116TH CONGRESS
2D SESSION

S. 3832

To establish a new Directorate for Technology in the redesignated National Science and Technology Foundation, to establish a regional technology hub program, to require a strategy and report on economic security, science, research, and innovation, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 21, 2020

Mr. SCHUMER (for himself and Mr. YOUNG) introduced the following bill; which was read twice and referred to the Committee on Health, Education, Labor, and Pensions

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A BILL

To establish a new Directorate for Technology in the redesignated National Science and Technology Foundation, to establish a regional technology hub program, to require a strategy and report on economic security, science, research, and innovation, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Endless Frontier Act''.

SEC. 2. FINDINGS.

Congress finds the following:

(1) For over 70 years, the United States has been the unequivocal global leader in scientific and technological innovation, and as a result the people of the United States have benefitted through good-paying jobs, economic prosperity, and a higher quality of life. Today, however, this leadership position is being eroded and challenged by foreign competitors, some of whom are stealing intellectual property and trade secrets of the United States and aggressively investing in fundamental research and commercialization to dominate the key technology fields of the future. While the United States once led the world in the share of our economy invested in research, our Nation now ranks 9th globally in total research and development and 12th in publicly financed research and development.

(2) Without a significant increase in investment in research, education, technology transfer, and the core strengths of the United States innovation ecosystem, it is only a matter of time before the global competitors of the United States overtake the United States in terms of technological primacy. The country that wins the race in key technologies—such as artificial intelligence, quantum computing, ad-

vanced communications, and advanced manufacturing—will be the superpower of the future.

(3) The Federal Government must catalyze United States innovation by boosting fundamental research investments focused on discovering, creating, commercializing, and producing new technologies to ensure the leadership of the United States in the industries of the future.

(4) The distribution of innovation jobs and investment in the United States has become largely concentrated in just a few locations, while much of the Nation has been left out of growth in the innovation sector. More than 90 percent of the Nation's innovation sector employment growth in the last 15 years was generated in just 5 major cities. The Federal Government must address this imbalance in opportunity by partnering with the private sector to build new technology hubs across the country, spreading innovation sector jobs more broadly, and tapping the talent and potential of the entire Nation to ensure the United States leads the industries of the future.

(5) Since its inception, the National Science Foundation has carried out vital work supporting basic research and people to create knowledge that

is a primary driver of the economy of the United States and enhances the Nation's security.

SEC. 3. NATIONAL SCIENCE AND TECHNOLOGY FOUNDATION.

(a) REDESIGNATION OF NATIONAL SCIENCE FOUNDATION AS NATIONAL SCIENCE AND TECHNOLOGY FOUNDATION.—

(1) IN GENERAL.—Section 2 of the Act of May 10, 1950 (64 Stat. 149, chapter 171; 42 U.S.C. 1861), is amended—

(A) in the section heading, by inserting ''AND TECHNOLOGY'' after ''SCIENCE''; and

(B) by striking ''the National Science Foundation'' and inserting ''the National Science and Technology Foundation''.

(2) REFERENCES.—Any reference in any law, rule, regulation, certificate, directive, instruction, or other official paper in force on the date of enactment of this Act to the National Science Foundation shall be considered to refer and apply to the National Science and Technology Foundation.

(b) ESTABLISHMENT OF DEPUTY DIRECTOR FOR TECHNOLOGY.—Section 6 of the Act of May 10, 1950 (64 Stat. 149, chapter 171; 42 U.S.C. 1864a), is amended—

(1) in the section heading, by striking ''DEPUTY DIRECTOR'' and inserting ''DEPUTY DIRECTORS'';

(2) in the first sentence—

(A) by striking ''a Deputy Director'' and inserting ''2 Deputy Directors''; and

(B) by inserting ''and in accordance with the expedited procedures established under S. Res. 116 (112th Congress)'' after ''the Senate'';

(3) in the third sentence, by striking ''The Deputy Director shall receive'' and inserting ''Each Deputy Director shall receive'';

(4) by inserting after the third sentence the following: ''The Deputy Director for Technology shall oversee, and perform duties relating to, the Directorate for Technology of the Foundation, as established under section 8A, and the Deputy Director for Science shall oversee, and perform duties relating to, the other activities and directorates supported by the Foundation.''; and

(5) in the last sentence, by striking ''The Deputy Director shall act'' and inserting ''The Deputy Director for Science shall act''.

(c) ESTABLISHMENT OF DIRECTORATE FOR TECHNOLOGY.—The Act of May 10, 1950 (64 Stat. 149, chapter 171; 42 U.S.C. 1861 et seq.), is amended—

(1) in section 8 (42 U.S.C. 1866), by inserting at the end the following: ''Such divisions shall include the Directorate for Technology established under section 8A.''; and

(2) by inserting after section 8 the following:

''SEC. 8A. DIRECTORATE FOR TECHNOLOGY.

''(a) DEFINITIONS.—In this section:

''(1) DEPUTY DIRECTOR.—The term 'Deputy Director' means the Deputy Director for Technology.

''(2) DESIGNATED COUNTRY.—The term 'designated country' means a country that has been approved and designated in writing by the President for purposes of this section, after providing—

''(A) not less than 30 days of advance notification and explanation to the relevant congressional committees before the designation; and

''(B) in-person briefings to such committees, if requested during the 30-day advance notification period described in subparagraph (A).

''(3) DIRECTORATE.—The term 'Directorate' means the Directorate for Technology established under subsection (b).

''(4) INSTITUTION OF HIGHER EDUCATION.—The term 'institution of higher education' has the meaning given the term in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)).

''(5) KEY TECHNOLOGY FOCUS AREAS.—The term 'key technology focus areas' means the areas included on the most recent list under subsection (c)(2).

''(6) RELEVANT CONGRESSIONAL COMMITTEES.—The term 'relevant congressional committees' means—

''(A) the Committee on Armed Services, the Committee on Commerce, Science, and Transportation, the Committee on Appropriations, the Committee on Foreign Relations, and the Select Committee on Intelligence of the Senate; and

''(B) the Committee on Armed Services, the Committee on Science, Space, and Technology, the Committee on Appropriations, the Committee on Foreign Affairs, and the Permanent Select Committee on Intelligence of the House of Representatives.

''(b) ESTABLISHMENT.—

''(1) IN GENERAL.—Not later than 90 days after the date of enactment of the Endless Frontier Act, the Director shall establish in the Foundation a Directorate for Technology. The Directorate shall carry out the duties and responsibilities described in this section, in order to further the following goals:

''(A) Strengthening the leadership of the United States in critical technologies through fundamental research in the key technology focus areas.

''(B) Enhancing the competitiveness of the United States in the key technology focus areas by improving education in the key technology focus areas and attracting more students to such areas.

''(C) Consistent with the operations of the Foundation, fostering the economic and societal impact of federally funded research and development through an accelerated translation of fundamental advances in the key technology focus areas into processes and products that can help achieve national goals related to economic competitiveness, domestic manufacturing, national security, shared prosperity, energy and

the environment, health, education and workforce development, and transportation.

''(2) DEPUTY DIRECTOR.—The Directorate shall be headed by the Deputy Director.

''(3) ORGANIZATION AND ADMINISTRATIVE MATTERS.—

''(A) HIRING AUTHORITY.—

''(i) EXPERTS IN SCIENCE AND ENGINEERING.—The Director shall have the authority to carry out a program of personnel management authority for the Directorate 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 of title 10, United States Code, for the Defense Advanced Research Projects Agency.

''(ii) HIGHLY QUALIFIED EXPERTS IN NEEDED OCCUPATIONS.—In addition to the authority provided under clause (i), the Director shall have the authority to carry out a program of personnel management authority for the Directorate 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.

"(iii) ADDITIONAL HIRING AUTHORITY.—To the extent needed to carry out the duties in paragraph (1), the Director shall utilize hiring authorities under section 3372 of title 5, United States Code, to staff the Directorate 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, that apply to such individuals utilized to accomplish other missions of the Foundation.

