D) risk assessments, including pretrial, earned time, and early release or transfer to home-confinement determinations;
- (E) police surveillance;
- (F) crime forecasting and predictive policing, including the ingestion of historical crime data into AI systems to predict high-density “hot spots”;
- (G) prison-management tools; and
- (H) forensic analysis;

(ii) within the report set forth in subsection 7.1(b)(i) of this section:

(A) identify areas where AI can enhance law enforcement efficiency and accuracy, consistent with protections for privacy, civil rights, and civil liberties; and

(B) recommend best practices for law enforcement agencies, including safeguards and appropriate use limits for AI, to address the concerns set forth in section 13(e)(i) of Executive Order 14074 as well as the best practices and the guidelines set forth in section 13(e)(iii) of Executive Order 14074; and

(iii) supplement the report set forth in subsection 7.1(b)(i) of this section as appropriate with recommendations to the President, including with respect to requests for necessary legislation.

(c) To advance the presence of relevant technical experts and expertise (such as machine-learning engineers, software and infrastructure engineering, data privacy experts, data scientists, and user experience researchers) among law enforcement professionals:

(i) The interagency working group created pursuant to section 3 of Executive Order 14074 shall, within 180 days of the date of this order, identify and share best practices for recruiting and hiring law enforcement professionals who have the technical skills mentioned in subsection 7.1(c) of this section, and for training law enforcement professionals about responsible application of AI.

(ii) Within 270 days of the date of this order, the Attorney General shall, in consultation with the Secretary of Homeland Security, consider those best practices and the guidance developed under section 3(d) of Executive Order 14074 and, if necessary, develop additional general recommendations for State, local, Tribal, and territorial law enforcement agencies and criminal justice agencies seeking to recruit, hire, train, promote, and retain highly qualified and service-oriented officers and staff with relevant technical knowledge. In

considering this guidance, the Attorney General shall consult with State, local, Tribal, and territorial law enforcement agencies, as appropriate.

(iii) Within 365 days of the date of this order, the Attorney General shall review the work conducted pursuant to section 2(b) of Executive Order 14074 and, if appropriate, reassess the existing capacity to investigate law enforcement deprivation of rights under color of law resulting from the use of AI, including through improving and increasing training of Federal law enforcement officers, their supervisors, and Federal prosecutors on how to investigate and prosecute cases related to AI involving the deprivation of rights under color of law pursuant to 18 U.S.C. 242.

7.2. *Protecting Civil Rights Related to Government Benefits and Programs.* (a) To advance equity and civil rights, consistent with the directives of Executive Order 14091, and in addition to complying with the guidance on Federal Government use of AI issued pursuant to section 10.1(b) of this order, agencies shall use their respective civil rights and civil liberties offices and authorities—as appropriate and consistent with applicable law—to prevent and address unlawful discrimination and other harms that result from uses of AI in Federal Government programs and benefits administration. This directive does not apply to agencies’ civil or criminal enforcement authorities. Agencies shall consider opportunities to ensure that their respective civil rights and civil liberties offices are appropriately consulted on agency decisions regarding the design, development, acquisition, and use of AI in Federal Government programs and benefits administration. To further these objectives, agencies shall also consider opportunities to increase coordination, communication, and engagement about AI as appropriate with community-based organizations; civil-rights and civil-liberties organizations; academic institutions; industry; State, local, Tribal, and territorial governments; and other stakeholders.

(b) To promote equitable administration of public benefits:

(i) The Secretary of HHS shall, within 180 days of the date of this order and in consultation with relevant agencies, publish a plan, informed by the guidance issued pursuant to section 10.1(b) of this order, addressing the use of automated or algorithmic systems in the implementation by States and localities of public benefits and services administered by the Secretary, such as to promote: assessment of access to benefits by qualified recipients; notice to recipients about the presence of such systems; regular evaluation to detect unjust denials; processes to retain appropriate levels of discretion of expert agency staff; processes to appeal denials to human reviewers; and analysis of whether algorithmic systems in use by benefit programs achieve equitable and just outcomes.

(ii) The Secretary of Agriculture shall, within 180 days of the date of this order and as informed by the guidance issued pursuant to section 10.1(b) of this order, issue guidance to State, local, Tribal, and territorial public-benefits administrators on the use of automated or algorithmic systems in implementing benefits or in providing customer support for benefit programs administered by the Secretary, to ensure that programs using those systems:

- (A) maximize program access for eligible recipients;
- (B) employ automated or algorithmic systems in a manner consistent with any requirements for using merit systems personnel in public-benefits programs;
- (C) identify instances in which reliance on automated or algorithmic systems would require notification by the State, local, Tribal, or territorial government to the Secretary;
- (D) identify instances when applicants and participants can appeal benefit determinations to a human reviewer for reconsideration and can receive other customer support from a human being;
- (E) enable auditing and, if necessary, remediation of the logic used to arrive at an individual decision or determination to facilitate the evaluation of appeals; and

(F) enable the analysis of whether algorithmic systems in use by benefit programs achieve equitable outcomes.

7.3. Strengthening AI and Civil Rights in the Broader Economy. (a) Within 365 days of the date of this order, to prevent unlawful discrimination from AI used for hiring, the Secretary of Labor shall publish guidance for Federal contractors regarding nondiscrimination in hiring involving AI and other technology-based hiring systems.

(b) To address discrimination and biases against protected groups in housing markets and consumer financial markets, the Director of the Federal Housing Finance Agency and the Director of the Consumer Financial Protection Bureau are encouraged to consider using their authorities, as they deem appropriate, to require their respective regulated entities, where possible, to use appropriate methodologies including AI tools to ensure compliance with Federal law and:

(i) evaluate their underwriting models for bias or disparities affecting protected groups; and

(ii) evaluate automated collateral-valuation and appraisal processes in ways that minimize bias.

(c) Within 180 days of the date of this order, to combat unlawful discrimination enabled by automated or algorithmic tools used to make decisions about access to housing and in other real estate-related transactions, the Secretary of Housing and Urban Development shall, and the Director of the Consumer Financial Protection Bureau is encouraged to, issue additional guidance:

(i) addressing the use of tenant screening systems in ways that may violate the Fair Housing Act (Public Law 90-284) [42 U.S.C. 3601 et seq.], the Fair Credit Reporting Act ([title VI of Pub. L. 90-321, as added by] Public Law 91-508) [15 U.S.C. 1681 et seq.], or other relevant Federal laws, including how the use of data, such as criminal records, eviction records, and credit information, can lead to discriminatory outcomes in violation of Federal law; and

(ii) addressing how the Fair Housing Act, the Consumer Financial Protection Act of 2010 (title X of Public Law 111-203) [see Tables for classification], or the Equal Credit Opportunity Act ([title VII of Pub. L. 90-321, as added by] Public Law 93-495) [15 U.S.C. 1691 et seq.] apply to the advertising of housing, credit, and other real estate-related transactions through digital platforms, including those that use algorithms to facilitate advertising delivery, as well as on best practices to avoid violations of Federal law.

(d) To help ensure that people with disabilities benefit from AI's promise while being protected from its risks, including unequal treatment from the use of biometric data like gaze direction, eye tracking, gait analysis, and hand motions, the Architectural and Transportation Barriers Compliance Board is encouraged, as it deems appropriate, to solicit public participation and conduct community engagement; to issue technical assistance and recommendations on the risks and benefits of AI in using biometric data as an input; and to provide people with disabilities access to information and communication technology and transportation services.

SEC. 8. Protecting Consumers, Patients, Passengers, and Students. (a) Independent regulatory agencies are encouraged, as they deem appropriate, to consider using their full range of authorities to protect American consumers from fraud, discrimination, and threats to privacy and to address other risks that may arise from the use of AI, including risks to financial stability, and to consider rulemaking, as well as emphasizing or clarifying where existing regulations and guidance apply to AI, including clarifying the responsibility of regulated entities to conduct due diligence on and monitor any third-party AI services they use, and emphasizing or clarifying requirements and expectations related to the transparency of AI models and regulated entities' ability to explain their use of AI models.

(b) To help ensure the safe, responsible deployment and use of AI in the healthcare, public-health, and human-services sectors:

(i) Within 90 days of the date of this order [Oct. 30, 2023], the Secretary of HHS shall, in consultation with the Secretary of Defense and the Secretary of Veterans Affairs, establish an HHS AI Task Force that shall, within 365 days of its creation, develop a strategic plan that includes policies and frameworks—possibly including regulatory action, as appropriate—on responsible deployment and use of AI and AI-enabled technologies in the health and human services sector (including research and discovery, drug and device safety, healthcare delivery and financing, and public health), and identify appropriate guidance and resources to promote that deployment, including in the following areas:

(A) development, maintenance, and use of predictive and generative AI-enabled technologies in healthcare delivery and financing—including quality measurement, performance improvement, program integrity, benefits administration, and patient experience—taking into account considerations such as appropriate human oversight of the application of AI-generated output;

(B) long-term safety and real-world performance monitoring of AI-enabled technologies in the health and human services sector, including clinically relevant or significant modifications and performance across population groups, with a means to communicate product updates to regulators, developers, and users;

(C) incorporation of equity principles in AI-enabled technologies used in the health and human services sector, using disaggregated data on affected populations and representative population data sets when developing new models, monitoring algorithmic performance against discrimination and bias in existing models, and helping to identify and mitigate discrimination and bias in current systems;

(D) incorporation of safety, privacy, and security standards into the software-development lifecycle for protection of personally identifiable information, including measures to address AI-enhanced cybersecurity threats in the health and human services sector;

(E) development, maintenance, and availability of documentation to help users determine appropriate and safe uses of AI in local settings in the health and human services sector;

(F) work to be done with State, local, Tribal, and territorial health and human services agencies to advance positive use cases and best practices for use of AI in local settings; and

(G) identification of uses of AI to promote workplace efficiency and satisfaction in the health and human services sector, including reducing administrative burdens.

(ii) Within 180 days of the date of this order, the Secretary of HHS shall direct HHS components, as the Secretary of HHS deems appropriate, to develop a strategy, in consultation with relevant agencies, to determine whether AI-enabled technologies in the health and human services sector maintain appropriate levels of quality, including, as appropriate, in the areas described in subsection (b)(i) of this section. This work shall include the development of AI assurance policy—to evaluate important aspects of the performance of AI-enabled healthcare tools—and infrastructure needs for enabling pre-market assessment and post-market oversight of AI-enabled healthcare-technology algorithmic system performance against real-world data.

(iii) Within 180 days of the date of this order, the Secretary of HHS shall, in consultation with relevant agencies as the Secretary of HHS deems appropriate, consider appropriate actions to advance the prompt understanding of, and compliance with, Federal nondiscrimination laws by health and human services providers that receive Federal financial assistance, as well as how those laws relate to AI. Such actions may include:

(A) convening and providing technical assistance to health and human services providers and payers

about their obligations under Federal nondiscrimination and privacy laws as they relate to AI and the potential consequences of noncompliance; and

(B) issuing guidance, or taking other action as appropriate, in response to any complaints or other reports of noncompliance with Federal nondiscrimination and privacy laws as they relate to AI.

