

# Appendix D:

## Draft Legislative Language

*The following legislative text represents the Commission staff's best efforts to capture the Commission's final recommendations in legislative form. The Commission defers to the House and Senate members, staff, and legislative counsels as to appropriate drafting.*

### CHAPTER 1: EMERGING THREATS IN THE AI ERA

*Blueprint for Action*

*Combatting Malign Information Operations Enabled by AI*

*Recommendation: A National Strategy for the Global Information Domain.*

*Congress should direct the Executive Branch to transmit a National Strategy for the Global Information Domain that categorizes the global information domain as an arena of competition vital to the national security of the United States.*

#### **SEC. \_\_\_\_.—NATIONAL STRATEGY FOR THE GLOBAL INFORMATION DOMAIN.—**

(a) IN GENERAL.—Not later than 270 days after the date of the enactment of this Act, the President shall transmit to Congress a National Strategy for the Global Information Domain that addresses the global information domain as an arena of competition vital to the national security of the United States.

(b) ISSUES ADDRESSED.—The National Strategy for the Global Information Domain required by subsection (a) shall, at a minimum:

(1) Prioritize the global information domain as an arena for international competition;

(2) Detail how adversarial state and non-state actors are attempting to define and control the global information domain in order to shape global opinion and achieve strategic advantage;

(3) Account for the critical role of artificial intelligence-enabled malign information in the efforts of adversarial state and non-state actors to achieve these goals;

(4) Identify and prioritize actions to defend, counter, and compete against malign information operations as a national security threat;

(5) As necessary, update critical infrastructure designations and require relevant departments and agencies to update sector-specific plans to reflect emerging technologies; and

(6) Establish organizational structures for U.S. national security agencies to counter and compete against the threat.

## CHAPTER 2: FOUNDATIONS OF FUTURE DEFENSE

### *Blueprint for Action*

#### *Recommendation: Drive Change through Top-Down Leadership.*

*In the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2022, establish a Steering Committee on Emerging Technology and National Security Threats and designate that it be tri-chaired by the Deputy Secretary of Defense, the Vice Chairman of the Joint Chiefs of Staff, and the Principal Deputy Director of National Intelligence.*

### **SEC. \_\_\_\_.—ROLE OF INTELLIGENCE COMMUNITY IN STEERING COMMITTEE ON EMERGING TECHNOLOGY.—**

Section 236 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, is amended—

(1) in subsection (b), by—

(A) redesignating paragraph (8) as paragraph (9); and

(B) inserting the following new paragraph before redesignated paragraph (9):

“(8) One or more representatives of the Intelligence Community, to include the Principal Deputy Director of National Intelligence.”

(2) by redesignating paragraph (c) as paragraph (d); and inserting the following new paragraph before redesignated paragraph (d):

“(c) LEADERSHIP.—The Steering Committee shall be chaired by the Deputy Secretary of Defense, the Vice Chairman of the Joint Chiefs of Staff, and the Principal Deputy Director of National Intelligence.”

*The Steering Committee on Emerging Technology recommendation is also featured in Chapters 3 and 5.*

#### *Recommendation: Build the Technical Backbone.*

*Prioritize funding for the Department’s digital ecosystem and associated activities. The Armed Services Committees should use the FY 2022 NDAA to direct the Department of*

*Defense to develop a resourcing plan for the digital ecosystem that establishes, sustains, and incentivizes use of its various components as enterprise-wide, enduring resources. The Committees should also authorize the obligation of funds to begin work on the ecosystem.*

**SEC. \_\_\_\_.—RESOURCING PLAN FOR DIGITAL ECOSYSTEM.—**

(a) IN GENERAL.—Within one year after the date of the enactment of this Act, the Secretary of Defense shall develop a plan for the development of a modern digital ecosystem that embraces state of the art tools and modern processes to enable development, testing, fielding, and continuous update of artificial intelligence-powered applications at speed and scale from headquarters to the tactical edge.

(b) CONTENTS OF PLAN.—At a minimum, the plan required by subsection (a) shall include—

(1) an open architecture and an evolving reference design and guidance for needed technical investments in the proposed ecosystem that address issues including common interfaces, authentication, applications, platforms, software, hardware, and data infrastructure; and

(2) a governance structure, together with associated policies and guidance, to drive the implementation of the reference throughout the Department on a federated basis.

*Recommendation: Train and Educate Warfighters.*

*Component 1: Integrate Digital Skill Sets and Computational Thinking into Military Junior Leader Education.*

*Require the military services to integrate digital skills and computational thinking into pre-commissioning and entry-level training.*

**SEC. \_\_\_\_.—INTEGRATING DIGITAL SKILL SETS AND COMPUTATIONAL THINKING INTO MILITARY JUNIOR LEADER EDUCATION.—**

Not later than 270 days after the date of the enactment of this Act, the Chief of Staff of the Army, the Chief of Naval Operations, the Chief of Staff of the Air Force, and the Commandant of the Marine Corps (collectively, the Service Chiefs) shall expand the curriculum for military junior leader education to incorporate appropriate training material related to problem definition and curation, a conceptual understanding of the artificial intelligence lifecycle, data collection and management, probabilistic reasoning and data visualization, and data-informed decision-making. Whenever possible, the new training and education should include the use of existing artificial intelligence-enabled systems and tools.

*Component 2: Integrate Emerging and Disruptive Technologies into Service-level Professional Military Education.*

*Require the military services to integrate emerging and disruptive technologies into service-level Professional Military Education.*

**SEC. \_\_\_\_.—INTEGRATION OF MATERIAL ON EMERGING TECHNOLOGIES INTO PROFESSIONAL MILITARY EDUCATION.—**Not later than one year after the date of the enactment of this Act, the Secretary of Defense, in consultation with the Joint Chiefs of Staff, shall ensure that the curriculum for professional military education is revised in each of the military services to incorporate periodic courses on militarily significant emerging technologies that increasingly build the knowledge base, vocabulary, and skills necessary to intelligently analyze and utilize emerging technologies in the tactical, operational, and strategic levels of warfighting and warfighting support.

**SEC. \_\_\_\_.—SHORT COURSE ON EMERGING TECHNOLOGIES FOR SENIOR CIVILIAN AND MILITARY LEADERS.—**

(a) IN GENERAL.—Not later than one year after the date of the enactment of this Act, the Secretary of Defense shall establish a short course on emerging technologies for general and flag officers and senior executive-level civilian leaders. The short course shall be taught on an iterative, two-year cycle and shall address the most recent, most relevant technologies and how these technologies may be applied to military and business outcomes in the Department of Defense.

(b) THROUGHPUT OBJECTIVES.—In assessing participation in the short course authorized by subsection (a), the Secretary of Defense shall ensure that:

(1) In the first year that the course is offered, no fewer than twenty percent of general flag officers and senior executive-level civilian leaders are certified as having passed the short course required by subsection (a); and

(2) In each subsequent year, an additional ten percent of general flag officers and senior executive-level civilian leaders are certified as having passed such course, until such time as eighty percent of such officers and leaders are so certified.

*Component 3: Create Emerging and Disruptive Technology Coded Billets in the Department of Defense.*

*Require the Department of Defense to create emerging and disruptive technology critical billets that must be filled by emerging technology certified leaders.*

**SEC. \_\_\_\_.—EMERGING TECHNOLOGY-CODED BILLETS WITHIN THE DEPARTMENT OF DEFENSE.—**

(a) IN GENERAL.—Not later than one year after the date of the enactment of this Act, the Secretary of Defense shall ensure that the military services—

(1) code appropriate billets to be filled by emerging technology-qualified officers; and

(2) develop a process for officers to become emerging technology-qualified.

(b) APPROPRIATE POSITIONS.—Emerging technology-coded positions may include, as appropriate—

(1) positions responsible for assisting with acquisition of emerging technologies;

(2) positions responsible for helping integrate technology into field units;

(3) positions responsible for developing organizational and operational concepts;

(4) positions responsible for developing training and education plans; and

(5) leadership positions at the operational and tactical levels within the military services.

(c) QUALIFICATION PROCESS.—The process for qualifying officers for emerging technology-coded billets shall be modeled on a streamlined version of the joint qualification process and may include credit for serving in emerging technology focused fellowships, emerging technology focused talent exchanges, emerging technology focused positions within government, and educational courses focused on emerging technologies.

*Recommendation: Accelerate Adoption of Existing Digital Technologies.*

*Component 3: Expand Use of Specialized Acquisition Pathways and Contracting Approaches.*

*Authorize the use of a rapid contracting mechanism for the software acquisition pathway.*

**SEC. \_\_\_\_.—RAPID CONTRACTING MECHANISM FOR SOFTWARE ACQUISITION.—**

(a) IN GENERAL.—Not later than 270 days after the date of the enactment of this Act, the Secretary of Defense shall establish an agile contracting mechanism to support the software acquisition pathway developed pursuant to section 800 of the National Defense Authorization Act for Fiscal Year 2020 and embedded in Department of Defense Directives 5000.02 and 5000.87.

(b) CHARACTERISTICS.—The agile contracting mechanism established pursuant to subsection (a) shall authorize processes pursuant to which—

(1) a contract is awarded on the basis of statements of qualifications and past performance data submitted by contractors, supplemented by discussions with two or more contractors determined to be the most highly-qualified, without regard to price;

(2) the contract identifies the contractor team to be engaged for the work, and substitutions shall not be made during the base contract period without the advance written consent of the contracting officer;

(3) the contractor reviews existing software in consultation with the user community and utilizes user feedback to define and prioritize software requirements, and to design and implement new software and software upgrades, as appropriate;

(4) an independent, non-advocate cost estimate is developed in parallel with engineering of the software, leveraging agile cost estimation best practices rather than counting source lines of code; and

(5) value-based performance metrics are established and can be automatically generated by users to address issues such as deployment rate and speed of delivery, response rate such as the speed of recovery from outages and cybersecurity vulnerabilities, and assessment and estimation of the size and complexity of software development effort.

*Component 4: Modernize the Budget and Oversight Processes for Digital Technologies.*  
Update title 10, Section 181 to designate USD(R&E) Co-Chair and Chief Science Advisor to the JROC.

**SEC. \_\_\_\_.—ENHANCED ROLE OF UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING ON THE JOINT REQUIREMENTS OVERSIGHT COUNCIL.**—Section 181 of title 10, United States Code, is amended—

(1) in subsection (b), by—

(A) inserting “the Secretary of Defense and” before “the Chairman of the Joint Chiefs of Staff”;

(B) redesignating paragraphs (2) through (6) as paragraphs (3) through (7);

(C) inserting a new paragraph (2), as follows:

“(2) leveraging awareness of global technology trends, threats, and adversary capabilities to address gaps in joint military capabilities and validate technical feasibility of requirements developed by the military services;” and

(D) in redesignated paragraphs (4)(B) and (5) by inserting “the Secretary of Defense and” before “the Chairman of the Joint Chiefs of Staff”;

(2) in subsection (c), by—

(A) striking “Chairman of the Joint Chiefs of Staff for making recommendations about” in paragraph (1)(A) and inserting “Council for”;

(B) redesignating subparagraphs (B) through (E) of paragraph (1) as subparagraphs (C) through (F);

(C) adding a new paragraph (1)(B), as follows:

“(B) The Under Secretary of Defense for Research and Engineering, who is the co-Chair of the Council and is the Chief Science Advisor to the Council.”;

(D) by striking in paragraph (2) “(B), (C), (D), and (E)” and inserting “(C), (D), (E), and (F)”; and

(E) by amending paragraph (3) to read as follows:

“(3) In making any recommendation to the Secretary and the Chairman of the Joint Chiefs of Staff pursuant to this section, the Co-Chairs of the Council shall provide any dissenting view of members of the Council with respect to such recommendation.”; and

(3) in subsection (d), by—

(A) striking subparagraph (1)(D); and

(B) redesignating subparagraphs (E) through (H) of paragraph (1) as paragraphs (D) through (G).

*Direct the Secretary of Defense to establish the dedicated AI fund.*

**SEC. \_\_\_\_.—ARTIFICIAL INTELLIGENCE DEVELOPMENT AND PROTOTYPING FUND.—**

(a) IN GENERAL.—The Secretary of Defense shall establish a fund to be known as the “Artificial Intelligence Development and Prototyping Fund” to support operational prototyping and speed the transition of artificial intelligence-enabled applications into both service-specific and joint mission capabilities with priority on joint mission capabilities for Combatant Commanders. The Fund shall be managed by the Under Secretary of Defense for Research and Engineering, in consultation with the Joint Artificial Intelligence Center, the Joint Staff, and the military services.

(b) TRANSFER AUTHORITY.—Amounts available in the Fund may be transferred to a military department for the purpose of carrying out a development or prototyping program selected by the Under Secretary of Defense for Research and Engineering for the purposes described in paragraph (1). Any amount so transferred shall be credited to the account to which it is transferred. The transfer authority provided in this subsection is in addition to any other transfer authority available to the Department of Defense.

(c) CONGRESSIONAL NOTICE.—The Under Secretary of Defense for Research and Development shall notify the congressional defense committees of all transfers under paragraph (2). Each notification shall specify the amount transferred, the purpose of the transfer, and the total projected cost and estimated cost to complete the acquisition program to which the funds were transferred.

### CHAPTER 3: AI AND WARFARE

#### *Blueprint for Action*

*Recommendation: Establish AI-readiness performance goals.*

*Require the Secretary of Defense to establish performance objectives and accompanying metrics for AI and digital readiness and provide an update to Congress no later than 120 days after approving these goals.*

#### **SEC. \_\_\_\_.—ARTIFICIAL INTELLIGENCE READINESS GOALS.—**

(a) IN GENERAL.—Not later than one year after the date of the enactment of this Act, the Secretary of Defense shall review the potential applications of artificial intelligence and digital technology to Department of Defense platforms, processes and operations, and establish performance objectives and accompanying metrics for the incorporation of artificial intelligence and digital readiness into such platforms, processes and operations.

(b) SKILLS GAPS.—As a part of the review required by subsection (a), the Secretary shall direct the military departments and defense components to—

(1) conduct a comprehensive review of skill gaps in the fields of software development, software engineering, knowledge management, data science, and artificial intelligence;

(2) assess the number and qualifications of civilian personnel needed for both management and specialist tracks in such fields;

(3) assess the number of military personnel (officer and enlisted) needed for both management and specialist tracks in such fields; and

(4) establish recruiting, training, and talent management goals to achieve and maintain staffing levels needed to fill identified gaps and meet the Department's needs for skilled personnel.