"(B) PROGRAM MANAGERS.—The employees of the Directorate may include program managers for the key technology focus areas, who shall perform a role similar to programs managers employed by the Defense Advanced Research Projects Agency for the oversight and

selection of programs supported by the Directorate.

''(C) SELECTION OF RECIPIENTS.—Recipients of support under the programs and activities of the Directorate shall be selected by program managers or other employees of the Directorate. The Directorate may use a peer review process to inform the decisions of program managers or other employees.

''(D) ASSISTANT DIRECTORS.—The Director may appoint 1 or more Assistant Directors for the Directorate as the Director determines necessary, in the same manner as other Assistant Directors of the Foundation are appointed.

''(4) REPORT.—Not later than 120 days after the date of enactment of the Endless Frontier Act, the Director shall prepare and submit a report to the relevant congressional committees regarding the establishment of the Directorate.

''(c) DUTIES AND FUNCTIONS OF THE DIRECTORATE.—

''(1) DEVELOPMENT OF TECHNOLOGY FOCUS OF THE DIRECTORATE.—The Director, acting through the Deputy Director, shall—

''(A) advance innovation in the key technology focus areas through fundamental research and other activities described in this section; and

''(B) develop and implement strategies to ensure that the activities of the Directorate are directed toward the key technology focus areas in order to accomplish the goals described in subparagraphs (A) through (C) of subsection (b)(1) consistent with the most recent report conducted under section 5(b) of the Endless Frontier Act.

''(2) KEY TECHNOLOGY FOCUS AREAS.—

''(A) INITIAL LIST.—The initial key technology focus areas are—

''(i) artificial intelligence and machine learning;

''(ii) high performance computing, semiconductors, and advanced computer hardware;

''(iii) quantum computing and information systems;

''(iv) robotics, automation, and advanced manufacturing;

''(v) natural or anthropogenic disaster prevention;

''(vi) advanced communications technology;

''(vii) biotechnology, genomics, and synthetic biology;

''(viii) cybersecurity, data storage, and data management technologies;

''(ix) advanced energy; and

''(x) materials science, engineering, and exploration relevant to the other key technology focus areas described in this subparagraph.

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

''(i) ADDING OR DELETING KEY TECHNOLOGY FOCUS AREAS.—Beginning on the date that is 4 years after the date of enactment of the Endless Frontier Act, and every 4 years thereafter, the Director, acting through the Deputy Director—

''(I) shall, in consultation with the Board of Advisors, review the list of key technology focus areas; and

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

''(ii) LIMIT ON KEY TECHNOLOGY FOCUS AREAS.—Not more than 10 key technology focus areas shall be included on the list of key technology focus areas at any time.

''(iii) UPDATING FOCUS AREAS AND DISTRIBUTION.—Upon the completion of each review under this subparagraph, 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.

''(3) ACTIVITIES.—

''(A) IN GENERAL.—In carrying out the duties and functions of the Directorate, the Di-

rector, acting through the Deputy Director, may—

"(i) award grants, cooperative agreements, and contracts to—

"(I) individual institutions of higher education for work at centers or by individual researchers;

"(II) not-for-profit entities; and

"(III) consortia that—

"(aa) shall include and be led by an institution of higher education, and may include 1 or more additional institutions of higher education;

"(bb) may include 1 or more entities described in subclause (I) or (II) and, if determined appropriate by the Director, for-profit entities, including small businesses; and

"(cc) may include 1 or more entities described in subclause (I) or (II) from treaty allies and security partners of the United States;

"(ii) provide funds to other divisions of the Foundation, including—

"(I) to the other directorates of the Foundation to pursue basic questions about natural and physical phenomena that could enable advances in the key technology focus areas;

"(II) to the Directorate for Social, Behavioral, and Economic Sciences to study questions that could affect the design, operation, deployment, or the social and ethical consequences of technologies in the key technology focus areas; and

"(III) to the Directorate for Education and Human Resources to further the creation of a domestic workforce capable of advancing the key technology focus areas;

"(iii) provide funds to other Federal research agencies, including the National Institute of Standards and Technology, for intramural or extramural work in the key technology focus areas;

"(iv) make awards under the SBIR and STTR programs (as defined in section 9(e) of the Small Business Act (15 U.S.C. 638(e)) in the same manner as awards under such programs are made by the Director of the Foundation;

"(v) administer prize challenges under section 24 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3719) in the key technology focus areas, in order to expand public-private partnerships beyond direct research funding; and

"(vi) enter into and perform such contracts, including cooperative research and development arrangements and grants and cooperative agreements or other transactions, as may be necessary in the conduct of the work of the Directorate and on such terms as the Deputy Director considers appropriate, in furtherance of the purposes of this Act.

"(B) REPORTS.—Not later than 180 days after the date of enactment of the Endless Frontier Act, the Director shall prepare and submit to the relevant congressional committees

a spending plan for the next 5 years for each of the activities described in subparagraph (A), including—

"(i) a plan to seek out additional investments from—

"(I) certain designated countries; and

"(II) if appropriate, private sector entities; and

"(ii) the planned activities of the Directorate to secure federally funded science and technology pursuant to section 1746 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116–92).

"(C) ANNUAL BRIEFING.—Each year, the Director shall formally request a briefing from the Director of the Federal Bureau of Investigation and the Director of the National Counterintelligence and Security Center regarding their efforts to preserve the United States advantages generated by the activity of the Directorate.

"(4) INTERAGENCY COOPERATION.—In carrying out this section, the Director and other Federal research agencies shall work cooperatively with each

other to further the goals of this section in the key technology focus areas. Each year, the Director shall prepare and submit a report to Congress, and shall simultaneously submit the report to the Director of the Office of Science and Technology Policy, describing the interagency cooperation that occurred during the preceding year pursuant to this paragraph, including a list of—

''(A) any funds provided under paragraph (3)(A)(ii) to other divisions of the Foundation; and

''(B) any funds provided under paragraph (3)(A)(iii) to other Federal research agencies.

''(5) PROVIDING SCHOLARSHIPS, FELLOWSHIPS, AND OTHER STUDENT SUPPORT.—

''(A) IN GENERAL.—The Director, acting through the Directorate, shall fund undergraduate scholarships, graduate fellowships and traineeships, and postdoctoral student awards in the key technology focus areas.

''(B) IMPLEMENTATION.—The Director may carry out subparagraph (A) by providing funds—

''(i) to the Directorate for Education and Human Resources of the Foundation for—

''(I) awards directly to students; and

''(II) grants or cooperative agreements to institutions of higher education, including those institutions involved in operating university technology centers established under paragraph (6); and

''(ii) to programs in Federal research agencies that have experience awarding such scholarships, fellowships, traineeships, or postdoctoral awards.

''(C) SUPPLEMENT, NOT SUPPLANT.—The Director shall ensure that funds made available under this paragraph shall be used to create additional support for postsecondary students and shall not displace funding for any other available support.

''(6) UNIVERSITY TECHNOLOGY CENTERS.—

''(A) IN GENERAL.—From amounts made available to the Directorate, the Director shall, through a competitive application and selection

process, award grants to or enter into cooperative agreements with institutions of higher education or consortia described in paragraph (3)(A)(i)(III) to establish university technology centers.

"(B) USES OF FUNDS.—

"(i) IN GENERAL.—A center established under a grant or cooperative agreement under subparagraph (A)—

"(I) shall use support provided under such subparagraph—

"(aa) to carry out fundamental research to advance innovation in the key technology focus areas; and

"(bb) to further the development of innovations in the key technology focus areas, including—

"(AA) innovations derived from research carried out under item (aa), through such activities as proof-of-concept development and prototyping, in order to re-

duce the cost, time, and risk of commercializing new technologies; and

"(BB) through the use of public-private partnerships; and

"(II) may use support provided under such subparagraph—

"(aa) for the costs of equipment, including mid-tier infrastructure, and the purchase of cyberinfrastructure resources, including computer time; or

"(bb) for other activities or costs necessary to accomplish the purposes of this section.