(iv) Within 365 days of the date of this order, the Secretary of HHS shall, in consultation with the Secretary of Defense and the Secretary of Veterans Affairs, establish an AI safety program that, in partnership with voluntary federally listed Patient Safety Organizations:

(A) establishes a common framework for approaches to identifying and capturing clinical errors resulting from AI deployed in healthcare settings as well as specifications for a central tracking repository for associated incidents that cause harm, including through bias or discrimination, to patients, caregivers, or other parties;

(B) analyzes captured data and generated evidence to develop, wherever appropriate, recommendations, best practices, or other informal guidelines aimed at avoiding these harms; and

(C) disseminates those recommendations, best practices, or other informal guidance to appropriate stakeholders, including healthcare providers.

(v) Within 365 days of the date of this order, the Secretary of HHS shall develop a strategy for regulating the use of AI or AI-enabled tools in drug-development processes. The strategy shall, at a minimum:

(A) define the objectives, goals, and high-level principles required for appropriate regulation throughout each phase of drug development;

(B) identify areas where future rulemaking, guidance, or additional statutory authority may be necessary to implement such a regulatory system;

(C) identify the existing budget, resources, personnel, and potential for new public/private partnerships necessary for such a regulatory system; and

(D) consider risks identified by the actions undertaken to implement section 4 of this order.

(c) To promote the safe and responsible development and use of AI in the transportation sector, in consultation with relevant agencies:

(i) Within 30 days of the date of this order, the Secretary of Transportation shall direct the Nontraditional and Emerging Transportation Technology (NETT) Council to assess the need for information, technical assistance, and guidance regarding the use of AI in transportation. The Secretary of Transportation shall further direct the NETT Council, as part of any such efforts, to:

(A) support existing and future initiatives to pilot transportation-related applications of AI, as they align with policy priorities articulated in the Department of Transportation's (DOT) Innovation Principles, including, as appropriate, through technical assistance and connecting stakeholders;

(B) evaluate the outcomes of such pilot programs in order to assess when DOT, or other Federal or State agencies, have sufficient information to take regulatory actions, as appropriate, and recommend appropriate actions when that information is available; and

(C) establish a new DOT Cross-Modal Executive Working Group, which will consist of members from different divisions of DOT and coordinate applicable work among these divisions, to solicit and use relevant input from appropriate stakeholders.

(ii) Within 90 days of the date of this order, the Secretary of Transportation shall direct appropriate Federal Advisory Committees of the DOT to provide advice on the safe and responsible use of AI in transportation. The committees shall include the Advanced Aviation Advisory Committee, the Transforming Transportation Advisory Committee, and the Intelligent Transportation Systems Program Advisory Committee.

(iii) Within 180 days of the date of this order, the Secretary of Transportation shall direct the Advanced Research Projects Agency-Infrastructure (ARPA-I) to ex-

plore the transportation-related opportunities and challenges of AI—including regarding software-defined AI enhancements impacting autonomous mobility ecosystems. The Secretary of Transportation shall further encourage ARPA-I to prioritize the allocation of grants to those opportunities, as appropriate. The work tasked to ARPA-I shall include soliciting input on these topics through a public consultation process, such as an RFI.

(d) To help ensure the responsible development and deployment of AI in the education sector, the Secretary of Education shall, within 365 days of the date of this order, develop resources, policies, and guidance regarding AI. These resources shall address safe, responsible, and nondiscriminatory uses of AI in education, including the impact AI systems have on vulnerable and underserved communities, and shall be developed in consultation with stakeholders as appropriate. They shall also include the development of an "AI toolkit" for education leaders implementing recommendations from the Department of Education's AI and the Future of Teaching and Learning report, including appropriate human review of AI decisions, designing AI systems to enhance trust and safety and align with privacy-related laws and regulations in the educational context, and developing education-specific guardrails.

(e) The Federal Communications Commission is encouraged to consider actions related to how AI will affect communications networks and consumers, including by:

(i) examining the potential for AI to improve spectrum management, increase the efficiency of non-Federal spectrum usage, and expand opportunities for the sharing of non-Federal spectrum;

(ii) coordinating with the National Telecommunications and Information Administration to create opportunities for sharing spectrum between Federal and non-Federal spectrum operations;

(iii) providing support for efforts to improve network security, resiliency, and interoperability using next-generation technologies that incorporate AI, including self-healing networks, 6G, and Open RAN; and

(iv) encouraging, including through rulemaking, efforts to combat unwanted robocalls and robotexts that are facilitated or exacerbated by AI and to deploy AI technologies that better serve consumers by blocking unwanted robocalls and robotexts.

SEC. 9. *Protecting Privacy.* (a) To mitigate privacy risks potentially exacerbated by AI—including by AI's facilitation of the collection or use of information about individuals, or the making of inferences about individuals—the Director of OMB shall:

(i) evaluate and take steps to identify commercially available information (CAI) procured by agencies, particularly CAI that contains personally identifiable information and including CAI procured from data brokers and CAI procured and processed indirectly through vendors, in appropriate agency inventory and reporting processes (other than when it is used for the purposes of national security);

(ii) evaluate, in consultation with the Federal Privacy Council and the Interagency Council on Statistical Policy, agency standards and procedures associated with the collection, processing, maintenance, use, sharing, dissemination, and disposition of CAI that contains personally identifiable information (other than when it is used for the purposes of national security) to inform potential guidance to agencies on ways to mitigate privacy and confidentiality risks from agencies' activities related to CAI;

(iii) within 180 days of the date of this order, in consultation with the Attorney General, the Assistant to the President for Economic Policy, and the Director of OSTP, issue an RFI to inform potential revisions to guidance to agencies on implementing the privacy provisions of the E-Government Act of 2002 (Public Law 107-347) [see Tables for classification]. The RFI shall seek feedback regarding how privacy impact assessments may be more effective at mitigating privacy risks, including those that are further exacerbated by AI; and

(iv) take such steps as are necessary and appropriate, consistent with applicable law, to support and advance the near-term actions and long-term strategy identified through the RFI process, including issuing new or updated guidance or RFIs or consulting other agencies or the Federal Privacy Council.

(b) Within 365 days of the date of this order, to better enable agencies to use PETs to safeguard Americans' privacy from the potential threats exacerbated by AI, the Secretary of Commerce, acting through the Director of NIST, shall create guidelines for agencies to evaluate the efficacy of differential-privacy-guarantee protections, including for AI. The guidelines shall, at a minimum, describe the significant factors that bear on differential-privacy safeguards and common risks to realizing differential privacy in practice.

(c) To advance research, development, and implementation related to PETs:

(i) Within 120 days of the date of this order, the Director of NSF, in collaboration with the Secretary of Energy, shall fund the creation of a Research Coordination Network (RCN) dedicated to advancing privacy research and, in particular, the development, deployment, and scaling of PETs. The RCN shall serve to enable privacy researchers to share information, coordinate and collaborate in research, and develop standards for the privacy-research community.

(ii) Within 240 days of the date of this order, the Director of NSF shall engage with agencies to identify ongoing work and potential opportunities to incorporate PETs into their operations. The Director of NSF shall, where feasible and appropriate, prioritize research—including efforts to translate research discoveries into practical applications—that encourage the adoption of leading-edge PETs solutions for agencies' use, including through research engagement through the RCN described in subsection (c)(i) of this section.

(iii) The Director of NSF shall use the results of the United States-United Kingdom PETs Prize Challenge to inform the approaches taken, and opportunities identified, for PETs research and adoption.

SEC. 10. *Advancing Federal Government Use of AI.*

10.1. *Providing Guidance for AI Management.* (a) To coordinate the use of AI across the Federal Government, within 60 days of the date of this order [Oct. 30, 2023] and on an ongoing basis as necessary, the Director of OMB shall convene and chair an interagency council to coordinate the development and use of AI in agencies' programs and operations, other than the use of AI in national security systems. The Director of OSTP shall serve as Vice Chair for the interagency council. The interagency council's membership shall include, at minimum, the heads of the agencies identified in 31 U.S.C. 901(b), the Director of National Intelligence, and other agencies as identified by the Chair. Until agencies designate their permanent Chief AI Officers consistent with the guidance described in subsection 10.1(b) of this section, they shall be represented on the interagency council by an appropriate official at the Assistant Secretary level or equivalent, as determined by the head of each agency.

(b) To provide guidance on Federal Government use of AI, within 150 days of the date of this order and updated periodically thereafter, the Director of OMB, in coordination with the Director of OSTP, and in consultation with the interagency council established in subsection 10.1(a) of this section, shall issue guidance to agencies to strengthen the effective and appropriate use of AI, advance AI innovation, and manage risks from AI in the Federal Government. The Director of OMB's guidance shall specify, to the extent appropriate and consistent with applicable law:

(i) the requirement to designate at each agency within 60 days of the issuance of the guidance a Chief Artificial Intelligence Officer who shall hold primary responsibility in their agency, in coordination with other responsible officials, for coordinating their agency's use of AI, promoting AI innovation in their agency, managing risks from their agency's use of AI, and carrying out the responsibilities described in section 8(c) of Ex-

ecutive Order 13960 of December 3, 2020 (Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government) [40 U.S.C. 11301 note], and section 4(b) of Executive Order 14091;

(ii) the Chief Artificial Intelligence Officers' roles, responsibilities, seniority, position, and reporting structures;

(iii) for the agencies identified in 31 U.S.C. 901(b), the creation of internal Artificial Intelligence Governance Boards, or other appropriate mechanisms, at each agency within 60 days of the issuance of the guidance to coordinate and govern AI issues through relevant senior leaders from across the agency;

(iv) required minimum risk-management practices for Government uses of AI that impact people's rights or safety, including, where appropriate, the following practices derived from OSTP's Blueprint for an AI Bill of Rights and the NIST AI Risk Management Framework: conducting public consultation; assessing data quality; assessing and mitigating disparate impacts and algorithmic discrimination; providing notice of the use of AI; continuously monitoring and evaluating deployed AI; and granting human consideration and remedies for adverse decisions made using AI;

(v) specific Federal Government uses of AI that are presumed by default to impact rights or safety;

(vi) recommendations to agencies to reduce barriers to the responsible use of AI, including barriers related to information technology infrastructure, data, workforce, budgetary restrictions, and cybersecurity processes;

(vii) requirements that agencies identified in 31 U.S.C. 901(b) develop AI strategies and pursue high-impact AI use cases;

(viii) in consultation with the Secretary of Commerce, the Secretary of Homeland Security, and the heads of other appropriate agencies as determined by the Director of OMB, recommendations to agencies regarding:

(A) external testing for AI, including AI red-teaming for generative AI, to be developed in coordination with the Cybersecurity and Infrastructure Security Agency;

(B) testing and safeguards against discriminatory, misleading, inflammatory, unsafe, or deceptive outputs, as well as against producing child sexual abuse material and against producing non-consensual intimate imagery of real individuals (including intimate digital depictions of the body or body parts of an identifiable individual), for generative AI;

(C) reasonable steps to watermark or otherwise label output from generative AI;

(D) application of the mandatory minimum risk-management practices defined under subsection 10.1(b)(iv) of this section to procured AI;

(E) independent evaluation of vendors' claims concerning both the effectiveness and risk mitigation of their AI offerings;

(F) documentation and oversight of procured AI;

(G) maximizing the value to agencies when relying on contractors to use and enrich Federal Government data for the purposes of AI development and operation;

(H) provision of incentives for the continuous improvement of procured AI; and

(I) training on AI in accordance with the principles set out in this order and in other references related to AI listed herein; and

(ix) requirements for public reporting on compliance with this guidance.