(c) REPORT TO CONGRESS.—Not later than 120 days after the completion of the review required by subsection (a), the Secretary shall report to Congress on the findings of the review and any action taken or proposed to be taken by the Secretary to address such findings.

*Recommendation: Promote AI interoperability and the adoption of critical emerging technologies among allies and partners.*

*Component 6: Modify authorities and processes in order to improve DoD's ability to conduct international capability development.*

**SEC. \_\_\_\_.—ENHANCED AUTHORITY TO ENTER INTO COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS WITH INTERNATIONAL PARTNERS.—**

(a) AUTHORITY OF SECRETARY OF DEFENSE.—Section 2350a of title 10, United States Code, is amended—

(1) In subsection (a), by—

(A) Adding a new subparagraph (F) at the end of paragraph (2), as follows:

“(F) Any business, academic or research institution, or other non-governmental entity organized pursuant to the laws of a country referred to in subparagraphs (C), (D) and (E), subject to the consent of the country involved.”;

(B) Amending paragraph (3) by striking “a country referred to in subparagraph (E) of paragraph (2),” and inserting “a country referred to in subparagraph (E) of paragraph (2) or a non-governmental entity referred to in subparagraph (F) of such paragraph,”; and

(C) Adding a new paragraph (4), as follows:

“(4) The Secretary may delegate the authority to enter memoranda of understanding pursuant to this section to the secretary of a military department, the Director of the Joint Artificial Intelligence Center, and the Director of the Defense Advanced Research Projects Agency, subject to such terms and conditions as may be necessary to ensure that any agreements entered are consistent with the foreign policy and defense policy of the United States.”; and

(2) In paragraph (1) of subsection (b), by striking “will improve, through the application of emerging technology,” and inserting “is likely to improve, through the application or enhancement of emerging technology,”;

(3) In subsection (c), by adding at the end the following new sentence:  
 “If a foreign partner is expected to contribute significantly to the development of a new or novel capability, full consideration shall be given to non-monetary contributions, including the value of research and development capabilities and the strategic partnerships.”

(b) AUTHORITY OF THE PRESIDENT.—Section 2767 of title 22, United States Code, is amended—

(1) in subsection (c), by adding at the end the following new sentence:  
 “If a foreign partner is expected to contribute significantly to the development of a new or novel capability, full consideration shall be given to non-monetary contributions, including the value of research and development capabilities and the strategic partnerships.”

(2) in subsection (f), by inserting before the semicolon in subparagraph (4) the following: “(and a description of any non-monetary contributions made by such participants)”; and

(3) in subsection (j), by—

(A) amending the title to read as follows: “Cooperative project agreements with friendly foreign countries not members of NATO and with non-governmental organizations in NATO and friendly non-NATO countries”; and

(B) amending paragraph (2) to read as follows:

“(2) The President may enter into a cooperative project agreement with any business, academic or research institution, or other non-governmental entity organized pursuant to the laws of NATO member or a friendly foreign country that is not a member of NATO, subject to the consent of the country involved.”

## CHAPTER 5: AI AND THE FUTURE OF NATIONAL INTELLIGENCE

### *Blueprint for Action*

#### *Recommendation: Empower the IC’s science and technology leadership.*

*Designate the Director of S&T within ODNI as the IC CTO and grant that position additional authorities for establishing policies on, and supervising, IC research and engineering, technology development, technology transition, appropriate prototyping activities, experimentation, and developmental testing activities.*

*Grant the Director of National Intelligence sufficient budgetary authorities to enforce technical standards across the IC, including the ability to fence or otherwise withhold funding for programs that are not compliant with established common standards and policies.*

**SEC. \_\_\_\_.—CHIEF TECHNOLOGY OFFICER FOR THE INTELLIGENCE COMMUNITY.—**

Section 3030 of title 50, United States Code, is amended—

(1) in subsection (a), by striking “who shall be appointed by the Director of National Intelligence” and inserting “who shall be appointed by the Director of National Intelligence and shall serve as the Chief Technology Officer for the Intelligence Community.”; and

(2) in subsection (c), by—

(A) redesignating paragraphs (2) through (5) as paragraphs (4) through (7); and

(B) inserting new paragraphs (2) and (3), as follows:

“(2) establish policies for the intelligence community on research and engineering, technology development, technology transition, prototyping activities, experimentation, and developmental testing, and oversee the implementation of such policies;

“(3) establish common technical standards and policies necessary to rapidly scale artificial intelligence-enabled applications across the intelligence community;”.

*Suggested Report Language:* The Chief Technology Officer for the Intelligence Community shall collect information on each Intelligence Community element’s compliance with applicable standards and policies for artificial intelligence research and development, and shall provide such information to the Director of National Intelligence. The Intelligence Committees encourage the Director of National Intelligence to closely review the compliance information and place a temporary hold on an Intelligence Community element that fails to execute artificial intelligence research and development funds in accordance with the applicable standards and policies.

*Establish a fund that would allow the DNI to identify and invest in AI applications with outsized potential that may not have an identified source of agency or program funding as they near the end of their S&T life cycle.*

**SEC. \_\_\_\_.—ARTIFICIAL INTELLIGENCE CRITICAL APPLICATIONS FUND FOR THE INTELLIGENCE COMMUNITY.—**

(a) IN GENERAL.—The Director of National Intelligence shall establish a fund

to be known as the “Artificial Intelligence Critical Applications Fund” to support agile development and fielding of artificial intelligence-enabled applications with exceptional potential for the intelligence community. The Fund shall be managed by the Director of Science and Technology, in consultation with the National Intelligence Science and Technology Committee established pursuant to section 3030 of title 50, United States Code.

(b) TRANSFER AUTHORITY.—Amounts available in the Fund may be transferred to any element of the intelligence community for the purpose of carrying out a development or fielding program selected by the Director of Science and Technology for the purposes described in subsection (a). Any amount so transferred shall be credited to the account to which it is transferred. The transfer authority provided in this subsection is in addition to any other transfer authority available to the Director of National Intelligence and the intelligence community.

(c) CONGRESSIONAL NOTICE.—The Director of National Intelligence shall notify the congressional intelligence committees and the congressional appropriations committees of all transfers under paragraph (2). Each notification shall specify the amount transferred, the purpose of the transfer, and the total projected cost and estimated cost to complete the acquisition program to which the funds were transferred.

*Establish a 10-year, \$1,000,000,000 Program of Record to provide long-term, predictable funding for technologies identified in the technology annex to the National Intelligence Strategy.*

**SEC. \_\_\_\_.—ARTIFICIAL INTELLIGENCE TECHNOLOGY ROADMAP AND FUNDING PLAN FOR THE INTELLIGENCE COMMUNITY.—**

(a) IN GENERAL.—Not later than 180 days after the date of the enactment of this Act, the Director of National Intelligence, in consultation with the Secretary of Defense, shall develop a technology annex to the National Intelligence Strategy and a ten-year plan to provide long-term, predictable funding of up to one billion dollars to implement the steps identified in such annex.

(b) CONTENTS OF TECHNOLOGY ANNEX.—The technology annex required by subsection (a) shall provide a technology roadmap for the adoption of artificial intelligence-enabled applications to solve operational intelligence requirements, including:

(1) A description of challenges faced in the intelligence community’s efforts to analyze the global environment and monitor technological advancements, adversarial capability development, and emerging threats;

(2) Identification of technical capabilities, including artificial intelligence capabilities, needed to enable steps to address each challenge;

(3) A prioritized, time-phased plan for developing or acquiring such technical capabilities, that takes into account research and development timelines, a strategy for public private partnerships, and a strategy for connecting researchers to end users for early prototyping, experimentation, and iteration;

(4) Any additional or revised acquisition policies and workforce training requirements that may be needed to enable intelligence community personnel to identify, procure, integrate, and operate the technologies identified in the annex;

(5) Identification of infrastructure requirements for developing and deploying technical capabilities, including:

(A) data, compute, storage, and network needs;

(B) a resourced and prioritized plan for establishing such infrastructure; and

(C) an analysis of the testing, evaluation, verification, and validation requirements to support prototyping and experimentation and a resourced plan to implement them, including standards, testbeds, and red-teams for testing artificial intelligence systems against digital “denial & deception” attacks.

(6) Consideration of human factor elements associated with priority technical capabilities, including innovative human-centric approaches to user interface, human-machine teaming, and workflow integration;

(7) Consideration of interoperability with allies and partners, including areas for sharing of data, tools, and intelligence products; and

(8) Flexibility to adapt and iterate annex implementation at the speed of technological advancement.

*Recommendation: Improve coordination between the IC and DoD.*

*Revise the National Defense Authorization Act for Fiscal Year 2021 (FY 2021 NDAA) provision authorizing a Steering Committee on Emerging Technology by designating it to be tri-chaired by the Deputy Secretary of Defense, the Vice Chairman of the Joint Chiefs of Staff, and the Principal Deputy Director of National Intelligence.*

*See Chapter 2 recommendation “Drive Change through Top-Down Leadership” for proposed legislative text.*

*Recommendation: Aggressively pursue security clearance reform for clearances at the Top Secret level and above, and enforce security clearance reciprocity among members of the IC.*

*Congress should require the DNI to develop an implementation plan for security clearance reform for clearances at the Top Secret and above level including detailed timelines and metrics.*

*Congress should require the DNI and the directors of the major intelligence services to regularly report on progress to the oversight committees.*

**SEC. \_\_\_\_.—IMPLEMENTATION PLAN FOR SECURITY CLEARANCE REFORM.—**

(a) PLAN REQUIRED.—Not later than 180 days after the date of the enactment of this Act, the Director of National Intelligence shall develop an implementation plan for security clearance reform for clearances at the Top Secret level and above. The implementation plan shall include, at a minimum:

(1) detailed implementation metrics and timelines;

(2) steps to be taken to collaborate with the private sector and academia to develop data-informed behavioral approaches to understanding risk factors and security clearance adjudication; and

(3) steps to be taken to reform identity management and ensure seamless security clearance reciprocity across the intelligence community (including any enforcement mechanisms that may be needed to ensure such reciprocity).

(b) REPORTS REQUIRED.—Not later than 270 days after the date of the enactment of this Act and annually for five years thereafter, the Director of National Intelligence shall report to the congressional intelligence committees on the implementation of the plan required by subsection (a) and the progress that has been made toward security clearance reform.

**CHAPTER 6: TECHNICAL TALENT IN GOVERNMENT**

*Blueprint for Action*

*Recommendation: Create a National Reserve Digital Corps.*

**NATIONAL RESERVE DIGITAL CORPS ACT OF 2021**

**SECTION. 1.—SHORT TITLE.**—This Act may be cited as the “National Reserve Digital Corps Act of 2021”.

**SEC. 2.—ESTABLISHMENT OF NATIONAL RESERVE DIGITAL CORPS.—**

(a) IN GENERAL.—Subpart I of part III of title 5, United States Code, is amended by inserting after chapter 102 the following new chapter:

## CHAPTER 103—NATIONAL RESERVE DIGITAL CORPS

SEC. 10301. Establishment.

SEC. 10302. Definitions.

SEC. 10303. Organization.

SEC. 10304. Work on Behalf of Federal Agencies.

SEC. 10305. Digital Corps Scholarship Program.

SEC. 10306. Duration of Pilot Program.

SEC. 10307. Authorization of Appropriation.

**SEC. 10301. ESTABLISHMENT.**—For the purposes of attracting, recruiting, and training a corps of world-class digital talent to serve the national interest and enable the Federal Government to become a digitally proficient enterprise, there is established within the Office of Management and Budget a pilot program for a civilian National Reserve Digital Corps, whose members shall serve as special government employees, working not fewer than 30 days per year as short-term advisors, instructors, or developers in the Federal Government.

**SEC. 10302. DEFINITIONS.—**

(a) DIRECTOR.—The term “Director” means the Director of the Office of Management and Budget.

(b) NODE.—The term “node” means a group of persons or team organized under the direction of a node leader to provide digital service to one or more Federal agencies pursuant to an agreement between the Office of Management Budget and each other Federal agency.

(c) NODE LEADER.—The term “node leader” means a full time government employee, as defined by section 2105 of title 5, United States Code, selected under this Act to lead one or more nodes, who reports to the Director or the Director’s designee.

(d) NODE MEMBER.—The term “node member” means a special government employee, as defined by section 202 of title 18, United States Code, selected under this Act to work at least 38 days per fiscal year and report to a node leader in furtherance of the mission of a specified node.

**SEC. 10303. ORGANIZATION.—**

(a) NODES AND NODE LEADERS.—The National Reserve Digital Corps shall be organized into nodes, each of which shall be under the supervision of a node leader .

(b) ADMINISTRATIVE SUPPORT.—The National Reserve Digital Corps shall receive funding and administrative support from the Office of Management and Budget,

which shall be responsible for selecting node leaders, establishing standards, ensuring that nodes meet government client requirements, maintaining security clearances, establishing access to an agile development environment and tools, and facilitating appropriate technical exchange meetings.

(c) **HIRING AUTHORITY.—**

(1) **Direct Hiring Authority of Node Members.—**The Director of the Office of Management and Budget, on the recommendation of a node leader, may appoint, without regard to the provisions of subchapter I of chapter 33 (other than sections 3303 and 3328 of such chapter), a qualified candidate to a position in the competitive service in the Office of Management and Budget to serve as a node member. This provision shall not preclude the Director from hiring additional employees, including full time government employees, as defined by section 2105 of title 5, United States Code.

(2) **Term and Temporary Appointments of Node Members.—**The Director of the Office of Management and Budget, on the recommendation of a node leader, may make a noncompetitive temporary appointment or term appointment for a period of not more than 18 months, of a qualified candidate to serve as a node member in a position in the competitive service for which a critical hiring need exists, as determined under section 3304 of title 5, United States Code, without regard to sections 3327 and 3330 of such title.

**SEC. 10304. WORK ON BEHALF OF FEDERAL AGENCIES.—**

(a) **PURPOSE.—**Each node shall undertake projects to assist Federal agencies by providing digital education and training, performing data triage and providing acquisition assistance, helping guide digital projects and frame technical solutions, helping build bridges between public needs and private sector capabilities, and related tasks.

(b) **AUTHORITIES.—**Projects may be undertaken—

(1) on behalf of a Federal agency—

(A) by direct agreement between the Office of Management and Budget and the Federal agency; or

(B) at the direction of the Office of Management and Budget at the request of the Federal agency; or

(2) to address a digital service need encompassing more than one Federal agency—

(A) at the direction of the Office of Management and Budget; or

(B) on the initiative of a node leader.