"(ii) SUPPORT OF REGIONAL TECHNOLOGY HUBS.—Each center established under subparagraph (A) may support and participate in, as appropriate, the activities of any regional technology hub designated under section 27(d) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3722(d)).

''(C) REQUIREMENTS.—The Director shall ensure that any institution of higher education or consortium receiving a grant or cooperative agreement under subparagraph (A) has demonstrated an ability to advance the goals described in subsection (b)(1).

''(7) MOVING TECHNOLOGY FROM LABORATORY TO MARKET.—

''(A) PROGRAM AUTHORIZED.—The Director shall establish a program in the Directorate to award grants, on a competitive basis, to institutions of higher education or consortia described in paragraph (3)(A)(i)(III)—

''(i) to build capacity at an institution of higher education and in its surrounding region to increase the likelihood that new technologies in the key technology focus areas will succeed in the commercial market; and

''(ii) with the goal of promoting experiments with a range of models that institutions of higher education could use to—

''(I) enable new technologies to mature to the point where the tech-

nologies are more likely to succeed in the commercial market; and

''(II) reduce the risks to commercial success for new technologies earlier in their development.

A grant awarded under this subparagraph for a purpose described in clause (i) or (ii) may also enable the institution of higher education or consortium to provide training and support to scientists and engineers who are interested in research and commercialization, if the use is included in the proposal submitted under subparagraph (B).

''(B) PROPOSALS.—An institution of higher education or consortium desiring a grant under this paragraph shall submit a proposal to the Director at such time, in such manner, and containing such information as the Director may require. The proposal shall include a description of—

''(i) the steps the applicant will take to reduce the risks for commercialization for new technologies;

''(ii) why such steps are likely to be effective; and

''(iii) how such steps differ from previous efforts to reduce the risks for commercialization for new technologies.

''(C) USE OF FUNDS.—A recipient of a grant under this paragraph shall use grant funds to reduce the risks for commercialization for new technologies developed on campus, which may include—

''(i) creating and funding competitions to allow entrepreneurial ideas from institutions of higher education to illustrate their commercialization potential;

''(ii) facilitating mentorships between local and national business leaders and potential entrepreneurs to encourage successful commercialization;

''(iii) creating and funding for-profit or not-for-profit entities that could enable researchers at institutions of higher education to further develop new technology prior to seeking commercial financing, through patient funding, advice, staff support, or other means;

"(iv) providing off-campus facilities for start-up companies where technology maturation could occur; and

"(v) revising institution policies to accomplish the goals of this paragraph.

"(8) TEST BEDS.—

"(A) PROGRAM AUTHORIZED.—The Director, acting through the Deputy Director, shall establish a program in the Directorate to award grants, on a competitive basis, to institutions of higher education or consortia described in paragraph (3)(A)(i)(III) to establish test beds and fabrication facilities to advance the operation, integration and, as appropriate, manufacturing of new, innovative technologies in the key technology focus areas, which may include hardware or software. The goal of such test beds and facilities shall be to accelerate the movement of innovative technologies into the commercial market through existing and new companies.

"(B) PROPOSALS.—A proposal submitted under this paragraph shall, at a minimum, describe—

''(i)(I) the 1 or more technologies that will be the focus of the test bed or fabrication facility;

''(II) the goals of the work to be done at the test bed or facility; and

''(III) the expected schedule for completing that work;

''(ii) how the applicant will assemble a workforce with the skills needed to operate the test bed or facility;

''(iii) how the applicant will ensure that work in the test bed or facility will contribute to the commercial viability of any technologies, which may include collaboration and funding from industry partners;

''(iv) how the applicant will encourage the participation of entrepreneurs and the development of new businesses; and

''(v) how the test bed or facility will operate after Federal funding has ended.

''(C) AWARDS.—Grants made under this paragraph—

''(i) shall be for 5 years, with the possibility of one 3-year extension; and

''(ii) may be used for the purchase of equipment, the support of graduate students and postdoctoral researchers, and the salaries of staff.

''(D) REQUIREMENTS.—As a condition of receiving a grant under this paragraph, an institution of higher education or consortium shall publish and share with the public the results of the work conducted under this paragraph.

''(9) INAPPLICABILITY.—Section 5(e)(1) shall not apply to grants, contracts, or other arrangements made under this section.

''(d) BOARD OF ADVISORS.—

''(1) IN GENERAL.—There is established in the Foundation a Board of Advisors for the Directorate (referred to in this section as the 'Board of Advisors'), which shall provide advice to the Deputy Director pursuant to this subsection. The Board of Advisors shall not have any decision-making authority.

''(2) MEMBERSHIP.—

''(A) COMPOSITION.—The Board of Advisors shall be comprised of 12 members representing scientific leaders and experts from industry and academia, of whom—

''(i) two shall be appointed by the majority leader of the Senate;

''(ii) two shall be appointed by the minority leader of the Senate;

''(iii) two shall be appointed by the Speaker of the House of Representatives;

''(iv) two shall be appointed by the minority leader of the House of Representatives; and

''(v) four shall be appointed by the Director.

''(B) OPPORTUNITY FOR INPUT.—Before appointing any member under subparagraph (A), the appointing authority shall provide an opportunity for the National Academies of Sciences, Engineering, and Medicine and other entities to provide advice regarding potential appointees.

''(C) QUALIFICATIONS.—

''(i) IN GENERAL.—Each member appointed under subparagraph (A) shall—

''(I) have extensive experience in a field related to the work of the Directorate or other expertise relevant to developing technology roadmaps; and

''(II) have, or be able to obtain within a reasonable period of time, a security clearance appropriate for the work of the Board of Advisors.

''(ii) EXPEDITED SECURITY CLEARANCES.—The process of obtaining a security clearance under clause (i)(II) may be expedited by the head of the appropriate Federal agency to enable the Board to receive classified briefings on the current and future technological capacity of other nations, and on the military implications of civilian technologies.

''(D) DATE.—The appointments of the members of the Board of Advisors shall be made not later than 90 days after the date of enactment of the Endless Frontier Act.

''(3) PERIOD OF APPOINTMENT; VACANCIES.—

''(A) IN GENERAL.—A member of the Board of Advisors shall be appointed for a 3-year term, except that the Deputy Director shall adjust the terms for the first members of the Board of Advisors so that, within each appointment category described in clauses (i)

through (v) of paragraph (2)(A), the terms expire on a staggered basis.

''(B) TERM LIMITS.—A member of the Board of Advisors shall not serve for more than 2 full consecutive terms.

''(C) VACANCIES.—Any vacancy in the Board of Advisors—

''(i) shall not affect the powers of the Board of Advisors; and

''(ii) shall be filled in the same manner as the original appointment.

''(4) CHAIRPERSON.—The members of the Board of Advisors shall elect 1 member to serve as the chairperson of the Board of Advisors.

''(5) MEETINGS.—

''(A) INITIAL MEETING.—Not later than 180 days after the date of enactment of the Endless Frontier Act, the Board of Advisors shall hold the first meeting of the Board of Advisors.

''(B) ADDITIONAL MEETINGS.—After the first meeting of the Board of Advisors, the Board of Advisors shall meet upon the call of the chairperson or of the Director, and at least

once every 180 days for the duration of the Board of Advisors.

''(C) MEETING WITH THE NATIONAL SCIENCE BOARD.—The Board of Advisors shall hold a joint meeting with the National Science Board on at least an annual basis, on a date mutually selected by the chairperson of the Board of Advisors and the Chairman of the National Science Board.

''(D) QUORUM.—A majority of the members of the Board of Advisors shall constitute a quorum, but a lesser number of members may hold hearings.

''(6) DUTIES OF BOARD OF ADVISORS.—

''(A) IN GENERAL.—The Board of Advisors shall provide advice—

''(i) to the Deputy Director on programs that could best be carried out to accomplish the purposes of this section;

''(ii) to the Deputy Director to inform the reviews of key technology focus areas required under subsection (c)(2)(B); and

''(iii) on other issues relating to the purposes and responsibilities of the Direc-

torate, as requested by the Deputy Director.