(c) To track agencies' AI progress, within 60 days of the issuance of the guidance established in subsection 10.1(b) of this section and updated periodically thereafter, the Director of OMB shall develop a method for agencies to track and assess their ability to adopt AI into their programs and operations, manage its risks, and comply with Federal policy on AI. This method should draw on existing related efforts as appropriate and should address, as appropriate and consistent with applicable law, the practices, processes, and capabili-

ties necessary for responsible AI adoption, training, and governance across, at a minimum, the areas of information technology infrastructure, data, workforce, leadership, and risk management.

(d) To assist agencies in implementing the guidance to be established in subsection 10.1(b) of this section:

(i) within 90 days of the issuance of the guidance, the Secretary of Commerce, acting through the Director of NIST, and in coordination with the Director of OMB and the Director of OSTP, shall develop guidelines, tools, and practices to support implementation of the minimum risk-management practices described in subsection 10.1(b)(iv) of this section; and

(ii) within 180 days of the issuance of the guidance, the Director of OMB shall develop an initial means to ensure that agency contracts for the acquisition of AI systems and services align with the guidance described in subsection 10.1(b) of this section and advance the other aims identified in section 7224(d)(1) of the Advancing American AI Act (Public Law 117-263, div. G, title LXXII, subtitle B) [40 U.S.C. 11301 note].

(e) To improve transparency for agencies' use of AI, the Director of OMB shall, on an annual basis, issue instructions to agencies for the collection, reporting, and publication of agency AI use cases, pursuant to section 7225(a) of the Advancing American AI Act [40 U.S.C. 11301 note]. Through these instructions, the Director shall, as appropriate, expand agencies' reporting on how they are managing risks from their AI use cases and update or replace the guidance originally established in section 5 of Executive Order 13960.

(f) To advance the responsible and secure use of generative AI in the Federal Government:

(i) As generative AI products become widely available and common in online platforms, agencies are discouraged from imposing broad general bans or blocks on agency use of generative AI. Agencies should instead limit access, as necessary, to specific generative AI services based on specific risk assessments; establish guidelines and limitations on the appropriate use of generative AI; and, with appropriate safeguards in place, provide their personnel and programs with access to secure and reliable generative AI capabilities, at least for the purposes of experimentation and routine tasks that carry a low risk of impacting Americans' rights. To protect Federal Government information, agencies are also encouraged to employ risk-management practices, such as training their staff on proper use, protection, dissemination, and disposition of Federal information; negotiating appropriate terms of service with vendors; implementing measures designed to ensure compliance with record-keeping, cybersecurity, confidentiality, privacy, and data protection requirements; and deploying other measures to prevent misuse of Federal Government information in generative AI.

(ii) Within 90 days of the date of this order, the Administrator of General Services, in coordination with the Director of OMB, and in consultation with the Federal Secure Cloud Advisory Committee and other relevant agencies as the Administrator of General Services may deem appropriate, shall develop and issue a framework for prioritizing critical and emerging technologies offerings in the Federal Risk and Authorization Management Program authorization process, starting with generative AI offerings that have the primary purpose of providing large language model-based chat interfaces, code-generation and debugging tools, and associated application programming interfaces, as well as prompt-based image generators. This framework shall apply for no less than 2 years from the date of its issuance. Agency Chief Information Officers, Chief Information Security Officers, and authorizing officials are also encouraged to prioritize generative AI and other critical and emerging technologies in granting authorities for agency operation of information technology systems and any other applicable release or oversight processes, using continuous authorizations and approvals wherever feasible.

(iii) Within 180 days of the date of this order, the Director of the Office of Personnel Management (OPM), in

coordination with the Director of OMB, shall develop guidance on the use of generative AI for work by the Federal workforce.

(g) Within 30 days of the date of this order, to increase agency investment in AI, the Technology Modernization Board shall consider, as it deems appropriate and consistent with applicable law, prioritizing funding for AI projects for the Technology Modernization Fund for a period of at least 1 year. Agencies are encouraged to submit to the Technology Modernization Fund project funding proposals that include AI—and particularly generative AI—in service of mission delivery.

(h) Within 180 days of the date of this order, to facilitate agencies' access to commercial AI capabilities, the Administrator of General Services, in coordination with the Director of OMB, and in collaboration with the Secretary of Defense, the Secretary of Homeland Security, the Director of National Intelligence, the Administrator of the National Aeronautics and Space Administration, and the head of any other agency identified by the Administrator of General Services, shall take steps consistent with applicable law to facilitate access to Federal Government-wide acquisition solutions for specified types of AI services and products, such as through the creation of a resource guide or other tools to assist the acquisition workforce. Specified types of AI capabilities shall include generative AI and specialized computing infrastructure.

(i) The initial means, instructions, and guidance issued pursuant to subsections 10.1(a)–(h) of this section shall not apply to AI when it is used as a component of a national security system, which shall be addressed by the proposed National Security Memorandum described in subsection 4.8 of this order.

10.2. Increasing AI Talent in Government. (a) Within 45 days of the date of this order, to plan a national surge in AI talent in the Federal Government, the Director of OSTP and the Director of OMB, in consultation with the Assistant to the President for National Security Affairs, the Assistant to the President for Economic Policy, the Assistant to the President and Domestic Policy Advisor, and the Assistant to the President and Director of the Gender Policy Council, shall identify priority mission areas for increased Federal Government AI talent, the types of talent that are highest priority to recruit and develop to ensure adequate implementation of this order and use of relevant enforcement and regulatory authorities to address AI risks, and accelerated hiring pathways.

(b) Within 45 days of the date of this order, to coordinate rapid advances in the capacity of the Federal AI workforce, the Assistant to the President and Deputy Chief of Staff for Policy, in coordination with the Director of OSTP and the Director of OMB, and in consultation with the National Cyber Director, shall convene an AI and Technology Talent Task Force, which shall include the Director of OPM, the Director of the General Services Administration's Technology Transformation Services, a representative from the Chief Human Capital Officers Council, the Assistant to the President for Presidential Personnel, members of appropriate agency technology talent programs, a representative of the Chief Data Officer Council, and a representative of the interagency council convened under subsection 10.1(a) of this section. The Task Force's purpose shall be to accelerate and track the hiring of AI and AI-enabling talent across the Federal Government, including through the following actions:

(i) within 180 days of the date of this order, tracking and reporting progress to the President on increasing AI capacity across the Federal Government, including submitting to the President a report and recommendations for further increasing capacity;

(ii) identifying and circulating best practices for agencies to attract, hire, retain, train, and empower AI talent, including diversity, inclusion, and accessibility best practices, as well as to plan and budget adequately for AI workforce needs;

(iii) coordinating, in consultation with the Director of OPM, the use of fellowship programs and agency

technology-talent programs and human-capital teams to build hiring capabilities, execute hires, and place AI talent to fill staffing gaps; and

(iv) convening a cross-agency forum for ongoing collaboration between AI professionals to share best practices and improve retention.

(c) Within 45 days of the date of this order, to advance existing Federal technology talent programs, the United States Digital Service, Presidential Innovation Fellowship, United States Digital Corps, OPM, and technology talent programs at agencies, with support from the AI and Technology Talent Task Force described in subsection 10.2(b) of this section, as appropriate and permitted by law, shall develop and begin to implement plans to support the rapid recruitment of individuals as part of a Federal Government-wide AI talent surge to accelerate the placement of key AI and AI-enabling talent in high-priority areas and to advance agencies' data and technology strategies.

(d) To meet the critical hiring need for qualified personnel to execute the initiatives in this order, and to improve Federal hiring practices for AI talent, the Director of OPM, in consultation with the Director of OMB, shall:

(i) within 60 days of the date of this order, conduct an evidence-based review on the need for hiring and workplace flexibility, including Federal Government-wide direct-hire authority for AI and related data-science and technical roles, and, where the Director of OPM finds such authority is appropriate, grant it; this review shall include the following job series at all General Schedule (GS) levels: IT Specialist (2210), Computer Scientist (1550), Computer Engineer (0854), and Program Analyst (0343) focused on AI, and any subsequently developed job series derived from these job series;

(ii) within 60 days of the date of this order, consider authorizing the use of excepted service appointments under 5 CFR 213.3102(i)(3) to address the need for hiring additional staff to implement directives of this order;

(iii) within 90 days of the date of this order, coordinate a pooled-hiring action informed by subject-matter experts and using skills-based assessments to support the recruitment of AI talent across agencies;

(iv) within 120 days of the date of this order, as appropriate and permitted by law, issue guidance for agency application of existing pay flexibilities or incentive pay programs for AI, AI-enabling, and other key technical positions to facilitate appropriate use of current pay incentives;

(v) within 180 days of the date of this order, establish guidance and policy on skills-based, Federal Government-wide hiring of AI, data, and technology talent in order to increase access to those with nontraditional academic backgrounds to Federal AI, data, and technology roles;

(vi) within 180 days of the date of this order, establish an interagency working group, staffed with both human-resources professionals and recruiting technical experts, to facilitate Federal Government-wide hiring of people with AI and other technical skills;

(vii) within 180 days of the date of this order, review existing Executive Core Qualifications (ECQs) for Senior Executive Service (SES) positions informed by data and AI literacy competencies and, within 365 days of the date of this order, implement new ECQs as appropriate in the SES assessment process;

(viii) within 180 days of the date of this order, complete a review of competencies for civil engineers (GS-0810 series) and, if applicable, other related occupations, and make recommendations for ensuring that adequate AI expertise and credentials in these occupations in the Federal Government reflect the increased use of AI in critical infrastructure; and

(ix) work with the Security, Suitability, and Credentialing Performance Accountability Council to assess mechanisms to streamline and accelerate personnel-vetting requirements, as appropriate, to support AI and fields related to other critical and emerging technologies.

(e) To expand the use of special authorities for AI hiring and retention, agencies shall use all appropriate hiring authorities, including Schedule A(r) excepted service hiring and direct-hire authority, as applicable and appropriate, to hire AI talent and AI-enabling talent rapidly. In addition to participating in OPM-led pooled hiring actions, agencies shall collaborate, where appropriate, on agency-led pooled hiring under the Competitive Service Act of 2015 (Public Law 114-137) [see Tables for classification] and other shared hiring. Agencies shall also, where applicable, use existing incentives, pay-setting authorities, and other compensation flexibilities, similar to those used for cyber and information technology positions, for AI and data-science professionals, as well as plain-language job titles, to help recruit and retain these highly skilled professionals. Agencies shall ensure that AI and other related talent needs (such as technology governance and privacy) are reflected in strategic workforce planning and budget formulation.

(f) To facilitate the hiring of data scientists, the Chief Data Officer Council shall develop a position-description library for data scientists (job series 1560) and a hiring guide to support agencies in hiring data scientists.

(g) To help train the Federal workforce on AI issues, the head of each agency shall implement—or increase the availability and use of—AI training and familiarization programs for employees, managers, and leadership in technology as well as relevant policy, managerial, procurement, regulatory, ethical, governance, and legal fields. Such training programs should, for example, empower Federal employees, managers, and leaders to develop and maintain an operating knowledge of emerging AI technologies to assess opportunities to use these technologies to enhance the delivery of services to the public, and to mitigate risks associated with these technologies. Agencies that provide professional-development opportunities, grants, or funds for their staff should take appropriate steps to ensure that employees who do not serve in traditional technical roles, such as policy, managerial, procurement, or legal fields, are nonetheless eligible to receive funding for programs and courses that focus on AI, machine learning, data science, or other related subject areas.