**SEC. 10305. DIGITAL CORPS SCHOLARSHIP PROGRAM.—**

(a) IN GENERAL.—The Director shall establish a National Reserve Digital Corps scholarship program to provide full scholarships to competitively selected students who commit to study specific disciplines related to national security digital technology .

(b) SERVICE OBLIGATION.—Each student, prior to commencing the Digital Corps Scholarship Program, shall sign an agreement with respect to the student's commitment to the United States. The agreement shall provide that the student agree to the following:

(1) a commitment to serve as an intern in a Federal agency for at least six weeks during each of the summers before their junior and senior years; and

(2) a commitment to serve in the National Reserve Digital Corps for six years after graduation.

(c) PROGRAM ELEMENTS.—In establishing the program, the Director shall determine the following—

(1) Eligibility standards for program participation;

(2) Criteria for establishing the dollar amount of a scholarship, including tuition, room and board;

(3) Repayment requirements for students who fail to complete their service obligation;

(4) An approach to ensuring that qualified graduates of the program are promptly hired and assigned to node leaders; and

(5) Resources required for the implementation of the program.

(d) CONTINUING EDUCATION.—The Director shall establish a training and continuing education program to fund educational opportunities for members of the National Digital Reserve Corps, including conferences, seminars, degree and certificate granting programs, and other training opportunities that are expected to increase the digital competencies of the participants.

(e) IMPLEMENTATION.—

(1) Not later than six months after the date of the enactment of this Act, the Director shall establish the administrative support function and issue guidance for the National Reserve Digital Corps, which shall include the identification of points of contact for node leaders at Federal agencies.

(2) Not later than one year after the date of the enactment of this Act, the Director shall appoint not fewer than five node leaders under the National Reserve Digital Corps program and authorize the node leaders to begin recruiting reservists and undertaking projects for Federal agencies.

(3) Beginning two years after the date of the enactment of this Act, the Director shall report annually to Congress on the progress of the National Reserve Digital Corps. The Director's report shall address, at a minimum, the following measures of success:

(A) The number of technologists who participate in the National Reserve Digital Corps annually;

(B) Identification of the Federal agencies that submitted work requests, the nature of the work requests, which work requests were assigned a node, and which work requests were completed or remain in progress;

(C) Evaluations of results of National Reserve Digital Corps projects by Federal agencies; and

(D) Evaluations of results of National Reserve Digital Corps projects by reservists.

**SEC. 10306. DURATION OF PILOT PROGRAM.**—The pilot program under this Act shall terminate no earlier than six years after its commencement.

**SEC. 10307. AUTHORIZATION OF APPROPRIATION.**—There is authorized to be appropriated \$16,000,000 to remain available until fiscal year 2023 the initial administrative cost, including for the salaries and expenses scholarship and education benefits, for the National Digital Reserve Corps.

*Recommendation: Create Digital Talent Recruiting Offices Aligned with Digital Corps.*

**SEC. \_\_\_\_.—DIGITAL TALENT RECRUITING OFFICES.—**

(a) DIGITAL TALENT RECRUITING FOR THE DEPARTMENT OF DEFENSE.—

(1) Not later than 270 days after the date of the enactment of this Act, the Secretary of Defense shall designate a chief digital recruiting officer within the office of the Under Secretary of Defense for Personnel and Readiness to oversee a digital recruiting office to carry out the responsibilities set forth in paragraph (2).

(2) The chief digital recruiting officer shall be responsible for—

(A) identifying Department of Defense needs for specific types of digital talent;

(B) recruiting technologists, in partnership with the military services and defense components, including by attending conferences and career fairs, and actively recruiting on university campuses and from the private sector;

(C) integrating Federal scholarship for service programs into civilian recruiting;

(D) offering recruitment and referral bonuses; and

(E) partnering with human resource teams in the military services and defense components to use direct-hire authorities to accelerate hiring.

(3) The Secretary of Defense shall ensure that the chief digital recruiting officer is provided with personnel and resources sufficient to maintain an office and to carry out the duties set forth in paragraph (2).

(b) DIGITAL TALENT RECRUITING FOR THE INTELLIGENCE COMMUNITY.—

(1) Not later than 270 days after the date of the enactment of this Act, the Director of National Intelligence shall designate a chief digital recruiting officer to oversee a digital recruiting office to carry out the responsibilities set forth in paragraph (2).

(2) The chief digital recruiting officer shall be responsible for—

(A) identifying intelligence community needs for specific types of digital talent;

(B) recruiting technologists, in partnership with components of the intelligence community, by attending conferences and career fairs, and actively recruiting on college campuses;

(C) integrating Federal scholarship for service programs into intelligence community recruiting;

(D) offering recruitment and referral bonuses; and

(E) partnering with human resource teams in the components of the intelligence community to use direct-hire authorities to accelerate hiring.

(3) The Director of National Intelligence shall ensure that the chief digital recruiting officer is provided with personnel and resources sufficient to maintain an office and to carry out the duties set forth in paragraph (2).

(c) DIGITAL TALENT RECRUITING FOR THE DEPARTMENT OF HOMELAND SECURITY.—

(1) Not later than 270 days after the date of the enactment of this Act, the Secretary of Homeland Security shall designate a chief digital recruiting officer to oversee a digital recruiting office to carry out the responsibilities set forth in paragraph (2).

(2) The chief digital recruiting officer shall be responsible for—

(A) identifying Department of Homeland Security needs for specific types of digital talent;

(B) recruiting technologists, in partnership with components of the Department of Homeland Security, by attending conferences and career fairs, and actively recruiting on college campuses;

(C) integrating Federal scholarship for service programs into civilian recruiting;

(D) offering recruitment and referral bonuses; and

(E) partnering with human resource teams in the components of the Department of Homeland Security to use direct-hire authorities to accelerate hiring.

(3) The Secretary of Homeland Security shall ensure that the chief digital recruiting officer is provided with personnel and resources sufficient to maintain an office and to carry out the duties set forth in paragraph (2).

## (d) DIGITAL TALENT RECRUITING FOR THE DEPARTMENT OF ENERGY.—

(1) Not later than 270 days after the date of the enactment of this Act, the Secretary of Energy shall designate a chief digital recruiting officer to oversee a digital recruiting office to carry out the responsibilities set forth in paragraph (2).

(2) The chief digital recruiting officer shall be responsible for—

(A) identifying Department of Energy needs for specific types of digital talent;

(B) recruiting technologists, in partnership with Department of Energy programs, by attending conferences and career fairs, and actively recruiting on college campuses;

(C) integrating Federal scholarship for service programs into civilian recruiting;

(D) offering recruitment and referral bonuses; and

(E) partnering with human resource teams in Department of Energy programs to use direct-hire authorities to accelerate hiring.

(3) The Secretary of Energy shall ensure that the chief digital recruiting officer is provided with personnel and resources sufficient to maintain an office and to carry out the duties set forth in paragraph (2).

*Recommendation: Grant exemption from OPM General Schedule Qualification Policies for Specific Billets and Position Descriptions.*

**SEC. \_\_\_\_.—WAIVER OF QUALIFICATION STANDARDS FOR GENERAL SCHEDULE POSITIONS IN ARTIFICIAL INTELLIGENCE.—**

(a) DEPARTMENT OF DEFENSE.—Two-star and above commands and their civilian equivalents are authorized to waive any General Schedule qualification standard established by the Office of Personnel Management in the case of any applicant for a position in artificial intelligence who is determined by a hiring manager, in consultation with subject matter experts, to be the best qualified candidate for the position.

(b) OTHER NATIONAL SECURITY AGENCIES.—The Director of the Office of Personnel Management shall establish a process by which the the Attorney General, the Secretary of Homeland Security, the Secretary of State, the Secretary of Commerce, the Director of National Intelligence, and the head of any element of the Intelligence Community may request an exception to any General Schedule qualification standard in any case in

which the agency head determines that national security needs would best be met by hiring managers making an independent judgment about qualifications and pay grades for a position in artificial intelligence with the advice of subject matter experts. The process shall provide for requests to be made for individual billets, for position descriptions, or for categories of individual billets or position descriptions at the discretion of the agency head.

*Recommendation: Expand the CyberCorps: Scholarship for Service.*

**SEC. \_\_\_\_.—AMENDMENT TO THE FEDERAL CYBER SCHOLARSHIP-FOR- SERVICE PROGRAM.—**

(a) AMENDMENTS TO TITLE 15, UNITED STATES CODE.—Section 7442 of title 15, United States Code, is amended—

(1) By amending the title to read: “Federal Cyber and Artificial Intelligence Scholarship-for-Service Program”;

(2) in subsection (a), by striking “industrial control system” and all that follows and inserting in lieu thereof “digital engineers, artificial intelligence practitioners, data engineers, data analysts, data scientists, industrial control system security professionals, security managers, and cybersecurity course instructors to meet the needs of the cybersecurity and artificial intelligence missions for Federal, State, local, tribal, and territorial governments.”;

(3) in subsection (b), by—

(A) striking “and” at the end of paragraph (3);

(B) striking the period at the end of paragraph (4) and inserting in lieu thereof “; and”; and

(C) adding a new paragraph (5), as follows:

“(5) provide an opportunity for scholarship recipients to initiate the security clearance process at least one year before their planned graduation date.”; and

(4) in subsection (c), by striking “3 years” and inserting “4 years”.

(b) SAVINGS PROVISION.—Nothing in this section, or an amendment made by this section, shall affect any agreement, scholarship, loan, or repayment under section 302 of the Cybersecurity Enhancement Act of 2014 (15 U.S.C. 7442), in effect on the day before the date of the enactment of this section.

*Recommendation: Create a United States Digital Service Academy.*

## **UNITED STATES DIGITAL SERVICE ACADEMY ACT OF 2021**

**SECTION. 1.—SHORT TITLE.**—This Act may be cited as the “United States Digital Service Academy Act of 2021”.

### **SEC. 2.—ESTABLISHMENT OF ACADEMY.—**

(a) ESTABLISHMENT.—There is established as an independent entity within the Federal Government a United States Digital Service Academy (hereafter referred to as the “ACADEMY”), at a location to be determined, to serve as a federally-funded, accredited, degree-granting university for the instruction of selected individuals in digital technical fields and the preparation of selected individuals for civil service with the Federal Government.

(b) DIGITAL TECHNICAL FIELDS DEFINED.—The term “digital technical fields” includes artificial intelligence, software engineering, electrical science and engineering, computer science, molecular biology, computational biology, biological engineering, cybersecurity, data science, mathematics, physics, human-computer interaction, robotics, and design and any additional fields specified in regulations by the Board.

### **SEC. 3.—ORGANIZATION.—**

(a) BOARD OF REGENTS.—The business of the Academy shall be conducted by a Board of Regents (hereafter referred to as the “Board”).

(1) COMPOSITION.—The Board shall consist of nine voting members and ex officio members, as set forth in this subsection.

(2) VOTING MEMBERS.—The President shall appoint, by and with the consent of the Senate, nine persons from civilian life who have demonstrated achievement in one or more digital technical fields, higher education administration, or Federal civilian service, to serve as voting members on the Board. Appointment of the first voting members shall be made not later than 180 days after enactment of this Act.

(3) EX OFFICIO MEMBERS.—Ex officio members shall include—

(A) The Secretary of State;

(B) The Secretary of Defense;

(C) The Attorney General;

(D) The Secretary of Commerce;

(E) The Secretary of Energy;

(F) The Secretary of Homeland Security;

(G) The Director of National Intelligence;

(H) The Director of the Office of Personnel Management; and

(I) such other Federal Government officials as determined by the President.

(2) TERM OF VOTING MEMBERS.—The term of office of each voting member of the Board shall be six years, except that initial terms shall be staggered at two year intervals and any member appointed to fill a vacancy occurring before the expiration of a term shall be appointed for the remainder of such term.

(3) PRESIDENT OF THE BOARD.—One of the members (other than an ex officio member) shall be designated by the President as Chairman and shall be the presiding officer of the Board.

(b) KEY POSITIONS.—There shall be at the Academy the following:

(1) A Superintendent;

(2) A Dean of the Academic Board, who is a permanent professor;

(3) A Director of Admissions; and

(4) A Director of Placement.

(c) SUPERINTENDENT.—The Board shall appoint a Superintendent of the Academy, who shall serve for a term of six years. The Superintendent, acting pursuant to the oversight and direction of the Board, shall be responsible for the day-to-day operations of the Academy and the welfare of the students and the staff of the Academy. The Board shall select the first Superintendent of the Academy no later than 60 days after the Board is established.

(d) ADVISORY BOARD.—The Board of Regents and the Superintendent shall be assisted by an Advisory Board, composed of commercial and academic leaders in digital technical fields and higher education. The Advisory Board shall adhere to the requirements of the Federal Advisory Committee Act, Pub.L. 92–463.

## (e) INTERAGENCY WORKING GROUP.—

(1) ESTABLISHMENT.—The Office of Personnel Management shall establish and lead an interagency working group to annually assess and report to the Academy the need for civil servants at agencies in digital technical fields for the purposes of informing Academy student field of study and agency placement.

(2) RESPONSIBILITIES.—The interagency working group shall be responsible for—

(A) establishing a range of Academy graduates needed during the ensuing five-year period, by agency and digital technical field; and

(B) undertaking necessary steps to enable each agency identified to hire Academy graduates into full-time positions in the civil service.

(3) COMPOSITION.—The interagency working group shall consist of the following officials or their designees:

(A) The Secretary of State;

(B) The Secretary of Defense;

(C) The Attorney General;

(D) The Secretary of Commerce;

(E) The Secretary of Energy;

(F) The Secretary of Homeland Security;

(G) The Director of National Intelligence;

(H) The Director of the Office of Personnel Management; and

(I) such other Federal Government officials as determined by the Director of the Office of Personnel Management.

**SEC. 4.—FACULTY.—**

(a) NUMBER OF FACULTY.—The Superintendent of the Academy may employ as many professors, instructors, and lecturers at the Academy as the Superintendent considers necessary to achieve academic excellence.

(b) **FACULTY COMPENSATION.**—The Superintendent may prescribe the compensation of persons employed under this section. Compensation and benefits for faculty members of the Academy shall be sufficiently competitive to achieve academic excellence, as determined by the Superintendent.

(c) **FACULTY EXPECTATIONS.**—Faculty members shall—

(1) possess academic expertise and teaching prowess;

(2) exemplify high standards of conduct and performance;

(3) be expected to participate in the full spectrum of academy programs, including providing leadership for the curricular and extracurricular activities of students;

(4) comply with the standards of conduct and performance established by the Superintendent; and

(5) participate actively in the development of the students through the enforcement of standards of behavior and conduct, to be established in the Academy's rules and regulations.