"(B) NO ROLE IN AWARDING GRANTS, CONTRACTS, OR COOPERATIVE AGREEMENTS.—The Board of Advisors shall not provide advice on or otherwise help determine what entities shall receive grants, contracts, or cooperative agreements under this Act.

"(7) POWERS OF BOARD OF ADVISORS.—

"(A) HEARINGS.—The Board of Advisors may hold public or private hearings, sit and act at such times and places, take such testimony and receive such evidence (including classified testimony and evidence), and administer such oaths as may be necessary to carry out the functions of the Board of Advisors under paragraph (6).

"(B) INFORMATION FROM FEDERAL AGENCIES.—

"(i) IN GENERAL.—Each Federal department or agency shall, in accordance with applicable procedures for the handling of classified information, provide reasonable access to documents, statistical data, and other such information that the Dep-

uty Director, in consultation with the chairperson of the Board of Advisors, determines necessary to carry out its functions under paragraph (6).

"(ii) OBTAINING CLASSIFIED INFORMATION.—If the Board of Advisors, acting through the chairperson, seeks classified information from a Federal department or agency, the Deputy Director shall submit a written request to the head of the Federal department or agency for access to classified documents and statistical data, and other classified information described in clause (i), that is under the control of such agency.

"(C) FINANCIAL DISCLOSURE REPORTS.—Each member of the Board of Advisors shall be required to file a financial disclosure report under title I of the Ethics in Government Act of 1978, except that such reports shall be held confidential and exempt from any law otherwise requiring their public disclosure.

"(8) BOARD OF ADVISORS PERSONNEL AND OPERATIONAL MATTERS.—

"(A) COMPENSATION OF MEMBERS.—

"(i) IN GENERAL.—A member of the Board of Advisors shall be compensated at a rate equal to the daily equivalent of the annual rate of basic pay prescribed for level IV of the Executive Schedule under section 5315 of title 5, United States Code, for each day (including travel time) during which the member is engaged in the performance of the duties of the Board of Advisors.

"(ii) NO FEDERAL EMPLOYEE MEMBERS.—No member of the Board of Advisors may be an officer or employee of the United States during the member's term on the Board of Advisors.

"(B) TRAVEL EXPENSES.—A member of the Board of Advisors shall be allowed travel expenses, including per diem in lieu of subsistence, at rates authorized for employees of agencies under subchapter I of chapter 57 of title 5, United States Code, while away from their home or regular places of business in the performance of services for the Board of Advisors.

"(C) STAFF.—The Deputy Director, in consultation with the chairperson of the Board

of Advisors, shall assign an employee of the Foundation to serve as an executive director for the Board of Advisors.

''(D) GOVERNMENT EMPLOYEES.—

''(i) IN GENERAL.—Any Federal Government employee may be detailed to the Board of Advisors without reimbursement, and such detail shall be without interruption or loss of civil service status or privilege.

''(ii) EMPLOYEES OF THE LEGISLATIVE BRANCH.—The Deputy Director shall establish procedures and policies to enable an employee of an office, agency, or other entity in the legislative branch of the Government to support the activities of the Board of Advisors.

''(E) PROCUREMENT OF TEMPORARY AND INTERMITTENT SERVICES.—The chairperson of the Board of Advisors, with approval from the Deputy Director, may procure temporary and intermittent services under section 3109(b) of title 5, United States Code, at rates for individuals which do not exceed the daily equivalent of the annual rate of basic pay prescribed for level

V of the Executive Schedule under section 5316 of that title.

''(F) ASSISTANCE FROM FEDERAL AGENCIES.—A Federal department or agency may provide to the Board of Advisors such services, funds, facilities, staff, and other support services as the department or agency may determine advisable and as may be authorized by law.

''(9) PERMANENT BOARD.—Section 14 of the Federal Advisory Committee Act (5 U.S.C. App.) shall not apply to the Board of Advisors.

''(e) AREAS OF FUNDING SUPPORT.—Subject to the availability of funds under subsection (f), the Director shall, for each fiscal year, use—

''(1) not less than 35 percent of funds provided to the Directorate for such year to carry out subsection (c)(6);

''(2) not less than 15 percent of such funds to carry out subsection (c)(5) with the goal of awarding, across the key technology focus areas—

''(A) not fewer than 1,000 post-doctorate fellowships;

''(B) not fewer than 2,000 graduate fellowships and traineeships;

''(C) not fewer than 1,000 undergraduate scholarships; and

''(D) if funds remain after carrying out subparagraphs (A) through (C), grants to institutions of higher education to enable the institutions to fund the development and establishment of new or specialized courses of education for graduate, undergraduate, or technical college students;

''(3) not less than 5 percent of such funds to carry out subsection (c)(7);

''(4) not less than 10 percent of such funds to carry out subsection (c)(8) by establishing and equipping test beds and fabrication facilities; and

''(5) not less than 15 percent of such funds to carry out research and related activities pursuant to subclauses (I) and (II) of subsection (c)(3)(A)(ii).

''(f) AUTHORIZATION OF APPROPRIATIONS.—

''(1) IN GENERAL.—There are authorized to be appropriated for the Directorate, in addition to any other funds made available to the Directorate, a total of $100,000,000,000 for fiscal years 2021 through 2025, of which—

''(A) $2,000,000,000 is authorized for fiscal year 2021;

''(B) $8,000,000,000 is authorized for fiscal year 2022;

''(C) $20,000,000,000 is authorized for fiscal year 2023;

''(D) $35,000,000,000 is authorized for fiscal year 2024; and

''(E) $35,000,000,000 is authorized for fiscal year 2025.

''(2) APPROPRIATIONS LIMITATIONS.—

''(A) HOLD HARMLESS.—No funds shall be appropriated to the Directorate or to carry out this section for any fiscal year in which the total amount appropriated to the Foundation (not including amounts appropriated for the Directorate) is less than the total amount appropriated to the Foundation (not including such amounts), adjusted by the rate of inflation, for the previous fiscal year.

''(B) NO TRANSFER OF FUNDS.—The Director shall not transfer any funds appropriated to any other directorate or office of the Foundation to the Directorate.''.

(d) ANNUAL REPORT ON UNFUNDED PRIORITIES.—

(1) ANNUAL REPORT.—Not later than 10 days after the date on which the budget of the President

for a fiscal year is submitted to Congress pursuant to section 1105 of title 31, United States Code, the Director shall submit to the President and to Congress a report on the unfunded priorities of the National Science and Technology Foundation.

(2) ELEMENTS.—Each report submitted under paragraph (1) shall provide—

(A) for each directorate of the National Science Foundation for the most recent, fully completed fiscal year—

(i) the proposal success rate;

(ii) the percentage of proposals that were not funded and that met the criteria for funding; and

(iii) the most promising research areas covered by proposals described in clause (ii); and

(B) a list, in order of priority, of the next activities that should be undertaken in the Major Research Equipment and Facilities Construction account.

SEC. 4. REGIONAL TECHNOLOGY HUB PROGRAM.

(a) DEFINITIONS.—

(1) KEY TECHNOLOGY FOCUS AREAS.—Subsection (a) of section 27 of the Stevenson-Wydler

Technology Innovation Act of 1980 (15 U.S.C. 3722) is amended—

(A) by redesignating paragraphs (2) through (4) as paragraphs (3) through (5), respectively; and

(B) by inserting after paragraph (1) the following:

''(2) KEY TECHNOLOGY FOCUS AREAS.—The term 'key technology focus areas' means the areas included on the most recent list under section 8A(c)(2) of the Act of May 10, 1950 (64 Stat. 149, chapter 171; 42 U.S.C. 1861 et seq.).''.