(h) Within 180 days of the date of this order, to address gaps in AI talent for national defense, the Secretary of Defense shall submit a report to the President through the Assistant to the President for National Security Affairs that includes:

(i) recommendations to address challenges in the Department of Defense's ability to hire certain noncitizens, including at the Science and Technology Reinvention Laboratories;

(ii) recommendations to clarify and streamline processes for accessing classified information for certain noncitizens through Limited Access Authorization at Department of Defense laboratories;

(iii) recommendations for the appropriate use of enlistment authority under 10 U.S.C. 504(b)(2) for experts in AI and other critical and emerging technologies; and

(iv) recommendations for the Department of Defense and the Department of Homeland Security to work together to enhance the use of appropriate authorities for the retention of certain noncitizens of vital importance to national security by the Department of Defense and the Department of Homeland Security.

SEC. 11. *Strengthening American Leadership Abroad.* (a) To strengthen United States leadership of global efforts to unlock AI's potential and meet its challenges, the Secretary of State, in coordination with the Assistant to the President for National Security Affairs, the Assistant to the President for Economic Policy, the Director of OSTP, and the heads of other relevant agencies as appropriate, shall:

(i) lead efforts outside of military and intelligence areas to expand engagements with international allies and partners in relevant bilateral, multilateral, and multi-stakeholder fora to advance those allies' and

partners' understanding of existing and planned AI-related guidance and policies of the United States, as well as to enhance international collaboration; and

(i) lead efforts to establish a strong international framework for managing the risks and harnessing the benefits of AI, including by encouraging international allies and partners to support voluntary commitments similar to those that United States companies have made in pursuit of these objectives and coordinating the activities directed by subsections (b), (c), (d), and (e) of this section, and to develop common regulatory and other accountability principles for foreign nations, including to manage the risk that AI systems pose.

(b) To advance responsible global technical standards for AI development and use outside of military and intelligence areas, the Secretary of Commerce, in coordination with the Secretary of State and the heads of other relevant agencies as appropriate, shall lead preparations for a coordinated effort with key international allies and partners and with standards development organizations, to drive the development and implementation of AI-related consensus standards, cooperation and coordination, and information sharing. In particular, the Secretary of Commerce shall:

(i) within 270 days of the date of this order, establish a plan for global engagement on promoting and developing AI standards, with lines of effort that may include:

- (A) AI nomenclature and terminology;
- (B) best practices regarding data capture, processing, protection, privacy, confidentiality, handling, and analysis;
- (C) trustworthiness, verification, and assurance of AI systems; and
- (D) AI risk management;

(ii) within 180 days of the date the plan is established, submit a report to the President on priority actions taken pursuant to the plan; and

(iii) ensure that such efforts are guided by principles set out in the NIST AI Risk Management Framework and United States Government National Standards Strategy for Critical and Emerging Technology.

(c) Within 365 days of the date of this order, to promote safe, responsible, and rights-affirming development and deployment of AI abroad:

(i) The Secretary of State and the Administrator of the United States Agency for International Development, in coordination with the Secretary of Commerce, acting through the director of NIST, shall publish an AI in Global Development Playbook that incorporates the AI Risk Management Framework's principles, guidelines, and best practices into the social, technical, economic, governance, human rights, and security conditions of contexts beyond United States borders. As part of this work, the Secretary of State and the Administrator of the United States Agency for International Development shall draw on lessons learned from programmatic uses of AI in global development.

(ii) The Secretary of State and the Administrator of the United States Agency for International Development, in collaboration with the Secretary of Energy and the Director of NSF, shall develop a Global AI Research Agenda to guide the objectives and implementation of AI-related research in contexts beyond United States borders. The Agenda shall:

- (A) include principles, guidelines, priorities, and best practices aimed at ensuring the safe, responsible, beneficial, and sustainable global development and adoption of AI; and
- (B) address AI's labor-market implications across international contexts, including by recommending risk mitigations.

(d) To address cross-border and global AI risks to critical infrastructure, the Secretary of Homeland Security, in coordination with the Secretary of State, and in consultation with the heads of other relevant agencies as the Secretary of Homeland Security deems appropriate, shall lead efforts with international allies and partners to enhance cooperation to prevent, respond to, and recover from potential critical infra-

structure disruptions resulting from incorporation of AI into critical infrastructure systems or malicious use of AI.

(i) Within 270 days of the date of this order, the Secretary of Homeland Security, in coordination with the Secretary of State, shall develop a plan for multilateral engagements to encourage the adoption of the AI safety and security guidelines for use by critical infrastructure owners and operators developed in section 4.3(a) of this order.

(ii) Within 180 days of establishing the plan described in subsection (d)(i) of this section, the Secretary of Homeland Security shall submit a report to the President on priority actions to mitigate cross-border risks to critical United States infrastructure.

SEC. 12. *Implementation.* (a) There is established, within the Executive Office of the President, the White House Artificial Intelligence Council (White House AI Council). The function of the White House AI Council is to coordinate the activities of agencies across the Federal Government to ensure the effective formulation, development, communication, industry engagement related to, and timely implementation of AI-related policies, including policies set forth in this order.

(b) The Assistant to the President and Deputy Chief of Staff for Policy shall serve as Chair of the White House AI Council.

(c) In addition to the Chair, the White House AI Council shall consist of the following members, or their designees:

- (i) the Secretary of State;
- (ii) the Secretary of the Treasury;
- (iii) the Secretary of Defense;
- (iv) the Attorney General;
- (v) the Secretary of Agriculture;
- (vi) the Secretary of Commerce;
- (vii) the Secretary of Labor;
- (viii) the Secretary of HHS;
- (ix) the Secretary of Housing and Urban Development;
- (x) the Secretary of Transportation;
- (xi) the Secretary of Energy;
- (xii) the Secretary of Education;
- (xiii) the Secretary of Veterans Affairs;
- (xiv) the Secretary of Homeland Security;
- (xv) the Administrator of the Small Business Administration;
- (xvi) the Administrator of the United States Agency for International Development;
- (xvii) the Director of National Intelligence;
- (xviii) the Director of NSF;
- (xix) the Director of OMB;
- (xx) the Director of OSTP;
- (xxi) the Assistant to the President for National Security Affairs;
- (xxii) the Assistant to the President for Economic Policy;
- (xxiii) the Assistant to the President and Domestic Policy Advisor;
- (xxiv) the Assistant to the President and Chief of Staff to the Vice President;
- (xxv) the Assistant to the President and Director of the Gender Policy Council;
- (xxvi) the Chairman of the Council of Economic Advisers;
- (xxvii) the National Cyber Director;
- (xxviii) the Chairman of the Joint Chiefs of Staff; and
- (xxix) the heads of such other agencies, independent regulatory agencies, and executive offices as the Chair may from time to time designate or invite to participate.

(d) The Chair may create and coordinate subgroups consisting of White House AI Council members or their designees, as appropriate.

SEC. 13. *General Provisions.* (a) Nothing in this order shall be construed to impair or otherwise affect:

- (i) the authority granted by law to an executive department or agency, or the head thereof; or
- (ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

J.R. BIDEN, JR.

SUBCHAPTER I—NATIONAL ARTIFICIAL INTELLIGENCE INITIATIVE

§ 9411. National Artificial Intelligence Initiative

(a) Establishment; purposes

The President shall establish and implement an initiative to be known as the “National Artificial Intelligence Initiative”. The purposes of the Initiative shall be to—

(1) ensure continued United States leadership in artificial intelligence research and development;

(2) lead the world in the development and use of trustworthy artificial intelligence systems in the public and private sectors;

(3) prepare the present and future United States workforce for the integration of artificial intelligence systems across all sectors of the economy and society; and

(4) coordinate ongoing artificial intelligence research, development, and demonstration activities among the civilian agencies, the Department of Defense and the Intelligence Community to ensure that each informs the work of the others.

(b) Initiative activities

In carrying out the Initiative, the President, acting through the Initiative Office, the Interagency Committee, and agency heads as the President considers appropriate, shall carry out activities that include the following:

(1) Sustained and consistent support for artificial intelligence research and development through grants, cooperative agreements, testbeds, and access to data and computing resources.

(2) Support for K-12 education and postsecondary educational programs, including workforce training and career and technical education programs, and informal education programs to prepare the American workforce and the general public to be able to create, use, and interact with artificial intelligence systems.

(3) Support for interdisciplinary research, education, and workforce training programs for students and researchers that promote learning in the methods and systems used in artificial intelligence and foster interdisciplinary perspectives and collaborations among subject matter experts in relevant fields, including computer science, mathematics, statistics, engineering, social sciences, health, psychology, behavioral science, ethics, security, legal scholarship, and other disciplines that will be necessary to advance artificial intelligence research and development responsibly.

(4) Interagency planning and coordination of Federal artificial intelligence research, development, demonstration, standards engage-

ment, and other activities under the Initiative, as appropriate.

(5) Outreach to diverse stakeholders, including citizen groups, industry, and civil rights and disability rights organizations, to ensure public input is taken into account in the activities of the Initiative.

(6) Leveraging existing Federal investments to advance objectives of the Initiative.

(7) Support for a network of interdisciplinary artificial intelligence research institutes, as described in section 9431(b)(7)(B) of this title.

(8) Support opportunities for international cooperation with strategic allies, as appropriate, on the research and development, assessment, and resources for trustworthy artificial intelligence systems.

(c) Limitation

The Initiative shall not impact sources and methods, as determined by the Director of National Intelligence.

(d) Rules of construction

Nothing in this chapter shall be construed as—

(1) modifying any authority or responsibility, including any operational authority or responsibility of any head of a Federal department or agency, with respect to intelligence or the intelligence community, as those terms are defined in 50 U.S.C. 3003;¹

(2) authorizing the Initiative, or anyone associated with its derivative efforts to approve, interfere with, direct or to conduct an intelligence activity, resource, or operation; or

(3) authorizing the Initiative, or anyone associated with its derivative efforts to modify the classification of intelligence information.

(e) Sunset

The Initiative established in this chapter shall terminate on the date that is 10 years after January 1, 2021.

(Pub. L. 116-283, div. E, title LI, §5101, Jan. 1, 2021, 134 Stat. 4524.)

Editorial Notes

REFERENCES IN TEXT

This chapter, referred to in subsecs. (d) and (e), was in the original “this division”, meaning div. E of Pub. L. 116-283, Jan. 1, 2021, 134 Stat. 4523, which is classified principally to this chapter. For complete classification of div. E to the Code, see Short Title note set out under section 9401 of this title and Tables.

50 U.S.C. 3003, referred to in subsec. (d)(1), was so in the original, but probably should have been a reference to section 3 of the National Security Act of 1947, act July 26, 1947, ch. 343, which is classified to section 3003 of Title 50, War and National Defense.

§ 9412. National Artificial Intelligence Initiative Office

(a) In general

The Director of the Office of Science and Technology Policy shall establish or designate, and appoint a director of, an office to be known as the “National Artificial Intelligence Initiative Office” to carry out the responsibilities de-

¹ See References in Text note below.

scribed in subsection (b) with respect to the Initiative. The Initiative Office shall have sufficient staff to carry out such responsibilities, including staff detailed from the Federal departments and agencies described in section 9413(c) of this title, as appropriate.