(d) **DEPARTMENT TITLES.**—The Superintendent may prescribe the titles of each of the departments of instruction and the professors of the Academy.

**SEC. 5.—STUDENT QUALIFICATIONS AND REQUIREMENTS FOR ADMISSION.—**

(a) **ADMISSIONS REQUIREMENTS.**—A student wishing to be admitted to the Academy shall fulfill admission requirements to be determined by the Superintendent and approved by the Board of Regents.

(b) **HONOR CODE.**—A student wishing to be admitted to the Academy shall sign an Honor Code developed by the Superintendent of the Academy and approved by the Board of Regents. A violation of the honor code may constitute a basis for dismissal from the Academy.

**SEC. 6.—APPOINTMENT OF STUDENTS.—**

(a) **NOMINATIONS PROCESS.**—Prospective applicants to the Academy for seats described in paragraphs (1) and (2) of subsection (b) shall follow a nomination process established by the Director of Admissions of the Academy that is similar to the process used for admission to the military academies of the United States Armed Forces.

## (b) APPOINTMENTS.—

(1) NOMINEES FOR CONGRESSIONAL SEATS.—Each member of the Senate or the House of Representatives may nominate candidates from the State that the member represents for each incoming first-year class of the Academy .

(2) EXECUTIVE BRANCH NOMINEES.—The President may nominate a maximum of 75 candidates to compete for the executive branch seats.

**SEC. 7.—ACADEMIC FOCUS OF THE UNITED STATES DIGITAL SERVICE ACADEMY.—**

(a) CURRICULUM.—Each Academy student shall follow a structured curriculum according to the program of study approved by the Board of Regents centered on digital technical fields and incorporating additional core curriculum coursework in history, government, English language arts including composition, and ethics.

(b) DEGREES CONFERRED UPON GRADUATION.—Under such conditions as the Board of Regents may prescribe, once the Academy is accredited, the Superintendent of the Academy may confer a baccalaureate of science or baccalaureate of arts degree upon a graduate of the Academy.

(c) MAJORS AND AREAS OF CONCENTRATION.—Under such conditions as the Board of Regents may prescribe, the Superintendent of the Academy may prescribe requirements for majors and concentrations and requirements for declaring a major or concentration during the course of study.

(d) ADDITIONAL DIGITAL SERVICE OF CIVIL SERVICE PROGRAMMING.—Under such conditions as the Board of Regents may prescribe, the Superintendent of the Academy may prescribe requirements for each Academy student to participate in non-curricular programming during Academy terms and during the summer, which may include internships, summer learning programs, and project-based learning activities.

**SEC. 8.—CIVIL SERVICE REQUIREMENTS FOLLOWING GRADUATION.—**

(a) CIVIL SERVICE AGREEMENT.—Each Academy student, prior to commencing the third year of coursework, shall sign an agreement with respect to the student's length of civil service to the United States. The agreement shall provide that the student agrees to the following:

(1) The student will complete the course of instruction at the Academy, culminating in graduation from the Academy.

(2) Unless the student pursues graduate education under subsection (f), upon graduation from the Academy, the student agrees to serve in the Federal civil service for not less than five years following graduation from the Academy .

## (b) FAILURE TO GRADUATE.—

(1) IN GENERAL.—An Academy student who has completed a minimum of four semesters at the Academy but fails to fulfill the Academy's requirements for graduation shall be—

(A) dismissed from the Academy; and

(B) obligated to repay the Academy for the cost of the delinquent student's education in the amount described in paragraph (2).

(2) AMOUNT OF REPAYMENT.—A student who fails to graduate shall have financial responsibility for certain costs relating to each semester that the student was officially enrolled in the Academy as prescribed by the Superintendent.

## (c) FAILURE TO ACCEPT OR COMPLETE ASSIGNED CIVIL SERVICE.—

(1) IN GENERAL.—A student who graduates from the Academy but fails to complete the full term of required civil service shall be obligated to repay the Academy for a portion of the cost of the graduate's education as determined by Academy as set forth in this subsection.

(2) AMOUNT OF REPAYMENT.—In the case of a delinquent graduate who fails to complete all years of public service required under subsection (a)(2) (including any additional years required for graduate education under subsection (f)), the delinquent graduate shall be financially responsible for the cost of the delinquent graduate's education (including the costs of any graduate education), except that the amount of financial responsibility under this paragraph shall be reduced by 20 percent for each year of civil service under subsection (a)(2) that the delinquent graduate did complete.

(d) EXCEPTIONS.—The Superintendent may provide for the partial or total waiver or suspension of any civil service or payment obligation by an individual under this section whenever compliance by the individual with the obligation is impossible or deemed to involve extreme hardship to the individual, or if enforcement of such obligation with respect to the individual would be unconscionable.

(e) STUDENT SALARIES AND BENEFITS.—The Academy shall not be responsible for the salaries and benefits of graduates of the Academy while the graduates are fulfilling the civilian service assignment under this section. All salaries and benefits shall be paid by the employer with whom the Academy graduate is placed.

(f) GRADUATE EDUCATIONS.—An Academy student and the Superintendent may modify the agreement under subsection (a) to provide that—

(1) the Academy shall—

(A) subsidize an Academy student's graduate education; and

(B) postpone the public service assignment required under subsection (a)(2).

(2) the student shall—

(A) accept a civil service assignment under subsection (g) upon the student's completion of the graduate program; and

(B) add two additional years to the student's civil service commitment required under the agreement described in subsection (a) for every year of subsidized graduate education.

**SEC. 9.—IMPLEMENTATION PLAN.—**

(a) Not later than 180 days after the enactment of this Act, the Superintendent, in consultation with the Advisory Board, shall develop a detailed plan to implement the Academy that complies with the requirements of this section. Upon approval by the Board of Regents, the Superintendent shall present the implementation plan to Congress.

(b) CONTENTS OF PLAN.—The implementation plan described in section (a) shall provide, a minimum, the following:

(1) Identification and securement of an appropriate site for initial Academy build-out with room for future expansion, to include a construction plan and temporary site plan, if necessary;

(2) Identification of gaps in the government's current and envisioned digital workforce by the interagency working group under the Office of Personnel Management as established by section (3)(e);

(3) Establishment of student qualifications and requirements for admission;

(4) Establishment of the student appointment and nomination process;

(5) Establishment of student honor and conduct code to include a plan for student noncompletion of requirements and obligations;

(6) Establishment of the student curriculum;

(7) Establishment of a mechanism for students to select fields of study and annually select agencies and career fields within the limits prescribed by

the interagency working group under the Office of Personnel Management as established by section (3)(e);

(8) Establishment of a mechanism for graduates to transition from the Academy to civil service employment by selected individual agencies;

(9) Determination of the initial Academy departments and faculty needs;

(10) Establishment of faculty and staff requirements and compensation;

(11) Determination of non-academic staff required;

(12) Recruitment and hiring of faculty, including tenure-track faculty, adjunct faculty, part-time faculty and visiting faculty, and other staff as needed;

(13) Identification of nonprofit and private sector partners;

(14) Procurement of outside funds and gifts from individuals and corporations for startup, administrative, maintenance, and infrastructure costs;

(15) Establishment of the process to meet statutory and regulatory requirements for establishing the Academy as an academic institution with degree-granting approval and for applying for degree program specific accreditation and ensuring that the Academy obtains, no later than two years after enactment of this Act, status as an accreditation candidate, as defined by a nationally recognized accrediting agency or association as determined by the Secretary of Education in accordance with section 1099b in title 10, United States Code, before commencing academic operations;

(16) A plan commencing the Academy with an initial class of 500 students three years after enactment of this Act;

(17) Procedures for incorporating accreditation assessments to facilitate ongoing improvements to the Academy; and,

(18) Procedures for assessing the size of the Academy and potential expansion of student enrollment.

**SEC. 10.—ADMINISTRATIVE MATTERS.—**

(a) FULLY-SUBSIDIZED EDUCATION.—Each Academy student's tuition and room and board shall be fully subsidized provided that the student completes the requirements of the Academy and fulfills the civil service commitment as determined by the implementation plan in section 9.

(b) GIFT AUTHORITY.—The Board of Regents may accept, hold, administer, and spend any gift, devise, or bequest of real property, personal property, or money made on the condition that the gift, devise, or bequest be used for the benefit, or in connection with, the establishment, operation, or maintenance, of the Academy. The Board of Regents may accept a gift of services, which includes activities that benefit the education, morale, welfare, or recreation of students, faculty or staff, for the Academy.

(1) LIMITATIONS AND PROHIBITIONS.—

(A) IN GENERAL.—The Board of Regents may not accept a gift under this subsection if the acceptance of the gift would reflect unfavorably on the ability of any agency of the Federal Government to carry out any responsibility or duty in a fair and objective manner, or would compromise the integrity or appearance of integrity of any program of the Federal Government or any officer or employee of the Federal Government who is involved in any such program.

(B) FOREIGN GIFTS.—The Board of Regents may not accept a gift of services from a foreign government or international organization under this subsection. A gift of real property, personal property, or money from a foreign government or international organization may be accepted under this subsection only if the gift is not designated for a specific individual.

(C) APPLICABLE LAW.—No gift under this section may be accepted with attached conditions inconsistent with applicable law or regulation.

(D) MISSION.—No gift under this section may be accepted with attached conditions inconsistent with the mission of the Academy .

(E) NAMING RIGHTS.—The Board of Regents may issue regulations governing the circumstances under which gifts conditioned on naming rights may be accepted, appropriate naming conventions, and suitable display standards.

(2) TREATMENT OF GIFTS.—

(A) Gifts and bequests of money, and the proceeds of the sale of property, received under subsection shall be deposited in the Treasury in the account of the Academy as no year money and may be expended in connection with the activities of the Academy as determined by the Board of Regents.

(B) The Board of Regents may pay all necessary expenses in connection with the conveyance or transfer of a gift, devise, or bequest accepted under this section.

(C) For the purposes of Federal income, estate, and gift taxes, any property, money, or services accepted under this subsection shall be considered as a gift, devise, or bequest to or for the use of the United States.

(D) The Comptroller General shall make periodic audits of gifts, devises, and bequests accepted under this section at such intervals as the Comptroller General determines to be warranted. The Comptroller General shall submit to Congress a report on the results of each such audit.

**SEC. 11.—INITIAL APPROPRIATION.**—There are authorized to be appropriated \$40,000,000 to remain available until expended for the Academy's initial administrative cost and salaries and expenses.

*Recommendation: Establish Career Fields for Government Civilians in Software Development, Software Engineering, Data Science, Knowledge Management, and Artificial Intelligence.*

**SEC. \_\_\_\_.—NEW OCCUPATIONAL SERIES FOR DIGITAL CAREER FIELDS.**—Not later than 270 days after the date of the enactment of this Act, the Director of the Office of Personnel Management shall exercise its authority under section 5105 of title 5, United States Code, to establish one or more new occupational series and associated policies covering Federal Government positions in the fields of software development, software engineering, data science, and knowledge management.

**SEC. \_\_\_\_.—NEW OCCUPATIONAL SERIES FOR ARTIFICIAL INTELLIGENCE.**—Not later than 270 days after the date of the enactment of this Act, the Director of the Office of Personnel Management shall exercise its authority under section 5105 of title 5, United States Code, to establish a new occupational series and associated policies covering Federal Government positions in the field of artificial intelligence.

*Recommendation: Establish Digital Career Fields for Military Personnel.*

**SEC. \_\_\_\_.—MILITARY CAREER FIELDS FOR SOFTWARE DEVELOPMENT, DATA SCIENCE, AND ARTIFICIAL INTELLIGENCE.**—Section 230 of the National Defense Authorization Act for Fiscal Year 2020 is amended by adding the following new subsection: “(d) Not later than 270 days after the date of the enactment of this subsection, the Chief of Staff of the Army, the Chief of Naval Operations, the Chief of Staff of the Air Force, and

the Commandant of the Marine Corps (collectively, the Service Chiefs) shall each establish new military career fields for software development, data science, and artificial intelligence that are open to commissioned officers, enlisted personnel and, as appropriate, warrant officers. The Service Chiefs shall utilize the authority provided in sections 605 and 649a to 649k of title 10, United States Code, to ensure that military personnel in these career fields who choose to specialize and focus on technical skill sets rather than pursue leadership positions are not required to move outside their specialties or into management positions to continue to promote.

## CHAPTER 8: UPHOLDING DEMOCRATIC VALUES: PRIVACY, CIVIL LIBERTIES, AND CIVIL RIGHTS IN USES OF AI FOR NATIONAL SECURITY

### *Blueprint for Action*

#### *Recommendation Set 1: Increase Public Transparency about AI Use through Improved Reporting.*

*For AI systems that involve U.S. persons, require AI Risk Assessment Reports and AI Impact Assessments to assess the privacy, civil liberties and civil rights implications for each new qualifying AI system or significant system refresh.*

### **SEC. \_\_\_—PRIVACY, CIVIL RIGHTS AND CIVIL LIBERTIES RISK AND IMPACT ASSESSMENTS FOR ARTIFICIAL INTELLIGENCE SYSTEMS.—**

(a) IN GENERAL.—The head of a covered agency shall conduct risk and impact assessments of the privacy, civil rights, and civil liberties risks and potential implications of any covered artificial intelligence system utilized by the covered agency and take appropriate steps to mitigate risks and adverse impact of any such system on the privacy, civil rights, and civil liberties of U.S. persons.

(b) DEFINITIONS.—For purposes of this section—

(1) COVERED ARTIFICIAL INTELLIGENCE SYSTEM.—A “covered artificial intelligence system” means a qualified artificial intelligence system or a significant artificial intelligence system refresh as determined by the task force established in section [XX] of this Act that is—

(A) designed to collect, process, maintain, or use information on U.S. persons;

(B) may inadvertently process, maintain, or use information on U.S. persons; or

(C) has a direct impact on U.S. persons.

(2) COVERED AGENCY.—A “covered agency” includes—

(A) the Department of Homeland Security;

(B) the Federal Bureau of Investigation; and

(C) each element of the Intelligence Community, as defined in section 3003(4) of title 50, United States Code.

(3) HEAD OF A COVERED AGENCY.—The “head of a covered agency” shall mean the Secretary of Homeland Security, the Director of the Federal Bureau of Investigation and, for the Intelligence Community, the Director of National Intelligence.