(2) VENTURE DEVELOPMENT ORGANIZATIONS.—Paragraph (5) of such subsection, as redesignated by paragraph (1) of this subsection, is amended by striking ''purposes of'' and all that follows through the period at the end and inserting the following: ''purposes of—

''(A) accelerating the commercialization of research;

''(B) strengthening the competitive position of industry through the development, commercial adoption, or deployment of technology; and

''(C) providing financial grants, loans, or direct financial investment to commercialize technology.''.

(b) DESIGNATION OF AND SUPPORT FOR REGIONAL TECHNOLOGY HUBS AS PART OF REGIONAL INNOVATION PROGRAM OF DEPARTMENT OF COMMERCE.—

(1) IN GENERAL.—Such section is amended—

(A) by redesignating subsections (d) through (h) as subsections (e) through (i), respectively; and

(B) by inserting after subsection (c) the following:

''(d) DESIGNATION OF AND GRANTS IN SUPPORT OF REGIONAL TECHNOLOGY HUBS.—

''(1) PROGRAM REQUIRED.—

''(A) IN GENERAL.—As part of the program established under subsection (b), the Secretary shall carry out a program—

''(i) to designate eligible consortia as regional technology hubs that create the conditions, within a region, to facilitate activities that—

''(I) enable United States leadership in a key technology focus area, complementing the Federal research

and development investments under section 8A of the Act of May 10, 1950 (64 Stat. 149, chapter 171; 42 U.S.C. 1861 et seq.); and

''(II) support regional economic development that diffuses innovation capacity around the United States, enabling better broad-based growth and competitiveness in key technology focus areas; and

''(ii) to support regional technology hubs designated under clause (i).

''(B) ELIGIBLE CONSORTIA.—For purposes of this section, an eligible consortium is a consortium that—

''(i) includes—

''(I) an institution of higher education;

''(II) a local or Tribal government or other political subdivision of a State;

''(III) a government of a State or the economic development representative of a State; and

''(IV) an economic development organization or similar entity that is focused primarily on improving science, technology, innovation, or entrepreneurship; and

''(ii) may include 1 or more—

''(I) nonprofit entities with relevant expertise;

''(II) venture development organizations;

''(III) financial institutions;

''(IV) educational institutions, including career and technical education schools;

''(V) workforce training organizations;

''(VI) industry associations;

''(VII) firms in the key technology focus areas;

''(VIII) Federal laboratories;

''(IX) Centers (as defined in section 25(a) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(a)));

"(X) Manufacturing USA institutes (as described in section 34(d) of the National Institute of Standards and Technology Act (15 U.S.C. 278s(d))); and

"(XI) institutions receiving an award under paragraph (6) or (7) of section 8A(c) of the Act of May 10, 1950 (64 Stat. 149, chapter 171; 42 U.S.C. 1861 et seq.).

"(C) ADMINISTRATION.—The Secretary shall carry out this subsection through the Assistant Secretary of Commerce for Economic Development and the Under Secretary of Commerce for Standards and Technology, jointly.

"(2) DESIGNATION OF REGIONAL TECHNOLOGY HUBS.—

"(A) IN GENERAL.—The Secretary shall use a competitive process for the designation of regional technology hubs under paragraph (1)(A)(i).

"(B) NUMBER OF REGIONAL TECHNOLOGY HUBS.—During the 5-year period beginning on the date of the enactment of the Endless Frontier Act, the Secretary shall designate not fewer

than 10 and not more than 15 eligible consortia as regional technology hubs under paragraph (1)(A)(i).

''(C) GEOGRAPHIC DISTRIBUTION.—In conducting the competitive process under subparagraph (A), the Secretary shall ensure geographic distribution in the designation of regional technology hubs—

''(i) aiming to designate regional technology hubs in as many regions of the United States as possible; and

''(ii) focusing on localities that have clear potential and relevant assets for developing a key technology focus area but have not yet become leading technology centers.

''(3) GRANTS.—

''(A) IN GENERAL.—The Secretary shall carry out clause (ii) of paragraph (1)(A) through the award of grants to eligible consortia designated under clause (i) of such paragraph.

''(B) TERM.—Each grant awarded under subparagraph (A) shall be for a period of 5

years, but may be renewed once for an additional period of 5 years.

''(C) MATCHING REQUIRED.—The total Federal financial assistance awarded in a given year to an eligible consortium in support of the eligible consortium's operation as a regional technology hub under this subsection shall not exceed amounts as follows:

''(i) In fiscal year 2021, 90 percent of the total funding of the regional technology hub in that fiscal year.

''(ii) In fiscal year 2022, 85 percent of the total funding of the regional technology hub in that fiscal year.

''(iii) In fiscal year 2023, 80 percent of the total funding of the regional technology hub in that fiscal year.

''(iv) In fiscal year 2024 and in each fiscal year thereafter, 75 percent of the total funding of the regional technology hub in that fiscal year.

''(D) USE OF GRANT FUNDS.—The recipient of a grant awarded under subparagraph (A) shall use the grant for multiple activities deter-

mined appropriate by the Secretary, including—

"(i) the permissible activities set forth under subsection (c)(2); and

"(ii) activities in support of key technology focus areas—

"(I) to develop the region's skilled workforce through the training and retraining of workers and alignment of career technical training and educational programs in the region's elementary and secondary schools and institutions of higher education;

"(II) to develop regional strategies for infrastructure improvements and site development in support of the regional technology hub's plans and programs;

"(III) to support business activity that develops the domestic supply chain and encourages the creation of new business entities;

"(IV) to attract new private, public, and philanthropic investment in the region for developing innovation

capacity, including establishing regional venture and loan funds for financing technology commercialization, new business formation, and business expansions;

''(V) to further the development of innovations in the key technology focus areas, including innovations derived from research conducted at institutions of higher education or other research entities, including research conducted by 1 or more university technology centers established under section 8A(c)(6) of the Act of May 10, 1950 (64 Stat. 149, chapter 171; 42 U.S.C. 1861 et seq.), through activities that may include—

''(aa) proof-of-concept development and prototyping;

''(bb) public-private partnerships in order to reduce the cost, time, and risk of commercializing new technologies;

''(cc) creating and funding competitions to allow entrepre-

neurial ideas from institutions of higher education to illustrate their commercialization potential;

"(dd) facilitating mentorships between local and national business leaders and potential entrepreneurs to encourage successful commercialization;

"(ee) creating and funding for-profit or not-for-profit entities that could enable researchers at institutions of higher education and other research entities to further develop new technology prior to seeking commercial financing, through patient funding, advice, staff support, or other means; and

"(ff) providing facilities for start-up companies where technology maturation could occur; and

"(VI) to carry out such other activities as the Secretary considers appropriate to improve United States

competitiveness and regional economic development to support a key technology focus area and that would further the purposes of the Endless Frontiers Act.

"(4) APPLICATIONS.—

"(A) IN GENERAL.—An eligible consortium seeking designation as a regional technology hub under clause (i) of paragraph (1)(A) and support under clause (ii) of such paragraph shall submit to the Secretary an application therefor at such time, in such manner, and containing such information as the Secretary may specify.

"(B) CONSULTATION WITH NATIONAL SCIENCE FOUNDATION UNIVERSITY TECHNOLOGY CENTERS.—In preparing an application for submittal under subparagraph (A), an applicant shall, to the extent practicable, consult with one or more university technology centers established under section 8A(c)(6) of the Act of May 10, 1950 (64 Stat. 149, chapter 171; 42 U.S.C. 1861 et seq.), that are either geographically relevant or are conducting research on relevant key technology focus areas.

"(5) CONSIDERATIONS FOR DESIGNATION AND GRANT AWARDS.—In selecting an eligible consortium that submitted an application under paragraph (4)(A) for designation and support under paragraph (1)(A), the Secretary shall consider, at a minimum, the following:

"(A) The potential of the eligible consortium to advance the development of new technologies in a key technology focus area.

"(B) The likelihood of positive regional economic effect, including increasing the number of high wage jobs, and creating new economic opportunities for economically disadvantaged populations.