(b) Responsibilities

The Director of the Initiative Office shall—

(1) provide technical and administrative support to the Interagency Committee and the Advisory Committee;

(2) serve as the point of contact on Federal artificial intelligence activities for Federal departments and agencies, industry, academia, nonprofit organizations, professional societies, State governments, and such other persons as the Initiative Office considers appropriate to exchange technical and programmatic information;

(3) conduct regular public outreach to diverse stakeholders, including civil rights and disability rights organizations; and

(4) promote access to the technologies, innovations, best practices, and expertise derived from Initiative activities to agency missions and systems across the Federal Government.

(c) Funding estimate

The Director of the Office of Science and Technology Policy, in coordination with each participating Federal department and agency, as appropriate, shall develop and annually update an estimate of the funds necessary to carry out the activities of the Initiative Coordination Office and submit such estimate with an agreed summary of contributions from each agency to Congress as part of the President's annual budget request to Congress.

(Pub. L. 116–283, div. E, title LI, § 5102, Jan. 1, 2021, 134 Stat. 4526.)

§ 9413. Coordination by Interagency Committee

(a) Interagency Committee

The Director of the Office of Science and Technology Policy, acting through the National Science and Technology Council, shall establish or designate an Interagency Committee to coordinate Federal programs and activities in support of the Initiative.

(b) Co-chairs

The Interagency Committee shall be co-chaired by the Director of the Office of Science and Technology Policy and, on an annual rotating basis, a representative from the Department of Commerce, the National Science Foundation, or the Department of Energy, as selected by the Director of the Office of Science and Technology Policy.

(c) Agency participation

The Committee shall include representatives from Federal agencies as considered appropriate by determination and agreement of the Director of the Office of Science and Technology Policy and the head of the affected agency.

(d) Responsibilities

The Interagency Committee shall—

(1) provide for interagency coordination of Federal artificial intelligence research, devel-

opment, and demonstration activities and education and workforce training activities and programs of Federal departments and agencies undertaken pursuant to the Initiative;

(2) not later than 2 years after January 1, 2021, develop a strategic plan for artificial intelligence (to be updated not less than every 3 years) that establishes goals, priorities, and metrics for guiding and evaluating how the agencies carrying out the Initiative will—

(A) determine and prioritize areas of artificial intelligence research, development, and demonstration requiring Federal Government leadership and investment;

(B) support long-term funding for interdisciplinary artificial intelligence research, development, demonstration, and education;

(C) support research and other activities on ethical, legal, environmental, safety, security, bias, and other appropriate societal issues related to artificial intelligence;

(D) provide or facilitate the availability of curated, standardized, secure, representative, aggregate, and privacy-protected data sets for artificial intelligence research and development;

(E) provide or facilitate the necessary computing, networking, and data facilities for artificial intelligence research and development;

(F) support and coordinate Federal education and workforce training activities related to artificial intelligence; and

(G) support and coordinate the network of artificial intelligence research institutes described in section 9431(b)(7)(B) of this title;

(3) as part of the President's annual budget request to Congress, propose an annually coordinated interagency budget for the Initiative to the Office of Management and Budget that is intended to ensure that the balance of funding across the Initiative is sufficient to meet the goals and priorities established for the Initiative; and

(4) in carrying out this section, take into consideration the recommendations of the Advisory Committee, existing reports on related topics, and the views of academic, State, industry, and other appropriate groups.

(e) Annual report

For each fiscal year beginning with fiscal year 2022, not later than 90 days after submission of the President's annual budget request for such fiscal year, the Interagency Committee shall prepare and submit to the Committee on Science, Space, and Technology, the Committee on Energy and Commerce, the Committee on Transportation and Infrastructure, the Committee on Armed Services, the House Permanent Select Committee on Intelligence, the Committee on the Judiciary, and the Committee on Appropriations of the House of Representatives and the Committee on Commerce, Science, and Transportation, the Committee on Health, Education, Labor, and Pensions, the Committee on Energy and Natural Resources, the Committee on Homeland Security and Governmental Affairs, the Committee on Armed Services, the Senate Select Committee on Intelligence, the Committee on the Judiciary, and the Committee

on Appropriations of the Senate a report that includes a summarized budget in support of the Initiative for such fiscal year and the preceding fiscal year, including a disaggregation of spending and a description of any Institutes established under section 9431 of this title for the Department of Commerce, the Department of Defense, the Department of Energy, the Department of Agriculture, the Department of Health and Human Services, and the National Science Foundation.

(Pub. L. 116–283, div. E, title LI, § 5103, Jan. 1, 2021, 134 Stat. 4526.)

§ 9414. National Artificial Intelligence Advisory Committee

(a) In general

The Secretary of Commerce shall, in consultation with the Director of the Office of Science and Technology Policy, the Secretary of Defense, the Secretary of Energy, the Secretary of State, the Attorney General, and the Director of National Intelligence establish an advisory committee to be known as the “National Artificial Intelligence Advisory Committee”.

(b) Qualifications

The Advisory Committee shall consist of members, appointed by the Secretary of Commerce, who are representing broad and interdisciplinary expertise and perspectives, including from academic institutions, companies across diverse sectors, nonprofit and civil society entities, including civil rights and disability rights organizations, and Federal laboratories, who are representing geographic diversity, and who are qualified to provide advice and information on science and technology research, development, ethics, standards, education, technology transfer, commercial application, security, and economic competitiveness related to artificial intelligence.

(c) Membership consideration

In selecting the members of the Advisory Committee, the Secretary of Commerce shall seek and give consideration to recommendations from Congress, industry, nonprofit organizations, the scientific community (including the National Academies of Sciences, Engineering, and Medicine, scientific professional societies, and academic institutions), the defense and law enforcement communities, and other appropriate organizations.

(d) Duties

The Advisory Committee shall advise the President and the Initiative Office on matters related to the Initiative, including recommendations related to—

(1) the current state of United States competitiveness and leadership in artificial intelligence, including the scope and scale of United States investments in artificial intelligence research and development in the international context;

(2) the progress made in implementing the Initiative, including a review of the degree to which the Initiative has achieved the goals according to the metrics established by the Interagency Committee under section 9413(d)(2) of this title;

(3) the state of the science around artificial intelligence, including progress toward artificial general intelligence;

(4) issues related to artificial intelligence and the United States workforce, including matters relating to the potential for using artificial intelligence for workforce training, the possible consequences of technological displacement, and supporting workforce training opportunities for occupations that lead to economic self-sufficiency for individuals with barriers to employment and historically underrepresented populations, including minorities, Indians (as defined in 25 U.S.C. 5304¹), low-income populations, and persons with disabilities.

(5) how to leverage the resources of the initiative to streamline and enhance operations in various areas of government operations, including health care, cybersecurity, infrastructure, and disaster recovery;

(6) the need to update the Initiative;

(7) the balance of activities and funding across the Initiative;

(8) whether the strategic plan developed or updated by the Interagency Committee established under section 9413(d)(2) of this title is helping to maintain United States leadership in artificial intelligence;

(9) the management, coordination, and activities of the Initiative;

(10) whether ethical, legal, safety, security, and other appropriate societal issues are adequately addressed by the Initiative;

(11) opportunities for international cooperation with strategic allies on artificial intelligence research activities, standards development, and the compatibility of international regulations;

(12) accountability and legal rights, including matters relating to oversight of artificial intelligence systems using regulatory and nonregulatory approaches, the responsibility for any violations of existing laws by an artificial intelligence system, and ways to balance advancing innovation while protecting individual rights; and

(13) how artificial intelligence can enhance opportunities for diverse geographic regions of the United States, including urban, Tribal, and rural communities.

(e) Subcommittee on artificial intelligence and law enforcement

(1) Establishment

The chairperson of the Advisory Committee shall establish a subcommittee on matters relating to the development of artificial intelligence relating to law enforcement matters.

(2) Advice

The subcommittee shall provide advice to the President on matters relating to the development of artificial intelligence relating to law enforcement, including advice on the following:

(A) Bias, including whether the use of facial recognition by government authorities, including law enforcement agencies, is tak-

¹ See References in Text note below.

ing into account ethical considerations and addressing whether such use should be subject to additional oversight, controls, and limitations.

(B) Security of data, including law enforcement's access to data and the security parameters for that data.

(C) Adoptability, including methods to allow the United States Government and industry to take advantage of artificial intelligence systems for security or law enforcement purposes while at the same time ensuring the potential abuse of such technologies is sufficiently mitigated.

(D) Legal standards, including those designed to ensure the use of artificial intelligence systems are consistent with the privacy rights, civil rights and civil liberties, and disability rights issues raised by the use of these technologies.

(f) Reports

Not later than 1 year after January 1, 2021, and not less frequently than once every 3 years thereafter, the Advisory Committee shall submit to the President, the Committee on Science, Space, and Technology, the Committee on Energy and Commerce, the House Permanent Select Committee on Intelligence, the Committee on the Judiciary, and the Committee on Armed Services of the House of Representatives, and the Committee on Commerce, Science, and Transportation, the Senate Select Committee on Intelligence, the Committee on Homeland Security and Governmental Affairs, the Committee on the Judiciary, and the Committee on Armed Services of the Senate, a report on the Advisory Committee's findings and recommendations under subsection (d) and subsection (e).

(g) Travel expenses of non-Federal members

Non-Federal members of the Advisory Committee, while attending meetings of the Advisory Committee or while otherwise serving at the request of the head of the Advisory Committee away from their homes or regular places of business, may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by section 5703 of title 5 for individuals in the Government serving without pay. Nothing in this subsection shall be construed to prohibit members of the Advisory Committee who are officers or employees of the United States from being allowed travel expenses, including per diem in lieu of subsistence, in accordance with existing law.

(h) FACA exemption

The Secretary of Commerce shall charter the Advisory Committee in accordance with the Federal Advisory Committee Act (5 U.S.C. App.),¹ except that the Advisory Committee shall be exempt from section 14 of such Act.

(Pub. L. 116-283, div. E, title LI, §5104, Jan. 1, 2021, 134 Stat. 4528.)

Editorial Notes

REFERENCES IN TEXT

¹ 25 U.S.C. 5304, referred to in subsec. (d)(4), was so in the original, but probably should have been a reference

to section 4 of the Indian Self-Determination and Education Assistance Act, Pub. L. 93-638, which is classified to section 5304 of Title 25, Indians.

The Federal Advisory Committee Act, referred to in subsec. (h), is Pub. L. 92-463, Oct. 6, 1972, 86 Stat. 770, which was set out in the Appendix to Title 5, Government Organization and Employees, and was substantially repealed and restated in chapter 10 (§1001 et seq.) of Title 5 by Pub. L. 117-286, §§3(a), 7, Dec. 27, 2022, 136 Stat. 4197, 4361. Section 14 of the Act was repealed and restated as section 1013 of Title 5. For disposition of sections of the Act into chapter 10 of Title 5, see Disposition Table preceding section 101 of Title 5.

§ 9415. National AI Research Resource Task Force

(a) Establishment of Task Force

(1) Establishment

(A) In general

The Director of the National Science Foundation, in coordination with the Office of Science and Technology Policy, shall establish a task force—

(i) to investigate the feasibility and advisability of establishing and sustaining a National Artificial Intelligence Research Resource; and

(ii) to propose a roadmap detailing how such resource should be established and sustained.

(B) Designation

The task force established by subparagraph (A) shall be known as the “National Artificial Intelligence Research Resource Task Force” (in this section referred to as the “Task Force”).