(c) REPORTS REQUIRED.—

(1) ARTIFICIAL INTELLIGENCE SYSTEM RISK ASSESSMENT.—Before acquiring or fielding a covered artificial intelligence system, each covered agency shall conduct an Artificial Intelligence System Risk Assessment (“Risk Assessment”). The Risk Assessment shall—

(A) assess the potential implications of the covered artificial intelligence system on freedom of expression, equal protection, privacy, and due process;

(B) account for the environment in which the covered artificial intelligence system will be deployed, including its interactions with other artificial intelligence tools, programs, and systems that collect personally identifiable information; and

(C) include steps to mitigate and track any risks identified in the assessment.

(2) ARTIFICIAL INTELLIGENCE SYSTEM IMPACT ASSESSMENT.—Each covered agency shall conduct an Artificial Intelligence System Impact Assessment (“Impact Assessment”), no less than once per year, to assess the degree to which a covered artificial intelligence system remains compliant with the constraints and metrics established in the Risk Assessment. The Impact Assessment shall be based on outcomes, impacts, and metrics collected during system use, and shall determine if the existing validation processes should be improved.

(d) NOTICE OF DISCONTINUATION.—Within one year of discontinuing use of any non-public or classified covered artificial intelligence system, a covered agency shall

consider providing notice to the public that the covered artificial intelligence system has been discontinued.

(e) REPORT TO CONGRESS.—The head of each covered agency shall, within 90 days of the date of this Act, submit to Congress a report identifying any additional resources, including staff, needed to carry out the requirements of this section.

*This section should be cross-referenced with the recommendation to create a task force to assess the privacy and civil rights and civil liberties implications of AI and emerging technologies, as the definition of a “covered artificial intelligence system” relies on the work of the task force.*

*Recommendation Set 2: Develop & Test Systems per Goals of Privacy Preservation and Fairness.*

*Establish third-party testing center(s) to allow independent, third-party testing of national security-related AI systems that could impact U.S. persons.*

*Require the Department of Justice (DOJ), in consultation with the Privacy and Civil Liberties Oversight Board (PCLOB), to develop binding guidance for the use of third-party testing (e.g., thresholds for high-consequence systems or unprecedented factors) of AI systems.*

## **SEC. \_\_\_\_.—THIRD PARTY TESTING OF ARTIFICIAL INTELLIGENCE SYSTEMS.—**

(a) IN GENERAL.—Not later than one year after the date of enactment of this Act, the Director of the National Institute of Standards and Technology shall establish an accreditation program for Third Party Independent Artificial Intelligence Testing Laboratories, as set forth in this section, to conduct independent testing of artificial intelligence systems for covered agencies to assess potential privacy, civil rights, and civil liberties impacts of such systems on U.S. persons.

(b) ARTIFICIAL INTELLIGENCE SYSTEMS REQUIRING TESTING.—The Privacy and Civil Liberties Oversight Board and the Department of Justice shall, in consultation with Privacy and Civil Liberties officers of the covered agencies, propose criteria for when an artificial intelligence system warrants third-party testing for privacy, civil liberties, and civil rights implications for U.S. Persons. Covered agencies shall adopt this criteria, as described in subsection (e).

(c) COVERED AGENCIES.—For the purposes of this section, covered agencies are the elements of the Intelligence Community (as defined in section 3003(4) of title 50, United States Code, and coordinated by the Office of the Director of National Intelligence), the Department of Homeland Security, and the Federal Bureau of Investigation.

(d) ACCREDITATION OF THIRD PARTY ARTIFICIAL INTELLIGENCE TESTING LABORATORIES.—Accreditation of Third Party Artificial Intelligence Testing Laboratories shall be done through the National Institute of Standards and Technology’s National Voluntary Laboratory Accreditation Program (“NVLAP”). In accordance with current NVLAP processes, the National Institute of Standards and Technology shall determine and maintain the authoritative list for approved Third Party Artificial Intelligence Testing Laboratories.

(e) INDEPENDENT TESTING REQUIRED.—Upon the approval of Third Party Artificial Intelligence Testing Laboratories as outlined in subsection (d), a covered agency, prior to procuring or fielding an artificial intelligence system requiring testing, shall institute independent third party testing of the system to assess performance of the system according to attributes listed in section 22A of the National Institute of Standards and Technology Act.

(f) SCOPE OF TESTING.—Each independent Third Party Artificial Intelligence Testing Laboratory accredited pursuant to subsection (d) shall—

(1) utilize metrics relevant to the mission and authorities of the agency that intends to field the artificial intelligence system;

(2) develop approaches to test—

(A) the software product, as installed in a test facility; and

(B) relevant cloud-based services.

(3) establish binding data agreements that enable the agency and other stakeholders to share confidential and proprietary data with the testing entity without fear of inappropriate disclosure; and

(4) collaborate with the covered agency that is seeking testing to reach consensus on appropriate protocols and approaches for handling test data, test results, and analyses.

*Recommendation Set 4: Strengthen Oversight and Governance Mechanisms to Address Current and Evolving Concerns.*

*Strengthen the Privacy and Civil Liberties Oversight Board’s (PCLOB) ability to provide meaningful oversight and advice to the federal government’s use of AI-enabled technologies for counterterrorism purposes.*

**SEC.\_\_\_\_.—OVERSIGHT OF FEDERAL GOVERNMENT USE OF ARTIFICIAL INTELLIGENCE-ENABLED SYSTEMS FOR COUNTERTERRORISM PURPOSES.—**

(a) AMENDMENTS TO AUTHORITIES AND RESPONSIBILITIES OF THE PRIVACY AND CIVIL LIBERTIES OVERSIGHT BOARD.—Section 2000ee of title 42, United States Code, is amended—

(1) in paragraph (2) of subsection (d), by—

(A) striking “and” at the end of subparagraph (B);

(B) redesignating subparagraph (C) as subparagraph (D); and

(C) adding a new subparagraph (C), as follows:

“(C) the development and use of artificial intelligence-enabled technologies for counterterrorism purposes; and”;

(2) in subparagraph (1)(A) of subsection (g), by striking the semicolon and adding the following: “and information about artificial intelligence-enabled technologies proposed to be acquired or fielded in the Federal Government (such as documentation of data collection, disclosure and consent processes for artificial intelligence-enabled tools and programs, documentation of models used and supporting training and testing, and any repurposing);”

(b) AMENDMENTS TO AUTHORITIES AND RESPONSIBILITIES OF PRIVACY AND CIVIL LIBERTIES OFFICERS.—Section 2000ee-1 of title 42, United States Code, is amended—

(1) in subsection (a), by—

(A) redesignating paragraphs (3) and (4) as paragraphs (4) and (5); and

(B) inserting a new paragraph (3), as follows:

“(3) provide prior notice to the Privacy and Civil Liberties Oversight Board of the fielding or repurposing of an artificial intelligence-enabled system (including a classified system) that could have an impact on privacy, civil liberties, or civil rights, and provide access to associated impact statements, including System of Record Notices, Privacy Impact Assessments, and Civil Rights and Civil Liberties Impact Assessments;” and

(2) in subsection (d), by striking the semicolon in paragraph (1) and inserting the following: “(including information described in paragraph (a)(3));”.

(c) SELF-ASSESSMENT BY PRIVACY AND CIVIL LIBERTIES OVERSIGHT BOARD.—Not later than 270 days after the date of the enactment of this act, the Privacy and Civil Liberties Oversight Board shall conduct and provide to Congress a self-assessment of any change in resources and organizational structure that may be required to carry out the artificial intelligence-related mission required by this section.

*Empower DHS Offices of Privacy and Civil Rights and Civil Liberties.*

**SEC. \_\_\_\_.—ENHANCED OVERSIGHT OF ARTIFICIAL INTELLIGENCE-ENABLED SYSTEMS AT THE DEPARTMENT OF HOMELAND SECURITY.—**

(a) AMENDMENT TO DUTIES AND RESPONSIBILITIES OF CIVIL RIGHTS AND CIVIL LIBERTIES OFFICER.—Section 345 of title 6, United States Code, is amended in paragraph (a)(5), by—

- (1) striking the final “and” in subparagraph (A);
- (2) redesignating subparagraph (B) as subparagraph (C); and
- (3) adding a new subparagraph (B), as follows:

“(B) ensure that the legal and approval processes for the procurement and use of artificial intelligence-enabled systems, including associated data of machine learning systems, provide appropriate consideration to the privacy, civil rights, and civil liberties impacts of such systems; and”.

(b) AMENDMENT TO DUTIES AND RESPONSIBILITIES OF CHIEF PRIVACY OFFICER.—Section 142 of title 6, United States Code, is amended in paragraph (a)(5), by—

- (1) striking the final “and” in subparagraph (A);
- (2) redesignating subparagraph (B) as subparagraph (C); and
- (3) adding a new subparagraph (B), as follows:

“(B) ensure that the legal and approval processes for the procurement and use of artificial intelligence-enabled systems, including associated data of machine learning systems, provide appropriate consideration to the privacy, civil rights, and civil liberties impacts of such systems; and”.

(c) ENHANCED PROCEDURES FOR CONSIDERATION OF PRIVACY AND CIVIL LIBERTIES ISSUES.—Not later than 270 days after the date of the enactment of this Act—

(1) the Secretary of Homeland Security shall revise the legal and approval processes for the procurement and use of artificial intelligence-enabled systems, including associated data of machine learning systems, to ensure that full consideration is given, with the participation of the Department's Chief Privacy Officer and the Officer for Civil Rights and Civil Liberties, to the privacy, civil rights, and civil liberties impacts of such systems; and

(2) the Department's Chief Privacy Officer and the Officer for Civil Rights and Civil Liberties shall report to Congress on any additional staffing or funding resources that may be required to carry out the requirements of this section.

*Establish a task force to assess the privacy and civil rights and civil liberties implications of AI and emerging technologies.*

**SEC. \_\_\_\_.—TASK FORCE ON ORGANIZATIONAL STRUCTURE FOR ARTIFICIAL INTELLIGENCE GOVERNANCE AND OVERSIGHT.—**

(a) ESTABLISHMENT.—Not later than 90 days after the date of the enactment of this Act, the President shall appoint a task force to assess the privacy, civil rights, and civil liberties implications of artificial intelligence and emerging technologies. This includes identifying policy and legal gaps and making recommendations to ensure that uses of artificial intelligence and associated data in U.S. government operations comport with freedom of expression, equal protection, privacy, and due process. The task force shall—

(1) assess existing policy and legal gaps for current AI applications and emerging technologies, and make recommendations for—

(A) legislative and regulatory reforms on the development and fielding of AI and emerging technologies; and

(B) institutional changes to ensure sustained assessment and recurring guidance on privacy and civil liberties implications of AI applications and emerging technologies.

(b) MEMBERSHIP OF TASK FORCE.—

(1) The task force shall include—

(A) the Attorney General or his or her designee;

(B) the Director of the Office of Management and Budget or his or her designee;

(C) the Director of the National Institute of Standards and Technology or his or her designee;

(D) the Comptroller General or his or her designee;

(E) the Inspectors General for the following agencies:

(i) the Department of State;

(ii) the Department of the Treasury;

(iii) the Department of Defense;

(iv) the Department of Justice;

(v) the Department of Health and Human Services;

(vii) the Department of Homeland Security;

(viii) the Office of the Director of National Intelligence; and

(ix) the Central Intelligence Agency.

(F) the chief privacy and civil liberties officers of each agency described in subparagraph (E);

(G) the Chair of the Privacy and Civil Liberties Oversight Board;

(H) the Chair of the National Artificial Intelligence Advisory Committee's Subcommittee on Artificial Intelligence and Law Enforcement; and

(I) representatives from civil society, including organizational leaders with expertise in technology, privacy, civil liberties, and civil rights, representatives from industry, and representatives from academia, as appointed by the President.

(2) TASK FORCE CHAIR AND VICE CHAIR.—The President shall designate a Chair and Vice Chair of the task force from among its members.

(c) RESPONSIBILITIES OF TASK FORCE.—The task force established pursuant to subsection (a) shall—

(1) conduct an assessment and make recommendations to Congress and to the President to ensure that the development and fielding of artificial intelligence and other emerging technologies by the Federal Government provides protections for the privacy, civil liberties, and civil rights of U.S. persons as appropriately balanced against critical law enforcement and national security needs;

(2) issue criteria for identifying qualified artificial intelligence systems and significant system refreshes requiring Artificial Intelligence Risk Assessment Reports and Artificial Intelligence Impact Assessments, under section [XX] of this Act;

(3) recommend baseline standards for Federal Government use of biometric identification technologies, including, but not limited to, facial recognition, voiceprint, gait recognition, and keyboard entry technologies;

(4) recommend proposals to address any gaps in Federal law or regulation with respect to facial recognition technologies in order to enhance protections of privacy, civil liberties, and civil rights of U.S. persons;

(5) recommend best practices and contractual requirements to strengthen protections for privacy, information security, fairness, non-discrimination, auditability, and accountability in artificial intelligence systems and technologies and associated data procured by the federal government;

(6) consider updates to and reforms of government data privacy and retention requirements to address implications to privacy, civil liberties, and civil rights;

(7) assess ongoing efforts to regulate commercial development and fielding of artificial intelligence and associated data in light of privacy, civil liberties, and civil rights implications, and as appropriate, consider and recommend institutional or organizational changes to facilitate applicable regulation; and

(8) assess the utility of establishing a new organization within the Federal Government to provide ongoing governance for and oversight over the fielding of artificial intelligence technologies by Federal agencies as technological capabilities evolve over time.

(d) ORGANIZATIONAL CONSIDERATIONS.—In conducting the assessment required by subsection (c)(7), the task force shall consider—

(1) the organizational placement, structure, composition, authorities, and resources that a new organization would require to provide ongoing guidance and baseline standards for—

(A) the Federal Government’s development, acquisition, and fielding of artificial intelligence systems to ensure they comport with privacy, civil liberties, and civil rights and civil liberties law, to include guardrails for their use and to disallow outcomes to be incorporated in policy and embedded in system development; and

(B) providing transparency to oversight entities and the public regarding the Federal Government’s use of artificial systems and the performance of those systems.

(2) the existing interagency and intra-agency efforts to address AI oversight;

(3) the need for and scope of national security carve outs, and any limitations or protections that should be built into any such carve outs; and

(4) the research, development, and application of new technologies to mitigate privacy and civil liberties risks inherent in artificial intelligence systems.

(e) REPORTING.—

(1) Not later than 180 days of establishment, the task force shall issue a report to Congress and the President with its legislative and regulatory recommendations. The task force shall provide periodic updates to the President and the Congress.