"(C) How the eligible consortium plans to integrate with and leverage the resources of one or more university technology centers established under section 8A(c)(6) of the Act of May 10, 1950 (64 Stat. 149, chapter 171; 42 U.S.C. 1861 et seq.), in a related key technology focus area.

"(D) How the eligible consortium will engage with the private sector, including small- and medium-sized enterprises to commercialize new technologies and develop new supply chains

in the United States in a key technology focus area.

''(E) How the eligible consortium will carry out workforce development and skills acquisition programming, including through the use of apprenticeships, mentorships, and other related activities authorized by the Secretary, to support the development of a key technology focus area.

''(F) How the eligible consortium will improve science, technology, engineering, and mathematics education programs in the identified region in elementary and secondary school and higher education institutions located in the identified region to support the development of a key technology focus area.

''(G) How the eligible consortium plans to develop partnerships with venture development organizations and sources of private investment in support of private sector activity, including launching new or expanding existing companies, in a key technology focus area.

''(H) How the eligible consortium plans to organize the activities of regional partners in the public, private, and philanthropic sectors in

support of the proposed regional technology hub, including the development of necessary infrastructure improvements and site preparation.

"(I) How the eligible consortium plans to address economic inclusion, including ensuring that skill development, entrepreneurial assistance, and other activities focus on economically disadvantaged populations.

"(6) COORDINATION WITH NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY PROGRAMS.—

"(A) DEFINITIONS.—In this paragraph:

"(i) MANUFACTURING EXTENSION CENTER.—The term 'manufacturing extension center' has the meaning given the term 'Center' in section 25(a) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(a).

"(ii) MANUFACTURING USA INSTITUTE.—The term 'Manufacturing USA institute' means a Manufacturing USA institute described in section 34(d) of the National Institute of Standards and Technology Act (15 U.S.C. 278s(d)).

"(B) COORDINATION REQUIRED.—The Secretary shall coordinate the activities of regional technology hubs designated under this subsection, the Hollings Manufacturing Extension Partnership, and the Manufacturing USA Program with each other to the degree that doing so does not diminish the effectiveness of the ongoing activities of a manufacturing extension center or a Manufacturing USA institute.

"(C) CONDITION OF SUPPORT.—In order to coordinate activities under subparagraph (B), the Secretary may condition the award of a grant or support under this subsection or section 25 or 34 of the National Institute of Standards and Technology Act (15 U.S.C. 278k and 278s) upon submittal to the coordination efforts of the Secretary under subparagraph (B) of this paragraph.

"(D) ELEMENTS.—Coordination by the Secretary under subparagraph (B) may include the following:

"(i) The alignment of activities of the Hollings Manufacturing Extension Partnership with the activities of regional tech-

nology hubs designated under this subsection, if applicable.

''(ii) The alignment of activities of the Manufacturing USA Program and the Manufacturing USA institutes with the activities of regional technology hubs designated under this subsection, if applicable.

''(7) INTERAGENCY COLLABORATION.—In assisting regional technology hubs designated under paragraph (1)(A)(i), the Secretary—

''(A) shall collaborate with Federal departments and agencies whose missions contribute to the goals of the regional technology hub;

''(B) may accept funds from other Federal agencies to support grants and activities under this subsection; and

''(C) may establish interagency agreements with other Federal departments or agencies to provide preferential consideration for financial or technical assistance to a regional technology hub designated under this subsection if all applicable requirements for the financial or technical assistance are met.

''(8) PERFORMANCE MEASUREMENT, TRANSPARENCY, AND ACCOUNTABILITY.—

"(A) METRICS, STANDARDS, AND ASSESSMENT.—For each grant awarded under paragraph (3) for a regional technology hub, the Secretary shall—

"(i) develop metrics to assess the effectiveness of the activities funded in making progress toward the purposes set forth under paragraph (1)(A);

"(ii) establish standards for the performance of the regional technology hub that are based on the metrics developed under clause (i); and

"(iii) 2 years after the initial award under paragraph (3) and each year thereafter until Federal financial assistance under this subsection for the regional technology hub is discontinued, conduct an assessment of the regional technology hub to confirm whether the performance of the regional technology hub is meeting the standards for performance established under clause (ii).

"(B) ANNUAL REPORT.—Not less frequently than once each year, the Secretary shall submit to the Committee on Commerce,

Science, and Transportation of the Senate, the Committee on Appropriations of the Senate, the Committee on Science, Space, and Technology of the House of Representatives, and the Committee on Appropriations of the House of Representatives an annual report on the results of the assessments conducted by the Secretary under subparagraph (A)(iii) during the period covered by the report.''.

(2) INITIAL DESIGNATIONS AND AWARDS.—

(A) COMPETITION REQUIRED.—Not later than 180 days after the date of the enactment of this Act, the Secretary of Commerce shall commence a competition under paragraph (2)(A) of section 27(d) of the Stevenson-Wydler Technology Innovation Act of 1980, as added by paragraph (1).

(B) DESIGNATION AND AWARD.—Not later than 1 year after the date of the enactment of this Act, if the Secretary has received at least 1 application under paragraph (4) of such section from an eligible consortium whom the Secretary considers suitable for designation under paragraph (1)(A)(i) of such section, the Secretary shall—

(i) designate at least 1 regional technology hub under paragraph (1)(A)(i) of such section; and

(ii) award a grant under paragraph (3)(A) of such section to each regional technology hub designated under clause (i) of this subparagraph.

(c) AUTHORIZATION OF APPROPRIATIONS.—Subsection (i) of such section, as redesignated by subsection (c)(1)(A) of this section, is amended—

(1) by striking ''From amounts'' and inserting the following:

''(1) IN GENERAL.—From amounts'';

(2) in paragraph (1), as redesignated by paragraph (1) of this subsection, by striking ''this section'' and inserting ''the provisions of this section other than subsection (d)''; and

(3) by adding at the end the following:

''(2) REGIONAL TECHNOLOGY HUBS.—There is authorized to be appropriated to the Secretary to carry out subsection (d) $10,000,000,000 for the period of fiscal year 2021 through 2025.''.

SEC. 5. STRATEGY AND REPORT ON ECONOMIC SECURITY, SCIENCE, RESEARCH, AND INNOVATION TO SUPPORT THE NATIONAL SECURITY STRATEGY.

(a) DEFINITIONS.—In this section:

(1) APPROPRIATE COMMITTEES OF CONGRESS.—The term ''appropriate committees of Congress'' means—

(A) the Committee on Appropriations, the Committee on Armed Services, the Committee on Banking, Housing, and Urban Affairs, the Committee on Commerce, Science, and Transportation, the Committee on Energy and Natural Resources, the Committee on Finance, the Committee on Foreign Relations, and the Select Committee on Intelligence of the Senate; and

(B) the Committee on Appropriations, the Committee on Armed Services, the Committee on Energy and Commerce, the Committee on Financial Services, the Committee on Foreign Affairs, the Committee on Ways and Means, and the Permanent Select Committee on Intelligence of the House of Representatives.

(2) KEY TECHNOLOGY FOCUS AREA.—The term ''key technology focus area'' means an area included on the most recent list under section 8A(c)(2) of the

Act of May 10, 1950 (64 Stat. 149, chapter 171; 42 U.S.C. 1861 et seq.).

(3) NATIONAL SECURITY STRATEGY.—The term ''national security strategy'' means the national security strategy required by section 108 of the National Security Act of 1947 (50 U.S.C. 3043).

(b) STRATEGY AND REPORT.—

(1) IN GENERAL.—In 2021 and in each year thereafter before the applicable date set forth under paragraph (2), the Director of the Office of Science and Technology Policy, in coordination with the Director of the National Economic Council, the Director of the National Science Foundation, the Secretary of Commerce, the National Security Council, and the heads of other relevant Federal agencies, shall—

(A) review such strategy, programs, and resources as the Director of the Office of Science and Technology Policy determines pertain to United States national competitiveness in science, research, and innovation to support the national security strategy;

(B) develop a strategy for the Federal Government to improve the national competitiveness of the United States in science, re-

search, and innovation to support the national security strategy; and

(C) submit to the appropriate committees of Congress—

(i) a report on the findings of the Director with respect to the review conducted under paragraph (1); and

(ii) the strategy developed or revised under paragraph (2).