(2) Membership

(A) Composition

The Task Force shall be composed of 12 members selected by the co-chairpersons of the Task Force from among technical experts in artificial intelligence or related subjects, of whom—

(i) 4 shall be representatives from the Interagency Committee established in section 9413 of this title, including the co-chairpersons of the Task Force;

(ii) 4 shall be representatives from institutions of higher education; and

(iii) 4 shall be representatives from private organizations.

(B) Appointment

Not later than 120 days after enactment of this Act, the co-chairpersons of the Task Force shall appoint members to the Task Force pursuant to subparagraph (A).

(C) Term of appointment

Members of the Task Force shall be appointed for the life of the Task Force.

(D) Vacancy

Any vacancy occurring in the membership of the Task Force shall be filled in the same manner in which the original appointment was made.

(E) Co-chairpersons

The Director of the Office of Science and Technology Policy and the Director of the

National Sciences Foundation,¹ or their designees, shall be the co-chairpersons of the Task Force. If the role of the Director of the National Science Foundation is vacant, the Chair of the National Science Board shall act as a co-chairperson of the Task Force.

(F) Expenses for non-Federal Members

(i) Except as provided in clause (ii), non-Federal Members of the Task Force shall not receive compensation for their participation on the Task Force.

(ii) Non-Federal Members of the Task Force shall be allowed travel expenses, including per diem in lieu of subsistence, at rates authorized for employees under subchapter I of chapter 57 of title 5, while away from their homes or regular places of business in the performance of services for the Task Force.

(b) Roadmap and implementation plan

(1) In general

The Task Force shall develop a coordinated roadmap and implementation plan for creating and sustaining a National Artificial Intelligence Research Resource.

(2) Contents

The roadmap and plan required by paragraph (1) shall include the following:

(A) Goals for establishment and sustainment of a National Artificial Intelligence Research Resource and metrics for success.

(B) A plan for ownership and administration of the National Artificial Intelligence Research Resource, including—

(i) an appropriate agency or organization responsible for the implementation, deployment, and administration of the Resource; and

(ii) a governance structure for the Resource, including oversight and decision-making authorities.

(C) A model for governance and oversight to establish strategic direction, make programmatic decisions, and manage the allocation of resources;²

(D) Capabilities required to create and maintain a shared computing infrastructure to facilitate access to computing resources for researchers across the country, including scalability, secured access control, resident data engineering and curation expertise, provision of curated data sets, compute resources, educational tools and services, and a user interface portal.

(E) An assessment of, and recommended solutions to, barriers to the dissemination and use of high-quality government data sets as part of the National Artificial Intelligence Research Resource.

(F) An assessment of security requirements associated with the National Artificial Intelligence Research Resource and its research and a recommendation for a framework for the management of access controls.

(G) An assessment of privacy and civil rights and civil liberties requirements associated with the National Artificial Intelligence Research Resource and its research.

(H) A plan for sustaining the Resource, including through Federal funding and partnerships with the private sector.

(I) Parameters for the establishment and sustainment of the National Artificial Intelligence Research Resource, including agency roles and responsibilities and milestones to implement the Resource.

(c) Consultations

In conducting its duties required under subsection (b), the Task Force shall consult with the following:

(1) The National Science Foundation.

(2) The Office of Science and Technology Policy.

(3) The National Academies of Sciences, Engineering, and Medicine.

(4) The National Institute of Standards and Technology.

(5) The Director of National Intelligence.

(6) The Department of Energy.

(7) The Department of Defense.

(8) The General Services Administration.

(9) The Department of Justice.

(10) The Department of Homeland Security.

(11) The Department of Health and Human Services.

(12) Private industry.

(13) Institutions of higher education.

(14) Civil and disabilities rights organizations.

(15) Such other persons as the Task Force considers appropriate.

(d) Staff

Staff of the Task Force shall comprise detailees with expertise in artificial intelligence, or related fields from the Office of Science and Technology Policy, the National Science Foundation, or any other agency the co-chairs deem appropriate, with the consent of the head of the agency.

(e) Task Force reports

(1) Initial report

Not later than 12 months after the date on which all of the appointments have been made under subsection (a)(2)(B), the Task Force shall submit to Congress and the President an interim report containing the findings, conclusions, and recommendations of the Task Force. The report shall include specific recommendations regarding steps the Task Force believes necessary for the establishment and sustainment of a National Artificial Intelligence Research Resource.

(2) Final report

Not later than 6 months after the submittal of the interim report under paragraph (1), the Task Force shall submit to Congress and the President a final report containing the findings, conclusions, and recommendations of the Task Force, including the specific recommendations required by subsection (b).

¹ So in original. Probably should be "National Science Foundation,".

² So in original. The semicolon probably should be a period.

(f) Termination**(1) In general**

The Task Force shall terminate 90 days after the date on which it submits the final report under subsection (e)(2).

(2) Records

Upon termination of the Task Force, all of its records shall become the records of the National Archives and Records Administration.

(g) Definitions

In this section:

(1) National Artificial Intelligence Research Resource and Resource

The terms “National Artificial Intelligence Research Resource” and “Resource” mean a system that provides researchers and students across scientific fields and disciplines with access to compute resources, co-located with publicly-available, artificial intelligence-ready government and non-government data sets and a research environment with appropriate educational tools and user support.

(2) Ownership

The term “ownership” means responsibility and accountability for the implementation, deployment, and ongoing development of the National Artificial Intelligence Research Resource, and for providing staff support to that effort.

(Pub. L. 116–283, div. E, title LI, §5106, Jan. 1, 2021, 134 Stat. 4531.)

Editorial Notes

REFERENCES IN TEXT

Enactment of this Act, referred to in subsec. (a)(2)(B), means the enactment of Pub. L. 116–283, which was approved Jan. 1, 2021.

SUBCHAPTER II—NATIONAL ARTIFICIAL INTELLIGENCE RESEARCH INSTITUTES

§ 9431. National Artificial Intelligence Research Institutes**(a) In general**

Subject to the availability of funds appropriated for this purpose, the Director of the National Science Foundation shall establish a program to award financial assistance for the planning, establishment, and support of a network of Institutes (as described in subsection (b)(2)) in accordance with this section.

(b) Financial assistance to establish and support National Artificial Intelligence Research Institutes**(1) In general**

Subject to the availability of funds appropriated for this purpose, the Secretary of Energy, the Secretary of Commerce, the Director of the National Science Foundation, and every other agency head may award financial assistance to an eligible entity, or consortia thereof, as determined by an agency head, to establish and support an Institute.

(2) Artificial intelligence institutes

An Institute described in this subsection is an artificial intelligence research institute that—

(A) is focused on—

(i) a particular economic or social sector, including health, education, manufacturing, agriculture, security, energy, and environment, and includes a component that addresses the ethical, societal, safety, and security implications relevant to the application of artificial intelligence in that sector; or

(ii) a cross-cutting challenge for artificial intelligence systems, including trustworthiness, or foundational science;

(B) requires partnership among public and private organizations, including, as appropriate, Federal agencies, institutions of higher education, including community colleges, nonprofit research organizations, Federal laboratories, State, local, and Tribal governments, industry, including startup companies, and civil society organizations, including civil rights and disability rights organizations (or consortia thereof);

(C) has the potential to create an innovation ecosystem, or enhance existing ecosystems, to translate Institute research into applications and products, as appropriate to the topic of each Institute;

(D) supports interdisciplinary research and development across multiple institutions of higher education and organizations;

(E) supports interdisciplinary education activities, including curriculum development, research experiences, and faculty professional development across undergraduate, graduate, and professional academic programs; and

(F) supports workforce development in artificial intelligence related disciplines in the United States, including increasing participation of historically underrepresented communities.

(3) Use of funds

Financial assistance awarded under paragraph (1) may be used by an Institute for—

(A) managing and making available to researchers accessible, curated, standardized, secure, and privacy protected data sets from the public and private sectors for the purposes of training and testing artificial intelligence systems and for research using artificial intelligence systems, pursuant to subsections (c), (e), and (f) of section 278h–1 of this title (as added by section 5301 of this division);

(B) developing and managing testbeds for artificial intelligence systems, including sector-specific test beds, designed to enable users to evaluate artificial intelligence systems prior to deployment;

(C) conducting research and education activities involving artificial intelligence systems to solve challenges with social, economic, health, scientific, and national security implications;

(D) providing or brokering access to computing resources, networking, and data facilities for artificial intelligence research and development relevant to the Institute’s research goals;

(E) providing technical assistance to users, including software engineering support, for

artificial intelligence research and development relevant to the Institute's research goals;

(F) engaging in outreach and engagement to broaden participation in artificial intelligence research and the artificial intelligence workforce; and

(G) such other activities that an agency head, whose agency's missions contribute to or are affected by artificial intelligence, considers consistent with the purposes described in section 9411(a) of this title.

(4) Duration

(A) Initial periods

An award of financial assistance under paragraph (1) shall be awarded for an initial period of 5 years.

(B) Extension

An established Institute may apply for, and the agency head may grant, extended funding for periods of 5 years on a merit-reviewed basis using the merit review criteria of the sponsoring agency.

(5) Application for financial assistance

A person seeking financial assistance under paragraph (1) shall submit to an agency head an application at such time, in such manner, and containing such information as the agency head may require.

(6) Competitive, merit review

In awarding financial assistance under paragraph (1), the agency head shall—

(A) use a competitive, merit review process that includes peer review by a diverse group of individuals with relevant expertise from both the private and public sectors; and

(B) ensure the focus areas of the Institute do not substantially and unnecessarily duplicate the efforts of any other Institute.

(7) Collaboration

(A) In general

In awarding financial assistance under paragraph (1), an agency head may collaborate with Federal departments and agencies whose missions contribute to or are affected by artificial intelligence systems.

(B) Coordinating network

The Director of the National Science Foundation shall establish a network of Institutes receiving financial assistance under this subsection, to be known as the "Artificial Intelligence Leadership Network", to coordinate cross-cutting research and other activities carried out by the Institutes.

(8) Limitation

No funds authorized in this subchapter shall be awarded to Institutes outside of the United States. All awardees and subawardees for such Institute shall be based in the United States, in addition to any other eligibility criteria as established by each agency head.

(Pub. L. 116-283, div. E, title LII, § 5201, Jan. 1, 2021, 134 Stat. 4534.)

Editorial Notes

REFERENCES IN TEXT

Section 5301 of this division, referred to in subsec. (b)(3)(A), means section 5301 of div. E of Pub. L. 116-283, Jan. 1, 2021, 134 Stat. 4536.

SUBCHAPTER III—DEPARTMENT OF COMMERCE ARTIFICIAL INTELLIGENCE ACTIVITIES

§ 9441. Stakeholder outreach

In carrying out the activities under section 278h-1 of this title as amended by title III of this Act,¹ the Director shall—

(1) solicit input from university researchers, private sector experts, relevant Federal agencies, Federal laboratories, State, Tribal, and local governments, civil society groups, and other relevant stakeholders;

(2) solicit input from experts in relevant fields of social science, technology ethics, and law; and

(3) provide opportunity for public comment on guidelines and best practices developed as part of the Initiative, as appropriate.

(Pub. L. 116-283, div. E, title LIII, § 5302, Jan. 1, 2021, 134 Stat. 4539.)

Editorial Notes

REFERENCES IN TEXT

Section 278h-1 of this title as amended by title III of this Act, referred to in text, probably means section 278h-1 of this title as added by title LIII of Pub. L. 116-283, div. E, Jan. 1, 2021, 134 Stat. 4536.