(2) Within a year of its establishment, the task force shall issue a report to the President and the Congress with its assessment on organizational considerations, to include any recommendations for organizational changes.

## CHAPTER 10: THE TALENT COMPETITION

### *Blueprint for Action*

*Recommendation: Pass a National Security Immigration Act.*

*1) Grant Green Cards to All Students Graduating with STEM PhDs from Accredited American Universities.*

*2) Double the Number of Employment Based Green Cards.*

*3) Create an Entrepreneur Visa.*

*4) Create an Emerging and Disruptive Technology Visa.*

## NATIONAL SECURITY IMMIGRATION ACT OF 2021

**SECTION. 1.—SHORT TITLE.**—This Act may be cited as the “National Security Immigration Act of 2021.”

**SEC. 2.—GREEN CARDS FOR STUDENTS GRADUATING FROM ACCREDITED AMERICAN UNIVERSITIES WITH DOCTORATES IN THE FIELDS OF SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS.**—Section 1151 of title 8, United States Code, is amended in subsection (b)(1), by adding a new subparagraph (F), as follows:

“(F) Aliens who have been awarded doctoral degrees in the fields of science, technology, engineering, and mathematics by accredited universities in the United States.”

**SEC. 3.—INCREASED AUTHORIZATION FOR EMPLOYMENT-BASED IMMIGRATION.**—Section 1151 of title 8, United States Code, as amended by section 2, is further amended in subsection (d)(1)(A) by striking “140,000” and inserting “280,000”.

**SEC. 4.—ENTREPRENEUR VISAS FOR HIGH PRIORITY SCIENCE AND TECHNOLOGY FIELDS AS DETERMINED BY NATIONAL SCIENCE FOUNDATION.**—Section 1153 of title 8, United States Code, is amended in subsection (b)(5)—

(1) By redesignating subparagraphs (C) and (D) as subparagraphs (D) and (E); and

(2) By adding a new subparagraph (C), as follows:

“(C) PRIORITY FOR ENTREPRENEURS IN CERTAIN SCIENCE AND TECHNOLOGY FIELDS.—

“(i) Priority under this section shall be given to qualified immigrants who engage in new commercial enterprises in high priority science and technology fields, including artificial intelligence-enabled technology fields, as determined by the National Science Foundation.

“(ii) A qualified immigrant under this paragraph section shall not be required to meet the capital investment requirement in clause (A)(i) if the qualified immigrant is one of the principal organizers and operators of a new commercial enterprise described in clause (i).”

**SEC. 5.—VISA FOR EMERGING AND DISRUPTIVE TECHNOLOGIES.**—Section 1151 of title 8, United States Code, as amended by Sections 2 and 3, is further amended in subsection (b)(1), by adding a new clause (G), as follows:

“(G) Aliens who are students, researchers, entrepreneurs, and technologists in critical emerging and disruptive technology fields, as determined by the National Science Foundation.”

**SEC. 6.—DETERMINATIONS BY THE NATIONAL SCIENCE FOUNDATION.**—Not later than 180 days after the date of the enactment of this Act, and every three years thereafter, the National Science Foundation shall publish a list of—

(1) high priority science and technology fields in which qualified immigrants will be eligible for consideration for entrepreneur visas under section 1153(b)(5)(C) of title 8, United States Code, as amended; and

(2) critical emerging and disruptive technology fields in which qualified immigrants will be eligible for consideration for student, researcher, and entrepreneur visas under section 1151(b)(1)(G) of title 8, United States Code, as amended.

## CHAPTER 11: ACCELERATING AI INNOVATION

### *Blueprint for Action*

*Recommendation: Scale and Coordinate Federal AI R&D Funding.*

*Component 1: Establish a National Technology Foundation.*

## THE NATIONAL TECHNOLOGY FOUNDATION ACT OF 2021

**SECTION 1.—SHORT TITLE.**—This Act may be cited as the “National Technology Foundation Act of 2021.”

**SEC. 2.—ESTABLISHMENT OF NATIONAL TECHNOLOGY FOUNDATION.**—There is established in the executive branch of the Government an independent agency to be known as the National Technology Foundation (hereinafter referred to as the “Foundation”). The Foundation shall consist of a National Technology Board (hereinafter referred to as the “Board”) and a Director of the Foundation (hereinafter referred to as the “Director”).

### **SEC. 3.—NATIONAL TECHNOLOGY BOARD.—**

(a) The Board shall consist of twenty-four members to be appointed by the President and of the Director ex officio. In addition to any powers and functions otherwise granted to it by this chapter, the Board shall establish the policies of the Foundation, within the framework of applicable national policies as set forth by the President and the Congress.

(b) The term of office of each member of the Board shall be six years; except that any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term. Any person, other than the Director, who has been a member of the Board for twelve consecutive years shall thereafter be ineligible for appointment during the two-year period following the expiration of such twelfth year.

**SEC. 4.—DIRECTOR OF THE FOUNDATION.**—The Director shall be appointed by the President, by and with the advice and consent of the Senate. Before any person is appointed as Director, the President shall afford the Board an opportunity to make recommendations to the President with respect to such appointment. The Director shall receive basic pay at the rate provided for level II of the Executive Schedule under Section 5313 of title 5,

United States Code, and shall serve for a term of six years unless sooner removed by the President.

**SEC. 5.—DEPUTY DIRECTOR OF THE FOUNDATION.**—The Deputy Director (hereinafter referred to as the “Deputy Director”) shall be appointed by the President, by and with the advice and consent of the Senate. Before any person is appointed as a Deputy Director, the President shall afford the Board and the Director an opportunity to make recommendations to the President with respect to such appointment. The Deputy Director shall receive basic pay at the rate provided for level III of the Executive Schedule under section 5314 of title 5, United States Code, and shall perform such duties and exercise such powers as the Director may prescribe. The Deputy Director shall act for, and exercise the powers of, the Director during the absence or disability of the Director, or in the event of a vacancy in the office of Director.

**SEC. 6.—GENERAL AUTHORITY OF THE FOUNDATION.—**

(a) The Foundation shall have the authority, within the limits of available appropriations, to do all things necessary to carry out the provisions of this chapter, including, but without being limited thereto, to—

(1) distribute other payments for research and development in priority technology areas through grants, cooperative agreements, and contracts awarded to academic and private sector researchers, nonprofits, and consortia through competitive processes without regard to the provisions of sections 3324(a) and (b) of title 31, United States Code;

(2) establish an innovation unit in which independent program managers, brought into the Foundation on the basis of term appointments, fund proposals from both industry and academia to advance solutions to forward-looking research questions in priority technology areas;

(3) organize prize competitions to catalyze research around significant technology challenge problems;

(4) manage national technology resources, infrastructure, and initiatives that are assigned to the Foundation by statute or executive order;

(5) promote the commercialization of new technologies in priority technology areas and the transfer of such technologies to Federal, State and local government entities; and

(6) serve as a focal point for international research and development collaboration and standards-setting dialogues in priority technology areas.

**SEC. 7.—PRIORITY TECHNOLOGY AREAS.—**

(a) CORE DIRECTORATES.—The Foundation shall be organized into a set of core directorates, each dedicated to advancing fundamental research into a priority technology area.

(b) PRIORITY TECHNOLOGY AREAS.—Priority technology areas shall include—

- (1) artificial intelligence;
- (2) biotechnology;
- (3) quantum computing;
- (4) semiconductors and advanced hardware;
- (5) robotics and autonomy;
- (6) fifth-generation and advanced networking;
- (7) advanced manufacturing;
- (8) energy technology; and
- (9) any other technology area designated by the Congress or the Board.

(c) REVIEW OF KEY TECHNOLOGY FOCUS AREAS AND SUBSEQUENT LISTS.—

(1) ADDING OR DELETING KEY TECHNOLOGY FOCUS AREAS.—Beginning on the date that is four years after the date of enactment of this Act and every four years thereafter, the Director, acting through the Deputy Director shall—

(A) review the list of key technology focus areas, in consultation with the Board; and

(B) as part of that review, may add or delete key technology focus areas if the competitive threats to the United States have shifted and whether the United States or other nations have advanced or fallen behind in a technological area.

(2) LIMIT ON KEY TECHNOLOGY FOCUS AREAS.—Not more than ten key technology focus areas shall be included on the list of key technology focus areas at any time.

(3) UPDATING FOCUS AREAS AND DISTRIBUTION.—Upon the completion of each review under this subsection, the Director shall make the list of key technology focus areas readily available and publish the list in the Federal Register, even if no changes have been made to the prior list.

## **SEC. 8.—ADMINISTRATIVE MATTERS.—**

### **(a) HIRING AUTHORITY.—**

(1) PRIORITY TECHNOLOGY EXPERTS.—The Director shall have the authority to carry out a program of personnel management authority for the Foundation in the same manner, and subject to the same requirements, as the program of personnel management authority authorized for the Director of the Defense Advanced Research Projects Agency under section 1599h(a)(2) of title 10, United States Code, for the Defense Advanced Research Projects Agency.

(2) HIGHLY QUALIFIED EXPERTS.—In addition to the authority provided under subsection (A), the Director shall have the authority to carry out a program of personnel management authority for the Foundation in the same manner, and subject to the same requirements, as the program to attract highly qualified experts carried out by the Secretary of Defense under section 9903 of title 5, United States Code.

(3) ADDITIONAL HIRING AUTHORITY.—To the extent needed to carry out the duties of the Foundation, the Director shall utilize hiring authorities under section 3372 of title 5, United States Code, to staff the Foundation with employees from other Federal agencies, State and local governments, Indian tribes and tribal organizations, institutions of higher education, and other organizations, as described in that section, in the same manner and subject to the same conditions.

**(b) EMPLOYMENT AND COMPENSATION OF CERTAIN PERSONNEL.—**

(1) PROGRAM MANAGERS.—The employees of the Foundation may include program managers, who shall perform a role similar to program managers employed by the Defense Advanced Research Projects Agency, for the oversight and selection of programs supported by the Foundation.

(2) COMPENSATION OF MEMBERS OF BOARD.—The members of the Board shall be entitled to receive compensation for each day engaged in the business of the Foundation at a rate fixed by the Chairman but not exceeding the maximum rate payable under section 5376 of title 5, United States Code, and shall be allowed travel expenses as authorized by 5703 of title 5, United States Code. For the purposes of determining the payment of compensation under this subsection, the time spent in travel by any member of the Board shall be deemed as time engaged in the business of the Foundation. Members of the Board and

members of special commissions may waive compensation and reimbursement for traveling expenses.

**SEC. 9.—INTERNATIONAL COOPERATION.—**

(a) INTERNATIONAL AUTHORITY.—The Foundation is authorized to cooperate in any international technology activities consistent with the purposes of this Act and to expend for such international technology activities such sums within the limit of appropriated funds as the Foundation may deem appropriate.

(b) CONTRACTS AND ARRANGEMENTS.—

(1) The authority to enter into contracts or other arrangements with organizations or individuals in foreign countries and with agencies of foreign countries, as provided in section 1870(c) of title 42, United States Code, and the authority to cooperate in international scientific or engineering activities as provided in subsection (a) of this section, shall be exercised only with the approval of the Secretary of State, to the end that such authority shall be exercised in such manner as is consistent with the foreign policy objectives of the United States.

(2) If, in the exercise of the authority referred to in paragraph (1) of this subsection, negotiation with foreign countries or agencies thereof becomes necessary, such negotiation shall be carried on by the Secretary of State in consultation with the Director.

**SEC. 10.—SECURITY PROVISIONS.—**

(a) RESEARCH RELATED TO NUCLEAR ENERGY.— The Foundation shall not support any research or development activity in the field of nuclear energy, nor shall it exercise any authority pursuant to section 1870(e) of title 42, United States Code, in respect to that field, without first having obtained the concurrence of the Secretary of Energy that such activity will not adversely affect the common defense and security. To the extent that such activity involves restricted data as defined in the Atomic Energy Act of 1954, the provisions of that Act regarding the control of the dissemination of restricted data and the security clearance of those individuals to be given access to restricted data shall be applicable. Nothing in this chapter shall supersede or modify any provision of the Atomic Energy Act of 1954.

(b) RESEARCH RELATION TO NATIONAL DEFENSE.—

(1) In the case of priority technology area research activities under this Act in connection with matters relating to the national defense, the Secretary of Defense shall establish such security requirements and safeguards, including restrictions with respect to access to information and property, as the Secretary of Defense deems necessary.

(2) Any agency of the Government exercising investigatory functions otherwise within its jurisdiction is authorized to make such investigations and reports as may be requested by the Foundation in connection with the enforcement of security requirements and safeguards, including restrictions with respect to access to information and property, established under paragraph (1) of this subsection.

**SEC. 11.—REPORTS.—**

(a) INITIAL REPORT.—Not later than one year after the date of enactment of this Act, the Director shall transmit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report regarding the establishment of the Foundation. The report shall include an assessment of the priority technology focus areas as defined in this Act and of authorities that conflict with the National Science Foundation.

(b) ANNUAL REPORTS.—

(1) The Board shall submit to the President and the Congress no later than January 15 of each even numbered year, a report on indicators of the state of the priority technology areas in the United States, as defined in this Act.

(2) The Board shall render to the President and the Congress reports on specific, individual policy matters within the authority of the Foundation (or otherwise as requested by the Congress or the President) related to priority technology areas, as the Board, the President, or the Congress determines the need for such reports.

**SEC. 12.—AUTHORIZATION OF APPROPRIATIONS.—**

(a) INITIAL APPROPRIATION.—To enable the Foundation to carry out its powers and duties, including the establishment of a physical location, there is authorized to be appropriated to the Foundation \$30,000,000 for the first fiscal year following the enactment of this Act. Appropriations made pursuant to the authority provided in this subsection shall remain available for obligation, for expenditure, or for obligation and expenditure until expended for the Foundation's initial administrative costs and salaries and expenses.

(b) ANNUAL APPROPRIATION.—There are authorized to be appropriated for the Foundation, in addition to the appropriation provided in subsection (a) of this section and any other funds made available to the Foundation, a total of \$51,000,000,000 for fiscal years 2022 through 2026, of which—

(A) \$1,000,000,000 is authorized for fiscal year 2022;

(B) \$5,000,000,000 is authorized for fiscal year 2023;

(C) \$10,000,000,000 is authorized for fiscal year 2024;

(D) \$15,000,000,000 is authorized for fiscal year 2025; and

(E) \$20,000,000,000 is authorized for fiscal year 2026.