(2) APPLICABLE DATES.—In each year, the applicable date set forth under this paragraph is as follows:

(A) In 2021, December 31, 2021.

(B) In 2022 and every year thereafter—

(i) in any year in which a new President is inaugurated, October 1 of that year; and

(ii) in any other year, the date that is 90 days after the date of the transmission to Congress in that year of the national security strategy.

(c) ELEMENTS.—

(1) REPORT.—Each report submitted under subsection (b)(1)(C)(i) shall include the following:

(A) An assessment of public and private investment in civilian and military science and technology and its implications for the geostrategic position and national security of the United States.

(B) A description of the prioritized economic security interests and objectives of the United States relating to science, research, and innovation and an assessment of how investment in civilian and military science and technology can advance those objectives.

(C) An assessment of how regional efforts are contributing and could contribute to the innovation capacity of the United States, including—

(i) programs run by State and local governments; and

(ii) regional factors that are contributing or could contribute positively to innovation.

(D) An assessment of barriers to competitiveness in key technology focus areas and barriers to the development and evolution of start-ups, small and mid-sized business entities, and industries in key technology focus areas.

(E) An assessment of the effectiveness of the Federal Government, federally funded research and development centers, and national labs in supporting and promoting technology commercialization and technology transfer, including an assessment of the adequacy of Federal research and development funding in promoting competitiveness and the development of new technologies.

(F) An assessment of manufacturing capacity, logistics, and supply chain dynamics of major export sectors, including access to a skilled workforce, physical infrastructure, and broadband network infrastructure.

(2) STRATEGY.—Each strategy submitted under subsection (b)(1)(C)(ii) shall include the following:

(A) A plan to utilize available tools to address or minimize the leading threats and challenges and to take advantage of the leading opportunities, including the following:

(i) Specific objectives, tasks, metrics, and milestones for each relevant Federal agency.

(ii) Specific plans to support public and private sector investment in research, technology development, and domestic manufacturing in key technology focus areas supportive of the national economic competitiveness of the United States and to foster the prudent use of public-private partnerships.

(iii) Specific plans to promote environmental stewardship and fair competition for United States workers.

(iv) A description of—

(I) how the strategy submitted under subsection (b)(3)(B) supports the national security strategy; and

(II) how the strategy submitted under such subsection is integrated and coordinated with the most recent national defense strategy under section 113(g) of title 10, United States Code.

(v) A plan to encourage the governments of countries that are allies or partners of the United States to cooperate with the execution of the strategy submitted

under subsection (b)(3)(B), where appropriate.

(vi) A plan to encourage certain international and multilateral organizations to support the implementation of such strategy.

(vii) A plan for how the United States should develop local and regional capacity for building innovation ecosystems across the nation by providing Federal support.

(viii) A plan for strengthening the industrial base of the United States.

(B) An identification of additional resources, administrative action, or legislative action recommended to assist with the implementation of such strategy.

(d) FORM OF REPORTS AND STRATEGIES.—Each report and strategy submitted under subsection (b) shall be submitted in unclassified form, but may include a classified annex.

SEC. 6. CONFORMING AMENDMENTS.

(a) SCIENTIFIC AND ADVANCED-TECHNOLOGY ACT OF 1992.—The Scientific and Advanced-Technology Act of 1992 (42 U.S.C. 1862h et seq.) is amended—

(1) in section 2(a)(5) (42 U.S.C. 1862h(a)(5)), by striking ''National Science Foundation'' and inserting ''National Science and Technology Foundation''; and

(2) in section 3 (42 U.S.C. 1862i), by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''.

(b) NATIONAL SCIENCE FOUNDATION AUTHORIZATION ACT OF 1998.—The National Science Foundation Authorization Act of 1998 (42 U.S.C. 1862k et seq.) is amended—

(1) in each of paragraphs (1) and (2) of section 2 (112 Stat. 869), by striking ''National Science Foundation established'' and inserting ''National Science and Technology Foundation established''; and

(2) in section 101(a)(6) (42 U.S.C. 1862k(a)(6)), by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''.

(c) NATIONAL SCIENCE FOUNDATION AUTHORIZATION ACT OF 2002.—The National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n et seq.) is amended—

(1) in section 2 (42 U.S.C. 1862n note), by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation'';

(2) in each of paragraphs (4) and (7) of section 4 (42 U.S.C. 1862n note), by striking ''National Science Foundation established'' and inserting ''National Science and Technology Foundation established''; and

(3) in section 10A (42 U.S.C. 1862n–1a)—

(A) in the section heading, by inserting ''**AND TECHNOLOGY**'' after ''**NATIONAL SCIENCE**'';

(B) in the subsection heading of subsection (e), by inserting ''AND TECHNOLOGY'' after ''NATIONAL SCIENCE''; and

(C) by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''.

(d) AMERICA COMPETES ACT.—The America COMPETES Act (Public Law 110–69; 121 Stat. 572) is amended—

(1) in each of sections 1006(c)(1)(K) (15 U.S.C. 3718(c)(1)(K)), 4001 (33 U.S.C. 893), and

5003(b)(1), by striking ''National Science Foundation'' and inserting ''National Science and Technology Foundation'';

(2) in section 7001(5) (42 U.S.C. 1862o note), by striking ''National Science Foundation'' and inserting ''National Science and Technology Foundation''; and

(3) in the title heading for title VII, by inserting ''**AND TECHNOLOGY**'' after ''**NATIONAL SCIENCE**''.

(e) NATIONAL SCIENCE AND TECHNOLOGY POLICY, ORGANIZATION, AND PRIORITIES ACT OF 1976.—The National Science and Technology Policy, Organization, and Priorities Act of 1976 (42 U.S.C. 6601 et seq.) is amended—

(1) in section 205(b)(2) (42 U.S.C. 6614(b)(2)), by striking ''National Science Foundation'' and inserting ''National Science and Technology Foundation''; and

(2) in section 206 (42 U.S.C. 6615), by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''.

(f) AMERICA COMPETES REAUTHORIZATION ACT OF 2010.—The America COMPETES Reauthorization

Act of 2010 (Public Law 111–358; 124 Stat. 3982) is amended—

(1) in the subtitle heading of subtitle A of title V, by inserting ''**and Technology**'' after ''**National Science**'';

(2) in section 502 (42 U.S.C. 1862p note)—

(A) in paragraph (1), by striking ''National Science Foundation'' and inserting ''National Science and Technology Foundation''; and

(B) in paragraph (3), by striking ''National Science Foundation established'' and inserting ''National Science and Technology Foundation established'';

(3) in the section heading of section 506 (42 U.S.C. 1862p–1), by inserting ''**AND TECHNOLOGY**'' after ''**NATIONAL SCIENCE**'';

(4) in section 517 (42 U.S.C. 1862p–9)—

(A) in paragraph (2) of subsection (a), by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''; and

(B) in each of subsections (a)(4), (b), and (c)(2), by striking ''National Science Founda-

tion'' and inserting ''National Science and Technology Foundation'';

(5) in section 518 (124 Stat. 4015), by striking ''Foundation.'' and inserting ''and Technology Foundation.'';

(6) in section 519 (124 Stat. 4015)—

(A) in the section heading, by inserting ''**AND TECHNOLOGY**'' after ''**NATIONAL SCIENCE**''; and

(B) by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation'';

(7) in section 520 (42 U.S.C. 1862p–10)—

(A) by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''; and

(B) in the subsection heading of subsection (b), by striking ''NSF'' and inserting ''NSTF'';

(8) in section 522 (42 U.S.C. 1862p–11)—

(A) in the section heading, by striking ''**NSF**'' and inserting ''**NSTF**''; and

(B) by striking ''National Science Foundation'' and inserting ''National Science and Technology Foundation'';

(9) in section 524 (42 U.S.C. 1862p–12), by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''; and

(10) in section 555(5) (20 U.S.C. 9905(5)), by inserting ''and Technology'' after ''National Science''.