§ 9442. National Oceanic and Atmospheric Administration Artificial Intelligence Center

(a) In general

The Administrator of the National Oceanic and Atmospheric Administration (hereafter referred to as "the Administrator") shall establish,¹ a Center for Artificial Intelligence (hereafter referred to as "the Center").

(b) Center goals

The goals of the Center shall be to—

(1) coordinate and facilitate the scientific and technological efforts related to artificial intelligence across the National Oceanic and Atmospheric Administration; and

(2) expand external partnerships, and build workforce proficiency to effectively transition artificial intelligence research and applications to operations.

(c) Comprehensive program

Through the Center, the Administrator shall implement a comprehensive program to improve the use of artificial intelligence systems across the agency in support of the mission of the National Oceanic and Atmospheric Administration.

(d) Center priorities

The priorities of the Center shall be to—

(1) coordinate and facilitate artificial intelligence research and innovation, tools, systems, and capabilities across the National Oceanic and Atmospheric Administration;

¹ See References in Text note below.

¹ So in original. The comma probably should not appear.

(2) establish data standards and develop and maintain a central repository for agency-wide artificial intelligence applications;

(3) accelerate the transition of artificial intelligence research to applications in support of the mission of the National Oceanic and Atmospheric Administration;

(4) develop and conduct training for the workforce of the National Oceanic and Atmospheric Administration related to artificial intelligence research and application of artificial intelligence for such agency;

(5) facilitate partnerships between the National Oceanic and Atmospheric Administration and other public sector organizations, private sector organizations, and institutions of higher education for research, personnel exchange, and workforce development with respect to artificial intelligence systems; and

(6) make data of the National Oceanic and Atmospheric Administration accessible, available, and ready for artificial intelligence applications.

(e) Stakeholder engagement

In carrying out the activities authorized in this section, the Administrator shall—

(1) collaborate with a diverse set of stakeholders including private sector entities and institutions of higher education;

(2) leverage the collective body of research on artificial intelligence and machine learning; and

(3) engage with relevant Federal agencies, research communities, and potential users of data and methods made available through the Center.

(f) Authorization of appropriations

There are authorized to be appropriated to the Administrator to carry out this section \$10,000,000 for fiscal year 2021.

(g) Protection of national security interests

(1) In general

Notwithstanding any other provision of this section, the Administrator, in consultation with the Secretary of Defense as appropriate, may withhold models or data used by the Center if the Administrator determines doing so to be necessary to protect the national security interests of the United States.

(2) Rule of construction

Nothing in this section shall be construed to supersede any other provision of law governing the protection of the national security interests of the United States.

(Pub. L. 116-283, div. E, title LIII, § 5303, Jan. 1, 2021, 134 Stat. 4539.)

SUBCHAPTER IV—NATIONAL SCIENCE FOUNDATION ARTIFICIAL INTELLIGENCE ACTIVITIES

§ 9451. Artificial intelligence research and education

(a) In general

the¹ Director of the National Science Foundation shall fund research and education activities

in artificial intelligence systems and related fields, including competitive awards or grants to institutions of higher education or eligible non-profit organizations (or consortia thereof).

(b) Uses of funds

In carrying out the activities under subsection (a), the Director of the National Science Foundation shall—

(1) support research, including interdisciplinary research, on artificial intelligence systems and related areas, including fields and research areas that will contribute to the development and deployment of trustworthy artificial intelligence systems, and fields and research areas that address the application of artificial intelligence systems to scientific discovery and societal challenges;

(2) use the existing programs of the National Science Foundation, in collaboration with other Federal departments and agencies, as appropriate to—

(A) improve the teaching and learning of topics related to artificial intelligence systems in K-12 education and postsecondary educational programs, including workforce training and career and technical education programs, undergraduate and graduate education programs, and in informal settings; and

(B) increase participation in artificial intelligence related fields, including by individuals identified in sections 1885a and 1885b of title 42;

(3) support partnerships among institutions of higher education, Federal laboratories, non-profit organizations, State, local, and Tribal governments, industry, and potential users of artificial intelligence systems that facilitate collaborative research, personnel exchanges, and workforce development and identify emerging research needs with respect to artificial intelligence systems;

(4) ensure adequate access to research and education infrastructure with respect to artificial intelligence systems, which may include the development of new computing resources and partnership with the private sector for the provision of cloud-based computing services;

(5) conduct prize competitions, as appropriate, pursuant to section 3719 of this title;

(6) coordinate research efforts funded through existing programs across the directorates of the National Science Foundation;

(7) provide guidance on data sharing by grantees to public and private sector organizations consistent with the standards and guidelines developed under section 278h-1(e) of this title (as added by section 5301 of this division); and

(8) evaluate opportunities for international collaboration with strategic allies on artificial intelligence research and development.

(c) Engineering support

In general, the Director shall permit applicants to include in their proposed budgets funding for software engineering support to assist with the proposed research.

(d) Ethics

(1) Sense of Congress

It is the sense of Congress that—

¹ So in original.

(A) a number of emerging areas of research, including artificial intelligence, have potential ethical, social, safety, and security risks that might be apparent as early as the basic research stage;

(B) the incorporation of ethical, social, safety, and security considerations into the research design and review process for Federal awards may help mitigate potential harms before they happen;

(C) the National Science Foundation's agreement with the National Academies of Sciences, Engineering, and Medicine to conduct a study and make recommendations with respect to governance of research in computing and computing technologies is a positive step toward accomplishing this goal; and

(D) the National Science Foundation should continue to work with stakeholders to understand and adopt policies that promote best practices for governance of research in emerging technologies at every stage of research.

(2) Report on ethics statements

No later than 6 months after publication of the study described in paragraph (1)(C), the Director shall report to Congress on options for requiring an ethics or risk statement as part of all or a subset of applications for research funding to the National Science Foundation.

(e) Education

(1) In general

The Director of the National Science Foundation shall award grants for artificial intelligence education research, development and related activities to support K-12 and postsecondary education programs and activities, including workforce training and career and technical education programs and activities, undergraduate, graduate, and postdoctoral education, and informal education programs and activities that—

(A) support the development of a diverse workforce pipeline for science and technology with respect to artificial intelligence systems;

(B) increase awareness of potential ethical, social, safety, and security risks of artificial intelligence systems;

(C) promote curriculum development for teaching topics related to artificial intelligence, including in the field of technology ethics;

(D) support efforts to achieve equitable access to K-12 artificial intelligence education in diverse geographic areas and for populations historically underrepresented in science, engineering, and artificial intelligence fields; and

(E) promote the widespread understanding of artificial intelligence principles and methods to create an educated workforce and general public able to use products enabled by artificial intelligence systems and adapt to future societal and economic changes caused by artificial intelligence systems.

(2) Artificial intelligence faculty fellowships

(A) Faculty recruitment fellowships

(i) In general

The Director of the National Science Foundation shall establish a program to award grants to eligible institutions of higher education to recruit and retain tenure-track or tenured faculty in artificial intelligence and related fields.

(ii) Use of funds

An institution of higher education shall use grant funds provided under clause (i) for the purposes of—

(I) recruiting new tenure-track or tenured faculty members that conduct research and teaching in artificial intelligence and related fields and research areas, including technology ethics; and

(II) paying salary and benefits for the academic year of newly recruited tenure-track or tenured faculty members for a duration of up to three years.

(iii) Eligible institutions of higher education

For purposes of this subparagraph, an eligible institution of higher education is—

(I) a Historically Black College and University (within the meaning of the term “part B institution” under section 1061 of title 20), Tribal College or University, or other minority-serving institution, as defined in section 1067q(a) of title 20;

(II) an institution classified under the Carnegie Classification of Institutions of Higher Education as a doctorate-granting university with a high level of research activity; or

(III) an institution located in a State jurisdiction eligible to participate in the National Science Foundation's Established Program to Stimulate Competitive Research.

(B) Faculty technology ethics fellowships

(i) In general

The Director of the National Science Foundation shall establish a program to award fellowships to tenure-track and tenured faculty in social and behavioral sciences, ethics, law, and related fields to develop new research projects and partnerships in technology ethics.

(ii) Purposes

The purposes of such fellowships are to enable researchers in social and behavioral sciences, ethics, law, and related fields to establish new research and education partnerships with researchers in artificial intelligence and related fields; learn new techniques and acquire systematic knowledge in artificial intelligence and related fields; and mentor and advise graduate students and postdocs pursuing research in technology ethics.

(iii) Uses of funds

A fellowship may include salary and benefits for up to one academic year, expenses

to support coursework or equivalent training in artificial intelligence systems, and additional such expenses that the Director deems appropriate.

(C) Omitted

(3) Update to advanced technological education program

(A) Omitted

(B) Artificial intelligence centers of excellence

The Director of the National Science Foundation shall establish national centers of scientific and technical education to advance education and workforce development in areas related to artificial intelligence pursuant to section 1862i of title 42. Activities of such centers may include—

(i) the development, dissemination, and evaluation of curriculum and other educational tools and methods in artificial intelligence related fields and research areas, including technology ethics;

(ii) the development and evaluation of artificial intelligence related certifications for 2-year programs; and

(iii) interdisciplinary science and engineering research in employment-based adult learning and career retraining related to artificial intelligence fields.

(f) National Science Foundation pilot program of grants for research in rapidly evolving, high priority topics

(1) Pilot program required

The Director of the National Science Foundation shall establish a pilot program to assess the feasibility and advisability of awarding grants for the conduct of research in rapidly evolving, high priority topics using funding mechanisms that require brief project descriptions and internal merit review, and that may include accelerated external review.

(2) Duration

(A) In general

The Director shall carry out the pilot program required by paragraph (1) during the 5-year period beginning on January 1, 2021.

(B) Assessment and continuation authority

After the period set forth in paragraph (2)(A)—

(i) the Director shall assess the pilot program; and

(ii) if the Director determines that it is both feasible and advisable to do so, the Director may continue the pilot program.

(3) Grants

In carrying out the pilot program, the Director shall award grants for the conduct of research in topics selected by the Director in accordance with paragraph (4).

(4) Topic selection

The Director shall select topics for research under the pilot program in accordance with the following:

(A) The Director shall select artificial intelligence as the initial topic for the pilot program.

(B) The Director may select additional topics that the Director determines are—

(i) rapidly evolving; and

(ii) of high importance to the economy and security of the United States.

(g) Authorization of appropriations

There are authorized to be appropriated to the National Science Foundation to carry out this section—

(1) \$868,000,000 for fiscal year 2021;

(2) \$911,400,000 for fiscal year 2022;

(3) \$956,970,000 for fiscal year 2023;

(4) \$1,004,820,000 for fiscal year 2024; and

(5) \$1,055,060,000 for fiscal year 2025.

(Pub. L. 116-283, div. E, title LIV, §5401, Jan. 1, 2021, 134 Stat. 4540.)

Editorial Notes

REFERENCES IN TEXT

Sections 1885a and 1885b of title 42, referred to in subsec. (b)(2)(B), were in the original sections 33 and 34 of the Science and Engineering Equal Opportunity Act and were translated as meaning sections 33 and 34 of the Science and Engineering Equal Opportunities Act to reflect the probable intent of Congress.

Section 5301 of this division, referred to in subsec. (b)(7), means section 5301 of div. E of Pub. L. 116-283, Jan. 1, 2021, 134 Stat. 4536.