*The Commission acknowledges additional authorities may be required to establish the NTF, including administrative, financial, and educational authorities mirroring those of the National Science Foundation, and that amendments to the NSF's statutory authorities may be required to alleviate duplication of duties. The Commission is ready to work with Congress to address such provisions.*

*Component 4: Invest in Talent that Will Transform the Field.*

*Direct and fund establishment of an AI Innovator Award.*

*Direct and fund establishment of a team-based AI research award.*

**SEC. \_\_\_\_.—ARTIFICIAL INTELLIGENCE AWARD PROGRAM.—**

**(a) ARTIFICIAL INTELLIGENCE INNOVATOR AWARD.—**

(1) IN GENERAL.—The Director of the National Science Foundation shall partner with a nonprofit organization as described in subsection (c) to establish an Artificial Intelligence Innovator Award program to recognize and support the research of leaders in the field of artificial intelligence.

(2) ARTIFICIAL INTELLIGENCE INNOVATOR AWARD RECIPIENTS.—The Artificial Intelligence Award Selection Committee as described in subsection (d) shall select no fewer than 10 and no more than 20 award recipients each year. Recipients shall be selected for five-year, renewable award terms, based on a proven track record of prior innovation, a proposed general research program, a commitment to spend 75 percent of the recipients' time on research, and the committee's assessment of the potential of the research to generate breakthroughs in the area of artificial intelligence. Award amounts shall be determined by the selection committee with the objective of covering the full salary and benefits of the researcher and the cost of associated support staff and research equipment.

**(b) ARTIFICIAL INTELLIGENCE TEAM AWARD.—**

(1) IN GENERAL.—The Director of the National Science Foundation shall partner with a nonprofit organization as described in subsection (c) to establish an Artificial Intelligence Team Award program to support interdisciplinary research directed at applying artificial intelligence to solve complex problems or pursuing use-inspired basic research efforts to advance a fundamental understanding of the science of artificial intelligence in a manner that provides a significant benefit to society.

(2) ARTIFICIAL INTELLIGENCE TEAM AWARD RECIPIENTS.—The Artificial Intelligence Innovator Awards Selection Committee as described in paragraph (d) shall select no fewer than five and no more than 10 team recipients each year. Recipients shall be selected for five-year, nonrenewable terms, based on team qualifications, commitment to multi-disciplinary approaches, and innovative research proposals. Award amounts shall be determined by the selection committee with the objective of covering the cost of carrying out the proposed research proposal.

(c) NONPROFIT ORGANIZATION PARTNER.—The National Science Foundation shall partner with a nonprofit organization active in the field of computer science and artificial intelligence that maintains the requisite expertise and connections to the artificial intelligence research community to identify promising talent and invest in innovative ideas and to manage the award programs described in subsections (a) and (b), including to administer the programs and arrange the annual meeting.

(d) ARTIFICIAL INTELLIGENCE AWARD SELECTION COMMITTEE.—Recipients of the Artificial Intelligence Innovator Award and the Artificial Intelligence Team Award shall be selected by a rotating committee of artificial intelligence experts known as the Artificial Intelligence Award Selection Committee. The Committee shall consist of members chosen for their first-hand experience in artificial intelligence research and their familiarity with the frontiers of the field. Committee member selection shall be made by the nonprofit organization partner identified under subsection (c), in consultation with the Director of the National Science Foundation or designee.

(e) ANNUAL MEETING.—The Director of the National Science Foundation shall sponsor an annual meeting of recipients of the Artificial Intelligence Innovator Award and the Artificial Intelligence Team Award, at which the award recipients shall share information on the progress of their work.

(f) OTHER SOURCES OF FUNDING.—Nothing in this section shall be interpreted to preclude a recipient of an Artificial Intelligence Innovator Award or an Artificial Intelligence Team Award from pursuing supplemental government research grant or other research support provided by individuals, nonprofits and corporations, provided that such additional funding does not interfere with the recipient's commitment to the research program or require the assignment of ownership of intellectual property in a manner that would be inconsistent with the provisions of the Bayh-Dole Act, Public Law 96-517.

(g) INDEPENDENT REVIEW.—The Director of the National Science Foundation shall engage an independent entity to conduct a review to assess the successes and failures of the awards program authorized by this section, evaluate the impact of the funding level and award term on the research conducted by participants, and recommend any needed changes to the program (including any expansion or contraction in the number of

awards). The findings of the independent review shall be delivered to Congress not later than seven years after the commencement of the program.

(h) AUTHORIZATION OF APPROPRIATION.—

(1) There is authorized to be appropriated for each of the fiscal years 2022 through 2028 \$125,000,000 for the Artificial Intelligence Innovator Award.

(2) There is authorized to be appropriated for the Artificial Intelligence Team Award—

(A) \$50,000,000 for fiscal year 2022;

(B) \$100,000,000 for fiscal year 2023;

(C) \$150,000,000 for fiscal year 2024;

(D) \$200,000,000 for fiscal year 2025; and

(E) \$250,000,000 for fiscal years 2026 through 2028.

*Recommendation: Leverage Both Sides of the Public-Private Partnership.*

*Component 2: Form a Network of Regional Innovation Clusters Focused on Strategic Emerging Technologies.*

**SEC. \_\_\_\_.—ESTABLISHMENT OF A NATIONAL NETWORK FOR REGIONAL INNOVATION IN EMERGING TECHNOLOGIES.—**

(a) ESTABLISHMENT OF NATIONAL PROGRAM OFFICE.—The Secretary of Commerce shall establish, within the National Institute of Standards and Technology, a National Program Office for Regional Innovation in Emerging Technologies (referred to in this section as the ‘National Program Office’).

(b) DUTIES AND RESPONSIBILITIES.—The National Program Office, in coordination with representatives of Federal agencies with experience in and missions related to emerging technologies, shall—

(1) oversee the planning, development, management, and coordination of a National Network for Regional Innovation in Emerging Technologies (referred to in this section as the “National Network”);

(2) develop, not later than one year after the date of enactment, and update not less frequently than once every three years thereafter, a strategic plan to guide the development of the National Network to include identification of priority emerging technologies critical to national security or national competitiveness;

(3) use a competitive process to designate and provide financial assistance to regional innovation clusters that enable United States leadership in emerging technologies and support regional economic development throughout the United States;

(4) establish within each regional innovation cluster in the National Network a Technology Research Center for the purpose of facilitating collaboration among regional innovation cluster participants;

(5) establish such procedures, processes, and criteria as may be necessary and appropriate to coordinate the activities of the National Network and to maximize participation in and coordination with the National Network by Federal agencies that field or operate systems that incorporate emerging technologies;

(6) establish a clearinghouse of public information related to the activities of the National Network; and

(7) act as a convener of the National Network.

(c) DESIGNATION OF AND FINANCIAL ASSISTANCE IN SUPPORT OF REGIONAL INNOVATION CLUSTERS.—The National Program Office shall use a competitive process to designate and provide financial assistance to regional innovation clusters based on the following criteria:

(1) the equitable distribution of regional innovation clusters throughout the United States, taking into account factors such as proximity to the research and development facilities of Federal agencies, the level of support from state and local governments, the presence of and value proposition for leading firms and research institutions in relevant fields, and the size and education level of the local workforce;

(2) the capacity of regional innovation clusters to support the research, development, and commercialization of specific emerging technologies in areas that are critical to United States national competitiveness; and

(3) the clear potential for future development of regional innovation clusters that are not yet established technology hubs.

(d) TECHNOLOGY RESEARCH CENTERS.—The National Program Office shall establish within each regional innovation cluster in the National Network a Technology Research Center for the purpose of facilitating collaboration between regional innovation cluster participants. The Technology Research Centers shall—

(1) form sustained partnerships with anchor institutions in the region;

(2) host researchers on temporary assignments from Federal agencies, establish talent exchanges with local firms and research institutions, and fund multi-year, post-doctoral fellowships for the commercialization of research;

(3) host program managers from Federal agencies responsible for transitioning basic research into commercially viable technologies, identifying national security use cases and end users within the Federal Government, and initiating new Federal Government contracts to support technology transition;

(4) facilitate low cost access by regional innovation cluster participants to computing resources, curated datasets, testing infrastructure and ranges, and other research and development facilities owned or operated by the Federal government;

(5) establish intellectual property sharing agreements with regional innovation cluster participants to encourage Federal government adoption of commercial technologies; and

(6) when appropriate, provide for the publication of research in the open-source domain to encourage advances in the science and technology community more broadly.

(e) OTHER MATTERS.—

(1) RECOMMENDATIONS.—In developing and updating the strategic plan under subsection (b)(2), the National Program Office shall solicit recommendations and advice from a wide range of stakeholders, including industry, small and medium-sized enterprises, research universities, community colleges, state and local elected officials, and other relevant organizations and institutions on an ongoing basis.

(2) REPORT TO CONGRESS.—Upon completion of the strategic plan required by subsection (b)(2) or an update thereof, the National Program Office shall transmit the strategic plan to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives.

(3) DETAILEES.—Any Federal Government employee may be detailed to the National Program Office without reimbursement. Such detail shall be without interruption or loss of civil service status or privilege.

## (f) DEFINITIONS.—

(1) REGIONAL INNOVATION CLUSTER.—The term “regional innovation cluster” means a geographically bounded network of similar, synergistic, or complementary entities that —

(A) are engaged in or with a particular industry sector and its related sectors;

(B) have active channels for business transactions and communication;

(C) share specialized infrastructure, labor markets, and services; and

(D) leverage the region’s unique competitive strengths to stimulate innovation and create jobs.

(2) EMERGING TECHNOLOGIES.—For the purposes of this section the term “emerging technologies” may include such technologies as artificial intelligence, microelectronics, quantum computing, biotechnology, any associated, enabling or successor technologies, or any technologies identified by the National Program Office to be critical to national security or national competitiveness.

(g) AUTHORIZATION OF APPROPRIATION.—There is authorized to be appropriated to the Secretary of Commerce to carry out this section \$5,000,000 for fiscal year 2022.

**CHAPTER 14: TECHNOLOGY PROTECTION***Blueprint for Action*

*Recommendation: Reform CFIUS for Emerging Technology Competition.*

*Amend CFIUS’ authorizing legislation to require competitors to disclose investments in “sensitive technologies” to CFIUS.*

**SEC. \_\_\_\_ . REVIEW OF SENSITIVE TRANSACTIONS INVOLVING COUNTRIES OF SPECIAL CONCERN.**

(a) TECHNICAL AMENDMENTS.—Section 721(a) of the Defense Production Act of 1950 (50 USC 4565(a)) is amended by redesignating paragraphs (4), (5), (6), (7), (8), (9), (10), (11), (12), and (13) as paragraphs (5), (6), (7), (9), (10), (11), (12), (13), (15), and (16), respectively.

(b) DEFINITION OF COUNTRY OF SPECIAL CONCERN.—Section 721(a) of the Defense Production Act of 1950 (50 USC 4565(a)) is amended by inserting after paragraph (3) the following:

“(4) COUNTRY OF SPECIAL CONCERN.—The term “country of special concern” means any country that is—

“(A) subject to export restrictions pursuant to section 744.21 of title 15, Code of Federal Regulations;

“(B) determined by the Secretary of State to be a state sponsor of terrorism; or

“(C) determined by the Committee to have a demonstrated or declared strategic goal of acquiring a type of technology or infrastructure that would have an adverse impact on United States leadership in areas related to national security, and is specified in regulations prescribed by the Committee.”

(c) DEFINITION OF SENSITIVE TECHNOLOGY.—Section 721(a) of the Defense Production Act of 1950 (50 USC 4565(a)) is amended by inserting after redesignated paragraph (7) the following:

“(8) SENSITIVE TECHNOLOGY.—The term ‘sensitive technology’ means any technology that is determined by the Committee to be necessary for maintaining or increasing the technological advantage of the United States over countries of special concern with respect to national defense, intelligence, or other areas of national security, or gaining such an advantage over such countries with respect to national defense, intelligence, or other areas of national security in areas where such an advantage may not exist, and is not a critical technology as defined in paragraph (7) of this subsection, and is specified in regulations prescribed by the Committee.

(d) DEFINITION OF SENSITIVE TRANSACTION INVOLVING A COUNTRY OF SPECIAL CONCERN.—Section 721(a) of the Defense Production Act of 1950 (50 USC 4565(a)) is amended by inserting after redesignated paragraph (13) the following:

“(14) SENSITIVE TRANSACTION INVOLVING A COUNTRY OF SPECIAL CONCERN.—The term ‘sensitive transaction involving a country of special concern’ means any investment in an unaffiliated United States business by a foreign person that—

“(A) is—

“(i) a national or a government of, or a foreign entity organized under the laws of, a country of special concern; or

“(ii) a foreign entity—

“(I) over which control is exercised or exercisable by a national or a government of, or by a foreign entity organized under the laws of, a country of special concern; or

“(II) in which the government of a country of special concern has a substantial interest; and

“(B) as a result of the transaction, could achieve—

“(i) influence, other than through voting of shares, on substantive decision making of the United States business regarding the use, development, acquisition, or release of sensitive technologies, as defined in this section; or—

“(ii) access to material nonpublic technical information related to sensitive technologies, as defined in this section, in the possession of the United States business.”

(e) DEFINITION OF COVERED TRANSACTIONS.—Section 721(a) of the Defense Production Act of 1950 (50 USC 4565(a)) is amended—

(1) in redesignated paragraph (5)(B)—

(A) in clause (iv)(I), by striking “or”;

(B) in clause (iv)(II), by striking the period and inserting “; or”; and

(C) by adding at the end the following:

“(III) a sensitive transaction involving a country of special concern.”

(2) by redesignating clause (v) as clause (vi) and inserting after clause (iv) the following:

“(v) Any sensitive transaction involving a country of special concern.”

(f) INFORMATION REQUIRED IN ANNUAL REPORT TO CONGRESS.—Section 721(m)(2) of the Defense Production Act of 1950 (50 USC 4565(m)(2)) is amended by adding at the end the following:

“(L) Identification of each country designated as a country of special concern along with an explanation of the rationale for such designation.

“(M) Identification of each technology designated as a sensitive technology along with an explanation of the rationale for such designation.”

(g) MANDATORY DECLARATIONS.—Section 721(b)(1)(C)(v)(IV)(bb)(AA) of the Defense Production Act of 1950 (50 USC 4565(b)(1)(C)(v)(IV)(bb)(AA)) is amended by inserting before the period “or is a sensitive transaction involving a country of special concern”.