(g) STEM EDUCATION ACT OF 2015.—Each of sections 2 and 3 of the STEM Education Act of 2015 (42 U.S.C. 6621 note; 1862q) are amended by striking ''National Science Foundation'' and inserting ''National Science and Technology Foundation''.

(h) RESEARCH EXCELLENCE AND ADVANCEMENTS FOR DYSLEXIA ACT.—The Research Excellence and Advancements for Dyslexia Act (Public Law 114–124; 130 Stat. 120) is amended by striking ''National Science'' each place the term appears and inserting ''National Science and Technology''.

(i) AMERICAN INNOVATION AND COMPETITIVENESS ACT.—The American Innovation and Competitiveness Act (42 U.S.C. 1862s et seq.) is amended—

(1) in section 2 (42 U.S.C. 1862 note), by inserting ''and Technology'' after ''National Science''; and

(2) in section 601(a)(1) (42 U.S.C. 1862s–8(a)(1)), by striking ''National Science'' each place the term appears and inserting ''National Science and Technology''.

(j) NATIONAL SCIENCE FOUNDATION AUTHORIZATION ACT, 1976.—The National Science Foundation Authorization Act, 1976 (Public Law 94–86) is amended—

(1) in section 2(b) (42 U.S.C. 1869a), by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''; and

(2) in section 6(a) (42 U.S.C. 1881a(a)), by striking ''National Science Foundation'' and inserting ''National Science and Technology Foundation''.

(k) NATIONAL SCIENCE FOUNDATION AUTHORIZATION ACT, 1977.—Section 8 of the National Science Foundation Authorization Act, 1977 (42 U.S.C. 1883) is amended by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''.

(l) NATIONAL SCIENCE FOUNDATION AUTHORIZATION ACT, FISCAL YEAR 1978.—Section 8 of the National

Science Foundation Authorization Act, Fiscal Year 1978 (42 U.S.C. 1869b) is amended by inserting ''and Technology'' after ''National Science''.

(m) ACT OF AUGUST 25, 1959.—The first section of the Act of August 25, 1959 (42 U.S.C. 1880), is amended by inserting ''and Technology'' after ''National Science''.

(n) NATIONAL SCIENCE FOUNDATION AUTHORIZATION ACT FOR FISCAL YEAR 1980.—Section 9 of the National Science Foundation Authorization Act for Fiscal Year 1980 (42 U.S.C. 1882) is amended by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''.

(o) NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AUTHORIZATION ACT OF 2005.—Section 721 of the National Aeronautics and Space Administration Authorization Act of 2005 (42 U.S.C. 1886a) is amended by striking ''The National Science Foundation'' and inserting ''The National Science and Technology Foundation''.

(p) NATIONAL SCIENCE FOUNDATION AUTHORIZATION ACT FOR FISCAL YEAR 1986.—Section 108 of the National Science Foundation Authorization Act for Fiscal Year 1986 (42 U.S.C. 1886) is amended by inserting ''and Technology'' after ''National Science''.

(q) NATIONAL QUANTUM INITIATIVE ACT.—The National Quantum Initiative Act (Public Law 115–368) is amended—

(1) in the table of contents in section 2, by striking the item relating to title III and inserting the following:

"TITLE III—NATIONAL SCIENCE AND TECHNOLOGY FOUNDATION QUANTUM ACTIVITIES";

(2) in section 102(a)(2)(A) (15 U.S.C. 8812(a)(2)(A)), by inserting "and Technology" after "National Science";

(3) in section 103 (15 U.S.C. 8813), by striking "National Science Foundation" each place the term appears and inserting "National Science and Technology Foundation";

(4) in the title heading for title III, by inserting "**AND TECHNOLOGY**" after "**NATIONAL SCIENCE**"; and

(5) in each of sections 301 and 302 (15 U.S.C. 8841, 8842), by striking "National Science Foundation" each place the term appears and inserting "National Science and Technology Foundation".

(r) CYBERSECURITY ENHANCEMENT ACT OF 2014.—The Cybersecurity Enhancement Act of 2014 (15 U.S.C. 7421 et seq.) is amended—

(1) in section 201 (15 U.S.C. 7431), by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''; and

(2) in each of sections 301 and 302 (15 U.S.C. 7441, 7442), by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''.

(s) HIGH-PERFORMANCE COMPUTING ACT OF 1991.—The High-Performance Computing Act of 1991 (15 U.S.C. 5501 et seq.) is amended—

(1) in section 101(a)(3)(C)(xi) 15 U.S.C. 5511(a)(3)(C)(xi)), by inserting ''and Technology'' after ''National Science''; and

(2) in section 201 (15 U.S.C. 5521)—

(A) in the section heading, by inserting ''**AND TECHNOLOGY**'' after ''**NATIONAL SCIENCE**''; and

(B) by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''.

(t) ARCTIC RESEARCH AND POLICY ACT OF 1984.—The Arctic Research and Policy Act of 1984 (15 U.S.C. 4101 et seq.) is amended—

(1) in each of sections 102(b)(3) and 103(b)(1) (15 U.S.C. 4101(b)(3), 4102(b)(1)), by inserting ''and Technology'' after ''National Science''; and

(2) in section 107 (15 U.S.C. 4106)—

(A) in the subsection heading of subsection (a), by inserting ''AND TECHNOLOGY'' after ''NATIONAL SCIENCE''; and

(B) by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''.

(u) STEVENSON-WYDLER TECHNOLOGY INNOVATION ACT OF 1980.—The Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3701 et seq.) is amended—

(1) in each of sections 4(5), 5(a)(2)(A), 20, and 21(d) (15 U.S.C. 3703(5), 3704(a)(2)(A), 3712, and 3713(d)), by inserting ''and Technology'' after ''National Science'';

(2) in section 9 (15 U.S.C. 3707)—

(A) in the section heading, by inserting ''**AND TECHNOLOGY**'' after ''**NATIONAL SCIENCE**'';

(B) in each of subsections (a) and (b), by striking ''National Science Foundation'' and in-

serting ''National Science and Technology Foundation''; and

(C) in subsection (c)—

(i) by striking ''National Science Foundation in'' and inserting ''National Science and Technology Foundation in''; and

(ii) by striking ''National Science Foundation under'' and inserting ''National Science and Technology Foundation under''; and

(3) in section 10 (15 U.S.C. 3708), by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''.

(v) CYBER SECURITY RESEARCH AND DEVELOPMENT ACT.—The Cyber Security Research and Development Act (15 U.S.C. 7401 et seq.) is amended—

(1) in section 3(1) (15 U.S.C. 7402(1)), by inserting ''and Technology'' after ''National Science'';

(2) in section 5 (15 U.S.C. 7404)—

(A) in the section heading, by inserting ''**AND TECHNOLOGY**'' after ''**NATIONAL SCIENCE**'';

(B) in subsection (c)(4), by inserting ''and Technology'' after ''National Science''; and

(C) in subsection (d), by striking ''National Science Foundation's'' and inserting ''National Science and Technology Foundation's''; and

(3) in section 13 (15 U.S.C. 7409), by striking ''National Science Foundation'' each place the term appears and inserting ''National Science and Technology Foundation''.

(w) NATIONAL SUPERCONDUCTIVITY AND COMPETITIVENESS ACT OF 1988.—Section 6 of the National Superconductivity and Competitiveness Act of 1988 (15 U.S.C. 5205) is amended by inserting ''and Technology'' after ''National Science''.

(x) WEATHER RESEARCH AND FORECASTING INNOVATION ACT OF 2017.—Each of sections 105 and 402(a)(1) of the Weather Research and Forecasting Innovation Act of 2017 (15 U.S.C. 8515, 8542(a)(1)) are amended by inserting ''and Technology'' after ''National Science''.

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