CODIFICATION

Section is comprised of section 5401 of Pub. L. 116-283. Subsec. (e)(2)(C) of section 5401 of Pub. L. 116-283 amended section 1862n-1 of Title 42, The Public Health and Welfare. Subsec. (e)(3)(A) of section 5401 of Pub. L. 116-283 amended section 1862i of Title 42.

SUBCHAPTER V—DEPARTMENT OF ENERGY ARTIFICIAL INTELLIGENCE RESEARCH PROGRAM

§9461. Department of Energy artificial intelligence research program

(a) In general

The Secretary shall carry out a cross-cutting research and development program to advance artificial intelligence tools, systems, capabilities, and workforce needs and to improve the reliability of artificial intelligence methods and solutions relevant to the mission of the Department. In carrying out this program, the Secretary shall coordinate across all relevant offices and programs at the Department, including the Office of Science, the Office of Energy Efficiency and Renewable Energy, the Office of Nuclear Energy, the Office of Fossil Energy, the Office of Electricity, the Office of Cybersecurity, Energy Security, and Emergency Response, the Advanced Research Projects Agency-Energy, and any other relevant office determined by the Secretary.

(b) Research areas

In carrying out the program under subsection (a), the Secretary shall award financial assistance to eligible entities to carry out research projects on topics including—

(1) the application of artificial intelligence systems to improve large-scale simulations of natural and other phenomena;

(2) the study of applied mathematics, computer science, and statistics, including founda-

tions of methods and systems of artificial intelligence, causal and statistical inference, and the development of algorithms for artificial intelligence systems;

(3) the analysis of existing large-scale datasets from science and engineering experiments and simulations, including energy simulations and other priorities at the Department as determined by the Secretary using artificial intelligence tools and techniques;

(4) the development of operation and control systems that enhance automated, intelligent decisionmaking capabilities;

(5) the development of advanced computing hardware and computer architecture tailored to artificial intelligence systems, including the codesign of networks and computational hardware;

(6) the development of standardized datasets for emerging artificial intelligence research fields and applications, including methods for addressing data scarcity; and

(7) the development of trustworthy artificial intelligence systems, including—

(A) algorithmic explainability;

(B) analytical methods for identifying and mitigating bias in artificial intelligence systems; and

(C) safety and robustness, including assurance, verification, validation, security, and control.

(c) Technology transfer

In carrying out the program under subsection (a), the Secretary shall support technology transfer of artificial intelligence systems for the benefit of society and United States economic competitiveness.

(d) Facility use and upgrades

In carrying out the program under subsection (a), the Secretary shall—

(1) make available high-performance computing infrastructure at national laboratories;

(2) make any upgrades necessary to enhance the use of existing computing facilities for artificial intelligence systems, including upgrades to hardware;

(3) establish new computing capabilities necessary to manage data and conduct high performance computing that enables the use of artificial intelligence systems; and

(4) maintain and improve, as needed, networking infrastructure, data input and output mechanisms, and data analysis, storage, and service capabilities.

(e) Report on ethics statements

Not later than 6 months after publication of the study described in section 9451(d)(1)(C) of this title, the Secretary shall report to Congress on options for requiring an ethics or risk statement as part of all or a subset of applications for research activities funded by the Department of Energy and performed at Department of Energy national laboratories and user facilities.

(f) Risk management

The Secretary shall review agency policies for risk management in artificial intelligence related projects and issue as necessary policies and principles that are consistent with the

framework developed under section 278h-1(c) of this title (as added by section 5301 of this division).

(g) Data privacy and sharing

The Secretary shall review agency policies for data sharing with other public and private sector organizations and issue as necessary policies and principles that are consistent with the standards and guidelines submitted under section 278h-1(e) of this title (as added by section 5301 of this division). In addition, the Secretary shall establish a streamlined mechanism for approving research projects or partnerships that require sharing sensitive public or private data with the Department.

(h) Partnerships with other Federal agencies

The Secretary may request, accept, and provide funds from other Federal departments and agencies, State, United States territory, local, or Tribal government agencies, private sector for-profit entities, and nonprofit entities, to be available to the extent provided by appropriations Acts, to support a research project or partnership carried out under this section. The Secretary may not give any special consideration to any agency or entity in return for a donation.

(i) Stakeholder engagement

In carrying out the activities authorized in this section, the Secretary shall—

(1) collaborate with a range of stakeholders including small businesses, institutes of higher education, industry, and the National Laboratories;

(2) leverage the collective body of knowledge from existing artificial intelligence and machine learning research; and

(3) engage with other Federal agencies, research communities, and potential users of information produced under this section.

(j) Definitions

In this section:

(1) Secretary

The term “Secretary” means the Secretary of Energy.

(2) Department

The term “Department” means the Department of Energy.

(3) National laboratory

The term “national laboratory” has the meaning given such term in section 15801 of title 42.

(4) Eligible entities

The term “eligible entities” means—

(A) an institution of higher education;

(B) a National Laboratory;

(C) a Federal research agency;

(D) a State research agency;

(E) a nonprofit research organization;

(F) a private sector entity; or

(G) a consortium of 2 or more entities described in subparagraphs (A) through (F).

(k) Authorization of appropriations

There are authorized to be appropriated to the Department to carry out this section—

(1) \$200,000,000 for fiscal year 2021;

- (2) \$214,000,000 for fiscal year 2022;
- (3) \$228,980,000 for fiscal year 2023;
- (4) \$245,000,000 for fiscal year 2024; and
- (5) \$262,160,000 for fiscal year 2025.

(Pub. L. 116–283, div. E, title LV, §5501, Jan. 1, 2021, 134 Stat. 4545.)

Editorial Notes

REFERENCES IN TEXT

Section 5301 of this division, referred to in subsecs. (f) and (g), means section 5301 of div. E of Pub. L. 116–283, Jan. 1, 2021, 134 Stat. 4536.

§ 9462. Veterans' health initiative

(a) Purposes

The purposes of this section are to advance Department of Energy expertise in artificial intelligence and high-performance computing in order to improve health outcomes for veteran populations by—

(1) supporting basic research through the application of artificial intelligence, high-performance computing, modeling and simulation, machine learning, and large-scale data analytics to identify and solve outcome-defined challenges in the health sciences;

(2) maximizing the impact of the Department of Veterans Affairs' health and genomics data housed at the National Laboratories, as well as data from other sources, on science, innovation, and health care outcomes through the use and advancement of artificial intelligence and high-performance computing capabilities of the Department;

(3) promoting collaborative research through the establishment of partnerships to improve data sharing between Federal agencies, National Laboratories, institutions of higher education, and nonprofit institutions;

(4) establishing multiple scientific computing user facilities to house and provision available data to foster transformational outcomes; and

(5) driving the development of technology to improve artificial intelligence, high-performance computing, and networking relevant to mission applications of the Department, including modeling, simulation, machine learning, and advanced data analytics.

(b) Veterans health research and development

(1) In general

The Secretary of Energy (in this section referred to as the "Secretary") shall establish and carry out a research program in artificial intelligence and high-performance computing, focused on the development of tools to solve large-scale data analytics and management challenges associated with veteran's healthcare, and to support the efforts of the Department of Veterans Affairs to identify potential health risks and challenges utilizing data on long-term healthcare, health risks, and genomic data collected from veteran populations. The Secretary shall carry out this program through a competitive, merit-reviewed process, and consider applications from National Laboratories, institutions of higher education, multi-institutional collaborations, and other appropriate entities.

(2) Program components

In carrying out the program established under paragraph (1), the Secretary may—

(A) conduct basic research in modeling and simulation, machine learning, large-scale data analytics, and predictive analysis in order to develop novel or optimized algorithms for prediction of disease treatment and recovery;

(B) develop methods to accommodate large data sets with variable quality and scale, and to provide insight and models for complex systems;

(C) develop new approaches and maximize the use of algorithms developed through artificial intelligence, machine learning, data analytics, natural language processing, modeling and simulation, and develop new algorithms suitable for high-performance computing systems and large biomedical data sets;

(D) advance existing and construct new data enclaves capable of securely storing data sets provided by the Department of Veterans Affairs, Department of Defense, and other sources; and

(E) promote collaboration and data sharing between National Laboratories, research entities, and user facilities of the Department by providing the necessary access and secure data transfer capabilities.

(3) Coordination

In carrying out the program established under paragraph (1), the Secretary is authorized—

(A) to enter into memoranda of understanding in order to carry out reimbursable agreements with the Department of Veterans Affairs and other entities in order to maximize the effectiveness of Department research and development to improve veterans' healthcare;

(B) to consult with the Department of Veterans Affairs and other Federal agencies as appropriate; and

(C) to ensure that data storage meets all privacy and security requirements established by the Department of Veterans Affairs, and that access to data is provided in accordance with relevant Department of Veterans Affairs data access policies, including informed consent.

(4) Report

Not later than 2 years after December 27, 2020, the Secretary shall submit to the Committee on Energy and Natural Resources and the Committee on Veterans' Affairs of the Senate, and the Committee on Science, Space, and Technology and the Committee on Veterans' Affairs of the House of Representatives, a report detailing the effectiveness of—

(A) the interagency coordination between each Federal agency involved in the research program carried out under this subsection;

(B) collaborative research achievements of the program; and

(C) potential opportunities to expand the technical capabilities of the Department.

(5) Funding

There is authorized to be appropriated to the Secretary of Veterans Affairs to carry out this subsection \$27,000,000 for fiscal year 2021.

(c) Interagency collaboration**(1) In general**

The Secretary is authorized to carry out research, development, and demonstration activities to develop tools to apply to big data that enable Federal agencies, institutions of higher education, nonprofit research organizations, and industry to better leverage the capabilities of the Department to solve complex, big data challenges. The Secretary shall carry out these activities through a competitive, merit-reviewed process, and consider applications from National Laboratories, institutions of higher education, multi-institutional collaborations, and other appropriate entities.

(2) Activities

In carrying out the research, development, and demonstration activities authorized under paragraph (1), the Secretary may—

(A) utilize all available mechanisms to prevent duplication and coordinate research efforts across the Department;

(B) establish multiple user facilities to serve as data enclaves capable of securely storing data sets created by Federal agencies, institutions of higher education, nonprofit organizations, or industry at National Laboratories; and

(C) promote collaboration and data sharing between National Laboratories, research entities, and user facilities of the Department by providing the necessary access and secure data transfer capabilities.

(3) Report

Not later than 2 years after December 27, 2020, the Secretary shall submit to the Committee on Energy and Natural Resources of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report evaluating the effectiveness of the activities authorized under paragraph (1).

(4) Funding

There are authorized to be appropriated to the Secretary to carry out this subsection \$15,000,000 for each of fiscal years 2021 through 2025.

(d) Definition

In this section, the term “National Laboratory” has the meaning given such term in section 15801(3) of title 42.

(Pub. L. 116–260, div. Z, title IX, §9008, Dec. 27, 2020, 134 Stat. 2600.)

Editorial Notes

CODIFICATION

Section was formerly classified to section 5544 of this title.

Section was enacted as part of the Energy Act of 2020, and not as part of the National Artificial Intelligence Initiative Act of 2020 which comprises this chapter.

CHAPTER 120—MINORITY BUSINESS DEVELOPMENT

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§ 9501. Definitions

In this chapter:

(1) Agency

The term “Agency” means the Minority Business Development Agency of the Department of Commerce.

(2) Community-based organization

The term “community-based organization” has the meaning given the term in section 7801 of title 20.