(h) CONFORMING AMENDMENTS.—Title 50, United States Code, is amended—

(1) in section 4817(a)(1)(B) by striking “section 4565(a)(6)(A)” and inserting “section 4565(a)(7)(A)”;

(2) in section 4565(b)(4)(B)(ii) (section 721(b)(4)(B)(ii) of the Defense Production Act of 1950) by striking “subsection (a)(4)(B)(ii)” and inserting “subsection (a)(5)(B)(ii)”;

(3) in section 4565(b)(1)(c)(v)(III)(bb)(AA) (section 721(b)(1)(c)(v)(III)(bb)(AA) of the Defense Production Act of 1950) by striking “subsection (a)(4)(B) (iii)” and inserting “subsection (a)(5)(B)(iii)”;

(4) in section 4565(b)(1)(c)(v)(III)(bb)(BB) (section 721(b)(1)(c)(v)(III)(bb)(BB) of the Defense Production Act of 1950) by striking “subsection (a)(4)(B)(iii)” and inserting “subsection (a)(5)(B)(iii)”;

(5) in section 4565(b)(1)(c)(v)(III)(cc) (section 721(b)(1)(c)(v)(III)(bb)(BB) of the Defense Production Act of 1950) by striking “subsection (a)(4)(B)(iii)(II)” and inserting “subsection (a)(5)(B)(iii)(II)”.

*Recommendation: Build Capacity to Protect the Integrity of the U.S. Research Environment. Establish a government-sponsored independent entity focused on research integrity.*

**SEC. \_\_\_\_.—Establishment of University Affiliated Research Center Focused on Research Integrity.—**

(a) AGREEMENT AUTHORIZED.—Not later than 180 days after the date of the

enactment of this Act, the Secretary of Defense, acting through the Under Secretary of Defense for Research and Engineering and in consultation with the Director of the Office of Science and Technology Policy and other appropriate members of the Federal research community, shall enter into an agreement with a college or university to establish a University Affiliated Research Center to act as a center of excellence on research integrity and provide information and advice on research security.

(b) RESEARCH PURPOSES.—The University Affiliated Research Center established pursuant to subsection (a) shall—

(1) Maintain open source materials to serve university vetting of international engagement and risk management, including databases and risk assessment tools;

(2) Provide tailored guidance to research organizations for decision support on matters related to research security and integrity;

(3) Conduct comprehensive studies and regular reports on the state of foreign influence on U.S. research;

(4) Undertake independent investigations on research integrity;

(5) Develop education materials and tools for U.S. universities to build annual training and compliance initiatives; and

(6) Manage dialogue with stakeholder communities and provide a venue for information sharing among research organizations and Federal agencies.

*Recommendation: Counter Foreign Talent Recruitment Programs.  
Mandate and resource compliance operations.*

**SEC. \_\_\_\_.—Enhanced Review of Risk Posed by Applicants for Federal Grants.—**

(a) ENHANCED REVIEW REQUIRED.—Not later than 180 days after the date of the enactment of this Act, the Director of the Office of Management and Budget shall revise section 200.206 of Part 2 of the Code of Federal Regulations to ensure that Federal grant-making agencies maintain compliance operations to guard against malign foreign talent recruitment programs and to prescribe standardized disclosure and accountability measures to support such compliance operations.

(b) DEFINITION.—For the purposes of this section, a “malign foreign talent recruitment program” is an effort directly or indirectly organized, managed, or funded by a foreign government to recruit science and technology professionals or students (regardless of citizenship or national origin) engaged in research funded by a federal agency to share information with or otherwise act on behalf of such foreign government.

*Amend the Foreign Agents Registration Act.*

**SEC. \_\_\_\_.—AMENDMENT TO FOREIGN AGENTS REGISTRATION ACT.** —Section 611 of title 22, United States Code, is amended in paragraph (1) of subsection (c) by—

- (1) Striking “and” at the end of clause (iv); and
- (2) Inserting at the end a new clause (v), as follows:

“(v) directly or indirectly organizes, manages, or funds an effort to recruit science and technology professionals or students (regardless of citizenship or national origin) engaged in research funded by a Federal agency to share information with or otherwise act on behalf of a foreign government; and”.

## CHAPTER 15: A FAVORABLE INTERNATIONAL TECHNOLOGY ORDER

*Blueprint for Action*

*Recommendation: Develop and Implement a Comprehensive U.S. National Plan to Support International Technology Efforts.*

*Core Goal #1: Shape International Technical Standards.*

*Establish a grant program to enable small- and medium-sized U.S. AI companies to participate in international standardization efforts.*

### **SEC. \_\_\_\_.—SUPPORT FOR INDUSTRY PARTICIPATION IN INTERNATIONAL STANDARDS ORGANIZATIONS.—**

(a) IN GENERAL.—Not later than 180 days after the date of the enactment of this Act, the Administrator of the Small Business Administration shall establish a program to support participation by small business concerns in meetings and proceedings of international standards organizations in the development of voluntary technical standards.

(b) GRANTS AUTHORIZED.—In carrying out the program authorized by subsection (a), the Administrator shall award competitive, merit-reviewed grants, to small business concerns to cover the reasonable costs, up to a specified ceiling, of participation of employees of such businesses in meetings and proceedings of international standards organizations. Participation may include regularly attending meetings, contributing expertise and research, proposing new work items, volunteering for leadership roles such as convenors and editors, and being early adopters of emerging standards. Recipients of awards under this subsection shall not be required to provide a matching contribution.

(c) AWARD CRITERIA.—The Administrator may provide under this section a grant award to covered entities that:

- (1) demonstrate deep technical expertise in key emerging technologies, including Artificial Intelligence and related technologies;

(2) commit personnel with such expertise to regular participation in international bodies responsible for setting standards for such technologies over the period of the grant; and

(3) agree to participate in efforts to coordinate between the U.S. government and industry to ensure protection of national security interests in the setting of international standards.

(d) EVALUATION.—In issuing awards under this section, the Administrator shall coordinate with the Director of the National Institute of Standards and Technology who shall provide support in the assessment of technical expertise in emerging technologies and standards setting needs.

(e) DEFINITIONS.—In this section:

(1) ADMINISTRATOR.—The term “Administrator” means the Administrator of the Small Business Administration.

(2) COVERED ENTITY.—The term “covered entity” means a small business concern that is incorporated in and maintains a primary place of business in the United States.

(3) SMALL BUSINESS CONCERN.—The term “small business concern” has the same definition as set out in section 632 of title 15, United States Code.

(f) AUTHORIZATION OF APPROPRIATION.—There is authorized to be appropriated for fiscal year 2022 and each fiscal year thereafter \$1,000,000 to carry out the program authorized in this section.

*Core Goal #2: Implement a Coordinated U.S. National Policy for the IDDI.*

*Create an allocated Emerging Technology Fund for foreign operations and related programs of USAID and the Department of State.*

**SEC. \_\_\_\_.—EMERGING TECHNOLOGY FUND.—**

(a) ESTABLISHMENT.—There is established within the Department of State an Emerging Technology Fund (“Fund”) to facilitate holistic planning of digital foreign assistance, digital development projects, emerging technology programs, and other related initiatives of the Department of State and the United States Agency for International Development and to ensure the efficient management, coordination, operation, and utilization of such resources.

(b) FUNDING.—Funds otherwise available for the purposes of subsection (a) may be deposited in such Fund.

(c) AVAILABILITY.—Amounts deposited into the Fund shall remain available until expended.

(d) EXPENDITURES FROM FUND.—Amounts deposited in the Fund shall be available for the purposes of subsection (a).

(e) TRANSFER AUTHORITY.—Amounts available in the Fund may be transferred to any account of the Department of State or the United States Agency for International Development authorized by the Secretary of State for the purposes of carrying out a program described in subsection (a). Any amount so transferred shall be credited to the account to which it is transferred. The transfer authority provided in this subsection is in addition to any other transfer authority available to the Department of State.

*Recommendation: Enhance the United States' Position as an International Digital Research Hub.*

*Component #2: Establish the Multilateral AI Research Institute (MAIRI).*

**SEC. \_\_\_\_.—MULTILATERAL ARTIFICIAL INTELLIGENCE RESEARCH INSTITUTE.—**

(a) ESTABLISHMENT.—Not later than 180 days after the date of the enactment of this Act, the Director of the National Science Foundation (“Director”) shall establish a Multilateral Artificial Intelligence Research Institute (“MAIRI”) that leverages the National Artificial Intelligence Research Institutes as well as contributions from international partners, U.S. Government agencies, and non-governmental partners to facilitate international collaborative research and development initiatives involving artificial intelligence (“AI”). MAIRI shall have both a physical center located in the United States and a virtual presence.

(b) PURPOSE.—The purpose of MAIRI shall be to facilitate collaboration of international artificial intelligence research, foster international artificial intelligence innovation, and develop the next generation global artificial intelligence workforce in a manner that comports with democratic values and helps to preserve free and open societies.

(c) INTERNATIONAL PARTNERS.—As authorized by section 1872 of title 42, United States Code, the Director, in coordination with the Secretary of State, shall seek to develop partnerships with foreign governments that have existing research agreements and collaborative relationships with the United States. The Director of MAIRI shall provide for international partners to collaborate in the governance of MAIRI, contingent upon appropriate contributions of financial support.

(d) OTHER PARTNERS.—To further the goals of MAIRI, the Director shall seek, as necessary, partnerships with other U.S. Federal departments and agencies, and their national laboratories, and non-governmental partners, such as from industry, academia, research institutions, and philanthropies on a project-by-project basis.

(e) FACILITATION.—The Director, in coordination with the Secretary of State, shall facilitate the operations of MAIRI by creating a trusted learning cloud and associated compute capacity to facilitate international collaborative research by enabling access to needed resources, compute, and data for shared innovation, research, and development

(f) RESEARCH AGENDA.—MAIRI shall work with international partners, as well as U.S. Government partners, as needed, to—

(1) develop principles for multilateral artificial intelligence research, which address the importance of research integrity, the need for transparency, the necessity of open data and data sharing, the development of risk-benefit frameworks, and the use of merit-based competition reviews for research proposals; and

(2) develop research priorities that leverage members' capabilities and may include the development of—

(A) shared, secure compute resources, including joint benchmarking projects and data sharing, pooling, and storing initiatives founded on commonly agreed principles that ensure trust, privacy and security;

(B) privacy-preserving artificial intelligence and machine learning technologies, including technologies like federated learning and on-device prediction that enable remote execution, encrypted computation through multi-party computation and homomorphic encryption, and differential privacy; and

(C) smart city technologies, aligned with democratic values, that promote sustainability as well as norms that should guide standards development at bodies like the ITU and technical standards bodies.

(g) SOLICITATION AUTHORIZED.—The Director is authorized to issue one or more solicitations to create a physical facility to support the establishment of MAIRI. Any such solicitation shall provide for the selection of an awardee on a competitive, merit-reviewed basis.

(h) FINANCIAL ASSISTANCE TO ESTABLISH AND SUPPORT MAIRI.—Subject to the availability of funds appropriated for this purpose, the Director, the Secretary of Energy, the Secretary of State, the Secretary of Commerce, and other Federal agency heads may award financial assistance, as determined by an agency head, to establish and support MAIRI and associated research.

(i) AUTHORIZATION OF APPROPRIATION.—There is authorized to be appropriated for fiscal years 2022 through 2027, in such funds as may be required, for the purpose of—

(1) establishing and maintaining a physical center for MAIRI in the United States;

(2) carrying out MAIRI research initiatives in cooperation with the National Science Foundation, the Department of Energy, the Department of State, and other appropriate federal agencies;

(3) creating a trusted learning cloud and associated compute capacity to facilitate international collaborative research;

(4) U.S. researchers' travel and associated expenses to participate in MAIRI workshops, conferences, and similar events; and

(5) the establishment of an endowment fund in cooperation with international partners.

*Recommendation: Reorient U.S. Foreign Policy and the Department of State for Great Power Competition in the Digital Age.*

*Expedite necessary reorganization of the Department of State by passing legislation to create an Under Secretary for Science, Research and Technology (Q).*

**SEC. \_\_\_\_.—UNDER SECRETARY OF STATE FOR SCIENCE, RESEARCH AND TECHNOLOGY.—**

(a) POSITION ESTABLISHED.—Subsection (b) of section 2651a of title 22, United States Code, is amended—

(1) in paragraph (1), by striking “6” and inserting “7”;

(2) by redesignating paragraph (4) as paragraph (5); and

(3) by inserting before redesignated paragraph (5) the following new paragraph:

“(4) UNDER SECRETARY FOR SCIENCE, RESEARCH AND TECHNOLOGY. There shall be in the Department of State, among the Under Secretaries authorized by paragraph (1), an Under Secretary for Science, Research and Technology, who shall have primary responsibility to assist the Secretary and the Deputy Secretary on matters related to international science and technology policy.”

(b) REORGANIZATION REQUIRED.—Not later than 180 days after the date of the enactment of this Act, the Secretary of State shall develop a plan to consolidate the

science and technology policy functions of the Department in a single division under the leadership of the Under Secretary for Science, Research and Technology.

## CHAPTER 16: ASSOCIATED TECHNOLOGIES

### *Blueprint for Action*

*Recommendation: Foster a Vibrant Domestic Quantum Fabrication Ecosystem.*

*Enact a package of provisions that incentivizes the domestic design and manufacturing of quantum computers and their constituent materials.*

### **SEC. \_\_\_\_.—TAX CREDIT FOR DOMESTIC DESIGN AND MANUFACTURING OF QUANTUM COMPUTERS AND CONSTITUENT MATERIALS.—**

Section 41(d) of title 26, United States Code, is amended by adding at the end a new paragraph (5), as follows—

“(5) SPECIAL RULE FOR DOMESTIC DESIGN AND MANUFACTURING OF QUANTUM COMPUTERS AND CONSTITUENT MATERIALS.—

“(A) With regard to domestic design and manufacturing of qualified quantum computers and constituent materials, the term ‘qualified research’ shall include, in addition to research described in paragraph (1)—

“(i) the development and production of qualified quantum computers and constituent materials in the United States; and

“(ii) the training of United States persons with regard to the development and production of qualified quantum computers and constituent materials.

“(B) In this paragraph, the term ‘qualified quantum computers and constituent materials’ means—

“(i) any computers have been identified by the Secretary, in consultation with the Secretary of Commerce, as quantum computers; and

“(ii) any components or constituent parts of such computers that have been identified by the Secretary, in consultation with the Secretary of Commerce, as critical to the operation of such computers.”

*General Note: Should Congress establish a National Technology Foundation pursuant to the Commission’s Chapter 11 recommendation, Congress should also review conflicting National Science Foundation authorities and delegating appropriate authorities to the NTF.*

